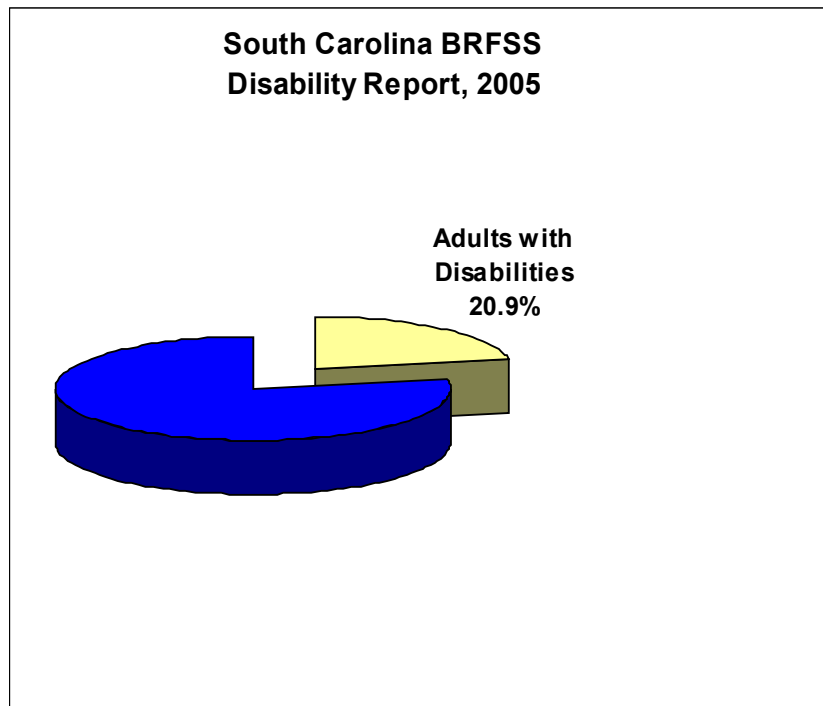


DISABILITIES AND HEALTH SOUTH CAROLINA, 2005

**A Report Using the South Carolina Behavioral Risk Factor Surveillance
System**



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South Carolina Department of Health and Environmental Control

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INTRODUCTION

The objectives of this study were (1) to obtain a population-based estimate of the prevalence of adults with disability for the state of South Carolina using a carefully designed and validated random-sample telephone survey (Behavioral Risk Factor Survey [BRFSS], coordinated nationwide by the Centers for Disease Control and Prevention), (2) to examine disparities in health status, health risk factors, and quality of life between South Carolina respondents with disability (People With Disability, PWD) and those with no disability (People Without Disability, PWOD), and (3) to relate the results to the objectives of Healthy People 2010 when possible. Making this connection requires appreciating that some variables of BRFSS interest may not relate directly to HP 2010, and the BRFSS questionnaire design can relate to only a few of the many HP 2010 objectives. Further, to reduce redundancy with reports of previous years and to allow space for inclusion of quality of life and sexual violence victimization measures not included in previous reports, not every HP 2010 Leading Health Indicator was selected for inclusion in this report.

The information in this report evaluates the health status of individuals with disability and no disability as assessed in the questions asked in the telephone survey of the BRFSS. This report deals with the BRFSS administered to a representative sample of adults ages 18 and above in South Carolina for the year 2005. Since data from prior years have been reported previously [8,9], this report focuses exclusively on 2005 data.

As a demographic descriptor rather than a health outcome, disability is an essential indicator for measuring and tracking disparities in health status (HP 2010, Disability and Secondary Conditions, Chap.6, 2001) and the BRFSS format is a proven strategy for disparity assessment [1,4,8,13]. Healthy People 2010 objectives and the BRFSS have a strong preventive orientation emphasizing the assessment of risk factors, so there is considerable overlap. However, capability for comparison is constrained by differences in wording and BRFSS concerns different from those of HP 2010. Healthy People is the nation's health plan, designed to highlight public health issues, motivate action, and measure progress. Updated every 10 years, we are currently in the HP 2010 plan. HP

2010 includes a group of objectives, the Leading Health Indicators (LHI), selected to reflect the major health concerns in the nation at the beginning of the 21st century.

The first section of this report describes the methods of BRFSS. The second provides an overview of personal and demographic characteristics of respondents with and without disability. The third section provides information on access to health care, and the fourth addresses health risk factors for people with and without disabilities. The fifth section provides an overview of health status and quality of life, and the sixth provides data on sexual victimization. The seventh section describes the results of logistic regression analyses comparing people with disabilities to those without disabilities, controlling for differences in age, race and sex.

