Behavioral Risk Factor Surveillance System

2011 Landline Multiple-Version Questionnaire Use of Data

(Version #1 - Revised: 07/09/2012)

The BRFSS questionnaire had 34 optional modules available for states to include as standardized questions in their 2011 landline survey. The limited time available for communicating with a respondent over the phone does 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, the Behavioral Risk Factor Surveillance System Branch is providing limited support for the landline survey data collection of multiple-version (up to three) questionnaires in 2011. The multiple-version questionnaire plan is conducted for a statewide representative subset of the state's sample. The subset of telephone numbers used for data collection still follows the state sample design and is administered as the state's BRFSS sample, but the optional modules and state-added questions portion of the survey presented to the selected respondent may be different. There are three additional requirements which must be followed in order for the multiple-version questionnaire data to available for use as a separate data set. a) The core instrument must be asked without any changes in all versions of the questionnaire; b) The optional modules can be included on all versions or exclusively on a single version but must be asked during all 12 months of data collection; and c) There must be an effective sample size of at least 2,500 complete interviews for a questionnaire version to have the appropriate weighting variables included with the data set.

The following is an example of how a state may implement the option of using multiple-version questionnaires. If a state is planning to collect 10,000 complete landline interviews with 9 optional modules there are several options. In one case the state may choose to collect the same 9 optional modules across all 10,000 interviews. This choice would be a single-version questionnaire. In another case if the state chooses to split the modules across subsets of the 10,000 interviews, taking into account the requirements for collecting multiple-version questionnaires, the number of questions presented to each respondent can be reduced, while theoretically maintaining a representative sample for the state. The state may choose up to three versions and must maintain an effective sample size of 2,500 for each version. The state could ask optional modules a, b, and c across all versions as common modules; modules d, e, and f across version 1; and g, h, and I across version 2. In this example if the sample was split evenly, there would be approximately 5,000 interviews for each of the multiple-version questionnaires.

The questionnaire version variable (QSTVER) has been used to distinguish between the multiple-version questionnaire data. The landline data has a value ranging from 10 to 13. A state with QSTVER equal to 10 collected only one version of the BRFSS landline survey in 2011. The analysis of the landline optional module data for this state should use the LAND2011 data set with the corresponding landline final weights (_LANDWT, _CLANDWT, _HHOLDWT) as described in the document BRFSS Landline 2011 Module Use.rtf.

A state with QSTVER equal to 11 collected two or more versions of the landline survey. The analysis of the landline 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 landline version 1 questionnaire (QSTVER = 11) is located in LAND11V1. This data set contains the data records with QSTVER = 11 and has been weighted to the state population totals with a subset of the whole BRFSS sample for the state. The analysis of the landline optional module data for version 1 for this state should use the LAND11V1 data set with the corresponding landline final weights (_LNDWTV1, _CLDWTV1). 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 _LNDWTV1. This weight would be applicable only to records from the state with QSTVER = 11.

A state with QSTVER equal to 12 collected two or more versions of the landline survey. The data for a state collecting a landline version 2 questionnaire (QSTVER = 12) is located in LAND11V2. This data set contains the data records with QSTVER = 12 and has been weighted to the state population totals with a subset of the whole BRFSS sample for the state. The analysis of the landline optional module data for version 2 for this state should use the LAND11V2 data set with the corresponding landline final weights (_LNDWTV2, _CLDWTV2). 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 _LNDWTV2. This weight would be applicable only to records from the state with QSTVER = 12.

A state with QSTVER equal to 13 collected three versions of the landline survey. The data for a state collecting a landline version 3 questionnaire (QSTVER = 13) is located in LAND11V3. This data set contains the data records with QSTVER = 13 and has been weighted to the state population totals with a subset of the whole BRFSS sample for the state. The analysis of the landline optional module data for version 3 for this state should use the LAND11V3 data set with the corresponding landline final weights (_LNDWTV3, _CLDWTV3).

The data sets LAND11V1, LAND11V2, and LAND11V3 contain the data from the states which conducted multiple-version questionnaires and used optional modules in 2011. 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.

