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Binge Drinking in Idaho: A Study of Binge Drinking and Associated Risk Factors

By:

Lisa Spanberger

A thesis

submitted in partial fulfillment

of the requirements for the degree of

Masters of Public Health in the Department of Kasiska School of Health Professions

Idaho State University

August 2015

To the Graduate Faculty:

The members of the committee appointed to examine the thesis of LISA SPANBERGER find it satisfactory and recommend it be accepted.

Ryan Lindsay, PhD
Major Advisor

Elizabeth Fore, PhD
Committee Member

Neill Piland, Dr.P.H.
Committee Member

Human Subjects Committee Approval:

Wed, 18 Feb 2015 2:58 PM PST

Lisa Spanberger
Public Health

RE: regarding study number IRB-FY2015-21: Binge Drinking in Idaho: A study of binge drinking and associated risk factors

Dear Ms. Spanberger:

I agree that this study qualifies as exempt from review under the following guideline: Initial. This letter is your approval, please, keep this document in a safe place.

Notify the HSC of any adverse events. Serious, unexpected adverse events must be reported in writing within 10 business days.

You are granted permission to conduct your study effective immediately. The study is not subject to renewal.

Please note that any changes to the study as approved must be promptly reported and approved. Some changes may be approved by expedited review; others require full board review. Contact Tom Bailey (208-282-2179; fax 208-282-4723; email: humsubj@isu.edu) if you have any questions or require further information.

Sincerely,

Ralph Baergen, PhD, MPH, CIP
Human Subjects Chair

Acknowledgments

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Lastly, I would like to thank my family and friends for their never ending support and understanding during this process. Their encouragement and reassuring words were vital in my perseverance and completion of this project.

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Abstract

Binge drinking is a public health concern in Idaho accounting for unintended injury and avoidable deaths. The purpose of this study was to better describe the adult binge drinking population in Idaho along with factors associated with binge drinking in order to inform future preventative strategies and treatment programs. Data from the Idaho Behavior Risk Factor Surveillance System, a population representative sample of adult Idahoans, were weighted and analyzed for the year 2011-2013 to identify the prevalence of, and associations between, risk factors and binge drinking. Bivariate and multivariable logistic regression models were used to determine the association between binge drinking and health status, chronic health conditions, demographic factors, and tobacco use. Compared to drinkers that do not binge drink, those that binge drink were more commonly male (53% vs. 64%, respectively, p=0.001), younger (16% vs. 29% in the 25-34 age group, respectively, p=0.001). After controlling for sociodemographic factors, independent risk factors associated with binge drinking in Idaho included being in younger age groups, being male (AOR 1.39 95% CI 1.16-1.67), currently smoking (AOR 2.70 95% CI 2.16–3.35), and smokeless tobacco use (AOR 2.02 95% CI 1.45-2.81). After controlling for sociodemographic factors, individuals who described their employment as "homemaker" or "student" were less likely to report binge drinking. Integrating binge drinking prevention and treatment into existing programs aimed at the younger population and for those that use tobacco provides an opportunity to simultaneously address comorbidities in Idaho.

Chapter One: Introduction

Healthy People 2020 has identified binge drinking as a leading public health indicator and has assigned objective SA-14.3 - *Reduce the proportion of persons engaging in binge drinking of alcoholic beverages*, as a priority area. (2014, Healthy People 2020). Nationally over 38 million Americans binge drink annually (Kanny et al., 2015). When analyzing data from the Idaho BRFSS survey, the prevalence of binge drinking in Idaho has remained fairly constant for survey years 2011, 2012 and 2013 with rates of 16.6%, 14.1% and 14.9% respectively (Idaho Behavioral, 2015). This is not much lower than the national average, which is 18.3% (2015, Feb). Unlike alcoholism and other addictions, binge-drinking episodes can occur more irregularly which makes identifying the binge-drinking population, as well as creating treatment and prevention programs, a challenge. The purpose of this study was to better identify the population of those that binge drink in Idaho and explore demographic and health-related factors associated with binge drinking.

Statement of the Problem

Binge drinking is a public health concern not only in Idaho but throughout the United States yet little research has been done in Idaho to identify risk factors that contribute to binge drinking. Utilizing data from 2013, 14.9% of Idaho residents engaged in binge drinking within the past 30 days, which is lower than the national average of 18.3% (2015, Feb). Nationally on average, among those reporting binge drinking in the past month, binge drinking episodes occur four times a month, with an intensity of 8 drinks per sitting (Kanny, 2015).

On a national level, alcohol poisoning, which is caused from binge drinking, can account for a substantial amount of avoidable deaths. Binge drinking and excessive alcohol use has accounted for one in ten deaths among individuals 20-64 years of age between the years of 2006-2010. Death rates due to binge drinking and excessive alcohol use specific to Idaho (6.1 deaths per day) are consistent with the national average (6 deaths per day) (Kanny et al., 2015).

Purpose of Study

Obtaining a population representative sample of the binge drinking population in Idaho can be challenging and combining multiple years of BRFSS surveys provides an opportunity to better describe the adult binge drinking population within Idaho. Attention is needed concerning risk factors associated with binge drinking that are specific to Idaho since risk factors for binge drinking have been compiled on a national level, however to my knowledge, no Idaho specific studies have been completed. These factors include demographic factors, general health factors, chronic health conditions, as well as tobacco use in order to inform future preventative strategies and identify opportunities to collaborate in addressing binge drinking along with other existing health programs. With the burden of disease and death due to binge drinking, this study represents an early but important step in describing the affected population locally in order to ultimately decrease the prevalence of binge drinking in Idaho. This study has the following research objectives and specific research questions:

> ***Objective 1:*** *Utilizing BRFSS data, describe the population of adult binge drinkers in Idaho.*

Objective 2: *Identify associations between binge drinking and demographic and health factors including chronic conditions, and tobacco use in order to define risk factors for binge drinkers in Idaho.*

Research Questions:

1. When considering individual and coexisting chronic health conditions among adult Idahoans, what differences in prevalence of binge drinking and risk associated with binge drinking will be identified?

2. When comparing the seven health districts of Idaho, what differences in prevalence of binge drinking and risk associated with binge drinking will be identified?

Definition of Terms:

Excessive Alcohol Use: the consumption of alcohol by minors and pregnant women as well as heavy drinking and binge drinking (2014, Nov 17).

Heavy Drinking: fifteen or more drinks per week for males and eight or more drinks a week for females (2014, Nov 17)

Binge Drinking: when the blood alcohol level reaches 0.08. This is usually measured as five drinks in men and four drinks in women over a two-hour period (2014, Jan).

Drinking Frequency: the number of binge drinking episodes within an identified time period.

Drinking Intensity: the number of drinks consumed per binge drinking episode

Idaho Health Region: multicounty jurisdiction within Idaho outlined by the Idaho State Legislator with an assigned health department and services specific to that region.

Health Region 1: Idaho region including the following counties: Boundary, Bonner, Kootenai, Benewah, and Shoshone. Health Department: Panhandle Health District

Health Region 2: Idaho region including the following counties: Latah, Clearwater, Nez Perce, Lewis, and Idaho. Health Department: North Central Health District

Health Region 3: Idaho region including the following counties: Adams, Washington, Payette, Gem, Canyon, and Owyhee. Health Department: Southwest District Health

Health Region 4: Idaho region including the following counties: Ada, Boise, Elmore, and Valley. Health Department: Central District Health Department

Health Region 5: Idaho region including the following counties: Blaine, Camus, Gooding, Lincoln, Jerome, Minidoka, Twin Falls, and Cassia. Health Department: South Central Public Health

Health Region 6: Idaho region including the following counties: Butte, Bingham, Power, Bannock, Caribou, Oneida, Franklin, and Bear Lake. Health Department: Southeastern Idaho Public Health

Health Region 7: Idaho region including the following counties: Lemhi, Custer, Clark, Freemont, Jefferson, Madison, Teton, and Bonneville. Health Department: Eastern Idaho Public Health District.

* For a map of all Idaho Health Regions, see Appendix B

Assumptions

It is assumed that all participants within the BRFSS survey were accurate and honest when reporting their answers to survey questions specifically concerning the amount frequency and intensity of their drinking. It is also assumed that the BRFSS surveyor followed the script provided by BRFSS and conducted surveys in a way that was unbiased and comparable to all other surveys conducted. It should be noted that three years of survey data were combined to get the overall sample size. It is assumed that the combining of all three years was accurate for all questions and responses.

Limitations

The data set utilized in this study was the Behavioral Risk Factor Surveillance System (BRFSS). This nationwide survey only collects information for individuals eighteen and older. Due to this fact, no information could be obtained for anyone under the age of eighteen. In 2010 BRFSS changed the survey model therefore previous surveys were not compatible and calculating trend data was not possible. Because of this, only data from 2011, 2012, and 2013 were grouped together, therefore variables such as race did not have a sufficient sample size to explore the association of binge drinking and race. Results were subject to self-report bias. Individuals reporting on alcohol consumption may have social desirability bias and under report actual alcohol consumed. A study utilizing BRFSS data found that self-reporting identifies only 22%-32% of alcohol consumption (Vital Signs, 2012) so calculations of prevalence of binge drinking are likely underestimated. Data was also subject to recall bias as survey participants were asked to provide alcohol consumption information from thirty days prior to the survey.

Although it is unlikely, three cross sectional surveys were combined resulting

theoretically in the possibility that the same individual could be represented more than

once in the sample population. With this study utilizing cross-sectional data, it is only

able to report associations but is unable to decipher what predicts binge drinking or speak

to what ultimately causes binge drinking. This study also doesn't delineate between

drinking in a public place where drinks are made with correct measurements of home

poured drinks. Those drinks poured at home make not be the correct measurements of

alcohol compared to those poured by a bartender.

Significance of Study

As this study seeks to identify the binge drinking population in Idaho and the

demographic factors, health related factors, and tobacco use factors that are associated

with binge drinking, existing outreach efforts and other treatment and prevention

programs in Idaho can be altered based on the information contained in this study in

order to decrease the prevalence of binge drinking. Identification of Idaho-specific risk

factors, along with potential differences by health district, will help define a profile of

those that binge drink in Idaho for future interventions. The results of this study will be

disseminated to all health districts in Idaho as their mission is to better the health of all

residents of Idaho. The public health system of Idaho is split into the seven health regions.

With the increased interest in the population that binge drinks, the Board of Health at

Central District Health Department (region 4) has shown interest in better defining this

population including what other health factors could associate with binge drinking. The

data reported in this study will be presented to the Board of Health at Central District

Health to address possible preventative strategies as well as opportunities to coordinate

preventative strategies with programs already in place at local health departments.

Strength of Study

To my knowledge this is the first study of its kind completed within Idaho. The BRFSS survey has a cross sectional design and the data from this survey provides a population size representative of Idaho's population. The outcome variable for this study was binge drinking and the sample size for this variable was large representing 15.3%. The study was also specific in the fact that the association between suicide and binge drinking could be analyzed. Suicide is an Idaho specific question on the BRFSS survey. Therefore the ability to analyze this relationship is not possible in all fifty states.

Chapter Two: Literature Review

Introduction:

Excessive alcohol use is defined as the consumption of alcohol by minors and pregnant women as well as heavy drinking and binge drinking. Heavy drinking is outlined as fifteen or more drinks per week for males and eight or more drinks a week for females (CDC Frequently Asked Questions, 2014). The level of binge drinking is attained when the blood alcohol level reaches 0.08. This is usually measured as five drinks in men and four drinks in women over a two-hour period (CDC Fact Sheets, 2014). Approximately 5% of the United States population reported heavily drinking within the last thirty days and 17%, or over 38 million Americans, reported binge drinking in the last thirty days (CDC, 2014). Idaho's rate of adults that binge drink is currently under the national average; Utilizing data from 2013, The Center for Disease Control and Prevention reported that 14.9% of Idaho residents engaged in binge drinking within the past 30 days, which is lower than the national average of 18.3% (CDC, 2015).

Excessive drinking, which can also be categorized as alcohol abuse, also includes alcoholism which is a chronic disease identified by dependency on alcohol and the inability to limit oneself. Alcohol abuse and excessive drinking are patterns of drinking that can result in harm to one's self, difficulties with interpersonal relationships, and the ability to work (CDC Vital Signs, 2012). It should be noted that 90% of all individuals who binge drink are not alcohol dependent which shows a negative correlation to binge drinking and alcoholism (Kanny et al., 2015). Excessive alcohol use is the third leading cause of preventable death in the United States, killing approximately 100,000 people every year (Naimi et al., 2013). A large majority of these deaths from excessive alcohol

use can be linked to binge drinking. From 2010-2012, an annual average of 2,221 alcohol-poisoning (binge drinking) deaths or an average of six per day occurred in the United States (Kanny et al., 2015). Binge drinking accounts for more than half of all alcohol consumed by adults (Brewer & Swahn, 2005). The 17% of the population that report binge drinking account for 2.3 million Potential Years of Life Lost (PYLL).

An economic cost analysis of alcohol abuse in 2006 found that excessive alcohol use and binge drinking costs the United States 223.5 billion dollars annually (Kanny 2015). To further describe this cost, 72% can be attributed to loss of productivity, 11% to healthcare costs, 9.4% to criminal justice costs, and 7.5% to other factors (Bouchey et al., 2011). Binge drinking annually costs the state of Idaho 977.4 million dollars (2015 Feb).

