2008 Adult Tobacco Survey

Division of Tobacco Use Prevention and Control

Prepared by:
Center for Social and Behavioral Research
University of Northern Iowa

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Iowa 2008 Adult Tobacco Survey

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Prepared For

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Iowa 2008 Adult Tobacco Survey: Executive Summary

Prepared by the Center for Social and Behavioral Research, University of Northern Iowa
Prepared for the Iowa Department of Public Health, Division of Tobacco Use Prevention and Control
February 2009

Background & Methodology

- The Iowa 2008 Adult Tobacco Survey (ATS) is fifth in a series of statewide surveys conducted with the purpose of measuring adult tobacco use. It is a main component of the state's tobacco prevention and control surveillance and evaluation system.
- The Iowa 2008 ATS was conducted by the University of Northern Iowa's (UNI) Center for Social and Behavioral Research (CSBR) for the Iowa Department of Public Health (IDPH) Division of Tobacco Use Prevention and Control. Using computer-assisted telephone interviewing (CATI) technology, a total of 2,113 interviews were completed between April and June of 2008 with random sampling of adult Iowans living in private residences.

Cigarette Smoking Prevalence

- **Cigarette Smoking Prevalence:** In 2008, the prevalence of cigarette smoking among adult Iowans was 14%. This continues the recent trend of a decrease in cigarette smoking prevalence from 23% in 2002 to 20% in 2004 and then to 18% in 2006.

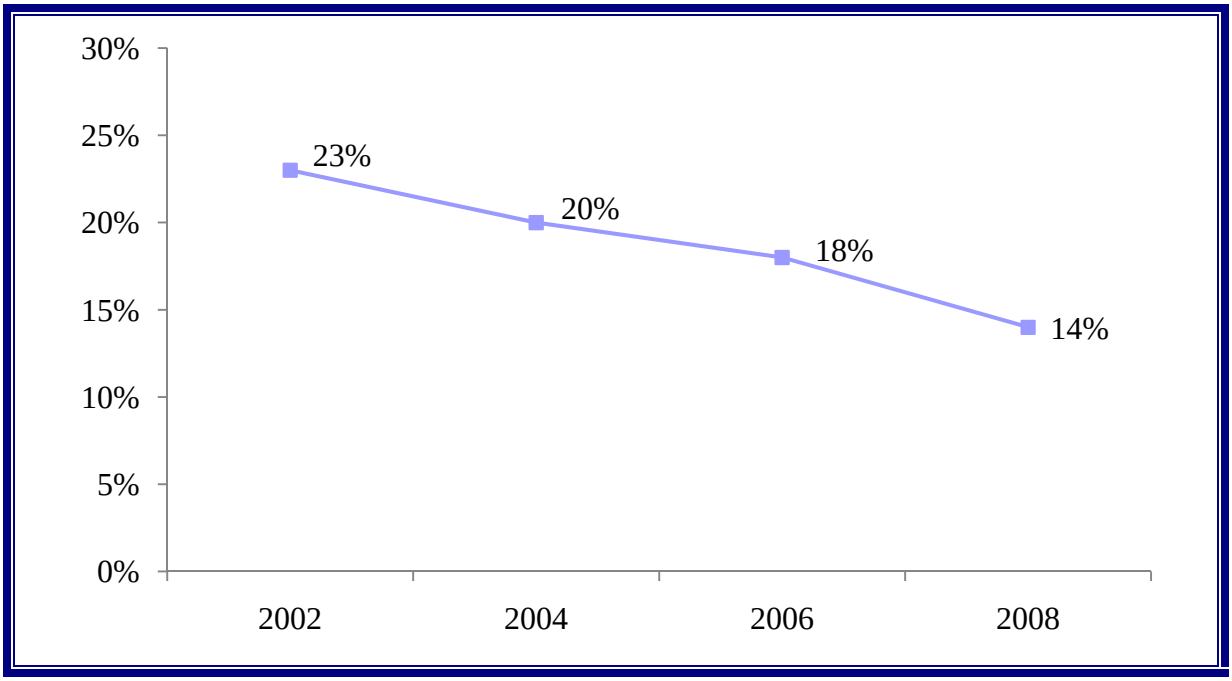

Figure ES-1. *Prevalence of current cigarette use among adult Iowans (Iowa Adult Tobacco Surveys 2002-2008).*

- The 4 percentage point decrease in smoking prevalence from 2006 to 2008 represents a 22% decrease in smoking rates. The 9 percentage point decrease in smoking prevalence from 2002 to 2008 represents a 39% decrease in smoking rates.

Cigarette Consumption

- Among current cigarette smokers, 32% said they smoke fewer cigarettes now than they did before Iowa raised the cigarette tax in March 2007.
- 83% of current cigarette smokers smoke every day.
- 42% of current cigarette smokers smoke one or more packs per day.

Cessation

- 83% of current smokers said they would like to quit smoking.
- Health was the most commonly cited reason both for current smokers to have made a quit attempt and for former smokers to have quit smoking.
- If they decided to quit smoking, 36% of cigarette smokers said they would be *very interested* in using the nicotine patch, gum, or taking some other medication to help them quit smoking.

Quitline Iowa Awareness

- Quitline Iowa awareness among adult Iowans increased from 6% in 2004 to 36% in 2008.
- Approximately one-half (52%) of current smokers in 2008 said they had heard of Quitline Iowa.

Use of Other Tobacco Products

- The rates for adult use of tobacco products other than cigarettes have remained relatively stable in recent years. In 2008, the rates were 4% for smokeless tobacco, 4% for cigars, and less than 1% for pipe tobacco.
- Approximately 4% of adult Iowans use chewing or smokeless tobacco, smoke cigars, or use pipe tobacco but do *not* smoke cigarettes. Thus, slightly less than 19% of adult Iowans (approximately 430,000) have used some form of tobacco including cigarettes, smokeless tobacco, cigars, or pipe tobacco during the past 30 days.

Summary & Conclusions

- The 2008 Adult Tobacco Survey was conducted by the Center for Social and Behavioral Research (CSBR) at the University of Northern Iowa (UNI) on behalf of the Iowa Department of Public Health (IDPH) Division of Tobacco Use Prevention and Control. Using computer-assisted telephone interviewing (CATI) technology, interviews were completed with 2,113 adult Iowans between April 4 and June 9, 2008.

- Cigarette smoking prevalence among adult Iowans in 2008 was 14%. This is a 22% decrease in smoking rates since 2006 when 18% of adult Iowans were current smokers, and a decrease of 39% in smoking rates since 2002 when 23% of adult Iowans were current smokers.

- Approximately one-third (32%) of current smokers said they had reduced the number of cigarettes they smoke since Iowa increased the cigarette tax by $1.00 in 2007. The usage rates for tobacco products other than cigarettes have remained relatively stable in recent years.

- In 2008, 4% of respondents were current users of smokeless tobacco, 4% were current smokers of cigars, and less than 1% were current smokers of tobacco in pipes.

- Quitline Iowa awareness among all adults and among current smokers has dramatically increased since 2004 from 6% to 36% in 2008.

- Among current smokers, 52% in 2008 said they had heard of Quitline Iowa. However, many cigarette smokers were unaware that free cessation counseling and nicotine patches or gum were available to Iowans through Quitline Iowa.

- The decrease in smoking rates in Iowa may be an important indicator of success for the state's tobacco cessation and prevention efforts as well as a shift in societal attitudes toward cigarette smoking. *Note: The data for the Iowa 2008 ATS were collected from April 4 through June 9, 2008. Therefore, the findings do not provide information about changes in behaviors or attitudes of adult Iowans as a result of the Iowa Smokefree Air Act which became effective July 1, 2008.*

- Legislative efforts such as the 2007 state cigarette tax increase of $1.00 and the 2008 Smokefree Air Act, which prohibits smoking in most indoor public places, reflect greater commitment on the part of Iowans to reduce smoking and improve public health. In addition, state funding and support for smoking cessation programs provide smokers in Iowa with counseling and nicotine replacement therapy. However, many cigarette smokers in Iowa are still unaware of the benefits and resources available to help them quit. These smokers may benefit from continued investments in tobacco prevention and cessation efforts.

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Background & Purpose

- The Iowa 2008 Adult Tobacco Survey (ATS) is fifth in a series of statewide surveys conducted with the purpose of measuring adult tobacco use. It is a main component of the state's tobacco prevention and control surveillance and evaluation system.

- The previous ATS projects in Iowa were conducted in 2001, 2002, 2004, and 2006.

- The state's investment in tobacco prevention and cessation warrants the continuous monitoring of self-reported tobacco-related behaviors and attitudes among Iowans.

Methodology

- The Iowa 2008 ATS was based on 2,113 adult respondents who were interviewed by telephone from April 4 through June 9, 2008. Data were collected via computer assisted telephone interviewing (CATI) technology at the University of Northern Iowa's (UNI) Center for Social and Behavioral Research (CSBR)

- A random sample of possible residential telephone numbers was drawn by the Centers for Disease Control and Prevention's (CDC) vendor and provided to the CSBR. The 2008 sampling plan divided the state according to three types of counties based on metropolitan status. Counties were classified as urban, mostly urban, and rural.[1] The purpose of this stratification was to preclude the state's most populous counties from dominating the sample which would have limited the ability of the analysis to describe any urban/rural differences with statistical confidence.

At the end of this report is a glossary containing definitions of many of the statistical and methodological terms and acronyms used throughout this document.

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[1] Counties were classified based on the population size of the largest place within the county as follows: urban (largest place 50,000 or more), mostly urban (largest place 7,000-49,999), and rural (largest place less than 7,000). **Rural** counties: Adair, Adams, Allamakee, Appanoose, Audubon, Benton, Buchanan, Butler, Calhoun, Cass, Cedar, Cherokee, Chickasaw, Clarke, Clayton, Davis, Decatur, Delaware, Dickinson, Emmet, Fayette, Franklin, Fremont, Greene, Grundy, Guthrie, Hancock, Hardin, Harrison, Howard, Humboldt, Ida, Iowa, Jackson, Jones, Keokuk, Kossuth, Louisa, Lucas, Lyon, Madison, Mills, Mitchell, Monona, Monroe, Montgomery, O'Brien, Osceola, Page, Palo Alto, Pocahontas, Ringgold, Sac, Shelby, Sioux, Tama, Taylor, Van Buren, Wayne, Winnebago, Worth, and Wright. **Mostly urban** counties: Boone, Bremer, Buena Vista, Carroll, Cerro Gordo, Clay, Clinton, Crawford, Dallas, Des Moines, Floyd, Hamilton, Henry, Jasper, Jefferson, Lee, Mahaska, Marion, Marshall, Muscatine, Plymouth, Poweshiek, Union, Wapello, Warren, Washington, Webster, Winneshiek. **Urban** counties: Black Hawk, Dubuque, Johnson, Linn, Polk, Pottawattamie, Scott, Story, and Woodbury.

- Interviewers dialed the sampled telephone numbers and determined whether or not each was attached to a private, non-institutionalized residence and, if so, randomly selected an adult within the household to interview. A total of 8,086 numbers were dialed resulting in a 40% response rate and 67% cooperation rate.[2]

- Case weights[3] were supplied to CSBR by the CDC. The case weights correspond to 2008 population estimates based on data collected by Claritas, Inc. The effect of these case weights is an improved representativeness of population estimates. Data analyses were conducted using SUDAAN, which is a statistical analysis software product specially designed for use in studies with complex sampling designs and weighted data.

- Unless otherwise noted, the percentages presented in this report correspond to the distribution of "valid percents" of the weighted scores.[4] The "valid percent" generally is comprised of the distribution of responses for the subgroup of respondents for whom a question was relevant and who answered it with one of the response options included within the question. In most instances, the "valid percents" was the most appropriate statistic to present in this report. However, because not all respondents answered each item in the survey, the sum of the population estimates for any given item will not necessarily sum to the total adult population of Iowa or the total for a particular subgroup (e.g., all current smokers). In some instances, the sum of the valid weighted frequencies (i.e., population estimates) will be smaller than the number of people in the population or subgroup of the population.

- The percentages and population estimates in this report have been rounded. Therefore, there are some instances where the sum of response options in tables or graphs appear to be greater or less than 100% as a result of rounding. Another example of the effect of rounding is that composite percentages may, in some instances, be one percentage point higher or lower than the sum of percentages associated with the slices in pie charts.

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[2] The response and cooperation rates were calculated using the AAPOR calculator. The response rate formula used was RR4 and the cooperation rate was CR4. The response rate is "The number of complete interviews with reporting units divided by the number of eligible reporting units in the sample" and the cooperation rate is "The proportion of all cases interviewed of all eligible units ever contacted" (AAPOR 2008, p. 4). Data from 57 "partially completed" interviews were included in the final data analysis because the respondents completed the entire CDC core items and terminated the interview at some point during the state-added portion of the interview.

[3] The weighted percentages are based on the distribution of response options using case weights where the sum of weights corresponds to the 2008 population estimate of adult Iowans by age group and gender. Unweighted percentages are based on the distribution of response options where the sum corresponds to the actual number of survey respondents. Unless otherwise mentioned, the percentages in this report are weighted percentages. The weighted frequency values are shown in some tables and narratives as the "population estimate." In this report, these population estimates are rounded to the nearest 1,000.

[4] Unless otherwise mentioned, the percentages are "valid percentages" as opposed to "total percentages." Unless otherwise mentioned, the denominator for valid percentages excludes the following instances: (a) respondent said d*on't know/not sure* or decided not to answer a question, (b) the respondent was not asked the question either because the question was nested and not logical to ask or because the interview's final disposition was *partial complete*, or (c) in the case of calculated variables, one or more pieces of information needed to calculate the variable was not available for a given respondent. Non-responses may include respondents who refused to answer a question, were not asked the question, did not provide adequate responses to one or more questions needed to calculate composite variables, or answered *don't know* to certain questions. In instances where a substantial proportion of respondents answered *don't know* on some attitude questions, the response of *don't know* is considered a "valid response" and included in the denominator and shown in the tables or graphs.

Description of the Sample

This section presents demographic characteristics of the sample in terms of the actual number of respondents, percent of respondents (i.e., unweighted data), and percent of the population based on the weighted data.[5] Table 1 also includes the population estimates for key demographics.

Table 1
Demographic Characteristics

	Number of Respondents	Percent of Respondents	Population Estimate	Weighted Percent
Gender				
Male	820	39%	1,119,000	49%
Female	1293	61%	1,172,000	51%
Age Group				
18-24 years	61	3%	313,000	14%
25-44 years	533	26%	754,000	33%
45-64 years	831	40%	760,000	34%
65+ years	661	32%	443,000	20%
County Type				
Urban	698	33%	983,000	43%
Mostly Urban	698	33%	672,000	29%
Rural	717	34%	636,000	28%

Note. Twenty-seven respondents did not provide information about their age (1.3% of respondents, 0.9% of weighted frequency).

Table 2
Race and Ethnicity

	Number of Respondents	Percent of Respondents	Weighted Percent
Are you Hispanic or Latino?			
Yes	32	2%	2%
No	2075	98%	98%
Which one or more is your race?			
White	2032	97%	95%
Black or African American	24	1%	2%
Asian	8	<1%	<1%
Native Hawaiian or Other Pacific Islander	2	<1%	<1%
Native American or Alaska Native	8	<1%	<1%
Some Other Race	16	<1%	2%
Multiracial	9	<1%	<1%

Note. Six respondents did not provide information about Hispanic/Latino background (0.3% of respondents, 0.2% of weighted frequency). Fourteen respondents did not provide information about race (0.7% of respondents, 0.5% of weighted frequency).

