

Adult Disability Prevalence: Florida 2007 Behavioral Risk Factor Surveillance System (BRFSS)

**Report of the Florida Office on Disability and Health at the
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INTRODUCTION:

The Americans with Disabilities Act (ADA) defines an individual with a disability as any person who is limited in one or more major life activities because of a physical or mental impairment (1). Based on data from the Current Populations Report, about 20% of people in the United States live with disability, which includes approximately 54 million people (2). Disability increases with age; thus, as the proportion of older adults in the United States increases, the overall prevalence of disability likely will increase (3). In 2006, approximately 16.8% of the Florida's population was age 65 years or older, compared to 12.4% nationally (4). Disability is a major public health concern for Florida. Survey data from 2000-2005 suggest that there has been an increase in the prevalence of disability in Florida (5).

DATA SOURCE: BRFSS 2007

The Behavioral Risk Factor Surveillance System (BRFSS) is a random-digit-dial telephone survey conducted by each state's health department in collaboration with the Centers for Disease Control and Prevention (CDC; see <http://www.cdc.gov/brfss/>). A nationally standard questionnaire is used every year to conduct this telephonic survey, with some added questions based on specific state data needs. All community-dwelling, non-institutional, civilian adults age 18 years and older are eligible to participate in the BRFSS. One adult per randomly-selected household is interviewed (5).

The BRFSS has included two questions related to disability since 2001 (6). The two questions are:

1. Are you limited in any activities because of physical, mental, or emotional problems?
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?

These questions help define the prevalence of disability independently, and the combination of answers for the two questions is used as a standard definition of general disability prevalence by the CDC and state reports (7-10).

DATA ANALYSIS:

BRFSS 2007 data for the state of Florida were analyzed using SAS 9.1 to accommodate the complex sampling and response patterns of the BRFSS. Using the weighted data, these results represent the community-dwelling Florida population aged 18 and older. Data were analyzed for different definitions of disability in Florida. The first two variables were those directly available by positive answers to the two BRFSS questions about disability:

1. **Limited.** Adults who are limited in any activities because of physical, mental, or emotional problems.
2. **Equipment.** Adults with health problem(s) that requires the use of special equipment.
3. **Disability.** Adults who are either limited and/or use equipment.

Table 1. Cross-tabulation of disability variable (DIS) with limited and equipment.

	Use equipment	Do not use equipment
Limited	DIS: Yes	DIS: Yes
Not Limited	DIS: Yes	DIS: No

Age and race/ethnicity were divided into categories. Age groups are: 18-44, 45-54, 55-64, 65-74 and ≥75 years old. Race and ethnic groups were classified as: White non-Hispanic; African American non-Hispanic; Hispanic; and Other groups, which included Floridians who identified themselves as multiracial.

RESULTS:

The results are summarized in two tables. Table 2 shows the state-wide prevalence of disability and Table 3 summarizes Florida counties. Data in both tables are weighted to represent the entire population of Florida in 2007.

Table 2. Prevalence of disability (weighted) by type of disability and demographic subgroup, 2007 Florida BRFSS (n=38,317).