Frequency and Intensity:

When assessing binge drinking statistics it is important to consider the frequency of binge drinking episodes as well as the intensity of alcohol intake during those episodes. The frequency refers to the number of binge drinking episodes within an identified time period. The intensity refers to the number of drinks consumed per binge drinking episode. Idaho is consistent with the national average of intensity of drinks per binge drinking episode. Idaho's reported binge drinking intensity is 7.8 drinks per episode and the national average is 7.7 drinks per binge drinking episode (CDC, 2015). The national average of binge drinking frequency is 4 times per month. Idaho is also consistent with this figure (CDC Vital Signs, 2012)

Risk Factors:

National data from the 2010 Behavior Risk Factor Surveillance System (BRFSS) indicate that binge drinking is increasing for the majority of respondents. Men were twice as likely to report binge drinking than women with prevalence 23.2% in men compared to 11.4% prevalence in women (Brewer & Swahn, 2005). When gender was analyzed together, the highest age ranges for binge drinking prevalence were 18-24 year olds with a prevalence of 28.2% and 25-34 with a prevalence of 27.9%. Men also had a higher frequency of binge drinking episodes, an average of five per month, with an average of nine drinks per episode. Women however had an average of 3.9 binge drinking episodes per month with an average of 5.9 drinks per episode (Brewer & Swahn, 2005). Overall, more than 38 million US adults report binge drinking ever year (2014, Nov 14). The national average frequency for adult binge drinking is four times per month with an intensity of eight drinks per binge drinking episode (Brewer & Swahn, 2005).

Binge drinking among the college students is on the rise. In 1998, 41.7% of college students reported ever binge drinking (Mitka 2009). In 2005 this rate was increased by 3% to 44.7%. Self-reporting figures on drinking and driving rose almost 2.5% as well between 1998-2005 with 26.5% respondents self-reporting they exhibited drinking and driving in 1998 and 28.9% of respondents self-reporting in 2005 (Mitka 2009). A logistic regression model ran on 140 universities from around the country found that college students who smoke cigarettes are much more likely to binge drink (OR 4.02, 95% CI 3.71-4.36) when compared to non-smokers. A multivariable analysis was run with these same variables but controlling all other covariates. Results from the multivariate analysis were also significant (AOR 2.58 95% CI 2.33-2.87) when compared with non-smokers (Wechsler 1995).

Binge drinking is one of the key factors in loss of productivity both in and out of the workplace. Little research has been done in Idaho to better define the population of individuals who binge drink according to employment status or type of employment. The state of North Dakota, a state similar to Idaho in terms of rural development, large agricultural areas and educational attainment levels, completed a study analyzing data from the 2004 and 2005 BRFSS data correlating binge drinking with occupation. Their finding showed that 24% of all North Dakota workers reported binge drinking (Jarman, Naimi & Pickard, 2007). The prevalence of binge drinking among unemployed individuals was 14% lower than those that were employed with a response rate of 24.1% prevalence in employed individuals to 10.8% prevalence in unemployed individuals (Jarman, Naimi & Pickard, 2007).

Effect of binge drinking:

Binge drinking is a risk factor for several adverse health outcomes including motor vehicle crashes, unintentional falls, burnings, drowning, as well as other acts resulting in unintentional injury (Naimi et al., 2013). In 2010, 85% of all alcohol related driving incidents were reported by individuals who also reported binge drinking (Brewer & Swahn, 2005). Individuals who report they binge drink are fourteen times more likely to report alcohol impaired driving (2014 Jan). One out of two violent crime including homicide, assault, domestic partner violence, rape, and child neglect and abuse can be linked to excessive drinking (Foster, Vaughan, Foster, & Califano, 2003).

Additional effects of binge drinking are sexually transmitted disease and unintended pregnancy (Naimi et al., 2013). This is particularly concerning given the high

rates for binge drinking in women of childbearing age. Many women are unaware of their pregnancy until well into the first trimester which coincidentally is the time in which the effects of alcohol could be most detrimental to the unborn fetus. This could also lead to additional correlations in binge drinking and rates of Fetal Alcohol Syndrome and Sudden Infant Death Syndrome.

A study utilizing BRFSS data from 2008-2010 analyzed two of the questions concerning Health Related Quality of Life and correlated them to drinking intensity. The analyzed questions were 1) "Now thinking about your physical health, which included physical illness and injury, for how many days during the pat 30 days was your physical health not good?" and 2) "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health good?" (Wen et al., 2012). Results yielded that high frequency of binge drinking as well as high intensity of binge drinking can be correlated to a poor Health Related Quality of Life. Females with high levels of binge drinking intensity reported more physical and mental unhealthy days when compared to men. Females who reported high intensity of binge drinking also reported 37% more mentally unhealthy days compared to females who didn't have high intensity rates (Wen et al., 2012).

Chronic health conditions are also factors that both affect and can be affected by binge drinking. In a study of individuals who had experienced a myocardial infraction (heart attack), study results showed binge drinking was associated with mortality when compared with non- drinkers (HR1.4 95% CI 0.9 – 2.22) (Mukamal et al., 2005). In a controlled trial, effects of binge drinking were also connected to a greater chance of a heart attack reoccurrence (Mukamal et al., 2005). In a Canadian study, individuals who

reported binge drinking had an associated risk of coronary heart disease significantly higher (HR1.1) when compared to non-drinkers. In the same study, binge drinkers were also at a higher risk for hypertension (HR1.57) when compared to non-drinkers (Murray et al., 2005). A population-based sample from Wisconsin with a sample of predominately older adults (mean age 62.3) explored the relationship between binge drinking, tobacco use and chronic kidney disease. The study results showed an independent association between heavy drinkers (at least 4 drinks a day) and chronic kidney disease. Also, almost 60% of all individuals who identified as binge drinkers were also smokers (Shankar, Klein R, & Klein B, 2005). A random perspective cohort study of individuals aged 25-64 years old was conducted to address chronic health conditions and binge drinking. There was no associated identified between diabetes and binge drinking however there was a significant association between binge drinking and stroke (HR 1.85, 95%CI 1.35-2.54). When the same test was run again controlling for all factors, the rate was even higher (HR1.85 95%CI 1.39-2.87) (Sundell et al., 2008). It was also identified that an increase in blood pressure during binge drinking episodes may contribute to cell rupture or aneurysm suggesting a link between binge drinking and subarachnoid hemorrhages, a type of stroke (Sundell et al., 2008). An analysis was conducted using data from the Medicare Current Beneficiary Survey in 2003. Of those that completed the survey, 9% reported unhealthy drinking habits; 16% of males and 4% of females. In both sexes tobacco use was associated with binge drinking (Blazer & Wu 2009).

Mental health conditions such as depression, suicide, and anxiety can be associated to binge drinking (Naimi et al., 2013). While it is difficult to make a direct connection, alcohol misuse is frequently comorbid with other mental health factors such

as PTSD, depression, and anxiety (Jacobson et al., 2008). Depressive disorders are more common among people who also have unhealthy behaviors, such as binge drinking (Gonzalez 2010). In 200,1 the Millennium Cohort Study was conducted to examine the overall health of military personnel and explore the potential influence deployment had on overall health. The study found a significant risk for new onset heavy weekly drinking, binge drinking and other alcohol related problems in guardsmen who had been deployed and exposed to combat situations when compared with guardsmen that had no deployment or combat experience (Jacobson et al., 2008).

Attributable Deaths:

Annually one in ten deaths among adults aged 20-64 years can be attributed to excessive alcohol use. Binge drinking is responsible for more than half of these deaths. Deaths caused by alcoholism are typically caused by chronic conditions such as heart disease, stroke and liver disease. By contrast, deaths due to binge drinking are due to alcohol poisoning. Given this information, one can differentiate between a death caused by alcoholism and a death caused by binge drinking. Between 2010- 2012 there was an average of 2,221 deaths caused by alcohol poisoning or approximately six alcohol-poisoning deaths per day in the United States. Of those deaths, three out of four were men and three out of four fell within the 35-64 year age group. Seventy percent were non-Hispanic whites and the highest populations of age-adjusted deaths were American Indians and Alaska Natives. The state with the lowest death rate was Alabama with a rate of 5.3 deaths per one million. The state with the highest death rate was Alaska with a rate of 46.5 deaths per one million. To contrast, the national average for death rate due to

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alcohol poisoning was 8.8 deaths per one million. In addressing state-to-state comparisons, it is difficult to define one region or another that struggles with binge drinking. During certain years one state may have a high prevalence of binge drinking followed by a year of low prevalence (Kanny, 2015).

Research shows that adolescent drinking and adult binge drinking are connected (Ziming et al., 2013). Much of this is due to the environment an adolescent is raised in as well as their availability to alcohol. The research suggests that adolescents are not only influenced by adults that binge drink around them, but that adolescents that drink in their younger years are more susceptible to binge drinking during adulthood (Ziming et al., 2013). Therefore, a decrease in binge drinking in adults could lower alcohol use rates among adolescents as well as in the long term reduce the overall rate of binge drinkers.

Legislation was passed in 2005 requiring all states to define blood alcohol level of .08% for individuals twenty-one and over. All fifty states within the United States adapted this legislation. Applying higher tax to alcohol is another strategy to decrease binge drinking. In a study done by the Boston School of Public Health, higher taxes were strongly related with adult and youth drinking behaviors (Ziming et al., 2013).

Chapter Three: Methodology

To determine the factors associated with binge drinking in Idaho, data from the

Idaho Behavioral Risk Factor Surveillance System (BRFSS) was analyzed.

Materials:

The survey tool utilized was the Behavioral Risk Factor Surveillance Survey

provided by the Idaho Department of Vital Statistics from The Centers for Disease

Control and Prevention. This tool is a cross-sectional random telephone dial survey of

landlines and cell phone lines, for individuals eighteen years of age and older,

coordinated through the Center's for Disease Control and Prevention disseminated

through state level health departments. The survey focuses on four section areas

including General Health Status, Chronic Disease Prevention, Health Risk Behaviors, and

Preventative Behaviors. Individual states have the ability to add survey questions relevant

to their home state. The one variable utilized for this study that was Idaho specific dealt

with suicide. The question asked if survey respondents had ever attempted suicide with a

follow up question for those that had attempted asking how long since their last suicide

attempt. The Behavioral Risk Factor Surveillance Survey is conducted in fifty-three states

with an average individual survey time of eighteen minutes and a total number of

400,000 survey participants each year throughout the United States. This sampling design

achieves a representative sample of adult Idahoans. (BRFSS Frequently Asked, 2015).

The Idaho specific BRFSS consists of three portions. The core of the survey

consists of questions standardized by the Center's for Disease Control and Prevention

(CDC) to be present in surveys of all fifty-three states and territories. The other two

sections are Idaho specific consisting of questions identified by the CDC as well as

questions identified at the state level by the Idaho Department of Vital Statistics. In order to capture population size that was sufficiently powered to detect statistical significant, data was combined from the BRFSS survey years 2011, 2012, and 2013. Minimums of eight hundred survey calls per year were initiated to landlines within each of the seven health districts within Idaho. The 2012 survey had a total of 5,630 respondents with 4,096 being landline surveys (72.6%) and 1,534 being cellphone surveys (27.3%). The combined response rate of both landline and cellphone surveys for all seven Idaho health districts was 51.7% (2012, Idaho Department of Health and Welfare). To compare, in 2011, 6077 interviews were conducted with 5,494 being done with a landline phone (90.4%) and 583 surveys were completed using a cell phone, (9.6%). (2011, Idaho Department of Health and Welfare). Respondents were residents of Idaho residing on one of the seven regions within the state.
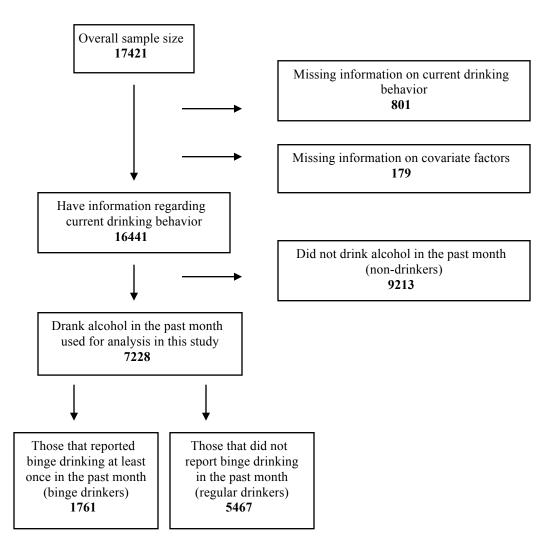
In order to utilize de-identified BRFSS data, an application was submitted and approved by the Idaho Department of Vital Statistics. The Idaho State University Internal Review Board approved this study as exempt from board review and documentation of this approval is attached at the beginning of this document.