[5] For gender and age, the weighted percentages are functionally equivalent to the population parameters; however, in the remainder of the report, the weighted percentages should be understood only to be estimates of population parameters. By way of illustration, 39% of the interviews were completed with men but 49% of the adult Iowan population in 2008 was male, thus the weighted percentage for men was 49%. Only 3% of the interviews were conducted with adults between the ages of 18 and 24, but 14% of the adult population in 2008 was in this age group. When the weights for each respondent are applied in the analysis, these demographic distributions match the actual population distribution. However, this is not the case with other demographics reported in other tables. For instance, for ethnicity, 2% of all interviews were completed with Hispanic/Latino respondents. The CDC formula used to calculate the case weights did not include ethnicity. Therefore, the weighted percentage of 2% does not mean that this *is* the percentage of all adult Iowans who are Hispanic/Latino but it means that Hispanics/Latinos represent 2% of the weighted responses in this survey.

Table 3 Income and Education			
	Number of Respondents	Percent of Respondents	Weighted Percent
What is your annual household income from all sources?			
Less than $10,000	52	3%	2%
$10,000 to $14,999	72	4%	2%
$15,000 to $19,999	112	6%	5%
$20,000 to $24,999	171	9%	8%
$25,000 to $34,999	223	12%	10%
$35,000 to $49,999	341	19%	18%
$50,000 to $74,999	372	20%	23%
$75,000 or more	485	26%	31%
What is the highest level of school you completed or the highest degree you received?			
Never attended school or only attended kindergarten	1	0%	<1%
Grades 1 through 8 (Elementary)	26	1%	<1%
Grades 9 through 11 (Some high school)	67	3%	4%
GED	26	1%	2%
Grade 12 (High school graduate)	726	35%	31%
Some college, no degree	345	16%	18%
AA, Technical/vocational	134	6%	6%
AA, Academic	141	7%	7%
BA, BS (College graduate)	447	21%	23%
Some graduate or professional school	34	2%	2%
Graduate or professional degree	155	7%	7%

Note. When asked about annual household income, 108 respondents said *don't know* (5% of respondents, 6% of weighted frequency) and 177 respondents declined to answer (8% of respondents, 7% of weighted frequency). Seven respondents said *don't know* and 4 respondents declined to answer the question about their education which combines to represent 0.5% of respondents and 0.6% of the weighted frequency distribution. The values shown in the table above and all those in this section represent the "valid" percent where these *don't know* and non-responses are excluded from the denominator.

Table 4 Marital Status and Household Characteristics			
	Number of Respondents	Percent of Respondents	Weighted Percent
Marital status			
Married	1298	62%	65%
Divorced	236	11%	8%
Widowed	324	15%	7%
Separated	23	1%	1%
Never married	193	9%	17%
A member of an unmarried couple	29	1%	2%
Number of children age 17 and younger living in the household			
None	1453	69%	57%
One child	250	12%	17%
Two children	228	11%	15%
Three children	132	6%	8%
Four or more children	45	2%	3%

Note. Ten respondents declined to provide information about their marital status (0.5% respondents, 0.3% weighted) and 5 respondents declined to provide information about the number of children living in the household (0.2% respondents, 0.2% weighted).

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Cigarette Smoking and Cessation

Cigarette Smoking Prevalence

- **Current Cigarette Use:** In 2008, 14% of adult Iowans (Population Estimate = 327,000 adults) were current cigarette smokers (i.e., smoked at least one cigarette in the past 30 days).

- **Trend Over Time:** The prevalence of cigarette smoking has continued to decline from 23% in 2002 to 14% in 2008 (see Figure 1).[6] The 4 percentage point decrease in smoking prevalence from 2006 to 2008 represents a 22% decrease in smoking rates. The 9 percentage point decrease in smoking prevalence from 2002 to 2008 represents a 39% decrease in smoking rates.

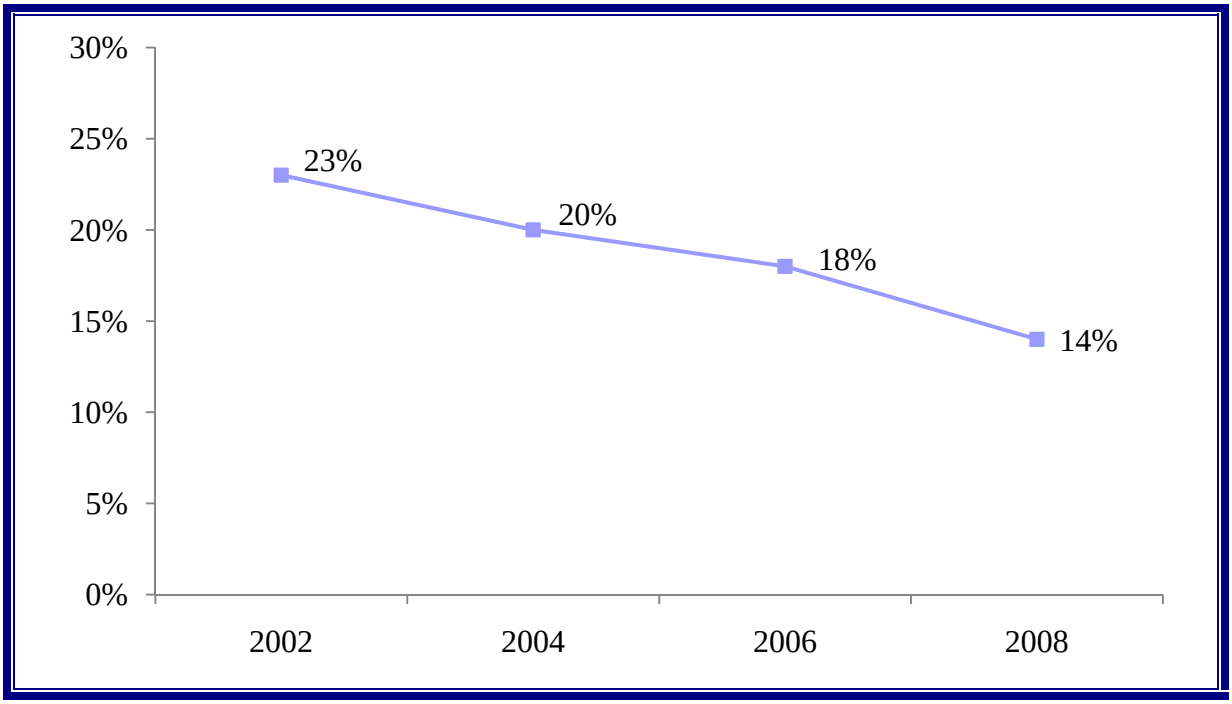

Figure 1. *Prevalence of current cigarette use among adult Iowans (Iowa Adult Tobacco Surveys 2002-2008).*

[6] The 95% confidence interval provides a range around an estimate based on a survey result given a particular sample (i.e., the observed score) within which one can be 95% confident that the *actual* value of the population of interest is within these upper and lower bounds. The 95% confidence intervals of current cigarette prevalence were as follows: 12.5%-16.3% (2008), 15.5%-20.6% (2006), and 17.6%-23.0% (2004). Confidence interval information was not available for the 2002 ATS.

Subgroup Comparisons:

- Men were more likely than women to be current smokers (17% vs. 12%, respectively).
- Although the rate of smoking observed in this study among young adults (18-24) was statistically lower than among adults ages 25 to 64, the reliability of the prevalence estimate for the young adults is uncertain due to the small number of survey respondents in this age group, the fluctuation of estimates for this age group in the past 3 administrations of the ATS, and the disparity between this estimate and those obtained in other studies using this age group of adults. The estimate observed in this study likely underestimates the level of cigarette use among Iowans 18-24 and should be used with caution.[7]
- The rates of cigarette use did not vary significantly with county type.

Table 5
Prevalence of Cigarette Use (Past 30 Days)

Demographic Characteristic	Current Smokers			Current Smokers
	Percent	95% CI	Population Estimate	Statistically Significant Differences at 95% Confidence Level
All Adults	14.3%	12.5-16.3	327,000	
Men	16.8%	13.8-20.2	186,000	**Gender Differences** — Yes
Women	12.0%	10.1-14.2	141,000	
Age Group[7]				
18-24	6.8%	2.9-14.8	21,000	
25-44	20.1%	16.4-24.3	151,000	
45-64	16.2%	13.4-19.4	122,000	
65+	7.2%	5.3-9.7	32,000	
County Type				
Rural	12.7%	10.0-15.9	80,000	
Mostly Urban	14.7%	11.7-18.4	99,000	
Urban	15.1%	12.1-18.7	148,000	

Age	18-24	25-44	45-64	65+
18-24		Yes	Yes	No
25-44	Yes		No	Yes
45-64	Yes	No		Yes
65+	No	Yes	Yes	

County Type	R	MU	U
Rural (R)		No	No
Mostly Urban (MU)	No		No
Urban (U)	No	No	

Note. "95% CI" is the 95% confidence interval. Estimates based on small sample sizes are generally subject to greater variation and wider confidence intervals due to sample error. In 2008, the 18-24 year age group was comprised of 61 respondents of which only 6 said they had smoked cigarettes during the past 30 days The 2008 estimate of smoking prevalence among this age group is substantially lower than the prevalence observed in 2006 (34.1% with 23.1%-47.1% confidence interval) and in 2004 (25.7% with 15.4%-36.0% confidence interval).

[7] Estimates based on small sample sizes are generally subject to greater variation due to sample error. The amount of fluctuation of prevalence estimates in this age group has varied considerably from the 2004, 2006, and 2008 surveys. In 2008, the 18-24 year age group was comprised of 61 respondents of which only 6 said they had smoked cigarettes during the past 30 days. In 2006, the estimate of smoking prevalence among this age group was substantially lower than the prevalence observed in 2006 (34.1% with 23.1%-47.1% confidence interval) that was based on 82 respondents, of which 33 said they had smoked cigarettes during the past 30 days. In 2004, this age group was comprised of 112 respondents, of which 29 said they had smoked cigarettes during the past 30 days with the prevalence estimated at 25.7% (15.4%-36.0% confidence interval). In sum, the prevalence of smoking among this age group likely has decreased; however, these estimates should be interpreted within the context of other data sources available for this age group. For instance, the Iowa BRFSS shows prevalence rates of 27.8% (2006) and 26.6% (2007) for this age group. In conclusion, the reliability of the prevalence estimate for the 18-24 year age group cannot be guaranteed and there are several indicators deserving caution when interpreting this estimate. These include: (a) the small number of respondents interviewed in this age group, (b) the magnitude of the difference between the current ATS estimate from estimates obtained in the previous ATSs, and (c) the disparity between the current ATS estimate and estimates obtained from other data sources for the same year. It would seem likely that the actual population parameter was closer to the lower limit of the 95% confidence interval in 2006 and closer to the upper limit of the 95% confidence interval in 2008.

Pattern of Cigarette Use

- **Consumption**: Among current cigarette smokers, 42% said they smoke one or more packs per day.

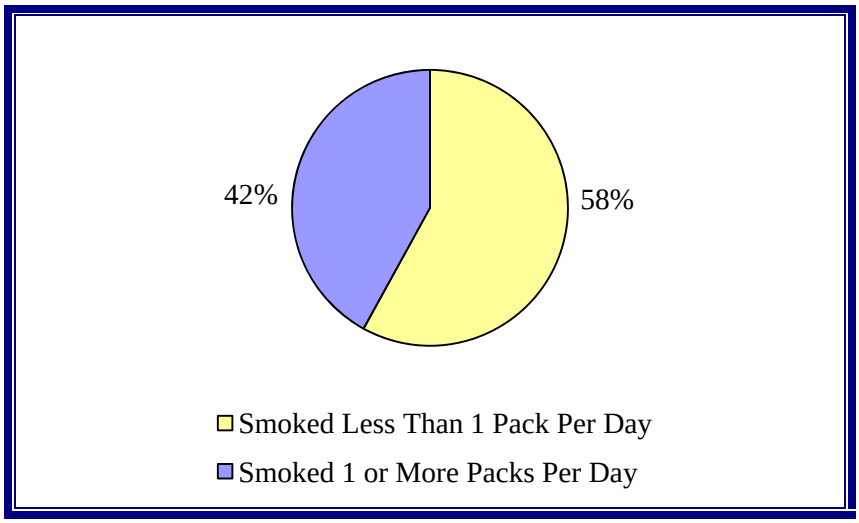

Figure 2. *Current smokers' daily consumption.*

- Among current smokers, 6% said they smoke two or more packs per day.

Table 6
Number of Cigarettes Smoked on Typical Day (Among Current Smokers)

	Percent	Population Estimate
Less than ½ Pack (Fewer than 10 Cigarettes)	20%	65,000
½ Pack but Less than 1 Pack (10-19 Cigarettes)	38%	120,000
1 Pack but Less than 2 Packs (20-39 Cigarettes)	36%	114,000
2 or More Packs (40 or More Cigarettes)	6%	19,000

Note. The sum of the population estimates is slightly less than the total number of current smokers in Iowa because of respondent non-response (see explanation in footnotes 2 and 3 on page 2). Percent refers to the percent of the weighted frequency distribution (see explanation in footnotes 3 on page 2).

- On average, current cigarette users said they smoke about 16 cigarettes per day.[8]

[8] The mean number of cigarettes smoked on a typical day by current cigarette smokers was 15.5 cigarettes, and the median was 15 cigarettes per day.

- **Frequency of Use**: Among current cigarette smokers, 83% said they smoke every day.

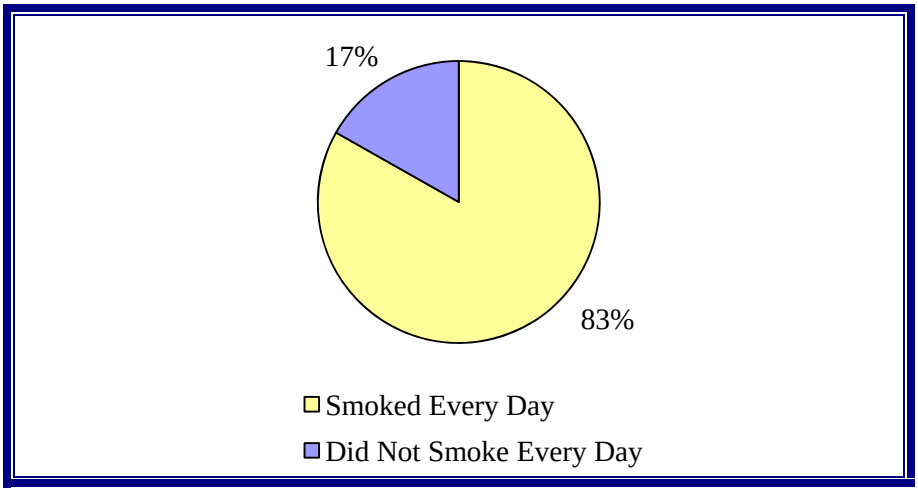

Figure 3. *Frequency of use.*

- **Consumption Patterns Since 2004:** The percent of current smokers who said they smoked every day was 83% in 2008, 84% in 2006, and 76% in 2004. The percent of current smokers who said they smoke one or more packs per day was 42% in 2008, 45% in 2006, and 46% in 2004.

- **Age First Smoked Regularly:** The majority (58%) of adult current cigarette smokers started smoking regularly before the age of 18. The age they regularly started smoking was as follows: 12 years or younger (10%), 13 to 17 years old (48%), 18 to 24 years old (37%) and 25 and older (5%).

- **Indicator of Addiction:** Within 5 minutes of waking up, 22% of current cigarette smokers smoke their first cigarette for the day.