2011 Multiple-Version Questionnaire States and Modules:

California	**Common:** Childhood Asthma, Random Child Selection **Survey 1:** Diabetes, Visual Impairment and Access to Eye Care, Inadequate Sleep, Adverse Childhood Experience, High Risk/Health Care Worker, Cognitive Impairment, Chronic Obstructive Pulmonary Disease (COPD), Child Immunization (Influenza) **Survey 2:** Arthritis Management, Visual Impairment and Access to Eye Care, Actions to Control High Blood Pressure, Inadequate Sleep, Adverse Childhood Experience, High Risk/Health Care Worker, Chronic Obstructive Pulmonary Disease (COPD)
Kansas	**Common:** Childhood Asthma, Random Child Selection **Survey 1:** Diabetes, Heart Attack and Stroke, Actions to Control High Blood Pressure, Pre-Diabetes, Chronic Obstructive Pulmonary Disease (COPD) **Survey 2:** Arthritis Management, Anxiety and Depression, Inadequate Sleep, Tetanus Diphtheria (Adults), Veterans' Health, Child Immunization (Influenza)
Maine	**Survey 1:** Anxiety and Depression, Inadequate Sleep, Adverse Childhood Experience **Survey 2:** Chronic Obstructive Pulmonary Disease (COPD) **Survey 3:** Diabetes, Childhood Asthma, Actions to Control High Blood Pressure, Random Child Selection, Pre-Diabetes, Tetanus Diphtheria (Adults), Adult Human Papilloma Virus (HPV), Veterans' Health, Child Immunization (Influenza)
Maryland	**Common:** Childhood Asthma, Random Child Selection, Child Immunization (Influenza) **Survey 1:** Cardiovascular Health, Actions to Control High Blood Pressure, Tetanus Diphtheria (Adults), Shingles **Survey 2:** Smoking Cessation, Cognitive Impairment
Massachusetts	**Common:** Colorectal Cancer Screening, Diabetes, Prostate Cancer Screening, Pre-Diabetes, Tetanus Diphtheria (Adults), Shingles, Adult Human Papilloma Virus (HPV), High Risk/Health Care Worker, Chronic Obstructive Pulmonary Disease (COPD) **Survey 1:** Childhood Asthma, Heart Attack and Stroke, Cardiovascular Health, Actions to Control High Blood Pressure, Random Child Selection **Survey 3:** Visual Impairment and Access to Eye Care, Inadequate Sleep
Michigan	**Common:** Childhood Asthma, Arthritis Management, Random Child Selection, Chronic Obstructive Pulmonary Disease (COPD) **Survey 1:** Actions to Control High Blood Pressure, Cognitive Impairment **Survey 2:** Diabetes
Nebraska	**Common:** Social Context, Childhood Asthma, Smoking Cessation, Random Child Selection **Survey 1:** Heart Attack and Stroke, Cardiovascular Health, Actions to Control High Blood Pressure, Inadequate Sleep, Adverse Childhood Experience **Survey 2:** Colorectal Cancer Screening, Anxiety and Depression, Inadequate Sleep, Adverse Childhood Experience, Veterans' Health, Chronic Obstructive Pulmonary Disease (COPD) **Survey 3:** Colorectal Cancer Screening, Diabetes, Anxiety and Depression, Pre-Diabetes, Cognitive Impairment, Chronic Obstructive Pulmonary Disease (COPD)