Treatment of the Data:

Data from survey years 2011-2013 were combined in order to have a sample size of those that binge drink that was sufficiently powered to detect significant risk factors. The overall population size was 17,421 respondents. Respondents that refused to answer survey questions or answered "I don't know" were changed to missing for that question. Those that were missing responses regarding current drinking behaviors (n=699) and

missing responses to other covariates of interest (n=1666) were dropped from this

analysis leaving 16,441 with information regarding current drinking behavior (see Figure

1). Of these, 9213 (56%) reported not drinking any alcohol in the previous month and

prevalence of demographics and risk factors for non-drinkers were only included in this

report as a comparison to drinkers leaving n=7228 current drinkers used in chi-square, t-

test and regression analyses. Of the current drinkers, 761 were binge drinkers (31.7%)

and 5467 were non-binge drinkers (86.1%)

Figure 1: Schematic of determining drinking population for analysis of BRFSS 2011-2013

Survey questions were part of the national BRFSS questionnaire with the exception of the question concerning suicide attempts, which was Idaho specific. Data was analyzed from the survey questions in the categories of Demographics, Health Status, Health Related Quality of Life, Chronic Health Conditions, Tobacco Use, and Alcohol Consumption.

In order to account for the complex sampling design of BRFSS, data must be weighted in order to achieve accurate population-representative estimates. Since three years of data were combined, the weighting variable provided with BRFSS data was adjusted to assign a weight proportional to the amount of respondents sampled in each survey year. Since some strata were similar by survey year, the stratum variable was appended to include survey year ensuring unique strata by year. The svyset command in Stata was used to weight the dataset.

Binge drinking is defined as four or more drinks in one sitting for females and five or more drinks in one sitting for males (Wen, X et al., 2012). The BRFSS survey has a section devoted to addressing alcohol consumption of survey participants. A specific binge drinking variable was used to identify the number of times within the last month that survey respondents had consumed five or move alcoholic beverages (males) and four or more alcoholic beverages (females) in one sitting. A dichotomous binary variable was created based on responses with any respondent with one or more times binge drinking classified as binge drinkers and those with no instances classified as non-binge drinkers. This binge drinking variable was used as the outcome variable for all statistical analysis and comparisons for this study.

One study aim was the relationship between binge drinking and chronic health conditions. In order to better analyze this relationship, a composite score was created including the following chronic health conditions: Coronary Obstructive Pulmonary Disorder (COPD), Kidney Disease, Coronary Heart Disease / Heart Attack, High Blood Pressure, Diabetes and Asthma. Survey questions utilized for the composite score were asked in the following format: Has a doctor, nurse, or other health professional ever told you have the following health condition? In order to complete a composite score, chronic health condition questions required recoding to ensure measurement consistency. All questions were recoded to 0= negative identification of the specific chronic disease, and 1= positive identification of the chronic disease allowing for each condition to be equally weighted. All responses of both not sure and refused were set to missing.

An additional variable related to chronic conditions measuring Body Mass Index (BMI) was created utilizing questions asked concerning height and weight. All responses for height were recoded to be reported in inches only. Any responses reported in kilograms were converted to pounds. The BMI variable was created using the equation $703 \times [(\text{weight lb}) / (\text{height in})^2]$. BMI values were re-grouped to the following four categories: less than 18.5, 18.5-24.9, 25.0-29.9, 30.0 or more, which correspond to underweight, normal weight, overweight and obese, respectively.

Multiple demographic variables were re-grouped in smaller categories. Survey respondents were asked to provide their age in years. In order to better determine any specific age-groups at particular risk for binge drinking, age was grouped into the following six categories: 18-24 years, 25-34 years, 35-44 years, 45-54 years, 55-64 years, and 65 years and older. Employment responses were grouped into the following five

categories: employed, unemployed, homemaker, student, and retired. Education Level was grouped into the following three categories: none / some primary and secondary education, high school graduate, some college / college graduate. Concerning race and ethnicity, the BRFSS survey asks respondents to self identify their race given six different options in survey years 2011 and 2012 and seventeen different options in survey year 2013. All survey questions and possible responses can be found in Appendix A. Respondents were asked to identify all races that applied to them. Given the small number of respondents that self identified as a race other than White (0.12), race was recoded to be 1=white and 2=non-white.

Respondents were asked a survey questions regarding tobacco use with the following response options: everyday, some days, and not at all. Variables for tobacco use (smoking and smokeless tobacco) were regrouped adding everyday and some days together for a response of current user. Therefore both variables concerning tobacco use were regrouped to be current user and non-user. Respondents were asked if they had ever attempted suicide. For those that responded yes were asked an additional question concerning the length of time it has been since the past suicide attempt. Response options were 1-within the last year, 2-between 1-5 years ago, and 3-between 5-10 years ago, and 4-greater than 10 years ago, 5- never attempted suicide. This variable was recoded to the following three categories: never attempted suicide, attempted suicide less than five years ago, attempted suicide more than five years ago due to the small sample size that responded to attempted suicide greater than ten years ago.

Analysis of the Data:

For the analysis portion of this project, multiple levels of statistical analysis were conducted using Stata version 13.1. In order to determine differences between binge drinking and other drinkers and non-drinkers regarding health status, chronic health conditions, demographics and tobacco use, frequencies and weighted proportions were calculated and Chi-square and t-test tests were conducted to show the comparison between binge drinking and regular drinking populations. All analysis was conducted on the weighted data using the "svy" command within the Stata program. Bivariate logistic regression models were run to determine association between the drinking and binge drinking population concerning health status, chronic health conditions, demographics, and tobacco use with binge drinking as the outcome variable. In order to understand the relationship between multiple predictor variables and the dependent variable (binge drinking), a multivariable logistic regression model was used. Variables controlled for within this test were gender, age, Idaho region, tobacco use, education level, employment status, and survey year. Variables that were significant at the 0.1 level in the bivariate analysis were included in the multivariable model and retained if significance remained at the 0.05 level. The presence of collinearity between independent variables in the multi-variable regression model was assessed using tolerance values with a mark of 0.1 as an indicator of collinearity. No collinearity was detected between any covariates used in the final multivariable logistic regression model.

Chapter Four: Results

For the years 2011-2013, binge drinkers accounted for 15.3% of our sample of adults in Idaho and 31.7% of those adults in Idaho that reported drinking in the previous month. A comparison of the prevalence of demographics and health-related factors by drinking status can be found in Table 1.

In terms of demographics, 64% of binge drinkers in the sample were male compared to 36% of drinkers (p<0.001). When examining age, nearly half of binge drinkers were ages 18-34 (48%) compared to 24% of regular drinkers (p<0.001). Also fewer binge drinkers were 55 years of age or more (15%) compared to 38% of regular drinkers (p<0.001). When comparing drinking and binge-drinking population with race, 88% reported their race as being white compared to 85%, respectively (p<0.001). Regarding ethnicity, 11% of binge drinkers identified as Hispanic compared to 8% among regular drinkers (p<0.001). Binge drinkers more commonly identified themselves as employed (75%) and unemployed (12%), with the remaining 13% accounting for homemakers (3%), students (4%) and retired (6%) (p<0.001). Binge drinkers had lower educational attainment than drinkers; approximately 57% of those who binge drink had attended some college or graduated from college compared to 65% or regular drinkers (p<0.001). Concerning veteran status, more regular drinkers are veterans (16%) compared to binge drinkers (12%)(p<0.001). The distribution of binge drinkers among all drinkers were similar for years 2011 (36%), 2012 (32%) and 2013 (32%) (p=0.439).

Regarding the prevalence of health-related factors by drinking status, the distribution of self-rated health and BMI were similar between drinkers and binge drinkers. Approximately 65% of binge drinkers smoke (p<0.001) and 13% of individuals

who binge drink use smokeless tobacco (p<0.001). Though there was no difference in the proportion of drinkers and binge drinkers that had been told that they had a depressive disorder by a health professional, approximately 6% of binge drinkers had ever attempted suicide compared to 4% of regular drinkers (p<0.001).

With regards to chronic diseases, binge drinkers reported fewer chronic conditions on average (0.719; SD=0.911) compared to regular drinkers (0.909; SD=1.11) (p-value<0.001). Specifically, the proportion of binge drinkers with high blood pressure (24%), diabetes (4%), coronary heart disease (2%), and that had experienced a heart attack (2%) were statistically all significantly lower than regular drinkers (all p-values <0.004).

Table 1: Prevalence of demographic and health-related factors according to drinking status with chi-square comparison between regular drinkers and binge drinkers

Variable	Drinkers (n=5467) frequency / weighted proportion	Binge Drinkers (n=761) frequency / weighted proportion	Non –Drinkers (n=9213) frequency / weighted proportion	P-value comparing Drinkers and Binge Drinkers
Gender				<0.001
Male	2443 / 0.52	994 / 0.64	3253 / 0.50	
Female	3024 / 0.48	767 / 0.36	5960 / 0.50	
Age group				<0.001
18-24	136 / 0.08	136 / 0.19	468 / 0.16	
25-34	402 / 0.16	305 / 0.29	767 / 0.16	
35-44	636 / 0.17	320 / 0.19	1082 / 0.16	
45-54	1034 / 0.21	390 / 0.18	1358 / 0.15	
55-64	1379 / 0.19	386 / 0.10	1924 / 0.16	
65 and above	1880 / 0.19	224 / 0.05	3614 / 0.20	
Idaho region				<0.001
Central	1159 / 0.35	348 / 0.33	1147 / 0.23	
North Central	851 / 0.08	331 / 0.10	993 / 0.06	
Southwest	721 / 0.15	205 / 0.14	1395 / 0.16	

Panhandle	1016 / 0.17	284 / 0.15	1083 / 0.17	
South Central	705 / 0.11	251 / 0.11	1338 / 0.12	
South Eastern	477 / 0.07	182 / 0.08	1661 / 0.14	
Eastern	538 / 0.08	160 / 0.08	1596 / 0.17	
Hispanic Ethnicity				<0.001
Yes, I am Hispanic	175 / 0.08	99 / 0.11	445 / 0.10	
No, not Hispanic	5251 / 0.92	1653 / 0.89	8720 / 0.90	
Race				<0.001
White	5017 / 0.88	1579 / 0.85	8330 / 0.86	
Non-white	354 / 0.12	159 / 0.15	744 / 0.14	
Education Level				<0.001
Some primary schooling	242 / 0.08	135 / 0.12	803 / 0.14	
High school graduate	1421 / 0.27	511 / 0.30	2865 / 0.30	
Some college / college graduate	3804 / 0.65	1115 / 0.57	5545 / 0.56	
Employment status				<0.001
Employed	2826 / 0.62	1189 / 0.75	3636 / 0.50	
Unemployed	465 / 0.09	202 / 0.12	1235 / 0.13	
Homemaker	342 / 0.06	62 / 0.03	1134 / 0.13	
Student	82 / 0.04	42 / 0.04	223 / 0.70	
Retired	1752 / 0.19	266 / 0.06	2985 / 0.17	
Veteran Status	897 / 0.16	235 / 0.12	1102 / 0.10	0.002
General Health Status				0.011
Excellent	1188 / 0.22	351 / 0.21	1450 / 0.19	
Very good	2001 / 0.36	608 / 0.35	2674 / 0.31	
Good	1546 / 0.30	574 / 0.33	2958 / 0.32	
Fair	537 / 0.09	160 / 0.09	1393 / 0.12	
Poor	178 / 0.03	61 / 0.02	695 / 0.06	
A doctor, nurse, or other health professional has ever told you that you have:				
High Blood Pressure	1982 / 0.30	538 / 0.24	3765 / 0.30	<0.001
Had a Heart Attack	254 / 0.03	60 / 0.02	654 / 0.05	0.027
Coronary Heart Disease	251 / 0.04	53 / 0.02	634 / 0.05	0.004
Stroke	134 / 0.02	37 / 0.01	445 / 0.03	0.401
COPD	331 / 0.05	90 / 0.04	732 / 0.06	0.147
Kidney Disease	126 / 0.02	28 / 0.01	397 / 0.03	0.072
Diabetes	446 / 0.07	93 / 0.04	1460 / 0.12	0.001
Asthma	435 / 0.08	135 / 0.06	947 / 0.10	0.682
Mean Composite Score (# of chronic conditions)	0.567 (std. dev. 0.884)	0.719 (std. dev. 0.911)	0.909 (std. dev. 1.11)	<0.001
Current Smoker	711 / 0.85	562 / 0.65	1041 / 0.87	<0.001

Currently use Smokeless Tobacco	205 / 0.05	180 / 0.13	167 / 0.03	<0.001
Body Mass Index				0.976
Less than 18.5 Underweight	65 / 0.01	22 / 0.02	172 / 0.02	
18.5 - 24.9 Normal weight	1911 / 0.37	628 / 0.39	2747 / 0.33	
25-34.9 Overweight	2041 / 0.37	658 / 0.35	3086 / 0.34	
35 and above Obese	1255 / 0.25	417 / 0.25	2757 / 0.31	
Ever told you have a Depressive Disorder				0.230
Yes	992 / 0.18	341 / 0.18	2090 / 0.22	
Attempted Suicide				<0.001
Never attempted	4862 / 0.96	1432 / 0.94	8057 / 0.95	
≥ 5 years ago	35 / 0.01	30 / 0.02	94 / 0.02	
< 5 years ago	123 / 0.03	61 / 0.04	298 / 0.03	
Survey year				0.439
2011	1858 / 0.32	607 / 0.36	3060 / 0.33	
2012	1842 / 0.34	565 / 0.32	3192 / 0.35	
2013	1767 / 0.34	589 / 0.32	2961 / 0.32	

Results from each bivariate logistic regression can be found in Table 2

representing the unadjusted association between covariates and binge drinking. Men were

1.66 times more likely to be binge drinkers than females (CI 1.40-1.95). As age increased,

the odds of binge drinking decreased with each age group, representing the lowest risk

for binge drinking in the older age groups. Concerning education, individuals who

continued their education into college (graduating or not) were 42% less likely to binge

drink (95% CI 0.42-0.80) when compared to individuals who did not finish high school.

