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Design and Operation of the National Survey of Children with Special Health Care Needs, 2009–2010

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
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Programs and Collection Procedures

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Hyattsville, Maryland
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Acknowledgments

The National Survey of Children with Special Health Care Needs (NS-CSHCN) was sponsored and funded by the Maternal and Child Health Bureau of the Health Resources and Services Administration.

The survey was conducted by the Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics (NCHS) as a module of the State and Local Area Integrated Telephone Survey (SLAITS). The SLAITS project director is Marcie Cynamon. Design, production, and analytic assistance for this project were provided by Rosa Avila, Julian Luke, and Kathleen O'Connor. CDC's National Center for Immunization and Respiratory Diseases graciously permitted the use of the National Immunization Survey sampling frame for this survey.

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Abstract

Objectives

This report presents the development, plan, and operation of the 2009–2010 National Survey of Children with Special Health Care Needs, a module of the State and Local Area Integrated Telephone Survey. The survey is conducted by the Centers for Disease Control and Prevention's National Center for Health Statistics. This survey was designed to produce national and state-specific prevalence estimates of children with special health care needs (CSHCN), to describe the types of services that they need and use, and to assess aspects of the system of care for CSHCN.

Methods

A random-digit-dial sample of households with children under age 18 years was constructed for each of the 50 states and the District of Columbia. The sampling frame consisted of landline phone numbers and cellular-(cell) phone numbers of households that reported a cell-phone-only or cell-phone-mainly status. Children in identified households were screened for special health care needs. If CSHCN were identified in the household, a detailed interview was conducted for one randomly selected child with special health care needs. Respondents were parents or guardians who knew about the children's health and health care.

Results

A total of 196,159 household screening interviews were completed from July 2009 through March 2011, resulting in 40,242 completed special-needs interviews, including 2,991 from cell-phone interviews. The weighted overall response rate was 43.7% for the landline sample, 15.2% for the cell-phone sample, and 25.5% overall.

Keywords: children with disabilities • chronic disease • needs assessment • pediatrics

Design and Operation of the National Survey of Children with Special Health Care Needs, 2009–2010

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Introduction

To help states develop and provide coordinated systems of care for children with special health care needs (CSHCN), Title V of the Social Security Act establishes a block grant system that provides funds and creates federal and state partnerships. State-level data regarding the need for, use of, and barriers to care are necessary for accurate program evaluation. First conducted in 2001, the National Survey of Children with Special Health Care Needs (NS-CSHCN) was designed to produce prevalence estimates of CSHCN using a standard battery of screening questions, in order to describe the types of services that these children need and use, and to assess possible areas of improvement in the system of care for CSHCN (1,2). This information was made available at the state level and was collected in a manner that enables comparison across states and nationally.

NS-CSHCN was conducted for a second time in 2005–2006 and for a third time in 2009–2010. This methodology report documents the 2009–2010 NS-CSHCN design and procedures.

State and Local Area Integrated Telephone Survey Program

All three rounds of NS-CSHCN, conducted in 2001, 2005–2006, and 2009–2010, were modules of the State and Local Area Integrated Telephone Survey (SLAITS) Program. SLAITS, sponsored by the Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics (NCHS), is a broad-based, ongoing surveillance system available at national, state, and local levels for tracking and monitoring the health and well being of children and adults. SLAITS modules use the same sampling frame as CDC's National Immunization Survey (NIS) and immediately follow NIS in selected households, using its sample for efficiency and economy. In the course of identifying households with age-eligible children, NIS uses a random-digit-dial (RDD) sample and computer-assisted telephone interview (CATI) technology to screen approximately 1 million households each year. The process of identifying this large number of households—most of which are ultimately age-ineligible for NIS—offers an opportunity to administer other surveys on a range of health- and welfare-related topics in an operationally

seamless, cost-effective, and statistically sound manner.

SLAITS modules vary in content, duration, and sample size based on the research needs of their sponsors. Sponsors work with NCHS to establish parameters—including questionnaire design, sample size, and other survey requirements. Since 2005, NORC at the University of Chicago has administered all aspects of the survey operations, including development and testing of the CATI instrument; recruiting and training interviewers; completing the targeted number of interviews; and preparing data files and final documentation.

History of the SLAITS Program

SLAITS began in 1997 with a pilot test in two states: Iowa and Washington. This pilot survey included a series of questions on health, such as access to care, health status, and insurance. In 1998, a SLAITS module concerning child well being and welfare issues was implemented using three samples: a general RDD sample of children in Texas, known Medicaid program participants in Texas, and known Medicaid or MinnesotaCare participants in Minnesota. In 2000, SLAITS fielded the National Survey of Early Childhood Health, which collected data regarding parents' perceptions of their young children's pediatric care and examined relationships between the promotion of health in the pediatric office and promotion of health in the home (3).

In 2001, SLAITS conducted the first NS-CSHCN, which was designed to collect data on the special health care needs of children, children's health insurance coverage, and uninsured children from low-income households (1,2). With a target of 750 interviews per state, the 2001 NS-CSHCN was the first SLAITS study to take full advantage of the NIS sampling frame to produce state-level estimates. In 2003, SLAITS fielded the National Survey of Children's Health (NSCH), which examined the physical and emotional health of children aged 0–17 years (4). In 2003, SLAITS also facilitated the National Asthma Survey, which examined the predictors of better asthma control, such as factors related to health, socioeconomics, behavior, and environment.

In 2005–2006, SLAITS fielded the second administration of NS-CSHCN (5). Three SLAITS modules were conducted in 2007: the second round of NSCH (6); the National Survey of Adoptive Parents (7), a concurrent follow-back survey to the 2007 NSCH; and the Survey of Adult Transition and Health (8), a follow-back to the 2001 NS-CSHCN. In 2008, SLAITS fielded the National Survey of Adoptive Parents of Children with Special Health Care Needs (9), a follow-back to the 2005–2006 NS-CSHCN.

The 2009–2010 NS-CSHCN, documented in this report, marks the third time that the SLAITS mechanism has been used to conduct this survey.

Background

NS-CSHCN was funded by the Maternal and Child Health Bureau (MCHB) of the Health Resources and Services Administration (HRSA). MCHB, established in 1935 as part of Title V of the Social Security Act, is responsible for protecting the health of mothers and children through the development of programs and systems of care for those populations.

The 1989 Omnibus Budget Reconciliation Act enhanced the Maternal and Child Services Programs' mission with specific provisions for CSHCN, including improved access to care to be monitored by state agencies (10). Today, Title V is administered by MCHB using block grants to create federal-state partnerships to provide family-centered, community-based coordinated systems of care for CSHCN (11). A minimum of 30% of block grant funds must be used to support programs for CSHCN, and specific steps must be taken to improve service delivery for these children and their families. States have considerable flexibility in determining the services to provide and the manner in which they are provided.

To guide the development of appropriate services for children with special needs, MCHB established a work group whose mission was to create a broad and inclusive definition of what constitutes special health care needs. After considering condition-list and functional status-based approaches, the work group decided to adopt a definition based on increased service needs and to include at-risk children to facilitate program planning (12,13). The resulting definition was, ''Children with special health care needs are those who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond that required by children generally'' (12).

Using data from the 1994 National Health Interview Survey on Disability, researchers established an initial special health care needs prevalence rate among children of 15%–20% (14). The at-risk population was not included in this estimate, as there is no accepted approach to identifying these children. In fact, there was no one accepted method of identifying CSHCN. To augment ongoing research on this subject, the pretest phase of the first NS-CSHCN (2001) used two different batteries of questions to screen households to identify CSHCN (15,16). Ultimately, the CSHCN Screener was adopted for use in the National Survey of CSHCN.

The CSHCN Screener was developed as part of the Child and Adolescent Health Measurement Initiative, which was originally a part of the Foundation for Accountability, and is now housed at the Oregon Health and Science University. The CSHCN Screener includes five stem questions on general health needs that could be the consequence of chronic health conditions (e.g., need for special therapies or need for prescription medication). If a child currently experiences one of these consequences, follow-up questions determine whether this health care need is the result of a medical, behavioral, or other health condition, and whether the condition has

lasted or is expected to last for 12 months or longer. Those with affirmative answers to the stem and both follow-up questions (Table A) are considered to have a special health care need.

Using CSHCN Screener data from the 2001 NS-CSHCN, researchers estimated that 12.8% of children had special health care needs. Other surveys using the CSHCN Screener at that time or shortly afterward found prevalence rates as high as 19.3% (17). Using the 2005–2006 NS-CSHCN, researchers estimated that the special-needs prevalence rate among children was 21.8%. Despite these differences in prevalence estimates, the characteristics and health needs of CSHCN remained relatively stable across surveys and data collection years (17,18).

Serving CSHCN requires a broad-ranging system of health and related types of care. These services may include specialty physician care, therapeutic services, family support services and care coordination, durable equipment and assistive devices, a variety of education-related services, and transportation services (12). Although states vary greatly in the manner used to provide these services, virtually all provide them to some extent. Accurate assessment of use and barriers to needed care is critical to program planning and evaluation. The 2001 NS-CSHCN was the first survey to use comparable methods in every state to provide the information necessary to accurately assess state activities and program needs.

The 2009–2010 NS-CSHCN

The 2009–2010 NS-CSHCN had the same goals as the 2001 and 2005–2006 administrations of NS-CSHCN: to provide the information necessary to accurately assess state activities and program needs and to make comparisons across states and nationally, as well as over time. The major research questions that the 2009–2010 NS-CSHCN was designed to address were:

- What is the prevalence of special health care needs among children under age 18 years in each state?
- Are their special health care needs and the concerns of their families being addressed?
- What is the quality of primary, specialty, and ancillary care that children receive?
- Are CSHCN receiving comprehensive care in a medical home?
- What factors are associated with the receipt of better quality, more comprehensive care?
- Do families of CSHCN have adequate insurance to pay for the services that CSHCN need?
- What is the effect of the child's health condition on the family?
- From whom are CSHCN receiving needed care coordination services?

The Survey of Pathways to Diagnosis and Services

The 2009–2010 NS-CSHCN also provided the methodological foundation for the Survey of Pathways to Diagnosis and Services (Pathways), which was administered as a follow-back survey in 2011. Sponsored by the National

Table A. Children with special health care needs screener questions used in the 2009–2010 survey

Introductory statements

The next questions are about any kind of health problems, concerns, or conditions that may affect your child's physical health, behavior, learning, growth, or physical development. Some of these health problems may affect your child's abilities and activities at school or at play. Some of these problems affect the kind or amount of services your child may need or use.

Stem question

Follow-up questions

1. Does your child currently need or use medicine prescribed by a doctor, other than vitamins?
   (IF YES) Is your child's need for prescription medicine because of ANY medical, behavioral, or other health condition?
   (IF YES) Is this a condition that has lasted or is expected to last 12 months or longer?
   (IF NO) Has your child's need for prescription medication lasted or is it expected to last 12 months or longer?
2. Does your child need or use more medical care, mental health, or educational services than is usual for most children of the same age?
   (IF YES) Is your child's need for medical care, mental health, or educational services because of ANY medical, behavioral, or other health condition?
   (IF YES) Is this a condition that has lasted or is expected to last 12 months or longer?
   (IF NO) Has your child's need for medical care, mental health, or educational services lasted or is it expected to last 12 months or longer?
3. Is your child limited or prevented in any way in (his/her/their) ability to do the things most children of the same age can do?
   (IF YES) Is your child's limitation in abilities because of ANY medical, behavioral, or other health condition?
   (IF YES) Is this a condition that has lasted or is expected to last 12 months or longer?
   (IF NO) Has your child's limitation in abilities lasted or is it expected to last 12 months or longer?
4. Does your child need or get special therapy, such as physical, occupational, or speech therapy?
   (IF YES) Is your child's need for special therapy because of ANY medical, behavioral, or other health condition?
   (IF YES) Is this a condition that has lasted or is expected to last 12 months or longer?
   (IF NO) Has your child's need for special therapy lasted or is it expected to last 12 months or longer?
5. Does your child have any kind of emotional, developmental, or behavioral problem for which he or she needs treatment or counseling?
   (IF YES) Is your child's need for medical care, mental health, or educational services because of ANY medical, behavioral, or other health condition?
   (IF YES) Has your child's emotional, developmental, or behavioral problem lasted or is it expected to last 12 months or longer?

NOTE: For households with more than one child, the phrase "does your child" was replaced with "do any of your children." Affirmative answers were followed by a question asking for the names or ages of the children with that particular health care consequence. The follow-up questions were then asked separately for each named child, filling either the child's age or child's name (as provided by the respondent).

Institutes of Health's National Institute of Mental Health, and funded by the American Recovery and Reinvestment Act of 2009 (Public Law 111–5), Pathways was designed to collect data on school-age CSHCN who currently have or once had a diagnosis of autism or autism spectrum disorder, developmental delay, or intellectual disability. The survey focused on the history of the child's mental health condition, including the emergence of symptoms; diagnosis; and treatments or interventions used to address the condition.

Data collection for Pathways began in February 2011 and ended in June 2011, and involved both a telephone interview and a mail questionnaire. During data collection, 4,032 telephone interviews were completed, and 2,998 mail questionnaires were completed either via mail or telephone prompting. For additional information on the Pathways survey, see ''Design and Operation of the Survey of Pathways to Diagnosis and Services'' (19).

Sample Design

Like all SLAITS modules, NS-CSHCN took advantage of the large number of screening calls required for NIS. This was the first time a cell-phone sample had been fielded for a SLAITS module, and that was done in response to the potential coverage bias that could occur from excluding the growing wireless-only population. In 2010, 29% of all children aged 0–17 years lived in wireless-only households (20) and would not be covered in a traditional landline RDD sample. To address this potential coverage bias, the 2009–2010 NS-CSHCN incorporated a cell-phone sample in its design. The NS-CSHCN cell sample was screened to retain just those numbers that either did not have a landline [cell phone only (CPO)], or were unlikely to be reached through their landline if they had one [cell phone mainly (CPM)]. To accomplish the goal of 750 completed special-needs interviews (with 45 from cell-phone interviews) in each state and the District of Columbia (DC), telephone numbers were initially selected from the telephone numbers randomly generated for the NIS screening effort. Therefore, the procedures for drawing the NIS sample were the first steps in the procedures for drawing the NS-CSHCN sample.

However, because of the scope of NS-CSHCN, additional sample was necessary to augment the NIS sample in certain states for the landline sample and all states for the cell sample. In these cases, an augmentation sample was drawn for the purpose of administering the NS-CSHCN interview only (without going through NIS first). While the landline sample started data collection in Quarter 3, 2009 and lasted 6 full quarters, the cell-phone sample data collection was only fielded during Quarters 3 and Quarter 4, 2010, the last 2 quarters of data collection. Moreover, the NS-CSHCN cell sample for Quarter 3, 2010 consisted of augmentation cell-phone sample only, as the NIS cell-phone sample was only fielded in Quarter 4, 2010.

Additional landline sample was fielded for the United States Virgin Islands (USVI) during Quarters 3 and 4, 2010. The 2009–2010 iteration of NS-CSHCN was the first SLAITS module to include USVI sample. Although this landline sample was not large enough to attain 750 completed surveys, all available NIS USVI sample was flagged and fielded for NS-CSHCN. Because a cell-phone sample frame for USVI was not included in the NIS sampling frame, a cell-phone sample for NS-CSHCN was not fielded there.

The next two sections describe the basic NIS sample design and serve as a nontechnical description of the NS-CSHCN sample design and allocation procedures. Appendix I of this report includes a more technical description of the NS-CSHCN sample design and weighting procedures. Further information regarding NIS can be found in ''National Immunization Survey: The Methodology of a Vaccination Surveillance System'' (21) and online (http://www.cdc.gov/nchs/nis.htm).

NIS and SLAITS Sampling Plan

NIS was established to monitor vaccination levels of very young children within states and local areas. These sampling areas are nonoverlapping and cover the United States and the U.S. Virgin Islands. In effect, each quarter NIS conducts a separate survey in each sampling area using a common sample design. The target number of completed interviews in each sampling area reflects the goal of obtaining equally precise estimates in each estimation area. Thus, the national target for the total number of completed interviews is the sum of the targeted number of completed interviews in each sampling area. If necessary, the target for a sampling area in a quarter is adjusted to compensate for its total shortfall or excess in the previous quarters.

The target population for NIS is children aged 19–35 months, the primary targets of immunization programs. Because less than 5% of households in the United States contain children in this age range, NIS screens more than 1 million households per year to identify households with eligible children. SLAITS modules use this NIS screening sample.

In addition to the main NIS survey (NIS-Child), there is a second survey fielded using the NIS sample—NIS-Teen, which monitors vaccination levels for children aged 13–17 years. Because the NIS-Teen age range is much larger than the NIS-Child age range, fewer households are screened in the landline sample. Only a portion of the NIS landline sample is necessary to meet the NIS-Teen targets, and therefore, not all the NIS landline sample is selected for the NIS-Teen survey. SLAITS modules also use this NIS screening sample, and thus immediately follow either the NIS-Child or NIS-Teen surveys. The sample selection process minimizes the amount of sample that is selected for potential administration of both the NIS-Teen and SLAITS surveys from the NIS-Child sample, where possible.