		Type of Disability		
		Percentage (95 % Confidence Intervals)		
		Limited*	Equipment†	Disability‡
Overall Prevalence		17.9% (17.1, 18.7)	7.1% (6.6,7.6)	19.6% (18.8,20.5)
Subgroup Prevalence				
Gender	Men	16.9% (15.7,18.2)	6.9% (6.1, 7.7)	18.8% (17.5,20.1)
	Women	18.8% (17.8,19.8)	7.4% (6.7,8.0)	20.4% (19.4,21.5)
Age groups	18-44	10.3% (9.2,11.4)	2.3% (1.7, 2.9)	11.0% (9.8, 12.3)
	45-54	18.2% (16.5, 20.0)	5.6% (4.4, 6.7)	19.0% (17.2, 20.8)
	55-64	26.1% (24.0, 28.2)	9.9% (8.5, 11.4)	27.8% (25.6,29.9)
	65-74	26.2% (23.9,28.4)	11.0% (9.5,12.5)	29.1% (26.8,31.4)
	75 & older	29.0% (26.8,31.3)	21.9% (19.8,24.0)	35.5% (33.2,37.9)
Race & ethnic groups				
White, non-Hispanic		19.7% (18.8,20.6)	7.4% (6.9,7.9)	21.3% (20.4,22.2)
African American, non-Hispanic		16.8% (14.0, 19.6)	8.1% (6.2,9.9)	19.5% (16.5, 22.5)
Hispanic		10.7% (8.8,12.6)	5.1% (3.5,6.7)	12.6% (10.4, 14.8)
Other		21.8% (17.3, 26.2)	8.7% (6.2,11.3)	23.4% (18.8, 27.9)

* Limited in any activities because of physical, mental, or emotional problems

† Health problem requires use of special equipment

‡ Disability (yes to either limited or equipment or both)

A total of 38,317 respondents answered both disability questions as yes or no. The overall prevalence of disability was approximately 19.6% in 2007 which is higher than 19.1% based on the same questions from the BRFSS 2005. Special equipment was used by 7.1% of the respondents as compared to 7.2% in 2005. Women (20.4%) were slightly more affected by disability than men (18.8%); they were more likely to report using special equipment and also to be limited. Persons aged 75 and above were more likely to have disability of all definitions. The prevalence of limitation in non-Hispanic whites is 21.3% compared to 19.5% in African Americans and 12.6% in Hispanics.

Table 3. Prevalence of disability (weighted) by type of disability and county of residence, 2007 Florida BRFSS (n=38,317).

