History

By the early 1980s, scientific research clearly showed that personal health behaviors played a major role in premature morbidity and mortality. The National Center for Health Statistics (NCHS) periodically used surveys to obtain national estimates of health risk behaviors among U.S. adult populations, but these data were not available on a state-specific basis. This deficiency was critical for state health agencies that have the primary role of targeting resources to reduce behavioral risks and their consequent illnesses.

About the same time as personal health behaviors received wider recognition in relation to chronic disease, morbidity and mortality, telephone surveys emerged as an acceptable method for determining the prevalence of many health risk behaviors among populations. In addition to their cost advantages, telephone surveys were especially desirable at the state and local level, where the necessary abilities and resources for conducting area probability sampling for in-person household interviews were likely unavailable.

As a result, surveys were developed and conducted to monitor state-level prevalence of the major behavioral risks associated with premature morbidity and mortality. The basic philosophy was to collect data on actual behaviors, rather than on attitudes or knowledge, which would be especially useful for planning, initiating, supporting, and evaluating health promotion and disease prevention programs. Data from the questionnaire provided health departments, public health offices, and policymakers with necessary behavioral information. When combined with mortality and morbidity statistics, these data enable public health officials to establish policies and priorities and to initiate and assess health promotion strategies.

In 1984, the creation of the Behavioral Risk Factor Surveillance System (BRFSS) began to collect prevalence data on risk behaviors and preventative health practices that affect health status. The Centers for Disease Control and Prevention (CDC) developed a standard core questionnaire for states to use to provide data that would be comparable with all states. Individual states could add questions in order to gather additional information on topics of specific interest to them. The South Dakota Department of Health (DOH) started the BRFSS in South Dakota in 1987 with the help of the CDC. By 1994, all states, the District of Columbia, and three territories were participating in the BRFSS.

Purpose

- The main purpose of the BRFSS at the state level is for program support within the DOH. Every year, various health programs collaborate and plan the optional content of the survey in order to gather useful data. They are then able to use those data to determine priority health issues and identify populations at highest risk. This leads to effective program planning, initiation, support, and evaluation of health promotion and disease prevention programs.

- The DOH also uses BRFSS data to increase awareness and educate the public, the health community, and policymakers about health matters through responses to media inquiries, reports, and publications. Private and public health officials throughout South Dakota receive a copy of this report to aid program efforts in influencing public health issues.

- A national agenda called the ***Healthy People 2020 National Health Objectives*** began in 2000 to challenge Americans to improve their health to certain degrees by the year 2020. This agenda's purpose is to commit the nation to the attainment of three broad goals:

  1) Increase the span of healthy life for all Americans,
  2) Reduce health disparities among Americans,
  3) Achieve access to preventive services for all Americans.

Where appropriate, the DOH uses BRFSS data to measure South Dakota's progress toward Healthy People 2020 goals.

- In 2008, the DOH developed a set of initiatives with established goals for 2020. These initiatives include five BRFSS indicators as key performance measures. The DOH based these five indicators on body mass index, cigarette smoking, vegetable consumption, physical activity, and colorectal cancer screening. Where relevant, the goals of these performance measures are listed in this report.

Report Description

This report includes several sections covering major indicators from the survey. The DOH has organized the sections in the following manner:

- A definition of the indicator is given.

- The prevalence of the indicator in South Dakota and nationwide, when available, is given.

- The relevant Healthy People 2020 objective is given when applicable. However if a relevant performance measure is available regarding the South Dakota Department of Health 2020 Initiative it is then given in place of the Healthy People 2020 objective.

- A time trend analysis for each indicator is given as far back as comparable data have been gathered. This includes a dashed trend line as well as the actual data results for each available year. Multiple years of data are very valuable not only for analyzing the trend of the indicator, but also help to show the variability in some indicators.

- A detailed demographic breakdown is included. Rates for specific subpopulations are significantly different when their confidence intervals do not overlap. This table is important because it can identify demographic subgroups at highest risk.

- A national map is included, when available, that shows the given health indicator among states. The DOH has divided states into three groups illustrating those that fall into the highest third, middle third, and lowest third. Due to ties, it is not always possible to divide the states into three equal groups. This map is useful because it can show how South Dakota compares with other states as well as any national geographic patterns.

- A further analysis is then done that shows the prevalence of the given health indicator for other health behaviors and conditions. For example, the prevalence of fair or poor health by body mass index, or the prevalence of high blood cholesterol by physical activity. The further analysis is not designed to show the cause and effect of certain behaviors or conditions since there are several factors that influence these indicators. It is simply the prevalence of the given health indicator by the other health behaviors and conditions from the survey. This is a step beyond the demographic breakdown and can help programs target their subpopulations of interest even better.

- Any additional data gathered on the given topic will then follow the further analysis section.

Table 1, on the next page, shows the estimated risk factor rates and the estimated number of persons in South Dakota who are at risk for the selected risk factors. The DOH based the estimated population at risk on 2011 population estimates from the U. S. Census Bureau.

