Program Design and Evaluation Services

# Smoking Behavior and Beliefs Among Non-Native Alaskans of Low Socio-Economic Status:

# Implications for Program Planning

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# Smoking Behavior and Beliefs Among Non-Native Alaskans of Low Socio-Economic Status: Implications for Program Planning

## Introduction and Background

The purpose of this report is to provide the Alaska Tobacco Prevention and Control Program within the Alaska Department of Health and Social Services with data and preliminary recommendations on the burden of tobacco among non-Native Alaskans of low socio-economic status (SES). Originally, this study was commissioned by the Alaska Tobacco Prevention and Control Program as second in a series of studies examining specific population groups of Alaskans experiencing disparities in tobacco use and exposure and at greater risk for tobacco-related diseases. The first, *What State Surveys Tell Us About Tobacco Use Among Alaska Natives: Implications for Program Planning*,[1] focused on Alaska Native people. The findings from this report supported other local and national studies indicating that persons of low SES also experienced greater than expected risks for tobacco use or exposure. Preliminary analyses, however, indicated such a strong correlation between race/ethnicity and socioeconomic status among Alaskans that any findings about low SES were confounded by Alaska Native status. Since a comprehensive report on the burden of tobacco use and exposure among Alaska Natives was very recently published, this report focuses on smoking behavior and beliefs among non-Native Alaskans of low SES. For simplicity, we will usually refer to this group as "low SES" rather than using the full phrase "non-Native Alaskans of low SES."

In preparing this report, we gathered information from research about tobacco use among persons of low SES, and also analyzed existing Alaska data. We translated our findings into recommendations to inform the Alaska Tobacco Prevention and Control Program as they continue to develop strategies to reach non-Native Alaskans of low SES.

The report is organized into the following sections:

- Introduction and Background: In this section, we describe the purpose and several main assumptions guiding the report
- Literature Review: In this section, research and data are presented that suggest why Alaskans of low SES may be at greater than expected risk for tobacco use or exposure including a summary of significant diseases or conditions caused by tobacco use, and the relative impact of those conditions within the Alaska low SES population
- Methods: In this section, we identify the sources of data, sample, and analysis strategies
- Results: Part I of the Results establishes the disparity in tobacco use between low SES and higher SES non-Native Alaskans; Part II describes non-Native low SES Alaskans who are most affected by tobacco use and exposure; both sections provide summaries of key findings

- Limitations
- Discussion: Summary of overall key findings, program recommendations, and additional resources
- Appendices – (A) methods detail and technical notes, (B) data tables for Part I of the Results, (C) data tables for Part II of the Results, and (D) references

# Literature Review

## Introduction

Tobacco use remains the leading preventable cause of death in the United States and poses a greater burden on certain subpopulations, including persons of low socio-economic status. One of the primary challenges in reducing the toll of tobacco use in Alaska is the disproportionately high rates of tobacco use among adults with lower incomes and lower educational achievement. Addressing this disparity is a key goal for the Alaska Tobacco Prevention and Control Program.

This literature review provides context for the presentation of recent Alaska data on tobacco use among non-Native Alaskans of low socio-economic status. Research cited was identified during a literature search for low socioeconomic status and tobacco articles conducted during December 2006 and updated in May 2007. National, published, peer-reviewed journal articles were identified using the Medline database. Generally, we limited review to articles published in the last decade, although a few older articles that were unique in topic were included. We also reviewed key Alaska Department of Health and Social Services' publications "*Tobacco in the Great Land*,"[2] "*Alaska Tobacco Facts*,"[3] and "*What State Surveys Tell Us About Tobacco Use Among Alaska Natives: Implications for Program Planning*."[1]

## Adult Smoking Prevalence

### Overview

Across the United States, including Alaska, smoking prevalence is highest for adults with less education and among adults living below the poverty level. The latest comprehensive reviews of national and Alaska-specific data on tobacco prevalence among persons of low socio-economic status provide the following compelling evidence documenting the disparity:

- According to the Centers for Disease Control and Prevention (CDC) (2006)[4]: Tobacco use is strongly associated with low socio-economic status. Cigarette smoking estimates are highest for adults with a General Education Development (GED) diploma or 9–11 years of education, and lowest for adults who had completed college. Cigarette smoking is more common among adults who live below the poverty level than among those living at or above the poverty level.
- According to The National Household Survey on Drug Abuse Report (NHSDA Report) (2002)[5]: In 1999 and 2000, past month use of most tobacco products was more common among persons from families with lower incomes than among persons from families with

higher incomes; rates of past month use of most tobacco products were higher among persons with lower levels of education than among those with higher levels of education; past month cigarette use was lowest at all income levels among persons who had completed college.

- According to the 2005 National Survey on Drug Use and Health (NSDUH):[6] Cigarette smoking in the past month tended to be less prevalent among adults with more education. Among young adults 18 to 22 years old, full-time college students were less likely to be current cigarette smokers than their peers who were not enrolled full time in college. In 2005, current cigarette smoking was more common among unemployed adults aged 18 or older than among adults who were working full time or part time.

- According to the National Health Interview Survey (2005):[7] Adults with at least a bachelor's degree were less likely than other adults to be current smokers and more likely to be nonsmokers. Adults in families that were poor or near poor were more likely to be current smokers and less likely to be former smokers than other adults.

- According to two Alaska-specific reports, *Tobacco in the Great Land* (2004) and *Alaska Tobacco Facts* (2006):[2, 3] Smoking is markedly higher in Alaskan adults with low incomes and less educational attainment. Over half of adult smokers are 'poor' (below 100% of the Federal poverty level) or 'near poor' (above 100% but below 200% of the Federal poverty level). Smoking is also more common among the unemployed in Alaska.[2, 3]

Data on smoking prevalence among those of low SES are described in more detail below.

## Smoking Prevalence Among Persons With Less Education

In 2005, an estimated 21% (45.1 million) of US adults were current cigarette smokers.[4] According to the CDC, cigarette smoking estimates are highest for adults with a GED diploma (43%) or 9–11 years of education (33%), and lowest for adults with an undergraduate college degree (11%) or a graduate college degree (7%).[4] Based on data from the 2005 National Health Interview Survey, cigarette smoking estimates are highest for adults who did not complete high school (28%) or had a high school diploma/GED (27%), and lowest for adults with some college (22%) or an undergraduate college degree (9%).[7] Children of parents with low educational attainment are more likely to try smoking.[8, 9]

In 2005, an estimated 25% of Alaskans were current cigarette smokers.[3] According to *Tobacco in the Great Land*[2] and *Alaska Tobacco Facts,*[3] Alaskans with fewer years of education are more likely to smoke than those who complete more years of formal education.[2, 3] Combined data from the 2000-2002 BRFSS show that cigarette smoking estimates are highest for adults who did not graduate from high school (45%) or were a high school graduate/GED (33%), and lowest for adults who had attended some college (24%) or who had an undergraduate college degree (11%).[3] In fact, adults who do not finish high school are over 5 times more likely to smoke than adults who graduate from college.[2]

## Smoking Prevalence Among Persons Living in Poverty

Across the US, current cigarette smoking is also more common among adults who live below the poverty level (30%) than among those living at or above the poverty level (21%).[4] Over one-third of men below the poverty status are smokers compared with 24% of all men at or above poverty

status, and 27% of women below the poverty status are smokers compared with 18% of women at or above poverty status.[4]

Alaskans with lower household income are more likely to be current smokers.[1-3] Adults who make less than $15,000 per year are twice as likely to smoke as those who make $50,000 or more.[2] Within a given income range, the amount of formal education an adult has completed is associated with whether or not that adult is a smoker.[2] Adults who have not attended college are up to four times more likely to smoke than those who complete some college, regardless of their overall income.[2]

### Smoking Prevalence Among Other Low SES Groups

National studies indicate that workers in working-class occupations (e.g., blue collar) are more likely to smoke.[10, 11] In Alaska, over half of unemployed adults in Alaska currently smoke.[1, 2] Alaskan men and women who are unemployed or unable to work are approximately twice as likely to smoke as are adults who currently have a job.[2]

According to Tobacco in the Great Land, 41% of Alaskan adults without health plan coverage smoked, compared to 24% of adults who reported having a health plan.[2] Adults who are unemployed smoke at high rates regardless of their health plan status. Among other groups of adults (employed, homemaker, student, and retired), those who do not have a health plan smoke more than those who do. The difference is especially pronounced among adults who are homemakers, students, or retired.

In a national study, lower neighborhood SES and higher convenience store concentration have been linked to higher levels of individual smoking after taking individual characteristics into account.[12]

### Reasons for the Disparity in Smoking Prevalence Based on SES

A comprehensive discussion of each of the many factors related to a higher smoking prevalence among persons of low SES is beyond the scope of this literature review. However, key factors include the: history of tobacco introduction to persons of low SES; tobacco industry's high level of targeted advertising and promotion of tobacco products toward those of low SES; initiation of tobacco use and early tobacco use; generations of family tobacco use; educational gaps – lack of educational information; lack of access to health care resources; association with depression, psychological stress, and anxiety (smoking is used as a coping mechanism and a way to manage a lack of opportunities); and association with environmental factors (e.g., advertising, promotion, peers).

## Secondhand Smoke Exposure and Smoking Bans

Lower income people are also more likely to suffer the harmful consequences of exposure to secondhand smoke. Almost 60 percent of U.S. children aged 3-11 years—or almost 22 million children—are exposed to secondhand smoke.[13] Children from low-income families have a two-fold likelihood of being exposed to secondhand smoke at home compared to children from higher-income families.[14] Children exposed to secondhand smoke are at an increased risk for sudden infant death syndrome (SIDS), acute respiratory infections, ear problems, and more severe asthma. Smoking by parents causes respiratory symptoms and slows lung growth in their children.[13]

Approximately 30 percent of indoor workers in the United States are not covered by smoke-free workplace policies.[13] According to Shopland et al., blue-collar and service workers are more likely to be low SES than white collar workers and are significantly less likely than white-collar workers to be protected by smoke-free policies.[15] Bartenders and waitresses are less likely to be covered by a smoke-free policy, and even when smoke-free policies are in place they are more likely to be exposed to secondhand smoke because those policies are not necessarily enforced.[15]

According to the Surgeon General,[13] nonsmokers who are exposed to secondhand smoke at home or at work increase their risk of developing heart disease by 25 - 30 percent and lung cancer by 20 - 30 percent.

From Alaska Tobacco Facts (2007), we know that Alaskan adults with lower education and income levels are more likely to be exposed to secondhand smoke in their homes and workplaces and less likely to have a smoking ban in those places than others.[3] Workplace smoking bans were most common among college graduates and those with household incomes above $75,000.[3]

Policies designed to protect the public from exposure to secondhand smoke may not have the same impact on women and girls of low socioeconomic status; these women and girls often do not have the resources at their disposal to avoid secondhand smoke exposure in the workplace or the home. Shavers et al.[16] and Moore et al.[17] suggest that creating a smoke-free environment is potentially more difficult for low SES girls and women, as they may more often live in households with smokers or work at jobs where smoking is permitted. Additionally, domestic power differentials between women and men may limit low SES women's ability to control their home environment.[17, 18]

## Tobacco-Related Mortality

Tobacco-related diseases kill over 440,000 people a year in the United States, making tobacco the single largest preventable cause of death.[19] According to the 2004 Surgeon General's Report, *The Health Consequences of Smoking*, substantial proportions of important chronic disease deaths are caused by tobacco use.[20] People who smoke die an average of 13-14 years sooner than nonsmokers.[21] Americans living in poverty and other low SES populations suffer disproportionately from tobacco related morbidity and mortality.[14]

Lung cancer is the leading cause of cancer death, and cigarette smoking causes 80 – 90% of the cases.[20] Lung cancer death rates are highest for those in the lowest income brackets, with incomes less than $15,000.[22] Lung cancer mortality rates were 56% higher for men between the ages of 25-64 from the lowest socio-economic group, than for men of the same age group from the highest socio-economic group.[23] Women between the ages of 25-64 with family incomes of less than $15,000 had lung cancer death rates of 40% - 60% higher than those of women with family incomes of more than $15,000.[22] Smoking also causes cancers of the oral cavity, pharynx, larynx, esophagus, and bladder.[20]

Smoking also causes cardiovascular and respiratory diseases[24, 25] that are disproportionately represented among low SES populations.[14] Coronary heart disease is the leading cause of death in the United States.[20] Smokers are 2 – 4 times more likely to develop coronary heart disease than nonsmokers. In addition, cigarette smoking approximately doubles a person's risk for stroke. Cigarette smoking is associated with a tenfold increase in the risk of dying from chronic obstructive lung disease.[20] About 90% of all deaths from chronic obstructive pulmonary disease are attributable to cigarette smoking. In addition, cigarette smoking has many adverse

reproductive and early childhood effects, including an increased risk of infertility, preterm delivery, stillbirth, low birth weight, and sudden infant death syndrome (SIDS).

To make matters worse, those of low SES have limited access to health care and thus are more likely to be diagnosed later, after their condition has worsened and they are in greater need of care and services.[26] Many go without treatment or receive poor quality care.[27] One of the primary reasons is lack of health insurance; more than 40 million Americans are without any kind of health insurance and two-thirds of the uninsured are low-income individuals or families.[28]

## Cessation

Smokers below poverty status are less likely to successfully quit smoking compared to smokers at or above poverty status.[19] Similarly, the percentage of smokers who quit is highest for those with college degrees and lowest among those with less than a high school diploma.[21]

Levy et al. concur that lower education and employment are linked with lower quit success, especially among women.[29] According to *The Surgeon General's Report -- Women and Smoking*, women of lower socio-economic status have lower rates of smoking cessation than men.[30] Based on an analysis of National Health Interview Surveys, attempts to quit showed no socioeconomic gradient, but success in quitting was greatest among those with the most socioeconomic resources.[10]

Honjo et al.[31] found that smokers from higher social classes are more likely to use effective resources for smoking cessation and have home smoking bans, which leads to relatively higher smoking cessation rates compared with those from lower social classes. Barriers to cessation such as cost of cessation services and lower chances of intervention from health care providers, as well as increased stress levels may contribute to lower success rates among persons of low SES. People of low SES often have less access to smoking cessation and other preventative health and treatment services. [27, 32] Lowering the cost of effective treatments increases the number of people who successfully quit using tobacco products.[30] Medicare coverage for tobacco cessation services and medication is either not available or limited in many states.[30]

However, all states in the U.S. currently have a tobacco quitline, and tobacco users can now call a national quitline number to be connected to the quitline in their own state.[33] Not only do quitlines help tobacco users quit, they also serve an essential role in comprehensive tobacco control programs by providing broad access to cessation services[34, 35] and could help eliminate disparities in receipt of cessation services.

## Tobacco Control and Education Interventions

With cigarette smoking increasingly confined to poorer groups, the tobacco control community is being urged to identify what messages and interventions work to get lower SES groups to stop smoking.[36]

### Taxation

One of the best ways to prompt lower-income smokers to quit is by raising cigarette prices through cigarette tax increases. Numerous studies have documented the fact that low income smokers are more likely to reduce their tobacco use or quit smoking in response to increased prices for tobacco products.[37, 38] According to the CDC,[37] smokers with family incomes at or

below the national median are four times as likely to quit because of cigarette price increases as those with higher incomes. Low-income populations can also benefit from the tax revenues if some portion is used to finance prevention and cessation programs that target low-income communities.

## Cessation Interventions

There has been a growing interest in testing the effectiveness of cessation interventions with low SES populations. One community-based approach to tobacco cessation is the quit and win contest; Hahn et al.[39] reported that on average, low income quit and win participants were 3.5 times more likely than controls to self-report quitting and 12.8 times more likely to demonstrate confirmed quitting. Telephonic counseling for smoking cessation supported by a computer-guided program on relapse prevention was shown to be effective in increasing cessation rates in a low income population.[40] Women of low SES enrolled in intensive cessation intervention programs (stress management, self-esteem enhancement, group support, and other activities that improve quality of life) have 20%–25% successful cessation rates;[30] unfortunately, only a small proportion of women of low SES appear to take advantage of these programs.

Even more low SES smokers would quit if they were able to get additional help, such as nicotine replacement therapies, other medications, counseling, and other support (including quit line phone support). Access to cessation services, however, is still quite limited, especially for lower-income smokers.[24] Lowering the cost of effective treatments and increasing access can increase the number of people who successfully quit using tobacco products.[30, 31]

## Media Campaigns

Studies that analyze the effects of mass media campaigns suggest that smokers of low SES, especially women, are more likely than smokers of higher SES to watch and obtain cessation information from television.[30] Less educated women were found to be particularly responsive to media messages as well as price, especially in comparison with more educated women.[29]

## Smoke-Free Bans

Shavers et al. [16] concluded that smoking bans in the home show promise reducing smoking among low SES women. Researchers have also outlined the health benefits of smoke-free work policies for bar employees.[17, 41]

## Statewide and National Initiatives

California has been a leader in prioritizing specific tobacco control services for low SES populations. Currently, the State of California Department of Health Services-Tobacco Control Section (CDHS/TCS) operates a statewide workgroup and a statewide program (RESPECT) of the American Lung Association whose purpose is to provide public health agencies and community-based organizations with reliable information, respectful and relevant educational materials and strategic technical assistance to reduce the smoking rate and exposure of California's low SES community.

Based on results from focus group interviews, key informant interviews, and statistical reports based on analysis of survey data, the California Department of Health Services/Tobacco Control Section [42] suggests addressing the onslaught of tobacco advertising in low income

neighborhoods, designing programs to account for the immense diversity within the low SES population, and providing accessible and appropriate cessation services for the low SES population. To do so, they suggest that collaborations should be pursued with agencies that serve the poor and may not traditionally be involved in tobacco control such as: community based organizations and their staff that already serve the low SES population; health care providers/clinics; social service agencies/providers; substance abuse prevention programs/agencies; religious organizations/churches; maternal and child health programs; prenatal programs; the Salvation Army; veterans groups; places of incarceration; homeless shelters; immigrant or ethnic-specific agencies; migrant camps; ESL classes; vocational/trade schools; immigration lawyers; and parents involved in their neighborhood schools.

Funding organizations, too, have begun to prioritize addressing disparities in tobacco use and related illness based on SES. Since 2001, the American Legacy Foundation has provided $25 million through its Priority Populations Initiative to address disparities.

The Tobacco Research Network on Disparities (TReND) is funded by the National Cancer Institute and the American Legacy Foundation to eliminate tobacco related disparities through transdisciplinary research that advocates the science, translates this scientific knowledge into practice, and informs public policy.

## Policy Considerations

To date, the policy response has been to increase investment in conventional approaches to tobacco control. We must recognize the constellation of disadvantage that confronts most low SES smokers, and construct policy in a broad, ethical and involving manner. According to Graham et al (2006), it is possible that improved messages and more interventions are not enough: that the barriers lie in the social disadvantages to which recipients are exposed. Policies that level up opportunities and living standards across the lifespan have an important role to play in reducing socioeconomic differentials in smoking. Any tobacco policy that is beneficial to those of low SES must be linked with housing, child care, training, and economic policies and programs.[18, 36]

# Methods

A summary of the data sources, sample, and analysis strategy for this report is provided below. For additional detail on technical terms or the primary data source, please see Appendix A.

## Sources of Data

Most of the data in this report were from the Behavioral Risk Factor Surveillance System (BRFSS) dataset. The BRFSS includes information about income, household size, and education, enabling us to develop a marker of SES that included all of these factors. In addition, the number of respondents in the BRFSS dataset provided the greatest ability to stratify by tobacco use, geography, sex, race/ethnicity, age, employment and other factors.

Mortality data were derived from the U.S. Department of Health and Human Services Surgeon General's Report[20] and from U.S. census data. (2000).

Low SES youth are not included in this report because currently available youth surveillance data do not allow analyses of smoking by SES.

## Sample

The focus of this report is on current and former smoking behavior and beliefs among non-Native Alaskan adults (age 25 – 64) of low SES. Young adults under the age of 25 were not included in the analyses because the measures of SES used in this study (i.e., income and education) are not adequate markers of socio-economic status for those who have not had a chance to complete their education and begin to earn an income.

The first stage of analysis involved an exploration of data using several low SES indicators (e.g., income, household size, education) independently and in combination to determine the best measure of low SES for this study. In addition, to determine whether SES functioned differently by race, we explored the association of low SES with Alaska Native race. The results of these preliminary analyses provided information that helped determine the focus and organization of the report.

### Definition of low SES

There is no single, objectively preferred measure of SES.[43] (Braveman et al 2005). A goal of this study was to measure as much relevant socio-economic information as possible, within the constraints of our primary data source (BRFSS), in order to identify a subpopulation of persons who face disparate smoking-related health outcomes in part because of social and economic disadvantages. The literature is clear that the national smoking prevalence is highest for adults with less education and among adults living below the poverty level.[4, 7] From *Tobacco in the Great Land*,[2] we know that the Alaska smoking prevalence is highest for adults with less education, living below the poverty level, with lower household income, without health plan coverage, and without a job. We also know that lung cancer death rates are highest for those in the lowest income brackets, with incomes less than $15,000.

Poverty level (as calculated by income and household size) and less education were identified as key indicators of low SES that were available using BRFSS. Of the response categories available for education, *less than high school* was chosen as a conservative estimate of low education – 7% of 2004/2005 BRFSS respondents ages 25-64 reported having less than high school education whereas almost one third of the respondents (30%) reported having a high school education or GED.

The state of Alaska guidelines for Medicaid eligibility – household incomes at or below the 185% poverty guideline - were adopted as the poverty measure. Just over one fourth (26%) of 2004/2005 Alaska BRFSS respondents ages 25-64 were included in this poverty range. Because the BRFSS income information is reported in ranges (e.g., less than $10,000, $10,000 to $14,999, and switching to $10,000 increments at $25,000) rather than by increments of $100 or $1,000, the combination of household size and income data in BRFSS does not map exactly to the poverty guideline cut-offs. The mapping is less exact particularly for those with more people in the household and higher income levels, because higher income levels are reported at $10,000 increments. Therefore, a fraction of survey respondents (an estimated <1% of non-Native Alaskans ages 25-64) who might fit the low SES definition are therefore not included in the group we defined as low SES, and are not included in the low SES group analyses.

Those with missing information on income (7% of non-Native Alaskans ages 25-64) were categorized as low or higher SES based on information about their education only. Those missing information about income, household size and education represented only a handful of cases in the 2004-2006 AK BRFSS dataset.

For the purposes of this study then, we defined low SES as those at or below 185% of the Alaska-adjusted poverty guidelines and those whose educational attainment was less than a high school diploma or GED. Using this definition, roughly one-fourth (26%) of Alaskans between the ages of 25 and 64 who participated in the BRFSS survey (2004/2005) were considered to be of low SES.

### Focus on non-Native Alaskan adults

Preliminary analyses indicated that over half of Alaska Natives in the 25-64 age group (55%, 95% CI: 53 - 59%) fell within the low SES definition, while roughly one in five non-Native Alaskans (21%, 95% CI: 19 - 22%) were in the low SES group. Therefore, a substantial proportion of the low SES population was Alaska Natives (31%, 95% CI: 29 - 33%). Due to the strong correlation between race/ethnicity and socio-economic status, any findings about low SES were likely to be confounded with Alaska Native status. Since a comprehensive report on the burden of tobacco, including the effect of SES on tobacco use and related variables, among Alaska Natives was recently published,[1] this report focuses on smoking behaviors and beliefs among *non-Native Alaskans* of low SES. For the purposes of this report, non-Native Alaskan is defined as those who did not identify Native Alaskan or American Indian as any of their multiple race groups. Non-Native Alaskans therefore include 86% of Alaskans aged 25-64 who reported their race as White, African American or Black, Asian, Hawaiian or other Pacific Islander, and Other (non-Native), as well as those who did not report race.