County	Sample (n)	Type of Disability Percentage (95 % Confidence Intervals)		
		Limited*	Equipment†	Disability§
Alachua	595	18.2% (13.9,22.5)	6.0% (3.5,8.4)	20.2% (15.7,24.7)
Baker	537	20.3% (15.4,25.2)	8.0% (5.1,10.9)	21.9% (16.8,26.9)
Bay	521	19.6% (15.4,23.9)	5.7% (3.7,7.7)	20.7% (16.3,25.1)
Bradford	529	20.5% (12.1,29.0)	6.4% (3.4,9.5)	21.6% (12.9,30.3)
Brevard	532	24.5% (20.1, 28.9)	8.8% (6.1, 11.6)	25.5% (21.0, 29.9)
Broward	525	13.3% (10.1,16.6)	5.3% (3.5,7.2)	14.9% (11.6,18.3)
Calhoun	504	26.3% (18.6, 34.1)	9.8% (6.0,13.6)	28.5% (20.7,36.2)
Charlotte	473	21.2% (17.0, 25.4)	7.7% (5.0, 10.4)	22.4% (18.1,26.7)
Citrus	555	27.2% (21.9,32.5)	9.8% (7.0,12.5)	29.5% (24.1,34.8)
Clay	507	19.0% (14.9,23.1)	6.8% (4.5, 9.0)	20.4% (16.2, 24.6)
Collier	761	18.8% (77.1, 85.3)	8.1% (5.5, 10.7)	20.8% (16.6,24.9)
Columbia	568	27.0% (20.2,33.7)	10.5% (6.7,14.2)	28.7% (22.0,35.4)
DeSoto	736	17.7% (11.1,24.4)	9.6% (3.9,15.3)	22.0% (14.4,29.5)
Dixie	509	23.0% (15.6,30.5)	9.2% (3.0,15.3)	23.4% (15.9,30.9)
Duval	1379	19.6% (17.0,22.1)	6.9% (5.3,8.5)	21.0% (18.4,23.5)
Escambia	488	21.9% (17.4,26.4)	8.1% (5.7,10.5)	23.2% (18.6,27.9)
Flagler	513	23.9% (19.0,28.9)	6.2% (4.0,8.4)	24.8% (19.8,29.7)
Franklin	464	26.2% (20.7,31.8)	9.1% (5.9,12.4)	27.7% (22.1,33.3)
Gadsden	483	18.3% (14.4,22.3)	7.8% (5.2,10.3)	21.1% (16.8,25.3)
Gilchrist	437	35.4% (21.4,49.5)	10.0% (4.6,15.5)	37.1% (23.2, 50.9)
Glades	578	20.5% (10.5,30.5)	8.5% (1.4,15.5)	21.2% (11.0,31.4)
Gulf	465	25.9% (17.3,34.6)	7.1% (3.9,10.2)	27.1% (18.4,35.7)
Hamilton	484	21.2% (16.5,25.9)	8.4% (5.5,11.2)	23.4% (18.6,28.2)
Hardee	656	17.5% (11.0,24.0)	7.6% (4.4,10.8)	19.8% (12.6,27.0)
Hendry	554	16.8% (12.5,21.1)	6.8% (3.4,10.3)	19.0% (14.0,24.1)
Hernando	520	23.7% (19.1,28.3)	8.9% (6.0,11.8)	24.8% (20.2,29.5)
Highlands	722	21.3% (17.3,25.4)	9.7% (7.1,12.3)	23.1% (18.9,27.3)
Hillsborough	494	19.8% (15.8,23.7)	8.8% (6.3, 11.4)	21.5% (17.4,25.6)
Holmes	521	27.7% (19.9,35.5)	9.7% (3.9,15.5)	28.7% (20.8,36.5)
Indian River	350	17.6% (13.3,21.9)	6.1% (3.7,8.6)	18.6% (14.2,23.0)
Jackson	607	19.3% (15.0,23.7)	8.5% (5.7,11.3)	20.6% (16.2,25.1)
Jefferson	418	22.1% (17.1,27.2)	8.9% (5.6,12.1)	23.6% (18.4, 28.7)
Lafayette	494	17.8% (12.0,23.5)	6.0% (3.1,9.0)	19.9% (13.7,26.2)
Lake	587	20.6% (16.2,25.0)	9.2% (6.4,12.0)	23.6% (18.9,28.2)
Lee	546	15.7% (12.4,19.0)	6.6% (4.5,8.7)	17.4% (14.0,20.9)
Leon	558	15.4% (11.8, 19.1)	4.8% (3.0,6.5)	16.8% (13.0,20.6)
Levy	598	25.6% (21.0,30.2)	11.9% (8.4,15.3)	27.8% (22.9,32.6)
Liberty	527	34.4% (17.1,51.7)	9.5% (3.4,15.5)	36.1% (18.6,53.7)
Madison	598	22.8% (18.5,27.1)	7.9% (5.7,10.1)	24.2% (19.8,28.5)
Manatee	478	23.6% (18.7,28.4)	7.2% (4.8,9.6)	24.7% (19.8,29.6)
Marion	607	21.9% (17.8,26.1)	8.1% (5.7,10.5)	24.8% (20.4,29.2)
Martin	521	17.5% (13.9,21.0)	5.7% (3.8,7.6)	19.4% (15.6,23.1)
Miami-Dade	552	13.6% (10.5,16.7)	6.4% (4.0,8.9)	16.5% (12.9,20.1)

Table 3: County level results (Continued)