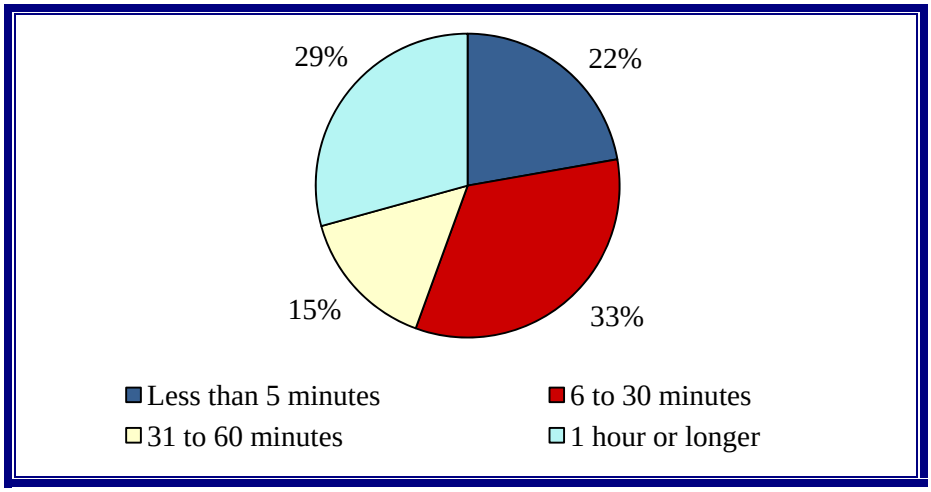

Figure 4*. Time until smoking the first cigarette of the day among current smokers.*

- **Impact of March 2007 Cigarette Tax Increase:** Current cigarette smokers were asked whether they smoked fewer, about the same, or more cigarettes now than they did before Iowa raised the cigarette tax in March 2007. Nearly one-third (32%) said they have decreased the number of cigarettes smoked since the cigarette tax increased. Hence, slightly more than 100,000 cigarette smokers said they smoke fewer cigarettes now than they did prior to Iowa raising its tax by $1.00 per pack of cigarettes purchased.

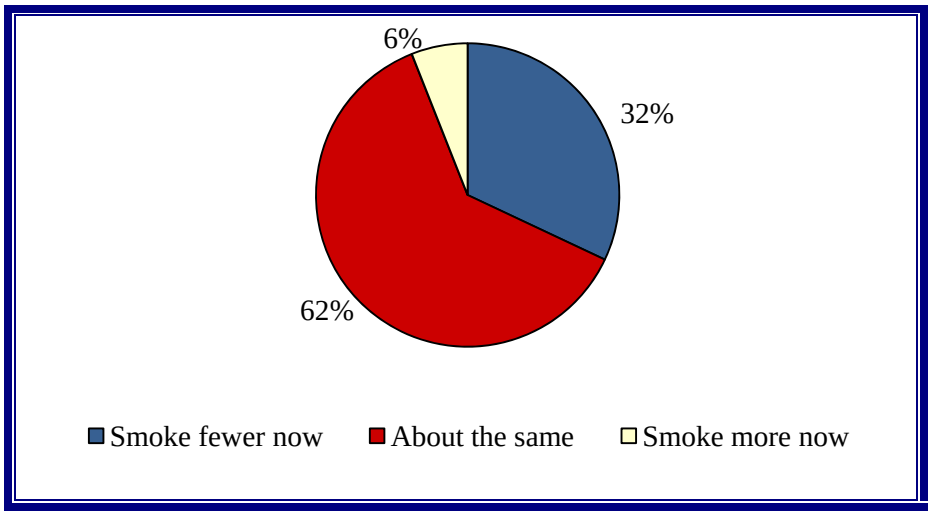

***Figure 5**. Self-reported change in the number of cigarettes smoked now compared to before the March 2007 tax increase.*

- **Tax Increase and Buying Patterns:** Cigarette smokers were asked whether or not they buy more of their cigarettes on Indian reservations (or settlements), on the Internet, or in other states now than they did before the tax increase. Among current cigarette smokers:

  - 4% said they now buy more on Indian reservations/settlements.
  - 1% said they now buy more on the Internet.
  - 17% said they now buy more of their cigarettes in other states. The most commonly reported state in which smokers reported buying more cigarettes was Missouri.[9]

[9] There were 53 respondents who said they buy more of their cigarettes in another state now compared to prior to the cigarette tax increase. Missouri was the most commonly mentioned state in which cigarette users said they were now buying more of their cigarettes. The weighted percent of *all* current smokers who said they now buy more of their cigarettes in the following states were: Missouri (10%), Nebraska (4%), Illinois (3%), and Wisconsin (<1%). Among only the small group of cigarette users who said they now buy more in other states, the weighted percentages were: (a) 62% of those who said they were buying more out-of-state said they were buying more in Missouri; (b) 27% of those who said they were buying more out-of-state said they were buying more in Nebraska; (c) 17% of those who said they were buying more out-of-state said they were buying more in Illinois; and (d) 5% of those who said they were buying more out-of-state said they were buying more in Wisconsin. This second set of estimates is based on a small sample size of 53 respondents. Other data sources should be consulted to determine the extent to which these values are consistent with the findings from other available survey or non-survey information.

Smoking Cessation

- **Desire to Quit:** Among current smokers, 83% said they would like to quit smoking.[10]

- **Motivation for Last Quit Attempt (Current Smokers):** Among current smokers who had made a quit attempt, 55% attempted to quit for health reasons, 19% because it was too expensive, 12% because family or friends wanted them to quit, 8% because they didn't like smoking anymore, 1% because too few places allow smoking, less than 1% because of an employer or workplace policy (see Figure 6).

- **Motivation for Quitting (Former Smokers):** Among former cigarette smokers, 57% quit for health reasons, 12% because it was too expensive,[11] 14% because family or friends wanted them to quit, 13% because they didn't like smoking anymore, less than 1% because too few places allow smoking, and less than 1% because of an employer or workplace policy (see Figure 6).

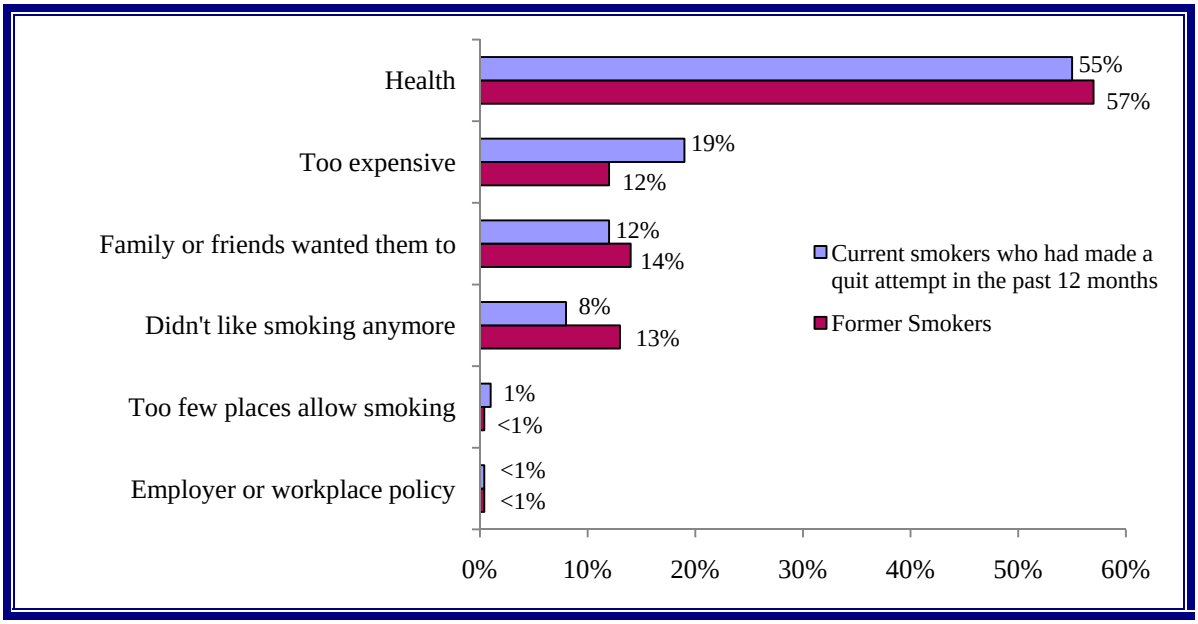

Figure 6. *Motivation for stopping smoking among current and former smokers.*

[10] Among current smokers, 5% said they *didn't know* if they wanted to quit. When they are included in the denominator the weighted distribution is as follows: 79% want to quit, 16% do not want to quit, and 5% are unsure.

[11] There were 73 respondents who said they had quit smoking after the March 2007 tax increase. Among this small group of smokers who have quit since March, the weighted distribution was as follows: 19% said the cigarette tax increase was a *very important* factor in their decision to quit smoking, 12% said the cigarette tax was a *somewhat important* factor in their decision, and 70% said the tax was *not at all important* in their decision to quit smoking.

- **Intentions to Quit:** Among current smokers:
  - 80% expect to someday quit smoking.
  - 59% said they are seriously considering quitting in the next 6 months. This corresponds to slightly less than 180,000 adults who currently smoke cigarettes.
  - 27% said they plan to quit in the next 30 days. This represents about 77,000 adults who currently smoke cigarettes.

- **Intentions To Quit Since 2004:** The percent of current smokers who said they were seriously considering quitting during the next 6 months and 30 days are shown for 2004, 2006, and 2008 in Figure 7. The 2008 percents are the highest of the three survey years, especially when compared to 2006.

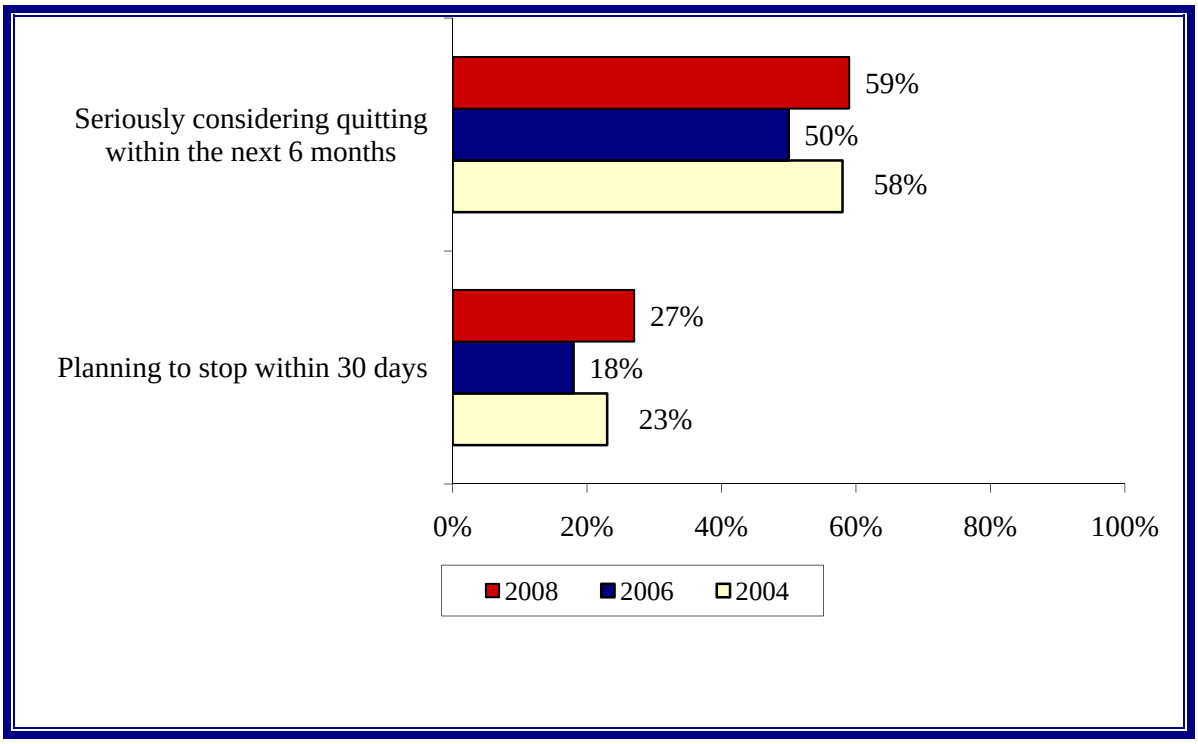

Figure 7. *Thoughts or plans about quitting smoking among current cigarette users (ATS 2004, 2006, and 2008).*

- **Self-Efficiency Beliefs:** Among cigarette smokers, 33% said that if they decided to quit smoking they believe they are *very likely* to succeed. More than three-fourths (78%) think they would be *very likely* (33%) or *somewhat likely* (45%) to succeed in quitting if they decided to quit smoking. If they decided to quit, 10% said it was *somewhat unlikely* and 13% said it was *very unlikely* they would be successful.[12]

[12] This distribution of self-efficiency beliefs excludes those who said *don't know/not sure* (4% weighted) and those who did not respond to the question (2% weighted) from the denominator.

Interest in Smoking Cessation Assistance

- **Interest in Cessation Services:** If they decided to quit smoking, current smokers expressed the greatest interest in nicotine patch, gum, or medication (60%), stop smoking clinic or class (42%), and hypnosis (40%) (see Figure 8).

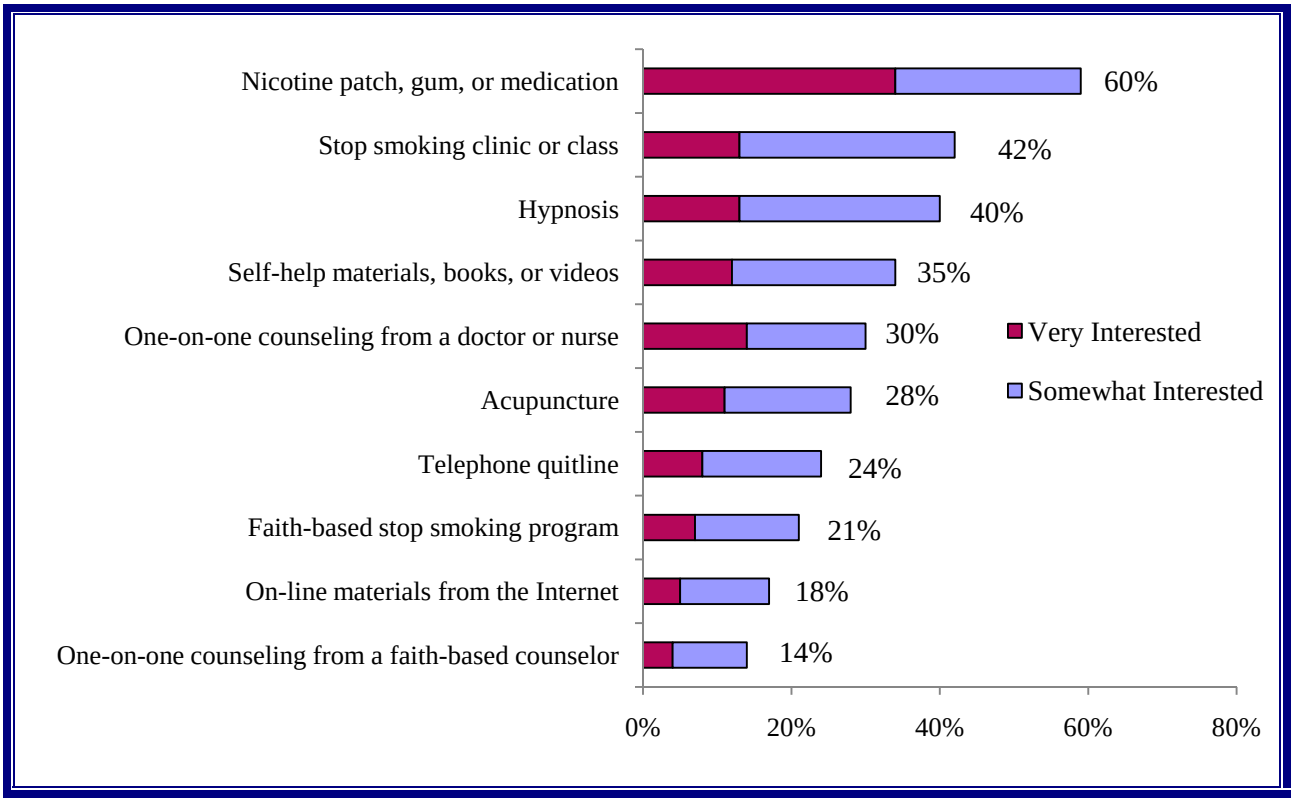

Figure 8. *Current smokers' interest in using smoking cessation support resources if they decided to quit smoking.*

- Figure 8 shows the percentages of those who were *very interested* combined with those who were *somewhat interested* in the various cessation support resources. The percentages who said they were *very interested* (i.e., the red bars) for each support resource were as follows:
  - Nicotine patch, gum, or taking some other medication: 36%
  - One-on-one counseling from a doctor or nurse: 14%
  - Stop smoking clinic or class: 13%
  - Hypnosis: 13%
  - Self-help materials, books, or videos: 12%
  - Acupuncture: 11%
  - Telephone quitline: 8%
  - Faith-based or church-based stop smoking program or class: 7%
  - On-line materials from the Internet: 5%
  - One-on-one counseling from a pastor, priest, rabbi, or faith-based counselor: 4%

Use of Smoking Cessation Assistance

- **Quit Attempt:** Among current cigarette smokers, 48% said they had stopped smoking for one day or longer during the past 12 months because they were trying to quit and 77% had stopped smoking for one day or longer at least once during their life.