The NIS-Child cell sample goes through the same selection process,

and here again, the selection process minimizes the amount of sample selected for both NIS-Teen and SLAITS modules in a given sampling area. However, the eligibility rate for NIS-Teen is much lower in the cell sample, and therefore, requires a higher sample selection rate than seen in the NIS-Child landline sample. This results in a higher proportion of the available NIS-Child cell-phone sample being selected for both NIS-Teen and NS-CSHCN, compared with the landline sample.

NIS uses the list-assisted method of RDD (22,23) for the landline sample. This method selects a random sample of telephone numbers from ''banks'' of 100 consecutive telephone numbers (e.g., 773–256–0000 to 773–256–0099) that contain at least one directory-listed residential telephone number. The sampling frame of telephone numbers is updated each quarter to reflect new telephone exchanges and area codes. The landline-augmentation sample that was needed for certain states used the same process as NIS to select sample lines, while ensuring no overlap with what had been selected for NIS.

Unlike the landline component of NIS, the Quarter 4, 2010 NIS-Child national cell-phone sample was not divided into estimation areas and was limited to the 50 states and DC (i.e., did not include USVI). The national cell-phone sample was randomly drawn based on the distribution of available cell-phone exchanges across the United States. For the cell-augmentation sample, the data were randomly selected at the state level, based on area code. The sample line needs were estimated using response rate information by state, and take into account higher mobility rates within the cell-phone frame, compared with the landline frame (e.g., people are likely to keep the same cell-phone number even if they have moved to a different state).

The NS-CSHCN Sampling Plan

The goal of the NS-CSHCN sample design was to generate samples representative of the state populations of children with special health care needs aged 0–17 years. An additional goal of NS-CSHCN was to obtain state-specific sample sizes that were sufficiently large, to permit precise estimates of the characteristics of CSHCN in each state.

To achieve these goals, state samples were designed to obtain 750 completed interviews with parents or guardians of CSHCN, with 45 of the interviews obtained from the cell-phone sample and the remaining 705 interviews from the landline sample. For states with multiple landline sampling areas for NIS, the number of CSHCN to be selected in each sampling area was determined by allocating the total of 705 children in the state to each sampling area within the state in proportion to the total projected number of households with CSHCN in the sampling area. The projected number of households with CSHCN in each sampling area was adjusted as needed based on the initial data collected from the survey. Given this allocation, the number of households that needed to be screened in each sampling area was calculated using the expected proportion of households with children under age 18 years in the sampling area. Then, the number of telephone numbers that needed to be called was computed using the expected working residential (household) number rate. The number of telephone numbers drawn was increased to compensate for the fact that not all respondents would agree to participate and, therefore, there would be some degree of nonresponse.

For the cell sample, the sample was selected at the state level. Based on the target of 45 cell-phone interviews, the number of cell lines that needed to be screened in each state was calculated using the expected proportion of households with children under age 18 in the state. As with the landline sample, the expected working active personal cell number (APCN) rate was calculated to determine the number of cell-phone lines needed, and this was increased to compensate for some nonresponse at each stage.

The NS-CSHCN sample was a state-level sample design, but the NIS-Child Quarter 4, 2010 cell sample was a national sample design. The NS-CSHCN target was 45 CSHCN completed interviews per state, which could not be achieved using the NIS-Child Quarter 4, 2010 national cell-phone sample alone. In both Quarters 3 and 4, 2010, augmentation cell-phone sample was fielded in order to attain the NS-CSHCN cell-phone targets for each state. Some states had a large portion of cell-completed interviews through the NIS-Child cell sample due to the large population within those states (e.g., California and Texas) and needed minimal amounts of augmentation sample to attain the target of 45 completed interviews through the cell sample.

Drawing the Samples

After the number of landline and cell-phone numbers necessary to achieve the target number of interviews by sample type (landline and cell phone) in each area had been estimated, the samples were drawn. The sample draw proceeded in three steps. First, telephone numbers were sampled in each area for NIS-Child and NIS-Teen, as described above. Next, a portion of these telephone numbers in each area was flagged to be part of the NS-CSHCN sample. Thus, after these steps, every landline and cell-phone number sampled for NIS fell into one of four categories: (1) NIS-Child; (2) NIS-Child and NIS-Teen; (3) NIS-Child and NS-CSHCN; or (4) NIS-Child, NIS-Teen, and NS-CSHCN. Every effort was made to minimize the flagging of cases for both NIS-Teen and NS-CSHCN, but it was necessary to have some overlap between the two surveys in certain sampling areas (''overlap sample''). Overlap sample was required for both the landline and cell samples of NS-CSHCN that were fielded through the NIS-Child sample frame.

For the landline sample, in 15 states (Alaska, Arizona, Hawaii, Idaho, Iowa, Kansas, Louisiana, Nebraska, New Jersey, Nevada, North Carolina, North Dakota, South Dakota, Vermont, and Wyoming), there was insufficient NIS sample available to obtain the desired number of NS-CSHCN completed interviews. Therefore, additional telephone numbers were drawn in the

same manner as the NIS sample and categorized as augmentation sample. Table B shows by state the proportion of the NS-CSHCN sample that was augmented for each state. That is, for each state in Table B, the proportion listed is the proportion of NS-CSHCN sample telephone numbers that were called specifically from an augmentation sample.

As mentioned earlier, there was no available cell sample from NIS-Child in Quarter 3, 2010. Augmentation-cell sample was fielded for all states and DC during that quarter. However, in Quarter 4, 2010, NIS-Child fielded a national cell-phone component, and certain states (California, Florida, Georgia, Illinois, Michigan, Missouri, North Carolina, New York, Ohio, Pennsylvania, and Texas) had sufficient NIS-Child sample to achieve NS-CSHCN targets. As a result, no NS-CSHCN augmentation sample was needed in that quarter for those states. Table B also shows by state the proportion of the NS-CSHCN cell sample that was augmented for each state.

Table B. Augmentation sample, by state and sample type

Area	Percent of landline sample called only for NS-CSHCN	Percent of cellular-phone sample called only for NS-CSHCN
Alaska	26.0	90.9
Alabama	...	42.7
Arkansas	...	55.4
Arizona	3.0	41.6
California	...	3.2
Colorado	...	36.2
Connecticut	...	82.0
District of Columbia	...	87.3
Delaware	...	90.8
Florida	...	13.8
Georgia	...	18.8
Hawaii	3.5	85.6
Iowa	0.9	56.2
Idaho	11.8	65.1
Illinois	...	13.7
Indiana	...	41.6
Kansas	3.2	56.8
Kentucky	...	48.8
Louisiana	3.3	45.4
Massachusetts	...	43.7
Maryland	...	38.7
Maine	...	78.5
Michigan	...	18.2
Minnesota	...	40.1
Missouri	...	26.3
Mississippi	...	55.6
Montana	...	84.4
North Carolina	6.0	19.5
North Dakota	5.4	92.1
Nebraska	3.2	73.8
New Hampshire	...	89.0
New Jersey	1.2	55.1
New Mexico	...	75.6
Nevada	16.9	75.1
New York	...	13.5
Ohio	...	20.3
Oklahoma	...	56.8
Oregon	...	56.0
Pennsylvania	...	18.4
Rhode Island	...	88.9
South Carolina	...	46.3
South Dakota	5.6	91.5
Tennessee	...	32.3
Texas	...	4.0
Utah	...	38.7
Virginia	...	27.6
Vermont	1.4	93.2
Washington	...	28.2
Wisconsin	...	46.7
West Virginia	...	78.2
Wyoming	6.0	91.0

... Category not applicable.

NOTE: NS-CSHCN is National Survey of Children with Special Health Care Needs.

Conducting the NS-CSHCN Interviews

Each telephone number selected for NS-CSHCN was called and screened for residential status, cell-phone status, and the presence of NIS-Child age-eligible children, as necessary. (The augmentation sample was an exception to this rule, because it was selected solely to administer NS-CSHCN and not NIS; these households were not screened for NIS-Child age-eligible children, but for the presence of any children.) NIS-Child interviews were conducted if an NIS-Child age-eligible child lived in the household. If multiple NIS-Child age-eligible children lived in the household, then the NIS-Child interview was conducted for all eligible children. If the household was also selected for the NIS-Teen survey, the household was then screened for the presence of a teenager (aged 13–17). And if an NIS-Teen age-eligible child lived in the household, an interview was conducted about the teenager's vaccination history before moving on to the NS-CSHCN Screener. If there was more than one NIS-Teen age-eligible child in the household, one was randomly selected for the NIS-Teen interview. For NS-CSHCN, if there were children in the household, the sex and age were recorded for each child (if this information had been collected during the NIS interview(s), the questions were not asked again). The respondent was then asked a series of five questions about the health care needs of all children to determine the special health care needs status of every child in the household (see Table A). If any children in the household were identified as having special health care needs, one was randomly selected

(i.e., sampled) to be the subject of a detailed interview.

Questionnaire

The framework for the 2001 NS-CSHCN was initially discussed in August 1999. A panel consisting of selected state and federal Title V program directors, representatives from Family Voices and the Association of Maternal and Child Health Programs, health services researchers, and survey design experts identified the content domains of greatest epidemiological and policy importance. A subset of this panel then assembled questions to capture these domains. Upon approval by MCHB, these questions were pretested in 2000 and fielded in 2001 as NS-CSHCN (5).

Although the overall structure of the NS-CSHCN questionnaire remained static across the 2001, 2005–2006, and 2009–2010 administrations, questionnaire revisions did occur prior to each new iteration of the survey in order to improve data quality, accommodate new sample, and address research questions of interest. The Health Insurance Control Sample and Low-Income Uninsured Supplement that were fielded in 2001 were not included in 2005–2006 or 2009–2010. The Referent Sample, Hurricane Evacuees section, and Influenza Vaccination section, fielded in 2005–2006, were removed for the 2009–2010 administration. For the 2009–2010 iteration, new questions were added to sections regarding health and functional status, access to care, family-centered care, impact on the family, and household demographics.

In April 2008, a technical expert panel was convened to review the questionnaire, suggest revisions, and assemble questions to address newly proposed content areas. (See Table C for a list of panel members.) The panel provided recommendations to MCHB. New and significantly revised questions were pretested in January and February 2009, and the questionnaire was finalized by MCHB shortly afterward.

Table C. External (nongovernment) technical expert panel members

Name	Affiliation (in 2008)
Christina Bethell, Ph.D.	Oregon Health and Science University
Paul Newacheck, Dr.P.H.	University of California, San Francisco
Chuck Onufer, M.D.	University of Illinois at Chicago
Ginny Sharp, M.A.	Sharp Research
Phyllis Sloyer, R.N., M.P.A.	Florida Department of Health
Ruth Stein, M.D.	Albert Einstein College of Medicine
Nora Wells, M.S.Ed.	Family Voices

NOTE: Panel members made recommendations to the Maternal and Child Health Bureau regarding questionnaire content for the 2009–2010 National Survey of Children with Special Health Care Needs.

Content

The 2009–2010 NS-CSHCN interview was designed to immediately follow a completed NIS-Child interview in households with an NIS-eligible child, or to follow the NIS-Child screener in households without NIS-eligible children. The NS-CSHCN questionnaire immediately followed the NIS-Teen interview in some households that had been flagged for both the NIS-Teen and NS-CSHCN surveys (overlap sample). The questionnaire fielded in 2009–2010 was divided into 11 sections, summarized below.

- **Section 1: Age-Eligibility Screening**—This section consisted of the introduction to the interview and the question to determine if any children under age 18 years lived in the household.
- **Section 2: Special Health Care Needs Screening**—In this section, all children under age 18 in the household were rostered, with sex and age gathered for each child. Rostering was followed by the CSHCN Screener.

  A special-needs status was assigned to each rostered child. For households with no CSHCN, the demographics interview (beginning with Section 10) was completed for the household. If at least one child screened in as having special needs, a sampled child with special health care needs was randomly selected by the CATI system, and the full CSHCN interview was conducted regarding that child.
- **Section 3: Health and Functional Status**—This section included questions regarding the sampled child's physical, mental, behavioral, learning, and developmental conditions and the effects of these conditions on the child's life.
- **Section 4: Access to Care: Utilization and Unmet Needs**—The questions in this section addressed the availability of medical services for the sampled child and their family and the degree to which they used them. More specifically, respondents were asked about the types of medical services the child required in the last year, whether they had experienced any problems accessing medical care for the sampled child, whether they had delayed medical treatment for the child, and if so, the reasons for the delay.
- **Section 5: Care Coordination**—In this section, respondents were asked whether referrals were needed for any services and whether anyone helped coordinate care for the sampled child. Additional questions assessed the quality of this assistance.
- **Section 6: Family Centered Care, Transition Issues, and Developmental Screening**—This section contained three subsections. The first subsection asked how well the child's health care provider met the family's needs in terms of spending enough time with the child, being sensitive to family values, discussing changes to expect in the future, and making the family feel like partners in the child's care. The second subsection was administered only to respondents with children aged 12 years and over. It assessed whether the provider talked with the family about transitioning care to other

adult providers as the child ages. The third subsection included questions regarding receipt of formal developmental screening for selected children aged 1–3 years.

- **Section 7: Health Insurance**—The goal of this section was to establish whether sampled children had comprehensive health insurance coverage. Comprehensive coverage was defined as insurance that pays for both doctor visits and hospital stays. The section included questions asking whether a sampled child was covered by any of a series of common types of medical insurance. Respondents with insured children were asked about any interruptions in the insurance coverage that might have occurred in the previous 12 months. For uninsured children, information was collected on how long it had been since they last had medical coverage.
- **Section 8: Adequacy of Health Care Coverage**—Respondents with insured children were asked about adequacy of health coverage. They were asked to rate the cost and benefits of, and their satisfaction with, the insurance plans in which the children were enrolled.
- **Section 9: Impact on the Family**—This section included questions regarding the effect that a child's special health care needs have on a child's family. It assessed financial and time burdens and the ways in which the families were coping with them.
- **Section 9.5: ADD/ADHD Questions** (added at the start of Quarter 4, 2009)—Respondents who reported in Section 3 (Health and Functional Status) that the selected child currently had attention deficit disorder (ADD) or attention deficit hyperactivity disorder (ADHD) were administered several questions, sponsored by CDC's National Center on Birth Defects and Developmental Disabilities. The questions addressed treatments that the selected child may have received for ADD or ADHD—including medication, behavioral treatments, and dietary supplements. Respondents were asked if the child received any of these treatments either in the previous week or within the previous 12 months. If respondents reported that the child had taken medication for ADD or ADHD in the previous week but did not know the name of the medication, they were asked to retrieve the medication at the end of the interview so that the medication type could be accurately documented.
- **Section 10: Demographics**—This section asked questions about the number of people living in the household, the relationship of the respondent to the child, the relationships of all other household members to the child, the race and ethnicity of all the children in the household, and, if there was an adoptive parent in the household, the age of the child at the time of adoption and whether the child had previously been in foster care or adopted internationally.
- **Section 11: Income**—In this section, respondents were asked about their income and government program participation—including the receipt of supplemental security income and assistance from a state or county welfare program. The annual household income was mapped to the U.S. Department of Health and Human Services (HHS) Federal Poverty Guidelines in order to categorize the household's income relative to the poverty level.
- **Section 11A: Telephone and Household Information**—This section collected information about the telephone lines in the household, interruptions in telephone service during the past year, and ZIP code information. Starting in Quarter 1, 2010, locating information was added to this section, which included collecting contact information from respondents to facilitate recontact in the future for possible follow-back surveys. Beginning in Quarter 3, 2010, questions in this section were revised to accommodate cell-phone dialing.
- **California Supplemental Questions**—Specific questions in Sections 3, 5, 6, and 11 of the NS-CSHCN questionnaire were asked solely of cases dialed in California. These questions were included at the request of and funded by the Lucile Packard Foundation for Children's Health, and are marked with an asterisk in Appendix II.

All households with children received sections 1, 2, 10, 11, and 11A. Households that included at least one child with special health care needs completed the full CSHCN interview, including Sections 3–9.

A copy of the questionnaire as administered in the final quarter (Quarter 4, 2010) appears in Appendix II. Appendix III lists the key differences between the 2005–2006 questionnaire and the 2009–2010 pretest questionnaire. Appendix IV includes changes made after the 2009–2010 pretest and before the main launch in Quarter 3, 2009. Appendix V provides a list of changes made to the 2009–2010 questionnaire over the course of the data collection period. Appendix VI contains the HHS Federal Poverty Guidelines tables used to determine household poverty status during interview administration and a description of the process for assigning poverty status to households. Appendix VII contains the state-specific health insurance program names used for the health insurance questions in Section 7, and Appendix VIII contains the state-specific TANF (Temporary Assistance for Needy Families) program names used in Section 11.

Computer-assisted Telephone Interviewing

The 2009–2010 NS-CSHCN was conducted using a computer-assisted telephone interview (CATI) system. The CATI data collection method employs computer software that presents the questionnaire on a computer screen to each interviewer. The computer program guides the interviewer through the questionnaire, automatically routing the

interviewer to appropriate questions based on answers to previous questions. Interviewers enter survey responses directly into the computer, and the CATI program determines if the selected response is within an allowable range, checks it for consistency against other data collected during the interview, and saves the responses into a survey data file. On-screen help text is available to aid interviewers in administering the CATI questionnaire. This data collection technology reduces the time required to transfer, process, and release data, and ensures accurate questionnaire flow.