I. METHODS

I A. The Behavioral Risk Factor Surveillance System and Its Application in South Carolina (SC BRFSS)

The source of data for this report is the South Carolina Behavioral Risk Factor Surveillance System (SC BRFSS). SC BRFSS is part of an ongoing national effort, funded in all 50 states and five territories by the Centers for Disease Control and Prevention (CDC), to monitor the prevalence of behavioral risk factors for chronic diseases and other leading causes of death and disability among adults in the United States [2].

Over half of the two million US deaths each year are related to personal health behaviors. In the early 1980's, CDC and the states started to assess and track these behaviors and health measures using a telephone survey. CDC coordinates and provides technical assistance and the states conduct the surveys. South Carolina has participated since 1984.

BRFSS was designed to collect uniform data, with priority given to behaviors and conditions that place adults at risk for the chronic diseases, injuries, and preventable infectious diseases that are the leading causes of morbidity and mortality in the United States and its territories. The results are essential to planning and evaluating health promotion efforts to reduce the prevalence of these health risk behaviors, to identify trends and to measure progress toward achieving state-specific and national Healthy People 2010 Objectives. A comparison of matching questions on the BRFSS and the National Health Interview Survey (NHIS) found satisfactory agreement for 13 of 14 items [15]. The principal difference was a lower estimate of fair or poor health status for NHIS than BRFSS despite identical wording.

The 2005 SC BRFSS consisted of a telephone interview of a representative sample of non-institutionalized South Carolina adults aged 18 years and older. This survey excluded: (1) individuals in penal, mental, or other institutions; (2) individuals living in other congregate care arrangements such as dormitories, barracks, convents, or boardinghouses, and (3) individuals living in a household without a telephone or requiring electronic telephone devices (i.e. TDD or TTY). Interviews were conducted in English or Spanish depending on the respondent's preference. Sampling and interviewing were performed by a professional survey organization under contract to the SC Department of Health and Environmental Control, and followed the overall protocol from the CDC (details below; additional information is available on the CDC.gov website).

The SC BRFSS questionnaire contains multiple modules, with a relatively stable core asked annually, and additional questions in CDC and state-added modules. The core and modules typically cover a variety of topics related to health and safety, considering both knowledge and practices regarding health status, health care access and utilization, use of preventive services (e.g. immunization), chronic conditions such as hypertension, diabetes, and overweight, behaviors such as exercise, tobacco use, and fruit and vegetable consumption, injury control, HIV and AIDS, women's health, and demographic information.

I B. Strengths and Limitations of the Estimation Process

Strengths include (1) breadth of content (multiple sources of health risks); (2) flexible, ongoing data collection; (3) addresses emerging health issues; (4) less expensive than in-person interviews; (5) relative standardization of survey content and procedures allows comparisons; (6) random sampling representative of the population allows generalization of results; and (7) widespread participation (all 50 states + territories)[2]. Examples of limitations are (1) lack of depth on many health risk issues; (2) self-report respondents may have selective recall and also may modify their report to conform to socially acceptable criteria or legal standards; (3) reliance on telephone survey methodology is cost-effective, but has greater vulnerability to incomplete sample coverage, non-response, and other sources of error; (4) the disability question set is relatively new and not widely used previously, and (5) as in all such surveys, question wording may be a problem for some responders.

The population from which the SC BRFSS samples were drawn was the total non-institutionalized South Carolina population living in the state most of the year and residing in telephone-equipped households. Since the design necessarily excludes people without telephones, and those who live in institutional facilities, such as nursing homes or residential facilities for people with developmental disabilities and people with mental illness, and the homeless, the estimated proportion of people with disabilities is almost certainly lower than the actual value.

I C. Sampling Techniques and Sampling Frame

Disproportionate Stratified Random Digit Dialing (RDD), a population-based sampling procedure, was conducted for selected South Carolina households. This sophisticated random sampling methodology was approved by CDC and provided independent monthly samples using trained and experienced interviewers. In addition, special call verification and refusal protocols were used, including a Nonresponse Conversion staff. At least 95 percent of refusals were called back to attempt conversion to interview

completion. Typical Computer-Aided Telephone Interview (CATI) quality control logic such as valid ranges and error checks were also included. Interviews were conducted continuously and data forwarded monthly. Interviews were conducted from 5:30 a.m. to 9:30 p.m. on weekdays and on one Saturday morning each month and at other times if required to obtain a sufficient number of responses. The response rate was defined by the criteria of the Council of American Survey Research Organizations [CASRO]. The continuing decline in response rate is cause for concern, with the expanding use of cell phones likely to cause even more difficulty in locating potential responders. Of note is the report of Biener et al [1], who compared estimates from two state surveys to census data and concluded that declining response rates have not resulted in less accurate or biased estimates of smoking behavior.