- **Any NRT Use**: Among all current smokers, 49% have used some form of nicotine replacement therapy (transdermal patch, gum, inhaler, or nasal spray) to try to quit smoking, with 46% having done so during the past 12 months.

- **NRT Last Time Stopped Smoking:** The percent among *all* current and former smokers who used each type of NRT during the last time they stopped smoking are shown in Table 7. This table also shows the percent among *only those smokers who used NRT* when they stopped smoking. For example, 12% of all smokers used the nicotine patch the last time they stopped smoking for one day or longer. Yet, among those who used NRT the last time they stopped smoking, 36% said the patch was the type of NRT they used.

Table 7
Use of NRT Last Time Stopped Smoking for One Day or Longer
(Current and Former Smokers Combined)

	Percent Among All Smokers Who Stopped for One Day or Longer	Percent Among Only Smokers Who Used NRT When They Stopped for One Day or Longer
Any form of NRT	46%	100%
Nicotine gum	8%	23%
Nicotine patch	12%	36%
Nicotine nasal spray	<1%	2%
Nicotine lozenge	3%	10%
Nicotine inhaler	2%	6%
Bupropion, Wellbutrin, or Zyban	7%	22%
Some other form of NRT (including Chantix and other medications)	12%	35%

Note. Former smokers who had quit more than 5 years ago were not asked about the types of NRT they may have used when they stopped smoking. Sum can exceed 100% because some people used multiple forms of NRT during the same quit attempt. The percentages of current smokers who on their last quit attempt used each form of NRT were as follows: gum (10%), patch (17%), spray (1%), lozenge (6%), inhaler (2%), medication (9%), and some other form of NRT including Chantix (12%).

- **Classes or Counseling:** Among current smokers and former smokers, 4% said they used some non-medication type of assistance such as cessation classes or counseling to help them during the last time they stopped smoking for one day or longer. Former smokers who had quit more than 5 years ago were not asked about the types of assistance they used to stop smoking.

Health Care Coverage of Cessation Services

- **Health Care Coverage:** Current cigarette smokers were asked whether they have health care coverage (including health insurance, Medicaid, or Medicare) that pays for the costs of nicotine replacement, smoking cessation classes or counseling, or some other type of assistance with quitting (see Table 8). Only 25% of *all* cigarette smokers said they thought they had health care coverage that would pay for these cessation services.

Table 8
Health Insurance Coverage for Cessation Services (Current Smokers)

	Percent Among All Current Smokers	Percent Among Current Smokers with Insurance	Population Estimate
Coverage for cessation services	25%	31%	83,000
No coverage for cessation services	32%	39%	103,000
Don't know/not sure if coverage	24%	30%	79,000
Do not have insurance	19%	--	62,000

Note. Cessation services include nicotine replacement, smoking cessation classes or counseling, and some other type of assistance with quitting.

Interactions with Health Care Professionals

- **Visited Doctor or Health Professional:** During the past 12 months, 78% of all adult Iowans visited a doctor, nurse, or other health professional to receive care. Current cigarette smokers were significantly less likely than non-smokers to have visited a doctor or health care professional during the past 12 months (60% vs. 81%, respectively).
- **Interactions with Health Care Providers:** Cigarette smokers who had visited a doctor or other health care professional during the past 12 months were asked whether they were asked if they smoked and/or were advised to quit smoking (see Figure 9). At their doctor visit, 90% were asked about their smoking, but not all were advised to quit.
  - 68% of current smokers were advised to quit smoking with this advice typically coming from the doctors rather than nurses.
  - An additional 22% of current smokers were asked whether or not they smoked, but they were not advised to quit.

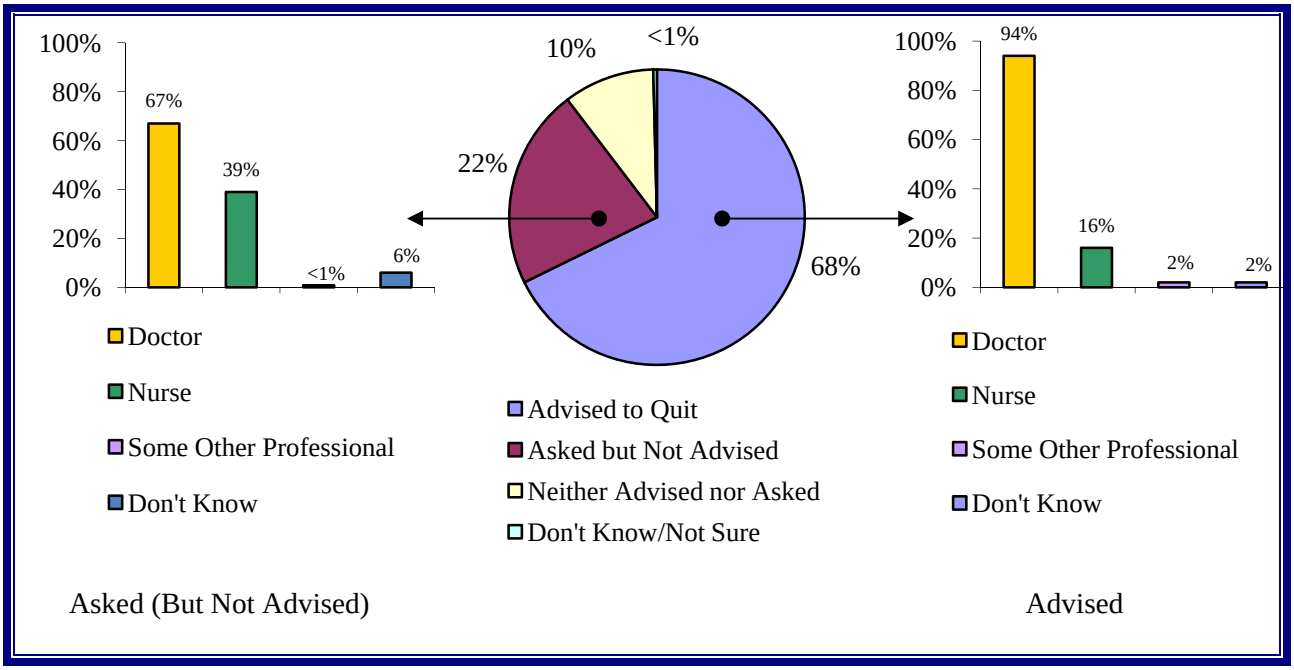

Figure 9. *Received advice to quit or were asked about their smoking among current smokers who visited the doctor during the past 12 months. (Note: Some adults were asked or advised by more than one type of health care professional).*

- **Health Care Professional Recommendations:** Among those smokers who were advised to quit, their health care professional also did the following:
  - 45% prescribed or recommended nicotine replacement therapy (i.e., patch, nicotine gum, nasal spray, an inhaler, or pills such as Zyban).
  - 29% suggested setting a specific date to stop smoking.
  - 23% suggested use of a smoking cessation class, program, quitline, or counseling.
  - 32% provided booklets, videos, or other materials.

- **Visited Dentist:** Approximately three-fourths (73%) of *all* adult Iowans said they had visited a dentist within the past 12 months. Cigarette smokers were significantly less likely than non-smokers to have visited a dentist during the past 12 months (59% vs. 76%, respectively).

- **Interactions with Dental Care Providers**: Cigarette smokers who had visited a dentist during the past 12 months were asked if they smoked or if they were advised to quit smoking (see Figure 10). Among current smokers who had visited the dentist during the past 12 months:

  - 34% of were advised to quit smoking with this advice typically coming from the dentist.

  - An additional 34% said the dentist or hygienist asked whether they smoked but did not advise them to quit smoking. They were most commonly asked by the dental hygienists.

  - 31% said they were neither asked about their smoking nor advised to quit.

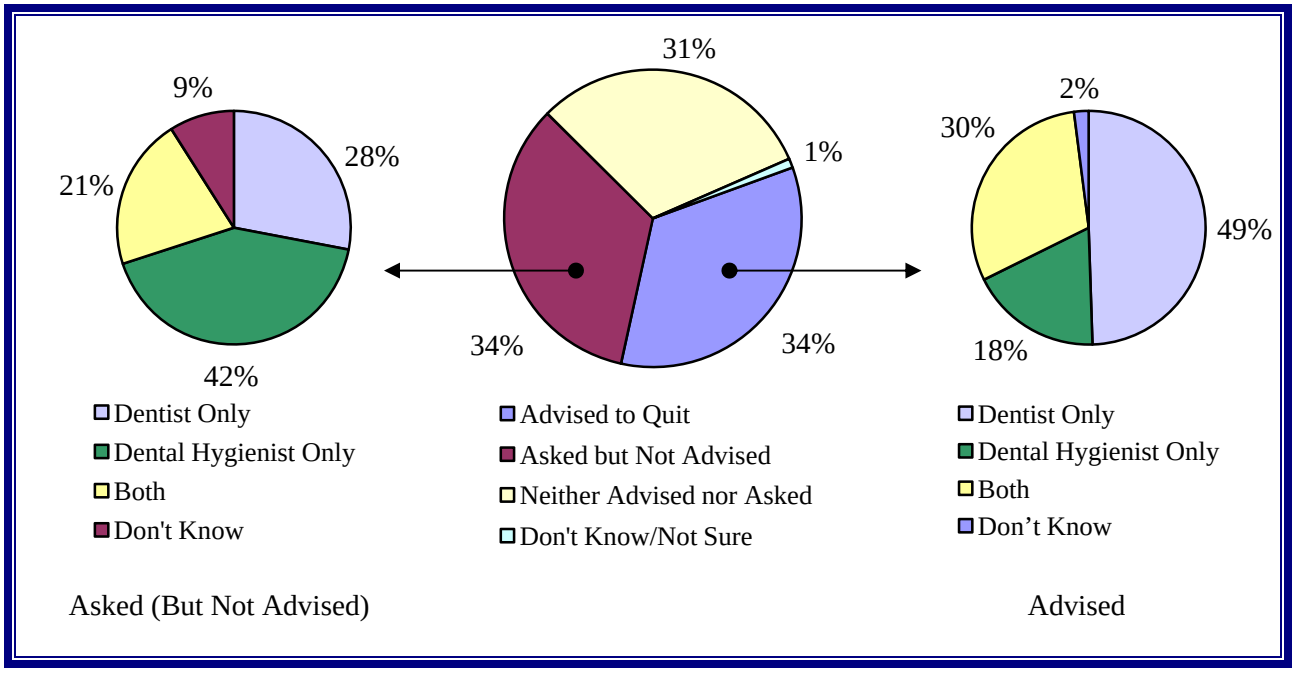

Figure 10. *Received advice to quit or were asked about their smoking among current smokers who visited the dentist during the past 12 months.*

Quitline Iowa and Other Publicly-Funded Cessation Programs

- **Awareness of Quitline Iowa:** Since 2004, awareness of Quitline Iowa has increased dramatically among all adults, especially among current cigarette smokers.

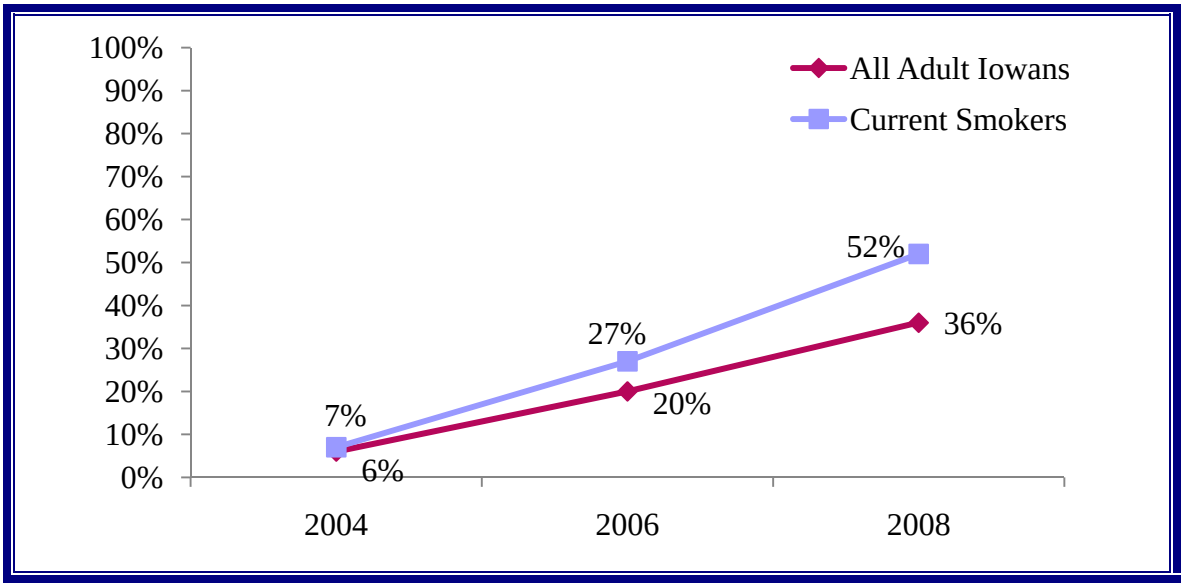

Figure 11. *Quitline awareness (ATS 2004, 2006, and 2008).*

- **Quitline Iowa and Current Smokers:** Among current smokers:
  - 6% said they had called Quitline Iowa for help to quit smoking.
  - 46% said they had heard of Quitline Iowa, but had never called it.
  - 48% said they had never heard of Quitline Iowa.

- **Awareness of Free NRT Through Quitline Iowa:** In 2008, Iowa implemented a program offering 2 weeks of free nicotine patches or gum along with tobacco cessation counseling through Quitline Iowa. About 21% of all adult Iowans and 25% of current smokers said they were aware that tobacco cessation counseling and nicotine patches or gum are available free to adult Iowans through Quitline Iowa (see Table 9).

- **Awareness of NRT Through Medicaid:** As many as 12 weeks of free nicotine cessation medication is available through Medicaid. About 15% of all adult Iowans and 21% of current smokers said they were aware that nicotine cessation medications are available at free or reduced costs to adult Iowans enrolled in Medicaid (see Table 9).

Table 9
Awareness of Publicly-Funded Cessation Support

	All Adults		Among Current Smokers	
	Percent	Population Estimate	Percent	Population Estimate
Have ever heard of Quitline Iowa	36%	785,000	52%	162,000
Are aware that tobacco cessation counseling and nicotine patches or gum are available free to adult Iowans through Quitline Iowa	21%	472,000	25%	80,000
Are aware that nicotine cessation medications are available at free or reduced costs to adult Iowans enrolled in Medicaid	15%	331,000	21%	68,000

Other Tobacco Products

Smokeless Tobacco, Cigars, and Pipe Tobacco

- **Prevalence of Use During the Past 30 Days:** The use of tobacco products other than cigarettes during the past 30 days among adult Iowans was as follows:
  - 4% used smokeless tobacco.
  - 4% smoked cigars.
  - <1% smoked tobacco using pipes.