Table 1 Estimated Percentage and Number of Persons at Risk Due to Selected Factors (Ages 18 and Older Unless Otherwise Specified): South Dakota BRFSS, 2011		
Risk Factor	**Estimated % at Risk**	**Estimated Population at Risk**
Body Mass Index - Overweight/Obese (BMI 25.0+)	64%	400,000
Body Mass Index - Obese Classes I-III (BMI 30.0+)	28%	174,000
Body Mass Index - Obese Classes II-III (BMI 35.0+)	9%	58,000
No Leisure Time Physical Activity	27%	167,000
Does Not Meet Physical Activity Recommendations	54%	335,000
Less Than Five Servings of Fruits and Vegetables	89%	552,000
Cigarette Smoking	23%	143,000
Smokeless Tobacco Use	7%	42,000
Diabetes	10%	59,000
Hypertension	31%	193,000
High Blood Cholesterol	37%	227,000
No Health Insurance (18-64 Years Old)	11%	53,000
No Health Insurance (0-17 Years Old)	1%	3,000
No Health Insurance (0-64 Years Old)	8%	56,000
No Flu Shot in Past 12 Months (65+ Years Old)	32%	38,000
Never Had a Pneumonia Shot (65+ Years Old)	33%	39,000
Haven't Been to the Dentist in the Past Year (1-17 Years Old)	15%	30,000
Use Sun Block Most of the Time	28%	177,000
Drank Alcohol in Past 30 Days	59%	365,000
Binge Drinking	22%	137,000
Heavy Drinking	6%	37,000
Lack of Seat Belt Use	18%	112,000
Ever Had a Heart Attack	5%	32,000
Have Angina or Coronary Heart Disease	4%	27,000
Ever Had a Stroke	3%	16,000
Ever Been Diagnosed with Cancer	12%	73,000
Current Asthma	7%	43,000
Arthritis	23%	146,000
Chronic Obstructive Pulmonary Disease (COPD)	5%	34,000
Depressive Disorder	16%	102,000
Kidney Disease	2%	13,000
Vision Impairment	17%	106,000
Fair/Poor Health Status	15%	91,000
Physical Health Not Good for 30 Out of Last 30 days	5%	33,000
Mental Health Not Good for 20-30 Days of the Past 30 Days	6%	40,000
Usual Activities Unattainable for 10-30 Days of the Past 30 Days	7%	45,000
Physical, Mental, or Emotional Disability	24%	152,000
Disability with Special Equipment Needed	7%	44,000
Three or More Sweetened Beverages Per Day	6%	36,000
Two or More Hours of TV a Day	77%	476,000
Never Been Tested for HIV (18-64 Years Old)	75%	379,000

Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 2011

Table 2 shows the topics covered on South Dakota's BRFSS each year from 2002 through 2011.

Table 2 Topics Covered on the South Dakota BRFSS, 2002-2011										
Topics	**Year**									
	2011	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**
Advanced Directive			X			X				
Alcohol Consumption	X	X	X	X	X	X	X	X	X	X
Arthritis	X		X		X		X		X	
Asthma	X	X	X	X	X	X	X	X	X	X

Table 2 (continued)
Topics Covered on the South Dakota BRFSS, 2002-2011

Topics	Year									
	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
Asthma - Children							X		X	X
Cancer	X	X	X			X				
Cardiovascular Disease	X	X	X	X	X	X	X	X		X
Care Giving			X							
Cholesterol Awareness	X		X		X		X		X	X
Chronic Obstructive Pulmonary Disease	X									
Colorectal Cancer Screening		X		X		X		X		X
Depressive Disorder	X									
Diabetes	X	X	X	X	X	X	X	X	X	X
Diabetes - Children				X	X	X	X	X	X	X
Diabetes - Pre	X	X	X	X	X					
Disability	X	X	X	X	X	X	X	X	X	
Emotional Support & Life Satisfaction		X	X	X	X	X	X			
Environmental Factors								X		
Exercise	X	X	X	X	X	X	X	X	X	X
Falls		X		X		X			X	
Family Planning								X		X
Firearms								X		X
Folic Acid										X
Food Handling/Safety									X	X
Gastrointestinal Disease					X					
Health Care Coverage and Access	X	X	X	X	X	X	X	X	X	X
Health Care Coverage - Children	X	X	X	X	X	X	X	X	X	X
Health Care Coverage and Utilization								X		X
Health Status / Healthy Days	X	X	X	X	X	X	X	X	X	X
Healthy South Dakota - Name Recognition		X		X		X	X			
Heart Attack - Signs and Symptoms	X		X							
HIV/AIDS	X	X	X	X	X	X	X	X	X	X
Hypertension Awareness	X		X		X		X		X	X
Immunization - Children		X		X			X			
Immunization - Flu & Pneumonia Shots	X	X	X	X	X	X	X	X	X	X
Injury - Children									X	X
Influenza Like Illness	X									
Kidney Disease	X									
Nutrition/Fruits & Vegetables	X		X		X		X		X	X
Oral Health		X		X		X		X		X
Oral Health - Children	X		X		X		X		X	
Pandemic Influenza			X							
Physical Activity	X		X		X	X	X		X	
Preparedness				X						
Prostate Cancer Screening		X		X		X		X		X
Seat Belts	X	X		X		X				X
Sexual Violence		X	X	X	X					
Sleep		X	X	X						
Special Health Conditions - Children		X	X	X	X	X	X		X	X
Stroke - Signs and Symptoms		X		X						
Sun Exposure / Skin Cancer	X	X			X			X	X	
Sweetened Beverages / Menu Labeling	X	X								
Tobacco	X	X	X	X	X	X	X		X	
Tobacco - Smokeless	X	X	X	X	X	X	X		X	
Tobacco Use	X	X	X	X	X	X	X	X	X	X
TV Viewing	X		X		X		X	X		
Veteran's Status / Health						X	X	X	X	
Vision Impairment	X									
Weight Control	X		X		X		X		X	X
West Nile Virus						X	X	X		
Women's Health		X		X	X	X		X	X	X

Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 2002-2011