The 2005 response rate, defined as the ratio of complete interviews to complete plus refused interviews, was 60.2%, substantially above the rate of 43.4% in 2004. The interviewers met the sample size goals with total interviews of 8388 and an overall disability sample size of 2040. The demographic data were weighted for the 2005 distributions of age, gender, and race distributions for the state and adjusted for the multistage, stratified random sampling strategy using SUDAAN. After weighting, the disability prevalence was 20.9%. The frequency data used to calculate proportions were not adjusted.

I D. Data Processing and Analyses

All data processing and analyses were performed using the SUDAAN package from the Research Triangle Institute, Research Triangle Park, NC. Unless otherwise specified, individuals who answered that they did not know or refused to answer a question were excluded from the denominators when calculating the percentages. The exclusion of "don't know" and "refused" categories from denominators might slightly elevate the percentages in other categories. Any subgroup analyses containing small sample sizes were presented using whole numbers. Weighting of results presented in this report was performed using SUDAAN to reflect the age, gender, and race distribution of the 2005

South Carolina population estimates, allowing generalization of the survey results to the entire state. The frequency data used to calculate proportions were not adjusted.

Some of the variables in this report are interrelated. For example, age is an important determinant for many health-related conditions and health behaviors, and people with disabilities tend to be older than people without disabilities. Therefore comparisons between people with and without disabilities on any behavior/condition that is not adjusted for age will be biased. For some variables, those below and above age 65 were separated to reduce the effects of age differences. Associations among variables can be managed by identifying the independent effect of each variable and is the most complete approach for handling such relationships. However, the scope of this report does not extend to analysis of confounding variables. Therefore, the reader needs to be aware of potential interactions between variables when interpreting the results.

II. DESCRIPTIVE DATA

The demographic data are summarized in Tables 1a – 1g. Each table is divided into four columns. The first column lists the variable for which the data are provided. The second column (Measure) has 3 parts: the first part is the proportion or percentage of the respondents who meet the variable definition (%), second is the 95% CI, and third is the actual number of individuals (not weighted) meeting the definition (n). (Note that for many variables, the sample size is relatively large with correspondingly narrow CIs). The third column contains the Measure values for those who met the disability definition (Disability), and the fourth column contains the Measure values for those who did not meet the disability definition (No Disability). The top row is the proportion of those with disability or with no disability for that variable so that the percentages will sum to 100% (or very close depending on rounding effects).

As shown below, the overall prevalence of disability was 20.9%. Disability prevalence increased markedly with age and was associated with education less than high school and low income. Employment status also differed for people with and without disability, with

individuals with disability being markedly less likely to be employed ($p < 0.0001$). The data for gender indicated no difference in the prevalence of disability between men and women ($p = 0.0773$), and the data for racial/ethnic groups showed no difference between white and non-white categories ($p = 0.2992$).

Table 1. Demographic Attributes by Disability Status.

Table 1a. Disability and No Disability Proportions for the Total Statewide Sample

TOTAL n	MEASURE	DISABILITY	NO DISABILITY
8,388	% 95% CI n	20.9 19.9-21.9 2040	79.1 78.1-80.1 6348

Table 1b. Disability and No Disability Proportions by Age*

AGE	MEASURE	DISABILITY	NO DISABILITY
18-64	% 95% CI n	17.7 18.7-16.6 1267	82.3 81.3-83.4 4946
65+	% 95% CI n	37.1 34.8-39.4 759	62.9 60.1-65.2 1343

* $p < 0.0001$

Table 1c. Disability and No Disability Proportions by Gender

GENDER	MEASURE	DISABILITY	NO DISABILITY
MALE	% 95% CI n	19.9 18.3-21.5 768	80.1 78.5-81.7 2535
FEMALE	% 95% CI n	21.8 20.5-23.0 1272	78.2 77.0-79.5 3813