New Jersey	**Common:** Diabetes, Childhood Asthma, Random Child Selection, Pre-Diabetes **Survey 1:** Social Context, Anxiety and Depression, Veterans' Health, Chronic Obstructive Pulmonary Disease (COPD) **Survey 2:** Heart Attack and Stroke, Actions to Control High Blood Pressure, Sugar-Sweetened Beverages and Menu Labeling **Survey 3:** Colorectal Cancer Screening, Visual Impairment and Access to Eye Care, Breast/Cervical Cancer screening
New York	**Common:** Random Child Selection **Survey 1:** Childhood Asthma, Anxiety and Depression, Pre-Diabetes, Tetanus Diphtheria (Adults), Child Immunization (Influenza) **Survey 2:** Cardiovascular Health, Actions to Control High Blood Pressure, Cognitive Impairment
Ohio	**Common:** Diabetes, Childhood Asthma, Visual Impairment and Access to Eye Care, Random Child Selection, Pre-Diabetes **Survey 1:** Colorectal Cancer Screening, Heart Attack and Stroke, Reactions to Race, Cardiovascular Health, Actions to Control High Blood Pressure, Breast/Cervical Cancer Screening, Chronic Obstructive Pulmonary Disease (COPD) **Survey 2:** Anxiety and Depression
Oklahoma	**Common:** Childhood Asthma, Random Child Selection **Survey 1:** Colorectal Cancer Screening, Diabetes, Cardiovascular Health, Actions to Control High Blood Pressure, Pre-Diabetes **Survey 2:** Cognitive Impairment
Oregon	**Common:** Diabetes, Childhood Asthma, Cardiovascular Health, Random Child Selection, Anxiety and Depression, Inadequate Sleep, Adverse Childhood Experience, Chronic Obstructive Pulmonary Disease (COPD) **Survey 1:** Pre-Diabetes **Survey 2:** Arthritis Management, Actions to Control High Blood Pressure
Rhode Island	**Common:** Diabetes, Childhood Asthma, Actions to Control High Blood Pressure, Random Child Selection, Pre-Diabetes, Child Immunization (Influenza) **Survey 2:** Adult Human Papilloma Virus (HPV)
Texas	**Common:** Childhood Asthma, Random Child Selection **Survey 1:** Diabetes, Heart Attack and Stroke, Actions to Control High Blood Pressure, Pre-Diabetes **Survey 2:** Visual Impairment and Access to Eye Care, Cognitive Impairment
Utah	**Common:** Diabetes, Childhood Asthma, Random Child Selection **Survey 2:** Heart Attack and Stroke, Arthritis Management, Actions to Control High Blood Pressure, Pre-Diabetes, Chronic Obstructive Pulmonary Disease (COPD), Preconception Health/Family Planning **Survey 3:** Arthritis Management, Actions to Control High Blood Pressure, Pre-Diabetes, Cognitive Impairment, Preconception Health/Family Planning
Washington	**Common:** Childhood Asthma, Random Child Selection, Pre-Diabetes, Adverse Childhood Experience **Survey 1:** Colorectal Cancer Screening, Cognitive Impairment **Survey 2:** Social Context
Puerto Rico	**Common:** Childhood Asthma, Random Child Selection, Inadequate Sleep, Chronic Obstructive Pulmonary Disease (COPD), Child Immunization (Influenza) **Survey 1:** Diabetes, Pre-Diabetes **Survey 2:** Anxiety and Depression, Adult Human Papilloma Virus (HPV)

The analysis of the multiple-version questionnaire data requires some careful consideration of which records to use with the appropriate weight as described above. There are also possible variations in the state-level estimates produced from a multiple-version subset for a core variable when compared to an estimate generated from the whole state sample. As the example above of the 10,000 complete records was used, an estimate for a subset of the population based on 10,000 records may be different than one produced from the 5,000 records assigned to a version of the questionnaire.

The reduced sample size may not allow the additional weighting by geographic regions to be included for the multiple-version questionnaire subsets of the state sample. The American Statistical Association (ASA) BRFSS Working Group has recommended that states using multiple versions of the questionnaire have an effective sample size of at least 2,500 for producing a statewide estimate for each version of the questionnaire. This implies a total sample greater than or equal to 2,500 multiplied by the number of questionnaire versions used in 2011. For example, to conduct three versions in 2011 would require a minimum sample size of at least 7,500 resulting in an effective sample size of 2,500 for each version.

Samples exported from Computer Assisted Telephone Interviewing (CATI) software will need to have maintained a field equivalent to the questionnaire version (QSTVER) to identify the questionnaire version associated with each sample record. The default value included in the landline sample file from the vendor is PATH = 10. The sample may be assigned to a specific version when loading the sample.

There are two methods generally applied for assigning the multiple-version questionnaire to a sample record:

A. One approach requires some preparation before loading the sample but simplifies the data collection. Before importing the sample, replicates can be randomly assigned to each of the questionnaires. The questionnaire value (11 for Questionnaire 1, 12 for questionnaire 2, 13 for questionnaire 3) can added to the end of the sample file using SAS, SPSS or another software that has randomization functions. A user-defined field is generated to read the assigned questionnaire versions when the sample is imported into the CATI system. The CATI software uses the information from this field to determine which questionnaire to present. This method allows calculation of response rates for a specific questionnaire version. This approach requires a whole number multiple, of the number of questionnaire versions, of replicates for each geographic stratum.

B. A second approach is to use a random number generator and CATI programming to control the assignment of the questionnaire. This method allows different versions of the questionnaire to be assigned within the same replicate. For the first version, set the QSTVER to “11”; the second version should have QSTVER set to “12”, and so on. If the CATI programming approach is used, the use of quotas each month to limit the number of completes/partial completes for each version of the questionnaire may be useful. With this approach, sample management may be more difficult to maintain an effective representation if the sample is geographically stratified. Calculation of a Response Rate for each version is not possible.