- **Trend Over Time:** The usage rates for tobacco products other than cigarettes have remained relatively stable in recent years.

Table 10
Current Use of Other Tobacco Products

Demographic Characteristic	Prevalence of Current Use (Past 30 Days)		
	Percent	95% Confidence Interval	Population Estimate
Chewing Tobacco			
2008	**3.5%**	**2.6-4.8**	**81,000**
2006	2.6%	1.9-3.6	59,000
2004	3.4%	2.4-4.7	75,000
Cigars			
2008	**4.1%**	**3.0-5.5**	**92,000**
2006	4.3%	3.1-5.8	96,000
2004	5.0%	3.6-7.1	113,000
Tobacco in Pipes			
2008	**0.7%**	**0.3-1.6**	**16,000**
2006	0.8%	0.4-1.4	18,000
2004	1.1%	0.5-2.3	25,000

- **Want to Quit:** The percent of current users who would like to quit using these tobacco products were as follows:
  - 61% of smokeless tobacco users would like to quit.[13]
  - 27% of cigar smokers would like to quit.
  - Because of the small number respondents, the percent of pipe tobacco users who would like to quit cannot be reliably estimated.

- **Ever Used During Lifetime:** The percent of adult Iowans who have ever used these tobacco products *at any point in their lives* was as follows:
  - 21% have used smokeless tobacco.
  - 48% have smoked cigars (even one or two puffs).
  - 20% have smoked pipe tobacco (even one or two puffs).

[13] Among smokeless tobacco users, 7% said they *didn't know* if they wanted to quit. When they are included in the denominator, the weighted distribution is as follows: 56% want to quit, 36% do not want to quit, and 7% are unsure. Among current cigar smokers, 2% said they *didn't know* if they wanted to quit. When they are included in the denominator the weighted distribution is as follows: 27% want to quit, 72% do not want to quit, and 2% are unsure.

Use of Any Tobacco Product (Including Cigarettes)

- **Current Use of Any Tobacco Product (Including Cigarettes):** During the past 30 days, slightly less than 19% of adult Iowans had used some form of tobacco including smoking cigarettes, using chewing or smokeless tobacco, smoking cigars, or using pipe tobacco. Hence, an estimated 430,000 adult Iowans are current tobacco users.

- **Use A Tobacco Product But Do Not Smoke Cigarettes:** During the past 30 days, 4.5% of adult Iowans used chewing or smokeless tobacco, smoked cigars, or used pipe tobacco, but they did *not* smoke cigarettes (approximately 103,000 Iowans).

- **Would Like to Quit Using Tobacco:** Current users of any tobacco product (including cigarettes, chewing/smokeless tobacco, cigars, and pipe tobacco) were asked if they would like to quit using tobacco:
    - 63% said *yes*.
    - 30% said *no*.
    - 6% were *not sure* if they wanted to quit.[14]

[14] The sum appears to be less than 100% due to rounding (see explanation on page 2 in the methodology section).

Special Populations

Lower Income Levels

- **Cigarette Prevalence Among Lower Income Adults:** Based on household size and self-reported annual household income during 2007, respondents were classified as (a) being at or below the poverty guideline, (b) at or below 200% of the poverty guideline, or (c) above 200% of the poverty guideline.[15]

    - The prevalence of cigarette smoking was significantly higher among those at or below 200% of poverty guideline than among those above 200% of the poverty guideline with smoking rates of 21% and 12%, respectively (see Table 11).

    - There were no differences in smoking rates between those at or below 100% of the poverty guideline and between 100% and 200% of the poverty guideline with rates of 23% and 21%, respectively (see Table 11).

Table 11
Cigarette Prevalence by Lower Income Levels

	Percent	95% Confidence Interval	Population Estimate
At or Below the 200% Poverty Guideline	**21%**	**17.1-25.9%**	**137,000**
At or Below the 100% Poverty Guideline	23%	15.0-34.0%	32,000
Below 200% of the Poverty Guideline, But Above the 100% Poverty Guideline	21%	16.1-26.2%	105,000
Above the 200% Poverty Guideline	**12%**	**10.2-14.7%**	**161,000**

Note. Because of the small number of respondents in the lower income levels, the confidence intervals (95% CI) for these groups are large. The numbers of respondents were as follows: at or below the poverty guideline (n = 129), above poverty guideline but below 200% poverty guideline (n = 474), and above 200% poverty guideline (n = 1192). One can be 95% confident that the actual prevalence rate for the population of people in the demographic subgroup is included within this CI range of values. Adults at or below the 200% poverty guideline were significantly more likely than those above the 200% poverty guideline to be current cigarette smokers. Poverty guidelines were based on the values in the *Federal Register* for 2008.

[15] These poverty guideline classifications are approximations based on the 2008 poverty guidelines published in the *Federal Register*. The 2008 guidelines are based on income levels for 2007, which corresponds to the income question in the survey. Respondents who declined to provide their income or said they *didn't know* their annual household income were excluded from these analyses. The dollar limits associated with each household size were rounded to make it easier for respondents to process the question while on the telephone. The threshold levels were rounded in a manner which may over include respondents as being at or below the poverty guideline or 200% of the poverty guideline.

Adults with Limiting Conditions

- **Limiting Conditions:** Among adult Iowans:
  - 15% said they were limited in some way for certain activities because of physical, mental, or emotional problems.
  - 7% said they had physical, mental, or emotional conditions which lasted for 6 or more months and substantially limited their physical activities, prevented them from working, or caused them difficulty in caring for themselves.
  - 5% had been told by a health care provider during the past 12 months that they should be using special equipment such as a home or portable oxygen tank, cane, special bed, special telephone, wheelchair, or power chair.
- **Conditions Attributed to Smoking:** Among those who had a chronic condition that has limited their activities for 6 months or more, 19% believed their condition was smoking related.
  - Among all adults with a chronic limiting condition, 12% believed the physical, mental, or emotional condition was due to breathing second-hand smoke.
  - Among those with a chronic limiting condition who have smoked, 19% believed it was the result of their own cigarette use.[16]
- **Cigarette Use:** The results of statistical analyses were as follows:
  - The prevalence of cigarette use was not significantly different between adults with or without limiting conditions (19% vs. 13%).
  - The prevalence of cigarette use was significantly higher among those with chronic, substantially limiting conditions than among those without such conditions (25% vs. 13%).[17]
  - There was not a statistically significant difference in smoking prevalence between those who were told by health care providers to use special equipment and among adults who were not told to use special equipment (16% vs. 14%).

[16] This includes adults with chronic limiting conditions lasting 6 or more months "who have smoked," which includes current cigarette smokers and former smokers.

[17] There were 178 respondents who said they had chronic, substantially limiting conditions and 181 respondents with less severe limiting conditions. Although the prevalence of smoking was statistically higher among these individuals than among other adult Iowans and also higher than among those with less severe limiting conditions (13% current cigarette use in both cases), the relatively small sample size of these subgroups should be kept in mind when generalizing the findings.

Households with Children

- **Cigarette Use:** The prevalence of cigarette smoking was similar among adults living in households with children (15%) and among adults living in households without children (14%).

- **Communication about Tobacco:** Respondents with children between the ages of 5 and 17 living in their households were asked to think of their child closest in age to 10. They were then asked about their discussions with this child regarding tobacco. For the purpose of these analyses, data were included for only those respondents who were the mother or father (or step-parent) of the child. The communication patterns among smokers and non-smokers with their children varied (see Figure 12) with 21% of smokers as compared to 10% of non-smokers saying they talk *very often* with their child about the dangers of tobacco use.

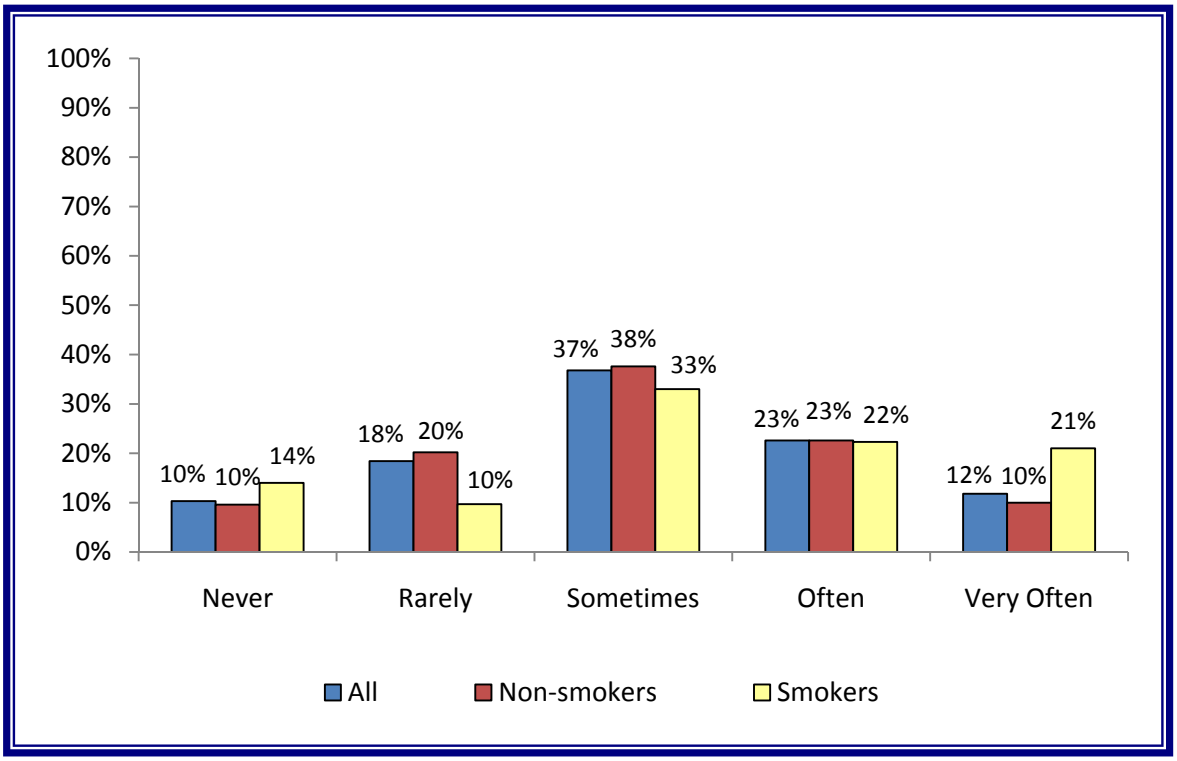

Figure 12. *Communication by the parent with their child who is closest in age to 10.*

- **Reactions of Children to Parental Smoking:** Cigarette smokers who were parents living with children between the ages of 5 through 17 were asked about how their children react to their smoking. Among these smokers:

    - 70% said their children were upset about their smoking.

    - 90% said their children had encouraged them to quit smoking.

Additional Topics

Anti-Tobacco Advertising and Campaigns

- **Anti-Smoking Advertising:** During the past 7 days, adult Iowans said they had seen at least one of the following types of advertisements.[18]

  - Anti-smoking advertisements:
    - 50% TV commercial
    - 24% radio commercial
    - 35% billboard.

  - Smokers were significantly more likely than non-smokers to have said they saw at least one anti-smoking advertisement on TV (66% smokers vs. 48% non-smokers) and on radio (34% smokers vs. 22% non-smokers). There was no statistically significant difference between smokers and non-smokers with billboard advertisements.

Table 12
Anti-Smoking Advertising Within Past 7 Days (All Adults)

	Percent	Population Estimate
Anti-Smoking TV Commercial		
Saw at least one in past 7 days	50%	994,000
Did not see any in past 7 days	50%	978,000
Anti-Smoking Radio Commercial		
Saw at least one in past 7 days	24%	492,000
Did not see any in past 7 days	76%	1,544,000
Anti-Smoking Billboard		
Saw at least one in past 7 days	35%	737,000
Did not see any in past 7 days	65%	1,383,000

Note. There was no response to these three questions for 2% of all adult Iowans. Additionally, the percent of all adults who said they *don't know/not sure* how many (if any) advertisements they had seen were as follows: TV (12%), radio (9%), and billboards (5%). The values in this table are "valid percents." See the footnote below for the distribution if *don't know/not sure* responses were included in the distribution.

[18] These percentages are based on the distribution of *yes* and *no* responses. If *don't know/not sure* responses are included in the denominator, the percent who had seen at least one advertisement on each type of media were as follows: TV (44% all adults, 60% smokers, 42% non-smokers), radio (22% all adults, 32% smokers, 20% non-smokers), and billboards (33% all adults, 37% smokers, 32% non-smokers).

- **Anti-Smokeless Tobacco Advertising:** During the past 7 days, 18% of adult Iowans had seen some form of advertising with an anti-smokeless or chewing tobacco message.

Table 13
Anti-Smokeless Tobacco Advertising Within Past 7 Days (All Adults)

	Percent	Population Estimate
Saw at least one in past 7 days	18%	373,000
Did not see any in past 7 days	82%	1,721,000

Note. There was no response to this question for 2% of all adult Iowans and 6% said they *don't know/not sure* how many (if any) advertisements about the dangers of smokeless tobacco they had seen. If *don't know/not sure* responses are included in the denominator, the percent of all adults who had seen advertisements about this topic was 17%. There were no statistically significant differences between current smokeless tobacco users and non-users in terms of having seen one or more anti-smokeless tobacco advertisements during the past 7 days.

- **Just Eliminate Lies (JEL):** Among all adults, 52% said they had seen or heard the slogan "Just Eliminate Lies" or "JEL" used in anti-smoking advertising. The JEL campaign is targeted towards youth. There were no differences between current cigarette smokers and non-smokers in terms of their likelihood of having heard of JEL.

Beliefs About Smoking and Second-Hand Smoke

Beliefs About Smoking: The percent of adult Iowans who said *agree* or *strongly agree* to these attitudinal measures were as follows:

- 98% said smoking was physically addictive.

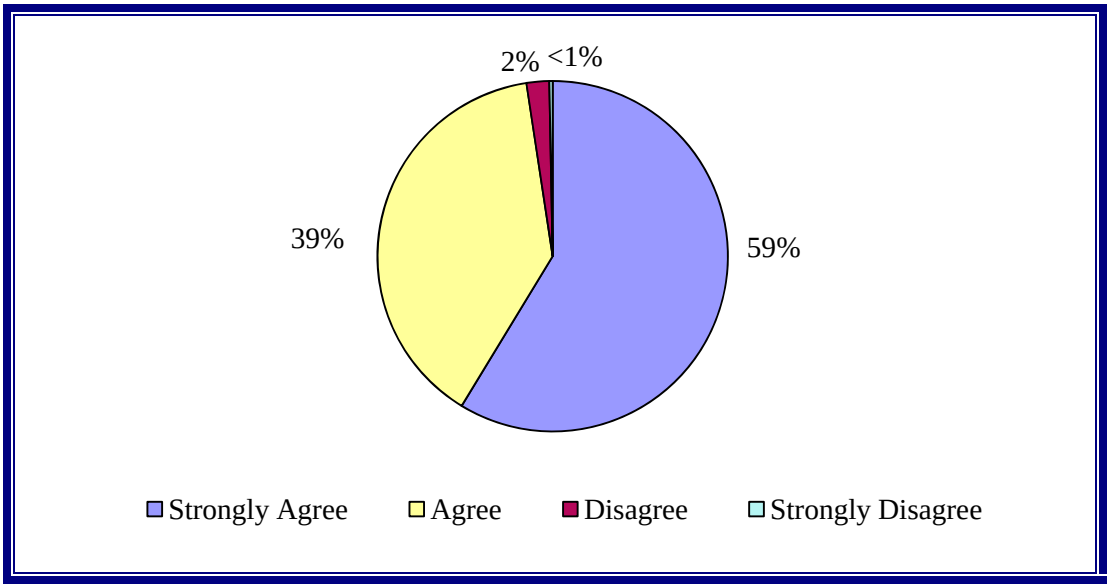

Figure 13. *Smoking is physically addictive.*

- 98% said smoking while pregnant may harm the baby.