County	Sample (n)	Limited*	Equipment†	Disability§
Monroe	481	23.3% (14.5,32.1)	11.1% (1.7,20.6)	23.6% (14.9,32.4)
Nassau	528	16.6% (13.0,20.1)	6.7% (4.4,8.9)	17.8% (14.1,21.4)
Okaloosa	469	19.8% (15.5,24.0)	5.5% (3.3,7.6)	22.1% (17.7,26.4)
Okeechobee	696	21.5% (16.9,26.2)	8.3% (5.9,10.6)	23.6% (18.8,28.4)
Orange	785	13.8% (10.6,17.1)	5.8% (3.8,7.8)	14.9% (11.5,18.2)
Osceola	658	19.1% (15.4,22.9)	8.9% (6.6,11.2)	21.3% (17.4,25.2)
Palm Beach	509	13.9% (10.5,17.3)	5.2% (3.5,6.8)	15.0% (11.4,18.5)
Pasco	528	24.7% (19.6,29.9)	9.3% (6.0,12.6)	26.6% (21.4,31.8)
Pinellas	517	21.5% (17.4,25.7)	9.9% (7.2, 12.7)	22.9% (18.6,27.2)
Polk	495	19.6% (15.7,23.6)	8.0% (5.4,10.6)	21.1% (17.0,25.2)
Putnam	448	27.6% (22.5,32.7)	10.4% (7.6,13.3)	29.8% (25.3,35.1)
Saint Johns	539	16.7% (13.0,20.3)	6.1% (4.0,8.1)	18.2% (14.5,21.9)
Saint Lucie	510	21.5% (16.8,26.2)	6.3% (4.2,8.4)	23.1% (18.4,27.9)
Santa Rosa	479	15.2% (11.9,18.6)	6.2% (4.0,8.5)	17.0% (13.5,20.6)
Sarasota	794	17.3% (13.6,21.0)	7.2% (4.6,9.9)	18.8% (14.9,22.6)
Seminole	512	14.7% (11.4,18.1)	4.4% (2.8,6.0)	15.5% (12.1,18.9)
Sumter	395	18.3% (11.8,24.7)	5.9% (2.8,9.0)	20.8% (13.9,27.7)
Suwannee	465	24.8% (18.6,31.0)	9.8% (6.5,13.2)	27.1% (20.7,33.4)
Taylor	525	21.3% (17.2,25.4)	7.8% (5.5,10.2)	22.5% (18.3,26.7)
Union	514	19.8% (14.7,24.8)	7.1% (4.2,9.9)	20.8% (15.7,26.0)
Volusia	470	22.2% (17.5,26.9)	9.0% (6.1,11.8)	24.0% (19.2,28.7)
Wakulla	529	26.9% (18.9,34.9)	7.1% (4.8,9.4)	28.1% (20.1,36.1)
Walton	495	23.2% (18.8,27.6)	9.6% (6.8,12.3)	25.3% (20.7,29.9)
Washington	541	25.0% (20.1,29.8)	10.9% (8.1,13.8)	27.3% (22.2,32.4)
Overall State Prevalence	38,317	17.9% (17.1, 18.7)	7.1% (6.6,7.6)	19.6% (18.8,20.5)

* Limited in any activities because of physical, mental, or emotional problems

† Health problem requires use of special equipment

§ Disability (yes to either limited or equipment or both)

Overall, nearly one in five (19.6%) adults in Florida reported a disability in 2007. Furthermore, 17.9% of Florida's adult population reported an activity limitation and 7.1% reported using special equipment because of a health problem. The number of respondents varied by county, with at least 400 in most counties (Indian River [n=350] and Sumter [n=395] were the exceptions). Of the persons who responded to both the disability questions, 1,384 failed to identify their county of residence; therefore, the overall state prevalence includes these 1,384 respondents who do not appear in the county data.

Disability prevalence varied by county, from 14.9% in Broward and Orange counties to 37.1% of residents in Gilchrist county. The prevalence of an activity limitation was also lowest in Broward county (13.3%) and highest in Gilchrist county (35.4%). In twelve of the sixty-seven Florida counties, at least one in four adults (25.0%) was living with an activity limitation in 2007. In Levy county, 11.9% of respondents reported using equipment, the highest in the state. The use of special equipment for a health problem was lowest in Seminole county (4.4%). Figures 1-3 illustrate these geographic differences among counties.