## Analysis Strategies

Because of the nature of the sampling for BRFSS, confidence intervals and significance tests were generated using Stata (version 9.2) software to account for complex sampling designs.

In Part I of the study, we sought to better understand the disparity in tobacco use by socio-economic status. First, we compared low SES respondents and those who did not meet the low SES definition (hereafter called "higher SES") by demographic characteristics that are frequently related to smoking prevalence and to socio-economic status, including gender, age, employment status, presence of children in the home, marital status, urban/rural classification, and region (geographic area). Next, we compared low SES respondents with higher SES respondents on key measures[i] (i.e., prevalence and consumption, secondhand smoke exposure, cessation, and mortality) for which the sample size was adequate. In addition, we developed a multiple regression model to better understand associations between SES and smoking prevalence adjusting for other demographic factors.

We reviewed the trends in smoking prevalence between the two groups for the years 1996 through 2006. These years were chosen because: a) the questions regarding current smoking have been the same since 1996 and b) the Alaska Tobacco Prevention and Control Program began in 1998. Reporting prevalence from a few prior years allowed us the opportunity to consider potential program impacts during this time period.

We used age-specific attributable risk percentages published in the 2004 Surgeon General's report[20] and applied them to the corresponding age-specific smoking prevalence rates for low SES Alaskans and higher SES Alaskans, (obtained from the 2005 BRFSS). Those figures were then multiplied by the corresponding proportions of the entire population in each age stratum, and summed. The result estimates the proportion of the overall population that will die prematurely from a smoking-related disease.

There are eight data tables in Appendix B that present comparison between low SES and higher SES groups, including: 1) the point estimates, confidence intervals, and p-values from the chi-square tests for all tobacco-related items covered in this report, 2) the regression model for smoking prevalence, and 3) trend data for smoking prevalence between 1996 and 2006.

In Part II of the study, we analyzed key tobacco-related measures (i.e., smoking prevalence and consumption, cessation, secondhand smoke exposure, and knowledge and attitudes about tobacco exposure and tobacco control policies) among persons of low SES for the most recent years of data available to identify information and associations that could potentially be informative for program planning. Depending on the type of analysis and availability of information, we combined data from 2004 through 2006. For any question, particularly when data are presented for demographic subgroups, we suppressed or collapsed groups if the total number of respondents (denominator) was less than 40. We examined potential associations by demographic characteristics, including gender, age, employment status, presence of children in the home, marital status, urban/rural classification, and region. Results of these analyses are presented in 23 tables in Appendix C.

Key data findings (i.e., two or more significant associations for measures with demographic characteristic) are represented graphically in the report. We did not include figures or charts to display non-significant associations by demographic group or when only one association was significant.

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[i] A data table documenting the differences between low SES persons and higher SES persons related to knowledge and attitudes about tobacco exposure and tobacco control policies is also provided in Appendix B (as Table 7), even though these data are not discussed in the text in Part I of the report. These data will be referenced in Part II of the report.

A summary of key findings is presented at the end of Part I and at the end of Part II in the Results section. In addition, an overall summary is provided in the Discussion, along with recommendations to the Alaska Tobacco Prevention and Control Program.

# Results

Part I of this section establishes the disparity in tobacco prevalence and consumption, secondhand smoke exposure, cessation, and mortality between low SES and higher SES non-Native Alaskans between the ages of 25 and 64. A summary of key points related to the overall disparity in tobacco prevalence, exposure, cessation, and mortality is provided at the end of this section.

Part II focuses exclusively on the non-Native low SES subpopulation to determine who among this group were most at risk for cigarette smoking, those most likely to try quitting, those at greatest risk for secondhand smoke exposure, and those most likely to report knowledge or attitudes that support tobacco control policies. Independent characteristics considered include gender, age, employment, marital status, presence of children in the home, urban/rural classification, and region. A summary of key points related to who, among those of low SES, was most affected by smoking behavior and beliefs, is provided at the end of this section.

## Part I: Disparity in Smoking Behavior, Exposure, Cessation, and Mortality Between Low SES and Higher SES Non-Native Alaskan Adults

### Demographic Characteristics of Non-Native Alaskans

Twenty-one percent of non-Native Alaskans were considered low SES using our definition. Persons of low SES were more likely than persons of higher SES to be female, divorced/separated or unmarried, not employed, and to have children in the home (see Appendix B - Table 1). Although almost three quarters of all non-Native Alaskans reported living in the more metropolitan areas of the state (approximately 58% in Anchorage, and 14% in Fairbanks), those of low SES were slightly more likely than those of higher SES to live in more rural areas vs. small towns, and to come from the Gulf Coast. Low SES and higher SES persons also differed by age: low SES persons were more likely to be between the ages of 25 and 34 (33% vs. 20%), and less likely to be in the older group aged 50-64 (26% vs. 36%). Overall, these findings are consistent with the national literature on characteristics of lower SES population groups.[44, 45]

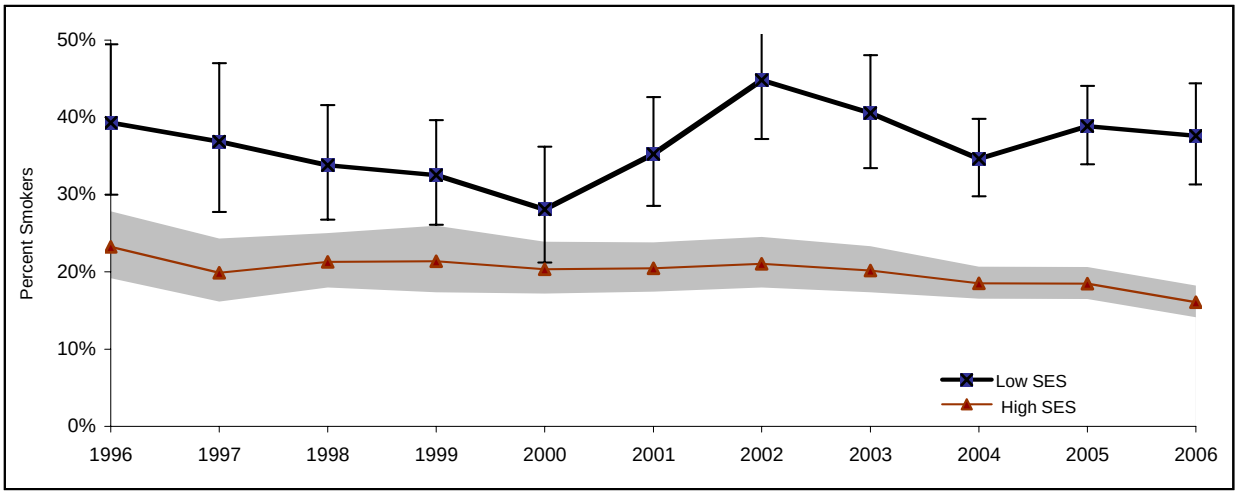
### Smoking Prevalence and Consumption Among Non-Native Alaskans

A large proportion of low SES persons (37%) reported that they currently smoke cigarettes, compared with 18% of higher SES persons (see Appendix B - Table 2). Being of low SES was significantly associated with current smoking even after adjusting for age, gender, marital status, employment status, presence of children in the household, urban/rural classification, and region. In fact, the odds of being a current smoker were more than double among low SES persons compared to higher SES persons (OR 2.1, 95% CI: 1.8 - 2.6; see Appendix B - Table 3).

Low SES and higher SES smokers were similar in regards to how often they smoked: 74% of low SES persons and 73% of higher SES persons smoked daily compared to 26% of low SES persons and 27% of higher SES persons who only smoked on some days (see Appendix B - Table 2).

As illustrated in Figure 1, smoking prevalence among those of low SES has remained relatively high since 1996 (39%), without a significant decline for the period between 1996 and 2006. In contrast, there has been a significant decline in smoking among higher SES persons, from 23% in 1996 to 16% in 2006 (see Appendix B - Table 4).

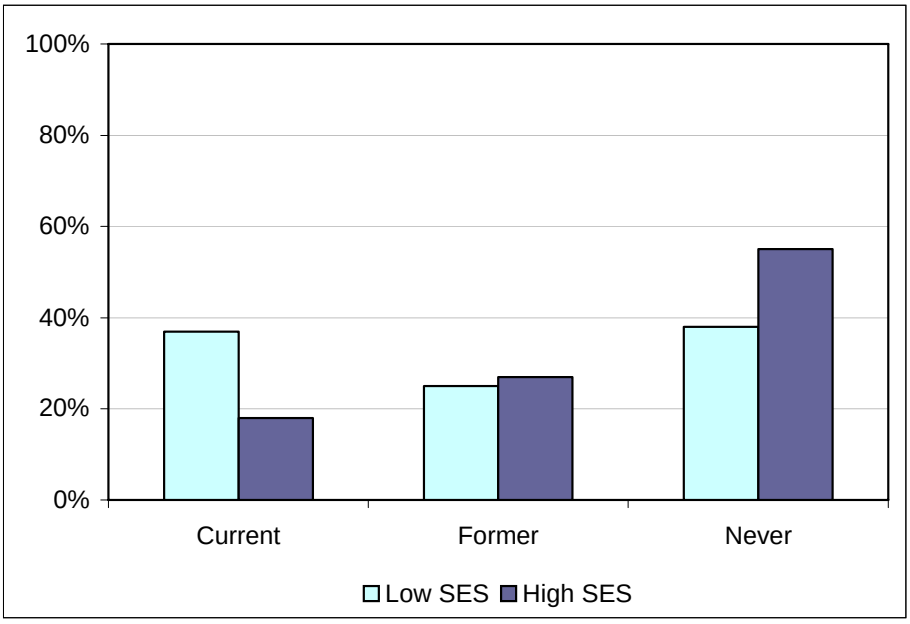
**Figure 1: Trends in Adult Cigarette Smoking Prevalence Among Non-Native Alaskans (ages 25 - 64)**




Source: Alaska BRFSS 1996 – 2006, see Appendix B - Table 4

There were no significant differences in the proportion of former smokers between those of low SES (25%) and those of higher SES (27%) (see Figure 2). However, fewer low SES persons reported that they had never smoked (38%) compared with 55% of higher SES persons. This translates into a large number of low SES adults who were more likely than higher SES adults to start smoking and who are at-risk for the serious health consequences of smoking.

**Figure 2: Cigarette Smoking Status Among Non-Native Alaskans (ages 25-64)**

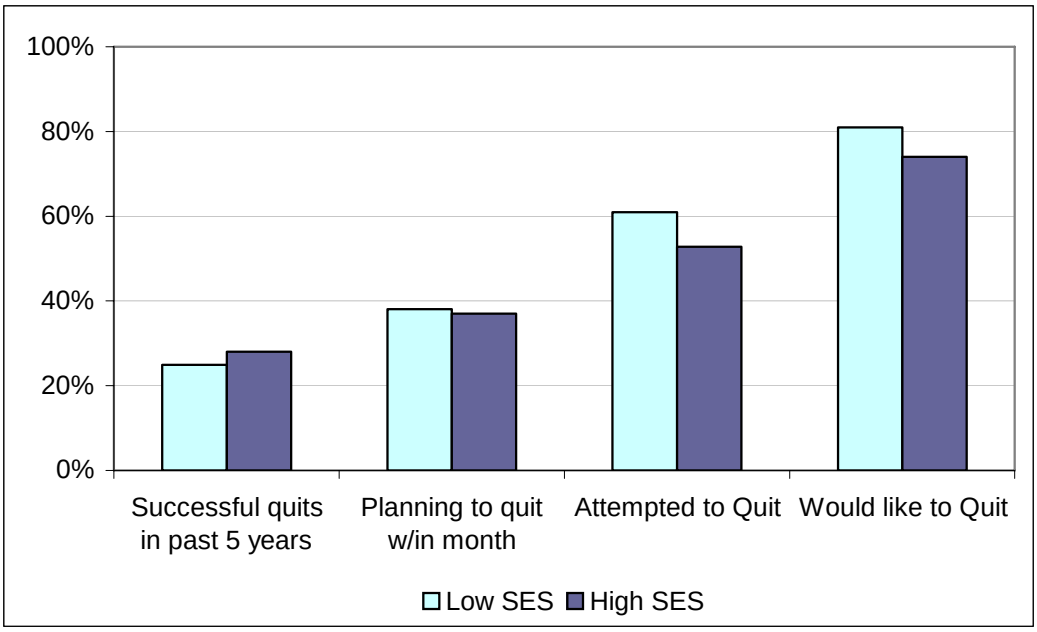



Source: Alaska BRFSS 2004-2006, see Appendix B – Table 2

## Quit Efforts Among Non-Native Alaskans

Low SES smokers were more likely than higher SES smokers to report that they would like to quit (81% vs. 74%) and have made a quit attempt in the past year (61% vs. 53%) (see Figure 3 and Appendix B - Table 5). In contrast, among people who smoked in the past 5 years, the proportion that planned to quit or did quit was not significantly different across SES groups.

**Figure 3: Quit Efforts Among Non-Native Alaskans (ages 25 - 64)**




Source: Alaska BRFSS 2004-2006, see Appendix B – Table 5

The proportions of current and recent (past 5 years) smokers who used nicotine replacement therapy (NRT) in their quit attempts were somewhat lower, although not statistically significant, for low SES groups than higher SES groups (27% vs. 33%). However, those of low SES were less likely than those of higher SES to be asked or advised to quit by a doctor/nurse (12% vs. 18%) because they were more likely to not have had a health care visit (30% vs. 23%). Among those who had a health care visit in the past 12 months, persons of low SES were slightly, although not significantly, more likely than persons of higher SES to be asked or advised to quit by a doctor or nurse (83% vs. 77%).

Interestingly, low SES persons reported being more aware of the Alaska Quitline than higher SES persons (34% vs. 28%), although there was no significant difference in awareness among low SES and higher SES smokers (47% vs. 51%). Low SES smokers were, however, somewhat more likely (although not statistically significant) to report that they would ever call a telephone support service for help in quitting (46% vs. 30%).

## Secondhand Smoke Exposure Among Non-Native Alaskans

When asked about the last 30 days, those of low SES were more likely than those of higher SES to report exposure to smoke in the home (22% vs. 11%), in their vehicle (37% vs. 20%) and at indoor work places (34% vs. 21%) (see Appendix B – Table 6). They were also less likely report a smoking ban (smoking not allowed anywhere in that location) at home (79% vs. 89%), in their car (65% vs. 79%), or at their indoor work site (79% vs. 88%).

### Mortality Among Non-Native Alaskans

The mortality burden from smoking is about double for low SES versus higher SES Alaskans: 16% of the low SES population will die prematurely from a smoking-related disease, compared to 7% of the higher SES population. Among smokers, 38% will eventually die from smoking-related disease. Translated to estimated population numbers, 14,000 of the 37,000 Alaskan low SES smokers will die from their smoking.

### Summary of Key Disparity Findings

Consistent with both local and national studies, these results illustrate the disparity in smoking prevalence, secondhand smoke exposure, quit attempts, and smoking-related mortality between low SES non-Native Alaskans and higher SES non-Native Alaskans and support the need for focused programmatic efforts.

- Similar to national profiles of low SES population groups, the non-Native low SES population in Alaska was more likely than the higher SES population to be female, younger, with children in the home, divorced or unmarried and less likely to be employed.

- Low SES persons were more likely to start smoking and smoke at a rate two times higher than persons of higher SES, a trend that has been relatively unchanged for the past decade.

- They were also more likely to be exposed to secondhand smoke at home, in their car, and at their indoor workplace and less likely to have a smoking ban in any of these places.

- Interestingly, low SES smokers were slightly more motivated to quit and were more likely to make a quit attempt in the past year than smokers of higher SES, but they were not as successful in quitting in the long term resulting in higher smoking prevalence for persons of low SES. Lack of access or awareness about potential sources of help to quit (e.g., advice from a healthcare provider and Alaska quit line) may be areas for future intervention.

- The health consequences of smoking are profound: Over 14,000 low SES Alaskans will die prematurely because of their smoking.

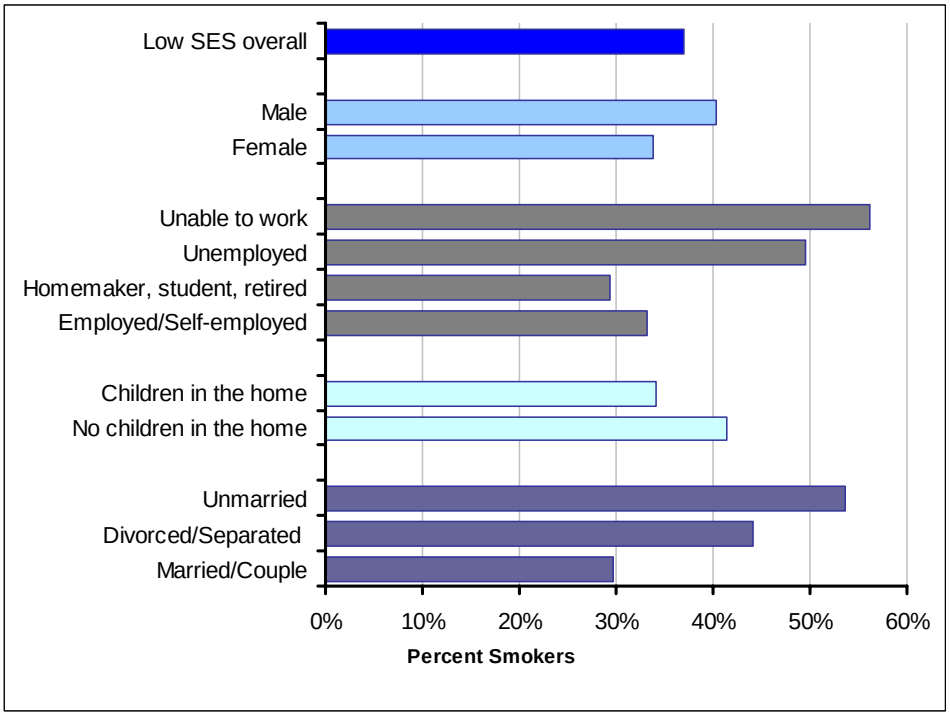
## Part II: Smoking Prevalence, Cessation, Exposure, Knowledge and Attitudes Among Low SES Non-Native Alaskan Adults

The disparity in tobacco use between low SES non-Native Alaskans and higher SES non-Native Alaskans has been well established by the new data presented in the previous section, as well as by other local and national research. To better support program planning and outreach to low SES non-Native Alaskans, this section of the report focuses on understanding who, among those of low SES, is most affected by tobacco use and exposure. This section provides data on the differences in smoking-related measures (i.e., prevalence, cessation, secondhand smoke exposure, and knowledge and attitudes) within this sub-population by demographic characteristics (i.e., gender, age, employment status, children in home, marital status, rural/urban classification, and region).

## Smoking Prevalence Among Low SES Non-Native Alaskans

A large proportion of low SES Alaskans (37%) reported that they currently smoke cigarettes. Among the low SES population, men were more likely than women to be smokers (40% vs. 34%, see Figure 4 below). Smoking prevalence was higher for those who were unable to work (56%) or unemployed (50%) than for the employed (33%) or those not in the paid workforce, including homemakers, students, and retirees (29%). Those without children in the home were more likely to smoke than those with children (41% vs. 34%), and the unmarried and divorced or separated were more likely to smoke than married people or couples (54% and 44% vs. 30%). Smoking prevalence was high across all age groups, at least 33%, and did not vary much by rural/urban classification or region.

**Figure 4: Cigarette Smoking Prevalence Among Low SES Non-Native Alaskans (ages 25-64)**




Source: Alaska BRFSS 2004-2006, see Appendix C – Table 1

Three out of four (74%) low SES smokers reported smoking on a daily basis. Among low SES persons, none of the independent factors considered (gender, age, employment, marital status, presence of children in the home, rural/urban classification, or region) were related to being a daily smoker.

## Quit Efforts Among Low SES Non-Native Alaskans

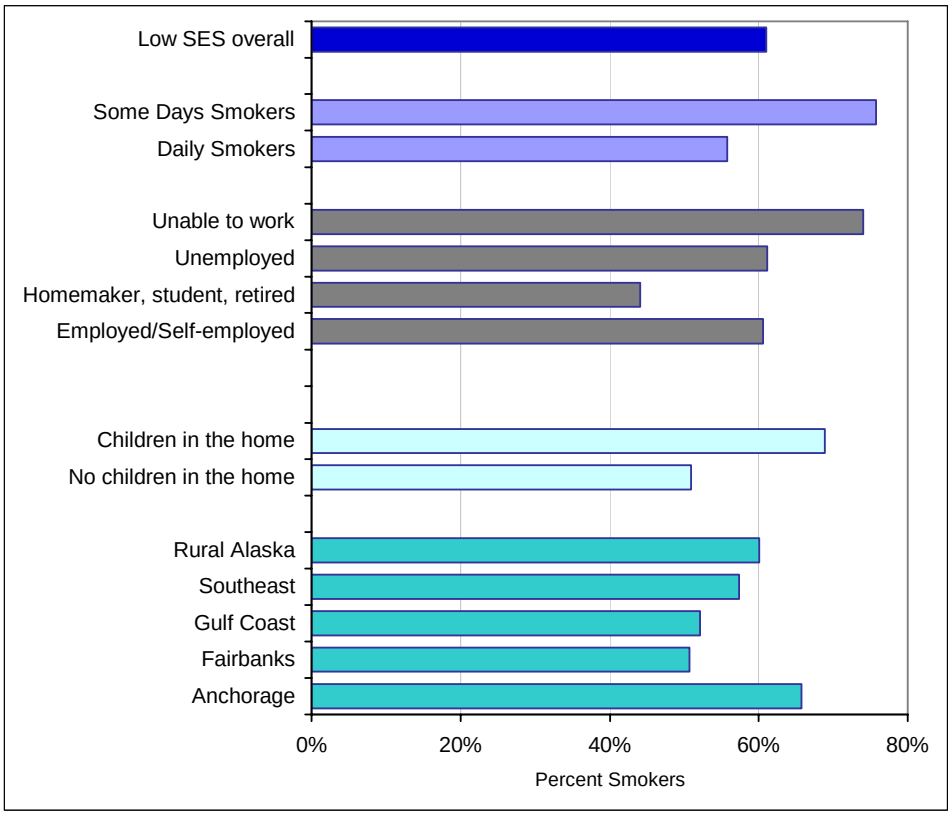
We defined "recent quitters" as those who had quit in the last five years. The proportion of recent quitters was calculated with the number of quitters in the last 5 years divided by the number of recent quitters plus current smokers. Using this definition, 1 out of 4 (25%) low SES recent smokers were recent quitters (see Appendix C – Table 2). There were no significant differences in being recent quitters among subgroups with the exception of marital status. The prevalence of recent quitting was much lower among unmarried persons (9%) than among those who were married (29%) or divorced (25%).

As noted in Part I, there was high interest in quitting smoking among most low SES current smokers. Four out of five low SES smokers (81%) reported that they would like to quit smoking. The only smokers to report significantly higher general interest in quitting were those with children in the household (88% vs. 72%).

