

A Data Users' Guide to the Disability Questions Included in the Behavioral Risk Factor Surveillance System

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Introduction

The purpose of this document is to provide guidance for Behavioral Risk Factor Surveillance System (BRFSS) state coordinators and researchers interested in monitoring disability at the state or national level. Questions to assess disability have been an integral part of the BRFSS since 2001 (1). One main use of the disability questions is to assess the proportion of the adult U.S. population with disabilities. Another use of the disability questions is to assess types of functional disability.

Background and Rationale

The U.S. Department of Health and Human Services (HHS) Implementation Guidance on Data Collection Standards (2) provides a set of uniform data collection requirements for inclusion of race, ethnicity, sex, primary language, and disability status for surveys conducted or sponsored by HHS in accordance with the 2010 Affordable Care Act, Section 4302 (3). The six-item set of questions used in the American Community Survey (ACS) are the minimum standard for disability survey questions. Questions and answers in this set cannot be changed; however, additional questions may be added. The six questions define disability from a functional perspective and are collectively a meaningful measure of disability for data collection and reporting. If at any time, the ACS changes the questions, HHS will revisit the guidance.

The six-item set of questions identify disability in hearing, vision, cognition, mobility, self-care, and independent living.



From 2013 to 2015, CDC's BRFSS collected data using five of the six questions; the question to identify a hearing disability was not included. Beginning in 2016, BRFSS contained the six-item battery as a part of its core component to assess disability status across the nation. The [appendix](#) provides a historical overview of the BRFSS disability questions.

Defining Disability Status and Disability Types

Disability Status and Types

Disability Status is determined using six questions:

1. "Are you deaf or do you have serious difficulty hearing?" (hearing)
2. "Are you blind or do you have serious difficulty seeing, even when wearing glasses?" (vision)
3. "Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering, or making decisions?" (cognition)
4. "Do you have serious difficulty walking or climbing stairs?" (mobility)
5. "Do you have difficulty dressing or bathing?" (self-care)
6. "Because of a physical, mental, or emotional condition, do you have difficulty doing errands alone such as visiting a doctor's office or shopping?" (independent living)

For each of the six disability types, respondents are considered to have the particular disability type if they replied "Yes" to the corresponding question.



Respondents who replied “Yes” to at least one of these six questions are considered to have a disability. Respondents who replied “No” to all six questions are considered not to have a disability. All other respondents are considered “missing.”

SAS code for Disability Status

This is an example of SAS code that can be used to create a disability status variable in BRFS:

```
IF DEAF=1 OR BLIND=1 OR DECIDE=1 OR DIFFWALK=1 OR  
DIFFDRES=1 OR DIFFALON=1 THEN DISABILITY=1;
```

```
ELSE IF DEAF=2 AND BLIND=2 AND DECIDE=2 AND DIFFWALK=2  
AND DIFFDRES=2 AND DIFFALON=2 THEN DISABILITY=2;
```

```
ELSE DISABILITY = .;
```

```
LABEL DISABILITY = 'DISABILITY: 1=YES, 2=NO, .=UNK';
```

This code creates a new variable called “DISABILITY,” which indicates the respondent’s disability status:

- DISABILITY = 1 indicates the respondent has a disability
- DISABILITY = 2 indicates the respondent does not have a disability
- DISABILITY = . indicates that there is not enough information to find out if the respondent has a disability; the response is “missing” and will not be included in the analysis.



SAS code for Disability Types

This is an example of SAS code that can be used to create a disability type variable in BRFSS. This code creates the variable for mobility disability:

```
IF DIFFWALK=1 THEN MOBILITYDISAB=1;
```

```
ELSE IF DIFFWALK=2 THEN MOBILITYDISAB=2;
```

```
ELSE MOBILITYDISAB = .;
```

```
LABEL MOBILITYDISAB='MOBILITY DISABILITY: 1=YES, 2=NO,  
                . = UNK';
```

This code creates a new variable called “MOBILITYDISAB,” which indicates whether the respondent has a mobility disability:

- MOBILITYDISAB = 1 indicates the respondent has a mobility disability
- MOBILITYDISAB = 2 indicates the respondent does not have a mobility disability
- MOBILITYDISAB = . indicates that there is not enough information to find out if the respondent has a mobility disability; the response is “missing” and will not be included in the analysis.

The other five disability types can be coded the same way using the relevant BRFSS variables.



Conclusion

This document provides guidance for those who use the BRFSS to assess disability. After reading this document, BRFSS state coordinators and researchers will know how to classify respondents by disability status and disability types. This information is provided to assist data analysts with analysis of the BRFSS disability data. Previous researchers have used these data to monitor disability at the state-level (4-7), examine measures of disability (8), estimate healthcare expenditures associated with disability (9), and examine disparities (10-23) in:

- health-related behaviors;
- chronic conditions;
- healthcare access and use of clinical preventive services; and
- health-related quality of life.

The [appendix](#) provides a historical overview of the wealth of disability data available in the BRFSS.

Appendix

Historical Overview of BRFSS Disability Questions

Disability	Question	2001, 2003 to 2012	2013 to 2015*	2016 ^{†,‡}
Any limitation	Are you limited in any way in any activities because of physical, mental, or emotional problems? [QLACTLM2] [¶]	✓	✓	Optional module [§]
Special equipment use	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? Include occasional use or use in certain circumstances. [USEEQUIP] [¶]	✓	✓	Optional module [§]
Hearing	Are you deaf or do you have serious difficulty hearing? [DEAF] [¶]	N/A	N/A	✓
Vision	Are you blind or do you have serious difficulty seeing, even when wearing glasses? [BLIND] [¶]	N/A	✓	✓
Cognition	Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering, or making decisions? [DECIDE] [¶]	N/A	✓	✓
Mobility	Do you have serious difficulty walking or climbing stairs? [DIFFWALK] [¶]	N/A	✓	✓
Self-care	Do you have difficulty dressing or bathing? [DIFFDRES] [¶]	N/A	✓	✓
Independent living	Because of a physical, mental, or emotional condition, do you have difficulty doing errands alone such as visiting a doctor's office or shopping? [DIFFALON] [¶]	N/A	✓	✓

* The interviewer read, "The following questions are about health problems or impairments you may have." before asking the disability questions.

† The interviewer read, "The following questions are about health problems or impairments you may have. Some people who are deaf or have serious difficulty hearing may or may not use equipment to communicate by phone" before asking the disability questions.

‡ Beginning in 2016, the six-item set was included in the demographics section of the BRFSS core. Researchers are encouraged to report disability status as a standard demographic variable.

¶ BRFSS variable name.

§ Twenty states (Alabama, Alaska, Florida, Georgia, Idaho, Illinois, Iowa, Kentucky, Louisiana, Maryland, Michigan, Minnesota, New York, North Carolina, North Dakota, Ohio, Oregon, South Carolina, Texas, and Washington) submitted data for the optional module. Of these, one state (Ohio), collected optional module data on a subset of the state sample rather than on its entire sample. Information on the weighting methodology and the weights to use for Ohio can be found at:

https://www.cdc.gov/brfss/annual_data/2016/pdf/2016moduleanalysis.pdf.

Abbreviations: N/A = not available.

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