$p = 0.0773$

Table 1d. Disability and No Disability Proportions by Race/Ethnicity

RACE/ETHNICITY	MEASURE	DISABILITY	NO DISABILITY
WHITE	% 95% CI n	21.5 20.3-22.6 1545	78.5 77.4-79.7 4774
BLACK	% 95% CI n	19.5 17.3-21.8 426	80.5 78.2-82.7 1376
OTHER	% 95% CI n	19.9 14.2-25.6 55	80.1 74.4-85.8 158

p=0.2992

Table 1e. Disability and No Disability Proportions by Education*

EDUCATION	MEASURE	DISABILITY	NO DISABILITY
<HIGH SCHOOL	% 95% CI n	34.6 31.1-38.1 430	65.4 61.9-68.9 708
=>HIGH SCHOOL	% 95% CI n	18.8 17.8-19.8 1601	81.2 80.2-82.2 5627

*p<0.0001

Table 1f. Disability and No Disability Proportions by Income*

INCOME	MEASURE	DISABILITY	NO DISABILITY
<\$25,000	% 95% CI n	32.5 30.1-35.0 880	67.5 65.0-69.9 1464
\$25,000+	% 95% CI n	15.1 14.0-16.1 824	84.9 83.5-85.7 4076

*p<0.0001

Table 1g. Disability and No Disability Proportions by Employment Status*

EMPLOYMENT	MEASURE	DISABILITY	NO DISABILITY
EMPLOYED	% 95% CI n	11.1 10.0-12.2 548	88.9 87.8-90.0 4085
RETIRED	% 95% CI n	34.2 31.9-36.6 654	65.8 63.4-68.1 1266
STUDENT/HOMEMAKER	% 95% CI n	13.7 10.9-16.4 125	86.3 83.6-89.1 587
UNEMPLOYED	% 95% CI n	27.2 22.2-32.2 140	72.8 67.8-77.8 291
UNABLE TO WORK	% 95% CI n	81.9 76.9-86.8 564	18.1 13.2-23.1 101

*p<0.0001

III. ACCESS TO HEALTHCARE

III A. Health Insurance Coverage

The Healthy People 2010 Objective:

- Increase the proportion of persons with insurance to 100% (HP1-1)

The 2005 SC BRFSS asked the following question related to health care coverage:

- “Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?”

Table 2. SC BRFSS 2005. Access: Health Care Coverage/Insurance During the Past 12 Months by Age Group <65 and Disability Status.*

SC BRFSS 2005	Disability			No Disability		
	%	(95% CI)	n	%	(95% CI)	n
Health care coverage/insurance for age <65						
Yes	82.0	(79.6-84.4)	1745	80.9	(79.5-82.3)	5386
No	18.0	(15.6-20.4)	290	19.1	(17.7-20.5)	943

*p=0.42

Although a large percentage of adults in both disability and no disability groups under age 65 reported coverage such as insurance or other plans to meet health care costs, there were still 18.0% and 19.1% respectively without coverage. (The BRFSS does not distinguish the type of coverage). The percentage unfavorable for disability reached statistical significance. Both South Carolina proportions without coverage were above the results for the 2002 National Health Interview Survey of 16.6% for the US. However, the proportion of PWD and PWD without coverage was below the survey’s result of 20.2% for the South. All measures were well below the HP 2010 target of 100% coverage, presumably for those under age 65, as those age 65 and above are covered by Medicare.

III B. Affordability of Health Care

There is no Healthy People 2010 Objective related to affordability of healthcare.

The **2005 SC BRFSS** asked the question:

- “Was there a time in the past 12 months when you needed to see a doctor but could not because of the cost?”

Table 3. SC BRFSS 2005. Access: Unable to See Doctor Because of Cost by Disability Status.*

SC BRFSS 2005	Disability			No Disability		
	%	(95% CI)	n	%	(95% CI)	n
Unable to see doctor because of cost						
Yes	27.5	(24.9-30.1)	483	13.	(12.0-14.2)	738
No	72.5	(69.9-75.1)	1542	1	(85.8-88)	5601
				86.		
				9		

*p<0.0001

These results are consistent with the conclusion that the disability group is associated with significantly reduced access to health care when compared to the no disability group. Note that the greater disparity identified in Table 3b is potentially a function of two factors: (1) the level of health care coverage or the ability to pay out of pocket for health care and (2) the propensity to seek health services. If PWD are more likely to

perceive a need for health care, difficulties in paying for such services would likely be made more readily apparent.

III C. Specific Source of Ongoing Care

The Healthy People 2010 Objective:

- Increase the proportion of people with disabilities ages 18+ who have a specific source of ongoing care to 96% (HP1-4c).