Among those who wanted to quit, 38% planned to quit within the next 30 days. Not surprisingly, those who smoked daily were less likely than those who only smoked sometimes to plan to quit in the next month (33% vs. 52%). Persons with children in the home were more likely to plan to quit (47% vs. 24%). Younger smokers (aged 25 - 34) were also more likely, although not significantly, than the two groups of older smokers (35 - 49 year olds and 50 - 64 year old) to plan to quit (52% vs. 31 - 32%).

Three out of five low SES smokers (61%) made at least one attempt to quit in the past 12 months (see Figure 5). Actual quit attempts were also more likely among those with children in the home (69% vs. 51%) and among those who were unable to work (74%) than those who were either employed or unemployed (61%), or among homemakers, students and retirees (44%). Those in the Gulf Coast and Fairbanks were less likely than those in Anchorage to have made a quit attempt (52% and 51% vs. 66%).

**Figure 5: Percent Making At Least One Quit Attempt During the Past Year Among Low SES Non-Native Alaskans (ages 25-64)**

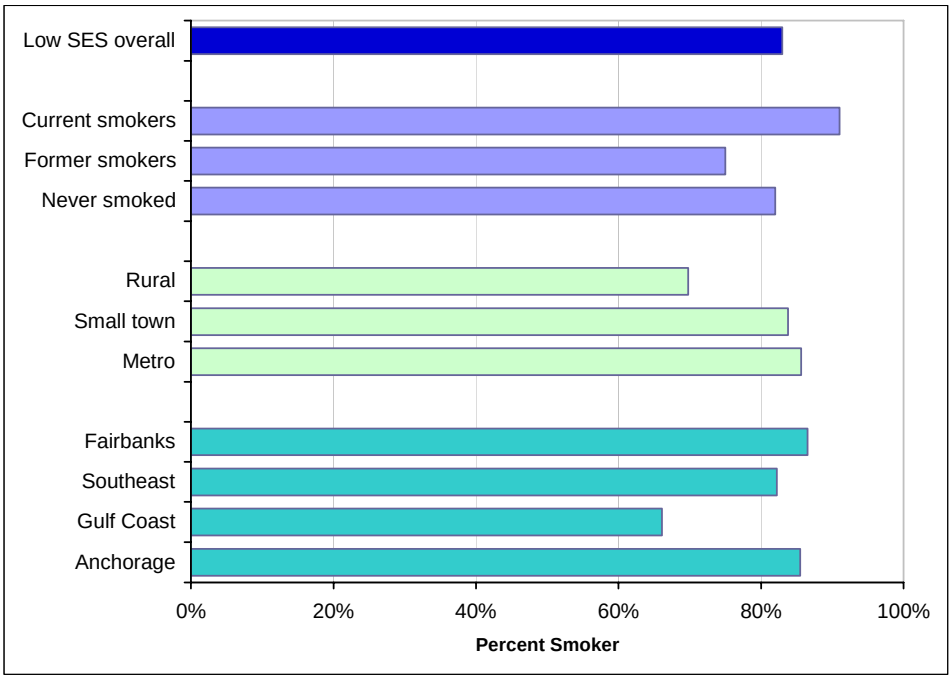



Source: Alaska BRFSS 2004-2006, see Appendix C – Table 6

Quit Assistance

Studies show that advice from a health care provider on quitting tobacco use can be an important motivator to help a smoker quit.[4] Of those who received health care in the past year, 4 out of 5 low SES persons were asked or advised by a provider to quit (83%), with those living in more rural areas less likely to receive this advice than those living in a small town or metro area (70% vs. 84 - 86%) and those living on the Gulf Coast less likely to receive this advice than those in Anchorage, Fairbanks, or the Southeast (66% vs. 82 - 87%) (see Figure 6). Among current smokers who received care, 91% were asked about smoking or advised to quit and 61% were specifically advised to quit with no significant differences by subgroup.

**Figure 6: Percent Asked or Advised to Quit by Healthcare Provider Among Low SES Non-Native Alaskans (ages 25 – 64)**




Source: Alaska BRFSS 2004 and 2006, see Appendix C – Table 7

In addition, health care providers are generally perceived as credible and important resources for information about tools to help quit, such as NRT. In clinical trials, NRT has been shown to be an effective method for improving quitting attempts among adults quitting tobacco use. The Community Guide recommends reducing patient out-of-care costs for effective treatments such as NRT.[46] Low SES current and former smokers were asked about the last time they tried to quit smoking or quit smoking for good and whether they used NRT to help them quit. Among those with a quit attempt, just three in ten (27%) used the nicotine patch, gum, or other medication to help them quit. The proportion using NRT did not significantly vary across subgroups.

The Community Guide also recommends providing help to tobacco users who want to quit through telephone-based counseling and support, including in conjunction with medical therapies.[46] The Alaska Quitline was established in 2002 as a free statewide service to provide telephone counseling and medications that help people who want to quit tobacco.[2] Low SES tobacco users were asked whether they were aware of the Alaska Quitline, which was described as a "telephone service that can help people quit smoking or using smokeless tobacco." About 47% of low SES smokers were aware of the quit line (34% among all respondents), which means that over half of low SES smokers were unaware of the quit line. There were no differences in awareness of the Alaska Quitline by subgroups.

## Secondhand Smoke Exposure Among Low SES Non-Native Alaskans

BRFSS respondents were asked if they had been exposed to secondhand smoke in their home, vehicles, or indoor workplace during the past 30 days. In addition, they were asked whether smoking was allowed in any of these places. If they responded "not allowed anywhere," it meant that smoking was banned from the location. Results are summarized below.

### Exposure to secondhand smoke and smoking bans at home

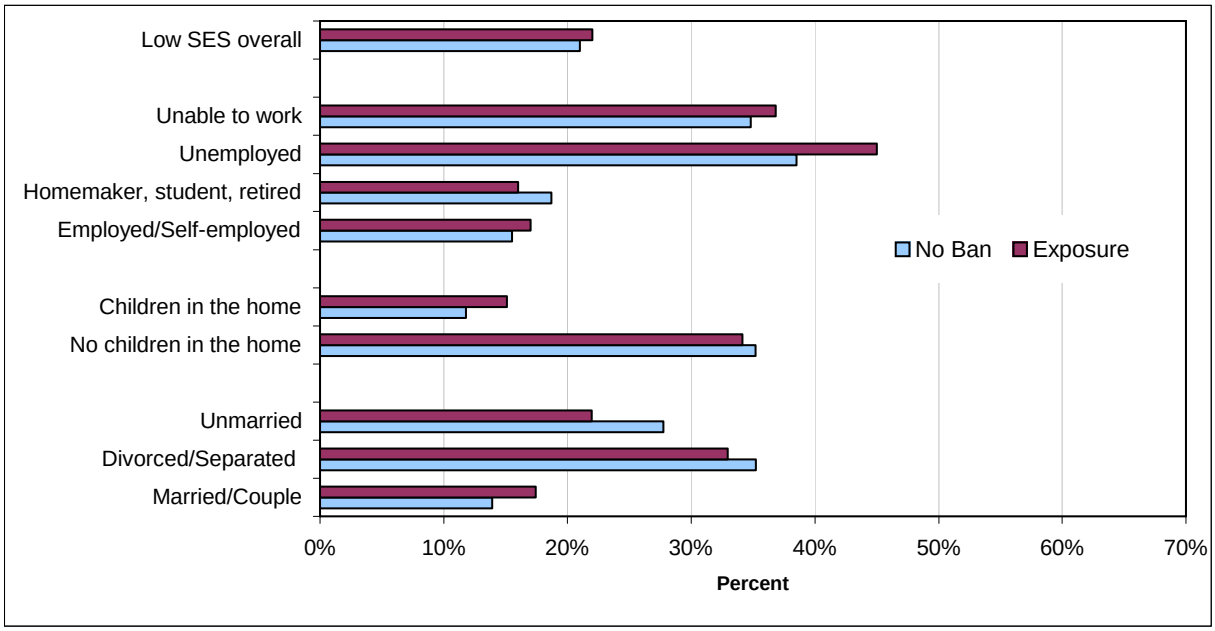
As described in Part I, a majority of low SES persons (79%) reported having a smoking ban in their home and 22% indicated that they were exposed to smoke inside their home in the past month. Among smokers, 62% reported having a smoking ban in their home and 40% reported exposure to smoke inside their home.

Those who were unemployed (45%) or unable to work (37%) were more likely than those who were employed (17%) or a homemaker, student, or retiree (16%) to be exposed to smoking in their home (see Figure 7). Persons who were unemployed (62%) or unable to work (65%) were less likely than those who were employed (85%) or a homemaker, student, or retiree (81%) to have a smoking ban in their home (see Figure 7).

Those with children in the home were less likely than those without children in the home to be exposed to smoking in their home (15% vs. 34%) and more likely to have a smoking ban in their home (88% vs. 65%). However, it is important to note that 1 in 6 low SES Alaskans with children still reported exposure to smoke in the home.

Alaskans who were divorced or separated were more likely than those who were either partnered or single to be exposed to smoking in their home over the past month (33% vs. 17% and 22% respectively) and also less likely to have a smoking ban in their home (65% v. 85% or 72% respectively). There were no significant differences in exposure to smoke in the home or smoking bans in the home by on region, gender or age.

**Figure 7: Percent Exposed to Cigarette Smoke in Their Home and Percent Without a Smoking Ban in Their Home Among Low SES Non-Native Alaskans (ages 25 – 64)**



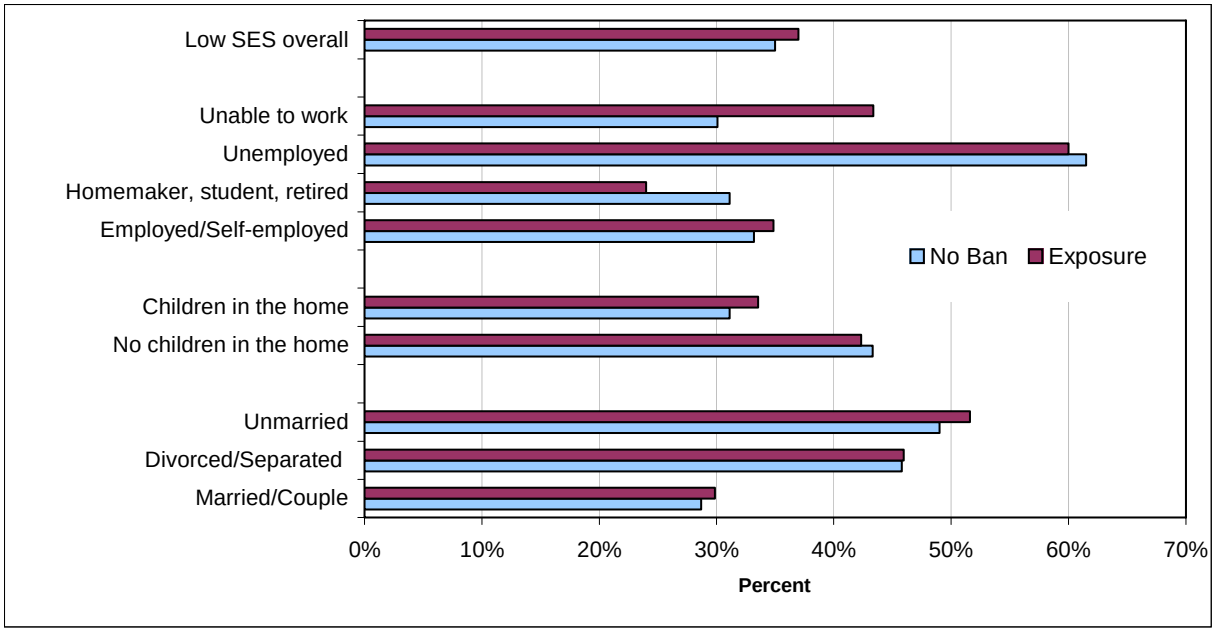

Source: Alaska BRFSS 2004-2006 (exposure), 2005-2006 (ban), see Appendix C – Table 10

Exposure to secondhand smoke and smoking bans in personal vehicles

As described in Part I, compared to almost 4 out of 5 low SES persons who had a smoking ban inside their home, only 2 out of 3 (65%) had a smoking ban inside their personal vehicles. About 37% reported being exposed to secondhand smoke in a vehicle during the past month. Among smokers, only 30% of low SES persons had a smoking ban inside their car and 73% had been in a car with smoking in the past 30 days.

Those who were unemployed were more likely to report exposure (60%) than those who were unable to work (43%), employed (35%), or a homemaker, student, or retiree (24%) and much less likely to have a smoking ban in their vehicles (39% vs. 67 - 70%). Unmarried persons reported a higher rate of exposure in vehicles (52%) than persons who were divorced or separated (46%) or partnered (30%). Married persons were most likely to have a vehicle ban compared with divorced/separated or unmarried persons (71% vs. 51 - 54%). Those with children in the home were more likely to report having a smoking ban in their vehicles (69% vs. 57%) and slightly, although not significantly, less likely to report exposure (34% vs. 42%). A similar non-significant trend was apparent for low SES women - women appeared less likely, although not significantly, to be exposed to smoke in a vehicle (33% vs. 41%) and more likely to have a vehicle ban than men (69% vs. 60%). Exposure rates or bans in homes or vehicles were not significantly different across urban/rural classification or specific region of the state.

**Figure 8: Percent Exposed to Cigarette Smoke in Their Vehicles and Percent Without a Smoking Ban in Their Vehicles Among Low SES Non-Native Alaskans (ages 25 – 64)**




Source: Alaska BRFSS 2004-2006 (exposure), 2004-2005 (ban), see Appendix C – Table 11

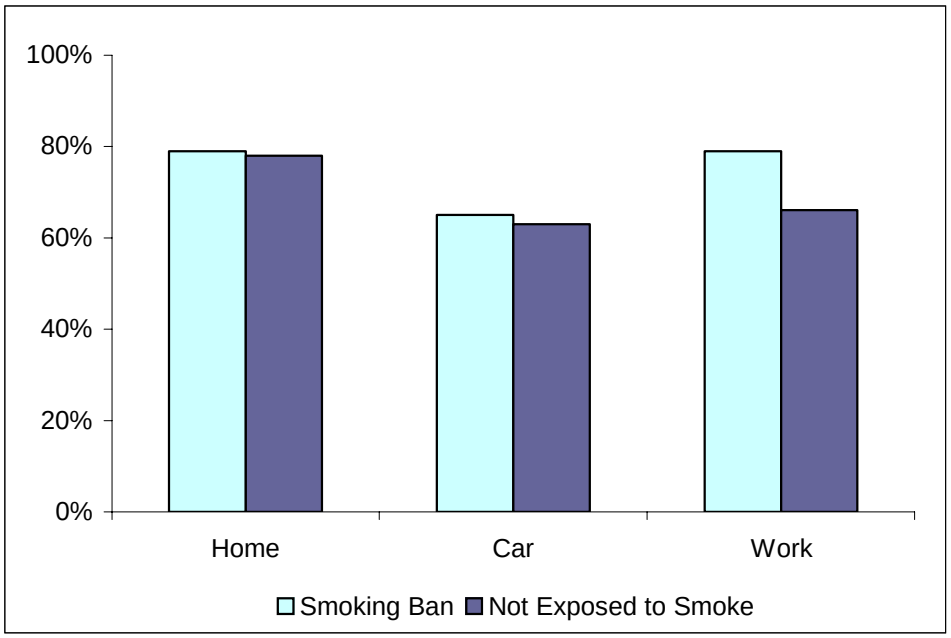
Exposure to secondhand smoke and smoking bans in indoor workplaces

Among low SES persons who were employed, 3 out of 4 (77%) reported being indoors most of the time while working at their job. Women were more likely than men to work primarily indoors (89% vs. 66%), and persons living in small towns (83%) or metro areas (79%) were more likely than persons living in rural areas (66%) to work primarily indoors.

Among currently employed persons who work primarily indoors, 79% reported having a no-smoking policy at their workplace although 34% reported being exposed to smoke (anywhere) at work[ii]. Men were more likely to report exposure at work compared with women (42% vs. 28%) and unmarried workers were slightly, although not significantly, more likely than married or divorced workers to report exposure to secondhand smoke in the workplace (51% vs. 30% and 26% respectively). Unmarried adults were less likely than married/partnered or divorced adults to report a workplace no-smoking policy (61% vs. 79% and 92% respectively).

In aggregate, smoking bans were more commonly reported at home or at indoor work sites than in vehicles (see Figure 9). Some persons of low SES were still exposed to smoke at home, in their cars, and at indoor work sites even though smoking was oftentimes banned.

**Figure 9: Percent Exposed to Smoke and Smoking Policy at Home, in Vehicles, and at Work Among Low SES Non-Native Alaskans (ages 25 - 64)**




Source: Alaska BRFSS 2004-2006, see Appendix C – Tables 10, 11 and 13

[ii] The wording of questions on the BRFSS related to indoor work exposure and workplace smoking bans may lead a respondent to respond differently to each; that is, the question about exposure asks about exposure "anywhere at work" while the question about workplace policy refers to indoor work areas.

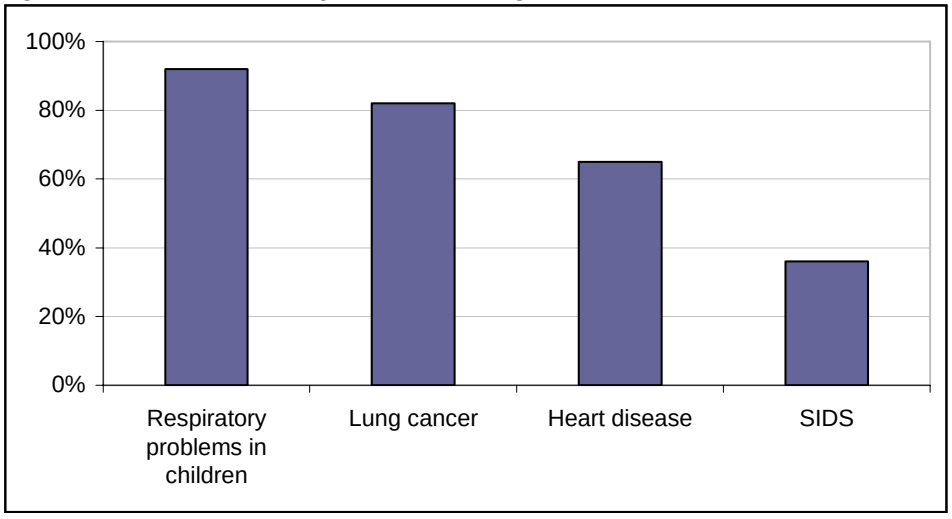
## Knowledge and Attitudes About Tobacco Exposure and Tobacco Control Policies Among Low SES Non-Native Alaskans

BRFSS respondents were asked about risk perception and attitudes about exposure to tobacco. Low SES groups who did not correctly identify the harm caused by tobacco and who did not support tobacco control are described below and have implications for intervention.

Knowledge of Harm from Secondhand Smoke

BRFSS respondents were asked about four different diseases or health conditions and whether secondhand smoke caused each of them. Many low SES persons reported accurately that secondhand smoke (breathing smoke from other people's cigarettes) causes respiratory problems in children (92%) and lung cancer (82%), while only 65% accurately identified secondhand smoke as a cause of heart disease (See Figure 10). Only a little more than a third (36%) reported knowledge that exposure to secondhand smoke causes sudden infant death syndrome (SIDS).

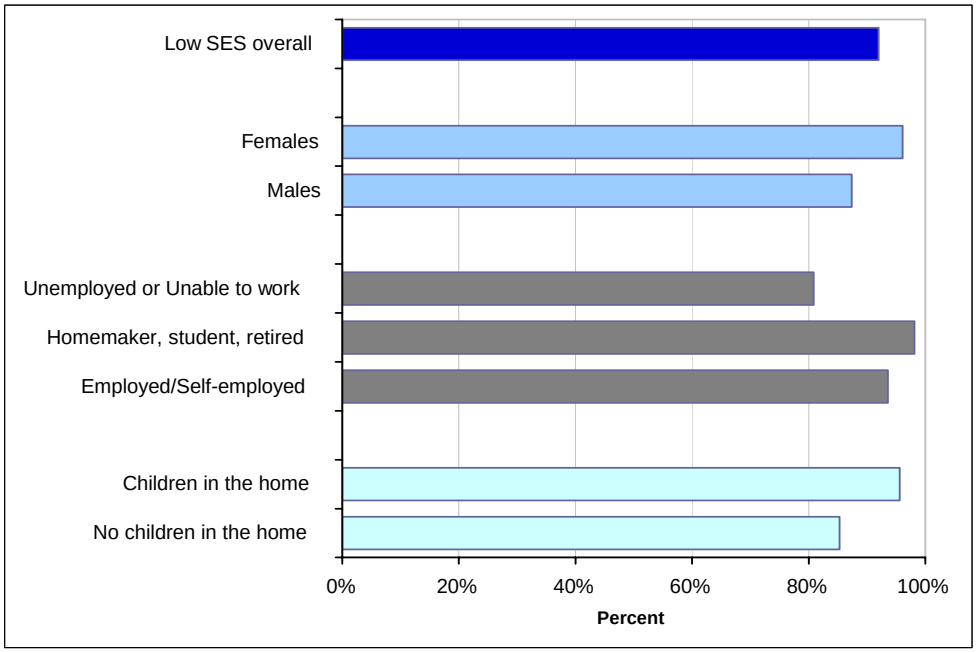
**Figure 10: Percent Who Reported Knowledge that Secondhand Smoke Causes Specific Diseases**




Source: Alaska BRFSS 2004, see Appendix C – Tables 14 - 17

The following subgroups were less likely to correctly identify that exposure to secondhand smoke causes respiratory problems in children, although all reported fairly high levels of knowledge: men (87%) vs. women (96%); unemployed/unable to work (81%) vs. employed (94%) or homemaker, student, retiree (98%); persons without children in the home (85%) vs. persons with children in the home (96%) (see Figure 11).

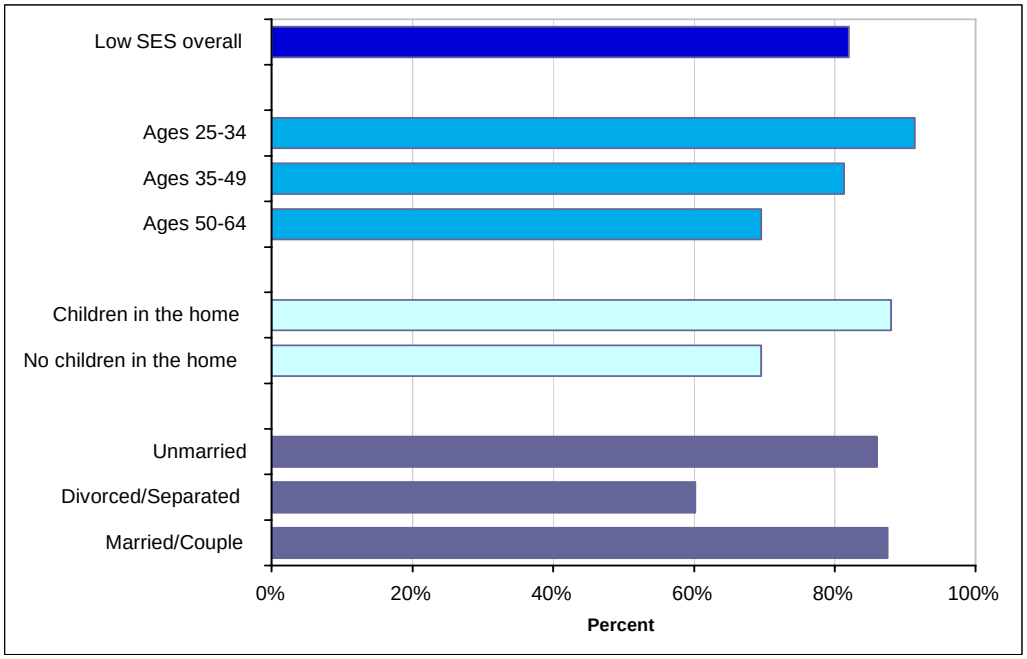
**Figure 11: Percent Who Reported Knowledge That Secondhand Smoke Causes Respiratory Problems in Children**




Source: Alaska BRFSS 2004, see Appendix C – Table 16

The following subgroups were less likely to correctly identify that exposure to secondhand smoke causes lung cancer: 50 – 64 year olds (70%) vs. 35 – 49 year olds (81%) or 25 – 34 year olds (91%); persons without children in the home (69%) vs. persons with children in the home (88%); divorced/separated persons (60%) vs. unmarried persons (86%) or married/partnered persons (88%) (see Figure 12).