Retired individuals and homemakers were less likely to binge drink compared to

employed individuals (OR 0.30, 95% CI 0.24-0.37 and OR=0.34, 95% CI=0.23-0.51,

respectively). Individuals who self-identified as Hispanic were 44% less likely to binge

drink (95% CI 0.47-0.94) compared to non-Hispanics. Veterans were less likely to binge

drink when compared to non-veterans (OR 0.69 95% CI 0.54-0.88). Self reported race and the region of Idaho the survey respondent resided in were marginally associated with binge drinking at the alpha 0.1 level.

Self-reported health status, BMI, and having been told by a health professional that you have a depressive disorder were not associated with binge drinking. When compared to individuals who have never attempted suicide, individuals who attempted suicide less than five years ago were 2.49 times more likely to binge drink (95% CI 1.19-5.23), however those that attempted suicide more than five years ago were not more likely to binge drink. Measurements of current tobacco use in general was significantly related to binge drinking. Current smokers were 3.14 times more likely to binge drink (95% CI 2.58-3.82) when compared to non-smokers. The use of smokeless tobacco was also significantly associated with binge drinking (OR 2.9 95% CI 2.14-3.93).

Of the eight chronic conditions tested, the presence of four conditions when individually assessed reduced the odds of binge drinking. Compared to those without each respective condition, individuals with diabetes were 46% less likely to binge drink (95% CI 0.38-0.78) with lower odds for binge drinking for those high blood pressure (OR 0.74 95% CI 0.62-0.90), coronary heart disease (OR 0.55 95% CI 0.34-0.90) and asthma (OR 0.74 95% CI 1.00) as well. The mean composite score of the number of chronic conditions had a significant negative association with binge drinking; for every additional chronic disease the risk of binge drinking decreased (OR=0.79 95%CI=0.71-0.87).

Table 2 – Bivariate Regression

Variable	Response	Odds ratio	95% CI	P-value
Gender, ref=female		1.66	(1.40, 1.95)	<0.001
Age group ref=younger than 18				
	18-25	0.79	(0.56, 1.11)	0.175
	25-35	0.49	(0.35, 0.69)	<0.001
	35-45	0.37	(0.26, 0.51)	<0.001
	55-65	0.25	(0.18, 0.34)	<0.001
	65+	0.12	(0.08, 0.17)	<0.001
Idaho Region, ref=Central				
	North Central	1.28	(0.98, 1.66)	0.067
	Southwest	1.01	(0.77, 1.32)	0.970
	Panhandle	0.90	(0.70, 1.15)	0.398
	South Central	1.10	(0.83, 1.45)	0.479
	South Eastern	1.35	(0.98, 1.86)	0.068
	Eastern	1.06	(0.77, 1.45)	0.723
Hispanic Ethnicity, ref= non-Hispanic		0.66	(0.47, 0.94)	0.020
Race ref=white	Non-white	1.26	(0.95, 1.66)	0.102
Education Status, ref=some primary school				
	High school graduate	0.74	(0.53, 1.04)	0.086
	Some college / college graduate	0.58	(0.42, 0.80)	<0.001
Employment Status, ref= employed				
	Not employed	1.07	(0.81, 1.41)	0.631
	Homemaker	0.34	(0.23, 0.51)	0.001
	Student	0.92	(0.56, 1.51)	0.733
	Retired	0.30	(0.24, 0.37)	<0.001
Veteran Status, ref=no		0.69	(0.54, 0.88)	0.003
Chronic Conditions: A health provider has ever told you that you have:				
High Blood Pressure		0.74	(0.62, 0.90)	0.002
Had a Heart Attack		0.65	(0.42, 1.01)	0.058
Coronary Heart Disease		0.55	(0.34, 0.90)	0.017
Had a Stroke		0.62	(0.35, 1.01)	0.104
Had Asthma		0.74	(0.54, 1.00)	0.052
COPD		0.89	(0.61, 1.27)	0.511
Kidney Disease		0.67	(0.39, 1.17)	0.160
Diabetes		0.54	(0.38, 0.78)	0.001

		0.79	(0.71, 0.87)	<0.001
Chronic conditions composite Score				
General Health, ref=excellent				
	Very good	1.02	(0.82, 1.28)	0.803
	Good	1.13	(0.90, 1.42)	0.280
	Fair	0.96	(0.69, 1.34)	0.831
	Poor	0.847	(0.52, 1.41)	0.544
Smoking Status, ref= non-smoker		3.14	(2.58, 3.82)	<0.001
Current smokeless tobacco use, ref=non-user		2.90	(2.14, 3.93)	<0.001
Body Mass Index, ref= 18.5 - 25 Normal weight				
	0-18.5 Underweight	1.47	(0.10, 3.05)	0.309
	25-35 Overweight	0.91	(0.75, 1.10)	0.332
	35+ Obese	0.89	(0.71, 1.10)	0.267
Ever Told you have a Depressive Disorder, ref= no		0.97	(0.79, 1.19)	0.741
Attempted Suicide ref=never attempted suicide				
	Attempted ≥5 years ago	2.49	(1.19, 5.23)	0.016
	Attempted < 5 years ago	1.40	(0.86, 2.87)	0.177
Survey Year, ref =2011				
	2012	0.85	(0.69, 1.04)	0.122
	2013	0.84	(0.69, 1.01)	0.062

Results from the multivariable regression analysis that determined which factors were independently associated with binge drinking after controlling for other variables can be found in Table 3. Variables included in the multivariable regression were survey year, Idaho region, gender, age, employment, education, and tobacco use. Concerning gender, females were 1.39 times less likely to binge drink (95% CI 1.16-1.67) when compared with males. As respondents age increased, their risk of binge drinking decreased: 25-34 years (AOR 0.64 95% CI 0.44-94), 35-44 years (AOR 0.42 95% CI 0.29-0.62), 45-54 years (AOR 0.33 95% CI 0.23-0.47), 55-64 years (AOR 0.23 95% CI 0.16-0.33), and 65 years and older (AOR 0.11 95% CI 0.07-0.18). Individuals who reported they were current smokers were 2.70 times more likely to binge drink compared

to non-smokers (95% CI 2.16-3.35). The use of smokeless tobacco was an independent

risk factor that doubled the risk for binge drinking (AOR 2.02 95% CI 1.45-2.81), even

after controlling for smoking. Compared to those were employed, homemakers were less

likely to report binge drinking (AOR 0.43, 95% CI 0.29-0.64) as well as those that

reported their employment as "student" (AOR 0.47 95% CI 0.26-0.83). When comparing

survey years, no survey year had a higher risk than another

Table 3 – Independent demographic and health factors associated with binge drinking in Idaho, BRFSS, 2011-2013.

Factors	Adjusted Odds Ratio	P-value	CI
Demographic factors			
Female gender, ref=female	1.39	<0.001	(1.16, 1.67)
Age group, ref=18-24			
25-34	0.64	0.021	(0.44, 0.94)
35-44	0.42	<0.001	(0.29, 0.62)
45-54	0.33	<0.001	(0.23, 0.47)
55-64	0.23	<0.001	(0.16, 0.33)
65+	0.11	<0.001	(0.07, 0.18)
Region, ref=Central			
North Central	1.36	0.033	(1.03, 1.82)
Southwest	0.96	0.778	(0.72, 1.28)
Panhandle	1.03	0.776	(0.80, 1.35)
South Central	0.95	0.754	(0.70, 1.30)
South Eastern	1.26	0.188	(0.89, 1.78)
Eastern	1.03	0.820	(0.75, 1.44)
Smokeless tobacco use – non user	2.02	<0.001	(1.45-2.81)
Smoking Status, ref=non-smoker	2.70	<0.001	(2.16, 3.35)
Education Level, ref=some primary education			
High School Graduate	0.80	0.425	(0.55, 1.16)
Some college / College graduate	0.86	0.409	(0.61, 1.23)
Employment status, ref=employed			
Unemployed	0.88	0.425	(0.65, 1.20)
Homemaker	0.43	<0.001	(0.29, 0.64)
Student	0.47	0.010	(0.26, 0.83)
Retired	1.02	0.905	(0.75, 1.39)

Survey year, ref=2011			
2012	0.89	0.276	(0.71, 1.10)
2013	0.83	0.086	(0.68, 1.03)

Chapter Five: Discussion

Summary of Findings

After completing this study it was identified that the majority of binge drinkers in Idaho are young white, non-Hispanic, males. The majority of binge drinkers in Idaho report that they are employed and have lower education levels, fewer attending some college or graduating from college. The bulk of binge drinkers in Idaho also have a high prevalence of tobacco use, specifically smoking and proportionally slightly more have attempted to commit suicide.

The purpose of this study was to define the relationship between binge drinking and health-related factors, including a focus on chronic diseases in order to answer our first research question:

> When considering individual and coexisting chronic health conditions among
>
> adult Idahoans, what differences in prevalence of binge drinking and risk
>
> associated with binge drinking will be identified?

High blood pressure, coronary heart disease, diabetes, and having had a heart attack were all individual chronic health condition with lower prevalence among binge drinkers compared to non-drinkers. The three coexisting chronic health conditions that were significantly associated with binge drinking were high blood pressure, coronary heart disease, and diabetes, with each of these conditions were protective factors against binge drinking in unadjusted models. When all chronic conditions were considered together, compared to regular drinkers the mean number of chronic conditions was lower among binge drinkers and significantly associated with a lower odds of binge drinking in

unadjusted, but not adjusted models, in Idaho. A recent study found that 65% of individuals who reported binge drinking more than ten times in the past month had never discussed their drinking with their physician (Kanny 2015). While survey finding indicate a weak relationship between chronic conditions and binge drinking after adjustment for other factors, the importance of prevention and counseling on the part of the medical provider is still important since a sizable proportion of binge drinkers were in the older age groups and given the complications that binge drinking causes in the prognosis of many chronic conditions. An additional BRFSS study found that in general, concise physician counsel was shown to decrease binge-drinking occurrences by more than 40% in both men and women (Naimi, 2003). This highlights an opportunity to reduce binge drinking among those already accessing the health care system for chronic conditions. However, our finding that those with chronic conditions are less likely to binge drink indicates that integrating broad binge drinking prevention at treatment with chronic disease programs may not reach a sufficient number of binge drinkers to be worthwhile. Targeted screening methods should be used to identify address binge drinking in those with chronic conditions

An additional intention of this study was to provide a statewide observatory study to compare and contrast the different regions of the state of Idaho in order to answer our second research question:

When comparing the seven health districts of Idaho, what differences in prevalence of binge drinking and risk associated with binge drinking will be identified?

In the multivariable analysis, the North Central region was the only Idaho health region to have a significant association to binge drinking compared to the Central region. Even though Idaho is a vast state with a mix of urban and rural areas within the seven regions, six health regions did not differ in risk for binge district from central district. Compared to those in the Central region, those in the North Central region were more likely to binge drink (AOR 1.36 95% CI 1.03-1.82). Given this information intervention and prevention efforts should be coordinated in a statewide effort with special attention given to the north central region. In addition to our research questions, our main objective was to describe risk factors for binge drinking. Results of the multivariable regression model showed that being a current smoker and using smokeless tobacco were independent factors that increased the risk of binge drinking. Even when all other covariates were controlled, current smokers and smokeless tobacco users were still much more likely to binge drink. Females were also significant along with homemaker and student employment status as factors that were at a decreased risk of binge drinking.

Discussion

Current literature reports higher prevalence of binge drinking on college campuses and an increased risk of binge drinking among the student population (Wechsler 1995). In this study, the prevalence of self-identified students within the binge drinking population was minimal and student status was not significantly associated with binge drinking. It should be noted that BRFSS surveys do not explicitly ask regarding student status, but when considered as a response option to the question "Are you currently: employed for wages, self employed, unemployed, homemaker, student, retired,

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or unable to work? – choose one", those that identified employment status as "student" were not at increased risk for binge drinking compared to those that are employed. Thus, the limitations in the format of the question may explain why students were not at higher risk for binge drinking in Idaho, since many non-traditional students that work full-time and study full-time or part-time may have identified themselves "employed" rather than "student". At the same time, the prevalence of binge drinkers 35 years and younger accounted for almost half of the binge drinking population. In addition, those in the older age groups were less likely to binge drink than those in the tradition college age (18-24) indicating that prevention and treatment programs in Idaho should accommodate the young adult population. When addressing Idaho regions and the significance to binge drinking, the two regions with a significant relationship to binge drinking were the Central region and the North Central region. The Southeastern region also had a marginally significant relationship to binge drinking. These three regions are the only regions in Idaho that contain four-year universities. The fact that each of these regions have a significant relationship to binge drinking as well as the a four year university provides the opportunity that the binge drinking relationship in these regions could be connected to the college population and the national literature supporting increased rates of binge drinking on college campuses.