The 2005 SC BRFSS asked the question:

- “Do you have one person you think of as your personal doctor or health care provider?”

Table 4. SC BRFSS 2005. Access: Number of Personal Health Care Providers by Disability Status.*

SC BRFSS 2005	Disability			No Disability		
	%	(95% CI)	n	%	(95% CI)	n
One health provider						
Yes, at least one	88.9	(87.0-90.8)	1867	80.	(79.3 – 82.1)	5418
No	11.1	(9.2-13.0)	171	7	17.9-20.7)	916
				19.		
				3		

*p<0.0001

People with disabilities were significantly more likely to have at least on personal health care provider. This may reflect greater need for health care or increased initiative on the part o PWD to receive regular, ongoing health care.

IV. HEALTH RISK FACTORS

IV A. Physical Activity

The Healthy People 2010 Objectives:

- Reduce the proportion of adults with disabilities who engage in no leisure-time physical activity to 20% (HP22-1).
- Increase the proportion of adults with disability who are physically active for at least 30 minutes per day 5 days per week to 30% (HP22-2).
- Increase the proportion of adults who engage in vigorous physical activity that promotes cardiorespiratory fitness three or more days per week for 20 or more minutes per occasion (HP22-7).

The **2005 SC BRFSS** asked the question:

- “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?”

Table 5. SC BRFSS 2005. Any Exercise Past 30 Days by Disability Status.*

SC BRFSS 2005	Disability			No Disability		
	%	(95% CI)	N	%	(95% CI)	n
Exercise Yes	54.8	(52.1-57.4)	1106	78.7	(77.5-80.0)	4945
Exercise No	45.2	(42.6-47.9)	929	21.3	(20.0-22.5)	1403

*p<0.0001

More than half of those with disability reported participating in some physical activity in the past month. However, as might be expected, people with disability were definitely less active than people with no disability. The proportion reporting no exercise was 45.2% and 21.3% respectively. This result is unfavorable and far from the HP 2010 target of no more than 20% non-participation or at least 80% participation by PWD.

The **2005 SC BRFSS** also asked other exercise-related questions that are more specific:

- “Now, thinking about the moderate activities you do in a usual week, do you do moderate activities for at least 10 minutes at a time, such as brisk walking, bicycling, vacuuming, gardening, or anything else that causes some increase in breathing or heart rate?” (HP18.2)
- “How many days per week do you do these moderate activities for at least 10 minutes at a time?” (HP18.3)
- “On days when you do moderate activities for at least 10 minutes at a time, how much total time per day do you spend doing these activities?” (HP18.4)
- “Now, thinking about the vigorous activities you do in a usual week, do you do vigorous activities for at least 10 minutes at a time, such as running, aerobics, heavy yard work, or anything else that causes large increases in breathing or heart rate?” (HP18.5)
- “How many days per week do you do these vigorous activities for at least 10 minutes at a time?” (HP18.6)
- “On days when you do vigorous activities for at least 10 minutes at a time, how much total time per day do you spend doing these activities?” (HP18.7)

We created an algorithm to identify respondents whose physical activity meets CDC recommendations of at least 150 minutes per week of moderate physical activity, at least 60 minutes per week of vigorous physical activity, or at least 150 minutes per week of combined moderate and vigorous physical activity. Any respondent who met at least one of these criteria was considered to meet recommendations.

Table 6. Proportion Meeting Recommendations for Moderate or Vigorous Physical Activity*

SC BRFSS 2005	Disability			No Disability		
	%	(95% CI)	n	%	(95% CI)	n
Yes	44.9	42.2-47.6	844	66.4	65.0-67.8	3939
No	55.1	52.4-57.8	1168	33.6	32.2-35.0	2281

*p<0.0001

IV B. Influenza Immunization

The Healthy People 2010 Objective:

- Increase the proportion of non-institutionalized adults with disabilities who are vaccinated annually against influenza and ever vaccinated against pneumococcal disease to 90% for adults 65 and older and 60% for adults 18 to 64 (HP14-29 a,c).

The **SC BRFSS 2005** asked the question:

“During the past 12 months have you had a flu shot?”

Table 7. SC BRFSS 2005. Influenza Immunization by Disability Status.*

SC BRFSS 2005	Disability			No Disability		
	%	(95% CI)	n	%	(95% CI)	n
Flu Shot						
Yes	36.3	33.9-38.7	852	23.0	21.8-24.3	1687
No	63.7	61.3-66.1	1188	77.0	75.7-78.2	4661

*p<0.0001

PWD were more likely to report influenza immunization, though in each group substantially less than half were immunized.