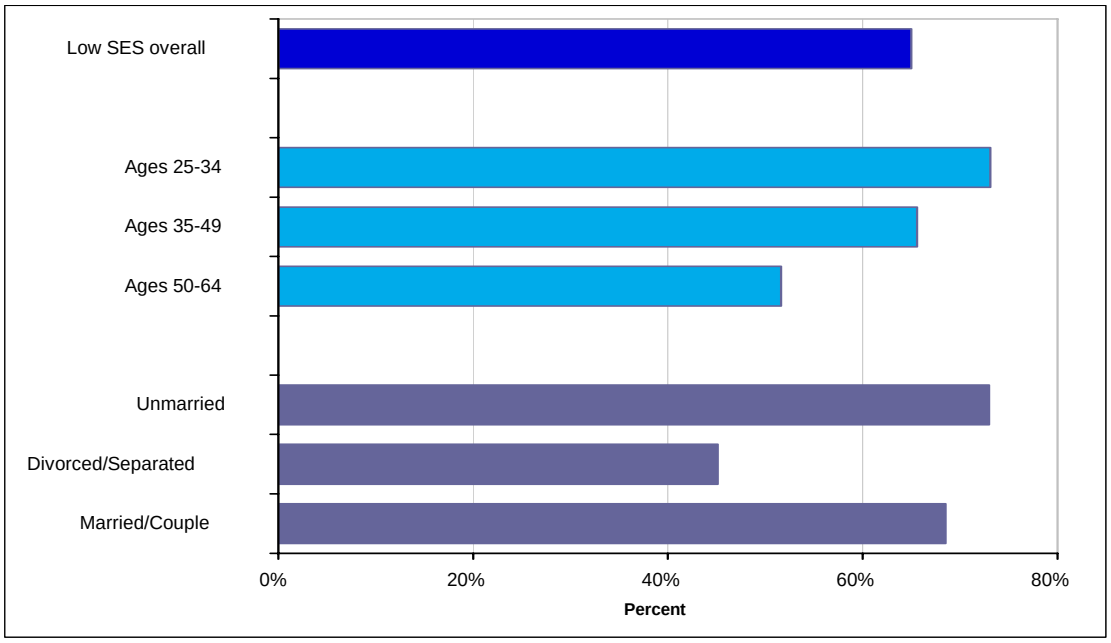
**Figure 12: Percent Who Reported Knowledge That Secondhand Smoke Causes Lung Cancer**




Source: Alaska BRFSS 2004, see Appendix C – Table 14

The following subgroups were less likely to correctly identify that exposure to secondhand smoke causes heart disease: 50 – 64 year olds (52%) vs. 35 – 49 year olds (66%) and 25 – 34 year olds (73%); divorced/separated persons (45%) vs. married/partnered persons (69%) or unmarried persons (73%) (see Figure 13).

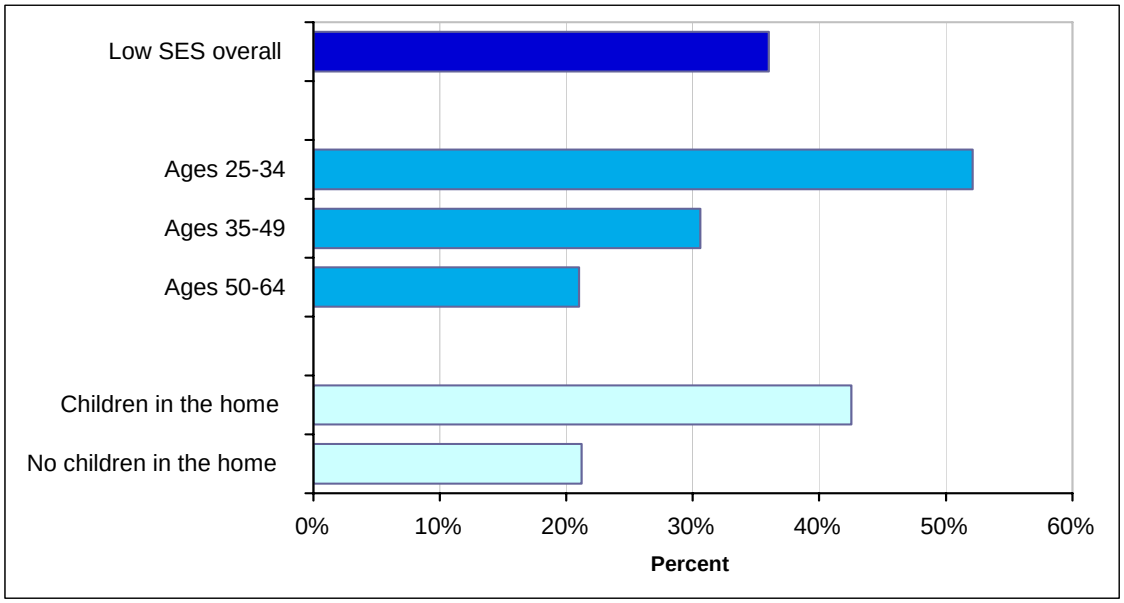
**Figure 13: Percent Who Reported Knowledge That Secondhand Smoke Causes Heart Disease**




Source: Alaska BRFSS 2004, see Appendix C – Table 15

The following subgroups were less likely to correctly identify that exposure to secondhand smoke causes SIDS: Older persons (between the ages of 50 – 64) (21%) were less likely than 35 – 49 year olds (31%) or 25 – 34 year olds (52%); persons without children (21%) were less likely than persons with children (43%) (see Figure 14). Although relatively few correctly identified secondhand exposure as a cause of SIDS, it is interesting to note that low SES persons were more likely than higher SES persons to correctly do so (36% vs. 29%).

**Figure 14: Percent Who Reported Knowledge That Secondhand Smoke Causes Sudden Infant Death Syndrome (SIDS)**



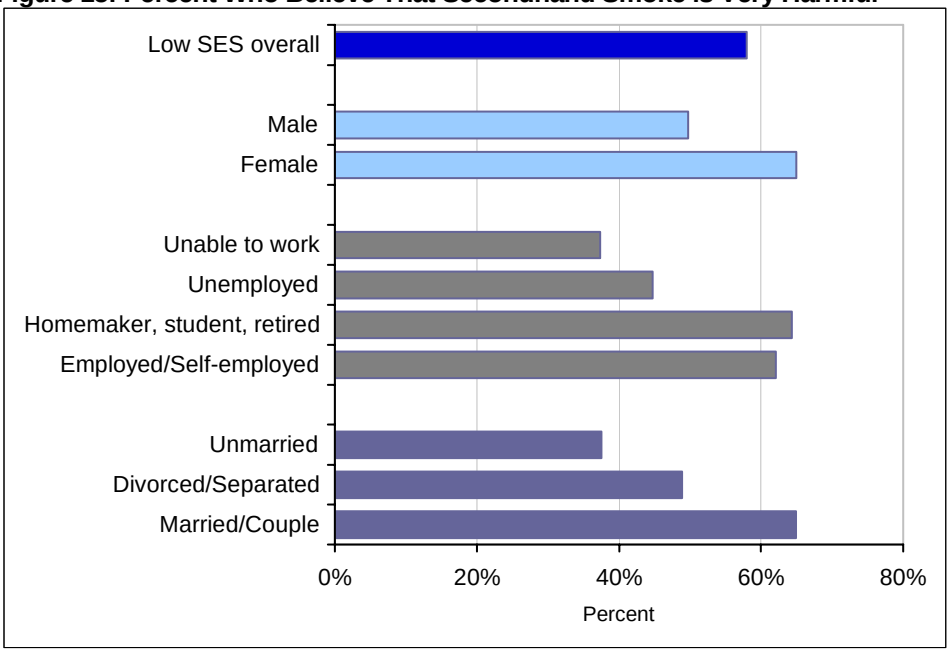

Source: Alaska BRFSS 2004, see Appendix C – Table 17

Attitudes About the Risks of Tobacco Use/Exposure

Knowledge of the specific health risks from exposure to secondhand smoke would be expected to translate into belief in the harmfulness of secondhand smoke. BRFSS respondents were asked whether breathing smoke from other people's cigarettes is very harmful to one's health, somewhat harmful to one's health, or not harmful to one's health. Among low SES persons, 58% reported that secondhand smoke is "very harmful" and 33% indicated that it was "somewhat harmful." Low SES smokers, however, were less likely to concur that secondhand smoke was "very harmful" (33%) but were more likely to endorse that it was "somewhat harmful" (51%).

More women than men (65% vs. 50%), persons who were employed/not in the workforce than unemployed/unable to work (62 - 64% vs. 37 - 45%), and persons who were married (65% vs. 38 - 49%) reported believing that secondhand smoke is "very harmful." Persons with children in the home were more likely, although not significantly, to indicate that breathing secondhand smoke is very harmful (62% vs. 51%) (see Figure 15).

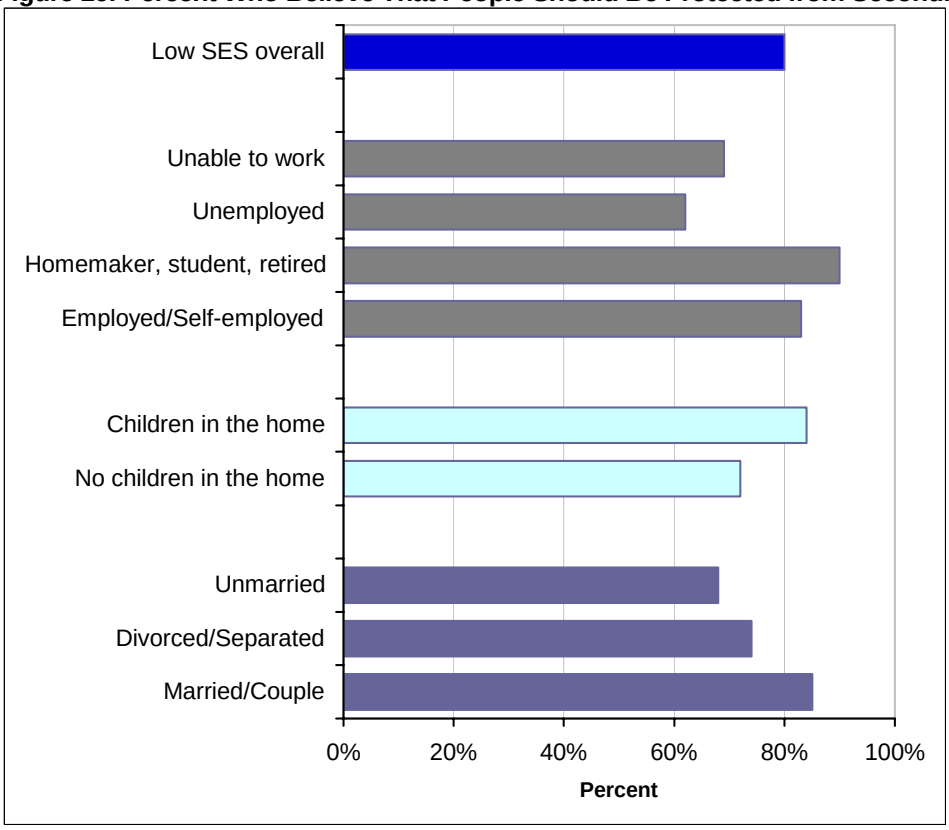
**Figure 15: Percent Who Believe That Secondhand Smoke is Very Harmful**




Source: Alaska BRFSS 2004 and 2006, see Appendix C – Table 18

Belief in the harm of exposure to secondhand smoke might be expected to translate into belief that people should be protected from that exposure. BRFSS respondents were asked whether they agree or disagree that people should be protected from other people's cigarettes. Almost 1 in 5 did not agree that people should be protected from secondhand smoke. Homemakers, students, and retired persons were most likely to agree that people should be protected from secondhand smoke (94%), followed by employed persons (83%), those unable to work (69%), and unemployed persons (62%) (see Figure 16). Agreement was also higher among people with children in the home than those without children in the home (84% vs. 72%), and among those who were married or a couple (85%) than among the divorced or separated (74%) or unmarried (68%).

**Figure 16: Percent Who Believe That People Should Be Protected from Secondhand Smoke**




Source: Alaska BRFSS 2004 and 2006, see Appendix C – Table 20

BRFSS respondents were also asked whether there is little benefit in quitting smoking for a person who has smoked a pack of cigarettes a day for more than 20 years. Eighty-two percent agreed that there was still a benefit to quitting after 20 years. Former smokers were most likely to agree (94%), followed by current smokers (86%) and never smokers (71%). There were no significant differences between other sub-groups.

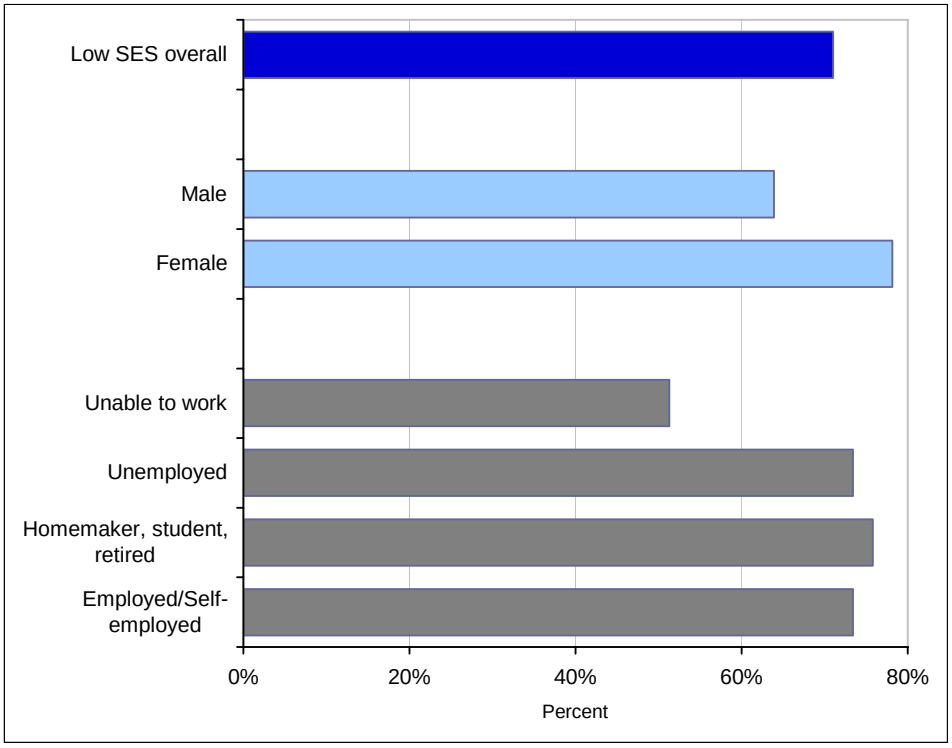
## Attitudes About Smoking Bans in Public Environments

The Community Guide recommends smoking bans and restrictions as effective in reducing exposure to secondhand smoke.[46] Smoking bans have been shown to reduce exposure in a wide variety of public workplaces and healthcare settings, and also reduce smoking among the workers or patrons where bans are implemented.

Persons of low SES expressed high general agreement (80%) that all people should be protected from secondhand smoke. They were also asked about how much they supported banning smoking in indoor work areas, restaurants, and bars and whether a ban would influence their decision to frequent each of these establishments.

Indoor work areas. BRFSS respondents were asked whether smoking should be allowed in all areas of indoor work places, in some areas, or not allowed at all. Almost 3 out of 4 low SES persons reported believing that smoking in indoor work areas should not be allowed anywhere (71%). Women were more likely than men (78% vs. 64%) to endorse this belief (see Figure 17). Persons who were unable to work were the least likely (compared to employed, unemployed, or homemakers/students/retirees) to believe that smoking should not be allowed in indoor work areas (51% vs. 73-76%).

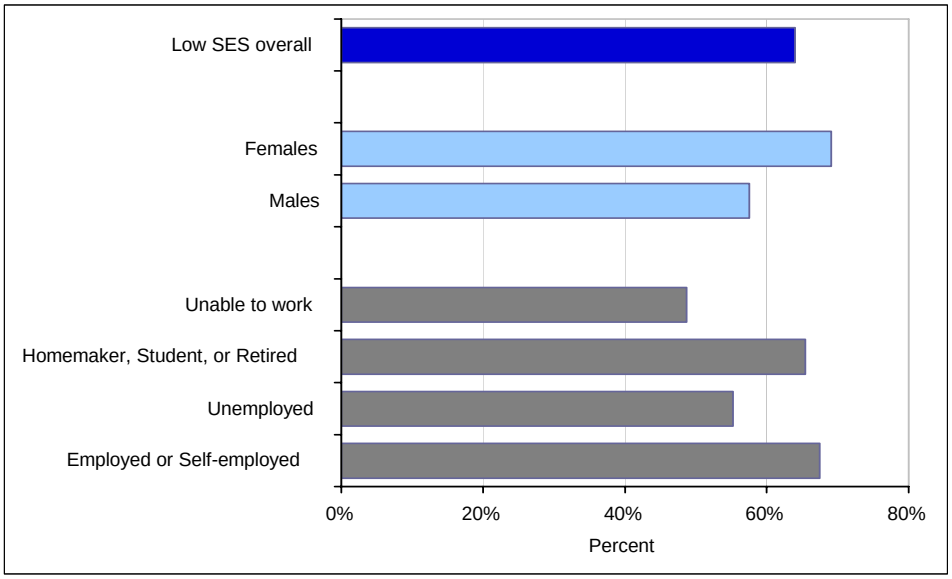
**Figure 17: Percent Who Support Banning Smoking in Indoor Work Places**




Source: Alaska BRFSS 2004-2006, see Appendix C – Table 23

Restaurants. Almost 2 out of 3 low SES Alaskans reported that smoking in restaurants should not be allowed anywhere (64%). This belief was more commonly held by women than men (69% vs. 58%) and among those employed (67%) or a homemaker, student, or retiree (65%) than among those who were unemployed (55%) or unable to work (49%) (see Figure 18).

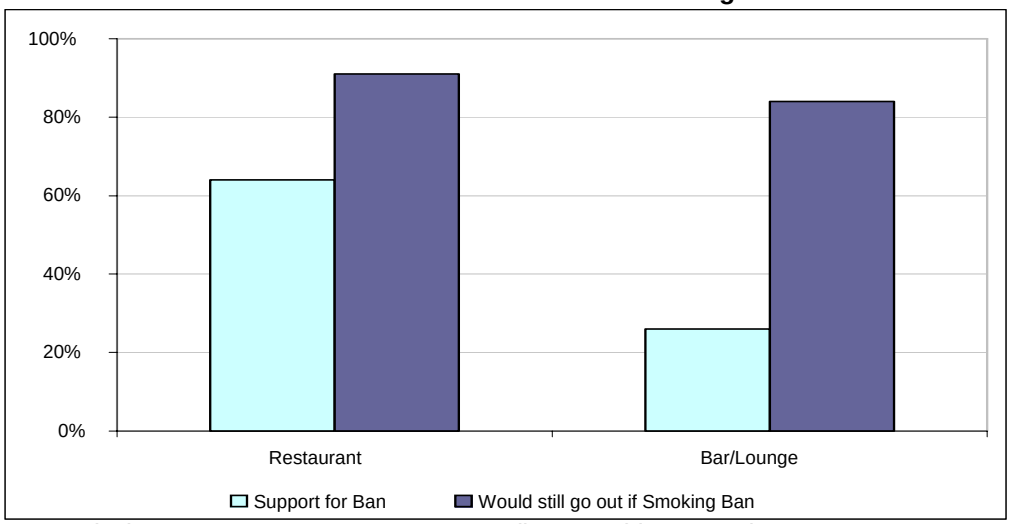
**Figure 18: Percent Who Support Banning Smoking in Restaurants**




Source: Alaska BRFSS 2004-2006, see Appendix C – Table 21

Nine out of ten low SES persons reported that even if smoking were not allowed in restaurants, they would continue to go out as often or more often (91%) (see Figure 19). Almost all unmarried persons (97%) agreed that they would still frequent restaurants that had a smoking ban, although slightly fewer married (90%) or divorced persons (88%) concurred.

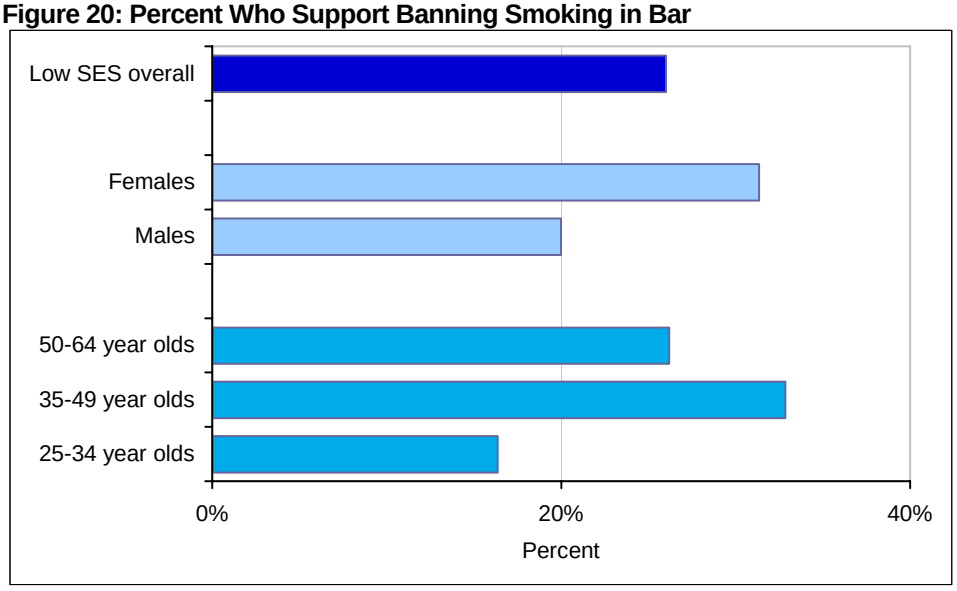
**Figure 19: Percent Who Support Banning Smoking in Restaurants and Bars and Percent Who Would Continue to Patronize Restaurants and Bars If Smoking Was Not Allowed**




Source: Alaska BRFSS 2004-2006, see Appendix C – Tables 21 and 22

Bars. In contrast to the high level of support for smoking bans in indoor work places and restaurants, many fewer low SES persons (26%) endorsed the idea that smoking should not be allowed in bars (see Figure 20 below). Women were more likely than men (31% vs. 20%) and 35 - 49 years olds (33%) were more likely than 25-34 year olds (16%) to support smoking bans in bars (see Figure 20). Persons who were employed were slightly more likely, although not significantly, than persons who were unemployed to support a smoking ban in bars.