DISCUSSION:

Disability varies among counties and demographic subgroups in Florida. Some differences, e.g., among ethnic and race groups, may be due to different age structures. For example, non-Hispanic whites in Florida are older than other racial/ethnic groups. To demonstrate where disability, based on demographic groups, is greatest, Table 4 shows the adjusted risk of disability (measured by the prevalence odds ratio) for all the groups shown in Table 2.

Table 4: Adjusted prevalence odds ratios (POR) for disability* risk in Florida

Demographic subgroup	Adjusted POR	95% Confidence Interval
Men	1.00 (reference group)	--
Women	1.05	(0.94,1.17)
18-44	1.00 (reference group)	--
45-54	1.88	(1.58,2.23)
55-64	3.03	(2.57,3.58)
65-74	3.27	(2.76,3.88)
75 & older	4.37	(3.71,5.15)
White, non-Hispanic	1.00 (reference group)	--
African American, non-Hispanic	1.19	(0.97,1.45)
Hispanic	0.71	(0.58,0.88)
Other groups	1.48	(1.13,1.93)

*Disability (yes to either limited or equipment or both)

As can be seen in Table 4, men and women have equal risk of disability after accounting for age and race/ethnicity. There is a clear increase in disability risk with age. African Americans and the “other” race/ethnicity group are at increased risk of disability compared to non-Hispanic white Floridians. Hispanic groups report lower levels of many health outcomes, and the results here may be part of the public health observation called the “Hispanic paradox” of improved health despite overall reduced access to healthcare and disparate social circumstances, but also might be a reflection of the Hispanic respondent pool in Florida.

Figure 1: Prevalence of activity limitation due to health problem in Florida based on the 2007 Behavioral Risk Factor Surveillance System telephone survey