The NS-CSHCN questionnaire was programmed as a module of NIS, integrating the two surveys into a single questionnaire. The instrument made full use of the CATI system's ability to check whether a response was within a legitimate range, to follow skip patterns, to fill state-specific information in questions as applicable (e.g., names of state Medicaid programs), and to employ pick lists for response categories. Certain household and demographic questions were identical across the NIS-Child, NIS-Teen, and NS-CSHCN portions of the interview. If a respondent answered these questions during administration of the NIS interview, the system was programmed so that the questions were not repeated in NS-CSHCN. Instead, answers to these questions in NIS were copied to the data file for NS-CSHCN as appropriate.

NS-CSHCN Augmentation Questionnaire

As noted earlier, the amount of sample required to reach the target number of completed special-needs interviews for the NS-CSHCN sample exceeded the NIS sample available in some states. For these states, an additional "NS-CSHCN-only" augmentation sample was drawn. Augmentation sample respondents did not receive any questions from the NIS screener or interview. Rather, the CATI system was programmed to begin with the NS-CSHCN introduction and proceed to the CSHCN Screener in the same manner as the main sample.

Interviewer Training

Training Sessions

The data collection contractor NORC and its subcontractor conducted all interviews for the 2009–2010 NS-CSHCN. Interviewer training was conducted by NORC staff at production centers located in Chicago, Ill. and Las Vegas, Nev. The use of multiple sites ensured continuous coverage in all time zones across the United States.

In addition, NORC employed a small number of distributed computer-assisted telephone interviewing (DCATI) interviewers who resided in the Grand Rapids, Mich. area. As a component of NORC's disaster preparedness plan, the DCATI staff worked from their home office spaces. NORC provided them with the full desktop computer and telephone setup that is required to conduct interviews just as they would if they were stationed at either the Chicago or Las Vegas production centers. All training for the DCATI staff took place over voice and video conferencing and was led by the Chicago training team.

The interviewer training sessions began with an introduction and project overview. Interviewers were informed about project goals, the purpose and history of the study, study sponsors, and the study design. An overview of the screener and each section of the questionnaire was provided, with emphasis on quality data collection. The relationship between NS-CSHCN and NIS was also covered.

Several exercises on gaining cooperation were conducted throughout training to ensure that interviewers were equipped to answer frequently asked questions (FAQs) and handle refusals. Part of the exercises included pronunciations of medical conditions, as well as a review of FAQs and other job aids provided for interviewers.

Beginning in Quarter 3, 2010, interviewers were specifically trained in cell-phone sample dialing protocols. Interviewers were trained on how to manually dial cell-phone cases, screen cell-phone cases appropriately, and respond to cell-phone-specific questions.

Two types of mock interviews were used during training: trainer-led interviews and dual-trainee interviews. The trainer-led mock interviews were conducted by the trainer, and they focused on gaining cooperation skills and the interviewers' project knowledge. For the dual-trainee mock interviews, trainees were paired, and alternated playing the role of respondent and interviewer. The first dual-trainee mock interview was integrated into the section-by-section lecture that progressed through the questionnaire. The interviewers first listened to a lecture regarding each section, then practiced moving through that section in CATI before moving on to a discussion about the next section. This method ensured that interviewers became acclimated to the questionnaire, navigating CATI, and gaining cooperation as new topics were introduced. Additional mock interviews that simulated more realistic interviewing situations in real time were then conducted. Each mock interview was designed to highlight various sections of the screener and the main questionnaire, and to provide different scenarios requiring alternative approaches for gaining cooperation.

At the end of training, interviewers completed a certification mock interview and written evaluation. The certification mock interview was administered by trained supervisors. It was approximately 30 minutes in length and standardized to ensure that all interviewers were assessed equally in reading the questionnaire verbatim, project knowledge, pronunciation, and the ability to answer respondent questions. The written evaluation was administered to reinforce what was learned during the training sessions. The evaluation was nine questions in length and took approximately 15 minutes to complete. The evaluation covered FAQs, survey procedures, and question-specific information. Interviewers had to pass both the written evaluation and certification mock interview for certification to call NS-CSHCN cases. Table D notes the number of interviewers trained by location and

Table D. Number of interviewers trained, by month and telephone center location

Month and year	Trained			Passed			Total trained	Total passed	Percent passed
	Chicago, Ill.	Las Vegas, Nev.	DCATI	Chicago, Ill.	Las Vegas, Nev.	DCATI			
2009									
June	338	102	–	338	102	–	440	440	1.00
July	360	16	–	359	15	–	376	374	0.99
August	26	14	–	26	12	–	40	38	0.95
September	–	23	–	–	22	–	23	22	0.96
October	–	12	–	–	12	–	12	12	1.00
November	17	–	–	16	–	–	17	16	0.94
December	–	–	–	–	–	–	–	–	–
2010									
January	–	16	–	–	16	–	16	16	1.00
February	46	29	–	45	28	–	75	73	0.97
March	34	–	–	32	–	–	34	32	0.94
April	21	–	–	15	–	–	21	15	0.71
May	46	–	–	46	–	–	46	46	1.00
June	97	31	–	94	29	–	128	123	0.96
July	88	13	–	81	10	–	101	91	0.90
August	–	46	–	–	45	–	46	45	0.99
September	97	91	17	84	83	17	205	184	0.90
October	140	78	–	117	73	–	218	190	0.87
November	–	–	–	–	–	–	–	–	–
December	–	–	–	–	–	–	–	–	–
Total	1,310	471	17	1,253	447	17	1,798	1,717	0.95

– Quantity zero.

NOTE: DCATI is distributed computer-assisted telephone interviewing.

month over the course of NS-CSHCN data collection.

Data Collection

Data collection for the 2009–2010 NS-CSHCN started on July 7, 2009 and ended on March 2, 2011. Throughout the 6 quarters of data collection, CSHCN screening was completed for 199,309 households with children. These households included a total of 378,309 children. Of these children, 102,802 were identified as having special health care needs. These children resided in 48,519 screened households. From each household, one child with special health care needs was randomly selected to be the target of the special-needs interview. Interviews were completed for 40,052 of these sampled children and partially completed for 534 sampled children. Interviews were considered partially complete if the interview was completed through the end of the health insurance section (Section 7). See Table E for the total number of interviews completed by telephone sample type in each state.

Every state started with a target of 750 completed special-needs interviews. Throughout data collection, sample release was determined by estimating the number of completed interviews that were still needed to reach the target and achieve reasonable response rates. All states met the overall data collection targets of 750 completed interviews, and only nine states failed to meet the cell-phone target of 45 cases. Of these, only Hawaii and DC finished with less than 40 cell-phone completes. Adding telephone lines at the end of the data collection period to reach the target was not recommended because biased estimates may result if some lines are called less frequently or over shorter periods of time than others.

It should be noted that the number of interviews completed is not the same as the number of interviews in the publicly released data files. Please see ''Edits to Protect Confidentiality'' and ''Procedures for Developing Sampling Weights'' later in this report for information regarding completed interviews excluded from the publicly released data files.

Pretest of the CATI Instrument

The 2009–2010 NS-CSHCN CATI instrument was pretested January 29, 2009 through February 2, 2009, with a total of 546 NS-CSHCN Screener completes and 129 completed NS-CSHCN interviews. Table F shows the final dispositions of the cases that completed the NS-CSHCN Screener.

A national list sample of households likely to include children was purchased from Survey Sampling International. The pretest focused on the functionality of the CATI instrument and respondents' comprehension, ease of answering, and reaction to the questionnaire. Based on results from the pretest, changes were made to the questionnaire, and the production instrument was finalized. Additional detail regarding the CATI pretest and resulting questionnaire changes can be found in Appendix IV.

Table E. Number of completed interviews, by state and telephone sample type

Area	CSHCN screening interviews completed								
	Total			Landline			Cell		
	Households with children (CSHCN Screener complete)	Children under age 18 years	Special-needs interviews	Households with children (CSHCN Screener complete)	Children under age 18 years	Special-needs interviews	Households with children (CSHCN screener complete)	Children under age 18 years	Special-needs interviews
All states (excluding USVI)	196,159	372,698	40,242	177,672	338,752	37,251	18,487	33,946	2,991
All states (including USVI)	199,309	378,309	40,586	180,822	344,363	37,595	18,487	33,946	2,991
Alabama	3,458	6,236	784	3,156	5,701	735	302	535	49
Alaska	4,865	9,920	775	4,585	9,365	734	280	555	41
Arizona	4,047	8,026	789	3,657	7,287	732	390	739	57
Arkansas	3,331	6,131	785	2,978	5,486	717	353	645	68
California	5,502	10,290	823	4,427	8,372	692	1,075	1,918	131
Colorado	3,844	7,330	773	3,500	6,672	722	344	658	51
Connecticut	3,681	6,729	784	3,366	6,186	736	315	543	48
Delaware	3,584	6,516	781	3,349	6,074	737	235	442	44
District of Columbia	3,879	6,596	751	3,735	6,342	726	144	254	25
Florida	4,507	8,091	864	3,793	6,847	744	714	1,244	120
Georgia	3,812	7,111	817	3,320	6,191	734	492	920	83
Hawaii	5,130	9,716	791	4,799	9,040	753	331	676	38
Idaho	3,802	8,367	776	3,528	7,809	730	274	558	46
Illinois	4,466	8,387	793	3,875	7,316	703	591	1,071	90
Indiana	3,499	6,741	777	3,113	6,021	712	386	720	65
Iowa	3,939	7,799	798	3,658	7,282	743	281	517	55
Kansas	3,343	6,611	787	3,085	6,109	734	258	502	53
Kentucky	3,228	5,911	790	2,933	5,404	746	295	507	44
Louisiana	3,335	6,075	774	2,997	5,463	721	338	612	53
Maine	3,392	6,100	774	3,210	5,778	732	182	322	42
Maryland	4,004	7,208	804	3,603	6,501	748	401	707	56
Massachusetts	3,545	6,450	788	3,232	5,906	734	313	544	54
Michigan	3,222	6,273	787	2,861	5,645	723	361	628	64
Minnesota	3,828	7,475	776	3,492	6,877	719	336	598	57
Mississippi	3,678	6,861	767	3,412	6,333	715	266	528	52
Missouri	3,444	6,495	792	3,136	5,961	732	308	534	60
Montana	4,057	7,974	778	3,804	7,482	732	253	492	46
Nebraska	3,706	7,461	776	3,439	6,915	728	267	546	48
Nevada	4,479	8,757	771	4,109	8,040	726	370	717	45
New Hampshire	3,354	6,089	765	3,098	5,631	723	256	458	42
New Jersey	4,328	7,948	774	3,880	7,161	726	448	787	48
New Mexico	3,769	7,378	793	3,414	6,673	746	355	705	47
New York	4,592	8,373	836	4,077	7,528	765	515	845	71
North Carolina	3,698	6,646	809	3,292	5,892	734	406	754	75
North Dakota	3,886	7,759	797	3,624	7,246	755	262	513	42
Ohio	3,596	6,808	812	3,143	6,033	723	453	775	89
Oklahoma	3,166	6,275	774	2,852	5,659	724	314	616	50
Oregon	4,065	7,631	771	3,737	7,023	720	328	608	51
Pennsylvania	3,667	6,781	792	3,306	6,191	726	361	590	66
Rhode Island	3,390	6,149	766	3,200	5,819	726	190	330	40
South Carolina	3,625	6,623	789	3,323	6,056	742	302	567	47
South Dakota	4,248	8,676	766	3,880	7,934	721	368	742	45
Tennessee	3,749	6,879	831	3,388	6,195	764	361	684	67
Texas	4,726	9,139	878	3,632	7,103	721	1,094	2,036	157
Utah	3,693	8,976	776	3,439	8,470	727	254	506	49
Vermont	3,608	6,444	765	3,434	6,149	717	174	295	48
Virginia	3,906	6,963	805	3,522	6,300	738	384	663	67
Washington	3,722	7,062	779	3,375	6,469	723	347	593	56
West Virginia	3,344	5,949	781	3,151	5,596	736	193	353	45
Wisconsin	3,582	6,885	782	3,226	6,203	727	356	682	55
Wyoming	3,838	7,628	776	3,527	7,016	727	311	612	49
U.S. Virgin Islands	3,150	5,611	344	3,150	5,611	344	. . .	. . .	. . .

. . . Category not applicable.

NOTES: CSHCN is children with special health care needs. USVI is U.S. Virgin Islands.

Table F. 2009–2010 NS-CSHCN pretest special-needs screener completes

Description	Count
Special-needs screener complete, did not complete interview	56
Section 7 (partial) complete with special needs	2
Demographics complete, nonspecial needs	359
Full CSHCN complete, special needs	129
Total special-needs screener completes	546

NOTES: NS-CSHCN is National Survey of Children with Special Health Care Needs. CSHCN is children with special health care needs.

Advance Letter

Advance letters have been shown to decrease nonresponse by confirming study legitimacy and communicating the value of the survey (24). When a mailing address could be identified for a sampled landline telephone number, an advance letter was mailed prior to any telephone calls. Cell-phone numbers do not have matched addresses, and are therefore not sent advance letters. In addition, because address matching was not available in USVI, this sample also did not receive advance letters. Every household with an available mailing address identified through reverse address services was sent an advance letter—23.7% of the telephone numbers randomly generated, and 50.9% of the telephone numbers dialed by interviewers. Appendix IX contains the full complement of advance letters used over the course of data collection.

Because NS-CSHCN typically follows NIS, the advance letter sent to the main sample was the usual NIS advance letter. In the letter, recipients were asked to participate in a voluntary study of the immunization status of their children and the types of health and related services that their children need and use. The letter advised recipients that their telephone numbers had been chosen randomly and indicated that they might be called in the next few weeks. A toll-free telephone number was provided for those who wished to participate immediately or to learn more about the study.

As described earlier, the main sample was augmented with additional sample in states where the NIS sample was insufficient to meet NS-CSHCN sample targets. Such households with an identified address were sent a similar advance letter, asking recipients to participate in a study regarding the types of health and related services that their children need and use. The letter did not mention anything about NIS or immunizations, and it included a unique SLAITS-only toll-free number to call for recipients who wished to participate immediately or to learn more about the study.

Toll-free Telephone Numbers

A toll-free telephone line established for the survey offered respondents the flexibility to call at their convenience if they had questions about the survey, or wanted to establish eligibility, complete the interview, or submit feedback on any aspect of the survey. Advance letters, incentive letters, answering machine scripts, and closing scripts referenced the toll-free number, and interviewers provided that number to respondents who requested such a resource during the interview. NS-CSHCN cases in the NIS sample frame were provided a toll-free number accessed by both NIS and NS-CSHCN respondents. As mentioned above, NS-CSHCN augmentation-sample households were given a SLAITS-only toll-free number to call.

Both toll-free telephone lines were answered by interviewers trained on NS-CSHCN. During the course of the survey, 96,405 calls were made to the toll-free line by cases in the NS-CSHCN sample, 38% of which were from cell-phone sample cases. Of these calls, 35,360 households were determined ineligible for NS-CSHCN. An additional 32,407 households were eligible for the survey. Of these, 15,704 cases completed the CSHCN Screener, and 3,549 of these households completed the full survey.

Selection of Respondent

Upon contacting a household, interviewers requested to speak with a parent or guardian living in the household who knew about the health and health care of the child(ren) in the household. The respondent's relationship to the child was collected in questionnaire Section 10, and thus was not obtained if no CSHCN resided in the household. Table G shows the frequency and percentage of respondents who were randomly selected for the detailed CSHCN interview, by their relationship with the child. The respondent was the parent (mother or father of any type) of the child for 91.9% of sampled children.

A parent, guardian, or other adult aged 18 and over was not identified in 23,328 households. No interviews were conducted in these households even if a minor who lived there was the parent of an age-eligible child.

Informed Consent

After a knowledgeable respondent came to the phone, or after the person who answered the telephone identified herself or himself as a knowledgeable parent or guardian, the respondent was informed of her or his rights as a survey participant. Verbal consent for study participation was then obtained and documented in the CATI system. The consent script informed respondents of the voluntary nature of the survey, assured them that their responses would be kept confidential, and informed them that there was no penalty for not answering questions. Respondents also were told that the interview might be recorded and monitored by a supervisor for quality purposes. If the case qualified for a monetary incentive, the incentive amount also was provided in the informed consent statement. Because the length of the interview was dependent on whether CSHCN were in the household, respondents were told that the estimate of the duration of the interview would be provided after a few questions.

Table G. Number and percentage of respondents, by relationship to sampled child

Relationship of respondent to sampled child	Number	Percent
Total	40,587	100.00
Mother or female guardian	30,450	75.02
Father or male guardian	6,996	17.24
Grandparent	2,310	5.69
Other relative or friend	673	1.66
Unknown	151	0.37
Don't know or refused	7	0.02

The NCHS Research Ethics Review Board and the NORC Institutional Review Board approved all study procedures and modifications. The federal Office of Management and Budget control number for this collection of information was 0920–0406.

Assurance of Confidentiality

Participation in surveys conducted by NCHS is voluntary, and all individually identifiable information collected is confidential. For NS-CSHCN, assurance of confidentiality was provided to potential respondents as part of the informed consent procedures. Interviewers read the following statement to respondents: "We are required by Federal laws to develop and follow strict procedures to protect your information and use your answers only for statistical research. I can describe these laws if you wish."