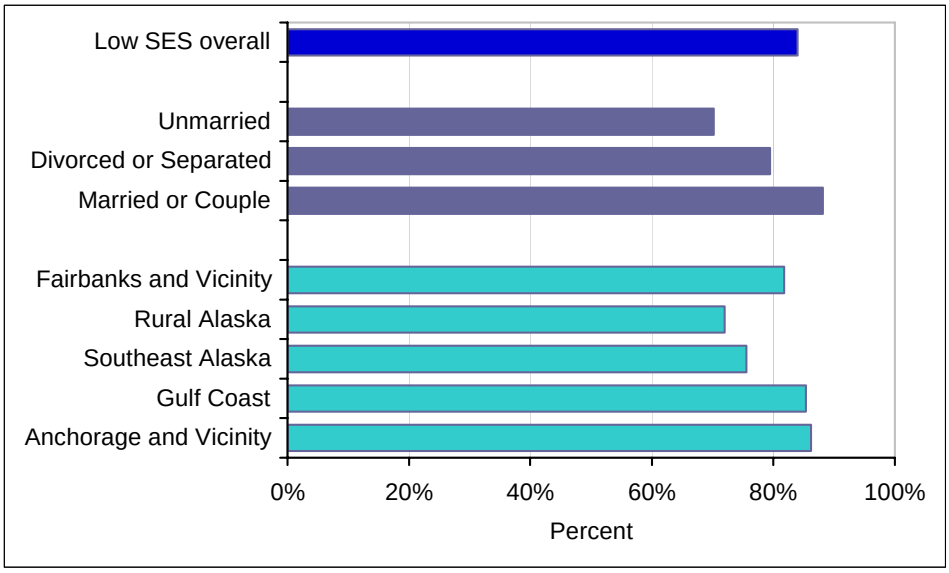
**Figure 20: Percent Who Support Banning Smoking in Bar**




Source: Alaska BRFSS 2004-2005, see Appendix C – Table 22

Given the relatively low level of support for smoking bans in bars, it is especially noteworthy that most persons of low SES (84%) reported that they would still go out to bars if smoking were not allowed (see Figures 19 and 21). Married persons (88%) were more likely than divorced/separated persons (80%) or unmarried persons (70%) to report willingness to patronize bars that had a smoking ban. Persons in rural Alaska were least likely (72%) and persons in Anchorage most likely (86%) to report that they would still frequent bars even if they did not allow smoking. This coincided with the finding that low SES persons in metropolitan areas were more likely to indicate support for continuing to patronize non-smoking bars (85%) but the difference was with small towns (75%) rather than rural areas (83%). People with children in the home were also more likely, although not significantly, than people without children in the home to report that they would still go out to bars if smoking was not allowed.

**Figure 21: Percent Who Would Continue to Patronize Bars Where Smoking Was Not Allowed**




Source: Alaska BRFSS 2004-2006, see Appendix C – Table 22

## Summary of Key Findings: Smoking Prevalence, Cessation, Exposure, Knowledge and Attitudes Among Low SES Non-Native Alaskans

### Smoking Prevalence

A large proportion of low SES persons (37%) reported that they currently smoke cigarettes and most smoke daily. Smoking prevalence was higher for men, those who were unable to work or unemployed, those without children, and those who were unmarried or divorced. Smoking was fairly high across all age groups and did not vary much by urban/rural classification or region of the state.

### Cessation

There was high interest in quitting smoking among most low SES persons: 4 out of 5 low SES smokers reported that they would like to quit smoking, 2 out of 5 planned to quit within the next month, and 3 out of 5 actually made a quit attempt in the past year. Smokers with children in the home and younger smokers had a higher interest in quitting and were more likely to plan to quit. Recent quit attempts were also more likely among smokers with children in the home, and also more likely among those who were unable to work or living in the Anchorage vicinity. One out of four low SES persons who smoked in the last 5 years successfully quit, with unmarried persons much less likely to have done so.

When asked about receiving help to quit, low SES smokers were less likely to be *asked* about smoking or *advised* to quit by a doctor or nurse mainly because almost one out of three did not have a health care visit in the past year. Of those who did receive care in the past year, 4 out of 5 low SES smokers were asked about smoking or advised to quit, with those living in more rural areas less likely to receive this advice than those living in Anchorage, Fairbanks, or the Southeast. Among low SES current smokers who made a quit attempt, only 3 out of 10 used NRT even though it increases the chance of a successful quit. Only about half of low SES

smokers were aware of the Alaska Quitline as a service to help people quit smoking or using smokeless tobacco.

Secondhand Smoke Exposure

In recent years, roughly 2 out of 10 low SES persons were exposed to smoke in their homes. Slightly more were exposed to smoke in their indoor workplaces (3 out of 10) and vehicles (4 out of 10). Most low SES persons had a policy prohibiting secondhand smoke at home, in their cars and at work: Roughly 80% of low SES persons were protected by a smoking ban at home and at work and slightly fewer reported having a ban in their cars (65%). There is some evidence that smoke free work policies may not being enforced since 79% of those who work primarily indoors report having a smoke free work policy but 34% report being exposed to smoke at work. As mentioned earlier, this is difficult to know for certain since some of those may have been exposed outside at work.

Among those of low SES, persons who were unemployed or unable to work, without children, or divorced/separated were the least likely to establish bans and were at highest risk for secondhand smoke exposure both at home and in vehicles. Men had a slightly elevated risk for exposure in vehicles and were slightly less likely to have a ban against smoking in their vehicles. Among those who worked primarily indoors, men and unmarried persons were at higher risk for workplace smoke exposure, and unmarried persons were least likely to have a workplace smoking policy. Secondhand smoke exposure or practices to ban smoking at home, in vehicles, or at indoor work sites were not different for those of low SES living in rural vs. urban areas.

Knowledge and Attitudes

Overall, persons of low SES had a high level of knowledge about the relationship between secondhand smoke exposure and respiratory diseases in children (92%) and lung cancer (82%). Fewer (64%) were aware that breathing smoke from other peoples' cigarettes causes heart disease. Only about a third knew that exposure to secondhand smoke is related to SIDS in infants, although poor question wording may have been part of the problem in responding accurately to the question.

Relatively high levels of knowledge of three of the primary health risks (discussed above) from exposure to secondhand smoke did seem to translate into high levels of people who reported that secondhand smoke exposure was harmful (91%).

While 9 out of 10 low SES Alaskans believed in the harm of exposure to secondhand smoke, fewer (8 out of 10) agreed that people should be protected from other people's cigarettes. Several subgroups were less likely to believe that people should be protected from secondhand smoke (i.e., unemployed/unable to work, without children in the home, unmarried).

Approximately 1 out of 5 low SES people did not realize the benefit of quitting smoking even after smoking for more than 20 years, so there is room to educate across subgroups, especially among those who never smoked.

When specifically asked whether they agreed with having smoking bans in restaurants, bars, or indoor workplaces, those of low SES were more likely to be supportive of bans in workplaces (71%) and restaurants (64%) than bars (26%). However, most indicated that they would still patronize restaurants (91%) and bars (84%) even if smoking was not allowed.

## Overall Summary of Part II

Low SES non-Native Alaskans are a heterogeneous subpopulation. Various subgroups within the low SES population were differentially affected by smoking prevalence, cessation, secondhand smoke exposure and bans, and knowledge and attitudes. To reach the greatest number of people who are at-risk, programs to target non-Native low SES Alaskans should be particularly focused on men, either unemployed or unable to work, without children in the home, and divorced/separated or unmarried persons (see Figure 22 below). There were very few differences based on age, urban/rural classification, or region.

**Figure 22. Non-Native Low SES Subgroups Negatively Affected by Smoking Behavior and Beliefs**

| Smoking-Related Variables | Subgroups to Target | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Men** | **Age** | **Employment** | **No kids** | **Relationship** | **Urban/ Rural** | **Region** |
| **Smoking Prevalence** | X | | Unemployed/ unable to work | X | Divorced & unmarried | | |
| **Cessation** | | | | | | | |
| Recent Quit | | | | | Unmarried | | |
| Interest in quitting | | | | X | | | |
| Plan to quit | | 35-64 | | X | | | |
| Quit Attempt | | | Homemaker/ student/retiree | X | | | Gulf Coast, Fairbanks |
| Asked/advised quit | | | | | | Rural | Gulf Coast |
| **SHS** | | | | | | | |
| Exposure at home | | | Unemployed/ unable to work | X | Divorced | | |
| Exposure in car | X | | Unemployed | X | Unmarried | | |
| Exposure at work | X | | | | Unmarried | | |
| Ban at home | | | Unemployed/ unable to work | X | Divorced | | |
| Ban in car | X | | Unemployed | X | Divorced & unmarried | | |
| Ban at work | | | | | Unmarried | | |
| **Knowledge/Attitudes** | | | | | | | |
| SHS – respiratory problems in children | X | | Unemployed/ unable to work | X | | | |
| SHS – lung cancer | | 50-64 | | X | Divorced | | |
| SHS - heart disease | | 50-64 | | | Divorced | | |
| SHS – SIDS | | 50-64 | | X | | | |
| Harm of SHS | X | | Unemployed/ unable to work | | Divorced & unmarried | | |
| Believe should protect people | | | Unemployed | | | | |
| Support Indoor work ban | X | | Unable to work | | | | |
| Support restaurant ban | X | | Unemployed/ unable to work | | | | |
| Patronize restaurant | | | | | Divorced | | |
| Support bar ban | X | 25-34 | Unemployed | | | | |
| Patronize bar | | | | X | Unmarried | Small towns | Rural AK |

# Limitations

This study has several limitations associated with the primary data source, BRFSS. The CASRO response rate for the Alaska BRFSS ranged from 62-68% between 2004 and 2006, higher than that of many other states, but still indicating that some people were not reached through this survey method. In addition, Alaska's BRFSS findings may not accurately represent non-English speaking populations, and the BRFSS does not represent people who live in institutions, including military housing, college dormitories or assisted living communities. The BRFSS also does not represent people who do not have a telephone "land line" (i.e., households or individuals who only have cellular telephone service). Finally, the BRFSS might under-represent poorer, more mobile, and non-white populations because they are less likely to live in homes with telephones. In some cases, health risk behavior might be underestimated in BRFSS because people might be reluctant to report behaviors that others might not find acceptable.

The definition of low SES was limited by the information available in the BRFSS dataset. It is important to remember that the findings in this study are related to persons with less than a high school education at or below 185% of the Alaska poverty guidelines and not related to other potential indicators of socio-economic status. As noted earlier, some survey respondents (an estimated <1% of non-Native Alaskans ages 25-64) who might fit the low SES definition we used are not included in the low SES group analyses because income data in BRFSS does not map exactly to the poverty guideline cut-offs.

This study represents a first step by utilizing existing data to examine the disparities between low SES and higher SES Alaskans regarding smoking and smoke exposure. This existing data included only limited information about barriers to quitting and both motivators and supports that might be most useful to low SES Alaskans in quitting, or never starting tobacco use. Additional studies and new data collection would be useful in addressing these issues.

# Discussion

## Identifying and Addressing Tobacco Problems Among Low SES Non-Native Alaskans

Consistent with both local and national studies, the results of this study illustrate the disparity in smoking prevalence, exposure, cessation, and smoking-related mortality between low SES non-Native Alaskans and higher SES non-Native Alaskans, as well as the magnitude of the smoking-related problem for those of low SES.

In terms of the disparity between persons of low SES and higher SES, we found that the low SES population was:

- Different demographically (i.e., more likely to be female, younger, with children in the home, divorced or unmarried and less likely to be employed).
- More likely to start smoking, and twice as likely to currently smoke.
- More likely to be exposed to secondhand smoke at home, in their car, and at their indoor workplace and less likely to have a smoking ban in any of these places.
- Slightly more motivated to quit smoking and more likely to make a quit attempt in the past year (among current smokers), but not as successful in quitting in the long term. This, combined with higher rates of initiation, resulted in higher smoking prevalence for this population.
- Dying in greater proportions from tobacco-related disease.

In terms of quantifying the magnitude of the smoking-related problem among those of low SES, we found that:

- A large proportion of low SES persons (37%) currently smoke cigarettes.
- There was high interest in quitting smoking among most low SES smokers: 4 out of 5 reported that they would like to quit smoking, 2 out of 5 planned to quit within the next month, and 3 out of 5 actually made a quit attempt in the past year. In addition, 1 out of 4 low SES persons who smoked in the last 5 years successfully quit.
- Low SES smokers were less likely to be asked about smoking or advised to quit by a doctor or nurse mainly because almost 1 out of 3 did not have a health care visit in the past year. Of those who did receive care in the past year, 4 out of 5 low SES smokers were asked about smoking or advised to quit. Among low SES current smokers who made a quit attempt, only 3 out of 10 used NRT, and only about half were aware of the Alaska Quitline.
- Approximately 2 out of 10 low SES persons were exposed to smoke in their homes, 3 out of 10 were exposed to smoke in their indoor workplaces, and 4 out of 10 were exposed to smoke in their cars. Most low SES persons had a policy prohibiting secondhand smoke at home and at work (79%), but only 65% had a no smoking policy in their cars. There is some

evidence that smoke free work policies may not being enforced since 79% of those who work primarily indoors report having a smoke free work policy but 34% report being exposed to smoke at work (although some of those who reported being exposed may have been exposed *outside* at work).

- Approximately 1 out of 5 low SES people did not realize the benefit of quitting smoking even after smoking for more than 20 years.

- Overall, 9 out of 10 low SES persons knew that exposure to secondhand smoke was harmful and at least 8 out of 10 knew that secondhand smoke exposure causes respiratory diseases in children (92%) and lung cancer (82%). Fewer (65%) were aware that breathing smoke from other peoples' cigarettes causes heart disease and fewer still (35%) knew that exposure to secondhand smoke is related to SIDS in infants.

- Nine out of 10 persons of low SES believed in the harm of exposure to secondhand smoke, and 8 out of 10 agreed that people should be protected from other people's cigarettes. When specifically asked whether they agreed with having smoking bans in restaurants, bars, or indoor workplaces, those of low SES were more likely to be supportive of bans in workplaces (71%) and restaurants (64%) than bars (26%). However, most indicated that they would still patronize restaurants (91%) and bars (84%) even if smoking was not allowed.

## Addressing the Problem

The findings from this study support the need for Alaska's Tobacco Prevention and Control Program to target low SES populations. We recommend the following four overarching strategies:

- The program should collaborate with key stakeholders and utilize existing networks of local community agencies that serve those of low SES to reach and influence their population (e.g., Medicaid, Food Stamps, General Relief Assistance, Alaska Temporary Assistance Program, Women Infants and Children (WIC) program, local health departments, housing authorities, or the unemployment office).

- Tobacco control public awareness campaigns should be developed targeting those of low SES, using appropriate actors and models, tailored messaging, and relevant channels.

- To reach those with the greatest smoking burden, tobacco prevention and control programs for non-Native low SES Alaskans should include a focus on men and those who are either unemployed or unable to work, without children in the home, and who are divorced/separated or unmarried.

Specific strategies related to prevention, cessation, secondhand smoke elimination, and evaluation are provided below.

<u>Prevention strategies</u>

- Studies should be conducted to understand at what age low SES youth start smoking (e.g., early adolescence versus young adulthood) to inform targeted tobacco prevention programs. One inexpensive method would be to re-add an age of initiation question to BRFSS.

- Tobacco control educational campaigns should include a focus on changing social norms so that smoking and secondhand smoke exposure is less accepted among low SES populations; Comprehensive clean indoor air policies are one method of encouraging norm change for this group.

- To reach those with the highest smoking prevalence, tobacco prevention and control programs for non-Native low SES Alaskans should include a focus on men and those who are either unemployed or unable to work, without children in the home, and who are divorced/separated or unmarried.

Cessation strategies

- Cessation strategies should encourage smokers of low SES to quit and help them stay quit. Special emphasis should be placed on relapse prevention.

- Although this study indicates that low SES smokers are highly motivated to quit and that more have made recent attempts to quit than higher SES smokers, relatively fewer have been successful in quitting. Additional work should be conducted to identify motivation strategies that better assist low SES smokers in quitting. According to a study in Oregon, media messages that might motivate both low SES and higher SES smokers to quit include those that emphasize having more money to spend, personalize risk, and appeal to their concern for others close to them.

- Additional research should be conducted to identify key barriers to quitting among low SES smokers, including social and occupational environmental factors, and to identify additional supports that could assist these smokers to be more successful in quitting.

- Increased access to health care may increase cessation among those of low SES.

- Public awareness campaigns about the benefits of quitting even after long-term smoking may be helpful.

- Improving access to NRT may help low SES smokers successfully quit.

- Healthcare providers who serve those of low SES may need training and support to provide effective cessation counseling. Such training should include a focus on the 5 A's, education about effective cessation strategies (e.g., NRT, the Alaska Quitline), and especially relapse prevention.

- Providers should be encouraged to promote home smoking bans as a way to help motivate smokers to quit and protect others in the home, including children from secondhand smoke exposure.

- Promoting the Alaska Quitline through health care providers (including prenatal and pediatric providers), agencies that serve low SES populations (e.g., Medicaid, unemployment offices), and a Quitline tag on tobacco control television advertisements may be helpful in increasing awareness of this important cessation service.

- There was high interest in quitting among most low SES persons, but particularly among those with children in the household (who were also more likely to plan to quit and make a

quit attempt, although not more likely to actually quit), so this may be an important group to target.

- Further exploration is needed into why homemakers/students/retires and those living in the Gulf Coast or Fairbanks regions were least likely to make a quit attempt.

- To support development of provider trainings, studies should identify barriers impeding healthcare providers that serve low SES Alaskans in small towns, rural areas, and Gulf Coast/Fairbanks from effectively supporting smoking cessation.

Secondhand smoke elimination strategies

- Secondhand smoke elimination strategies should be focused on both indoor exposure and vehicle exposure.

- Bans on secondhand smoke to protect workers may more easily gain support than bans in specific venues (e.g., bars).

- Education about excess disease and death among people who work at restaurants, bars, and other indoor workplaces that allow smoking would be beneficial.

- There is a need to educate low SES populations about specific health risks associated with secondhand smoke exposure, particularly heart disease and SIDS.

- Studies are warranted to further understand the violations of indoor workplace policies prohibiting smoking.

- Public awareness campaigns regarding the dangers of secondhand smoke should include a focus on men, persons without children in the home, persons who are unemployed or unable to work and either unmarried or divorced. In addition, the 50-64 year old population would benefit from education about the direct links between secondhand smoke and disease. Such campaigns could emphasize the dangers to other adults, children, grandchildren, and even pets, and the benefits of smoking bans.

Additional evaluation activities

- Through the conduct of this study, we identified several questions within BRFSS that should be added or modified:

    - Adding the question: “Do you live with a smoker?”

    - Re-introducing a question regarding age of smoking initiation (last asked in 2004, as: “How old were you when you first started smoking cigarettes regularly?”)

    - Either add to or modify the questions about secondhand smoke exposure at work and smoking policies at work to make sure both refer to *indoor* work areas. In the current version, respondents may be reporting exposure both inside and outside. For example, modify “In the past 30 days has anyone, including yourself, smoked cigarettes, cigars, or pipes anywhere at your workplace?” to read “In the past 30 days has anyone, including yourself, smoked cigarettes, cigars, or pipes in indoor work areas?”

- If knowledge questions about smoking-related diseases are asked in the future, modify the question “Would you say that breathing smoke from other people’s cigarettes causes sudden infant death syndrome” to read “Would you say that breathing smoke from other people’s cigarettes causes sudden infant death syndrome (that is, SIDS) in infants who breathe other people’s smoke?"

- Studies or additional regression modeling (to identify associated or confounding factors) should examine why those who are divorced/separated and unmarried have a higher smoking-related burden, and to determine what program strategies might best address the disparity for these groups.

## One Final Word

Non-Native persons of low SES in Alaska continue to have high rates of tobacco use and exposure to secondhand smoke, and therefore suffer disproportionately from the health consequences and economic hardship caused by tobacco use. These disparities reflect a larger picture of socioeconomic and health inequality that affects low SES Alaskans. In order to achieve significant reductions in the overall smoking prevalence in Alaska, we must ensure that our smoking prevention approach toward persons of low SES is respectful, culturally relevant, clear, and blame free.

## Additional Resources

- American Legacy Foundation (www.americanlegacy.org)

- Centers for Disease Control and Prevention – Tobacco (http://www.cdc.gov/tobacco/)

- National Network on Tobacco Prevention and Poverty - http://www.nntpp.org/

- The California Department of Health Services Tobacco Control Section was the first statewide program in the nation to address the impact of economic adversity on smoking prevalence. They have done so by funding project RESPECT (Resources & Education Supporting People Everywhere Controlling Tobacco) as California's low socio-economic status (SES) priority populations partnership (http://www.respect-ala.org/index.htm)

- The Tobacco Research Network on Disparities (www.tobaccocontrol.cancer.gov). For further information contact, Pebbles Fagan, PhD, MPH, Tobacco Control Research Branch, Behavioral Research Program, Division of Cancer Control and Population Sciences, National Cancer Institute, (301) 496-8584 or faganp@mail.nih.gov.

# Appendix A. Methods Detail and Technical Notes

## Alaska Behavioral Risk Factor Surveillance System (BRFSS)

BRFSS is an anonymous telephone survey of adults conducted by the Alaska Division of Public Health since 1991 in cooperation with the CDC. The survey includes questions about health-related behaviors and health status. Interviews are conducted throughout the year and combined by calendar year.

The BRFSS uses a random digit dial method to select a representative sample of Alaska adults. The sample is stratified into five regions, with roughly equal numbers of interviews conducted in each region. One survey respondent from each selected household is randomly chosen from among the adults living in the household. People without home-based telephones are not eligible for sampling (that is, persons living in dormitories, military housing, prisons, nursing homes and other institutional settings). Cell phones are not available for sampling, so individuals who use only cell phones as their home telephone are ineligible. Alaska's BRFSS is administered only in English.

Data are weighted to compensate for under- or over-representation of people from any subgroup and appropriately reflect the general population.

For most of our analyses we included the 793 non-Native Alaskan adults who participated in the survey during the years 2004-2006 and fit our definition of low SES. In each of these years, about half of Alaska respondents received the "core" Alaska survey and a modified version of the BRFSS survey that included a variety of tobacco-related questions. Therefore, the total number of respondents for these questions is less than the total number of respondents for "core" questions such as overall smoking.

## Analytic Terms and Methods

Because of the nature of the sampling for BRFSS, confidence intervals and significance tests were generated using Stata (version 9.2) software to account for complex sampling designs. Confidence intervals are presented in the text for tobacco-related measures among Low SES Non-Native Alaskans. Data tables in Appendix B and Appendix C present the point estimates and p-values from the chi-square tests in Stata (version 9.2).