In this study, the largest risk factor for binge drinking was tobacco use. When controlling for all other covariates, current smokers were 2.70 times more likely to binge drink when compared to non-smokers and those that use smokeless tobacco were 2.02 times more likely to binge than those that did not use smokeless tobacco. It is important to note that the adjusted odds ratio for smokeless tobacco was the result when controlling

for smoking. Therefore, independent of smoking, smokeless tobacco users still have an increased risk of binge drinking. This high correlation opens the door for many areas for additional research. Additional research could better identify the number of quit attempts among the binge drinking population. This information would possibly identify an opportunity to reach the binge drinking population through smoking cession classes or other resources provided to those that wish to quit smoking.

Recommendations:

Given the large association between tobacco use and binge drinking, integration of efforts to reduce binge drinking with programs already in place that target tobacco use such as prevention materials, public service announcements, or cessation programs would be very beneficial. Within Idaho, a partnership with the Project Filter program would be beneficial. Project Filter is a statewide initiative to provide information on health risks associated with tobacco use and assist individuals with tobacco cessation. In addition to partnering with smoking resources, it would also be beneficial to integrate with programs specializing in cessation of smokeless tobacco as well. Recommendations would be to coordinate outreach with oral health programs. One health specialty that recognizes poor oral health and the use of smokeless tobacco is the dental community. Providing education to dental professionals and utilizing this outlet to provide prevention materials could be a way to reach the smokeless tobacco population. Additionally, coordination efforts could include programs concerning oral cancer prevention as it is closely related to smokeless tobacco (Oral Cancer Facts).

Within the BRFSS data set, Idaho has the ability to add Idaho specific questions to the national survey. Given the findings of the study it would be recommended that the

Idaho Department of Vital Statistics add a question(s) to better define the student

population. Within the current survey, respondents are asked to identify if they are

employed, unemployed, homemaker, student, or retired. This question is the only student

identifier. It is recommended that an additional question be added that allowed for

respondents to identify as a student rather than having to choose between employment

status and student status. Better defining this student population would allow for a more

in-depth analysis of the student population and their association to binge drinking as well

as other health conditions. Current literature identifies an increase risk of binge drinking

on college campuses throughout the nation (Wechsler 1995). In order to compare the

national trend to students at Idaho universities, more information is needed concerning

the student population. This could be attained by the addition of questions on the Idaho

BRFSS survey better outlining the student population in Idaho.

On a national level the prevalence of binge drinking is highest among young

adults ages 18-34 (Vital Signs, 2010). Similarly in this study, the binge drinking

prevalence for young adults aged 18-34 in Idaho was almost half of the entire binge

drinking population for the study. Given this information, binge drinking prevention and

intervention programs both at the national level as well as within Idaho need to be

targeted at the young adult population. For this study, the employment option of "student"

acted as a protective factor against binge drinking. One recommendation would be

increased research of the younger population to create a better understanding of the

relationship between binge drinking and the student population. With additional research

one could identify a need to provide additional intervention programs on college

campuses, or additional efforts to target the entire population of younger individuals not

specifically targeting the college population. One study from a large public university

conducted a study including 363 students. Their findings showed that students that

received 2 brief one on one intervention counseling sessions reported fewer drinks on

average per week and lower amounts of drinks per sitting when compared to the control

group (Mitka, 2009). While one on one intervention has shown to be effective, there are

initiatives in place that have had positive results. One study addresses a more

comprehensive approach to binge drinking within the college population. In this study,

both the increase in campus sponsored (alcohol free) late night activities as well as

increasing police patrols of off campus parties produced a significant decrease in the

prevalence of heavy drinking episodes in both universities who participated in the study

(Mitka, 2009). In addition to outreach at college campuses throughout Idaho, it is

important to focus on other outlets for young adults as well. Due to the fact that the age

group had a significant relationship to binge drinking rather than necessarily the

identified student population, it is recommended that binge drinking prevention and

treatment programs be coordinated and implemented at locations other than universities

as well.

Conclusion:

The purpose of this study was to better define the adult binge drinking population

in Idaho in terms of factors associated with binge drinking. Approximately 48% of binge

drinking was reported among younger adults aged 18-35 with risk for binge drinking

dropping significantly with increasing age. Being young, male, a current smoker, a

current user of smokeless tobacco, and residing in the North Central region were all

independent risk factors for binge drinking in Idaho. Listing your employment as

"homemaker" or "student" were independently associated with a lower risk of binge

drinking compared to those that were employed. Individual and coexisting chronic health

conditions were also protective factors against binge drinking in unadjusted bivariate

logistic regression models among adult Idahoans. These findings provide avenues for

targeted prevention and treatment efforts among young adults and males. Additionally it

would be beneficial for efforts to reduce binge drinking in Idaho to coordinate

programmatically with tobacco cessation and control, for both smokers and smokeless

tobacco users.

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Appendix A: Idaho Behavior Factor Risk Surveillance Survey

Section 01: Health Status

Q1.1   Would you say that in general your health is ... ?
(n=5872)

1   Excellent (20.0%)
2   Very good (32.5%)
3   Good (31.9%)
4   Fair (11.0%)
5   Poor (4.6%)

7   Don't Know/Not Sure
9   Refused

Section 02: Healthy Days –– Health-Related Quality of Life

Q2.1   Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?
(n=5733)

Mean number of days not good: 4.1
Reported any days not good: 38.6%
Mean number of days for those with any: 10.5

88 None
77 Don't Know/Not Sure
99 Refused

Q2.2   Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?
(n=5769)

Mean number of days not good: 3.8
Reported any days not good: 36.1%
Mean number of days for those with any: 10.5

88 None
77 Don't Know/Not Sure
99 Refused

Q2.3   **[If Q2.1 ≠ 88 AND Q2.2 ≠ 88]** During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?
(n=3215)

Mean number of days not good: 4.9
Reported any days not good: 41.6%
Mean number of days for those with any: 11.7

88 None
77 Don't Know/Not Sure
99 Refused

Section 03: Health Care Access

Q3.1   Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, government plans such as Medicare, or Indian Health Services?
(n=5873)

1   Yes (80.7%)
2   No (19.3%)

7   Don't Know/Not Sure
9   Refused

Q3.2   Do you have one person you think of as your personal doctor or health care provider?
(n=5882)

1   Yes, only one (64.4%)
2   More than one (7.3%)
3   No (28.3%)

7   Don't Know/Not Sure
9   Refused

Q3.3   Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?
(n=5876)

1   Yes (17.7%)
2   No (82.3%)

7   Don't Know/Not Sure
9   Refused

Q3.4   About how long has it been since you last visited a doctor for a routine checkup? A routine checkup is a general physical exam, not an exam for a specific injury, illness, or condition.
(n=5841)

1   Within the past year (anytime less than 12 months ago) (55.7%)
2   Within the past 2 years (1 year but less than 2 years ago) (15.2%)
3   Within the past 5 years (2 years but less than 5 years ago) (11.9%)
4   5 or more years ago (15.6%)
8   Never (1.6%)

7   Don't Know/Not Sure
9   Refused

Section 04: Exercise

Q4.1   During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?
(n=5889)

1   Yes (79.7%)
2   No (20.3%)

7   Don't Know/Not Sure
9   Refused

Section 05: Chronic Health Conditions

Q5.1   Now I would like to ask you some questions about general health conditions. Has a doctor, nurse, or other health professional ever told you that you had any of the following? For each, tell me "Yes," "No," or you're "Not sure." (Ever told) you that you had a heart attack also called a myocardial infarction?
(n=5871)

1   Yes (3.6%)
2   No (96.4%)

7   Don't Know/Not Sure
9   Refused

Q5.2 (Ever told) you had angina or coronary heart
disease?
(n=5840)

1 Yes (3.6%)
2 No (96.4%)

7 Don't Know/Not Sure
9 Refused

Q5.3 (Ever told) you had a stroke?
(n=5873)

1 Yes (2.7%)
2 No (97.3%)

7 Don't Know/Not Sure
9 Refused

Q5.4 (Ever told) you had asthma?
(n=5863)

1 Yes (11.6%)
2 No (88.4%)

7 Don't Know/Not Sure
9 Refused

Q5.5 **[If Q5.4 = 1]** Do you still have asthma?
(n=690)

1 Yes (74.9%)
2 No (25.1%)

7 Don't Know/Not Sure
9 Refused

Q5.6 (Ever told) you had skin cancer?
(n=5870)

1 Yes (7.3%)
2 No (92.7%)

7 Don't Know/Not Sure
9 Refused

Q5.7 (Ever told) you had any other types of cancer?
(n=5884)

1 Yes (6.0%)
2 No (94.0%)

7 Don't Know/Not Sure
9 Refused

Q5.8 (Ever told) you have Chronic Obstructive Pulmonary
Disease or COPD, emphysema, or chronic
bronchitis?
(n=5858)

1 Yes (5.3%)
2 No (94.7%)

7 Don't Know/Not Sure
9 Refused

Q5.9 (Ever told) you have some form of arthritis,
rheumatoid arthritis, gout, lupus, or fibromyalgia?
(n=5859)

1 Yes (26.0%)
2 No (74.0%)

7 Don't Know/Not Sure
9 Refused

Q5.10 (Ever told) you have a depressive disorder, including
depression, major depression, dysthymia, or minor
depression?
(n=5876)

1 Yes (19.9%)
2 No (80.1%)

7 Don't Know/Not Sure
9 Refused

Q5.11 (Ever told) you have kidney disease? Do not include
kidney stones, bladder infection or incontinence.
(n=5874)

1 Yes (2.1%)
2 No (97.9%)

7 Don't Know/Not Sure
9 Refused

Q5.12 Do you have any trouble seeing, even when wearing
glasses or contact lenses?
(n=5866)

1 Yes (15.9%)
2 No (83.9%)
3 Not Applicabe (Blind) (0.3%)

7 Don't Know/Not Sure
9 Refused

Q5.13 (Ever told) you have diabetes?
(n=5884)

1 Yes (8.5%)
2 Yes, but female told only during pregnancy (0.8%)
3 No (89.1%)
4 No, pre-diabetes or borderline diabetes (1.6%)

7 Don't Know/Not Sure
9 Refused

Module 02: Diabetes

M2.1 **[If Q5.13 = 1]** How old were you when you were
told you have diabetes?
(n=691)

Mean age in years: 50.6

98 Don't Know/Not Sure
99 Refused

M2.2 **[If Q5.13 = 1]** Are you now taking insulin?
(n=718)

1 Yes (27.0%)
2 No (73.0%)

9 Refused

M2.3 **[If Q5.13 = 1]** About how often do you check your blood for glucose or sugar? Include times when checked by a family member or friend, but do not include times when checked by a health professional.
(n=718)

Mean times per day: 1.5
Reported checking at all: 82.9%
Mean times per day for those who checked: 1.8

888 Never
777 Don't Know/Not Sure
999 Refused

M2.4 **[If Q5.13 = 1]** About how often do you check your feet for any sores or irritations? Include times when checked by a family member or friend, but do not include times when checked by a health professional.
(n=701)

Mean times per day: 1.2
Reported checking at all: 84.3%
Meant times per day for those who checked: 1.4

555 No Feet
888 Never
777 Don't Know/Not Sure
999 Refused

M2.5 **[If Q5.13 = 1]** About how many times in the past 12 months have you seen a doctor, nurse, or other health professional for your diabetes?
(n=701)

Mean times in past 12 months: 3.0
Reported going at all: 83.3%
Mean of those who saw professional at all: 3.6

88 None
77 Don't Know/Not Sure
99 Refused

M2.6 **[IfQ5.13 = 1]** A test for "A one C" measures the average level of blood sugar over the past three months. About how many times in the past 12 months has a doctor, nurse, or other health professional checked you for "A one C"?
(n=683)

Mean times in past 12 months: 7.0
Reported having heard of A1C: 84.7%
Mean of those who have heard of A1C: 8.3

88 None
98 Never heard of "A one C" test
77 Don't Know/Not Sure
99 Refused

M2.7 **[If Q5.13 = 1 AND M2.4 ≠ 555]** About how many times in the past 12 months has a health professional checked your feet for any sores or irritations?
(n=699)

Mean times in past 12 months: 2.4

88 None
77 Don't Know/Not Sure
99 Refused

M2.8 **[If Q5.13 = 1]** When was the last time you had an eye exam in which the pupils were dilated? This would have made you temporarily sensitive to bright light.
(n=717)

1   Within the past month (anytime less than 1 month ago) (11.3%)
2   Within the past year (1 month but less than 12 months ago) (48.0%)
3   Within the past 2 years (1 year but less than 2 years ago) (17.1%)
4   2 or more years ago (17.8%)
8   Never (5.8%)

7   Don't Know/Not Sure
9   Refused

M2.9 **[If Q5.13 = 1]** Has a doctor ever told you that diabetes has affected your eyes or that you had retinopathy?
(n=711)

1   Yes (16.1%)
2   No (83.9%)

7   Don't Know/Not Sure
9   Refused

M2.10 **[If Q5.13 = 1]** Have you ever taken a course or class in how to manage your diabetes yourself?
(n=720)

1   Yes (62.2%)
2   No (37.8%)

7   Don't Know/Not Sure
9   Refused

Section 06: Oral Health

Q6.1 How long has it been since you last visited a dentist or a dental clinic for any reason? Include visits to dental specialists, such as orthodontists.
(n=5862)