If respondents requested to hear more about the actual laws, they were read the following:

> The Public Health Service Act is Volume 42 of the U.S. Code, Section 242k. The collection of information in this survey is authorized by Section 306 of this Act. Through the National Center for Health Statistics, the confidentiality of your responses is assured by Section 308d of this Act and by the Confidential Information Protection and Statistical Efficiency Act. Would you like me to read the Confidential Information Protection provisions to you?

If respondents indicated that they would like to hear the provisions, interviewers read the following:

> The information you provide will be used for statistical purposes only. In accordance with the Confidential Information Protection provisions of Title V, Subtitle A, Public Law 107–347 and other applicable Federal laws, your responses will be kept confidential and will not be disclosed in identifiable form to anyone other than employees or agents. By law, every employee of the National Center for Health Statistics and its collaborating agency and contractor, specifically the National Center for Immunization and Respiratory Diseases and the National Opinion Research Center, and their agents and contractors who work on this survey, has taken an oath and is subject to a jail term of up to five years, a fine of up to $250,000, or both, if he or she willingly discloses ANY identifiable information about you or your household members.

If respondents had any additional questions or concerns, they were directed to the project website for more information (www.cdc.gov/nchs/slaits.htm) and were provided CDC's toll-free telephone number.

When NCHS (including its contractors and agents) collects personally identifiable information under a pledge of confidentiality for exclusive statistical purposes, Section 308(d) of the Public Health Service Act and Section 512(b) of the Confidential Information Protection and Statistical Efficiency Act (CIPSEA) require that confidentiality be maintained without exception. Violations of CIPSEA are a class E felony, punishable by imprisonment for not more than 5 years, a fine not more than $250,000, or both. Strict procedures are used by NCHS, its data collection contractors, and other agents to prevent disclosure of confidential data in survey operations and data dissemination.

Selection of Sampled Child

All households with children under age 18 living or staying in the household were screened for the presence of children with special health care needs. If a household only had one child with special needs, that child was selected as the focus of the interview by default. In households with multiple children with special needs, one child with special health care needs was randomly selected to be the focus of the detailed interview. Households that had no children with special needs did not complete a detailed CSHCN interview, and respondents were only asked a few household demographic questions.

Finding NIS-eligible Children in NS-CSHCN Rostering

NS-CSHCN was designed to follow the administration of the NIS interview for NIS-eligible households. On occasion, a household would indicate that there were no NIS-eligible children in the household, but upon rostering the children in the NS-CSHCN Screener, NIS-eligible children were found. When this occurred, the interview returned to NIS for completion prior to continuing with the NS-CSHCN interview. There were 225 such households identified during data collection, and 144 of these cases completed NIS and then returned to the NS-CSHCN interview.

Interviews in Spanish

The questionnaire was translated into Spanish by a professional translator. Spanish-speaking telephone interviewers and supervisors at NORC reviewed the translation and evaluated it for accuracy and cultural appropriateness. Issues raised during this review were resolved in consultation with the original translator. Any necessary modifications

were made, and the translated questionnaire was programmed into the CATI system for testing and eventual production.

All households were first called by an English-speaking interviewer. If a potential respondent answered the telephone in a language other than English, interviewers asked, ''What language do you speak?'' If it was determined that the respondent needed a Spanish-speaking interviewer, the case was placed in a Spanish calling queue. If the interviewer placing the initial call was a Spanish speaker and trained to administer the Spanish version of the questionnaire, the interviewer was able to toggle to the Spanish questionnaire and continue the interview with no interruption. If not, the case was flagged in the CATI system as needing a Spanish-speaking interviewer, and all subsequent calls were made by Spanish-speaking interviewers. Nevertheless, the interview may have been conducted in English if a subsequent call by a Spanish-speaking interviewer reached an English-speaking respondent.

During data collection, 45,417 telephone numbers were placed in the Spanish calling queue. Of these, 33,834 were determined to reach households, and 28,170 were screened for age eligibility. (Some telephone numbers in the Spanish calling queue were determined to be businesses, whereas others remained unresolved due to hangups, answering machines, or lack of answer after multiple attempts by a Spanish-speaking interviewer.) Age-eligible children were identified in 15,705 households, and 9,442 households completed the CSHCN Screener. Of these, 7,759 completed a nonspecial-needs interview, and 1,048 completed a special-needs interview.

Spanish-speaking households, as defined by the response to variable C10Q40 (''What is the primary language spoken in your home?'') comprised 5.0% of all households screened for special-needs status and 2.8% of all completed special-needs interviews.

Interviews in Languages Other Than English or Spanish

Based on the experience of the 2001 NS-CSHCN, four languages were identified as the most probable languages that interviewers would encounter other than English or Spanish: Mandarin, Cantonese, Vietnamese, and Korean. Independent translators translated the questionnaire into these Asian languages using the same procedures that were used for the Spanish questionnaire. Although the Spanish questionnaire was programmed into the CATI system, given the expected low incidence of the other languages, a different procedure was followed to screen and interview these Asian-language households.

When a household was first identified as needing a language other than English or Spanish, the case was sent to specially trained interviewers who would determine the necessary language with a language service used by NORC, Language Line Services. Language Line Services provides a real-time translation service in more than 170 languages. These households were then screened for NIS age-eligible children, and if they were eligible for NIS, the interviewer immediately conducted the NIS interview with the assistance of the Language Line interpreter. After a completed NIS interview, or if there were no NIS age-eligible children living in the household, the interviewer (with the help of the interpreter) screened the household for children under age 18. In the event that the household included children and spoke one of the four Asian languages, the case was assigned to the appropriate language queue to be called by a specially trained interviewer who spoke that language. Special language interviewers entered the respondent's answers into the regular English CATI system, while using a book that contained the translated questionnaire. This allowed for the data to be captured immediately in the CATI system and to be subject to all built-in logic and validation checks.

Throughout the course of data collection, 375 sampled telephone lines were identified as needing an interview in one of the four available Asian languages. The full NS-CSHCN interview was completed with 25 of the age-eligible households. Households that were identified as needing an Asian language interviewer comprised 0.2% of all screened households with children and 0.06% of all completed full NS-CSHCN interviews.

If the household included age-eligible children but potential respondents apparently did not speak English, Spanish, or one of these four Asian languages, the case was coded as ''age eligible, interview incomplete'' and the case was finalized. A total of 1,241 households with children were finalized due to language.

United States Virgin Islands Sample

NS-CSHCN was administered in the United States Virgin Islands (USVI) in Quarters 3 and 4 of 2010. All USVI sample was comprised of landline sample, and because address matching for this sample was not available, advance letters were not mailed. To ensure that the NS-CSHCN questionnaire was appropriate for USVI residents, certain questions were modified or added. Rather than ask respondents for a ZIP code, the question ''On what island do you live?'' was asked in its place. In addition, because Indian Health Service is not available to USVI residents, the question regarding access to this service was not displayed for these cases. Finally, all references to ''state'' in the questionnaire were replaced with ''area.''

A total of 339 USVI cases completed the full special-needs interview. Of the completed cases, 327 interviews were completed in English, and 12 were completed in Spanish. An additional 80 USVI cases completed the CSHCN Screener (33 with special health care needs and 47 without special health care needs), but did not complete the interview.

Cell-phone Sample

Cell-phone dialing began in Quarter 3, 2010 (for SLAITS augmentation sample cases only), and continued through Quarter 4, 2010 (for both NIS sampling frame and SLAITS augmentation sample). To accommodate cell-phone dialing, several questionnaire and system modifications were made, including:

- Addition of a safety screener question (S_WARM) to ensure respondents were not driving or doing anything that required their full attention.
- Addition of telephone status screener questions (LANDLINE and CELLUSE), screening households for cell-only or cell-mainly status prior to continuing the interview.
- Modification of all introduction and answering machine scripts to inform respondents that they were intentionally being called on their cellular device.
- Modification of the Telephone and Household Information section to collect information on the number of personal cell phones in the household, the number of cell phones the adults in the household usually use, and the proportion of calls received on a cell phone versus a regular phone.
- Modification of the dialing system so that cell-phone numbers were manually dialed.

Interview Length

The length of time to administer the interview depended on the special-needs status of the children in the household. These times also varied by NIS eligibility, because some demographic and household questions had already been administered as part of the NIS interview and were not repeated in the NS-CSHCN interview. Mean and median interview lengths for landline sample interviews, by section and NIS eligibility, appear in Table H; mean and median interview lengths for cell-phone sample interviews, by section and NIS eligibility, appear in Table J.

Interview Breakoffs

Households that refused participation in the interview were placed into a queue that was worked by interviewers specially trained in refusal-conversion strategies. These interviewers attempted to convert the incomplete interview into a completed interview. By the end of data collection, 26.3% of all completed special-needs interviews were completed with households that had refused to participate at least once after age

Table H. Mean and median length of CSHCN interview in minutes and seconds, by interview type, section, and NIS eligibility: Landline sample

Type and section of interview	NIS-eligible		NIS-ineligible	
	Median	Mean	Median	Mean
		Special-needs interview		
Overall length	0:27:26	0:28:48	0:31:46	0:33:16
Section 1: NIS/SLAITS age screeners	0:00:59	0:01:09	0:01:51	0:01:58
Section 2: Special-needs screening	0:01:40	0:01:57	0:01:40	0:01:56
Section 2: Selection of child for interview	0:00:24	0:00:30	0:00:32	0:00:36
Section 3: Health and Functional Status	0:05:58	0:06:21	0:06:21	0:06:46
Section 4: Access to Care	0:06:18	0:06:48	0:06:37	0:07:10
Section 5: Care Coordination	0:01:19	0:01:28	0:01:22	0:01:33
Section 6A: Family Centered Care	0:02:00	0:02:08	0:01:22	0:01:33
Section 6B: Transition Issues[1]	0:01:04	0:01:00	0:00:26	0:00:49
Section 6C: Developmental Screening	0:00:35	0:00:37	0:00:34	0:00:38
Section 7: Health Insurance	0:00:38	0:00:33	0:01:05	0:01:13
Section 8: Adequacy of Health Care Coverage	0:00:35	0:00:41	0:00:37	0:00:42
Section 9: Impact on the Family	0:02:09	0:02:21	0:02:14	0:02:25
Section 9.5: ADD	0:00:53	0:01:10	0:00:55	0:01:09
Section 10: Demographics	0:01:50	0:02:08	0:02:15	0:02:35
Section 11: Income	0:00:14	0:00:16	0:00:48	0:00:57
Section 11A: Telephone Line and Household Information	0:00:16	0:00:18	0:00:55	0:00:59
Address collection	0:01:26	0:01:36	0:01:28	0:01:35
Medication reporting section	0:01:11	0:02:16	0:00:43	0:01:12
		Nonspecial-needs interview		
Overall length	0:03:05	0:03:24	0:05:37	0:05:58
Section 1: NIS/SLAITS age screeners	0:00:59	0:01:08	0:01:47	0:01:53
Section 2: Special-needs screening	0:00:40	0:00:50	0:00:42	0:00:51
Section 10: Demographics	0:00:50	0:00:54	0:01:12	0:01:20
Section 11: Income	0:00:00	0:00:01	0:00:37	0:00:45
Section 11A: Telephone Line and Household Information	0:00:15	0:00:18	0:00:58	0:01:04
Address collection	0:00:44	0:00:54	0:00:43	0:00:55

[1]If sample child was aged 5 years and over, Section 6B was skipped.

NOTES: CSHCN is children with special health care needs; NIS is National Immunization Survey; SLAITS is State and Local Area Integrated Telephone Survey; ADD is attention deficit disorder. NIS-eligible includes cases that completed NIS-Child (main NIS survey) or NIS-Teen. NIS-ineligible includes cases where NIS-Child and NIS-Teen were not completed. Augmentation sample is categorized as NIS-ineligible. Overall interview length is calculated only for cases that began and completed the interview on the same call. Individual section timings are calculated only for cases that began and completed that particular section on the same call.

Table J. Mean and median length of CSHCN interview in minutes and seconds, by interview type, section, and NIS eligibility: Cell-phone sample

Type and section of interview	NIS-eligible		NIS-ineligible	
	Median	Mean	Median	Mean
		Special-needs interview		
Overall length	0:31:05	0:32:28	0:34:58	0:36:38
Section 1: NIS/SLAITS age screeners	0:00:57	0:01:05	0:01:44	0:01:56
Section 2: Special-needs screening	0:01:52	0:02:10	0:01:53	0:02:10
Section 2: Selection of child for interview	0:00:23	0:00:28	0:00:33	0:00:39
Section 3: Health and Functional Status	0:06:42	0:07:04	0:06:53	0:07:19
Section 4: Access to Care	0:06:55	0:07:33	0:07:14	0:07:43
Section 5: Care Coordination	0:01:26	0:01:35	0:01:31	0:01:42
Section 6A: Family Centered Care	0:02:08	0:02:18	0:02:12	0:02:21
Section 6B: Transition Issues[1]	0:01:10	0:01:07	0:00:20	0:00:42
Section 6C: Developmental Screening	0:00:36	0:00:39	0:00:39	0:00:40
Section 7: Health Insurance	0:00:28	0:00:37	0:01:12	0:01:20
Section 8: Adequacy of Health Care Coverage	0:00:37	0:00:43	0:00:38	0:00:43
Section 9: Impact on the Family	0:02:17	0:02:30	0:02:20	0:02:34
Section 9.5: ADD	0:00:57	0:01:13	0:01:00	0:01:14
Section 10: Demographics	0:02:01	0:02:13	0:02:30	0:02:50
Section 11: Income	0:00:20	0:00:22	0:00:57	0:01:05
Section 11A: Telephone Line and Household Information	0:00:33	0:00:38	0:01:09	0:01:15
Address collection	0:02:34	0:02:46	0:02:34	0:02:47
Medication reporting section	0:00:28	0:01:04	0:00:33	0:00:54
		Nonspecial-needs interview		
Overall length	0:03:30	0:03:53	0:05:59	0:06:27
Section 1: NIS/SLAITS age screeners	0:00:56	0:01:04	0:01:42	0:01:51
Section 2: Special-needs screening	0:00:44	0:00:55	0:00:45	0:00:56
Section 10: Demographics	0:00:53	0:00:59	0:01:20	0:01:32
Section 11: Income	0:00:00	0:00:00	0:00:39	0:00:48
Section 11A: Telephone Line and Household Information	0:00:32	0:00:37	0:01:12	0:01:19
Address collection	0:01:22	0:01:26	0:01:26	0:01:31

[1]If sample child was aged 5 years and over, Section 6B was skipped.

NOTES: CSHCN is children with special health care needs; NIS is National Immunization Survey; SLAITS is State and Local Area Integrated Telephone Survey; ADD is attention deficit disorder. Cell-phone sample was fielded in Quarters 3 and 4, 2010. NIS-eligible includes cases that completed NIS-Child (main NIS survey) or NIS-Teen. NIS-ineligible includes cases where NIS-Child and NIS-Teen were not completed. Augmentation sample is categorized as NIS-ineligible. Overall interview length is calculated only for cases that began and completed the interview on the same call. Individual section timings are calculated only for cases that began and completed that particular section on the same call.

eligibility was established; 7.1% of these cases were cell-phone cases. The majority (90.3%) of special-needs cases that partially completed the interview had refused to participate at least once after confirmed age-eligible; 13.1% of these cases were cell-phone cases. Among cases that completed the special-needs screening but did not partially or fully complete the interview, 87.9% of households had refused at least once; 11.6% of these cases were cell-phone cases.

More than 100,000 cases were found age-eligible but did not complete the interview. See Table K for more information about the final dispositions of these cases. Most of these cases (88.3%) did not complete the CSHCN screening.

The most common places in the interview where respondents broke off were during the screener: specifically, at the informed consent script, the question asking for the most knowledgeable respondent, or the rostering of children's ages.

Among cases that were neither partial nor full completes (cases that did not complete through Section 7), 63.7% ended the interview prematurely, immediately after special-needs screening was completed. Of these, more landline cases broke off at this point (64.8%), compared with cell-phone cases (55.5%). For those special-needs screened cases that did advance in the interview, there was little commonality in where the interview was ultimately terminated. Approximately three-fourths of landline cases had terminated the interview before the condition list in Section 3 was reached, compared with 71.1% of cell-phone cases by this same point. There was no discernible pattern in comparison of the landline break offs compared with the cell-phone break offs.

Of partial cases that completed through Section 7 (n = 534) but did not complete the full interview, more than one-half (53.2%) broke off before reaching the income section, and another 30.0% broke off after completing the income section. Among these partial cases, more cell-phone cases had terminated the interview before Section 10 was reached (56.5%) compared with landline cases at the same point (52.7%).

Cases Pending at Close of Data Collection

Approximately one-half of the cases pending at the end of data collection were those in which the telephone number had not yet been resolved as residential or nonresidential (50.7% of pending cases and 15.1% of the initial sample). One-third of the pending cases

Table K. Final disposition of age-eligible households where the interview was not completed

Final disposition	Number of age-eligible incompletes	Percent of age-eligible incompletes
Total age-eligible households, interview not completed	103,862	100.0
Known age-eligible household, special-needs eligibility undetermined	91,674	88.3
Special-needs eligible household, interview not completed	7,933	7.6
Special-needs screened, no eligible child, interview not completed	3,721	3.6
Special-needs eligible household, partially completed interview	534	0.5

were dispositioned as households with unknown age eligibility (37.9% of pending cases and 9.9% of the initial sample). A small number of households were determined to be age-eligible, but the special-needs screener was not completed (4.4% of pending cases and 1.2% of the total sample). Finally, 0.1% of the special-needs households had not completed the interview as of the close of data collection. See Table M and Appendix X for more information about final dispositions of cases.