IV C. Binge Drinking

The Healthy People 2010 Objective:

Reduce the proportion of adults engaging in binge drinking of alcoholic beverages during the past month below 6% (HP26-11c).

The **2005 SC BRFSS** asked the following questions:

- “A drink of alcohol is 1 can or bottle of beer, 1 glass of wine, 1 can or bottle of wine cooler, 1 cocktail, or 1 shot of liquor. During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage?” (HP12.1)
- “Considering all types of alcoholic beverages, how many times during the past 30 days did you have five or more drinks on an occasion?” (HP12.3)
-

Table 8. SC BRFSS 2005. Binge Drinking in the Past Month by Disability Status

SC BRFSS 2005	%	Disability (95% CI)	N	%	No Disability (95% CI)	n
Binge Drinking^{NS}						
0	73.8	(69.2-78.3)	529	71.3	(69.1-73.5)	2256
1	9.6	(6.8-12.5)	51	9.9	(8.5-11.3)	245
2-5	11.3	(7.8-14.8)	50	14.0	(12.3-15.7)	331
> 5	5.3	(3.0-7.6)	30	4.8	(3.6-6.0)	108

NS=Not significant

At least one episode of binge drinking was reported by 26.2% of PWD and 71.3% of PWOD. Approximately 5% in each group reported more than 5 episodes of binge drinking in the past 30 days. The small differences between PWD and PWOD were not statistically significant.

IV D. Tobacco Use

The Healthy People 2010 Objective:

- Reduce cigarette smoking by adults to 12% (HP27.1a).

The 2005 SC BRFSS asked the following questions:

- “Have you smoked at least 100 cigarettes in your entire life?”
- If so, “Do you now smoke cigarettes every day, some days or not at all?”

Table 9. SC BRFSS 2005. Tobacco Use: Cigarette Smoking by Disability Status.*

SC BRFSS 2005	Disability			No Disability		
	%	(95% CI)	n	%	(95% CI)	n
	26.5	24.0-29.1	491	21.	20.1-22.7	1257
Smoking Status	31.1	28.8-33.4	684	4	21.3-23.8	1649
Current	42.4	39.7-45.0	857	22.	54.5-57.5	3416
Former				6		
Never				56.		
				0		

*p<0.0001

In 2005, 26.5% of adults with disability and 21.4% of adults without disability currently smoked. PWD were also significantly more likely to be former smokers and less likely to have never smoked.

IV E. Overweight and Obesity

The Healthy People 2010 Objectives:

- Reduce the proportion of adults who are obese to 15% (HP19-2).
- Increase the number of men and women who are at a healthy weight to 60% (HP19-1a).

The 2005 SC BRFSS collected data on height and weight for calculation of Body Mass Index, the ratio of weight to height for each individual. A BMI less than 25 is considered normal weight, 25-30 is overweight, and obese is over 30. As shown in Table 4e, PWD were significantly more likely than PWOD to be overweight or obese.

Table 10. SC BRFSS 2005. Obesity: Body Mass Index Categories by Disability Status.*

SC BRFSS 2005	Disability			No Disability		
	%	(95% CI)	N	%	(95% CI)	n
BMI						
< 25	29.6			36.	35.4-38.4	
25-29.9	32.2			9	34.9-37.9	
> 29.9	38.2			36.	25.2-28.1	
		27.0-32.3	578	4		2303
		29.7-34.7	640	26.		2289
		35.5-40.8	731	7		1547

*p<0.0001

IV F. HIV Testing

The Healthy People 2010 Objective:

- (Developmental) Increase the number of HIV-positive persons who know their serostatus (HP13-7).

The 2005 SC BRFSS asked the following question:

- “Have you EVER been tested for HIV? Do not count tests you may have had as part of a blood donation.”

Table 11. SC BRFSS 2005. Responsible Sexual Behavior: Ever Tested for HIV by Disability Status.^{NS}

SC BRFSS 2005	Disability			No Disability		
	%	(95% CI)	n	%	(95% CI)	N
Had HIV test						
Yes	40.6	37.1-44.2	456	38.6	36.9-40.4	1659
No	59.4	55.8-62.9	740	61.4	59.6-63.1	3015

*p = 0.3156

The question about HIV testing was only asked of participants under 65 years of age.

V. HEALTH STATUS AND QUALITY OF LIFE

The **SC BRFSS 2005** asked the following questions related to this topic:

- “Would you say that in general your health is Excellent, Very Good, Good, Fair, or Poor?”
- “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?”
- “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?”