1   Within past year (anytime less than 12 months ago) (67.6%)
2   Within past 2 years (1 year but less than 2 years ago) (9.9%)
3   Within past 5 years (2 years but less than 5 years ago) (11.1%)
4   5 or more years ago (11.0%)
8   Never (0.5%)

7   Don't Know/Not Sure
9   Refused

Q6.2 How many of your permanent teeth have been removed because of tooth decay or gum disease? Include teeth lost to infection, but do not include teeth lost for other reasons, such as injury or orthodontics.
(n=5813)

1   1 to 5 (28.4%)
2   6 or more but not all (8.7%)
3   All (4.9%)
8   None (57.9%)

7   Don't Know/Not Sure
9   Refused

Section 07: Demographics

Q7.1   What is your age?
(n=5836)

Mean age in years: 46.4

07 Don't Know/Not Sure
09 Refused

Q7.2   Are you Hispanic or Latino?
(n=5836)

1 Yes (9.8%)
2 No (90.2%)

7 Don't Know/Not Sure
9 Refused

Q7.3   Which one or more of the following would you say is your race?
(n=5740)

1 White (94.2%)
2 Black or African American (0.6%)
3 Asian (1.2%)
4 Native Hawaiian or Other Pacific Islander (0.2%)
5 American Indian or Alaska Native (1.6%)
6 Other (0.6%)
7 Multiracial (1.7%)

77 Don't Know/Not Sure
99 Refused

Q7.4   **[If Q7.3 =7]** Which of these groups would you say best represents your race?
(n=69)

1 White (66.5%)
2 Black or African American (4.2%)
3 Asian (13.2%)
4 Native Hawaiian or Other Pacific Islander (3.1%)
5 American Indian or Alaska Native (13.0%)
6 Other (0.0%)

7 Don't Know/Not Sure
9 Refused

Q7.5   Have you ever served on active duty in the United States Armed Forces, either in the regular military or in a National Guard or military reserve unit? Active duty does not include training for the Reserves or National Guard, but DOES include activation, for example, for the Persian Gulf War.
(n=5893)

1 Yes (13.4%)
2 No (86.6%)

7 Don't Know/Not Sure
9 Refused

Q7.6   Are you … ?
(n=5874)

1 Married (59.9%)
2 Divorced (11.1%)
3 Widowed (5.6%)
4 Separated (1.4%)
5 Never married (18.7%)
6 A member of an unmarried couple (3.2%)

9 Refused

Q7.7   How many children less than 18 years of age live in your household?
(n=5878)

Mean number of children per household overall: 0.9
Reported having any children in household: 41.6%
Mean number of children in households with any: 2.3

88 None
99 Refused

Q7.8   What is the highest grade or year of school you completed?
(n=5880)

1 Never attended school or only attended kindergarten (0.1%)
2 Grades 1 through 8 (Elementary) (2.9%)
3 Grades 9 through 11 (Some high school) (9.3%)
4 Grade 12 or GED (High school graduate) (29.0%)
5 College 1 year to 3 years (Some college or technical school) (36.8%)
6 College 4 years or more (College graduate) (22.0%)

9 Refused

Q7.9   Are you currently … ?
(n=5875)

1 Employed for wages (46.1%)
2 Self-employed (10.5%)
3 Out of work for more than 1 year (3.2%)
4 Out of work for less than 1 year (3.4%)
5 A Homemaker (8.7%)
6 A Student (5.6%)
7 Retired (17.0%)
8 Unable to work (5.5%)

9 Refused

Q7.10 Is your annual household income from all sources..
(n=5130)

1 Less than $10,000 (6.5%)
2 $10,000 to less than $15,000 (6.3%)
3 $15,000 to less than $20,000 (8.7%)
4 $20,000 to less than $25,000 (10.2%)
5 $25,000 to less than $35,000 (13.0%)
6 $35,000 to less than $50,000 (17.7%)
7 $50,000 to less than $75,000 (17.0%)
8 More than $75,000 (20.5%)

77 Don't Know/Not Sure
99 Refused

Q7.11 About how much do you weigh without shoes?
(n=5634)

Mean weight in pounds (male): 196.2
Mean weight in pounds (female): 160.1

7777 Don't Know/Not Sure
9999 Refused

Q7.12 About how tall are you without shoes?
(n=5841)

Mean height in feet and inches (male): 5' 11"
Mean height in feet and inches (female): 5' 5"

77/77 Don't Know/Not Sure
99/99 Refused

Q7.13   What county do you live in?
        (n=5742)

        (Due to the size of the table, these data are not printed.)

        777   Don't Know/Not Sure
        999   Refused

Q7.14   What is the ZIP Code where you live?
        (n=5697)

        (Due to the size of the table, these data are not printed.)

        77777 Don't Know/Not Sure
        99999 Refused

Q7.15   Do you have more than one telephone number in
        your household? Do not include cell phones or
        numbers that are only used by a computer or fax
        machine.
        (n=5222)

        1   Yes (3.2%)
        2   No (96.8%)

        7   Don't Know/Not Sure
        9   Refused

Q7.16   [If Q7.15 = 1] How many of these telephone
        numbers are residential numbers?
        (n=187)

        1   One (66.6%)
        2   Two (31.0)
        3   Three (1.9%)
        4   Four (0.5%)

        7   Don't Know/Not Sure
        9   Refused

Q7.17   Do you have a cell phone for personal use? Please
        include cell phones used for both business and
        personal use.
        (n=5220)

        1   Yes (87.8%)
        2   No (12.2%)

        7   Don't Know/Not Sure
        9   Refused

Q7.18   [If Q7.17 = 1] Thinking about all the phone calls
        that you receive on your landline and cell phone,
        what percent, between 0 and 100, are received on
        your cell phone?
        (n=3705)

        Mean percent received on cell phone: 43.1

        888   Zero
        777   Don't Know/Not Sure
        999   Refused

Q7.19   Do you own or rent your home?
        (n=5845)

        1   Own (72.8%)
        2   Rent (21.9%)
        3   Other arrangement (5.3%)

        7   Don't Know/Not Sure
        9   Refused

Q7.20   Indicate sex of respondent.
        (n=5896)

        1   Male (49.6%)
        2   Female (50.4%)

Q7.21   [If Q7.1 < 45 AND Q7.20 = 2] To your
        knowledge, are you now pregnant?
        (n=830)

        1   Yes (3.6%)
        2   No (96.4%)

        7   Don't Know/Not Sure
        9   Refused

Section 08: Disability

Q8.1   The following questions are about health problems
        or impairments you may have. Are you limited in
        any way in any activities because of physical,
        mental, or emotional problems?
        (n=5828)

        1   Yes (24.0%)
        2   No (76.0%)

        7   Don't Know/Not Sure
        9   Refused

Q8.2   Do you now have any health problem that requires
        you to use special equipment, such as a cane, a
        wheelchair, a special bed, or a special telephone?
        (n=5840)

        1   Yes (7.4%)
        2   No (92.6%)

        7   Don't Know/Not Sure
        9   Refused

Section 09: Tobacco Use

Q9.1   Have you smoked at least 100 cigarettes in your
        entire life?
        (n=5796)

        1   Yes (40.7%)
        2   No (59.3%)

        7   Don't Know/Not Sure
        9   Refused

Q9.2   [If Q9.1 = 1] Do you now smoke cigarettes every
        day, some days, or not at all?
        (n=2415)

        1   Every day (30.3%)
        2   Some days (10.0%)
        3   Not at all (59.6%)

        7   Don't Know/Not Sure
        9   Refused

Q9.3   [If Q9.2 = 1 OR Q9.2 = 2] During the past 12
        months, have you stopped smoking for one day or
        longer because you were trying to quit smoking?
        (n=793)

        1   Yes (55.6%)
        2   No (44.4%)

        7   Don't Know/Not Sure
        9   Refused

Q9.4 **[If Q9.2 = 3]** How long has it been since you last smoked a cigarette, even one or two puffs? (n=1616)

1 Within the past month (less than 1 month ago) (3.3%)
2 Within the past 3 months (1 month but less than 3 months ago) (2.2%)
3 Within the past 6 months (3 months but less than 6 months ago) (3.0%)
4 Within the past year (6 months but less than 1 year ago) (5.3%)
5 Within the past 5 years (1 year but less than 5 years ago) (15.5%)
6 Within the past 10 years (5 years but less than 10 years ago) (11.2%)
7 10 years or more (59.5%)

77 Don't Know/Not Sure
99 Refused

Q9.5 Do you currently use chewing tobacco, snuff, or snus every day, some days, or not at all? (n=5821)

1 Every day (3.1%)
2 Some days (1.7%)
3 Not at all (95.1%)

77 Don't Know/Not Sure
99 Refused

Section 10: Alcohol Consumption

Q10.1 During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage such as beer, wine, a malt beverage or liquor? (n=5777)

Mean number of days in the past 30 days: 4.3
Reported drinking any alcohol: 47.1%
Mean number of days for those who drank alcohol: 9.4

888 No drinks in past 30 days
777 Don't Know/Not Sure
999 Refused

Q10.2 **[If Q10.1 < 777]** One drink is equivalent to a 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor. During the past 30 days, on the days when you drank, about how many drinks did you drink on the average? (n=2457)

Mean number of drinks: 2.3

77 Don't Know/Not Sure
99 Refused

Q10.3 **[If Q10.1 < 777]** Considering all types of alcoholic beverages, how many times during the past 30 days did you have [if male, 5; if female, 4] or more drinks on an occasion? (n=2452)

Mean number of times in the past 30 days: 1.3

88 None
77 Don't Know/Not Sure
99 Refused

Q10.4 **[If Q10.1 < 777]** During the past 30 days, what is the largest number of drinks you had on any occasion? (n=2423)

Mean largest number of drinks: 3.6

77 Don't Know/Not Sure
99 Refused

Section 11: Immunization

Q11.1 There are two ways to get the seasonal flu vaccine, one is a shot in the arm and the other is a spray, mist, or drop in the nose called FluMist. During the past 12 months, have you had either a seasonal flu shot or a seasonal flu vaccine that was sprayed in your nose? (n=5774)

1 Yes (30.3%)
2 No (69.7%)

7 Don't Know/Not Sure
9 Refused

Q11.2 **[If Q11.1 = 1]** During what month and year did you receive your most recent flu shot injected into your arm or flu vaccine that was sprayed in your nose? (n=2039)

1 Februrary – August 2011 (2.5%)
2 September 2011 (7.6%)
3 October 2011 (35.4%)
4 November 2011 (21.3%)
5 December 2011 (6.8%)
6 January 2012 (3.5%)
7 February 2012 (3.0%)
8 March 2012 (1.0%)
9 April – August 2012 (0.6%)
10 September 2012 (2.6%)
11 October 2012 (10.9%)
12 Novemer 2012 (4.7%)
13 December 2012 (0.2%)

77/7777 Don't Know/Not Sure
99/9999 Refused

Q11.3 **[If Q11.1 = 1]** At what kind of place did you get your last flu shot/vaccine? (n=2168)

1 A doctor's office or health maintenance organization (HMO) (31.3%)
2 A health department (3.0%)
3 Another type of clinic or health center (Example: a community health center) (10.0%)
4 A senior, recreation, or community center (0.9%)
5 A store (Examples: supermarket, drug store) (24.3%)
6 A hospital (Example: inpatient) (7.3%)
7 An emergency room (< 0.1%)
8 Workplace (18.1%)
9 Some other kind of place (3.7%)
10 Received vaccination in Canada/Mexico (0.0%)
11 A school (1.3%)

77 Don't Know/Not Sure
99 Refused

Q11.4 A pneumonia shot or pneumococcal vaccine is usually given only once or twice in a person's lifetime and is different from the flu shot. Have you ever had a pneumonia shot?
(n=5344)

    1   Yes (29.2%)
    2   No (70.8%)

    7   Don't Know/Not Sure
    9   Refused

Section 12: Falls

Q12.1 **[If Q7.1 >= 45]** Next, I will ask about recent falls. By a fall, we mean when a person unintentionally comes to rest on the ground or another lower level. In the past 12 months, how many times have you fallen?
(n=4382)

Mean number of times fell overall: 1.1
Reported having fallen: 31.2%
Mean number of times had fallen for those who fell: 3.4

    88   None
    77   Don't Know/Not Sure
    99   Refused

Q12.2 **[If Q7.1 >= 45 AND Q12.1 < 77]** How many of these falls caused an injury? By an injury, we mean the fall caused you to limit your regular activities for at least a day or to go see a doctor.
(n=1479)

Mean number of injury-causing falls overall: 0.9
Reported any injury-causing falls: 37.2%
Mean number of injury-causing falls, those with any: 2.4

    88   None
    77   Don't Know/Not Sure
    99   Refused

Section 13: Seatbelt Use

Q13.1 How often do you use seat belts when you drive or ride in a car? Would you say ...
(n=5745)

    1   Always (73.5%)
    2   Nearly always (16.9%)
    3   Sometimes (5.3%)
    4   Seldom (2.2%)
    5   Never (2.0%)
    8   Never drive or ride in a car (0.0%)