Response Rates

Response rates provide one measure of the potential for nonresponse bias—that is, the possibility that the sample interviewed differs from the actual population in some meaningful way. Three weighted overall response rates were calculated for NS-CSHCN. The household-level special-needs screener response rate reflects the potential for nonresponse bias in the sample of households screened for children with special needs; the child-level special-needs screener response rate reflects the potential for nonresponse bias in the sample of children screened for special needs; and the CSHCN interview response rate reflects the potential for nonresponse bias in the sample of CSHCN for whom the special-needs interview was completed. These rates were calculated for the landline sample, the cell-phone sample, and the combined landline and cell-phone samples at the national and state levels. The CSHCN interview response rate can be calculated as the product of component completion rates—the resolution rate, the age- and cell-status screener completion rate, the household-level special needs screener completion rate, and the special-needs interview completion rate, which are discussed below. (The response rates presented in the section were weighted by base weights. See Appendix I for further discussion of the base weights.)

In the tables in this section and in the ''Realization Rates'' section below, ''state'' refers to the state to which the telephone number was assigned at the time the sample of telephone numbers was selected. For the landline sample, this ''sampling'' state is almost always the same as the state where the household with that telephone number actually resides, but this is not true for the cell-phone sample, where the sampling state often differs from the state of residence. However, because the true state of residence is only known for households that have completed the special-needs screener, the sampling state must be used when computing response rates.

For the landline sample, the national-level rates are presented both including and excluding the USVI sample. The national-level rates cited in the text below exclude the USVI sample.

Resolution rate

Response rates for telephone surveys are typically lower than response rates for household in-person surveys because some telephone numbers ring with no indication of whether the number belongs to a household or to a business. The national resolution rate, which measures the proportion of sampled telephone numbers that could be identified as residential or nonresidential, was 81.2% in the landline sample, 46.6% in the cell-phone sample, and 61.4% overall.

These resolution rates treat all telephone numbers that resulted in no contact (i.e., all attempts resulted in rings with no answer or in a busy signal) as unresolved. Because every telephone number is dialed at least six times at different times on different days, it is likely that these ''noncontact'' numbers are actually not working residential numbers. An alternative national resolution rate, which treats these numbers as nonworking, was 89.0% in the landline sample, 54.7% in the cell-phone sample, and 69.4% overall.

The original and alternative resolution rates for each state are presented in Tables N, O, and P for the landline, cell-phone, and overall samples, respectively.

Age- and cell-status screener completion rate

After a telephone number had been determined to belong to a household, that household was screened for the presence of children under age 18 years. Each household was first screened for NIS-Child eligibility; that is, each household was screened for the presence of children aged 19–35 months. A portion of these households were also screened for NIS-Teen (i.e., for the presence of teenagers aged 13–17 years). If the household was found to be age-eligible for NIS-Child or NIS-Teen, then the household was also considered to be age-eligible for NS-CSHCN. If the household was age-ineligible for NIS-Child or NIS-Teen, then that household proceeded to the rostering portion of NS-CSHCN, where, if the respondent then indicated that the household contained children under age 18, the household was considered to be age-eligible for NS-CSHCN. (NS-CSHCN landline and cell augmentation households were not screened for NIS-Child or NIS-Teen and so, were age screened only during the rostering

Table M. Final dispositions of the 2009–2010 NS-CSHCN sample

Final disposition	Number of selected telephone lines	Percent of total selected telephone lines
Total	7,878,509	100.0
Not resolved as residential or nonresidential	1,190,643	15.1
Out of scope (i.e., business, nonworking, fax or modem)	4,732,263	60.1
Likely household, age eligibility undetermined	611,349	7.8
Known household, age eligibility undetermined	169,615	2.2
Known age-eligible household, special-needs eligibility undetermined	91,674	1.2
Age-screened household, no child in range	883,656	11.2
Special-needs screened, no eligible child, interview not completed	3,721	0.1
Special-needs screened, no eligible child, completed interview	147,069	1.9
Special-needs eligible household, interview not completed	7,932	0.1
Special-needs eligible household, partially completed interview	534	0.0
Special-needs eligible household, completed interview	40,053	0.5

0.0 Quantity more than zero but less than 0.05.

NOTE: NS-CSHCN is National Survey of Children with Special Health Care Needs.

portion of NS-CSHCN.) If during the NIS-Child screener, the NIS-Teen screener, or during the rostering portion of NS-CSHCN the respondent indicated that the household contained no children whatsoever, the household was considered to be age-ineligible for NS-CSHCN.

Prior to age screening, households in the cell-phone sample were screened to determine whether the cell phone was used by an adult in a CPO or CPM household; that is, households in the cell-phone sample underwent a ''cell-status'' screener. If the cell phone was used only by a minor, or if the household had a landline phone that was somewhat or extremely likely to be answered, the household was ineligible for the NS-CSHCN cell-phone sample.

During Quarter 4, 2010, an additional age-eligibility screener was put in place for the cell-phone augmentation sample to quickly screen out households with no children. In this quarter, after a cell-phone number was determined to belong to a household but prior to cell-status screening, the respondent was asked, ''Are there any kids in the household?'' Households reporting no children were ineligible for NS-CSHCN. Because the age screener was administered before the cell-status screener for some households and after the cell-status screener for others, the age- and cell-status screeners were treated as a single screener to identify CPO or CPM households containing children when calculating component completion rates and response rates for the cell-phone sample.

Some households did not complete the age- and cell-status screeners. For the landline sample, the age-screener completion rate is defined as the proportion of identified households for which it was determined whether the household contained children under age 18. For the cell-phone sample, the age- and cell-status screener completion rate is defined as the proportion of identified households for which it was determined whether the cell phone was used by an adult in a CPO or CPM household that contained children under age 18. The national age-screener completion rate was 88.7% for the landline sample, and the national age- and cell-status screener completion rate was 75.4% for the cell-phone sample. Overall, the national age- and cell-status screener completion rate was 80.1%. The age- and cell-status screener completion rates for each state are given in Tables N, O, and P for the landline, cell-phone, and overall samples, respectively.

Household-level special-needs screener completion rate

Once it had been determined that a household contained children under age 18 (and for the cell-phone sample, that the cell phone was used by an adult in a CPO or CPM household), each of the household's children were screened for special needs. If any child in the household had special needs, then the household was considered to be special-needs eligible. If no child in the household had special needs, then the household was special-needs ineligible.

Due to breakoffs and refusals, not all age- and cell-status eligible households were screened for special needs. The household-level special-needs screener completion rate is defined as the proportion of age- and cell-status-eligible households that completed the special-needs screener. The national household-level special-needs screener completion rate was 72.6% for the landline sample, 56.5% for the cell-phone sample, and 64.3% overall. The rates for each state are given in Tables N, O and P for the landline, cell-phone, and overall samples, respectively.

Child-level special-needs screener completion rate

The child-level special-needs screener completion rate is equivalent to the household-level special-needs screener completion rate, but calculated at the child level. That is, it is the proportion of children in age- and cell-status-eligible households that were screened for special health care needs. The national child-level special-needs screener completion rate was 71.9% in the landline sample, 54.3% in the cell-phone sample, and 63.0% overall. The rates for each state are given in Tables N, O, and P for the landline, cell-phone, and overall samples, respectively.

Table N. Weighted NS-CSHCN completion rates, nationally and by state: Landline sample

Area	Resolution rate	Alternative resolution rate	Age-screener completion rate	Household-level special-needs screener completion rate	Child-level special-needs screener completion rate	Special-needs interview completion rate	Overall special-needs interview response rate
				Percent			
Total (excluding USVI)	81.2	89.0	88.7	72.6	71.9	83.6	43.7
Total (including USVI)	81.2	89.1	88.7	72.6	71.9	83.6	43.7
Alabama	79.7	88.5	89.0	74.3	73.1	86.0	45.3
Alaska	84.3	92.0	88.4	73.6	72.9	84.5	46.3
Arizona	80.7	89.0	88.2	67.4	67.1	82.6	39.6
Arkansas	85.8	91.7	91.2	76.6	75.7	83.6	50.1
California	75.8	87.9	86.2	67.4	66.0	83.4	36.8
Colorado	81.7	89.0	90.0	75.9	75.2	82.8	46.2
Connecticut	77.2	84.3	88.0	71.9	71.5	84.1	41.0
Delaware	78.0	85.9	88.2	70.9	69.9	82.2	40.1
District of Columbia	81.4	92.0	89.2	70.3	68.2	84.0	42.9
Florida	81.0	88.3	87.6	69.8	69.1	82.7	41.0
Georgia	81.8	89.0	88.6	71.4	71.1	86.7	44.9
Hawaii	84.0	90.3	86.7	67.7	66.4	81.4	40.1
Idaho	84.3	91.0	91.1	74.5	74.7	86.3	49.3
Illinois	83.4	90.8	89.4	75.1	74.4	79.9	44.7
Indiana	85.1	91.4	91.2	74.7	74.1	83.7	48.5
Iowa	85.1	90.7	91.7	76.5	75.9	85.7	51.2
Kansas	85.2	91.0	91.0	74.5	73.7	86.0	49.6
Kentucky	83.1	89.6	89.9	74.2	73.9	85.0	47.1
Louisiana	84.1	90.9	87.7	68.3	67.8	81.2	40.9
Maine	83.2	89.6	91.0	76.4	76.0	84.3	48.7
Maryland	79.2	87.9	87.8	72.9	72.5	83.6	42.4
Massachusetts	78.7	85.7	87.3	72.7	72.6	80.8	40.4
Michigan	83.6	90.6	89.8	76.8	76.1	84.8	48.9
Minnesota	84.8	90.2	91.2	76.5	75.7	85.1	50.3
Mississippi	84.4	91.3	88.8	73.2	72.5	84.6	46.5
Missouri	84.9	91.1	90.7	75.0	74.9	87.0	50.2
Montana	86.4	90.8	91.8	76.5	76.5	86.4	52.4
Nebraska	85.7	91.3	90.8	76.1	75.7	88.9	52.7
Nevada	77.4	87.2	86.8	67.0	66.4	84.2	37.9
New Hampshire	80.6	87.0	90.1	74.6	73.7	83.5	45.2
New Jersey	78.3	87.8	86.7	69.4	69.1	79.7	37.6
New Mexico	82.8	89.7	89.3	74.3	74.3	85.7	47.1
New York	79.7	88.2	86.5	68.2	67.2	82.5	38.8
North Carolina	81.1	89.0	89.4	75.5	74.7	82.7	45.2
North Dakota	87.6	92.3	92.5	78.1	77.9	87.6	55.4
Ohio	83.8	89.4	89.8	74.6	74.0	83.6	46.9
Oklahoma	82.4	90.1	89.3	73.4	73.0	84.6	45.7
Oregon	83.8	90.4	91.3	76.1	75.3	84.4	49.1
Pennsylvania	80.5	87.9	89.8	74.6	73.6	81.6	44.0
Rhode Island	80.5	86.6	88.6	75.6	75.6	83.3	44.9
South Carolina	81.9	89.0	88.7	73.1	72.6	83.5	44.4
South Dakota	86.8	91.9	91.5	75.3	74.7	86.5	51.7
Tennessee	82.6	89.4	90.2	71.3	70.7	85.9	45.6
Texas	81.1	89.5	87.1	71.7	71.4	83.3	42.2
Utah	82.9	90.1	90.2	76.3	77.6	86.1	49.1
Vermont	83.4	89.5	91.5	81.0	80.8	85.7	53.0
Virginia	79.9	88.0	88.9	75.0	74.2	83.4	44.5
Washington	83.1	88.9	89.9	76.9	76.5	84.2	48.3
West Virginia	79.5	86.6	90.4	74.0	73.4	85.5	45.5
Wisconsin	84.1	90.0	91.1	79.2	79.0	88.8	53.9
Wyoming	83.8	90.5	91.2	75.4	75.2	85.4	49.3
U.S. Virgin Islands	89.3	96.7	93.7	81.1	80.0	91.2	61.9

NOTES: NS-CSHCN is National Survey of Children with Special Health Care Needs; USVI is U.S. Virgin Islands.

Table O. Weighted NS-CSHCN completion rates, nationally and by state: Cell-phone sample

Area	Resolution rate	Alternative resolution rate	Age- and cell-status screener completion rate	Household-level special-needs screener completion rate	Child-level special-needs screener completion rate	Special-needs interview ccompletion rate	Overall special-needs interview response rate
				Percent			
Total (excluding USVI)	46.6	54.7	75.4	56.5	54.3	76.6	15.2
Total (including USVI)	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Alabama	49.3	62.4	77.1	62.4	60.5	71.6	17.0
Alaska	48.2	75.3	85.0	74.9	73.7	80.7	24.7
Arizona	45.3	54.5	74.5	60.0	56.7	81.4	16.5
Arkansas	49.9	63.2	79.0	65.9	63.3	73.9	19.2
California	48.6	52.7	73.2	47.5	44.8	79.4	13.4
Colorado	43.9	52.9	76.6	60.4	61.2	81.5	16.5
Connecticut	37.6	48.0	81.8	56.1	52.1	73.2	12.6
Delaware	38.5	53.3	81.5	60.5	57.6	68.6	13.0
District of Columbia	37.7	53.6	82.9	64.7	61.6	81.8	16.5
Florida	48.6	53.7	72.9	54.6	52.5	78.0	15.1
Georgia	52.6	59.6	74.4	55.8	54.6	73.1	16.0
Hawaii	39.8	50.3	80.1	60.8	58.2	65.5	12.7
Idaho	47.7	57.7	80.1	69.9	70.1	83.1	22.2
Illinois	50.5	57.5	74.2	53.9	51.7	74.8	15.1
Indiana	46.2	56.1	75.4	60.1	56.7	71.9	15.1
Iowa	48.8	60.9	79.0	60.6	56.6	83.8	19.6
Kansas	51.9	63.2	80.1	65.7	62.1	74.6	20.4
Kentucky	45.2	57.5	76.6	59.2	57.4	78.1	16.0
Louisiana	50.7	61.9	76.6	57.5	55.7	71.1	15.9
Maine	38.9	51.9	80.0	66.1	62.1	80.0	16.4
Maryland	39.2	49.0	75.1	58.2	55.4	76.3	13.1
Massachusetts	41.5	50.6	76.0	59.2	57.7	72.1	13.4
Michigan	45.5	54.5	76.0	54.9	52.2	75.0	14.2
Minnesota	44.8	54.1	78.8	63.7	60.7	81.2	18.2
Mississippi	52.8	69.3	76.4	55.9	54.6	78.3	17.7
Missouri	46.5	54.2	76.4	55.9	53.1	76.8	15.3
Montana	49.9	68.4	80.6	75.1	74.5	81.8	24.7
Nebraska	51.1	61.3	79.6	67.6	68.8	78.8	21.7
Nevada	39.3	51.7	77.8	61.0	59.9	70.1	13.1
New Hampshire	38.9	50.7	81.1	61.9	61.1	70.1	13.7
New Jersey	43.1	52.4	77.4	55.5	52.1	61.5	11.4
New Mexico	49.3	60.9	83.3	62.3	60.7	66.2	16.9
New York	43.3	49.4	72.6	50.8	48.3	72.7	11.6
North Carolina	48.8	56.0	74.1	56.2	56.2	75.6	15.3
North Dakota	43.4	67.0	86.0	70.0	68.4	78.3	20.5
Ohio	44.7	52.0	75.4	55.4	51.1	77.4	14.5
Oklahoma	48.1	59.7	78.9	62.2	61.1	76.6	18.1
Oregon	44.1	52.3	80.7	61.8	58.4	73.3	16.1
Pennsylvania	44.0	50.2	74.6	56.0	52.7	71.3	13.1
Rhode Island	37.7	49.2	81.8	60.5	57.7	84.6	15.8
South Carolina	46.3	56.6	75.7	60.7	59.7	80.3	17.1
South Dakota	56.7	68.9	85.4	67.3	63.7	71.2	23.2
Tennessee	42.8	51.1	76.3	57.7	55.8	76.1	14.3
Texas	49.2	54.7	73.0	55.3	53.6	78.4	15.6
Utah	46.1	57.5	76.6	63.0	60.4	85.7	19.1
Vermont	38.5	50.6	81.6	68.0	67.4	87.5	18.7
Virginia	42.8	50.5	74.2	59.7	57.7	86.8	16.5
Washington	44.7	51.4	77.0	59.0	56.0	81.5	16.5
West Virginia	38.0	49.0	77.8	63.0	60.0	80.7	15.0
Wisconsin	48.6	59.0	80.0	61.3	59.0	77.9	18.6
Wyoming	56.7	75.2	84.3	76.1	75.1	84.2	30.6
U.S. Virgin Islands	. . .	. . .	. . .	. . .	. . .	. . .	. . .

. . . Category not applicable.

NOTES: NS-CSHCN is National Survey of Children with Special Health Care Needs; USVI is U.S. Virgin Islands.