Table 15 provides detailed data for the health assessment questions.

Table 15. SC BRFSS 2005. Health Indicators by Disability Status.

2005 BRFSS Variables	Disability			No Disability		
	%	(95% CI)	n	%	(95% CI)	n
(CQ1.1)..in general health is:*						
Excellent	5.2	(3.9-6.5)	85	23.0	(21.7-24.3)	1423
Very Good	15.2	(13.2-17.1)	295	36.7	(35.2-38.2)	2292
Good	31.1	(28.5-33.7)	599	31.4	(30.0-32.9)	1987
Fair	25.3	(23.1-23.6)	527	7.4	(6.6-8.2)	518
Poor	23.3	(21.2-25.4)	521	1.5	(1.1-1.9)	110
(CQ1.2)..how many days in past 30 days physical health not good:*						
0 days	31.2	(28.7-33.7)	594	71.8	(70.4-73.2)	4456
1-15 days	35.4	(32.7-38.1)	652	25.6	(29.2-27.0)	1584
16-30 days++	33.4	(30.9-35.9)	668	2.6	(2.2-3.0)	194
(CQ1.3)..how many days in past 30 days mental health not good:*						
0 days	50.5	(47.8-53.2)	1058	69.4	(67.9-70.9)	4463
1-15 days	30.1	(27.6-32.6)	548	25.9	(24.5-27.3)	1487
16-30 days++	19.4	(17-21.8)	353	4.7	(4.0-5.4)	286

*Disability significantly different from no disability, $p < 0.0001$

People with disabilities reportedly significantly poorer general health and significantly more days in which physical health and mental health were not good.

V A. Social and Emotional Support and Satisfaction with Life

The SC BRFSS 2005 asked the following questions related to this topic:

- “How often do you get the social and emotional support you need?”
- “In general, how satisfied are you with your life?”

Table 16. Frequency of Adequate Social and Emotional Support

SC BRFSS 2005	Disability			No Disability		
	%	(95% CI)	n	%	(95% CI)	n
Always	40.4	37.8-43.1	793	50.8	49.2-52.4	3078
Usually	25.5	23.0-28.0	490	29.2	27.8-30.7	1764
Sometimes	21.8	19.5-24.1	410	13.7	12.6-14.8	802
Rarely	7.1	5.7-8.4	140	3.2	2.6-3.8	182
Never	5.2	3.9-6.4	97	3.0	2.4-3.7	176

p<.0001

Table 17. Life Satisfaction

SC BRFSS 2005	Disability			No Disability		
	%	(95% CI)	n	%	(95% CI)	n
Very Satisfied	32.7	30.3-35.2	653	49.9	48.4-51.5	3124
Satisfied	53.1	50.4-55.8	1035	46.6	45.0-48.1	2782
Dissatisfied	10.5	8.9-12.1	211	2.9	2.4-3.4	180
Very Dissatisfied	3.7	2.6-4.8	62	0.6	0.3-0.9	26

p<.0001

PWD were significantly less likely to report getting the social and emotional support they need. PWD also reported significantly less satisfaction with their lives.

VI. SEXUAL VICTIMIZATION

The Healthy People 2010 Objectives:

- Reduce the annual rate of rape or attempted rate to 0.7 per 1,000 persons (HP15-35).
- Reduce sexual assault other than rape to 0.4 per 1,000 persons aged 12 years and older (HP15-36).

Sexual Victimization was assessed using four questions:

- “In the past 12 months, has anyone exposed you to unwanted sexual situations that did not involve physical touching? Examples include things like flashing you, peeping, sexual harassment, or making you look at sexual photos or movies.”
- “In the past 12 months, has anyone touched sexual parts of your body after you said or showed that you didn’t want them to or without your consent?”
- “In the past 12 months, has anyone ATTEMPTED to have sex with you after you said or showed that you didn’t want to or without your consent, BUT SEX DID NOT OCCUR?”
- “In the past 12 months, has anyone HAD SEX with you after you said or showed that you didn’t want to or without your consent?”

Table 18. Exposed to Unwanted Sexual Situation, Past 12 Months.