    7   Don't Know/Not Sure
    9   Refused

Section 14: Drinking and Driving

Q14.1 **[If Q10.1 ≠ 888 AND Q13.1 ≠ 8]** The next question is about drinking and driving. During the past 30 days, how many times have you driven when you've had perhaps too much to drink?
(n=2508)

Mean times drank and drove in past 30 days overall: 0.1
Reported driving when too much to drink: 2.7%
Mean times drank and drove of those who did at all: 2.5

    88   None
    77   Don't Know/Not Sure
    99   Refused

Section 15: Breast and Cervical Cancer Screening

Q15.1 **[If Q7.20 = 2]** The next questions are about breast and cervical cancer. A mammogram is an x-ray of each breast to look for breast cancer. Have you ever had a mammogram?
(n=3451)

    1   Yes (59.8%)
    2   No (40.2%)

    7   Don't Know/Not Sure
    9   Refused

Q15.2 **[If Q15.1 = 1]** How long has it been since you had your last mammogram?
(n=2657)

    1   Within the past year (anytime less than 12 months ago) (53.5%)
    2   Within the past 2 years (1 year but less than 2 years ago) (18.3%)
    3   Within the past 3 years (2 years but less than 3 years ago) (7.6%)
    4   Within the past 5 years (3 years but less than 5 years ago) (6.9%)
    5   5 or more years ago (13.7%)

    7   Don't Know/Not Sure
    9   Refused

Q15.3 **[If Q7.20 = 2]** A clinical breast exam is when a doctor, nurse, or other health professional feels the breasts for lumps. Have you ever had a clinical breast exam?
(n=3434)

    1   Yes (87.0%)
    2   No (13.0%)

    7   Don't Know/Not Sure
    9   Refused

Q15.4 **[If Q15.3 = 1]** How long has it been since your last breast exam?
(n=3103)

1 Within the past year (anytime less than 12 months ago) (58.0%)
2 Within the past 2 years (1 year but less than 2 years ago) (17.4%)
3 Within the past 3 years (2 years but less than 3 years ago) (6.1%)
4 Within the past 5 years (3 years but less than 5 years ago) (7.0%)
5 5 or more years ago (11.5%)

7 Don't Know/Not Sure
9 Refused

Q15.5 **[If Q7.20 = 2]** A Pap test is a test for cancer of the cervix. Have you ever had a Pap test?
(n=3429)

1 Yes (91.4%)
2 No (8.6%)

7 Don't Know/Not Sure
9 Refused

Q15.6 **[If Q15.5 = 1]** How long has it been since you had your last Pap test?
(n=3219)

1 Within the past year (anytime less than 12 months ago) (40.4%)
2 Within the past 2 years (1 year but less than 2 years ago) (18.6%)
3 Within the past 3 years (2 years but less than 3 years ago) (7.7%)
4 Within the past 5 years (3 years but less than 5 years ago) (8.5%)
5 5 or more years ago (24.9%)

7 Don't Know/Not Sure
9 Refused

Q15.7 **[If Q7.20 = 2 AND Q7.21 ≠ 1]** Have you had a hysterectomy?
(n=3406)

1 Yes (28.6%)
2 No (71.4%)

7 Don't Know/Not Sure
9 Refused

Section 16: Prostate Cancer Screening

Q16.1 **[If Q7.20 = 1 AND Q7.1 > 39]** A Prostate-Specific Antigen test, also called a PSA test, is a blood test used to check men for prostate cancer. Has a doctor, nurse, or other health professional EVER talked with you about the advantages of the PSA test?
(n=1836)

1 Yes (56.4%)
2 No (43.6%)

7 Don't Know/Not Sure
9 Refused

Q16.2 **[If Q7.20 = 1 AND Q7.1 > 39]** Has a doctor, nurse, or other health professional EVER talked with you about the disadvantages of the PSA test?
(n=1824)

1 Yes (23.9%)
2 No (76.1%)

7 Don't Know/Not Sure
9 Refused

Q16.3 **[If Q7.20 = 1 AND Q7.1 > 39]** Has a doctor, nurse, or other health professional EVER recommended that you have a PSA test?
(n=1827)

1 Yes (48.1%)
2 No (51.9%)

7 Don't Know/Not Sure
9 Refused

Q16.4 **[If Q7.20 = 1 AND Q7.1 > 39]** Have you EVER HAD a PSA test?
(n=1764)

1 Yes (58.4%)
2 No (41.6%)

7 Don't Know/Not Sure
9 Refused

Q16.5 **[If Q16.4 = 1]** How long has it been since you had your last PSA test?
(n=1133)

1 Within the past year (anytime less than 12 months ago) (58.9%)
2 Within the past 2 years (1 year but less than 2 years ago) (15.3%)
3 Within the past 3 years (2 years but less than 3 years ago) (10.1%)
4 Within the past 5 years (3 years but less than 5 years ago) (6.5%)
5 5 or more years ago (9.3%)

7 Don't Know/Not Sure
9 Refused

Q16.6 **[If Q16.4 = 1]** What was the MAIN reason you had this PSA test - was it ... ?
(n=1132)

1 Part of a routine exam (72.2%)
2 Because of a prostate problem (6.5%)
3 Because of a family history of prostate cancer (4.8%)
4 Because you were told you had prostate cancer (3.5%)
5 Some other reason (13.0%)

7 Don't Know/Not Sure
9 Refused

51

Section 17: Colorectal Cancer Screening

Q17.1 **[If Q7.1 > 49]** The next questions are about colorectal cancer screening. A blood stool test is a test that may use a special kit at home to determine whether the stool contains blood. Have you ever had this test using a home kit?
(n=3915)

1   Yes (35.0%)
2   No (65.0%)

7   Don't Know/Not Sure
9   Refused

Q17.2 **[If Q17.1 = 1]** How long has it been since you had your last blood stool test using a home kit?
(n=1465)

1   Within the past year (anytime less than 12 months ago) (21.8%)
2   Within the past 2 years (1 year but less than 2 years ago) (12.8%)
3   Within the past 3 years (2 years but less than 3 years ago) (13.5%)
4   Within the past 5 years (3 years but less than 5 years ago) (12.4%)
5   5 or more years ago (39.5%)

7   Don't Know/Not Sure
9   Refused

Q17.3 **[If Q7.1 > 49]** Sigmoidoscopy and colonoscopy are exams in which a tube is inserted in the rectum to view the colon for signs of cancer or other health problems. Have you ever had either of these exams?
(n=3928)

1   Yes (65.0%)
2   No (35.0%)

7   Don't Know/Not Sure
9   Refused

Q17.4 **[If Q17.3 = 1]** For a SIGMOIDOSCOPY, a flexible tube is inserted into the rectum to look for problems. A COLONOSCOPY is similar, but uses a longer tube, and you are usually given medication through a needle in your arm to make you sleepy and told to have someone else drive you home after the test. Was your MOST RECENT exam a sigmoidoscopy or a colonoscopy?
(n=2579)

1   Sigmoidoscopy (4.4%)
2   Colonoscopy (95.6%)

7   Don't Know/Not Sure
9   Refused

Q17.5 **[If Q17.3 = 1]** How long has it been since you had your last sigmoidoscopy or colonoscopy?
(n=2621)

1   Within the past year (anytime less than 12 months ago) (19.4%)
2   Within the past 2 years (1 year but less than 2 years ago) (15.8%)
3   Within the past 3 years (2 years but less than 3 years ago) (16.4%)
4   Within the past 5 years (3 years but less than 5 years ago) (23.7%)
5   Within the past 10 years (5 years but less than 10 years ago) (17.8%)
6   10 or more years ago (7.0%)

7   Don't Know/Not Sure
9   Refused

Section 18: HIV / AIDS

Q18.1 The next few questions are about the national health problem of HIV, the virus that causes AIDS. Please remember that your answers are strictly confidential and that you do not have to answer every question if you do not want to. Although we will ask you about testing, we will not ask you about the results of any test you may have had. Have you ever been tested for HIV? Do not count tests you may have had as part of a blood donation. Include testing fluid from your mouth.
(n=5485)

1   Yes (28.5%)
2   No (71.5%)

7   Don't Know/Not Sure
9   Refused

Q18.2 **[If Q18.1 = 1]** Not including blood donations, in what month and year was your last HIV test?
(n=941)

Mode month and year for last HIV test: May, 2011 (3.8%)

77/7777   Don't Know/Not Sure
99/9999   Refused

Q18.3 I'm going to read you a list. When I'm done, please tell me if any of the situations apply to you. You do not need to tell me which one: You have used intravenous drugs in the past year; You have been treated for a sexually transmitted or venereal diseases in the past year; You have given or received money or drugs in exchange for sex in the past year; You had anal sex without a condom in the past year. Do any of these situations apply to you?
(n=5649)

1   Yes (2.4%)
2   No (97.6%)

7   Don't Know/Not Sure
9   Refused

Module 06: Excess Sun Exposure

M6.1 In the past 12 months, how many times did you have a red OR painful sunburn that lasted a day or more?
(n=5525)

1 One (14.8%)
2 Two (9.7%)
3 Three (2.8%)
4 Four (0.7%)
5 Five or more (2.2%)
8 Zero (69.7%)

7 Don't Know/Not Sure
9 Refused

Module 23: Random Child Selection

M23.1 **[If Q7.7 ≥ 1 AND Q7.7 < 88]** Previously, you indicated there was at least one child age 17 or younger in your household. I would like to ask some questions about [that child/one of those children]. What is the birth month and year of the child?
(n=1312)

(Due to the size of this table, these data are not printed.)

77/7777 Don't Know/Not Sure
99/9999 Refused

M23.2 Is the child a boy or a girl?
(n=1433)

1 Boy (52.3%)
2 Girl (47.7%)

9 Refused

M23.3 Is the child Hispanic or Latino?
(n=1443)

1 Yes (15.9%)
2 No (84.1%)

7 Don't Know/Not Sure
9 Refused

M23.4 Which one or more of the following would you say is the race of the child?
(n=1408)

1 White (94.3%)
2 Black or African American (1.1%)
3 Asian (0.6%)
4 Native Hawaiian or Other Pacific Islander (0.3%)
5 American Indian or Alaska Native (1.6%)
6 Other (0.0%)
7 Multiracial (2.1%)

77 Don't Know/Not Sure
99 Refused

M23.5 **[M23.4 = multiple responses]** Which one of these groups would you say best represents the child's race?
(n=32)

Figures are not reliable due to insufficient sample size (n<50)

M23.6 How are you related to the child?
(n=1453)

1 Parent (include biologic, step, or adoptive parent) (84.4%)
2 Grandparent (3.6%)
3 Foster parent or guardian (0.9%)
4 Sibling (include biologic, step, and adoptive sibling) (7.7%)
5 Other relative (1.9%)
6 Not related in any way (1.6%)

7 Don't Know/Not Sure
9 Refused

State Added 01: Prostate Cancer

ID1.1 **[If Q7.20 = 1 AND Q7.1 => 40]** Has your father, brother, son, or grandfather ever been told by a doctor, nurse, or health professional that he had prostate cancer?
(n=1737)

1 Yes (14.1%)
2 No (85.9%)

7 Don't Know/Not Sure
9 Refused

State Added 02: Health Care Coverage

ID2.1 **[If Q7.7 ≥1 AND < 88]** Does the child have any kind of health care coverage, including health insurance, prepaid plans such as HMO's, or government plans such as Medicaid or the Children's Health Insurance Program, also known as CHIP?
(n=1290)

1 Yes (91.6%)
2 No (8.4%)

7 Don't Know/Not Sure
9 Refused

ID2.2 **[If Q3.1 = 2]** Previously you said you did not have any health care coverage. What is the main reason you are without health care coverage?
(n=653)

1 Lost job or changed employers (16.9%)
2 Spouse/parent lost job/changed employers (3.0%)
3 Became divorced or separated (1.8%)
4 Spouse or parent died (0.0%)
5 Became ineligible because of age or left school (4.7%)
6 Employer doesn't offer or stopped offering coverage (10.2%)
7 Cut back to part time or became temporary employee (1.8%)
8 Benefits from employer or former employer ran out (0.3%)
9 Couldn't afford to pay the premiums (37.7%)
10 Insurance company refused coverage (0.5%)
11 Lost Medicaid or medical assistance eligibility (3.6%)
87 Other reason (19.4%)

77 Don't Know/Not Sure
99 Refused

ID2.3 **[If Q3.1 = 2]** About how long has it been since you had health care coverage?
(n=653)

1 Within the past 6 months (12.4%)
2 Within the past year (7-12 months) (13.2%)
3 Within the past 2 years (more than 1 year, less than 2 years) (12.5%)
4 Within the past 5 years (more than 2 years, less than 5 years) (19.0%)
5 5 or more years ago (28.1%)
8 Never (14.8%)

7 Don't Know/Not Sure
9 Refused

ID2.4 **[If Q3.1 = 1]** Previously you said that you had some kind of health care coverage. What type of health care coverage do you use to pay for most of your medical care?
(n=4719)

1 Your Employer (33.4%)
2 Someone else's employer (19.6%)
3 A plan that you or someone else buys on your own (12.2%)
4 Medicare (21.4%)
5 Medicaid or Medical Assistance (4.2%)
6 The military, CHAMPUS, Tricare, or the VA (5.6%)
7 The Indian Health Service (0.2%)
8 Some other source (3.2%)
88 None (0.1%)

