

# **Behavioral Risk Factor Surveillance System**

2013 Combined Landline Telephone and Cellular Telephone Survey  
Multiple-Version Questionnaire  
Use of Data

(08/15/2014)





## Background

In its 2013 landline telephone and cellular telephone surveys, the Behavioral Risk Factor Surveillance System (BRFSS) questionnaire had 22 optional modules available for states to include as standardized questions. The limited time available for communicating with a respondent over the telephone, however, did not allow a state to include all of the optional modules.

In an effort to help states make the most of the time available with a respondent, CDC's Population Health Surveillance Branch provided limited support for the survey data collection of multiple-version (up to three) questionnaires in 2013, and this document provides details about the use of data collected under these circumstances.

BRFSS conducted the multiple-version questionnaire plan for a statewide-representative subset of the state's sample. The subset of telephone numbers for data collection still followed the state sample design, and administrators used it as the state's BRFSS sample, but the optional modules and state-added questions may have been different from each other. In order for the multiple-version questionnaire data to be available for use as a separate data set, users had to follow these additional requirements:

Interviewers must have asked the questions in the core questionnaire without making any changes, throughout all questionnaire versions;

Whether states included the optional modules on all survey versions or just on a single version, once it selected a module strategy, the state had to continue to follow it for all 12 months of data collection; and

A questionnaire version must have had an effective sample size of at least 2,500 complete interviews in order for CDC to include the appropriate weighting variables with the data set.

Regardless of state sample design, use of the appropriate final weight in analysis is necessary if users are to make generalizations from the sample to the population.

## Examples

### **How a State May Choose to Use Single- or Multiple-Version Questionnaires (10,000 complete interviews, using nine optional modules)**

#### *Single-Version Questionnaire*

A state may choose to collect data using the same nine optional modules across all 10,000 interviews.

***Split the modules across subsets of the sample***

If a state chooses to split the modules across subsets of the 10,000 interviews, the number of questions presented to each respondent can be reduced, while theoretically maintaining a representative sample for the state—provided that the state takes into account the requirements for collecting multiple-version questionnaires. The state may choose up to three versions and must maintain an effective sample size of 2,500 for each version. There are different ways to conduct the survey with this strategy:

The state could pick optional modules a, b, and c and deliver them to all sample subsets as “common” modules; or

The state could have two versions of the survey: **version 1** could use modules d, e, and f; and **version 2** could use modules g, h, and i. In this example if the sample were split evenly, there would be approximately 5,000 interviews for each of the multiple-version questionnaires.

**Appropriate Variables and Weights**

BRFSS uses the questionnaire version variable (QSTVER) to distinguish between the multiple-version questionnaire data. The landline telephone survey data have a value ranging from 10 to 13, and the cellular telephone survey data has a value ranging from 20 to 23. A state with QSTVER equal to 10 and 20 collected only one version of the BRFSS landline telephone survey and cellular telephone survey in 2013. The analysis of the combined landline telephone survey and cellular telephone survey optional module data for this state should use the LLC2013 data set with the corresponding final weights (\_LLCPWT, \_CLCPWT) as described in the document Overview\_2013.rtf.

A state with QSTVER equal to 11 and 21 collected two or more versions of the survey. The analysis of the optional module for this state requires more attention to which the weighting variable is used to generate estimates. The data for a state collecting a version 1 questionnaire (QSTVER = 11 and 21) is in LLC12V1. This data set contains the data records (QSTVER = 11 and 21); BRFSS has weighted it to the state population totals with a subset of the whole BRFSS sample for the state. The analysis of the optional module data for version 1 for this state should use the LLC12V1 data set with the corresponding final weights (\_LCPWTV1, \_CLCWTV1). From the example above with a state collecting 10,000 interviews and assigning optional modules d, e, f to version 1, generating estimates for the optional modules d, e, f would use the weight variable \_LCPWTV1. This weight would be applicable only to records from the state with QSTVER in (11, 21).

A state with QSTVER equal to 12 and 22 collected two or more versions of the landline survey. The data for a state collecting a landline version 2 questionnaire (QSTVER = 12 and 22) is in LLC12V2. This data set contains the data records (QSTVER = 12 and 22); BRFSS has weighted it to the state population totals with a subset of the whole BRFSS sample for the state. The analysis of the optional module data for version 2 for this state should use the LLC12V2 data set with the corresponding final weights (\_LCPWTV2, \_CLCWTV2). From the example above with a state collecting 10,000 interviews and assigning optional modules g, h, i to version 2, generating estimates for the optional modules g, h, i would use the weight variable \_LCPWTV2. This weight would be applicable only to records from the state with QSTVER in (12, 22).