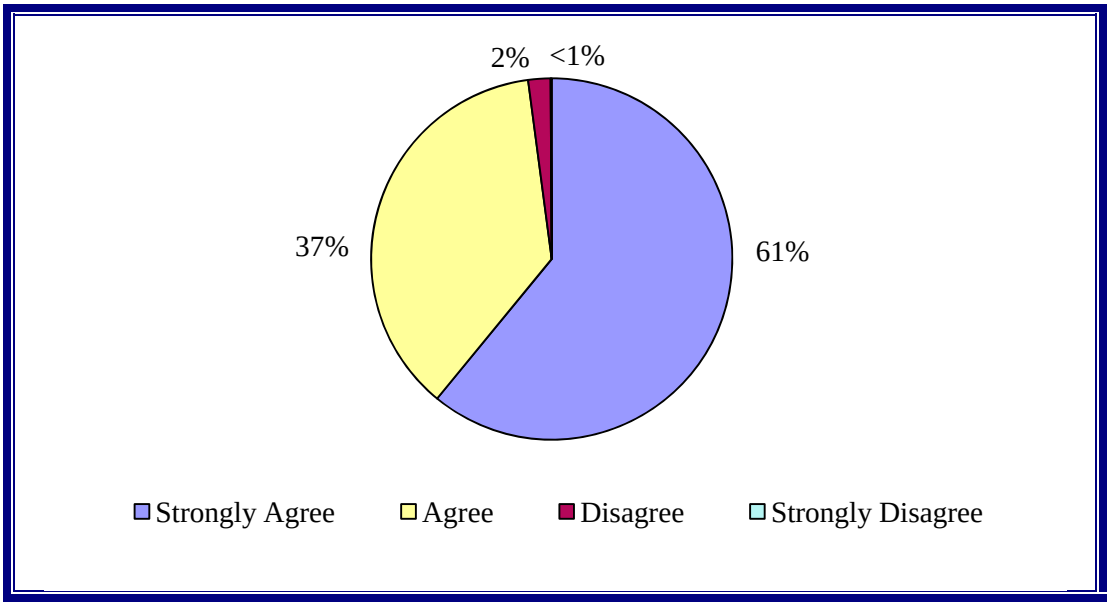

Figure 14. *Belief that smoking while pregnant may harm the baby.*

- Strong majorities of adult Iowans said they believed smoking was a cause of several health conditions, including lung cancer, low birth weight in babies, heart attack, and strokes (see Figure 15).

- Approximately one-third (34%) of adult Iowans were *unsure* whether smoking was a cause impotence or colon cancer (see Figure 15).

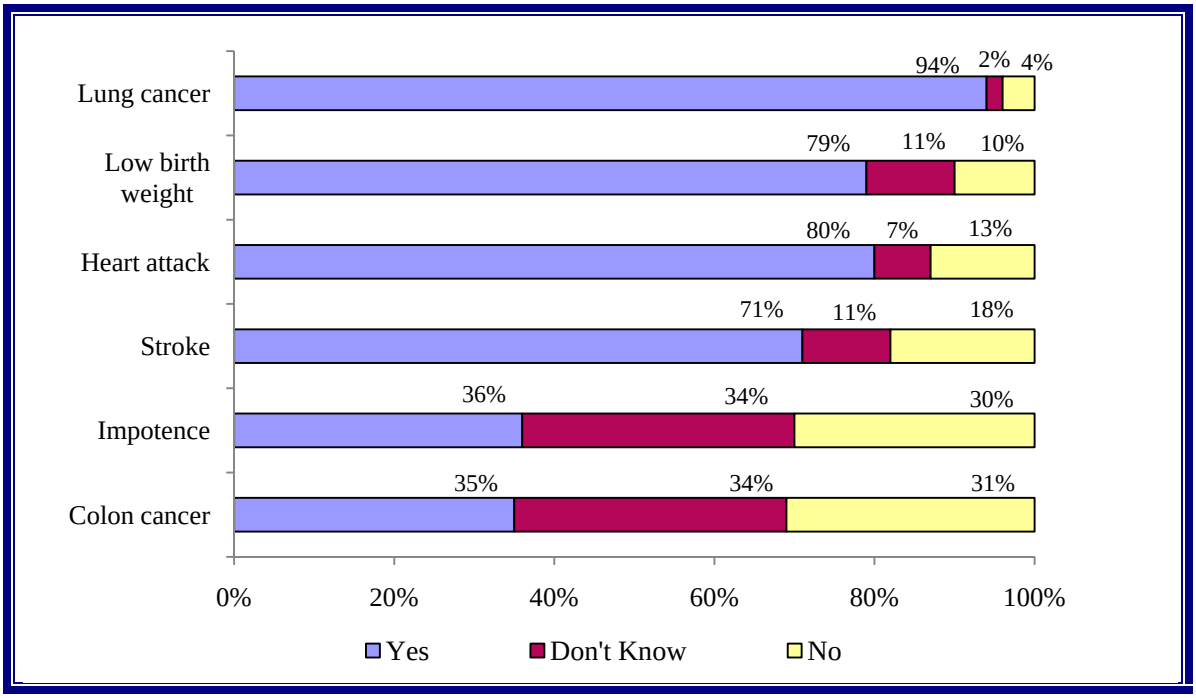

Figure 15. *Cigarette smoking is the cause of health conditions.*

Beliefs about Light Cigarettes: Among all adult Iowans, 10% said smoking "light cigarettes" was safer than smoking regular cigarettes and 9% were *unsure* whether or not "light cigarettes" were safer. Approximately 80% said smoking "light cigarettes" was not any safer than smoking regular cigarettes. There was no difference between smokers and non-smokers in their likelihood of believing that "light cigarettes" were safer (10% of smokers and 10% of non-smokers said *yes*).

Beliefs About Second-Hand Smoke: The percent of adult Iowans who said *agree* or *strongly agree* to these attitudinal measures were as follows:

- 93% said second-hand smoke is harmful to one's health.

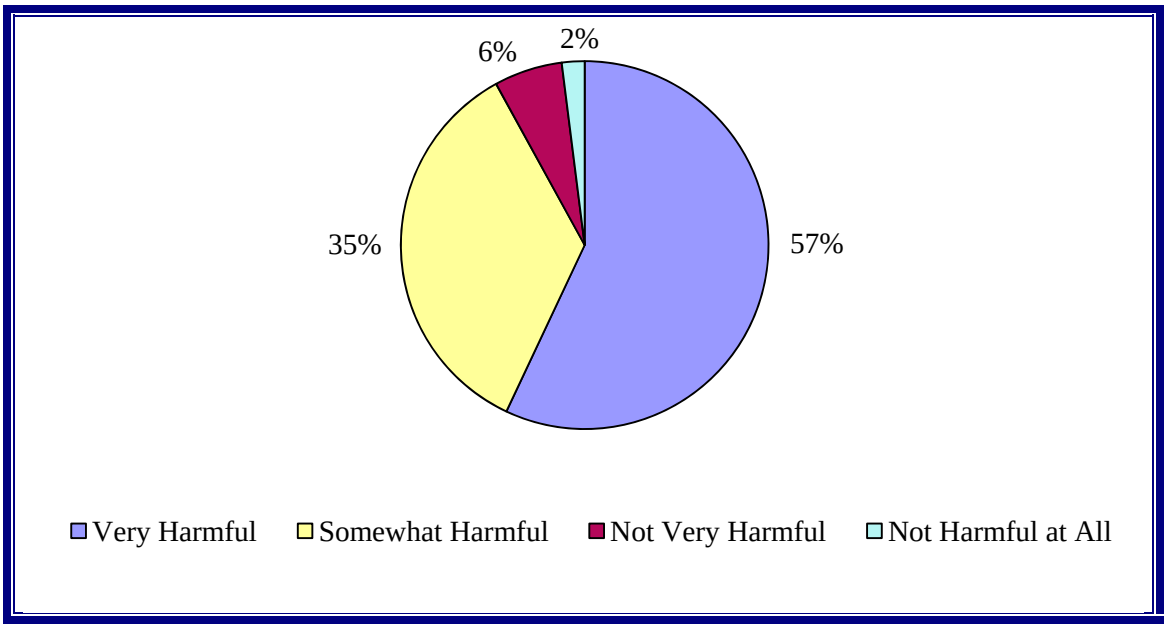

Figure 16. *Breathing smoke from other people's cigarettes is harmful to one's health.*

- 92% said people regularly exposed to second-hand smoke while at work are at a higher risk for developing certain medical conditions.

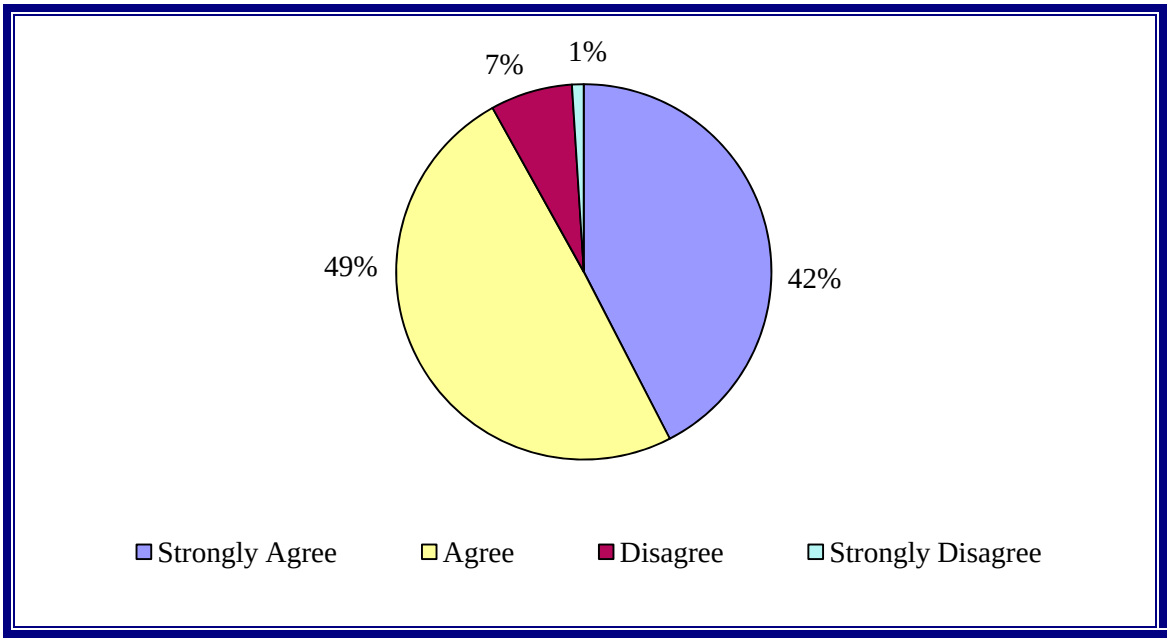

Figure 17. *People regularly exposed to second-hand smoke while at work are at higher risk of developing certain medical conditions.*

- 88% said people should be protected from second-hand smoke.[19]

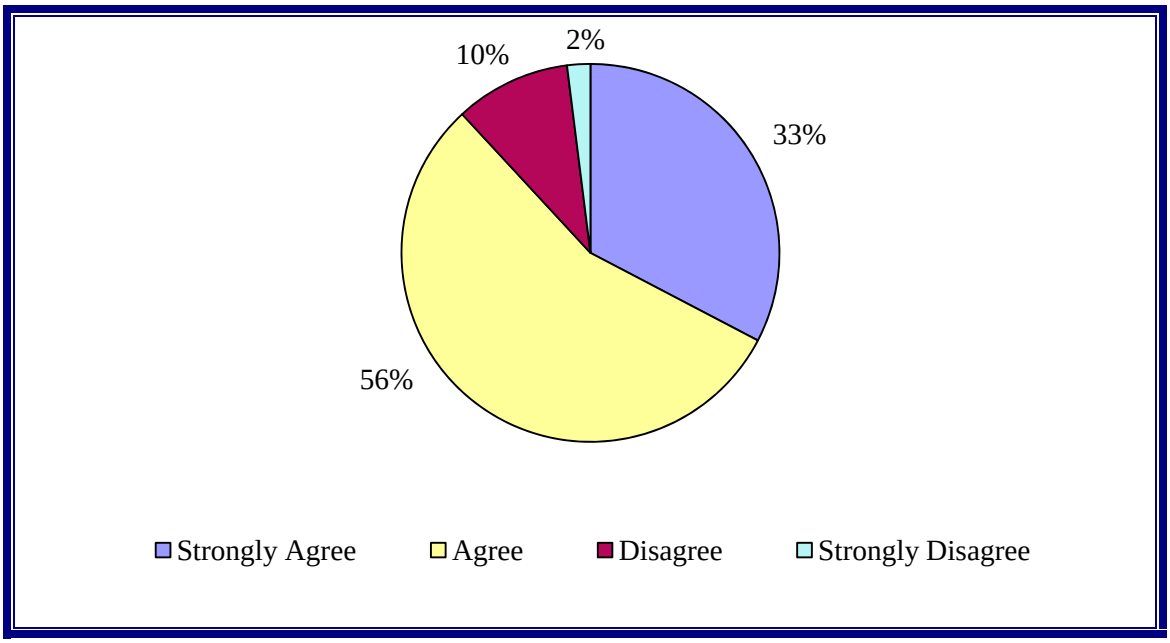

***Figure 18**. People should be protected from second-hand smoke.*

[19] The sum of the slices in the pie chart appears to add to 89% instead of 88% due to rounding (see explanation on page 2 in the methodology section).

- Strong majorities of adult Iowans said they believed that breathing smoke from other people's cigarettes causes respiratory problems in children, lung cancer in adults, and heart disease in adults (see Figure 19).
- Nearly one-half of adult Iowans were *unsure* whether breathing smoke from other people's cigarettes causes Sudden Infant Death Syndrome or colon cancer in adults (see Figure 19).

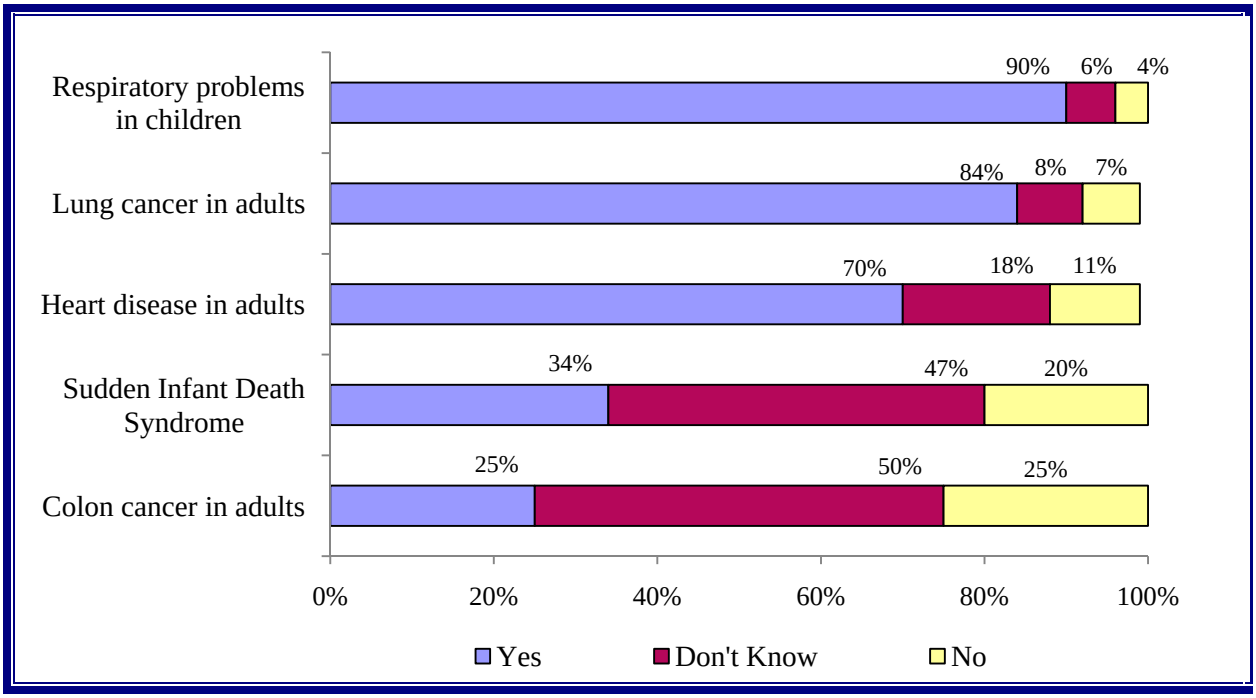

Figure 19. *Second-hand smoke causes health conditions.*

Health Conditions

Health Conditions: The percent of all adult Iowans and current cigarette smokers who have ever been told by health care professionals that they have any of nine medical conditions are shown in Figure 20.