Table P. Weighted NS-CSHCN completion rates, overall, nationally, and by state

Area	Resolution rate	Alternative resolution rate	Age- and cell-status screener completion rate[1]	Household-level special-needs screener completion rate	Child-level special-needs screener completion rate	Special-needs interview completion rate	Overall special-needs interview response rate
				Percent			
Total (excluding USVI)	61.4	69.4	80.1	64.3	63.0	80.8	25.5
Total (including USVI)	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Alabama	60.6	72.1	81.5	68.3	66.7	80.0	27.0
Alaska	62.0	81.7	86.3	74.1	73.2	83.1	32.9
Arizona	60.3	69.1	79.2	63.3	61.3	82.1	24.8
Arkansas	63.1	73.7	83.1	69.6	67.4	77.9	28.4
California	60.0	67.3	77.6	57.7	55.7	82.0	22.0
Colorado	60.7	69.0	81.1	67.6	67.8	82.3	27.4
Connecticut	55.8	64.7	84.4	67.0	65.5	81.7	25.8
Delaware	55.7	67.5	84.1	66.4	64.3	76.7	23.8
District of Columbia	54.4	68.3	84.4	66.5	63.7	82.7	25.2
Florida	62.5	68.5	77.8	60.4	58.8	80.2	23.6
Georgia	64.4	71.5	78.9	62.7	61.7	80.4	25.6
Hawaii	60.1	68.7	82.2	63.9	61.7	73.9	23.3
Idaho	64.1	72.7	83.7	71.6	71.9	84.4	32.4
Illinois	64.6	71.8	79.1	63.4	61.9	77.7	25.2
Indiana	64.1	72.4	81.5	67.7	65.7	79.2	28.0
Iowa	65.1	74.3	83.7	68.5	66.2	84.9	31.7
Kansas	65.2	74.3	84.1	70.0	67.7	80.8	31.0
Kentucky	61.5	71.4	81.6	66.5	65.7	82.5	27.6
Louisiana	63.8	73.3	80.2	62.1	60.8	76.5	24.3
Maine	60.9	70.6	85.0	72.2	70.2	82.6	30.8
Maryland	57.1	66.4	79.7	66.2	64.7	81.1	24.4
Massachusetts	57.1	65.4	80.4	67.1	66.6	78.0	24.1
Michigan	61.5	69.6	81.0	65.5	64.3	81.2	26.5
Minnesota	63.4	70.9	83.7	71.2	69.7	83.7	31.6
Mississippi	63.8	76.9	80.6	62.6	61.2	81.1	26.1
Missouri	64.1	71.1	81.6	65.4	64.3	82.9	28.4
Montana	64.3	77.2	85.1	75.8	75.5	84.3	35.0
Nebraska	66.4	74.6	83.7	71.9	72.3	84.2	33.6
Nevada	54.6	65.9	80.8	63.6	62.7	77.3	21.7
New Hampshire	58.0	67.3	85.1	70.0	69.3	79.7	27.5
New Jersey	58.9	68.3	80.9	64.0	62.5	74.8	22.8
New Mexico	62.8	72.4	85.2	66.8	65.7	75.5	27.0
New York	59.3	66.5	77.5	60.1	58.9	79.2	21.9
North Carolina	62.2	69.7	79.7	65.6	64.9	79.8	26.0
North Dakota	58.2	75.4	88.4	74.7	73.9	84.3	32.4
Ohio	62.3	68.8	80.8	65.5	63.2	81.2	26.8
Oklahoma	62.1	72.2	82.6	67.5	66.7	81.4	28.2
Oregon	63.2	70.6	84.6	68.8	66.6	79.3	29.2
Pennsylvania	60.4	67.1	81.0	67.8	66.3	78.6	26.1
Rhode Island	56.9	66.0	84.6	70.0	69.0	83.7	28.2
South Carolina	61.2	70.1	80.5	66.4	65.6	82.1	26.9
South Dakota	69.0	78.3	87.6	71.4	69.3	80.4	34.7
Tennessee	59.3	67.0	80.9	63.4	61.9	81.0	24.6
Texas	62.1	68.7	76.8	61.3	60.1	80.8	23.6
Utah	60.7	70.4	80.6	68.7	68.5	85.9	28.9
Vermont	62.1	71.1	86.8	77.5	77.2	86.2	36.0
Virginia	58.7	66.6	79.6	68.1	66.8	84.6	26.9
Washington	62.7	69.0	81.7	68.3	67.0	83.4	29.2
West Virginia	56.2	65.5	83.7	69.4	67.6	83.7	27.3
Wisconsin	64.3	72.8	84.6	71.0	69.8	85.2	32.9
Wyoming	64.3	79.5	86.6	75.8	75.2	84.8	35.8
U.S. Virgin Islands	. . .	. . .	. . .	. . .	. . .	. . .	. . .

. . . Category not applicable.

[1]For the landline sample, the proportion of identified households that completed the age screener; for the cell-phone sample, the proportion of identified households that completed both the age- and cell-status screeners.

NOTES: NS-CSHCN is National Survey of Children with Special Health Care Needs; USVI is U.S. Virgin Islands.

To properly calculate this rate, the total number of children in each age- and cell-status screened-eligible household was required for the denominator. However, some households were determined to be age- and cell-status eligible during NIS screening but did not complete enough of the NIS interview for the total number of children in the household to be determined. For these 4,149 age- and cell-status-eligible households, the total number of children under age 18 was set to the average number of children in NIS-eligible households where the number of children was known. A proper denominator could then be calculated for the child-level special-needs screener completion rate.

Special-needs interview completion rate

Once a child with special health care needs was randomly chosen from the household, an interviewer attempted to conduct a full interview about the selected child. Not all households containing CSHCN completed the special-needs interview. The special-needs interview completion rate is defined as the proportion of households known to include CSHCN that completed the health insurance section (Section 7) of the interview. The national special-needs interview completion rate was 83.6% in the landline sample, 76.6% in the cell-phone sample, and 80.8% overall. The rates for each state are given in Tables N, O, and P for the landline, cell-phone, and overall samples, respectively.

Overall response rate

The CSHCN interview response rate is given as the product of the resolution rate, the age- and cell-status screener completion rate, the special-needs screener completion rate, and the special-needs interview completion rate. Using the original resolution rate, this calculation returns response rates of 43.7% for the landline sample, 15.2% for the cell-phone sample, and 25.5% for the overall sample. Using the alternative resolution rate described above (which treats telephone numbers with no contact as nonworking numbers), the resulting response rates are 47.9% for the landline sample, 17.9% for the cell-phone sample, and 28.9% for the overall sample. The ‘‘true’’ estimate of the response rate likely lies somewhere between the original and alternative calculation, depending on the proportion of noncontact numbers that were nonworking.

There are other methods for calculating response rates that result in different rates. Appendix XI contains the overall response rate for the landline, cell-phone, and overall samples for each state and the nation, as well as alternative response rates and guidance on comparing response rates across surveys.

Realization Rates

The response rate, while providing a measure of potential nonresponse bias, does not account for potential bias due to the undercoverage of the sampling frame. As an RDD landline and cell-phone survey using the list-assisted method in the landline sample, the NS-CSHCN sampling frame did not cover children in households without telephones or in households without cell phones whose landline telephone number is not in a bank of telephone numbers containing at least one listed number. Furthermore, the response rate can be highly sensitive to the choice of e, the assumed rate of eligibility among the units for which the eligibility status has not been observed, as can be seen by the large difference between the minimum and maximum response rates given in Appendix XI. The response rate can also be sensitive to the definitions used when assigning final dispositions, which determine which cases are treated as eligible or ineligible. Ineligible cases are treated as nonrespondents, and among the nonrespondents, final dispositions determine the type of nonrespondent that is assigned (e.g., unresolved compared with non-age-screened, etc.).

An alternative measure of potential bias that does not suffer from these limitations is the realization rate (25). The realization rate is defined as the ratio of the unadjusted survey estimate of the size of the target population to the true size of that population, as obtained from an external source. That is,

$$\textbf{Realization Rate} = \frac{\hat{N}}{N_{external}},$$

where $N_{external}$ is the external estimate of the true size of the target population, $\hat{N} = \sum_i w_i I(i)$ is the unadjusted survey estimate of the size of the target population, w_i is the inverse probability that the ith unit was selected, and

$$I(i) = \begin{cases} 1 \text{ if the interview was completed for the } i\text{th unit} \\ 0 \text{ if the interview was not completed for the } i\text{th unit.} \end{cases}$$

For NS-CSHCN, an external estimate of the number of children with special health care needs in the population does not exist; therefore, a full realization rate for children completing the special-needs interview cannot be calculated. However, good external estimates of the number of children under age 18 do exist [from the Census Bureau’s 2009 American Community Survey (ACS)], and so the realization rate can be computed for children completing the special-needs screener. The special-needs interview realization rate can then be approximated as the product of the special-needs-screener realization rate and the special-needs interview completion rate:

$$\text{Realization Rate}_{CSHCN} = (\text{Realization Rate}_{SCR})(\text{Interview Completion Rate}_{CSHCN})$$

To calculate the special-needs-screener realization rate, the probability of selection for each child that completed the special-needs screener is required. This probability must reflect the probability of selection for the telephone number and the number of telephone lines in the household (for the landline sample, the number of landline telephone lines; and for the cell-phone sample, the number of cell phones usually used by parents or guardians). Therefore,

$$\pi_i = \frac{P_i}{L_i},$$

where π_i is the probability that the ith child was sampled, P_i is the probability that the telephone number associated with the ith child was sampled, and L_i is the number of telephone lines in the ith child's household (i.e., the number of landline telephone lines for landline sample and the number of cell phones usually used by parents or guardians for cell-phone sample).

The number of cell phones usually used by parents or guardians was collected for the cell-phone sample as part of the NS-CSHCN questionnaire. However, NS-CSHCN did not collect the number of landline telephone lines in the household. Therefore, to compute realization rates, in the landline sample, the number of landline telephone lines in the household for each child was made equal to the average number of landlines per landline household with children, as estimated for each state from the 2009 National H1N1 Flu Survey, an RDD survey of U.S. households that did collect such information.

All households with children identified in the landline sample were eligible for special-needs screening, but in the cell-phone sample, only CPO and CPM households with children were eligible to receive the special-needs screener. In combining the landline and cell-phone samples in order to calculate $\hat{N}$ above, it was assumed that the samples of children screened for special needs in the landline and cell-phone samples were nonoverlapping. That is, $\hat{N}$ was calculated as

$$\hat{N} = \hat{N}_{LL} + \hat{N}_{CELL}.$$

The national child-level special-needs screener realization rate was 30.1%, and the approximated national special-needs interview realization rate was 24.3%. The realization rates by state are presented in Table Q. In the 2005–2006 NS-CSHCN, the national child-level special-needs screener realization rate was 35.4%, and the approximated national special-needs interview realization rate was 30.9%.

The special-needs-screener realization rate can also be computed separately for the landline and CPO populations, given an external estimate of the sizes of those populations.

Table Q. NS-CSHCN realization rates, landline and cell-only/mainly, nationally and by state

Area	Child-level special-needs screener	Special-needs interview[1]
	Percent	
Total (excluding USVI)	30.1	24.3
Total (including USVI)	. . .	. . .
Alabama	30.7	24.6
Alaska	44.7	37.1
Arizona	23.3	19.1
Arkansas	32.7	25.4
California	26.7	21.9
Colorado	36.1	29.7
Connecticut	28.8	23.5
Delaware	27.1	20.8
District of Columbia	39.4	32.6
Florida	25.2	20.2
Georgia	29.2	23.4
Hawaii	31.6	23.3
Idaho	38.8	32.8
Illinois	32.0	24.9
Indiana	36.2	28.7
Iowa	37.7	32.0
Kansas	32.9	26.6
Kentucky	31.4	25.9
Louisiana	28.4	21.8
Maine	37.0	30.5
Maryland	31.5	25.5
Massachusetts	30.9	24.1
Michigan	31.8	25.8
Minnesota	39.4	33.0
Mississippi	27.2	22.0
Missouri	32.9	27.3
Montana	40.2	33.9
Nebraska	35.8	30.1
Nevada	25.4	19.7
New Hampshire	32.9	26.2
New Jersey	28.8	21.5
New Mexico	28.8	21.7
New York	26.4	20.9
North Carolina	32.2	25.7
North Dakota	45.1	38.0
Ohio	32.0	26.0
Oklahoma	29.6	24.1
Oregon	33.3	26.4
Pennsylvania	32.8	25.8
Rhode Island	31.0	26.0
South Carolina	29.0	23.8
South Dakota	38.1	30.6
Tennessee	32.5	26.3
Texas	25.6	20.7
Utah	36.4	31.3
Vermont	41.1	35.5
Virginia	31.9	27.0
Washington	35.7	29.8
West Virginia	29.1	24.3
Wisconsin	37.6	32.1
Wyoming	36.1	30.6
U.S. Virgin Islands	. . .	. . .

. . . Category not applicable.

[1]Approximated as the product of the special-needs screener realization rate and the CSHCN interview completion rate.

NOTES: NS-CSHCN is National Survey of Children with Special Health Care Needs; USVI is U.S. Virgin Islands; CSHCN is children with special health care needs.

According to the 2009 ACS, there were 74,338,575 noninstitutionalized children under age 18 in the United States; according to NHIS, in the first half of 2010, 69.3% of children were in landline households and 29.0% were in CPO households. Applying the distribution of children between landline and CPO households to the total number of children, it was estimated that 51,516,632 children lived in landline households and 21,558,187 children lived in CPO households. The sum of the probability-of-selection weights for special-needs screened children in landline households is 14,951,775, yielding a special-needs-screener realization rate for children in landline households of 29.0%. Similarly, the sum of the probability-of-selection weights for special-needs screened children in CPO households is 6,200,659, yielding a special-needs-screener realization rate for children in CPO households of 28.8%. That is, children in CPO households were realized through the cell-phone sample at nearly the same rate as children in landline households were realized through the landline sample.

Efforts to Improve Response Rates

Advance letters, toll-free numbers, refusal-conversion efforts, and translated questionnaires were used to help improve response rates. In addition, other efforts included questionnaire pretesting and updating, sample management teams, and monetary incentives.

A pretest was conducted before data collection began in order to understand how respondents would react to personal questions, the length of the interview, and respondent suspicions regarding legitimacy and confidentiality, among other issues. After the pretest was conducted and analyzed, NORC worked with NCHS and MCHB to make specific improvements based on the findings of the pretest. Also, after every quarter of data collection, a list of potential changes to the instrument was reviewed and implemented if necessary. These changes were based on analysis of questionnaire breakoffs and reports from interviewers of problem areas within the questionnaire. See Appendices III–V for a comprehensive description of these changes.

Two integrated sample management teams—one focused on NIS and one focused on SLAITS—met frequently to manage the sample in an effective and efficient manner. Ongoing assessments and modifications of the data-collection instrument, data-collection procedures, and calling rules were conducted.

Response rates were monitored throughout the data-collection period. Specially trained refusal converters that targeted the case-specific source of the refusal based on the case history attempted to convert nonrespondents. In addition, an extensive incentive experiment was conducted to identify best practices for effective timing of the incentive offer, the value of the offer, and how the incentive offer should be made (i.e., prepaid or promised), as well as the presentation of the offer to the respondent (i.e., type of envelope and postage used). In addition, extensive work was done to confirm that incentives were not biasing the collected data. A full explanation of the incentive experiment, the resulting incentive model chosen, and the effect on NS-CSHCN response rates can be found in Appendix XII. Overall, incentives helped improve the unweighted special-needs interview response rate by 1.9 percentage points.

Nonresponse Bias

Although these efforts did improve the response rate, there remained much nonresponse to the survey. Appendix XIII details the nonresponse bias analysis that was performed to examine the extent that nonresponse bias affected survey estimates. Generally, the results indicate that the interviewed population was more likely to live in rural and other areas with lower household density when compared with the nonresponding population. The interviewed population was also more likely to live in areas associated with higher levels of home ownership, lower home values, and a greater percentage of non-Hispanic white persons. When the nonresponse-adjusted weights were used, minor differences by home ownership, home values, and race remained. In general, the analysis showed that response biases could have had a small impact on key survey estimates, but the nonresponse adjustment to the weights substantially reduced the potential magnitude of those biases. Of the nine key survey estimates examined, seven showed maximum estimated biases of less than 1 percentage point—in each case, these estimated biases were within the 95% confidence interval for the ‘‘biased’’ estimate, indicating that nonresponse bias was smaller than potential sampling error. Of the remaining key survey estimates examined, one showed a maximum estimated bias of 1.05 percentage points (just 0.15 percentage points outside the 95% confidence interval), and the other showed estimated biases ranging from 0.74 to 2.83 percentage points, depending on the method used to estimate bias. In fact, bias estimates were so small that, for most of the key survey variables examined, changing the method used to estimate bias changed the estimated direction of the bias.

Quality Control of Interviewing

Telephone center supervisors were available immediately to interviewing staff at all times to resolve any questions or concerns about a case. Supervisors regularly observed the data-collection process and monitored interviewers. In addition, supervisory staff used remote-telephone and computer-monitoring technology to evaluate whether interviewers performed according to project specifications. This formal monitoring was conducted to ensure that introductory materials were properly read, that item wording and questionnaire sequence were followed correctly, that respondent questions were answered properly, and that any vague responses were properly probed. Computer monitoring also allowed supervisors to ascertain whether answers were entered accurately into the CATI system.