### Confidence intervals

Confidence intervals (CI) are used to account for the difference between a sample from a population and true population. They can also be used to account for uncertainty that arises from natural variation inherent in the world around us. As such, they provide a means of assessing and reporting the precision of a point estimate, such as a mortality or hospitalization rate or the frequency of reported behaviors. Confidence intervals do not account for several other sources of uncertainty, including missing or incomplete data, bias resulting from non-response to a survey, or poor data collection. In this report, we have used confidence levels of 95%. This level means that in 95 out of 100 cases, the confidence interval contains the true value. Because of the nature

of the sampling for BRFSS, confidence intervals for frequencies using these data sources were generated using Stata (version 9.2) software to account for complex sampling designs.

## Tests for Statistical Significance of Associations

Statistically significant differences – differences between estimates that are not likely due to chance alone – are identified in this report in Appendix B and C tables, as well as graphs within the body of the report.

P-values less than 0.05 indicate that both percentages are statistically significant at the 95% confidence level. In this report, we used chi-square tests to produce p-values reported in tables. Chi-square tests are simple tests of association between group and outcome variables (for example, smoking [yes, no] and gender [male, female]). We used Stata (version 9.2) statistical software to conduct these tests in order to account for complex sampling design of the surveys.

We used logistic regression models to examine time-trends for smoking prevalence among non-Native Alaskan adults between 1996 and 2006, and to identify whether there were interactions – that is, significantly different trends –by socio-economic status.

## Urban/Rural Classification

The urban/rural variable used in this study collapses into three groups the 12 categories in the "urban influence" code applied to the BRFSS dataset in 2006 by Charles Utermohle. Population size, urbanization, and access to larger communities are often crucial elements in research dependent on county-level data sets.

Most counties, whether metropolitan or nonmetropolitan, contain a combination of urban and rural populations. The Economic Research Services of the U.S. Department of Agriculture developed a set of county-level urban influence categories that captures some differences in economic opportunities. Urban influence codes group metro and nonmetro counties (or census areas, in the case of Alaska) according to the official metro status announced by the Office of Management and Budget (OMB) in June 2003, based on population and commuting data from the 2000 Census of Population. Nonmetro counties are defined as adjacent if they abut a metro area (noncore also if they abut a micro area) and have at least 2 percent of employed persons commuting to work in the core of the metro area (or in the micro area). When a nonmetro county met the adjacency criteria to more than one metro (or micro) area, it was designated as adjacent to the area to which the largest percentage of its workers commuted.

In this study, "Metro" respondents come from cities or towns with a population of at least 50,000 residents, and those from the immediately adjacent (commuting) areas with no town of their own. Those in the "small town" category includes respondents in towns of 2,500 to less then 50,000 residents, and those from the immediately adjacent areas. "Rural" refers to respondents from communities with a population of less than 2,500, from areas not immediately adjacent to large or small towns.

## Other Independent Variables

For the purposes of this study, we included marital status as an independent factor because of its association with smoking. Due to small numbers, we combined those who reported being members of an unmarried couple (5%) with those who were married, and those who were

separated (3%) with divorced respondents. However, because we did not feel that widowed respondents (2%) could appropriately be grouped with married/couples, divorced/separated, or unmarried respondents, we set this group to missing for the purposes of examining marital status. Widowed respondents are still represented in the dataset and were included in the other comparisons.

For the purposes of this study, we did not include race/ethnicity as an independent factor. As noted, this report excludes the second largest race group, Native Alaskans. Because non-Natives from race/ethnicity groups other than White non-Hispanic represent roughly 1% of the population—we did not report differences between other race groups.

# Appendix B. Part I Data Tables (*Establishing the Disparity*)

Table 1. Demographic Characteristics of Non-Native Alaskan Adults (Ages 25 – 64) by Socio-Economic Status

| Demographic Characteristics | Socio-Economic Status<br>Low SES<br>N=1,966 | <br>Higher SES<br>N=7,753 | p-value |
|---|---|---|---|
| Males | 48% (45-52) | 53% (52-55) | |
| Females | 52% (48-55) | 47% (45-48) | **0.01** |
| 25-34 year olds | 33% (30-36) | 20% (19-22) | |
| 35-49 year olds | 42% (38-45) | 44% (42-45) | |
| 50-64 year olds | 26% (23-28) | 36% (34-37) | **0.00** |
| Employed or Self-employed | 61% (58-64) | 84% (83-85) | |
| Unemployed | 11% (9-13) | 3% (2-3) | |
| Homemaker, Student, or Retired | 16% (14-19) | 12% (11-13) | |
| Unable to work | 12% (10-14) | 1% (1-2) | **0.00** |
| No children in the home | 40% (36-43) | 54% (53-56) | |
| Children in the home | 60% (57-64) | 46% (44-47) | **0.00** |
| Married or Couple | 60% (57-63) | 79% (78-80) | |
| Divorced or Separated | 25% (22-27) | 12% (11-13) | |
| Unmarried | 15% (13-18) | 9% (8-10) | **0.00** |
| Metro | 73% (71-75) | 73% (72-73) | |
| Small town | 9% (8-10) | 11% (10-11) | |
| Rural | 18% (16-19) | 16% (16-17) | **0.02** |
| Anchorage and Vicinity | 58% (55-61) | 57% (56-58) | |
| Gulf Coast | 14% (13-16) | 12% (11-12) | |
| Southeast Alaska | 10% (9-11) | 11.8% (11.5-12.3) | |
| Rural Alaska | 3% (3-4) | 4% (4-5) | |
| Fairbanks and Vicinity | 14% (13-16) | 15.0% (14.6-15.5) | **0.00** |

Low Socio-Economic Status (SES) group includes those with less than high school education and/or those with household incomes below the 185% poverty guideline.
Weighted percent shown with 95% confidence interval in parentheses.
Source: Alaska BRFSS 2004, 2005 and 2006 combined surveys

Table 2. Current Cigarette Smoking Among Non-Native Alaskan Adults (Ages 25 – 64) by Socio-Economic Status

| | Socio-Economic Status | | |
|---|---|---|---|
| **Smoking Prevalence** | **Low SES N=1,966** | **Higher SES N=7,753** | **p-value** |
| Current Smoker | 37% (34-40) | 18% (17-19) | |
| Former Smoker | 25% (22-28) | 27% (26-28) | |
| Never Smoker | 38% (35-42) | 55% (54-57) | |
| | | | **0.00** |
| **Smoking Frequency** | **Low SES N=723** | **Higher SES N=1,416** | **p-value** |
| Daily Smoker | 74% (68-79) | 73% (70-77) | |
| Someday Smoker | 26% (21-32) | 27% (23-30) | |
| | | | 0.91 |

Low Socio-Economic Status (SES) group includes those with less than high school education and/or those with household incomes below the 185% poverty guideline.
Weighted percent shown with 95% confidence interval in parentheses.
Source: Alaska BRFSS 2004, 2005 and 2006 combined surveys

Table 3. Low/Higher SES smoking model

| Demographic Characteristics | | Adjusted OR (95% CI) |
|---|---|---|
| Socio-Economic Status | Higher SES | Referent |
| | Low SES | 2.1 (1.8 - 2.6) |
| Gender | Males | Referent |
| | Females | 0.7 (0.6 - 0.8) |
| Age group | 25-34 year olds | Referent |
| | 35-49 year olds | 1.0 (0.8 - 1.2) |
| | 50-64 year olds | 0.5 (0.4 - 0.6) |
| Employment status | Employed or Self-employed | Referent |
| | Unemployed | 2.2 (1.6 - 3.1) |
| | Homemaker, Student, or Retired | 1.0 (0.8 - 1.2) |
| | Unable to work | 2.7 (1.9 - 4.0) |
| Children in home | No children in the home | Referent |
| | Children in the home | 0.7 (0.6 - 0.8) |
| Marital status | Married or Couple | Referent |
| | Divorced or Separated | 2.0 (1.7 - 2.5) |
| | Unmarried | 1.5 (1.2 - 1.9) |
| Region | Anchorage and Vicinity | Referent |
| | Gulf Coast | 1.1 (1.0 - 1.4) |
| | Southeast Alaska | 1.0 (0.8 - 1.2) |
| | Rural Alaska | 1.0 (0.8 - 1.3) |
| | Fairbanks and Vicinity | 1.0 (0.8 - 1.2) |

Low Socio-Economic Status (SES) group includes those with less than high school education and/or those with household incomes below the 185% poverty guideline.
Adjusted odds ratio shown with 95% confidence interval in parentheses.
Source: Alaska BRFSS 2004, 2005 and 2006 combined surveys

Table 4. Trends in Cigarette Smoking Among Non-Native Alaskan Adults (Ages 25 – 64) by Socio-Economic Status

| Year | Socio-Economic Status | |
|---|---|---|
| | Low SES | Higher SES |
| 1996 | 39% (30-49) | 23% (19-28) |
| 1997 | 37% (28-47) | 20% (16-24) |
| 1998 | 34% (27-42) | 21% (18-25) |
| 1999 | 32% (26-40) | 21% (17-26) |
| 2000 | 28% (21-36) | 20% (17-24) |
| 2001 | 35% (29-43) | 20% (17-24) |
| 2002 | 45% (37-53) | 21% (18-25) |
| 2003 | 41% (33-48) | 20% (17-23) |
| 2004 | 35% (30-40) | 19% (17-21) |
| 2005 | 39% (34-44) | 18% (17-21) |
| 2006 | 38% (31-44) | 16% (14-18) |

Low Socio-Economic Status (SES) group includes those with less than high school education and/or those with household incomes below the 185% poverty guideline.
Weighted percent shown with 95% confidence interval in parentheses.
Source: Alaska BRFSS

Table 5. Smoking Cessation Among Non-Native Alaskan Adults (Ages 25 – 64) by Socio-Economic Status

| Smoking Cessation | | Socio-Economic Status Low SES | Higher SES | p-value |
|---|---|---|---|---|
| Successfully Quit in past year (among current smokers and those who were smokers in past year) | Yes | 13% (8-19) | 14% (11-18) | 0.73 |
| Successfully Quit in past FIVE years (among current smokers and those who were smokers in past 5 years) | Yes | 25% (19-31) | 28% (24-32) | 0.40 |
| Would like to Quit (among current smokers) | Yes | 81% (75-86) | 74% (69-78) | 0.06 |
| Intent to quit (stages of change) (among current smokers) | Plan to quit (30 days) | 31% (25-39) | 27% (23-33) | |
| | Want to w/in 6 months | 34% (28-42) | 33% (28-38) | |
| | Want to, no time frame | 15% (10-22) | 13% (10-17) | |
| | Do not want to quit | 14% (10-20) | 22% (18-27) | |
| | Don't Know | 5% (2-10) | 4% (3-7) | |
| | | | | 0.34 |
| Preparation (among smokers who want to quit) | Plan to quit (30 days) | 38% (31-47) | 37% (32-43) | 0.83 |
| Attempted quitting smoking in past 12 months | Yes | 61% (56-66) | 53% (49-56) | **0.01** |
| Used a nicotine patch, gum, or other meds (among current smokers and those who were smokers in past 5 years) | Yes | 27% (21-35) | 33% (28-38) | 0.21 |
| Asked OR advised to quit by a doctor/nurse* | Yes | 58% (52-64) | 59% (57-62) | |
| | No | 12% (9-16) | 18% (16-20) | |
| | **No health care visit** | 30% (25-36) | 23% (20-25) | |
| | | | | **0.01** |
| Asked OR advised to quit by a doctor/nurse* (among all who had a health care visit in the past 12 months) | Yes | 83% (77-88) | 77% (74-79) | 0.06 |
| Advised to quit by a doctor/nurse* (among smokers who had a health care visit in the past 12 months) | Yes | 61% (49-72) | 63% (55-70) | 0.83 |

*Health care visits, provider asking and advising, uses 2004 and 2006 data

Low Socio-Economic Status (SES) group includes those with less than high school education and/or those with household incomes below the 185% poverty guideline.

Weighted percent shown with 95% confidence interval in parentheses.

Source: Alaska BRFSS - 2004-2006 surveys; most items were on the modified survey only.

Sample size ranges from:

145 Low SES and 308 Higher SES respondents (smokers who got health care, advised to quit or not)

287 Low SES and 519 Higher SES respondents (plan to quit smoking in next 30 days)

715 Low SES and 1,406 Higher SES respondents (attempts to quit smoking, combined survey)

Table 5. Smoking Cessation (continued)

| Smoking Cessation (continued) | | Socio-Economic Status Low SES | Higher SES | p-value |
|---|---|---|---|---|
| Aware of AK Quitline (all respondents) (Data from 2004-2005 only) | Yes | 34% (29-39) | 28% (26-31) | **0.05** |
| Aware of AK Quitline (among current smokers, 2004-2006) | Yes | 47% (39-55) | 51% (45-56) | 0.44 |
| Would ever call a telephone support service for help in quitting (among current smokers, 2006 only) | Yes | 46% (31-61) | 30% (21-41) | 0.09 |
| Have ever called the AK Quitline (among smokers who are aware of it, asked in 2006 only) | Yes | 14% (6-32) | 6% (2-15) | 0.19 |
| Would like the Quitline number (among smokers who are aware of it) | Yes | 37% (29-45) | 30% (25-35) | 0.13 |

Low Socio-Economic Status (SES) group includes those with less than high school education and/or those with household incomes below the 185% poverty guideline.
Weighted percent shown with 95% confidence interval in parentheses.
Source: Alaska BRFSS 2004, 2005 and 2006 modified surveys
Sample size ranges from:
58 Low SES and 130 Higher SES respondents (smokers--ever called Quitline, modified survey 2006 only)
733 Low SES and 2,735 Higher SES respondents (all--awareness of Quitline)

Table 6. Secondhand Smoke Exposure and Policies Among Non-Native Alaskan Adults (Ages 25 – 64) by Socio-Economic Status

| **Secondhand Smoke Exposure and Policies** | | **Socio-Economic Status** | | |
|---|---|---|---|---|
| **All Respondents:** | | **Low SES** | **Higher SES** | **p-value** |
| Anyone smoked in Home in past 30 days | Yes | 22% (19-26) | 11% (10-13) | **0.00** |
| Rules about smoking inside home (used 2005-06 data) | Not Allowed | 79% (74-83) | 89% (87-90) | **0.00** |
| Been in Car with smoking in past 30 days | Yes | 37% (32-42) | 20% (18-22) | **0.00** |
| Rules about smoking in family vehicles | Not Allowed | 65% (59-70) | 79% (76-81) | **0.00** |
| Work Indoors (among employed/self-employed) | Yes | 77% (71-81) | 81% (79-83) | 0.12 |
| Anyone smoked in Workplace in past 30 days (indoors, emp/self-emp) | Yes | 34% (28-42) | 21% (19-24) | **0.00** |
| Official Workplace Smoking Policy* (used 2005-06 data) (indoors, emp/self-emp) | Not Allowed | 79% (70-85) | 88% (86-90) | **0.00** |
| **Smokers Only:** | | **Low SES** | **Higher SES** | **p-value** |
| (Anyone) smoked in Home in past 30 days | Yes | 40% (33-48) | 42% (37-47) | 0.77 |
| Rules about smoking inside home (used 2005-06 data) | Not Allowed | 62% (53-70) | 59% (53-65) | 0.37 |
| Been in Car with smoking in past 30 days | Yes | 73% (65-79) | 72% (67-77) | 0.93 |
| Rules about smoking in family vehicles | Not Allowed | 30% (22-39) | 28% (23-34) | 0.64 |
| Anyone smoked in Workplace in past 30 days (indoors, emp/self-emp) | Yes | 50% (38-63) | 38% (32-45) | 0.08 |
| Official Workplace Smoking Policy* (used 2005-06 data) (indoors, emp/self-emp) | Not Allowed | 68% (50-81) | 82% (75-87) | 0.06 |

Low Socio-Economic Status (SES) group includes those with less than high school education and/or those with household incomes below the 185% poverty guideline

Source: Alaska BRFSS 2004, 2005 and 2006 modified surveys

Sample size ranges from:

145 Low SES and 412 Higher SES respondents (smokers--anyone smoked in workplace)

970 Low SES and 3,901 Higher SES respondents (anyone smoked in home, past 30 days)

Table 7. Perceptions About Harm of Secondhand Smoke Among Non-Native Alaskans Adults (Ages 25-64) by Socio-Economic Status

| Perceptions About Harm of Secondhand Smoke | | Socio-Economic Status Low SES | Higher SES | p-value |
|---|---|---|---|---|
| Perception that breathing smoke from other people's cigarettes causes: | | | | |
| Lung cancer | Yes | 82% (76-87) | 78% (75-81) | 0.10 |
| Heart disease | Yes | 65% (57-72) | 67% (64-70) | 0.85 |
| Respiratory problems in children | Yes | 92% (87-95) | 90% (88-92) | 0.26 |
| Sudden infant death syndrome | Yes | 36% (29-43) | 29% (25-32) | 0.06 |
| (above items asked in 2004 only) | | | | |
| Little benefit in quitting after 20 years (asked 2004 only) | No | 82% (76-87) | 85% (82-87) | 0.39 |
| Perception of harm, secondhand smoke (asked 2004 and 2006) | Very harmful | 58% (52-64) | 60% (57-62) | 0.86 |
| **Smokers only:** Perception of harm from secondhand smoke (asked 2004 and 2006) | Very harmful | 33% (25-43) | 31% (25-37) | 0.17 |

Low socio-economic status (SES) group includes those with less than high school education and/or those with household incomes below the 185% poverty guideline.
Source: Alaska BRFSS 2004, 2005 and 2006 modified surveys
Sample size ranges from:
206 Low SES and 435 Higher SES respondents (smokers--perception of harm from secondhand smoke)
555 Low SES and 2,405 Higher SES respondents (all--perception of harm from secondhand smoke)

Table 8. Perceptions About Smoke Exposure Policies Among Non-Native Alaskan Adults (Ages 25 – 64) by Socio-Economic Status

| **Perceptions About Smoke Exposure Policies** | | **Socio-Economic Status** | | |
|---|---|---|---|---|
| **All Respondents** | | **Low SES** | **Higher SES** | **p-value** |
| People should be protected from smoke from other people's cigarettes | Agree | 80% (74-85) | 87% (85-89) | **0.00** |
| Smoking in indoor Workplaces should be: | Not Allowed | 71% (67-75) | 84% (82-85) | **0.00** |
| Smoking in Restaurants should be: | Not Allowed | 64% (59-68) | 74% (72-75) | **0.00** |
| If smoking not allowed in restaurants, would go: | More often/Same | 91% (88-93) | 95% (94-96) | **0.00** |
| Smoking in Bars should be**: | Not Allowed | 26% (22-31) | 33% (30-35) | **0.01** |
| If smoking not allowed in bars, would go: | More often/Same | 84% (80-87) | 92% (90-93) | **0.00** |
| **Smokers Only** | | | | |
| People should be protected from smoke from other people's cigarettes | Agree | 72% (62-80) | 68% (62-74) | 0.54 |
| Smoking in indoor Workplaces should be: | Not Allowed | 56% (49-64) | 59% (53-64) | 0.63 |
| Smoking in Restaurants should be: | Not Allowed | 44% (37-52) | 43% (37-48) | 0.74 |
| If smoking not allowed in restaurants, would go: | More often/Same | 87% (82-91) | 80% (76-84) | **0.02** |
| Smoking in Bars should be**: | Not Allowed | 9% (5-16) | 8% (5-13) | 0.74 |
| If smoking not allowed in bars, would go: | More often/Same | 66% (59-73) | 63% (58-68) | 0.51 |
| **Former Smokers Only** | | | | |
| People should be protected from smoke from other people's cigarettes | Agree | 74% (61-84) | 89% (85-92) | **0.00** |
| Smoking in indoor Workplaces should be: | Not Allowed | 72% (63-79) | 83% (80-86) | **0.01** |
| Smoking in Restaurants should be: | Not Allowed | 69% (60-76) | 74% (70-77) | 0.27 |
| If smoking not allowed in restaurants, would go: | More often/Same | 94% (88-97) | 98% (96-98) | **0.05** |
| Smoking in Bars should be**: | Not Allowed | 33% (24-44) | 30% (25-35) | 0.56 |
| If smoking not allowed in bars, would go: | More often/Same | 96% (91-98) | 96% (94-98) | 0.93 |
| **Never Smokers Only** | | | | |
| People should be protected from smoke from other people's cigarettes | Agree | 91% (85-95) | 92% (90-94) | 0.80 |
| Smoking in indoor Workplaces should be: | Not Allowed | 86% (80-90) | 92% (90-93) | **0.01** |
| Smoking in Restaurants should be: | Not Allowed | 80% (73-85) | 84% (81-85) | 0.19 |
| If smoking not allowed in restaurants, would go: | More often/Same | 92% (87-95) | 98% (97-99) | **0.00** |
| Smoking in Bars should be**: | Not Allowed | 38% (31-46) | 42% (39-46) | 0.34 |
| If smoking not allowed in bars, would go: | More often/Same | 93% (88-96) | 98% (98-99) | **0.00** |

** Not asked in 2006

Low socio-economic status (SES) group includes those with less than high school education and/or those with household incomes below the 185% poverty guideline.

Source: Alaska BRFSS 2004, 2005 and 2006 modified surveys

Sample size ranges from:

168 Low SES and 735 Higher SES respondents (former smokers--smoking in bars should be allowed/not)

266 Low SES and 499 Higher SES respondents (smokers--smoking in bars should be allowed/not)

966 Low SES and 3,895 Higher SES respondents (all--if smoking were not allowed in restaurants)

# Appendix C. Part II Data Tables (*Who is Most Affected?*)

Table 1: Current Cigarette Smoking Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| **Low SES Non-Native Adults Subgroups** | | | |
|---|---|---|---|
| | **% Current Smokers*** | **p-value** | **N** |
| Males | 40% | | 789 |
| Females | 34% | | 1170 |
| | | **0.05** | |
| 25-34 year olds | 37% | | 601 |
| 35-49 year olds | 40% | | 782 |
| 50-64 year olds | 33% | | 576 |
| | | 0.25 | |
| Employed or Self-employed | 33% | | 1145 |
| Unemployed | 50% | | 223 |
| Homemaker, Student, or Retired | 29% | | 339 |
| Unable to work | 56% | | 244 |
| | | **0.00** | |
| No children in the home | 41% | | 835 |
| Children in the home | 34% | | 1123 |
| | | **0.03** | |
| Married or Couple | 30% | | 991 |
| Divorced or Separated | 44% | | 607 |
| Widowed | 53% | | 62 |
| Unmarried | 54% | | 291 |
| | | **0.00** | |
| Metro | 37% | | 955 |
| Small town | 34% | | 310 |
| Rural | 37% | | 694 |
| | | 0.71 | |
| Anchorage and Vicinity | 38% | | 466 |
| Gulf Coast | 35% | | 572 |
| Southeast Alaska | 37% | | 331 |
| Rural Alaska | 37% | | 149 |
| Fairbanks and Vicinity | 33% | | 441 |
| | | 0.49 | |
| **Total** | **37%** | | **1959** |

Source: Alaska BRFSS 2004, 2005 and 2006 combined surveys

*Percent of respondents who said "yes" to "Have you smoked at least 100 cigarettes in your entire life?" and reported that they now smoke "everyday" or "some days".