A state with QSTVER equal to 13 and 23 collected three versions of the landline survey. The data for a state collecting a landline version 3 questionnaire (QSTVER = 13 and 23) is located in LLC12V3. This data set contains the data records (QSTVER = 13 and 23); BRFSS has weighted it to the state population totals with a subset of the whole BRFSS sample for the state. The analysis of the optional module data for version 3 for this state should use the LLC12V3 data set with the corresponding final weights (\_LCPWTV3, \_CLCWTV3).

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The data sets LLCP12V1, LLCP12V2, and LLCP12V3 contain the data from the states that conducted multiple-version questionnaires and used optional modules in 2013. The list below shows the optional modules included in the data sets by state. There are four subheadings to identify how a module was used by the state. "Common" indicates the module was used on all versions; "Survey 1" indicates modules used only on version 1; "Survey 2" indicates modules used only on version 2; "Survey 3" indicates modules used only on version 3. The absence of a survey number indicates there were no optional modules exclusive to the missing number version of the survey.

**2013 Multi Questionnaire states and modules:**

Modules By State	
California	<b>Common:</b> Health Care Access, Random Child Selection, Childhood Asthma Prevalence <b>Survey 1:</b> Colorectal Cancer Screening, Social Context, Influenza, Sugar Drinks, Industry and Occupation <b>Survey 2:</b> Social Context, Arthritis Management, Sugar Drinks, Industry and Occupation <b>Survey 3:</b> Influenza
Colorado	<b>Survey 1:</b> <b>Survey 2:</b> Health Care Access, Mental Illness & Stigma
Indiana	<b>Common:</b> Diabetes, Health Care Access, Random Child Selection, Childhood Asthma Prevalence, Pre-Diabetes <b>Survey 1:</b> Sugar Drinks, Sodium or Salt-Related Behavior
Iowa	<b>Common:</b> Diabetes, Health Care Access, Influenza, Cardiovascular Health, Sodium or Salt-Related Behavior <b>Survey 1:</b> Pre-Diabetes, Sugar Drinks <b>Survey 2:</b> Social Context
Kansas	<b>Common:</b> Random Child Selection, Childhood Asthma Prevalence <b>Survey 1:</b> Diabetes, Pre-Diabetes, Sugar Drinks, Sodium or Salt-Related Behavior <b>Survey 2:</b> Social Context, Arthritis Management, Mental Illness & Stigma, Adult Human Papilloma Virus (HPV)
Maine	<b>Common:</b> Diabetes, Social Context, Cardiovascular Health, Random Child Selection, Childhood Asthma Prevalence, Pre-Diabetes, Sodium or Salt-Related Behavior
Maryland	<b>Common:</b> Health Care Access, Random Child Selection, Childhood Asthma Prevalence, Sugar Drinks, Sodium or Salt-Related Behavior, Industry and Occupation
Michigan	<b>Common:</b> Colorectal Cancer Screening, Health Care Access, Random Child Selection, Childhood Asthma Prevalence, Industry and Occupation <b>Survey 1:</b> Diabetes <b>Survey 2:</b> Arthritis Management <b>Survey 3:</b> Arthritis Management
Montana	<b>Common:</b> Diabetes, Health Care Access, Random Child Selection, Childhood Asthma Prevalence, Industry and Occupation <b>Survey 1:</b> Pre-Diabetes, Sodium or Salt-Related Behavior <b>Survey 2:</b> Arthritis Management
Nebraska	<b>Common:</b> Colorectal Cancer Screening, Health Care Access, Random Child Selection, Childhood Asthma Prevalence <b>Survey 1:</b> Social Context, Cardiovascular Health, Sugar Drinks, Sodium or Salt-Related Behavior <b>Survey 2:</b> Diabetes, Pre-Diabetes, Industry and Occupation
New Jersey	<b>Common:</b> Diabetes, Health Care Access, Random Child Selection, Childhood Asthma Prevalence <b>Survey 1:</b> Social Context, Industry and Occupation <b>Survey 2:</b> Sodium or Salt-Related Behavior <b>Survey 3:</b> Colorectal Cancer Screening, Prostate Cancer Screening, Mental Illness & Stigma, Adult Human Papilloma Virus (HPV), Sugar Drinks, Breast Cancer and Cervical Cancer Screening
New York	<b>Common:</b> Health Care Access <b>Survey 1:</b> Random Child Selection, Childhood Asthma Prevalence, Mental Illness & Stigma <b>Survey 2:</b> Colorectal Cancer Screening, Arthritis Management, Sugar Drinks, Industry and Occupation
North Carolina	<b>Common:</b> Diabetes, Health Care Access, Pre-Diabetes <b>Survey 1:</b> Cardiovascular Health, Sodium or Salt-Related Behavior <b>Survey 2:</b> Mental Illness & Stigma, Sugar Drinks