77 Don't Know/Not Sure
99 Refused

ID2.5 Do you have any kind of insurance coverage that pays for some or all of your routine dental care, including dental insurance, prepaid plans such as HMOs, or government plans such as Medicaid?
(n=5467)

1 Yes (53.3%)
2 No (46.7%)

7 Don't Know/Not Sure
9 Refused

State Added 03: High Blood Pressure

ID3.1 Have you EVER been told by a doctor, nurse, or other health professional that you have high blood pressure?
(n=5518)

1 Yes (29.6%)
2 Yes, but female told only during pregnancy (1.5%)
3 No (68.0%)
4 Told borderline high or pre-hypertensive (0.8%)

7 Don't Know/Not Sure
9 Refused

State Added 04: Actions to Control High Blood Pressure

ID4.1 **[If ID3.1 = 1]** Are you now doing any of the following to help lower or control your high blood pressure? (Are you) changing your eating habits (to help lower or control your high blood pressure)?
(n=2190)

1 Yes (69.1%)
2 No (30.9%)

7 Don't Know/Not Sure
9 Refused

ID4.2 **[If ID3.1 = 1]** (Are you) cutting down on salt (to help lower or control your high blood pressure)?
(n=2194)

1 Yes (69.6%)
2 No (25.5%)
3 Do not use salt (4.9%)

7 Don't Know/Not Sure
9 Refused

ID4.3 **[If ID3.1 = 1]** (Are you) reducing alcohol use (to help lower or control your high blood pressure)?
(n=2196)

1 Yes (36.4%)
2 No (24.8%)
3 Do not drink (38.8%)

7 Don't Know/Not Sure
9 Refused

ID4.4 **[If ID3.1 = 1]** (Are you) exercising (to help lower or control your high blood pressure)?
(n=2189)

1 Yes (74.2%)
2 No (25.8%)

7 Don't Know/Not Sure
9 Refused

ID4.5 **[If ID3.1 = 1]** Has a doctor or other health professional ever advised you to do any of the following to help lower or control your high blood pressure? (Ever advised you to) change your eating habits (to help lower or control your high blood pressure)?
(n=2176)

1 Yes (56.3%)
2 No (43.7%)

7 Don't Know/Not Sure
9 Refused

ID4.6 **[If ID3.1 = 1]** (Ever advised you to) cut down on salt (to help lower or control your high blood pressure)?
(n=2179)

1 Yes (58.6%)
2 No (39.3%)
3 Do not use salt (2.1%)

7 Don't Know/Not Sure
9 Refused

ID4.7 **[If ID3.1 = 1]** (Ever advised you to) reduce alcohol use (to help lower or control your high blood pressure)?
(n=2187)

1 Yes (33.7%)
2 No (49.4%)
3 Do not drink (16.9%)

7 Don't Know/Not Sure
9 Refused

ID4.8 **[If ID3.1 = 1]** (Ever advised you to) exercise (to help lower or control your high blood pressure)?
(n=2178)

1 Yes (77.9%)
2 No (22.1%)

7 Don't Know/Not Sure
9 Refused

ID4.9 **[If ID3.1 = 1]** (Ever advised you to) take medication (to help lower or control your high blood pressure)?
(n=2196)

1 Yes (81.6%)
2 No (18.4%)

7 Don't Know/Not Sure
9 Refused

ID4.10 **[If ID3.1 = 1]** Were you told on TWO OR MORE DIFFERENT VISITS by a doctor or other health professional that you had high blood pressure?
(n=2168)

1 Yes (77.2%)
2 Yes, but female told only during pregnancy (0.3%)
3 No (22.2%)
4 Told borderline or pre-hypertensive (0.3%)

7 Don't Know/Not Sure
9 Refused

State Added 05: Occupation

ID5.1 **[If Q7.9 = 1 OR Q7.9 = 2]** Which of the following best describes your current employment?
(n=2415)

1 Management or professional (29.7%)
2 Office, clerical, or administrative support (10.2%)
3 Health care practitioner or support (7.5%)
4 Service or sales (23.8%)
5 Production, construction, installation, or mining (12.2%)
6 Farming, fishing, or forestry (6.1%)
7 Transportation or material moving (4.2%)
8 Armed Forces, law enforcement, or emergency services (2.9%)
9 Other (specify) (3.3%)

77 Don't Know/Not Sure
99 Refused

State Added 06: Injury

ID6.1 In the past 12 months, did you experience an injury that resulted in a visit to a doctor or other medical professional?
(n=5490)

1 Yes (18.8%)
2 No (81.2%)

7 Don't Know/Not Sure
9 Refused

State Added 07: Weight Control

ID7.1 In the past 12 months, has a doctor, nurse, or other health professional given you advice about your weight?
(n=5495)

1 Yes, lose weight (14.7%)
2 Yes, gain weight (0.7%)
3 Yes, maintain current weight (1.8%)
4 No (82.7%)

7 Don't Know/Not Sure
9 Refused

State Added 08: Radon

ID8.1 Have you ever heard of radon which is a radioactive gas that occurs in nature?
(n=5484)

1 Yes (75.4%)
2 No (24.6%)

7 Don't Know/Not Sure
9 Refused

ID8.2 **[If ID8.1 = 1]** Have you ever tested your house for radon?
(n=4384)

1 Yes (19.8%)
2 No (80.2%)

7 Don't Know/Not Sure
9 Refused

ID8.3 **[If ID8.1 = 1]** "Radon is the leading cause of lung cancer among non-smokers." Do you agree or disagree with this statement?
(n=2144)

1 Agree (65.9%)
2 Disagree (34.1%)

7 Don't Know/Not Sure
9 Refused

State Added 09: Fish Consumption

ID9.1 How often do you eat fish? Be sure to include canned tuna and canned salmon, imitation crab and fish eaten at restaurants. Do not include shellfish such as shrimp, oysters, clams or real crab.
(n=5410)

Mean times per year ate fish: 46.3
Reported eating any fish: 90.6%
Mean times per year ate fish for those who ate any: 51.1

   555   Never
   777   Don't Know/Not Sure
   999   Refused

ID9.2 **[If ID9.1 > 100 AND ID9.1 < 555]** How often do you eat fish that have been caught in Idaho waters? This includes lakes, reservoirs, rivers, creeks, or ponds.
(n=4634)

Mean times per year ate fish caught in Idaho: 7.9
Reported eating any fish caught in Idaho: 56.9%
Mean times per year ate fish caught in Idaho for those who ate any: 13.9

   555   Never
   777   Don't Know/Not Sure
   999   Refused

State Added 10: Social Context

ID10.1 The next section of questions is the final section. Some of these questions are of a personal or sensitive nature. This information allows us to better understand various situations that may contribute to public health problems. Please keep in mind that your answers are strictly confidential. You may ask me to skip any question you do not want to answer. How often in the past 12 months would you say you were worried or stressed about having enough money to buy nutritious meals? Would you say you were worried or stressed ...
(n=5473)

   1   Always (5.2%)
   2   Usually (5.9%)
   3   Sometimes (15.6%)
   4   Rarely (19.7%)
   5   Never (53.6%)

   8   Not applicable (0.0%)
   7   Don't Know/Not Sure
   9   Refused

State Added 11: Suicide

ID11.1 Have you ever attempted suicide?
(n=5469)

   1   Yes (5.2%)
   2   No (94.8%)

   7   Don't Know/Not Sure
   9   Refused

ID11.2 **[If ID11.1 = 1]** When did you make the last attempt?
(n=224)

   1   Within the past year (1 to 12 months ago) (11.8%)
   2   Within the past 5 years (1 to 5 years ago) (20.4%)
   3   Within the past 10 years (5 to 10 years ago) (15.0%)
   4   More than 10 years ago (52.9%)

   7   Don't Know/Not Sure
   9   Refused

State Added 12: Sexual Orientation

ID12.1 Research has shown that some sexual minority community members have important health risk factors such as smoking. We are collecting information about sexual orientation to learn whether this is true in Idaho. Do you consider yourself to be:
(n=5241)

   1   Heterosexual, that is, straight (98.1%)
   2   Homosexual, that is, gay or lesbian (1.1%)
   3   Bisexual (0.8%)
   4   Transgender (0.0%)
   5   Other (Specify) (0.0%)

   7   Don't Know/Not Sure
   9   Refused

State Added 13: Illicit Drug Use

ID13.1 I am now going to ask about your non-medical use of drugs. "Non-medical use" means using drugs not prescribed by a doctor, or used to get high or for curiosity. I will be referring to cocaine, including crack, heroin or drugs like heroin such as codeine or Demerol, marijuana, also referred to as pot, methamphetamine, also known as meth, crank or ice, hallucinogens, inhalants, prescription painkillers, stimulants, and sedatives. Remember, all information on this survey is strictly confidential. Have you ever used any of the drugs I just mentioned?
(n=5450)

   1   Yes (23.4%)
   2   No (76.6%)

   7   Don't Know/Not Sure
   9   Refused

ID13.2 **[If ID13.1 = 1]** How long has it been since you last used any of these drugs for non-medical purposes? Would you say ...
(n=961)

   1   Within the last 30 days (0-30 days) (11.7%)
   2   More than 30 days but within the past 12 months (31 days to 12 months) (8.2%)
   3   More than 12 months ago (80.1%)

   7   Don't Know/Not Sure
   9   Refused

State Added 14: Intimate Partner Violence

ID14.1 The next questions are about different types of violence in relationships with an intimate partner. By an intimate partner I mean any current or former spouse, boyfriend, or girlfriend. Someone you were dating or romantically or sexually intimate with would also be considered an intimate partner. This information will help us to better understand the problem of violence in relationships. This is a sensitive topic. Some people may feel uncomfortable with these questions. At the end of this section, I will give you phone numbers of organizations that can provide information and referral for these issues. Please keep in mind that if you are not in a safe place you can ask me skip any questions you do not want to answer. Are you in a safe place to answer these questions?
(n=5433)

   1   Yes (98.7%)
   2   No (1.3%)

   7   Don't Know/Not Sure
   9   Refused

ID14.2 **[If ID14.1 = 1]** Has an intimate partner EVER THREATENED you with physical violence? This includes threatening to hit, slap, push, kick, or hurt you in any way.
(n=5349)

   1   Yes (13.7%)
   2   No (86.3%)

   7   Don't Know/Not Sure
   9   Refused

ID14.3 **[If ID14.1 = 1]** Has an intimate partner EVER ATTEMPTED physical violence against you? This includes times when they tried to hit, slap, push, kick, or otherwise hurt you, BUT THEY WERE NOT ABLE TO.
(n=5336)

   1   Yes (13.9%)
   2   No (86.1%)

   7   Don't Know/Not Sure
   9   Refused

ID14.4 **[If ID14.1 = 1]** Has an intimate partner EVER hit, slapped, pushed, kicked, or hurt you in any way?
(n=5344)

   1   Yes (14.1%)
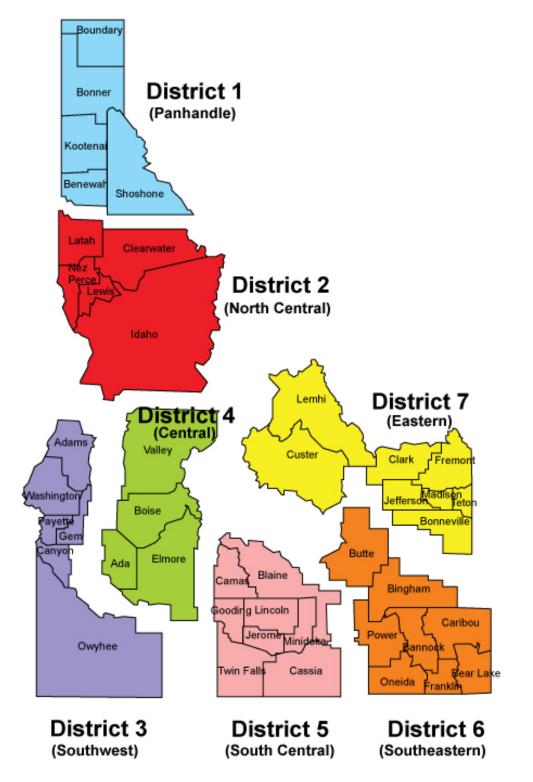   2   No (85.9%)

   7   Don't Know/Not Sure
   9   Refused

ID14.5 **[If ID14.3 = 1 OR ID14.4 = 1]** At the time of the most recent incident involving an intimate partner who was PHYSICALLY VIOLENT with you, what was that person's relationship to you?
(n=839)

   1   Current boyfriend (5.0%)
   2   Current girlfriend (2.2%)
   3   Former boyfriend (21.5%)
   4   Former girlfriend (6.4%)
   5   Fiancé (male) (0.5%)
   6   Fiancé (female) (0.0%)
   7   Male you were dating (0.4%)
   8   Female you were dating (1.4%)
   9   Female first date (0.0%)
  10   Male first date (< 0.1%)
  11   Husband or male live-in partner (20.0%)
  12   Wife or female live-in partner (11.0%)
  13   Former husband or former male live-in partner (23.5%)
  14   Former wife or former female live-in partner (7.3%)
  15   Other (0.6%)

  77   Don't Know/Not Sure
  99   Refused

Appendix B: Map of the Idaho Health Regions