Table 2: Current Daily Cigarette Smoking Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| Low SES Non-Native Adults Subgroups | | | |
|---|---|---|---|
| | **% Daily Smokers*** | **p-value** | **N** |
| Males | 75% | | 303 |
| Females | 73% | | 420 |
| | | 0.69 | |
| 25-34 year olds | 70% | | 219 |
| 35-49 year olds | 77% | | 308 |
| 50-64 year olds | 72% | | 196 |
| | | 0.44 | |
| Employed or Self-employed | 74% | | 400 |
| Unemployed | 78% | | 101 |
| Homemaker, Student, or Retired | 73% | | 95 |
| Unable to work | 70% | | 125 |
| | | 0.86 | |
| No children in the home | 74% | | 342 |
| Children in the home | 73% | | 381 |
| | | 0.83 | |
| Married or Couple | 74% | | 288 |
| Divorced or Separated | 78% | | 266 |
| Unmarried | 66% | | 137 |
| | | 0.26 | |
| Metro | 73% | | 353 |
| Small town | 72% | | 110 |
| Rural | 76% | | 260 |
| | | 0.74 | |
| Anchorage and Vicinity | 71% | | 183 |
| Gulf Coast | 79% | | 200 |
| Southeast Alaska | 70% | | 129 |
| Rural Alaska | 75% | | 61 |
| Fairbanks and Vicinity | 82% | | 150 |
| | | 0.14 | |
| **Total** | **74%** | | **723** |

Source: Alaska BRFSS 2004, 2005 and 2006 combined surveys

*Percent of current smokers who responded "everyday" to "Do you now smoke cigarettes everyday, some days, or not at all

Table 3: Former Cigarette Smokers Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| Low SES Non-Native Adults Subgroups | | | |
|---|---|---|---|
| | **% Former Smokers*** | **p-value** | **N** |
| Males | 29% | | 789 |
| Females | 21% | | 1170 |
| | | **0.00** | |
| 25-34 year olds | 23% | | 601 |
| 35-49 year olds | 20% | | 782 |
| 50-64 year olds | 35% | | 576 |
| | | **0.00** | |
| Employed or Self-employed | 26% | | 1145 |
| Unemployed | 21% | | 223 |
| Homemaker, Student, or Retired | 27% | | 339 |
| Unable to work | 22% | | 244 |
| | | 0.58 | |
| No children in the home | 27% | | 835 |
| Children in the home | 23% | | 1123 |
| | | 0.26 | |
| Married or Couple | 26% | | 991 |
| Divorced or Separated | 26% | | 607 |
| Unmarried | 19% | | 291 |
| | | 0.06 | |
| Metro | 24% | | 955 |
| Small town | 23% | | 310 |
| Rural | 28% | | 694 |
| | | 0.33 | |
| Anchorage and Vicinity | 25% | | 466 |
| Gulf Coast | 24% | | 572 |
| Southeast Alaska | 26% | | 331 |
| Rural Alaska | 34% | | 149 |
| Fairbanks and Vicinity | 21% | | 441 |
| | | 0.30 | |
| **Total** | **25%** | | **1959** |

Source: Alaska BRFSS 2004, 2005 and 2006 combined surveys

*Percent of respondents who said "yes" to "Have you smoked at least 100 cigarettes in your entire life?" and reported that they now smoke "not at all".

Table 4: Quit Smoking in the Past 5 Years Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| Low SES Non-Native Adults Subgroups | | | |
|---|---|---|---|
| | **% quit in past 5 years*** | **p-value** | **N** |
| Males | 25% | | 203 |
| Females | 24% | | 255 |
| | | 0.96 | |
| 25-34 year olds | 31% | | 149 |
| 35-49 year olds | 22% | | 185 |
| 50-64 year olds | 20% | | 124 |
| | | 0.34 | |
| Employed or Self-employed | 26% | | 243 |
| Unemployed | 19% | | 58 |
| Homemaker, Student, or Retired | 32% | | 72 |
| Unable to work | 17% | | 82 |
| | | 0.42 | |
| No children in the home | 21% | | 206 |
| Children in the home | 27% | | 252 |
| | | 0.33 | |
| Married or Couple | 29% | | 205 |
| Divorced or Separated | 25% | | 152 |
| Unmarried | 9% | | 80 |
| | | **0.04** | |
| Metro | 26% | | 224 |
| Small town | 23% | | 77 |
| Rural | 21% | | 157 |
| | | 0.68 | |
| Anchorage and Vicinity | 27% | | 122 |
| Gulf Coast | 21% | | 121 |
| Southeast Alaska | 23% | | 86 |
| Rural Alaska | | | 36 |
| Fairbanks and Vicinity | 17% | | 93 |
| | | 0.33 | |
| **Total** | **25%** | | **458** |

Source: Alaska BRFSS 2004, 2005 and 2006 modified surveys

*Percent who quit smoking, among current smokers who made an attempt to quit in the past 12 months AND former smokers reported that they last smoked regularly sometime within the past 5 years.

Table 5: Intent and Plan to Quit Smoking Among Low SES Non-Native Alaskan Adults (Ages 25 - 64) Who Smoked

| **Low SES Non-Native Adults Subgroups** | | | | | | |
|---|---|---|---|---|---|---|
| | *Smokers* | | | *Among want to quit* | | |
| | **% would like to quit*** | **p-value** | **N** | **% plan to quit, 30 days**** | **p-value** | **N** |
| Males | 82% | | 158 | 37% | | 125 |
| Females | 80% | | 201 | 40% | | 162 |
| | | 0.67 | | | 0.71 | |
| 25-34 year olds | 87% | | 108 | 52% | | 92 |
| 35-49 year olds | 82% | | 148 | 31% | | 121 |
| 50-64 year olds | 73% | | 103 | 32% | | 74 |
| | | 0.18 | | | 0.08 | |
| Employed or Self-employed | 82% | | 196 | 35% | | 159 |
| Unemployed or Unable to work | 86% | | 117 | 44% | | 93 |
| Homemaker, Student, or Retired | 67% | | 44 | | | 34 |
| | | 0.17 | | | 0.31 | |
| No children in the home | 72% | | 175 | 24% | | 126 |
| Children in the home | 88% | | 184 | 47% | | 161 |
| | | **0.01** | | | **0.01** | |
| Married or Couple | 83% | | 148 | 40% | | 123 |
| Divorced or Separated | 73% | | 124 | 22% | | 97 |
| Unmarried | 85% | | 71 | 46% | | 52 |
| | | 0.28 | | | 0.13 | |
| Metro | 82% | | 173 | 40% | | 143 |
| Small town | 73% | | 60 | 26% | | 45 |
| Rural | 81% | | 126 | 37% | | 99 |
| | | 0.44 | | | 0.37 | |
| Anchorage and Vicinity | 81% | | 91 | 41% | | 76 |
| Gulf Coast | 79% | | 98 | 38% | | 77 |
| Southeast Alaska | 76% | | 66 | 30% | | 51 |
| Rural Alaska | | | 30 | | | 22 |
| Fairbanks and Vicinity | 86% | | 74 | 40% | | 61 |
| | | 0.65 | | | 0.75 | |
| **Smoker status** | | | | | | |
| Daily | 82% | | 268 | 33% | | 214 |
| Some Days | 80% | | 91 | 52% | | 73 |
| | | 0.78 | | | 0.07 | |
| **Total** | **81%** | | **359** | **38%** | | **287** |

Source: Alaska BRFSS 2004, 2005 and 2006 modified surveys

*Percent of current smokers who responded "yes" to "Would you like to quit smoking?"

**Percent, among current smokers who would like to quit smoking, who responded "yes" to the questions "Are you seriously considering stopping smoking within the next 6 months?" and "Are you planning to stop within the next 30 days?"

Table 6: Quit Attempts During Past Year Among Low SES Non-Native Alaskan Adults (Ages 25 - 64) Who Smoked

| **Low SES Non-Native Adults Subgroups** | | | |
|---|---|---|---|
| | **% attempted to quit*** | **p-value** | **N** |
| Males | 59% | | 302 |
| Females | 63% | | 413 |
| | | 0.38 | |
| 25-34 year olds | 66% | | 217 |
| 35-49 year olds | 61% | | 305 |
| 50-64 year olds | 54% | | 193 |
| | | 0.32 | |
| Employed or Self-employed | 61% | | 397 |
| Unemployed | 61% | | 100 |
| Homemaker, Student, or Retired | 44% | | 92 |
| Unable to work | 74% | | 124 |
| | | **0.02** | |
| No children in the home | 51% | | 339 |
| Children in the home | 69% | | 376 |
| | | **0.00** | |
| Married or Couple | 61% | | 286 |
| Divorced or Separated | 54% | | 261 |
| Unmarried | 67% | | 136 |
| | | 0.29 | |
| Metro | 63% | | 349 |
| Small town | 52% | | 108 |
| Rural | 56% | | 258 |
| | | 0.09 | |
| Anchorage and Vicinity | 66% | | 182 |
| Gulf Coast | 52% | | 198 |
| Southeast Alaska | 57% | | 127 |
| Rural Alaska | 60% | | 61 |
| Fairbanks and Vicinity | 51% | | 147 |
| | | **0.02** | |
| **Smoker status** | | | |
| Smoke Daily | 56% | | 544 |
| Smoke Some Days | 76% | | 171 |
| | | **0.00** | |
| **Total** | **61%** | | **715** |

Source: Alaska BRFSS 2004, 2005 and 2006 combined surveys

*Percent of smokers who responded "yes" to the question "In past 12 months, have you stopped smoking for 1 day or longer because you were trying to quit smoking?"

Table 7: Asked or Advised to Quit by a Doctor, Nurse or Other Health Professional During a Health Care Visit in the Past Year Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| **Low SES Non-Native Adults Subgroups** | *All respondents* | | | *Smokers only* | | |
|---|---|---|---|---|---|---|
| | **% asked or advised about smoking*** | **p-value** | **N** | **% advised to quit smoking** *** | **p-value** | **N** |
| Males | 80% | | 133 | 71% | | 49 |
| Females | 85% | | 258 | 55% | | 96 |
| | | 0.39 | | | 0.17 | |
| 25-34 year olds | 84% | | 134 | 57% | | 48 |
| 35-49 year olds | 84% | | 147 | 52% | | 56 |
| 50-64 year olds | 80% | | 110 | 66% | | 41 |
| | | 0.82 | | | 0.75 | |
| Employed or Self-employed | 83% | | 206 | 54% | | 71 |
| Unemployed or Unable to work | 86% | | 102 | 74% | | 53 |
| Homemaker, Student, or Retired | 78% | | 82 | | | 20 |
| | | 0.62 | | | 0.13 | |
| No children in the home | 81% | | 159 | 62% | | 71 |
| Children in the home | 84% | | 232 | 61% | | 74 |
| | | 0.50 | | | 0.92 | |
| Married or Couple | 83% | | 204 | 68% | | 59 |
| Divorced or Separated | 79% | | 107 | 56% | | 45 |
| Unmarried | 89% | | 60 | | | 31 |
| | | 0.46 | | | 0.38 | |
| Metro | 86% | | 203 | 63% | | 75 |
| Small town | 84% | | 61 | | | 20 |
| Rural | 70% | | 127 | 53% | | 50 |
| | | **0.01** | | | 0.41 | |
| Anchorage and Vicinity | 86% | | 108 | | | 39 |
| Gulf Coast | 66% | | 105 | | | 37 |
| Southeast Alaska | 82% | | 59 | | | 26 |
| Rural Alaska | | | 30 | | | 10 |
| Fairbanks and Vicinity | 87% | | 89 | | | 33 |
| | | **0.02** | | | | |
| **Smoker status** | | | | | | |
| Current smokers | 91% | | 146 | 61% | | 145 |
| Former smokers | 75% | | 94 | NA | | |
| Never smoked | 82% | | 148 | NA | | |
| | | **0.045** | | | | |
| **Total** | **83%** | | **391** | **61%** | | **145** |

Source: Alaska BRFSS 2004 and 2006 modified surveys

*Percent of respondents who reported seeing a health care professional in the past 12 months and reported "yes" to either of these questions: "In the past 12 months, has a doctor, nurse or other health professional advised you to quit smoking?" and "At your last visit to your health care provider, did someone ask you if you smoked, either by questionnaire or in person?"

**Percent of current smokers who reported seeing a health care professional in the past 12 months and reported "yes" to the question: "In the past 12 months, has a doctor, nurse or other health professional advised you to quit smoking?"

Table 8: Used Medications to Help Quit Smoking Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| Low SES Non-Native Adults Subgroups | % using medications to help quit smoking* | p-value | N |
|---|---|---|---|
| Males | 26% | | 129 |
| Females | 29% | | 165 |
| | | 0.65 | |
| 25-34 year olds | 22% | | 108 |
| 35-49 year olds | 30% | | 117 |
| 50-64 year olds | 32% | | 69 |
| | | 0.52 | |
| Employed or Self-employed | 29% | | 150 |
| Unemployed or Unable to work | 28% | | 94 |
| Homemaker, Student, or Retired | 17% | | 49 |
| | | 0.55 | |
| No children in the home | 32% | | 110 |
| Children in the home | 25% | | 184 |
| | | 0.33 | |
| Married or Couple | 25% | | 137 |
| Divorced or Separated | 33% | | 88 |
| Unmarried | 21% | | 51 |
| | | 0.49 | |
| Metro | 27% | | 151 |
| Small town | 24% | | 42 |
| Rural | 29% | | 101 |
| | | 0.86 | |
| Anchorage and Vicinity | 26% | | 89 |
| Gulf Coast | 27% | | 77 |
| Southeast Alaska | 29% | | 51 |
| Rural Alaska | | | 20 |
| Fairbanks and Vicinity | 33% | | 57 |
| | | 0.86 | |
| **Smoker status** | | | |
| Current daily smoker | 36% | | 128 |
| Current some days smoker | 25% | | 70 |
| Former, Quit in past 5 years | 18% | | 96 |
| | | 0.05 | |
| **Total** | **27%** | | **294** |

Source: Alaska BRFSS 2004, 2005 and 2006 modified surveys

*Percent, among current smokers who made an attempt to quit in the past 12 months and former smokers who quit within the past 5 years, who responded "yes" to the question "The last time you tried to quit smoking, did you use the nicotine patch, nicotine gum, or any other medication to help you quit?"

Table 9: Awareness of Quitline Among Low SES Non-Native Alaskan Adults (Ages 25 - 64) and Among Smokers Only

| Low SES Non-Native Adults Subgroups | *All respondents* | | | *Smokers only* | | |
|---|---|---|---|---|---|---|
| | **% aware of Quitline*** | **p-value** | **N** | **% aware of Quitline*** | **p-value** | **N** |
| Males | 30% | | 301 | 44% | | 159 |
| Females | 37% | | 432 | 50% | | 200 |
| | | 0.15 | | | 0.46 | |
| 25-34 year olds | 34% | | 236 | 44% | | 108 |
| 35-49 year olds | 37% | | 300 | 54% | | 148 |
| 50-64 year olds | 28% | | 197 | 39% | | 103 |
| | | 0.35 | | | 0.29 | |
| Employed or Self-employed | 34% | | 432 | 54% | | 195 |
| Unemployed | 37% | | 76 | 40% | ** | 115 |
| Homemaker, Student, or Retired | 33% | | 132 | 38% | | 47 |
| Unable to work | 28% | | 89 | see unemployed** | | |
| | | 0.79 | | | 0.13 | |
| No children in the home | 32% | | 293 | 49% | | 172 |
| Children in the home | 34% | | 440 | 45% | | 187 |
| | | 0.71 | | | 0.63 | |
| Married or Couple | 35% | | 387 | 45% | | 149 |
| Divorced or Separated | 35% | | 209 | 42% | | 124 |
| Unmarried | 30% | | 107 | 58% | | 70 |
| | | 0.82 | | | 0.38 | |
| Metro | 34% | | 360 | 47% | | 172 |
| Small town | 38% | | 116 | 46% | | 61 |
| Rural | 29% | | 257 | 47% | | 126 |
| | | 0.41 | | | 0.99 | |
| Anchorage and Vicinity | 35% | | 174 | 47% | | 91 |
| Gulf Coast | 28% | | 220 | 40% | | 98 |
| Southeast Alaska | 38% | | 114 | 51% | | 67 |
| Rural Alaska | 37% | | 48 | | | 29 |
| Fairbanks and Vicinity | 29% | | 177 | 48% | | 74 |
| | | 0.38 | | | 0.74 | |
| **Total** | **34%** | | **733** | **47%** | | **359** |

Source: Alaska BRFSS 2004, 2005 and 2006 modified surveys

*Percent of all respondents who reported "yes" to "Are you aware of the Alaska Quitline, which is a telephone service that can help people quit smoking or using smokeless tobacco?" Note: Uses 2004-2005 data only, because of 2006 change in subset of people asked.

**Percent of current smokers reported "yes" to the Quitline awareness question. For current smokers, unemployed and unable to work are combined due to small denominators.

Table 10: Exposure to Smoke and Smoking Policy in Home Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| Low SES Non-Native Adults Subgroups | % exposed to smoke in home* | p-value | N | % with home smoking ban** | p-value | N |
|---|---|---|---|---|---|---|
| Males | 24% | | 393 | 77% | | 262 |
| Females | 20% | | 577 | 81% | | 369 |
| | | 0.31 | | | 0.44 | |
| 25-34 year olds | 19% | | 307 | 85% | | 187 |
| 35-49 year olds | 25% | | 391 | 79% | | 249 |
| 50-64 year olds | 22% | | 272 | 72% | | 195 |
| | | 0.37 | | | 0.11 | |
| Employed or Self-employed | 17% | | 566 | 85% | | 360 |
| Unemployed | 45% | | 104 | 62% | | 68 |
| Homemaker, Student, or Retired | 16% | | 172 | 81% | | 104 |
| Unable to work | 37% | | 124 | 65% | | 97 |
| | | **0.00** | | | **0.00** | |
| No children in the home | 34% | | 404 | 65% | | 283 |
| Children in the home | 15% | | 566 | 88% | | 348 |
| | | **0.00** | | | **0.00** | |
| Married or Couple | 17% | | 506 | 86% | | 317 |
| Divorced or Separated | 33% | | 282 | 65% | | 197 |
| Unmarried | 22% | | 141 | 72% | | 96 |
| | | **0.00** | | | **0.00** | |
| Metro | 21% | | 478 | 81% | | 302 |
| Small town | 26% | | 155 | 72% | | 108 |
| Rural | 25% | | 337 | 76% | | 221 |
| | | 0.39 | | | 0.22 | |
| Anchorage and Vicinity | 21% | | 237 | 81% | | 150 |
| Gulf Coast | 26% | | 279 | 75% | | 179 |
| Southeast Alaska | 22% | | 158 | 75% | | 115 |
| Rural Alaska | 26% | | 72 | 68% | | 48 |
| Fairbanks and Vicinity | 21% | | 224 | 80% | | 139 |
| | | 0.65 | | | 0.42 | |
| **Total** | **22%** | | **970** | **79%** | | **631** |

Source: Alaska BRFSS 2004, 2005 and 2006 modified surveys

*Percent of respondents who responded “yes” to “In the past 30 days has anyone, including yourself, smoked cigarettes, cigars, or pipes anywhere inside your home?”

**Percent of respondents who responded “smoking is not allowed anywhere inside your home” to “Which statement best describes the rules about smoking inside your home?” This item is reported from 2005-2006 data only, because of question change after 2004.

Table 11: Exposure to Smoke and Smoking Policy in Cars or Other Vehicles Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| Low SES Non-Native Adults Subgroups | % exposed to smoke in cars* | p-value | N | % with smoking ban in cars** | p-value | N |
|---|---|---|---|---|---|---|
| Males | 41% | | 388 | 60% | | 287 |
| Females | 33% | | 575 | 69% | | 415 |
| | | 0.07 | | | 0.09 | |
| 25-34 year olds | 36% | | 305 | 64% | | 230 |
| 35-49 year olds | 40% | | 389 | 63% | | 293 |
| 50-64 year olds | 32% | | 269 | 68% | | 179 |
| | | 0.40 | | | 0.81 | |
| Employed or Self-employed | 35% | | 565 | 67% | | 422 |
| Unemployed | 60% | | 101 | 39% | | 72 |
| Homemaker, Student, or Retired | 24% | | 170 | 69% | | 128 |
| Unable to work | 43% | | 123 | 70% | | 76 |
| | | **0.00** | | | **0.01** | |
| No children in the home | 42% | | 399 | 57% | | 269 |
| Children in the home | 34% | | 564 | 69% | | 433 |
| | | 0.07 | | | **0.03** | |
| Married or Couple | 30% | | 503 | 71% | | 379 |
| Divorced or Separated | 46% | | 279 | 54% | | 196 |
| Unmarried | 52% | | 140 | 51% | | 97 |
| | | **0.00** | | | **0.01** | |
| Metro | 37% | | 474 | 65% | | 355 |
| Small town | 38% | | 155 | 65% | | 111 |
| Rural | 35% | | 334 | 64% | | 236 |
| | | 0.84 | | | 0.97 | |
| Anchorage and Vicinity | 38% | | 236 | 64% | | 170 |
| Gulf Coast | 34% | | 277 | 68% | | 209 |
| Southeast Alaska | 38% | | 157 | 58% | | 105 |
| Rural Alaska | 37% | | 71 | 57% | | 43 |
| Fairbanks and Vicinity | 34% | | 222 | 70% | | 175 |
| | | 0.82 | | | 0.47 | |
| **Total** | **37%** | | **963** | **65%** | | **702** |

Source: Alaska BRFSS 2004, 2005 and 2006 modified surveys

*Percent of respondents who responded “yes” to “In the past 30 days has anyone, including yourself, smoked cigarettes, cigars, or pipes anywhere in a car you were in?”

**Percent of respondents who responded “smoking is never allowed in any vehicle” to “What are the rules about smoking in your family’s enclosed vehicles, such as cars, trucks, and boats?” This item is reported from 2004-2005 data only, because the question was not included in 2006.

Table 12: Work Primarily Indoors Among Employed Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| **Low SES Non-Native Adults Subgroups** | | | |
|---|---|---|---|
| | *Employed/Self-Employed* | | |
| | **% who work primarily indoors*** | **p-value** | **N** |
| Males | 66% | | 244 |
| Females | 89% | | 310 |
| | | **0.00** | |
| 25-34 year olds | 79% | | 188 |
| 35-49 year olds | 74% | | 251 |
| 50-64 year olds | 79% | | 115 |
| | | 0.63 | |
| Employed or Self-employed | 77% | | 554 |
| Unemployed | NA | | |
| Homemaker, Student, or Retired | NA | | |
| Unable to work | NA | | |
| No children in the home | 77% | | 190 |
| Children in the home | 77% | | 364 |
| | | 0.98 | |
| Married or Couple | 73% | | 303 |
| Divorced or Separated | 81% | | 157 |
| Unmarried | 83% | | 78 |
| | | 0.28 | |
| Metro | 79% | | 271 |
| Small town | 83% | | 89 |
| Rural | 66% | | 194 |
| | | **0.02** | |
| Anchorage and Vicinity | 80% | | 137 |
| Gulf Coast | 71% | | 151 |
| Southeast Alaska | 75% | | 96 |
| Rural Alaska | 57% | | 47 |
| Fairbanks and Vicinity | 75% | | 123 |
| | | 0.12 | |
| **Total** | **77%** | | **554** |

Source: Alaska BRFSS 2004, 2005 and 2006 modified surveys

*Percent of currently employed or self-employed respondents who said “yes” to the question “While working at your job, are you indoors most of the time?”