SC BRFSS 2005	Disability			No Disability		
	%	(95% CI)	n	%	(95% CI)	n
Yes	2.5	1.5-3.5	37	1.1	0-3.3	53
No	97.5	96.5-98.5	1779	98.9	98.5-99.3	5669

p=.008

Table 19. Unwanted Sexual Touching, Past 12 Months

SC BRFSS 2005	Disability			No Disability		
	%	(95% CI)	n	%	(95% CI)	n
Yes	1.4	0.7-2.1	23	0.7	0.4-1	31
No	98.6	97.9-99.3	1795	99.3	99-99.6	5688

p=.069

Table 20. Unwanted Attempt to Have Sex, Past 12 Months

SC BRFSS 2005	Disability			No Disability		
	%	(95% CI)	n	%	(95% CI)	n
Yes	1.0	0.3-1.7	13	0.7	0.4-1	27
No	99.0	98.3-99.7	1758	99.3	99-99.6	5615

p=.37

Table 21. Sex Without Consent, Past 12 Months

SC BRFSS 2005	Disability			No Disability		
	%	(95% CI)	n	%	(95% CI)	n
Yes	0.9	0.2-1.6	11	0.2	0.1-0.3	9
No	99.1	98.4-99.8	1765	99.8	99.7-99.9	5630

p=.05

Table 22. Any Sexual Victimization, Past 12 Months (A yes answer to any one of the four questions on sexual violence)

SC BRFSS 2005	Disability			No Disability		
	%	(95% CI)	n	%	(95% CI)	n
Yes	4.0	2.7-5.3	56	2.0	1.5-2.5	95
No	96.0	94.7-97.3	1766	98.0	97.5-98.5	5634

p=.005

Based on every measure of sexual victimization, PWD were at increased risk, though the difference was statistically significant only for being placed in an unwanted sexual situation. When the questions were grouped so that an affirmative answer to any one of the four questions is considered sexual victimization, there was a highly statistically significant difference in the proportion of PWD (4%) compared to PWOD (2%) who reported some sexual victimization in the preceding 12 months.

VII. ADJUSTED COMPARISONS OF SELECTED OUTCOMES FOR PWD AND PWOD

To evaluate whether disability status is independently associated with health disparities, we ran a logistic regression model predicting a number of important measures, controlling for race, age, and sex. For calculation of the Odds Ratio, the No Disability value was set at 1.0 for each variable. The results, shown in Table 6a below, indicate that PWD generally are at a disadvantage compared to PWD. Each odds ratio is significantly different from 1.0, except for health coverage, which narrowly misses statistical significance.

Table 23. SC BRFSS 2005. Odds Ratios for Selected Measures by Disability Status After Controlling for Age, Race, and Sex.

BRFSS 2005. Risk Factors and Limitations in Preventive Care by Disability Status	Disability	
	OR	(95% CI)
General Health Fair or Poor	7.17	5.32 – 9.65
Any physical or mental health problem, past 30 days	5.42	4.65 – 6.32
Health care coverage	0.85	.70 – 1.03
Unable to receive health care because of cost	3.16	2.66 – 3.75
Influenza immunization last 12 months	1.45	1.26 – 1.66
Meet physical activity recommendations	4.89	2.97 – 8.06
Current Smoker	1.56	1.33 – 1.83
Receive social and emotional support needed usually or always	0.47	0.41 – 0.55
Always or usually satisfied with life	0.19	0.15 – 0.24
Victim of sexual violence in past 12 months	2.39	1.55 – 3.67

**Adjusted for age, race and sex.

SUMMARY

As in recent years, the self reported prevalence of disability in South Carolina is just over 20%. People with disabilities are generally at increased risk of poor health, as evidenced by a lower likelihood of having health insurance and a greater likelihood of not seeking needed health care because of costs; more cigarette smoking and less physical activity; poorer self rated general health and more days of poor physical health and mental health; less satisfaction with life and more often insufficient emotional and social support; and greater likelihood of sexual victimization. Additional efforts to improve the health and quality of life for South Carolinians with disabilities appear to be needed.

An important caveat in applying these findings, however, is that in some cases they may be circular. For example, a person with severe breathing problems from chronic obstructive pulmonary disease (a condition typically caused by smoking) would likely self-identify as having a disability. He might also be likely to report smoking cigarettes. In this case, cigarette smoking is probably the cause of disability rather than an effect of it. Similarly, people with severe mental illness are likely to be classified as having a disability; it would not be surprising if those same people reported frequently having days in which their mental health is not good.

Nonetheless, these findings do indicate significant health disparities in people with disabilities, and ultimately it does not matter whether the disability is the cause or the result of a disparity – the disparity needs to be addressed in either case. Government agencies, health care providers, and others should reach out to people with disabilities when designing and implementing health promotion interventions.

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