2012–2014

Behavioral Risk Factor Surveillance System

Child
Asthma Call-back Survey

Analysis Guidance
Supplement

National
Asthma
Control
Program

Version 1.0.0
06/30/18
ACKNOWLEDGMENT

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Multiple Year (2012–2014)  
Behavioral Risk Factor Surveillance System, Child Asthma Call-back Survey (ACBS)  
Analysis Guidelines Supplement

The Child Asthma Call-back Survey (ACBS) is used as a follow-up survey to that of the Behavioral Risk Factor Surveillance System (BRFSS), in order to collect data about children who have ever been diagnosed with asthma. For participants to be eligible for the follow-up ACBS, the Random Child Selection and the Childhood Asthma Prevalence Modules must have already been completed on the BRFSS survey. If both a randomly selected child and adult have been diagnosed with asthma in a household, then only one of them is eligible, and would then participate in the respective Asthma Call-back Survey, via a 50/50 split.

An ACBS child state file must have a minimum of 75 completed child records in order to create a reliable single year child weight. For states with sufficient sample sizes (≥75), single-year data with weights are available at https://www.cdc.gov/brfss/acbs/index.htm. To get a sufficient sample size for analysis, the child ACBS for years 2012 to 2014 have been combined in a data file for public release. The number of responses for each grantee state by survey year is represented in Table A below. Only states with all three years of data (2012, 2013, and 2014) are included in the combined dataset.

The ACBS History and Analysis Guidance documents on the BRFSS ACBS website (https://www.cdc.gov/brfss/acbs/index.htm) include information pertinent to the child ACBS. The details highlighted in this supplementary document are included to assist data users in their analysis of the combined 2012–2014 Child ACBS data set.
Important ACBS Considerations

A. Data File and Record Issues
   a. Questionnaire Changes in 2012
      i. Section 5: Health Care Utilization
         1. Recall period for the activity limitation question was changed from 12 months to 30 days. This variable title changed from ACT_DAYS to ACT_DAYS30.
      ii. Section 8: Medications
          1. Name for INH_MED #25 changed from Pulmicort Turbuhaler to Pulmicort Flexhaler
          2. Three inhaler medication questions (ILP01, ILP02, and ILP07) were deleted
             a. ILP01: “Are there 80, 100, or 200 puffs in the [MEDICINE FROM INH_MEDS SERIES] inhaler that you use?”
             b. ILP02: “How long have you been taking [MEDICINE FROM INH_MEDS SERIES]? Would you say less than 6 months, 6 months to 1 year, or longer than 1 year?”
             c. ILP07: “On average, how many puffs do you take each time you use [MEDICINE FROM INH_MEDS SERIES]?”
          3. Response categories for inhaler medication question ILP03 were changed
             ILP03: “A spacer is a small attachment for an inhaler that makes it easier to use. Do you use a spacer with [MEDICINE FROM INH_MEDS SERIES]?”
             New categories:
             (1) YES
             (2) NO
             (3) Medication is a dry powder inhaler or disk inhaler not a canister inhaler
             (4) Medication has a built-in spacer/does not need a spacer
             (7) DON’T KNOW
             (9) REFUSED
          4. Two changes on pills were made
             a. PILLX was deleted: “How long have you been taking [MEDICATION LISTED IN PILLS_MD]? Would you say less than 6 months, 6 months to 1 year, or longer than 1 year.”
             b. PILL01 was added: “In the past 3 months, did you take [MEDICATION LISTED IN PILLS_MD] on a regular schedule every day?”
          5. Three questions on nebulizers were added
             a. NEB01: “In the past 3 months, did you take [MEDICINE FROM NEB_ID SERIES] when you had an asthma episode or attack?”
b. NEB02: “In the past 3 months, did you take [MEDICINE FROM NEB_ID SERIES] on a regular schedule everyday?”

c. NEB03: “How many times per day or per week do you use [MEDICINE FROM NEB_ID SERIES]?”

b. Questionnaire Changes in 2013
i. Section 8: Medications
   1. Inhaler medications Brethaire (INH_MEDS #10), Intal (INH_MEDS #18), and Tilade (INH_MEDS #29) were deleted, since discontinued
   2. Inhaler medications Alvesco (INH_MEDS #43) and Dulera (INH_MEDS #44) were added
   3. Nebulizer medications Combivent Inhalation Solution (NEB_MEDS #17) and Perforomist/Formoterol (NEB_MEDS #18) were added

B. Limitations of Data
a. To analyze variables that have changed during the combined dataset years, it is necessary to recalculate the variable to reflect the changes. For 2013 medication changes, please contact the Asthma and Climate Health Branch for detailed instructions (asthmacallbackinfo@cdc.gov).
b. Subset to single-year data
Subsetting the 2012-2014 multiple year dataset by year is not recommended. The 2012–2014 multiple years dataset was created based on 3 years of the BRFSS estimated ever-diagnosed asthma population. The final weight was computed based on 3 years of the asthma population combined. The estimates from this dataset should reflect mid-point estimates for a period of 2012 to 2014. Final weight (_CHILDWT_M_YEARS) was not designed to subset the dataset by individual years.

C. Estimation procedures for statistical analysis
a. Record Weights
   i. The unweighted data represent the number of actual responses. The final child weight for multiple combined years 2012–2014 ACBS dataset is _CHILDWT_M_YEARS.
b. Calculated Variables
   i. The data for BRFSS variables are included with the Child ACBS dataset. A new variable for child race (CHILD_RACE_M_YEARS) has been calculated for the combined child dataset to account for differences in the race variable between individual years. A new variable for age (CHILD_AGE_YEAR) with imputed missing values has also been created for the combined dataset to address variable differences in child age between individual years. For reported child age, please use MNTHDIFF (child age in months).
c. Variances
i. The Child ACBS uses a complex survey design, and therefore statistical software such as SAS, SUDAAN, Epi Info, SPSS and STATA, or other analytical packages must be used that can account for complex sample designs. Accordingly, the statistical code must specify “with replacement” (WR) and include stratum variable (\_STSTR), primary sampling unit (\_PSU), sample design survey year (SURVEY\_YEAR), and record weight (\_CHILDWT\_M\_YEARS). See sample code in Section D.

D. Sample code

/* SUDAAN Code for 3 Age Group */
PROC CROSSTAB DATA=ACBS\_CHILD\_12\_14 DESIGN=WR;
   NEST SURVEY\_YEAR \_STSTR \_PSU / NOSORTCK MISSUNIT PSULEV=3;
   WEIGHT \_CHILDWT\_M\_YEARS;
   CLASS CAGE3\_CAT MGT\_CLAS\_CAT;
   TABLES CAGE3\_CAT\_* MGT\_CLAS\_CAT;
   TEST CHISQ;
OUTPUT / TABLECELL=DEFAULT FILENAME=CAGE3\_CAT\_GROUP REPLACE;
RUN;

/* SAS Code for 3 age Group */
PROC SURVEYFREQ DATA=ACBS\_CHILD\_12\_14 NOMCAR;
   STRATA SURVEY\_YEAR \_STSTR ;
   CLUSTER \_PSU ;
   WEIGHT \_CHILDWT\_M\_YEARS;
   TABLES CAGE3\_CAT \_* MGT\_CLAS\_CAT / ROW CL CHISQ ;
Run;
Table A. Child Asthma Call-back Sample Size by Year and State*

<table>
<thead>
<tr>
<th>State</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>Sample size</th>
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<td>2,166</td>
<td>1,810</td>
<td>1,637</td>
<td>5,613</td>
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</table>

*Only the states having records for all three years (2012, 2013, and 2014) are included in the data set.