



Technical Appendix

About the Survey

The National Survey of Children's Health (NSCH) was fielded using the State and Local Area Integrated Telephone Survey (SLAITS) mechanism. SLAITS is conducted by the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC). It uses the same large-scale random-digit-dial sampling frame as the CDC's National Immunization Survey.¹

Approximately 2.8 million telephone numbers were randomly generated for inclusion in the NSCH. After eliminating numbers that were determined to be nonresidential or nonworking, the remaining numbers were called to identify households with children less than 18 years of age. From each household with children, one child was randomly selected to be the focus of the interview.

The respondent was the parent or guardian in the household who was knowledgeable about the health and health care of the randomly selected child. For 73.5 percent of the children, the respondent was the mother. Respondents for the remaining children were fathers (20.5 percent), grandparents (4.2 percent), or other relatives or guardians (1.8 percent).

Surveys were conducted in English, Spanish, Mandarin, Cantonese, Vietnamese, and Korean. Overall, 5.3 percent of the interviews were completed in Spanish, and 0.2 percent of the interviews were conducted in one of the four Asian languages.

Data Collection

Data collection began on April 5, 2007 and ended on July 27, 2008, with interviews conducted from telephone centers in Chicago, Illinois and Las Vegas, Nevada. A computer-assisted telephone interviewing system was used to collect the data. A total of 91,642 interviews were fully or partially completed for the NSCH, with 79 percent of the interviews completed in 2007. The number of completed interviews varied by state, ranging from 1,725 in Vermont to 1,932 in Illinois.

The interview completion rate, which is the proportion of interviews completed after a household was determined to include a child under age 18, was 66.0 percent. The overall response rate, which is the product of the resolution rate (the proportion of telephone numbers identified as residential or nonresidential), the screener completion rate (the proportion of households successfully screened for children), and the interview completion rate, was 51.2 percent. This rate is based on the assumption that telephone numbers that were busy or rang with no answer on all attempts were nonresidential.

Overall response rates ranged from 39.4 percent in New Jersey to 61.9 percent in North Dakota. Several efforts were made to increase response rates, including sending letters to households in advance to introduce the survey, toll-free numbers left on potential respondents' answering machines to allow them to call back, and small monetary incentives for those households with children who initially declined to participate.

Data Analysis

For producing the population-based estimates in this report, the data records for each interview were assigned a sampling weight. These weights are based on the probability of selection of each household telephone number within each State, with adjustments that compensate for households that have multiple telephone numbers, for households without telephones, and for nonresponse.

With data from the U.S. Bureau of the Census, the weights were also adjusted by age, sex, race, ethnicity, household size, and educational attainment of the most educated household member to provide a dataset that was more representative of each State's population of noninstitutionalized children less than 18 years of age. Analyses were conducted using statistical software that accounts for the weights and the complex survey design.

Responses of "don't know" and "refuse to answer" were considered to be missing data. Records with missing data on the variables of interest were excluded from all analyses, with one exception. For households with missing data for income or household size, the household income relative to the federal poverty level was multiply imputed.

Racial and ethnic groups are mutually exclusive; that is, data reported for White, Black, multiracial and children of other races do not include Hispanics, who may be of any race.



Accuracy of the Results

The data from the NSCH are subject to the usual variability associated with sample surveys. Small differences between survey estimates may be due to random survey error and not to true differences among children or across States.

The precision of the survey estimates is based on the sample size and the measure of interest. Estimates at the national level will be more precise than estimates at the State level. Estimates for all children will be more precise than estimates for subgroups of children (for example, children 0-5 years of age or children with the same race). For national estimates of the health and health care for all children, the maximum margin of error is 0.8 percentage points. For the State-level indicators for all children, the maximum margin of error is 4.5 percentage points.

Availability of the Data

Except for data suppressed to protect the confidentiality of the survey subjects, all data collected in the NSCH are available to the public on the NCHS and MCHB websites. Data documentation and additional details on the methodology² are available from the National Center for Health Statistics (www.cdc.gov/nchs/slaits.htm).

Interactive data queries are possible through the Data Resource Center for the NSCH (www.child-healthdata.org). The Data Resource Center provides immediate access to the survey data, as well as resources and assistance for interpreting and reporting findings.

1. Zell ER, Ezzati-Rice TM, Battaglia MP, Wright RA. National immunization survey: The methodology of a vaccination surveillance system. *Public Health Reports* 115:65-77. 2000.

2. Blumberg SJ, Foster EB, Frasier AM, et al. Design and Operation of the National Survey of Children's Health, 2007. National Center for Health Statistics. *Vital Health Stat* 1. 2009.



Appendix B: Survey Questions on the Presence of Conditions

Below are the questions asked in the National Survey of Children's Health to determine whether children who were at least 2 years old had been diagnosed with, and currently have, any of seven emotional, behavioral, or developmental conditions. These questions only represent a small portion of the survey.

For all of the questions listed here, respondents could answer "yes," "no," or "I don't know," or they could refuse to answer. If the respondent did not understand the question, the surveyor read the text presented in italics.

Now I am going to read you a list of conditions. For each condition, please tell me if a doctor or other health care provider ever told you that [your child] had the condition, even if (he/she) does not have the condition now.

Has a doctor or other health care provider ever told you that [your child] had...

K2Q31A Attention Deficit Disorder or Attention Deficit Hyperactivity Disorder, that is, ADD or ADHD?

A child with Attention Deficit Disorder or Attention Deficit Hyperactivity Disorder has problems paying attention or sitting still. It may cause the child to be easily distracted.

[if yes] Does [your child] currently have ADD or ADHD?

K2Q32A Depression?

Depression is an illness that involves the body, mood, and thoughts. It is marked by persistent sadness or an anxious or empty mood. It affects how a person feels, and the way a person eats, sleeps, and functions.

[if yes] Does [your child] currently have depression?

K2Q33A Anxiety problems?

Anxiety is a feeling of constant worrying. Children with severe anxiety problems may be diagnosed as having anxiety disorders. Anxiety disorders include panic disorder, obsessive-compulsive disorder, post-traumatic stress disorder, and phobias.

[if yes] Does [your child] currently have anxiety problems?

K2Q34A Behavioral or conduct problems, such as oppositional defiant disorder or conduct disorder?

Oppositional defiant disorder is an ongoing pattern of defiant and hostile behavior that interferes with a child's life and daily activities.

[if yes] Does [your child] currently have behavioral or conduct problems?

K2Q35A Autism, Asperger's Disorder, pervasive developmental disorder, or other autism spectrum disorder?

Children with autism have delays in language, communication, and social skills. Children with Asperger's disorder have impaired social skills but do not have speech or language delays. They often have an intense interest in a single subject or topic. Children with pervasive developmental disorder have severe and persistent delays in language, communication, and social skills.

[if yes] Does [your child] currently have Autism or ASD?

K2Q36A Any developmental delay that affects (his/her) ability to learn?

A child with a developmental delay does not achieve certain skills as quickly other children of the same age. A developmental delay is a major delay in motor, language, social, or thinking skills.

[if yes] Does [your child] currently have developmental delay problems?

K2Q38A Tourette Syndrome?

Tourette Syndrome is a disorder that causes frequent sudden movements or sounds.

[if yes] Does [your child] currently have Tourette Syndrome?