New supervisors attended an 8-hour training session that introduced them to the monitoring procedures. In addition, supervisors participated in an exercise to learn how to give effective feedback and coach interviewers. After this training session, each new supervisor was scheduled to conduct dual-monitoring sessions with experienced staff. Each new monitor observed live monitoring side-by-side with an experienced monitor, and each completed a Monitoring Evaluation Form. At the end of each session, the new supervisor and experienced monitor compared notes, discussed proper scoring guidelines, and created a strategy to give feedback. These training procedures ensured that all supervisors were monitoring interviewers using the same criteria for evaluation.

The CATI monitoring system automatically selected which interviewers to monitor, and gave newly trained interviewers, those with the fewest monitoring sessions, or those with the weakest performance reviews the highest priority for monitoring. Experienced interviewers were prioritized for monitoring based upon the length of time since their last monitoring session and recent monitoring scores. Each interviewer was typically monitored at least once a week; however, some interviewers were monitored more often.

Throughout data collection, interviews were recorded (after obtaining agreement from respondents) as well. These recordings were valuable tools for trainings, and when necessary, they allowed supervisors to document specific case-related performance and provide tailored feedback to interviewers. Recordings were then destroyed after 1 year.

Data Files

Three separate but linkable data files were created using SAS version 9.1. The files include data from complete interviews (complete through Section 7: Health Insurance) that were conducted from July 2009 through March 2011. In order to maintain confidentiality, certain variables that could be used to identify respondents were excluded from the three files. Two additional SAS data files include multiply imputed household and child poverty and demographic data. Details about the imputation process and the imputed data files can be found in Appendix XIV.

Screener File

This child-level file includes data on households that completed the special-needs screener. The number of records per household equals the number of children under age 18 living in the household. In other words, there is one record for every age-eligible child residing in a household where the CSHCN Screener was completed. The screener was determined to be complete if question CSHCN5_A (‘‘Has the child’s emotional, developmental, or behavioral problem lasted or is it expected to last 12 months or longer?’’) had a nonmissing value for that child or had been appropriately skipped based on response to question CSHCN5 (‘‘Does the child have any kind of emotional, developmental, or behavioral problem for which he/she needs treatment or counseling?’’).

This file includes the answers to the CSHCN Screener as well as the child’s age, sex, race, ethnicity, and state of residence. Except for the household identification number, the variables in this file are limited to those assessed at the child level. This file can be used to produce estimates of the proportion of children who have special health care needs and for most demographic characteristics of those children.

This file includes 371,617 records. Of the original 372,698 completed screening interviews, 1,081 interviews were suppressed to protect the confidentiality of households with large numbers of children. Sampling weights were adjusted to ensure that estimates based on the screener file were unchanged (see ‘‘Edits to Protect Confidentiality’’ later in this report).

Household File

This household-level file includes data on households that completed the CSHCN Screener. There is one record for each household that completed the screener, regardless of whether the household had a special-needs child. This file includes all information about the household, including state of residence, household size, total number of CSHCN living in the household, household income (reported relative to the federal poverty level), and whether the household is in a metropolitan statistical area (MSA). All variables in this file are at the household level. This file can be used to produce estimates of the proportion of households that contain at least one child with special health care needs and for characteristics of those households. This file includes 196,159 records.

CSHCN Interview File

This child-level file includes data for each child with special health care needs who was randomly selected to be the subject of the detailed special-needs interview, and for whom an interview was completed or partially completed. Interviews were considered partially complete if the health insurance section (Section 7) had been completed. Not all respondents for CSHCN selected for an interview went on to complete or partially complete an interview.

This file includes information from the detailed interview, including the relationship of the respondent to the sampled child, family composition, health and functional status, access to care, experience with care, adequacy of health insurance, and impact of the special health care need on the family. This file can be used to produce a wide range of estimates of the health of CSHCN. This file includes 40,242 records.

Linking Files

The three data files are linkable. Every screened child’s household has a corresponding record in the Household File, regardless of whether a detailed

interview was completed. Each interviewed child's household has a corresponding record in the Household File, and each interviewed CSHCN has a corresponding record in the Screener File. At the household level, the files can be linked using IDNUMR, a unique household identification number. All files contain the IDNUMR variable. At the child level, these files can be linked using IDNUMXR, a unique child identification number. The Screener File and the CSHCN Interview File contain the IDNUMXR variable.

Editing

The CATI system was designed to perform edits as an interviewer enters data into the computer system. To prevent interviewer error, the CATI system was developed to include range checks and consistency checks. If an interviewer entered a value that was 'out of range,' a warning screen would appear, instructing the interviewer that the data would not be accepted and that he or she would have to enter a different answer (and possibly re-ask the question). As a result, the CATI system helped to correct respondent error during the interview (for example, a respondent saying two children lived in the household, but providing only one child's age) and to identify and correct data-entry error by interviewers (for example, a child being reported to have seen a doctor 4 times in the past year, but the interviewer attempting to enter 44 times). To the extent possible without making the CATI system overly complicated, out-of-range and inconsistent responses resulted in a warning screen for the benefit of the interviewer, who was trained to correct errors as they occurred. These messages were designed primarily to prevent data-entry errors and respondent errors and not to challenge respondents who gave logically inconsistent responses. Logically inconsistent responses given by the respondent were left inconsistent.

Even with many built-in CATI checks, data cleaning was still necessary. The first step in the data-cleaning process was verification of the valid number of cases in the data file. After verifying the number of cases, initial data frequencies were produced and reviewed. Each variable's range of permissible values was examined for any additional invalid values or unusual distributions. Invalid values, where they occurred, were deleted. If blank values already existed for a variable, they were checked to see whether they were allowable (e.g., due to legitimate skip patterns in the questionnaire) or could be easily corrected based on related questions. Records that were missing responses for unknown reasons were left missing.

Missing Data

Missing data are not desirable when doing analyses, and are often ignored completely. However, it can be very helpful to know why data are missing. The SAS data files for NS-CSHCN include special missing value codes for analysts who may wish to differentiate between different types of missing values. The following key provides a description of the various codes that were used to represent missing data in the file.

(.L) Legitimate skip—Variable is missing due to valid questionnaire paths based on a previous answer to a root question.

(.P) Partially completed interview—On the household and screener files, variable is missing because the respondent broke off after completing the special-needs screener. On the CSHCN interview file, the variable is missing because the respondent ended the interview after completing Section 7 but before completing the full interview.

(.M) Missing in error—Variable is missing due to interviewer or system errors. In cases of interviewer error, the interviewer may have deleted the data accidentally or simply may have not entered the response. In cases of system error, the data may not have been collected or saved properly after it was entered by the interviewer in the CATI system.

(.A) Added question—Variable is missing because this question was added after the start of data collection and the interview was conducted before the question was added.

(.D) Deleted question—Variable is missing because this question was removed after the start of data collection and the interview was conducted after the question was deleted.

Because SAS treats all of the above codes similarly in statistical analyses (i.e., as missing data), analysts using SAS who are not interested in the reasons for the missing data may continue to analyze data as usual.

It is important to note that derived variables (i.e., variables whose response was not directly provided by the respondent) do not include the detailed coding of missing data. All missing values for derived variables received a ''.M'' code regardless of the reason for the missing data. Similarly, ''.M'' was used when derived variables were suppressed to protect the confidentiality of the survey participants.

Data missing because the respondent did not know the answer or refused to provide the answer have been treated differently. Rather than assigning a missing value to these records, a numeric code was used to identify these responses. Typically, unknown answers are coded as ''6,'' ''96,'' or ''996.'' Refused responses are coded as ''7,'' ''97,'' or ''997.'' However, the codes may be different for specific variables; therefore, analysts are encouraged to consult the data documentation and frequency lists to identify the correct codes for each variable. Failure to do so may result in inappropriate calculations, especially for variables measured using ordinal, interval, or ratio scales.

Coding of Verbatim Answers Into Question Responses

For some questions in the NS-CSHCN interview, respondents provided a response that did not match any preexisting category. If this occurred, the interviewer chose ''other'' and typed in the exact response provided by the respondent. At the end of the data-collection period, the verbatim responses were recoded into existing response categories where appropriate. When necessary, new response categories were added to the

data file to capture the verbatim responses. However, when a verbatim response was unique (i.e., did not match any existing response category or other verbatim response), the response remained coded as ''other.'' All variables that were altered in any way during data cleaning or editing were replaced with a new variable with the letter 'R' appended to the variable name to denote ''recode.''

- Place of health provider (C4Q0BR, C4Q0CR, C4Q02R, and C4Q02_01R): Three new response categories were used for back-coded responses to these variables: places a telephone call (hotline or nurse's line); mental health service provider (counselor, therapist, or psychiatrist); and alternative health care provider (chiropractor, homeopath, or naturopath).
- Reasons the sample child ([S.C.]) did not get certain services:
  - C4Q05_1BR01 through C4Q05_1BR16
  - C4Q05_2BR01 through C4Q05_2BR16
  - C4Q05_31BR01 through C4Q05_31BR16
  - C4Q05_32BR01 through C4Q05_32BR16
  - C4Q05_4BR01 through C4Q05_4BR16
  - C4Q05_5BR01 through C4Q05_5BR16
  - C4Q05_6BR01 through C4Q05_6BR16
  - C4Q05_7BR01 through C4Q05_7BR16
  - C4Q06_1BR01 through C4Q06_1BR16
  - C4Q06_2BR01 through C4Q06_2BR16
  - C4Q06_3BR01 through C4Q06_3BR16

Two new response categories were used for back-coded responses to these variables: child was too sick to go or prioritized other treatments, and child's needs made it difficult to get treatment.

- Reasons [S.C.]'s health problems do not currently cause (him/her) difficulty (C3Q35AR): The root question, C3Q35, has response options of yes/no/don't know/ refused. If the response was no, respondents were asked to provide a verbatim response at C3Q35A. Verbatim responses were used in the creation of a new variable, C3Q35AR.
- [S.C.]'s personal doctor or nurse type (C4Q02BR01 through C4Q02BR07): One new response category was used for back-coded responses to this variable: mental health professional.
- ADD or ADHD medication type (C95Q01AR01 through C95Q01AR18): Four new response categories were used for back-coded responses to this variable: Abilify, Clonidine, Intuniv/Guanfacine/ Tenex, and Risperdal/Risperidone/ Risperidol.
- For respondents who did not choose one of the preexisting categories for the race and ethnicity questions (C10Q31, C10Q32X01 through C10Q32X08, and C10Q32A), verbatim responses were used in the creation of the variables RACER, RACENAAN, RACEASIA, and RACE_HI (see the ''Race'' section below for descriptions of these variables).

Edits to Protect Confidentiality

NCHS takes extraordinary measures to assure that the identity of survey subjects cannot be disclosed. The risk of inadvertent disclosure of confidential information regarding individual respondents is higher with a publicly released data set having detailed geography variables, a detailed and extensive set of survey observations, and a sizeable proportion of the total population of interest. Coarsening a data set by suppressing survey variables, collapsing multiple variables into one, collapsing response categories for other variables, or introducing noise in the data are common techniques to reduce the risk of inadvertent disclosure.

In these data files, household income has been suppressed, but a measure of income relative to the federal poverty level has been included. The date of the interview and the child's age in months have been suppressed, but the child's age in years has been reported. The relationship of the respondent to the child has been suppressed when the respondent was not the parent of the child.

Geography

Geographic information that would identify the specific estimation area in states with multiple estimation areas has been suppressed. However, state identifiers are included in all sample files.

In addition, an indicator identifying whether the household is inside or outside of an MSA has been included for some states. This indicator, called MSASTATR, was suppressed whenever the sum total population for all the MSA areas in a given state was less than 500,000 persons, or the sum total population for all the non-MSA areas in a given state was less than 500,000 persons. This resulted in the suppression of the MSA identifier in 16 states. The MSA identifier was suppressed in Idaho, Maine, and Montana because fewer than 500,000 persons lived in metropolitan areas. The MSA identifier was suppressed in Connecticut, Delaware, Hawaii, Maryland, Massachusetts, Nevada, New Hampshire, and Rhode Island because fewer than 500,000 persons lived in non-MSAs. The MSA identifier was suppressed in Alaska, North Dakota, South Dakota, Vermont, and Wyoming because the non-MSA population size and the MSA population size were both below the 500,000 threshold.

Race

Respondents were permitted to identify all possible categories that described the child's race. If a race other than one of the seven possible response options was indicated, then a verbatim response was captured. Verbatim responses were reviewed and matched against a database of alternative race terminology maintained by the U.S. Census Bureau. Where possible, ''other'' race responses were back-coded into one of the seven existing categories. Once all possible

verbatim responses were back-coded, a new race variable was created by collapsing the seven categories into one of six categories: white, black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Pacific Islander, and multiple race. ''Multiple race'' was reserved for those cases where more than one of the other five categories applied.

To protect the confidentiality of individual respondents and children in the public-use files, responses for the race variable were further collapsed to four categories: white only, African American or black only, other race, and multiple race. This ''other race'' category generally includes children for whom only one of the other three categories (Asian, American Indian or Alaska Native, and Native Hawaiian or Pacific Islander) was reported. The ''other race'' category also includes cases where the verbatim response could not be conclusively back-coded (e.g., American, Indian, or Jewish) and no other race was reported. Children for whom more than one race was identified (e.g., Asian and Native Hawaiian) were included in the ''multiple race'' category. If the respondent did not know or refused to provide the race, then race was coded as ''.M''. This new derived race variable (called RACER) is the only race classification available for all 50 states and DC.

In several states, however, minority group populations are sufficiently large that the release of additional race categories was possible while still protecting the confidentiality of the respondents and children. To identify these states, data from the 2009 ACS were examined to identify minority groups that comprise at least 5% of the total population of children in a specific state. Based on this criterion, the data files identify American Indian and Alaska Native children in Alaska, Arizona, Montana, New Mexico, North Dakota, Oklahoma, and South Dakota. This race classification variable is called RACENAAN. Asian children's race is reported for children in California, Massachusetts, Minnesota, Nevada, New Jersey, New York, Virginia, and Washington. This race classification variable is called RACEASIA. The data files identify both Asian children and Native Hawaiian and Pacific Islander children in Hawaii. This race classification variable is called RACE_HI.

Language

To protect confidentiality, Spanish-language households cannot be distinguished from other non-English-language households in the data file. Of the households with a non-English language as the primary language, 69.2% lived in Spanish-language households. Because Spanish-language households are not identified in the data file, language of non-English interviews has also been suppressed.

Family Structure

To protect the confidentiality of individual children whose families have unique structural characteristics, a single measure of family structure (FAMSTRUCT) was created. The family structure variable refers to parents living in the household. This variable has four levels: 1) two-parent household that includes both a biological or adoptive mother and a biological or adoptive father; 2) two-parent household with both a mother and a father that includes at least one step-parent; 3) one-parent household with a biological, step, foster, or adoptive mother and no father of any type present; and 4) all other family structures. Any of these four family structures may include other people who act as parents, such as grandparents, aunts, uncles, or unmarried partners of the parents. Legal guardians were not considered to be mothers or fathers.

Households identified as having either two mothers or two fathers have been classified as ''other family structure,'' as have single-father households (father present, no mother present), nonparental caregiver households (no mother or father present), and foster households (either a foster mother or foster father or both). Other households with ambiguous structure (e.g., where a father refused to indicate whether he was the biological father) were also coded as ''other family structure.''

Number of Children in Household

The CSHCN Screener data and demographic information were collected for every child in every household with children. However, the information on the total number of children in each household significantly increases the risk of inadvertent disclosure of confidential information in households with large numbers of children. Therefore, the number of children reported to be living in a household was top-coded (i.e., the highest categories were collapsed) to suppress the identity of large households, with the specific top code determined by state. To determine the top code for a particular state, weighted data from the 2009 ACS were used to estimate the proportion of households with children in each state that include six children or more. If at least one-half of 1% of the population of households with children included six children or more, then a top code of six children was used for that state. Otherwise, a top code of five children was used. (In all states, at least one-half of 1% of the population of households with children included five children or more.) This resulted in 16 states with a top code of five children. To complete the masking of households with a large number of children, records in the Screener File were suppressed at random from these large households until the apparent number of children in these large households was five or six (depending on the necessary top code for the state). Only children who were not the subject of a detailed special-needs interview were eligible for suppression. Less than one-half of 1% of the records in the original Screener File were suppressed.

Sampling weights for the remaining records in the Screener File were adjusted to ensure that estimates for the prevalence of CSHCN in each state, and for the prevalence of CSHCN from large households in each state were unchanged. Weights for the suppressed records in each state were summed based on the child's special-needs classification (i.e., with or without special needs) and then redistributed by

special-needs status to the screening records that remained for the households with large numbers of children in that state. That is, weights for suppressed CSHCN from large households were reallocated to remaining CSHCN from large households, and weights for suppressed non-CSHCN from large households were reallocated to remaining non-CSHCN from large households. This reallocation of weights was accomplished using a ratio adjustment for the weights of the remaining records, with the exception that weights for children who were the subjects of a detailed CSHCN interview were left unchanged.

Age

In these data files, the child's age (in completed years) at the time of the interview has been reported. A risk of inadvertent disclosure exists in households with multiple children of the same age (e.g., triplets or quadruplets) and in households with multiple sets of children of the same age (e.g., two sets of twins). Randomly adding a year of age to or subtracting a year of age from randomly selected children in selected households masked these records (although a year of age was not subtracted for any infants). Of the households in the Household File, the ages of children were adjusted in less than one-quarter of 1% of households.