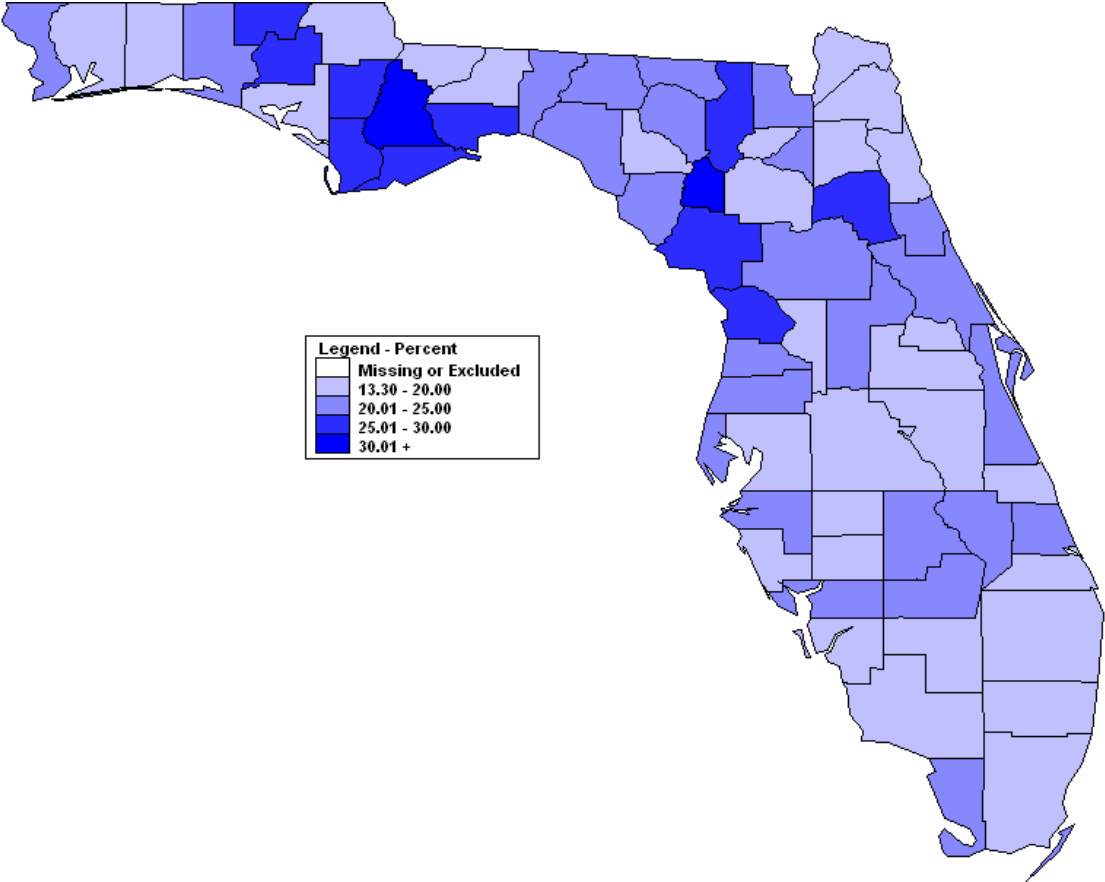


Figure 2: Prevalence of special equipment use due to health problem in Florida based on the 2007 Behavioral Risk Factor Surveillance System telephone survey

