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# **Methodology**

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## **Participating Agencies**

The South Dakota Behavioral Risk Factor Surveillance System is a combined effort between the South Dakota Department of Health (DOH) and the Centers for Disease Control and Prevention (CDC). The DOH contracts with Personal Group, Inc. to collect the data through telephone interviews. However, the DOH continues to supervise the survey process, as well as design and distribute the report. The CDC provides financial and technical assistance, develops the questionnaire, designs the methodology, and processes the data.

## **Method of Surveillance**

This study uses a telephone survey rather than other survey methods because of its low cost, ease of administration in reaching respondents, and reliability. Telephone surveys are less representative of areas where a significant portion of the population does not have telephones.

## **Questionnaire Development**

The BRFSS is designed to collect information on the health behaviors of adults over time. For the 2010 survey (Appendix B), standard demographic questions were included along with sections on general health status, physical and mental health, health insurance, lack of sleep, physical activity, diabetes, breast and cervical cancer screening, colorectal cancer screening, asthma, cardiovascular disease, tobacco use, seat belt use, falls, disability, alcohol use, immunization, HIV/AIDS, life satisfaction, and cancer. South Dakota also added several state-specific questions to the end of the core questionnaire including sunblock use, signs and symptoms of a stroke, the Healthy South Dakota program, children's health insurance, special health conditions in children, sweetened beverages, oral health, and sexual violence.

## **Accuracy and Confidence Intervals**

It is important to remember that these survey data are **self-reported**. Therefore, people may tend to report a more favorable lifestyle than actually practiced. The accuracy of self-reported data may also vary according to risk factors, i.e., self-reported smoking status is thought to be more accurate than self-reported eating habits. These limitations do not negate the survey's ability to identify high-risk groups and monitor long-term trends.

The standard error (SE) of a percentage is used in health statistics when studying or comparing percentages. The SE defines a percentage's variability and can be used to calculate a confidence interval (CI) to determine the actual variance of a percentage 95 percent of the time. Percentages for two different populations are significantly different when their confidence intervals do not overlap.

The DOH has calculated the standard error and confidence intervals differently for the complex sample designs used in BRFSS than simple random sample designs. Therefore, please note that the confidence intervals in this report were calculated using software specifically designed to handle these types of data.

### **Eligible Respondent Selection**

Eligible respondents for the survey were individuals 18 years of age or over who resided a majority of the time at the household contacted. In households with more than one eligible respondent, a random selection was made to determine the actual respondent. Data included in the children's sections of this report were estimated based on responses from the adult respondent regarding a randomly selected child in the household. Automated prescreening was done to eliminate business phones and non-working numbers. "No Answers" and "Busy Signals" were re-dialed a minimum of three times on five different days at different times before they were removed.

### **Data Collection Process**

There were 6,724 interviews completed between January 1, 2010 and December 31, 2010, at an average of 560 interviews per month.

### **Data Processing**

The DOH sent the data electronically to the CDC. The CDC then supplied a final data file with applicable data weights and several calculated variables included. The DOH used this file to calculate all the data presented in this report.

### **Weighting**

Collecting data via telephone survey often produces an over-representation of certain demographic groups in the sample population. Therefore, the sample population may not be representative of the actual population. To account for this, the DOH has applied a weighting factor to each respondent/household.

### **Sample Description**

Survey interviewers collected demographic variables including age, gender, and race. Those interested can find a summary of the demographic results in a table displayed in Appendix A: Demographics.

Appendix A also summarizes the region, household income, education, employment status, marital status, presence of children in the household, and pregnancy status of female respondents ages 18-44 years old.

### **Completion Rate**

Table 3, on the next page, shows the outcome of all telephone calls. The 6,724 completed interviews represented a completion rate of 10.0 percent. The refusal rate was 7.0 percent.

**Table 3**  
**Disposition of All Telephone Numbers in the Sample, 2010**

<u>Final Outcome</u>	<u>Number</u>	<u>Percent</u>
Completed interview	6,724	10.0
Refused interview	4,719	7.0
Nonworking number	42,135	62.5
Not a private residence	6,560	9.7
Telephone answering service (Multiple times)	1,692	2.5
No answer (Multiple times)	1,226	1.8
Fax line	1,208	1.8
Respondent not available during the interviewing period	910	1.4
Fast busy	1,620	2.4
Interview terminated within questionnaire	285	0.4
Physical/mental impairment	237	0.4
Line busy (Multiple times)	5	0.0
Language barrier	21	0.0
Technological barrier	45	0.1
No eligible respondent at this number	20	0.0
<b>Total</b>	<b>67,407</b>	<b>100%</b>

Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 2010