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Modules By State	
Ohio	<b>Common:</b> Health Care Access <b>Survey 1:</b> Diabetes, Random Child Selection, Childhood Asthma Prevalence, Mental Illness & Stigma, Pre-Diabetes, Sugar Drinks, Sodium or Salt-Related Behavior
Oklahoma	<b>Common:</b> Random Child Selection, Childhood Asthma Prevalence <b>Survey 1:</b> Colorectal Cancer Screening, Diabetes, Cardiovascular Health, Pre-Diabetes, Sodium or Salt-Related Behavior, Breast Cancer and Cervical Cancer Screening <b>Survey 2:</b> Health Care Access, Sugar Drinks
Oregon	<b>Common:</b> Diabetes, Health Care Access, Cardiovascular Health, Random Child Selection, Childhood Asthma Prevalence, Industry and Occupation <b>Survey 1:</b> Breast Cancer and Cervical Cancer Screening <b>Survey 2:</b> Arthritis Management, Pre-Diabetes
Texas	<b>Common:</b> Random Child Selection, Childhood Asthma Prevalence <b>Survey 1:</b> Diabetes, Pre-Diabetes
Utah	<b>Common:</b> Health Care Access, Arthritis Management, Random Child Selection, Childhood Asthma Prevalence, Sugar Drinks, Industry and Occupation <b>Survey 2:</b> Pre-Diabetes, Sodium or Salt-Related Behavior <b>Survey 3:</b> Sodium or Salt-Related Behavior

States By Module	
Module	
Adult Human Papilloma Virus (HPV)	<b>Survey 2:</b> Kansas <b>Survey 3:</b> New Jersey
Arthritis Management	<b>Common:</b> Utah <b>Survey 2:</b> California, Kansas, Michigan, Montana, New York, Oregon <b>Survey 3:</b> Michigan
Breast Cancer and Cervical Cancer Screening	<b>Survey 1:</b> Oklahoma, Oregon <b>Survey 3:</b> New Jersey
Cardiovascular Health	<b>Common:</b> Iowa, Maine, Oregon <b>Survey 1:</b> Nebraska, North Carolina, Oklahoma
Childhood Asthma Prevalence	<b>Common:</b> California, Indiana, Kansas, Maine, Maryland, Michigan, Montana, Nebraska, New Jersey, Oklahoma, Oregon, Texas, Utah <b>Survey 1:</b> New York, Ohio
Colorectal Cancer Screening	<b>Common:</b> Michigan, Nebraska <b>Survey 1:</b> California, Oklahoma <b>Survey 2:</b> New York <b>Survey 3:</b> New Jersey
Diabetes	<b>Common:</b> Indiana, Iowa, Maine, Montana, New Jersey, North Carolina, Oregon <b>Survey 1:</b> Kansas, Michigan, Ohio, Oklahoma, Texas <b>Survey 2:</b> Nebraska
Health Care Access	<b>Common:</b> California, Indiana, Iowa, Maryland, Michigan, Montana, Nebraska, New Jersey, New York, North Carolina, Ohio, Oregon, Utah <b>Survey 2:</b> Colorado, Oklahoma
Industry and Occupation	<b>Common:</b> Maryland, Michigan, Montana, Oregon, Utah <b>Survey 1:</b> California, New Jersey <b>Survey 2:</b> California, Nebraska, New York
Influenza	<b>Common:</b> Iowa <b>Survey 1:</b> California <b>Survey 3:</b> California
Mental Illness & Stigma	<b>Survey 1:</b> New York, Ohio <b>Survey 2:</b> Colorado, Kansas, North Carolina <b>Survey 3:</b> New Jersey
Pre-Diabetes	<b>Common:</b> Indiana, Maine, North Carolina <b>Survey 1:</b> Iowa, Kansas, Montana, Ohio, Oklahoma, Texas <b>Survey 2:</b> Nebraska, Oregon, Utah

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States By Module	
Module	
Prostate Cancer Screening	<b>Survey 3:</b> New Jersey
Random Child Selection	<b>Common:</b> California, Indiana, Kansas, Maine, Maryland, Michigan, Montana, Nebraska, New Jersey, Oklahoma, Oregon, Texas, Utah <b>Survey 1:</b> New York, Ohio
Social Context	<b>Common:</b> Maine <b>Survey 1:</b> California, Nebraska, New Jersey <b>Survey 2:</b> California, Iowa, Kansas
Sodium or Salt-Related Behavior	<b>Common:</b> Iowa, Maine, Maryland <b>Survey 1:</b> Indiana, Kansas, Montana, Nebraska, North Carolina, Ohio, Oklahoma <b>Survey 2:</b> New Jersey, Utah <b>Survey 3:</b> Utah
Sugar Drinks	<b>Common:</b> Maryland, Utah <b>Survey 1:</b> California, Indiana, Iowa, Kansas, Nebraska, Ohio <b>Survey 2:</b> California, New York, North Carolina, Oklahoma <b>Survey 3:</b> New Jersey