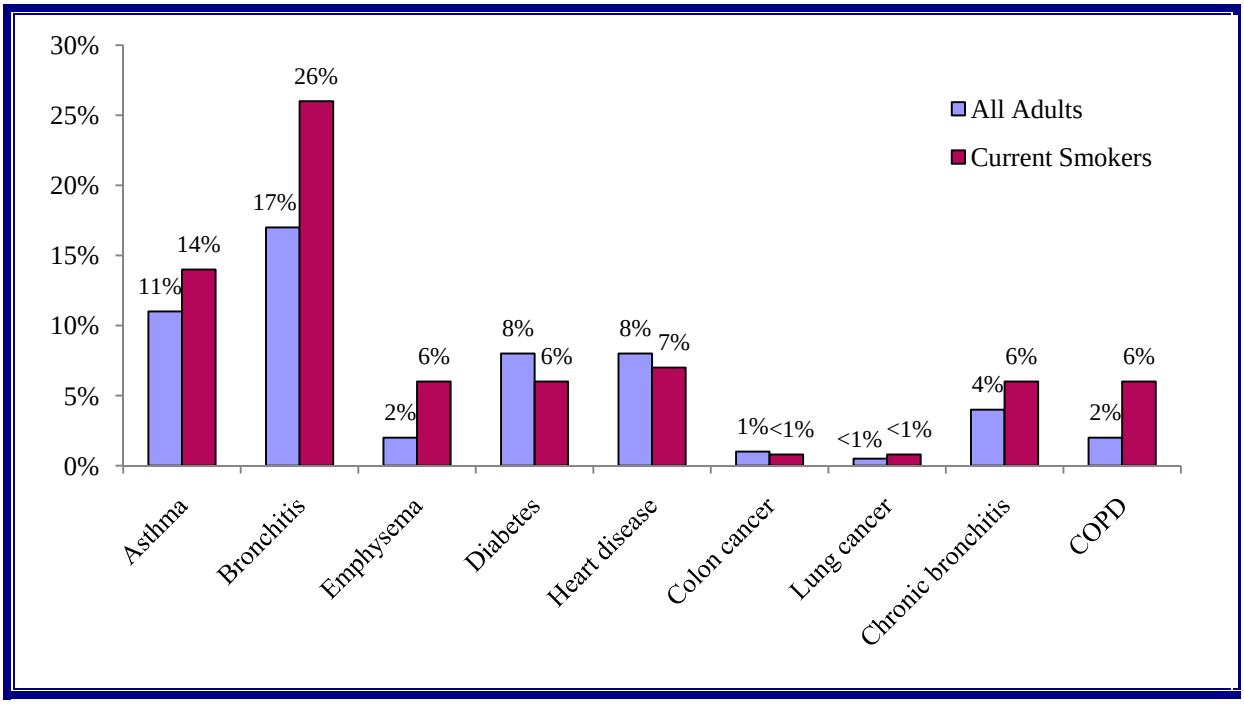

Figure 20. *Diagnoses of health conditions among all adults and current smokers.*

Health Conditions and Smoking: Current cigarette smokers were significantly more likely than non-smokers to have ever been told by health care professionals that they have these three medical conditions.

- Bronchitis (26% smokers vs. 15% non-smokers)
- Emphysema (6% smokers vs. 1% non-smokers)
- Chronic obstructive pulmonary disease (6% smokers vs. 2% non-smokers)

Tobacco-Related Deaths: About 3% of all adult Iowans and about 4% of current smokers said someone in their immediate family such as a spouse, parent, sibling, or child had died from a tobacco-related disease in the past 12 months. This represents approximately 64,000 adult Iowans who have lost an immediate family member to a tobacco-related disease in the past 12 months.

Smoking Policies in the Home and Car

- **Smoking Policies in Homes:** Most (77%) adult Iowans said they do not allow smoking anywhere inside their homes (see Figure 21), and 45% of current cigarette smokers said they do not allow smoking inside their homes (see Figure 22).[20]

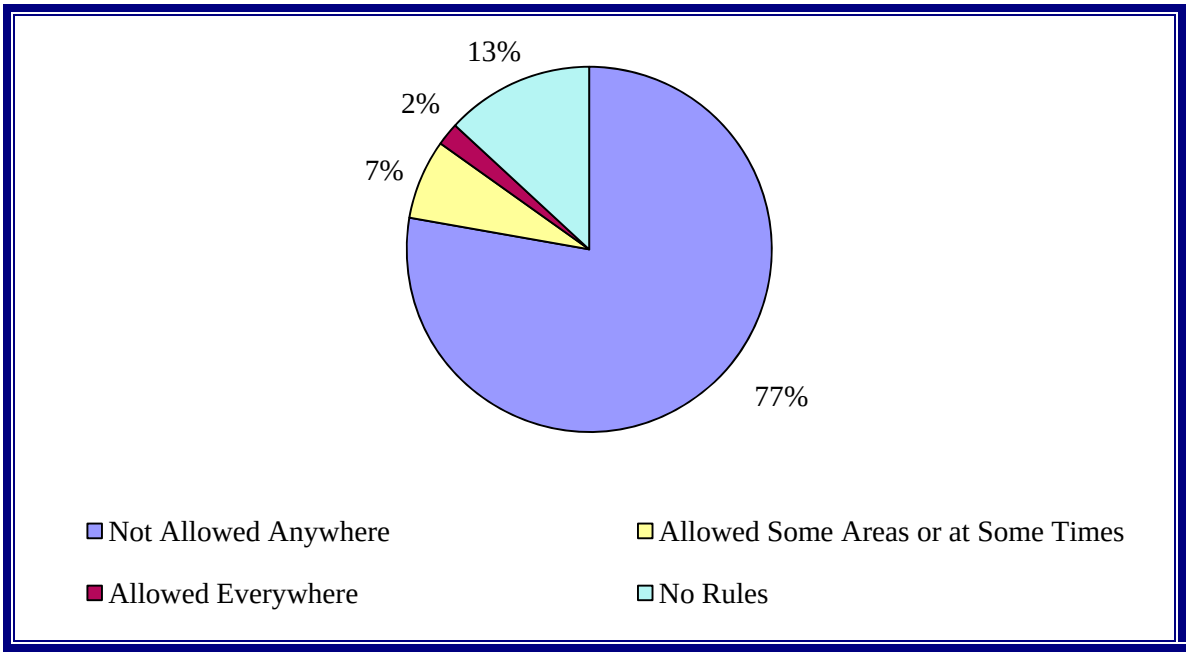

Figure 21. *Smoking policy in the home among all adults.*

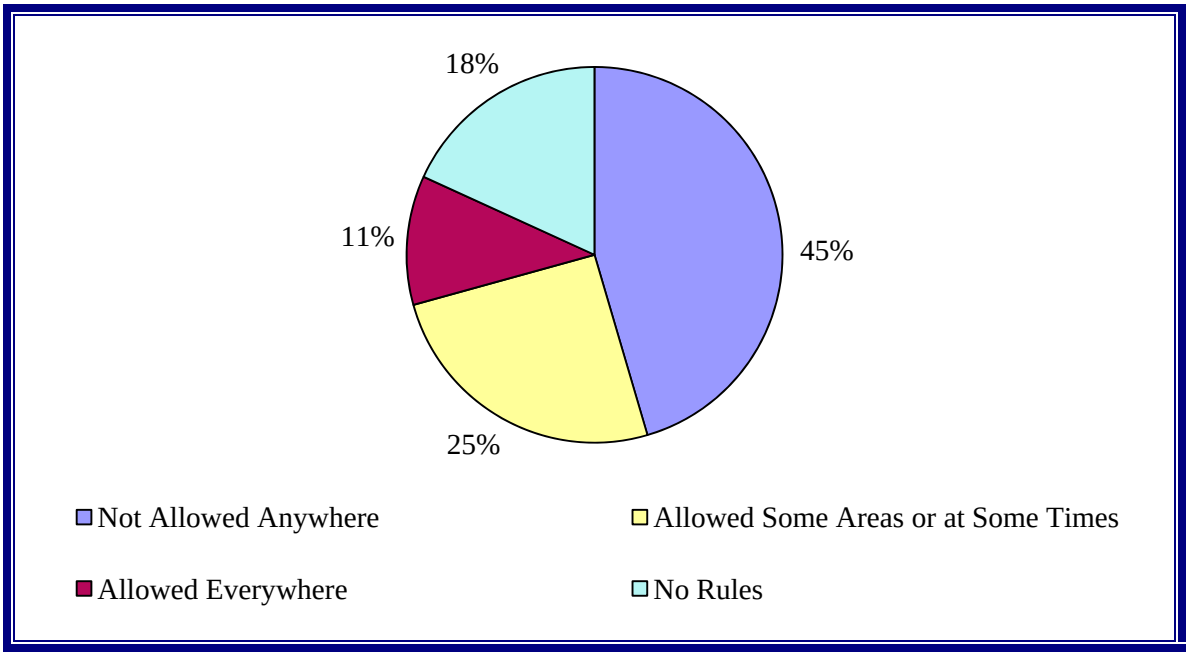

Figure 22. *Smoking policy in the home among current smokers.*

[20] Decks, garages, and porches were not considered "inside" one's home.

- **Smoking Policies in Personal Cars:** Most (70%) adult Iowans said they do not allow smoking in any of their personal cars (see Figure 23). Among current smokers, 22% said they do not allow smoking in any of their personal cars, but about one-half allow smoking in one or more of their personal cars (see Figure 24).

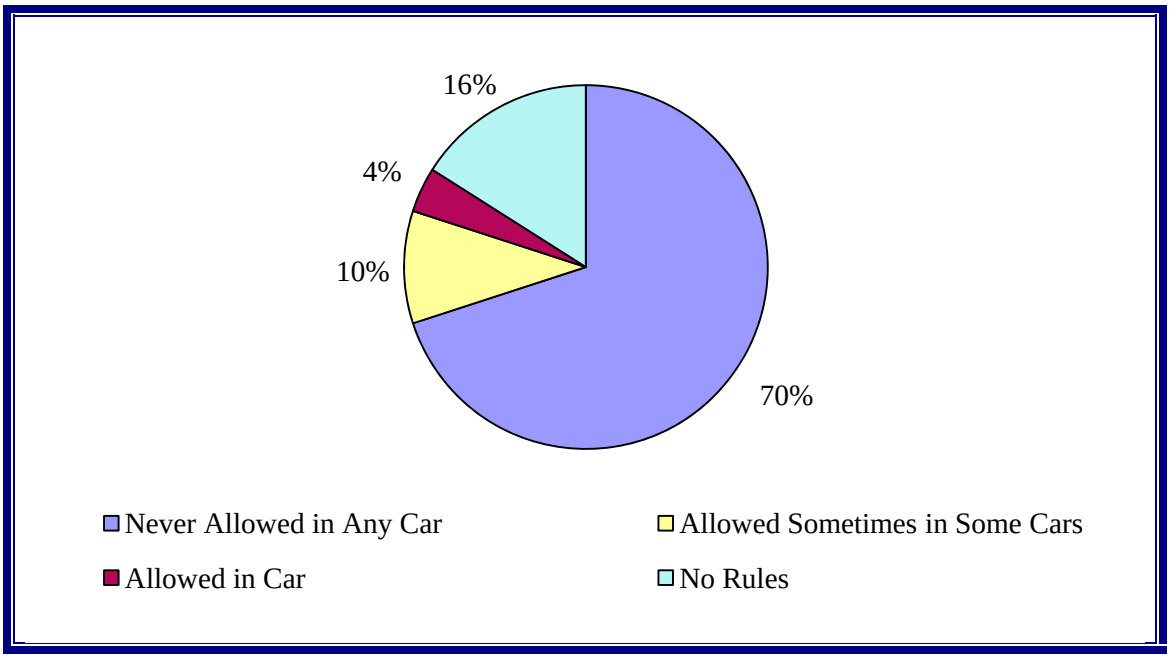

***Figure 23**. Smoking policy in the car among all adults.*

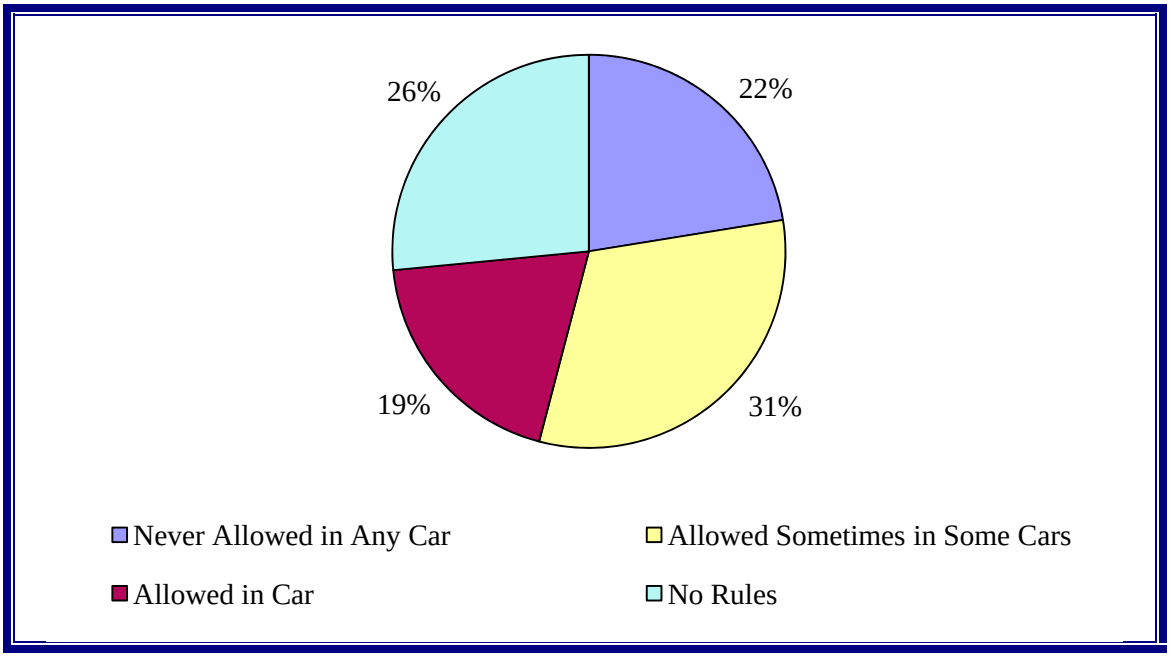

***Figure 24**. Smoking policy in the car among current smokers.*

Attitudes about Smoking Policies in Public Places

The data for the Iowa 2008 ATS were collected from April 4 through June 9, 2008. Therefore, the findings do not provide information about changes in behaviors or attitudes of adult Iowans as a result of the Iowa Smokefree Air Act which became effective July 1, 2008. "The Smokefree Air Act prohibits smoking in almost all public places and enclosed areas within places of employment, as well as some outdoor areas. The law applies to: restaurants, bars, outdoor entertainment events and amphitheaters. It also covers places of employment such as office buildings, health care facilities, and child care facilities. Smoking is allowed on the gaming floor of a licensed casino, as well as designated hotel and motel rooms" (IDPH, 2008 retrieved from www.iowasmokefreeair.gov).