Table 13: Exposure to Smoke and Smoking Policy At Work Among Employed Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| **Low SES Non-Native Adults Subgroups** | | | | | | |
|---|---|---|---|---|---|---|
| | ***Employed indoors*** | | | ***Employed indoors*** | | |
| | **% exposed to smoke at their workplace*** | **p-value** | **N** | **% with Workplace Smoking Policy**** | **p-value** | **N** |
| Males | 43% | | 143 | 80% | | 92 |
| Females | 28% | | 276 | 78% | | 174 |
| | | **0.04** | | | 0.72 | |
| 25-34 year olds | 41% | | 146 | 77% | | 96 |
| 35-49 year olds | 30% | | 188 | 81% | | 118 |
| 50-64 year olds | 30% | | 85 | 80% | | 52 |
| | | 0.31 | | | 0.84 | |
| Employed or Self-employed | 34% | | 419 | 79% | | 266 |
| Unemployed | NA | | | NA | | |
| Homemaker, Student, or Retired | NA | | | NA | | |
| Unable to work | NA | | | NA | | |
| No children in the home | 32% | | 142 | 79% | | 92 |
| Children in the home | 35% | | 277 | 79% | | 174 |
| | | 0.62 | | | 0.96 | |
| Married or Couple | 30% | | 214 | 79% | | 133 |
| Divorced or Separated | 26% | | 130 | 92% | | 84 |
| Unmarried | 51% | | 61 | 61% | | 43 |
| | | 0.08 | | | **0.03** | |
| Metro | 34% | | 209 | 80% | | 126 |
| Small town | 31% | | 71 | 82% | | 45 |
| Rural | 36% | | 139 | 72% | | 95 |
| | | 0.87 | | | 0.47 | |
| Anchorage and Vicinity | 35% | | 110 | 79% | | 67 |
| Gulf Coast | 35% | | 114 | 74% | | 73 |
| Southeast Alaska | 36% | | 73 | 77% | | 51 |
| Rural Alaska | | | 28 | | | 19 |
| Fairbanks and Vicinity | 32% | | 94 | 82% | | 56 |
| | | 0.95 | | | 0.82 | |
| **Total** | **34%** | | **419** | **79%** | | **266** |

Source: Alaska BRFSS 2004, 2005 and 2006 modified surveys

*Percent of currently employed or self-employed respondents who work primarily indoors and responded “yes” to “In the past 30 days has anyone, including yourself, smoked cigarettes, cigars, or pipes anywhere at your workplace?”

**Percent of currently employed or self-employed respondents who work primarily indoors and responded “smoking is not allowed in any work areas” to the question “Which statement best describes your place of work’s official smoking policy for work areas?” This item is reported from 2005-2006 data only, because of question change after 2004.

Table 14: Knowledge that Secondhand Smoke Causes Lung Cancer Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| Low SES Non-Native Adults Subgroups | Secondhand smoke causes lung cancer* | | | | |
|---|---|---|---|---|---|
| | Yes | No | Don't know | p-value | N |
| Males | 80% | 9% | 11% | | 127 |
| Females | 84% | 8% | 8% | | 204 |
| | | | | 0.73 | |
| 25-34 year olds | 91% | 3% | 6% | | 116 |
| 35-49 year olds | 81% | 11% | 7% | | 140 |
| 50-64 year olds | 70% | 13% | 18% | | 75 |
| | | | | **0.02** | |
| Employed or Self-employed | 84% | 8% | 9% | | 202 |
| Unemployed or Unable to work | 83% | 13% | 4% | | 60 |
| Homemaker, Student, or Retired | 73% | 9% | 18% | | 67 |
| | | | | 0.19 | |
| No children in the home | 69% | 14% | 16% | | 116 |
| Children in the home | 88% | 6% | 6% | | 215 |
| | | | | **0.01** | |
| Married or Couple | 88% | 6% | 7% | | 186 |
| Divorced or Separated | 60% | 21% | 18% | | 83 |
| Unmarried | 86% | 8% | 6% | | 42 |
| | | | | **0.00** | |
| Metro | 82% | 10% | 8% | | 172 |
| Small town | 89% | 2% | 9% | | 47 |
| Rural | 79% | 6% | 15% | | 112 |
| | | | | 0.23 | |
| Anchorage and Vicinity | 82% | 11% | 7% | | 85 |
| Gulf Coast | 76% | 7% | 16% | | 96 |
| Southeast Alaska | 87% | 2% | 10% | | 43 |
| Rural Alaska | | | | | 24 |
| Fairbanks and Vicinity | 81% | 7% | 12% | | 83 |
| | | | | 0.28 | |
| **Total** | **82%** | **9%** | **9%** | | **331** |

Source: Alaska BRFSS 2004 modified survey

*Percent of respondents who said "yes" to "Would you say that breathing smoke from other people's cigarettes causes lung cancer in adults?"

Table 15: Knowledge that Secondhand Smoke Causes Heart Disease Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| LOW SES Non-Native Adult Subgroups | Secondhand smoke causes heart disease* | | | | |
|---|---|---|---|---|---|
| | Yes | No | Don't know | p-value | N |
| Males | 61% | 13% | 26% | | 127 |
| Females | 68% | 8% | 24% | | 204 |
| | | | | 0.47 | |
| 25-34 year olds | 73% | 5% | 22% | | 116 |
| 35-49 year olds | 66% | 16% | 18% | | 140 |
| 50-64 year olds | 52% | 10% | 39% | | 75 |
| | | | | **0.03** | |
| Employed or Self-employed | 66% | 11% | 23% | | 202 |
| Unemployed or Unable to work | 65% | 10% | 25% | | 61 |
| Homemaker, Student, or Retired | 59% | 11% | 31% | | 66 |
| | | | | 0.94 | |
| No children in the home | 63% | 13% | 24% | | 116 |
| Children in the home | 66% | 9% | 25% | | 215 |
| | | | | 0.78 | |
| Married or Couple | 69% | 7% | 24% | | 187 |
| Divorced or Separated | 45% | 25% | 30% | | 83 |
| Unmarried | 73% | 8% | 19% | | 41 |
| | | | | **0.04** | |
| Metro | 63% | 13% | 24% | | 172 |
| Small town | 74% | 2% | 23% | | 47 |
| Rural | 68% | 6% | 26% | | 112 |
| | | | | 0.24 | |
| Anchorage and Vicinity | 61% | 14% | 25% | | 86 |
| Gulf Coast | 65% | 6% | 30% | | 96 |
| Southeast Alaska | 76% | 4% | 21% | | 43 |
| Rural Alaska | | | | | 24 |
| Fairbanks and Vicinity | 73% | 9% | 18% | | 82 |
| | | | | 0.25 | |
| **Total** | **64%** | **11%** | **25%** | | **331** |

Source: Alaska BRFSS 2004 modified ;

*Percent of respondents who said “yes” to “Would you say that breathing smoke from other people’s cigarettes causes heart disease in adults?”

Table 16: Knowledge that Secondhand Smoke Causes Respiratory Problems in Children Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| LOW SES Non-Native Adult Subgroups | Secondhand smoke causes respiratory problems in children* | | | | |
|---|---|---|---|---|---|
| | Yes | No | Don't know | p-value | N |
| Males | 87% | 5% | 7% | | 125 |
| Females | 96% | 2% | 2% | | 203 |
| | | | | 0.05 | |
| 25-34 year olds | 97% | 0% | 2% | | 115 |
| 35-49 year olds | 90% | 5% | 5% | | 139 |
| 50-64 year olds | 88% | 6% | 6% | | 74 |
| | | | | 0.26 | |
| Employed or Self-employed | 94% | 4% | 2% | | 200 |
| Unemployed or Unable to work | 81% | 4% | 15% | | 61 |
| Homemaker, Student, or Retired | 98% | 0% | 1% | | 65 |
| | | | | **0.00** | |
| No children in the home | 85% | 4% | 11% | | 116 |
| Children in the home | 96% | 3% | 1% | | 212 |
| | | | | **0.00** | |
| Married or Couple | 92% | 3% | 5% | | 185 |
| Divorced or Separated | 87% | 8% | 5% | | 83 |
| Unmarried | 98% | 2% | 1% | | 41 |
| | | | | 0.28 | |
| Metro | 93% | 4% | 3% | | 170 |
| Small town | 95% | 0% | 5% | | 46 |
| Rural | 88% | 4% | 8% | | 112 |
| | | | | 0.55 | |
| Anchorage and Vicinity | 92% | 5% | 3% | | 85 |
| Gulf Coast | 87% | 5% | 8% | | 95 |
| Southeast Alaska | 94% | 0% | 6% | | 43 |
| Rural Alaska | | | | | 24 |
| Fairbanks and Vicinity | 96% | 4% | 4% | | 81 |
| | | | | 0.48 | |
| **Total** | **92%** | **4%** | **4%** | | **328** |

Source: Alaska BRFSS 2004 modified :

*Percent of respondents who said “yes” to “Would you say that breathing smoke from other people’s cigarettes causes respiratory problems in children?”

Table 17: Knowledge that Secondhand Smoke Causes Sudden Infant Death Syndrome (SIDS) Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| Low SES Non-Native Adults Subgroups | Secondhand smoke causes sudden infant death syndrome* | | | | |
|---|---|---|---|---|---|
| | Yes | No | Don't know | p-value | N |
| Males | 32% | 20% | 48% | | 125 |
| Females | 39% | 14% | 47% | | 205 |
| | | | | 0.42 | |
| 25-34 year olds | 52% | 9% | 39% | | 115 |
| 35-49 year olds | 31% | 19% | 51% | | 139 |
| 50-64 year olds | 21% | 24% | 55% | | 74 |
| | | | | **0.01** | |
| Employed or Self-employed | 38% | 17% | 45% | | 200 |
| Unemployed or Unable to work | 19% | 14% | 66% | | 60 |
| Homemaker, Student, or Retired | 41% | 20% | 39% | | 67 |
| | | | | 0.18 | |
| No children in the home | 21% | 26% | 53% | | 115 |
| Children in the home | 43% | 13% | 45% | | 215 |
| | | | | **0.01** | |
| Married or Couple | 34% | 13% | 53% | | 185 |
| Divorced or Separated | 38% | 30% | 32% | | 84 |
| Unmarried | 40% | 21% | 39% | | 41 |
| | | | | 0.12 | |
| Metro | 35% | 18% | 47% | | 171 |
| Small town | 46% | 10% | 44% | | 47 |
| Rural | 32% | 17% | 51% | | 112 |
| | | | | 0.64 | |
| Anchorage and Vicinity | 34% | 18% | 49% | | 85 |
| Gulf Coast | 35% | 17% | 48% | | 96 |
| Southeast Alaska | 34% | 12% | 53% | | 43 |
| Rural Alaska | | | | | 24 |
| Fairbanks and Vicinity | 42% | 18% | 40% | | 82 |
| | | | | 0.92 | |
| **Total** | **35%** | **17%** | **48%** | | **330** |

Source: Alaska BRFSS 2004 modified survey

*Percent who said “yes” to “Would you say that breathing smoke from other people’s cigarettes causes sudden infant death syndrome?”

Table 18: Beliefs About Harm of Secondhand Smoke Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| Low SES Non-Native Adults Subgroups | How harmful is breathing secondhand smoke* | | | | |
|---|---|---|---|---|---|
| | Very harmful | Somewhat harmful | Not harmful | p-value | N |
| Males | 50% | 37% | 14% | | 214 |
| Females | 65% | 30% | 5% | | 341 |
| | | | | **0.01** | |
| 25-34 year olds | 60% | 34% | 6% | | 185 |
| 35-49 year olds | 57% | 33% | 10% | | 224 |
| 50-64 year olds | 57% | 31% | 12% | | 146 |
| | | | | 0.74 | |
| Employed or Self-employed | 62% | 32% | 6% | | 325 |
| Unemployed | 45% | 42% | 13% | | 61 |
| Homemaker, Student, or Retired | 64% | 29% | 7% | | 109 |
| Unable to work | 37% | 35% | 27% | | 58 |
| | | | | **0.02** | |
| No children in the home | 51% | 35% | 14% | | 218 |
| Children in the home | 62% | 32% | 6% | | 337 |
| | | | | 0.06 | |
| Married or Couple | 65% | 29% | 6% | | 298 |
| Divorced or Separated | 49% | 39% | 12% | | 153 |
| Unmarried | 38% | 44% | 18% | | 75 |
| | | | | **0.02** | |
| Metro | 57% | 35% | 8% | | 282 |
| Small town | 66% | 25% | 9% | | 83 |
| Rural | 57% | 29% | 14% | | 190 |
| | | | | 0.23 | |
| Anchorage and Vicinity | 58% | 35% | 7% | | 145 |
| Gulf Coast | 60% | 24% | 16% | | 151 |
| Southeast Alaska | 58% | 32% | 10% | | 86 |
| Rural Alaska | 61% | 28% | 12% | | 47 |
| Fairbanks and Vicinity | 56% | 34% | 11% | | 126 |
| | | | | 0.39 | |
| **Total** | **58%** | **33%** | **9%** | | **555** |

Note: Those who responded "Don't Know" are included in the "Not Harmful" category.

Source: Alaska BRFSS 2004 and 2006 modified surveys

*Percent of respondents who said “very harmful”, “somewhat harmful” or “not very harmful/not at all harmful/don’t know” to “do you think that breathing smoke from other people’s cigarettes is (harmful)?”

Table 19: Disagree That There is Little Benefit to Quitting after Smoking for 20 Years Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| Low SES Non-Native Adults Subgroups | % who disagree there is little benefit from quitting after long time smoking* | | |
|---|---|---|---|
| | Disagree | p-value | N |
| Males | 86% | | 127 |
| Females | 79% | | 205 |
| | | 0.21 | |
| 25-34 year olds | 76% | | 116 |
| 35-49 year olds | 86% | | 140 |
| 50-64 year olds | 84% | | 76 |
| | | 0.25 | |
| Employed or Self-employed | 83% | | 202 |
| Unemployed or Unable to work | 79% | | 60 |
| Homemaker, Student, or Retired | 84% | | 68 |
| | | 0.81 | |
| No children in the home | 80% | | 116 |
| Children in the home | 83% | | 216 |
| | | 0.63 | |
| Married or Couple | 85% | | 186 |
| Divorced or Separated | 79% | | 84 |
| Unmarried | 68% | | 42 |
| | | 0.14 | |
| Metro | 84% | | 173 |
| Small town | 73% | | 47 |
| Rural | 78% | | 112 |
| | | 0.29 | |
| Anchorage and Vicinity | 85% | | 85 |
| Gulf Coast | 81% | | 96 |
| Southeast Alaska | 78% | | 43 |
| Rural Alaska | | | 24 |
| Fairbanks and Vicinity | 78% | | 84 |
| | | 0.58 | |
| **Smoker status** | | | |
| Current smokers | 86% | | 115 |
| Former smokers | 94% | | 72 |
| Never smoked | 71% | | 144 |
| | | **0.00** | |
| **Total** | **82%** | | **332** |

Source: Alaska BRFSS 2004 modified survey

*Percent who responded “disagree” or “strongly disagree” to “How strongly do you agree with the following statement: If a person has smoked a pack of cigarettes a day for 20 years, there is little benefit to quitting smoking?”

Table 20: Belief that People Should Be Protected From Secondhand Smoke Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| Low SES Non-Native Adults Subgroups | % who believe that people should be protected from secondhand smoke* | | |
|---|---|---|---|
| | Agree | p-value | N |
| Males | 76% | | 213 |
| Females | 84% | | 341 |
| | | 0.13 | |
| 25-34 year olds | 85% | | 184 |
| 35-49 year olds | 78% | | 222 |
| 50-64 year olds | 77% | | 148 |
| | | 0.43 | |
| Employed or Self-employed | 83% | | 322 |
| Unemployed | 62% | | 61 |
| Homemaker, Student, or Retired | 90% | | 109 |
| Unable to work | 69% | | 60 |
| | | **0.02** | |
| No children in the home | 72% | | 219 |
| Children in the home | 84% | | 335 |
| | | **0.02** | |
| Married or Couple | 85% | | 297 |
| Divorced or Separated | 74% | | 153 |
| Unmarried | 68% | | 74 |
| | | **0.05** | |
| Metro | 79% | | 281 |
| Small town | 87% | | 83 |
| Rural | 79% | | 190 |
| | | 0.41 | |
| Anchorage and Vicinity | 78% | | 144 |
| Gulf Coast | 79% | | 152 |
| Southeast Alaska | 90% | | 86 |
| Rural Alaska | 74% | | 46 |
| Fairbanks and Vicinity | 88% | | 126 |
| | | 0.12 | |
| **Total** | **80%** | | **554** |

Note: Those who answered "Don't Know" are combined with "Disagree" and "Strongly

Source: Alaska BRFSS 2004 and 2006 modified surveys

*Percent who responded “strongly agree” or “agree” to “How strongly do you agree with the following statement: people should be protected from smoke from other people’s cigarettes?”

Table 21: Support for Banning Smoking in Restaurants and Continued Patronization if Smoking Was Banned Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| Low SES Non-Native Adults Subgroups | % who think smoking should not be allowed in restaurants* | | | % who would still go out to restaurants if smoking were not allowed** | | |
|---|---|---|---|---|---|---|
| | Agree | p-value | N | More/ Same | p-value | N |
| Males | 58% | | 388 | 91% | | 390 |
| Females | 69% | | 576 | 91% | | 576 |
| | | **0.01** | | | 0.89 | |
| 25-34 year olds | 63% | | 305 | 92% | | 305 |
| 35-49 year olds | 65% | | 388 | 90% | | 391 |
| 50-64 year olds | 61% | | 271 | 92% | | 270 |
| | | 0.73 | | | 0.69 | |
| Employed or Self-employed | 67% | | 562 | 92% | | 564 |
| Unemployed | 55% | | 103 | 90% | | 103 |
| Homemaker, Student, or Retired | 65% | | 172 | 91% | | 172 |
| Unable to work | 49% | | 123 | 86% | | 123 |
| | | **0.04** | | | 0.52 | |
| No children in the home | 59% | | 401 | 92% | | 401 |
| Children in the home | 66% | | 563 | 90% | | 565 |
| | | 0.16 | | | 0.42 | |
| Married or Couple | 66% | | 503 | 90% | | 504 |
| Divorced or Separated | 58% | | 282 | 88% | | 282 |
| Unmarried | 58% | | 139 | 97% | | 139 |
| | | 0.28 | | | 0.10 | |
| Metro | 63% | | 475 | 91% | | 475 |
| Small town | 58% | | 156 | 89% | | 156 |
| Rural | 66% | | 333 | 92% | | 335 |
| | | 0.46 | | | 0.63 | |
| Anchorage and Vicinity | 63% | | 235 | 92% | | 236 |
| Gulf Coast | 63% | | 276 | 92% | | 277 |
| Southeast Alaska | 62% | | 158 | 89% | | 159 |
| Rural Alaska | 71% | | 72 | 90% | | 72 |
| Fairbanks and Vicinity | 64% | | 223 | 86% | | 222 |
| | | 0.87 | | | 0.23 | |
| **Total** | **64%** | | **964** | **91%** | | **966** |

Source: Alaska BRFSS 2004, 2005 and 2006 modified surveys

*Percent who responded “not allowed at all” to the question “In restaurants, do you think that smoking should be allowed in all areas, some areas, or not allowed at all?”

**Percent who responded “more” or “same/no difference” to the question “If smoking were not allowed in restaurants, would you eat out more, less, or would it make a difference?” Those who responded “don’t know” are included in the denominator.

Table 22: Support for Banning Smoking in Bars and Continued Patronization if Smoking Was Banned Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| Low SES Non-Native Adults Subgroups | % who think smoking should not be allowed in bars* | | | % who would still go out to bars if smoking were not allowed** | | |
|---|---|---|---|---|---|---|
| | Agree | p-value | N | More/ Same | p-value | N |
| Males | 20% | | 298 | 82% | | 390 |
| Females | 31% | | 436 | 85% | | 576 |
| | | **0.02** | | | 0.40 | |
| 25-34 year olds | 16% | | 236 | 85% | | 305 |
| 35-49 year olds | 33% | | 300 | 81% | | 391 |
| 50-64 year olds | 26% | | 198 | 88% | | 270 |
| | | **0.01** | | | 0.23 | |
| Employed or Self-employed | 30% | | 435 | 84% | | 563 |
| Unemployed | 13% | | 76 | 80% | | 103 |
| Homemaker, Student, or Retired | 20% | | 130 | 90% | | 173 |
| Unable to work | 25% | | 89 | 81% | | 123 |
| | | 0.07 | | | 0.38 | |
| No children in the home | 23% | | 296 | 80% | | 401 |
| Children in the home | 27% | | 438 | 86% | | 565 |
| | | 0.44 | | | 0.08 | |
| Married or Couple | 26% | | 388 | 88% | | 503 |
| Divorced or Separated | 28% | | 209 | 80% | | 283 |
| Unmarried | 20% | | 107 | 70% | | 139 |
| | | 0.65 | | | **0.00** | |
| Metro | 26% | | 361 | 85% | | 475 |
| Small town | 28% | | 118 | 75% | | 156 |
| Rural | 23% | | 255 | 83% | | 335 |
| | | 0.62 | | | 0.06 | |
| Anchorage and Vicinity | 26% | | 174 | 86% | | 237 |
| Gulf Coast | 22% | | 220 | 85% | | 277 |
| Southeast Alaska | 26% | | 114 | 76% | | 159 |
| Rural Alaska | | | 49 | 72% | | 72 |
| Fairbanks and Vicinity | 27% | | 177 | 82% | | 221 |
| | | 0.75 | | | **0.04** | |
| **Total** | **26%** | | **734** | **84%** | | **966** |

Source: Alaska BRFSS 2004, 2005 and 2006 modified surveys

*Percent who responded "not allowed at all" to the question "In bars and cocktail lounges, do you think that smoking should be allowed in all areas, some areas, or not allowed at all?" This item is reported from 2004-2005 data only, because the question was not included in 2006.

**Percent who responded "more" or "same/no difference" to the question "If smoking were not allowed in bars and cocktail lounges, would you eat out more, less, or would it make a difference?" Those who responded "don't know" are included in the denominator.

Table 23: Support for Banning Smoking in Indoor Work Areas Among Low SES Non-Native Alaskan Adults (Ages 25 - 64)

| Low SES Non-Native Adults Subgroups | % who think smoking should not be allowed in indoor workplaces* | | |
|---|---|---|---|
| | Agree | p-value | N |
| Males | 64% | | 385 |
| Females | 78% | | 575 |
| | | **0.00** | |
| 25-34 year olds | 76% | | 305 |
| 35-49 year olds | 68% | | 388 |
| 50-64 year olds | 71% | | 267 |
| | | 0.30 | |
| Employed or Self-employed | 73% | | 560 |
| Unemployed | 73% | | 103 |
| Homemaker, Student, or Retired | 76% | | 172 |
| Unable to work | 51% | | 121 |
| | | **0.01** | |
| No children in the home | 68% | | 395 |
| Children in the home | 73% | | 565 |
| | | 0.30 | |
| Married or Couple | 73% | | 502 |
| Divorced or Separated | 71% | | 281 |
| Unmarried | 66% | | 137 |
| | | 0.59 | |
| Metro | 72% | | 473 |
| Small town | 69% | | 155 |
| Rural | 68% | | 332 |
| | | 0.58 | |
| Anchorage and Vicinity | 71% | | 234 |
| Gulf Coast | 67% | | 273 |
| Southeast Alaska | 71% | | 159 |
| Rural Alaska | 69% | | 72 |
| Fairbanks and Vicinity | 76% | | 222 |
| | | 0.59 | |
| **Total** | **71%** | | **960** |

Source: Alaska BRFSS 2004, 2005 and 2006 modified surveys

*Percent who responded “not allowed at all” to the question “In indoor work areas, do you think that smoking should be allowed in all areas, some areas, or not allowed at all?

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