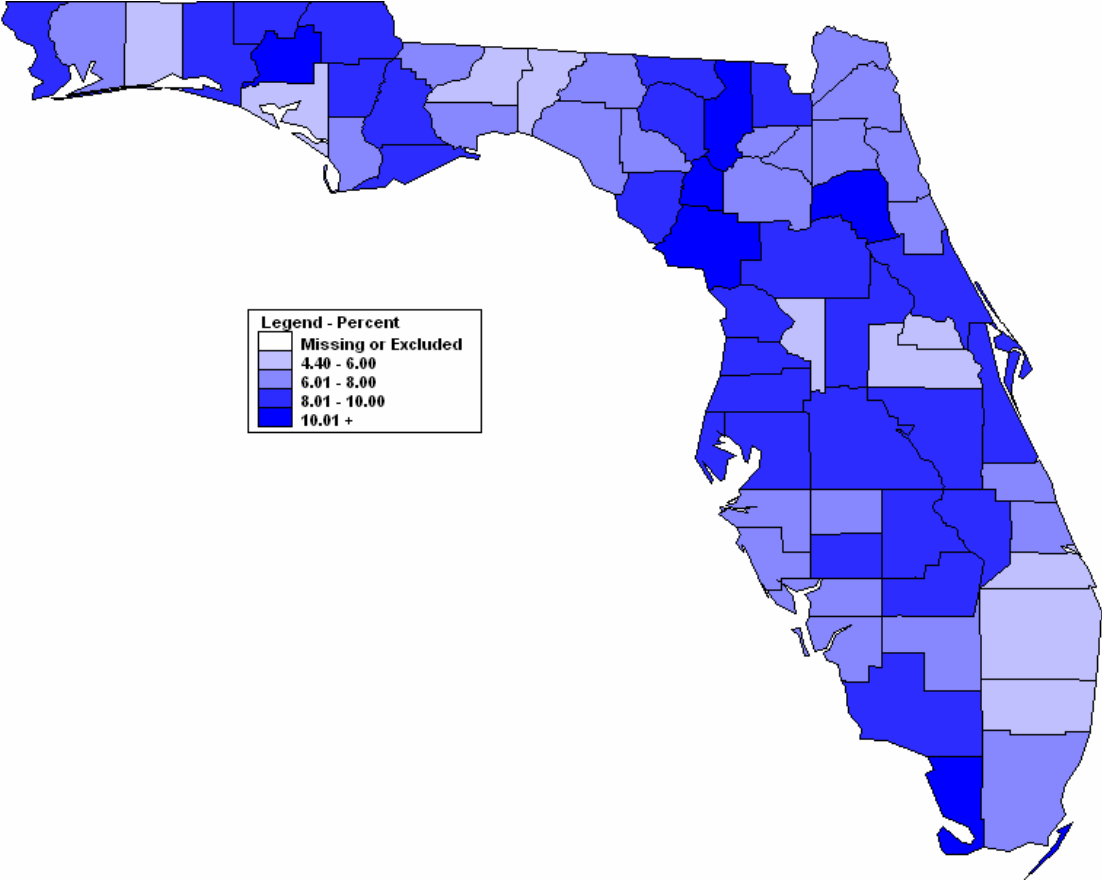
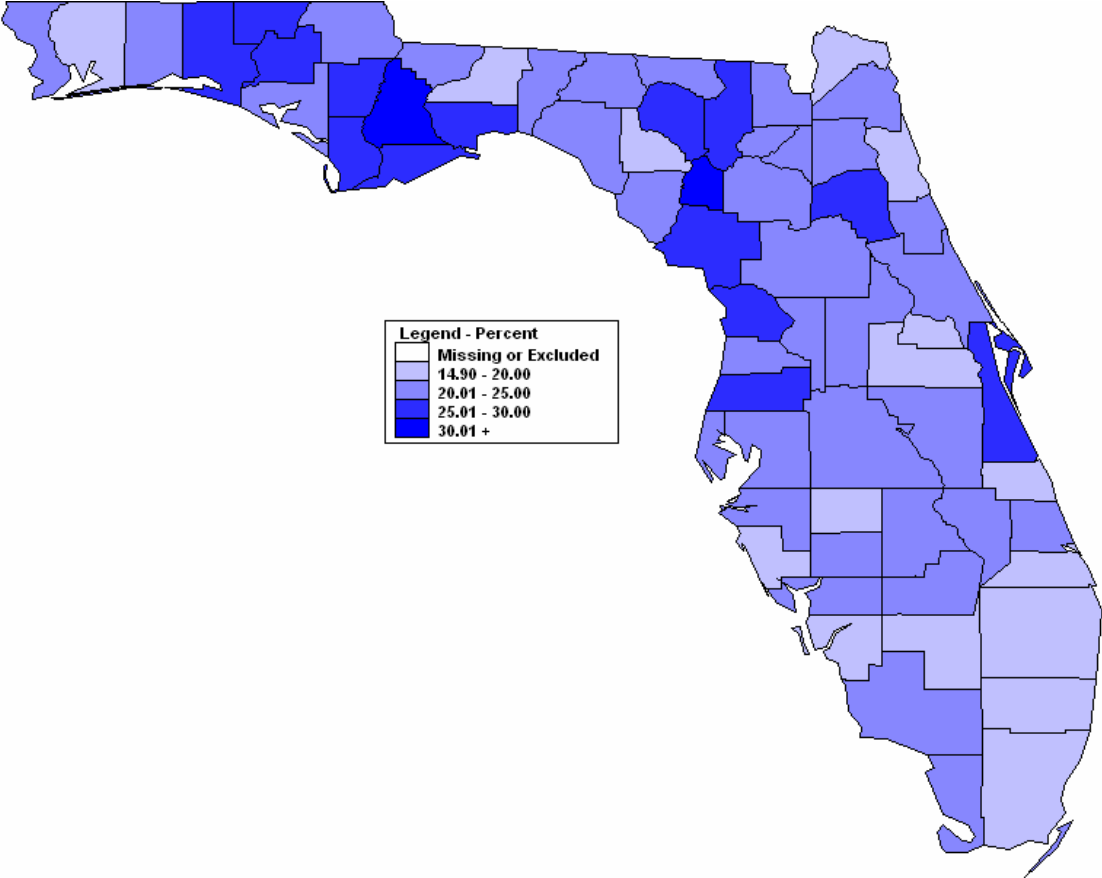


Figure 3: Prevalence of persons with disability* in Florida based on the 2007 Behavioral Risk Factor Surveillance System telephone survey



* Disability defined as an activity limitation, use of special equipment, or both.

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