- **Smoking Policies Inside Public Places:** Most adult Iowans do not think smoking should be allowed at indoor sporting events or in public buildings (see Figure 25). Opinions about whether or not smoking should be allowed in bars and cocktail lounges is divided with 39% saying it should not be allowed anywhere and 46% saying it should be allowed in certain areas (see Figure 25).[21] These data were collected prior to the change in Iowa law prohibiting smoking in most public places.

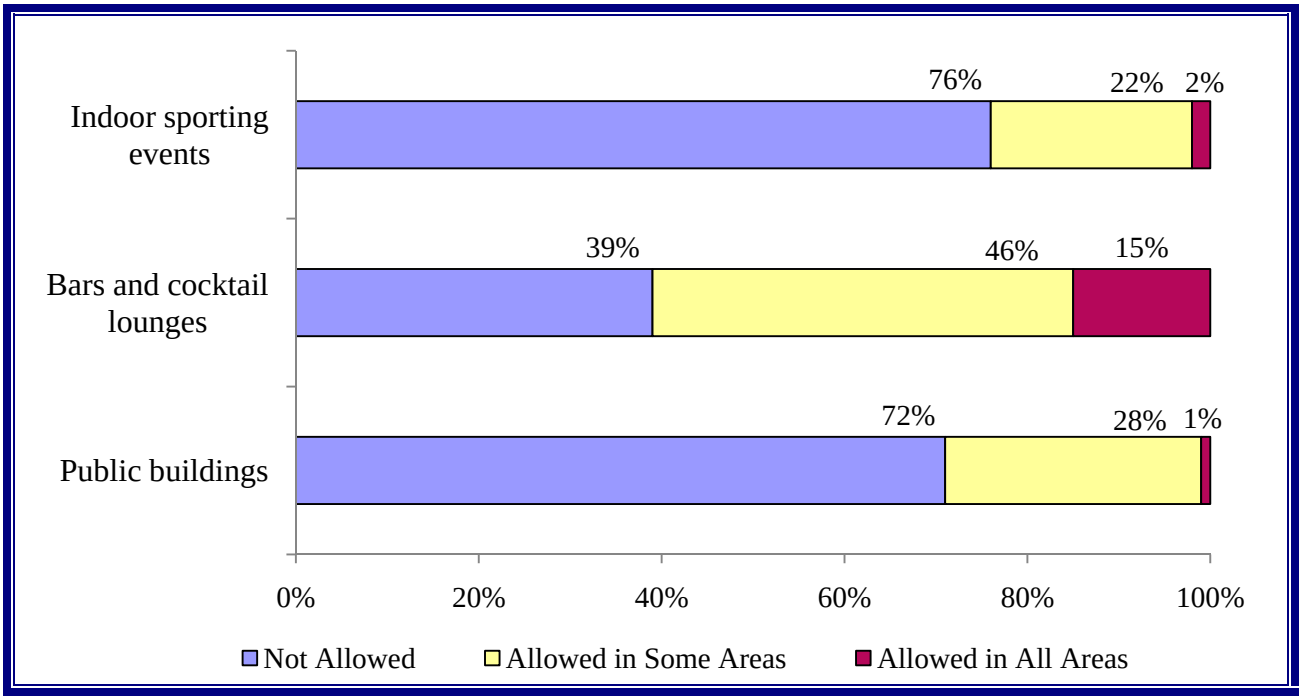

Figure 25. *Smoking should be allowed in public places.*

[21] About 6% of adult Iowans were *unsure* whether (or where) smoking should be allowed in bars and cocktail lounges. The percents shown in the figure are the valid percents. These data were collected prior to the change in Iowa law prohibiting smoking in most indoor public places.

- **Smoking Policies in Outdoor Public Places:** Adult Iowans were asked the extent to which they agreed or disagreed that smoking should *not* be allowed in outdoor public places. About one-third (36%) of Iowans agreed with this statement (i.e., 12% *strongly agreed*, 25% *agreed)* indicating they thought smoking in outdoor public places should be prohibited. The majority of adult Iowans *disagreed* (49%) or *strongly disagreed* (11%) with this statement indicating they believe smoking should be allowed in outdoor public places. About 4% of Iowans were *unsure* whether or not smoking should be allowed or prohibited in outdoor public places.

- **Smoking Policies in the Workplace:** Three-fourths (74%) of adult Iowans who were employed said there were official policies at their workplaces that restricts smoking. All adults employed for wages were also asked whether they would prefer a stronger workplace smoking policy, a weaker policy, or no change. Their responses were as follows:

  - 15% stronger policy
  - 2% weaker policy
  - 83% no change

- **Smoking Policies and Dining at Restaurants:** Iowans were asked what effect they expected a total ban on smoking in restaurants would have on how often they went to restaurants. The majority of Iowans did not think a total ban on smoking in restaurants would change how often they eat out.

  - Among all adult Iowans:
    - 13% said they would eat out more often.
    - 5% said they would eat out less often.
    - 82% said it would make no difference.
  - Among non-smokers:
    - 15% said they would eat out more often.
    - 1% said they would eat out less often.
    - 84% said it would make no difference.
  - Among cigarette smokers:
    - 2% said they would eat out more often.
    - 26% said they would eat out less often.
    - 72% said it would make no difference.

- **Smoking Policies and Casino Gambling:** Iowans were asked whether or not they would visit casinos more often if they were smoke-free. Among all adult Iowans, 20% said they would visit casinos more often if the casinos were smoke-free. Hence, slightly more than 430,000 adult Iowans said they would visit casinos more often if the casinos had smoke-free environments. When asked if they would visit casinos more if they were smoke free,

  - Non-smokers said:
    - 22% *yes.*
    - 78% *no.*

  - Cigarette smokers said:
    - 5% *yes.*
    - 95% *no.*

- **Smoking Policies and Casino Gambling Since 2004:** The percent of Iowans who said they would visit casinos more often if they were smoke-free has increased from 15% in 2004 to 17% in 2006 to 20% in 2008.[22]

[22] During the data collection period of the 2008 ATS, the Iowa legislature passed a law prohibiting smoking indoors in most public places to take effect later that year. The following item was added to the ATS interview after data collection had started. "As of July 1, 2008, Iowa law prohibits smoking in most indoor public places including restaurants and bars, but allows smoking in the gambling areas of casinos. Do you think Iowa's law should allow smoking in casinos or should this not be allowed?" The distribution of *weighted* responses was: *allow smoking in casinos* (28%, n = 373 respondents), *prohibit smoking in casinos* (60%, n = 916), and *not sure* (12%, n = 180 respondents). Because this question was added after approximately one-third of the interviews were completed, the findings based on this subsample may be less likely to represent the entire population than findings for other questions in the survey instrument.

Tobacco Policies and Children

- **Tobacco Use on School Grounds:** The overwhelming majority (93%) of adult Iowans *agree* (46%) or *strongly agree* (47%) that tobacco use by adults should not be allowed anywhere indoors or outdoors on K-12 school grounds or at any school events.

- **Sales of Tobacco to Minors:** The vast majority (90%) of adult Iowans said it was *very important* that communities keep stores from selling tobacco products to children under 18. An additional 8% said it was *somewhat important* that stores not sell tobacco products to children.

- **Buying Tobacco for Children:** Less than 1% of adult Iowans said they had purchased or given someone under the age of 18 cigarettes, chewing tobacco, or any other tobacco product during the past 12 months.

- **Promotional Items Appealing to Teenagers:** More than three-fourths (79%) of adult Iowans do *not* think tobacco companies should be allowed to include coupons in cigarette packs that can be used to obtain promotional items that may be appealing to teenagers, such as hats, tee shirts, jackets, or caps.

- **Promotional Items Among Adults:** Adult Iowans were asked about whether they owned any promotional items like clothing, hats, bags or other things with tobacco company brands on them. A piece of clothing or other item with a tobacco brand or logo on it was owned by:

  - 10% of all adult Iowans.
  - 7% of non-smokers.
  - 30% of cigarette smokers.
  - 24% of smokeless tobacco users.
  - 33% of cigar smokers.

- **Tobacco Company Sponsorship:** Iowans were asked whether tobacco companies should be allowed to sponsor concerts and sporting events such as athletics, rodeos, and auto races.
  - Among all adult Iowans:
    - 48% said *yes.*
    - 43% said *no.*
    - 9% were *unsure.*

  - The difference between cigarette smokers and non-smokers was clearly evident with 74% of cigarette smokers versus 44% of non-smokers saying tobacco companies should be allowed to sponsor such events.

Summary & Conclusions

- The 2008 Adult Tobacco Survey was conducted by the Center for Social and Behavioral Research (CSBR) at the University of Northern Iowa (UNI) on behalf of the Iowa Department of Public Health (IDPH) Division of Tobacco Use Prevention and Control. Using computer-assisted telephone interviewing (CATI) technology, interviews were completed with 2,113 adult Iowans between April 4 and June 9, 2008.

- Cigarette smoking prevalence among adult Iowans in 2008 was 14%. This is a 22% decrease in smoking rates since 2006 when 18% of adult Iowans were current smokers, and a decrease of 39% in smoking rates since 2002 when 23% of adult Iowans were current smokers.

- Approximately one-third (32%) of current smokers said they had reduced the number of cigarettes they smoke since Iowa increased the cigarette tax by $1.00 in 2007. The usage rates for tobacco products other than cigarettes have remained relatively stable in recent years.

- In 2008, 4% of respondents were current users of smokeless tobacco, 4% were current smokers of cigars, and less than 1% were current smokers of tobacco in pipes.

- Quitline Iowa awareness among all adults and among current smokers has dramatically increased since 2004 from 6% to 36% in 2008.

- Among current smokers, 52% in 2008 said they had heard of Quitline Iowa. However, many cigarette smokers were unaware that free cessation counseling and nicotine patches or gum were available to Iowans through Quitline Iowa.

- The decrease in smoking rates in Iowa may be an important indicator of success for the state's tobacco cessation and prevention efforts, as well as a shift in societal attitudes toward cigarette smoking. *Note: The data for the Iowa 2008 ATS were collected from April 4 through June 9, 2008. Therefore, the findings do not provide information about changes in behaviors or attitudes of adult Iowans as a result of the Iowa Smokefree Air Act which became effective July 1, 2008.*

- Legislative efforts such as the 2007 state cigarette tax increase of $1.00, and the 2008 Smokefree Air Act, which prohibits smoking in most indoor public places, reflect greater commitment on the part of Iowans to reduce smoking and improve public health. In addition, state funding and support for smoking cessation programs provide smokers in Iowa with counseling and nicotine replacement therapy. However, many cigarette smokers in Iowa are still unaware of the benefits and resources available to help them quit. These smokers may benefit from continued investments in tobacco prevention and cessation efforts.

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References

American Association for Public Opinion Research. (2008). *Standard definitions: Final dispositions of case codes and outcome rates for surveys* (5th ed.). Lenexa, Kansas: AAPOR.

Federal Register (2008, January 23), Vol. 73(15), 3971-3972.

Gallup (2002). *Adult Telephone Survey (ATS) of Tobacco Use, Opinions, and Related Behaviors for Iowa Adult Residents: Adult Survey Report.*

Iowa Department of Public Health. (2008). *Iowa Smoke Free Air Act*. Retrieved from http://www.iowasmokefreeair.gov on February 25, 2009.

Lutz, G. M., Gonnerman, M. E., Jr., Park, K. H., & Collingwood, M. (2007). *Iowa 2006 Adult Tobacco Survey*. Cedar Falls, IA: Center for Social and Behavioral Research, University of Northern Iowa.

Lutz, G. M., Gonnerman, M. E., Jr., Park, K. H., & Philipp, M. C. (2005). *Iowa 2004 Adult Tobacco Survey*. Cedar Falls, IA: Center for Social and Behavioral Research, University of Northern Iowa.

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Glossary

AAPOR: American Association of Public Opinion Research (see: www.aapor.org)

ATS: Adult Tobacco Survey

CATI: Computer-Assisted Telephone Interviewing

CDC: Centers for Disease Control and Prevention

CI 95% (or 95% CI): Statistical expression referring to the 95 percent confidence interval. One can be 95 percent certain that the population percent is contained within the end points of this interval. Confidence intervals where the population parameter is close to 0% and 100% are less precise than are intervals of estimates of parameters in the middle of the distribution range.

CR4: Cooperation rate formula number four according to the AAPOR standard definitions.

CSBR: Center for Social and Behavioral Research at the University of Northern Iowa

Current use: Smoked at least 100 cigarettes during one's lifetime *and* now smoke *every day* or *some days* or have smoked at least one cigarette during the past 30 days. For other forms of tobacco, current use is any use of the product during the past 30 days regardless of the number of times used during one's lifetime.

Ever use: Smoked at least 100 cigarettes during one's lifetime. For other forms of tobacco, ever use is defined as having used the tobacco product at least once during one's lifetime.

Former smoker: One who has smoked at least 100 cigarettes during one's lifetime and is not a current cigarette smoker.

IDPH: Iowa Department of Public Health

Mean: A measure of central tendency commonly known as the "average" or "arithmetic average." The mean is the sum of responses divided by the number of observations.

Median: A measure of central tendency which divides the distribution such that there is an equal number of observations above and below the median score. The median is the value associated with the score at the 50^{th} percentile of a sequentially ordered distribution.

Nested: In questionnaire construction, nesting is akin to a decision tree wherein questions are asked only for respondents for whom the questions are relevant as determined by a prior response. For example, questions concerning the number of cigarettes smoked on an average day and number of days smoked in the past month might be nested under a question asking whether the person has smoked in the past month.

Non-Smoker: One who is *not* a current cigarette smoker. Non-smokers include people who have never smoked 100 or more cigarettes *and* people who are former smokers who quit smoking more than 30 days ago.

NRT: Nicotine Replacement Therapy

Pairwise: All possible pairs of comparisons are made for a given statistical analysis. If there are three groups (A, B, & C), then the three pair-wise comparisons are A vs. B, A vs. C, and B vs. C.

Percent of Respondents: Percent of actual survey respondents who said this response option. These percentages are based on the unweighted frequency distribution (see also *unweighted percent*).

Pharmacotherapy: Any pharmaceutical product used to aid smoking cessation such as nicotine replacement therapy or medications such Chantix or Bupropion.

Population: All adults 18 and older living in non-institutionalized settings within Iowa who are accessible by landline telephone service.

Population Estimate: The population estimate is based on the frequency distribution of the weighted data analysis. The population estimates for responses involving all respondents are rescaled to the estimated adult population in Iowa in 2008. Although many of the percentages reported use the "valid percent," the associated denominators for the population estimates are not adjusted on an item-by-item basis so the population estimates in some cases may underestimate the actual number of adult Iowans with the specific behavior or attitude being reported.

RR4: Response rate formula number four according to the AAPOR standard definitions.

UNI: University of Northern Iowa

***Unweighted percent*:** Percentage based on the distribution of responses given by respondents without case weights being applied (i.e., the denominator when using the total sample is the number of survey respondents).

Valid percent: Percentage using a denominator containing only those meeting prior conditions (e.g., only those who ever used tobacco, rather than all adults), for whom the question was relevant and asked, and/or who gave one of the response options included in the survey question (typically this excludes those who said *don't know/not sure*).

Weighted percent: Percentage based on the distribution of responses given by respondents when case weights are applied to correct for sample representativeness (i.e., the denominator when using the total sample has been rescaled to be equal to the total estimated population of adults in Iowa in 2008).