Other Edits to Protect Confidentiality

Several other frequency variables have been top-coded to suppress outliers at the high end of the distribution of responses. Due to their unusual characteristics, records including these outliers might have been more readily identifiable.

- For number of days missed from school due to illness or injury (C3Q14R), 21 days or more is the maximum reported, and responses between 11 days and 20 days have been collapsed into two categories (11–15 and 16–20).
- For number of visits to the emergency room in the past year (C6Q00R), 14 visits or more is the maximum reported.
- For the number of well-child check-ups in the past year (K4Q20R), 12 visits or more is the maximum reported.
- For the number of visits to a dentist for preventative dental care in the past year (K4Q21R), 10 visits or more is the maximum reported.
- For number of specialty doctors visited within the past year (C4Q05_2AAR), 10 specialists or more is the maximum reported.
- For hours per week providing health care at home for the child (C9Q03R), 21 hours or more is the maximum reported, and responses between 11 hours and 20 hours have been collapsed into a single category.
- For hours per week arranging or coordinating care for the child (C9Q04R), 21 hours or more is the maximum reported, and responses between 11 hours and 20 hours have been collapsed into a single category.
- For the total number of adults living in the households (TOTADULTR), 4 adults or more is the maximum reported.
- For the education level of the parent with the highest degree (EDUCR), post-high school study is the maximum reported, and other responses have been collapsed into two additional categories (less than high school graduate, high school graduate, or GED completed).

Data Perturbations

Despite the modifications detailed above, there was lingering concern that the data set might include children with unique combinations of identifiable characteristics. For example, some CSHCN with specific combinations of health conditions (based on questions in Section 3) lived in households with three siblings or more, some children lived with an unusually large number of adults, some children had unusual combinations of race and household size, and some children lived in households that included five CSHCN or more.

To address these concerns, less than 1% of children in the screener file had household characteristics perturbed to prevent disclosure. Perturbation could include changing the sex of one child to alter the sibling sex mix in the household, randomly adding or subtracting a year from one child's age, reducing the number of adults in the household by one, or reducing the number of children in the screener file. (In these households, children were deleted from the screener file, and their weights were redistributed amongst the remaining children with special health care needs in that household. Children with special health care needs that completed the interview were excluded from this deletion.)

Analysts interested in working with data that were suppressed to protect confidentiality may apply to access unmodified data files through the NCHS Research Data Center. This facility, designed for the researcher outside of NCHS, is located in Hyattsville, Maryland. For more information about how to apply for access, analysts may visit the website at http://www.cdc.gov/rdc/.

Derived Variables on Screener File

AGE—If a child was first reported in NIS, the respondent was asked for the child's date of birth. AGE_MOS and AGE_YEARS calculate the child's age in months and years respectively, and those calculations are based on the date of birth reported the day the child was determined to be eligible for the survey. If the household first reported the child in the NS-CSHCN survey, the respondent was asked to report the child's age at questions AGE_1–AGE_9 (age value) and AGE1_1–AGE1_9 (months or years). If the child was determined to be aged 0 years or 1 year, the respondent was asked questions AGE_1Y_1–AGE_1Y_9 to obtain the child's age in months. These variables were used to code AGE, in single years. Valid values for AGE are 0 through 17, where "0" means under 1 year.

HISPANIC—This variable indicates whether a child is of Hispanic, Latino,

or Spanish origin. The variable includes results of race back-coding and is based on variable C10Q31 and race verbatim variable C10Q32A. Respondents who did not identify a Hispanic ethnicity during administration of C10Q31, but provided an answer indicating Hispanic ethnicity as part of a verbatim response to the race question were coded with a value of ''1'' for the variable HISPANIC.

INTVIEW—This variable indicates whether a full interview (through Section 7) was completed for the child.

NEEDTYPE—This variable is based on CSHCN1–CSHCN5 (including follow-up questions) and indicates whether the child has special needs.

RACE, RACENAAN, RACEASIA, and RACE_HI—These race classification variables were derived from data collected in variables C10Q32X01 through C10Q32X08 and race verbatim variable C10Q32A.

SEX—This indicator was created from C2Q03_1 through C2Q03_9.

Derived Variables on Household File

EDUCR—This variable reports the highest level of school that any parents in the household completed, based on questions C10Q20, C10Q21, C10Q22, and C10Q23. This is a three-category variable: less than high school, high school, or more than high school.

HHSTATUS—This variable indicates whether the household respondent completed a full interview (through Section 7) on a selected child with special needs.

MSASTATR—This indicator identifying whether the household is inside or outside of an MSA was suppressed to protect confidentiality in 16 states.

NM_NSPR—This variable represents the total number of children in the household without a special health care need. As noted previously, some screener records have been suppressed to protect the confidentiality of large households. This variable is based on the screener records that remain, and therefore may be inaccurate for large households.

NM_NSPFR—This variable represents the total number of female children in the household without a special health care need. As noted for NM_NSPR, this variable also may be inaccurate for large households.

NM_NSPMR—This variable represents the total number of male children in the household without a special health care need. As noted for NM_NSPR, this variable also may be inaccurate for large households.

NM_SPR—This variable represents the total number of children in the household with a special health care need. As noted for NM_NSPR, this variable also may be inaccurate for large households.

NM_SPFR—This variable represents the total number of female children in the household with a special health care need. As noted for NM_NSPR, this variable also may be inaccurate for large households.

NM_SPMR—This variable represents the total number of male children in the household with a special health care need. As noted for NM_NSPR, this variable also may be inaccurate for large households.

OTH_LANGR—This variable is based on LANG1 and indicates whether the interview was conducted in a language other than English.

PLANGUAGE—This variable is based on the response to C10Q40, and indicates the primary language spoken in the home (English or other language).

POVERTY_LEVEL—This indicator was created using total household members (C10Q01) and the household income value. If data for either of these two components were missing, refused, or had a ''don't know'' response, this measure was assigned a missing value code. The household income value was the actual dollar amount reported by a respondent who reported an exact household income (C11Q01). However, when the respondent did not supply a specific dollar amount for household income, it was necessary to go through a series (i.e., cascade) of questions asking the respondent whether the household income was below, exactly at, or above threshold amounts (C11Q01_REFUSED and W9Q03 through W9Q12A). If the respondent did not complete the income cascade, either because he or she refused or did not know the answer to one of the cascade questions, this measure was assigned a missing value code. Once an income-to-household-size measure was computed, it was compared with HHS Federal Poverty Guidelines. More detail about the development of this poverty indicator is available in Appendix VI. Missing values for this poverty indicator were multiply imputed. Details about the development of the imputed values are included in Appendix XIV.

TOTADULTR—The total number of adults in the household was derived by subtracting the total number of children in the household from the total number of persons in the household (C10Q01).

TOTKIDSR—This variable represents the total number of children aged 0–17 years in the household. As noted for NM_NSPR, this variable also may be inaccurate for large households.

TOTKIDSFR—This variable represents the total number of female children aged 0–17 years in the household. As noted for NM_NSPR, this variable also may be inaccurate for large households.

TOTKIDSMR—This variable represents the total number of male children aged 0–17 years in the household. As noted for NM_NSPR, this variable also may be inaccurate for large households.

Derived Variables on CSHCN Interview File

Because the child's type of health insurance coverage could be reported several ways within the health insurance section of the questionnaire, a categorical indicator (TYPEINS) has been derived to simplify analyses of coverage type. Because lack of health care coverage could be reported several ways, categorical indicators have been derived also to simplify analyses of uninsurance at the time of the survey, uninsurance during the year prior to the survey, and the length of the uninsurance spell (for currently uninsured children).

MARCOH_PAR—This variable indicates the marital or cohabitation status of the child's parent or parents who live in the household, and is based on variables C10Q10, C10Q10A, C10Q11A, and C10Q12A.

MARCOH_RESP—This variable indicates the marital or cohabitation status of the respondent and is based on variables C10Q10, C10Q10A, C10Q11A, C10Q12A, C10Q13A, and C10Q13C. This variable can be used to impute a value for MARCOH_PAR for cases for which no parents live in the household. Due to how the questions were asked, this variable is missing for 1,198 cases because one of the following circumstances was true: the respondent was not the mother, and the mother lived in the household with no father present; the respondent was not the father, and the father lived in the household with no mother present; or the respondent was neither the mother nor the father, and both mother and father lived in the household. For those cases, the respondents were asked about the marital or cohabitation status of the child's parents, not about their own marital or cohabitation status. (Additional missing values are due to partial interviews, don't know responses or refusals to answer questions, or system errors.)

MARSTAT_PAR—This variable indicates the legal marital status of the child's parent or parents who live in the household, and is based on variables C10Q10, C10Q11A, and C10Q12A.

MARSTAT_RESP—This variable indicates the legal marital status of the respondent and is based on variables C10Q10, C10Q11A, C10Q12A, and C10Q13A. This variable can be used to impute a value for MARSTAT_PAR for cases for which no parents lived in the household. This variable is missing for 1,198 cases, for the same reasons described above for MARCOH_RESP.

MS_UNINS—This variable, which indicates the number of months without coverage during the 12 months prior to the survey, was derived from C7Q11, C7Q12, C7Q13, and C7Q14. This variable was not ascertained if the respondent reported an insurance type that was not considered comprehensive insurance (e.g., by reporting Indian Health Service coverage at C7Q10_06, by reporting a single-service plan at C7Q10_08, or by reporting noncomprehensive health insurance at C7Q10B that could not be classified as comprehensive). If a child was uninsured for less than 1 month, MS_UNINS was set to 1 month. If a child was under age 12 months and was uninsured for his or her entire lifetime, MS_UNINS was set to 12 months.

RELATION—This variable is based on C10Q02A and describes the relationship of the respondent to the child selected for the interview.

TYPEINS—This variable, which is a categorical indicator of health insurance coverage type, was derived from questions in Section 7. Private coverage could be reported directly (C7Q03A or C7Q08B) or by responding yes to both C7Q10X07 and C7Q10B. To be included, the reported private insurance was required to cover both doctor visits and hospital stays. Military health care was considered to be comprehensive private coverage. Military health care coverage could be reported directly (C7Q05) or by responding yes to both C7Q10X05 and C7Q10B. Public health insurance includes Medicaid, Children's Health Insurance Program (CHIP), Medicare, and Medigap coverage. Medicaid coverage could be reported directly (C7Q01) or by responding yes to both C7Q10X01 and C7Q10B. CHIP coverage could be reported directly (C7Q02) or by responding yes to both C7Q10X03 and C7Q10B. Medicare and Medigap could be reported by responding yes to either C7Q10X02 or C7Q10X04, as well as C7Q10B. Public health insurance also could be reported directly at C7Q04, which is a single question about both Medicaid and CHIP coverage (see Appendix VII). Indian Health Service coverage (C7Q10X06) was not considered to be public or comprehensive health insurance.

UNINS_YR—This variable indicates that the child was uninsured at the time of the survey or at some time during the 12 months prior to the survey.

UNINS—This variable indicates that the child was uninsured at the time of the survey. A value of 1 for this variable indicates that the respondent did not report any insurance coverage, reported coverage but indicated that it was not comprehensive, or reported only Indian Health Service coverage or single type of insurance. A value of 0 for this variable indicates that the respondent did report comprehensive insurance coverage.

YS_UNINS—This variable, which indicated the number of years since an uninsured child was last insured, was derived from C7Q13. This variable was not ascertained if MS_UNINS was not ascertained, and this variable is missing for children who are currently insured and for children who have been uninsured for less than 12 months. There is one exception: If a child was under age 12 months and was uninsured for his or her entire lifetime, YS_UNINS was set to "never insured."

Dummy Variables

When respondents were permitted to provide multiple answers for the same question, a variable was created for each possible answer. The values for these new dummy variables are "yes, this answer was given" and "no, this answer was not given." When respondents could not or did not provide an answer to the question, a value of "don't know" or "refused" was reported for each of the dummy variables.

- C10Q02B is represented by dummy variables C10Q02BX01 through C10Q02BX26.
- C10Q32 is represented by C10Q32X01 through C10Q32X08.
- C4Q02B is represented by C4Q02BX01 through C4Q02BX07.
- C4Q05_1B is represented by C4Q05_1BX01 through C4Q05_1BX16.
- C4Q05_2B is represented by C4Q05_2BX01 through C4Q05_2BX16.
- C4Q05_31B is represented by C4Q05_31BX01 through C4Q05_31BX16.
- C4Q05_32B is represented by C4Q05_32BX01 through C4Q05_32BX16.

- C4Q05_4B is represented by C4Q05_4BX01 through C4Q05_4BX16.
- C4Q05_5B is represented by C4Q05_5BX01 through C4Q05_5BX16.
- C4Q05_6B is represented by C4Q05_6BX01 through C4Q05_6BX16.
- C4Q05_7B is represented by C4Q05_7BX01 through C4Q05_7BX16.
- C4Q06_1B is represented by C4Q06_1BX01 through C4Q06_1BX16.
- C4Q06_2B is represented by C4Q06_2BX01 through C4Q06_2BX16.
- C4Q06_3B is represented by C4Q06_3BX01 through C4Q06_3BX16.
- C5Q16 is represented by C5Q16X01 through C5Q16X11.
- C7Q10 is represented by C7Q10X01 through C7Q10X09.
- C7Q15 is represented by C7Q15X01 through C7Q15X09.
- C95Q01A and GOGETMED_OTH are represented by C95Q01AX01 through C95Q01AX18.
- K2Q46C is represented by K2Q46CX01 through K2Q46CX04.
- LANG2 is represented by LANG2X01 through LANG2X14.

Additional Data Notes

The follow-up income cascade questions W9Q12 and W9Q12A have 438 and 1,067 missing in error values, respectively. It was discovered in February 2010 that the Poverty Reference Table being used by the CATI instrument was the 2008 poverty table, used during the 2009–2010 NS-CSHCN pretest. As a result, W9Q12 and W9Q12A were being asked based on 2008 poverty values for Quarter 3, 2009 through the beginning of Quarter 1, 2010. The 2009 Poverty Reference Table was deployed as soon as possible on February 18, 2010. As a result of this error, some values of W9Q12 and W9Q12A were lost and were set to missing in error.

States were categorized into program type groupings based on whether each state's CHIP was a Medicaid expansion program, a separate program, or a combination program (part expansion or part separate). Maryland was categorized as a combination state, which meant that separate questions were asked for Medicaid and CHIP. However, Maryland discontinued its separate CHIP program in 2007, so analysts using NS-CSHCN 2009–2010 data for estimates of CHIP will inadvertently include Maryland in their analyses. Analysts should blank out Medicaid responses (C7Q01) and CHIP responses (C7Q02) for Maryland and ''create'' C7Q04, which would be YES if either Medicaid or CHIP was YES.

Procedures for Developing Sampling Weights

This section provides a nontechnical overview of the weighting procedures for the 2009–2010 NS-CSHCN. A more detailed and technical description can be found in Appendix I.

Household-screener Weight

A household weight was generated for analysis of households that completed a screening interview. For example, analysis of the proportion of households with CSHCN would use the household-screener weight. The steps to create this weight consist of the calculation of a base sampling weight, adjustments for household-level nonresponse, an adjustment for multiple telephone lines, and an adjustment for combining landline and cell samples. This weight is poststratified so that the sum of the household weights for each state matches the number of households with children, as projected from 2009 ACS population estimates. As only 2 quarters of data were collected for the cell sample while 6 quarters of data were collected for the landline sample, household weights were derived separately by sample type.

Base Sampling Weights

The landline and cell-phone lines selected for screening for the 2009–2010 NS-CSHCN represent a random sample of all possible landline numbers in banks of telephone numbers containing at least one residential-listed number in each geographic area, and all possible cell-phone lines in each geographic area, respectively. The probability that any given landline or cell-phone line will be selected from the population of all possible landline and cell-phone lines can be calculated by dividing the number of telephone lines selected for the study by the total number of telephone lines in a given sampling area by sample type (landline or cell phone).

Each landline or cell-phone line selected for the 2009–2010 NS-CSHCN represented some larger number of telephone lines in the geographic area. This number can be calculated as the inverse of the probability of selection for any telephone line within sample type. This number is the base weight that is associated with each completed household screening interview in that geographic area within sample type.

Adjustment for Unknown Household Status

When the selected landline and cell-phone numbers were called, some numbers could not be resolved as representing known households or known nonhouseholds because the telephone rang without an answer, the person answering the telephone hung up immediately, or the telephone-answering device did not indicate whether the telephone line belonged to a household. The weights for the completed household screening interviews must be adjusted to also represent the households in this unknown category. This adjustment is made separately for the landline and cell-phone samples by proportionately increasing the weights for those screening interviews that could be completed so the completed screening interviews also represent the households in the unknown category.

Adjustments for Unknown Household Eligibility

Cell-phone sample cases were screened to include only those numbers that were associated with households where no landline was present [cell phone only (CPO)] or where the respondent was unlikely to answer the landline [cell phone mainly (CPM)]. When a cell sample household was identified, some screening interviews were not completed, and the eligibility of the household was unknown. The weights for the completed cell sample household-screening interviews must be adjusted to also represent the CPO or CPM (CPO/M) households in this unknown category. This adjustment is made by proportionately increasing the weights for those screening interviews that could be completed, so the completed interviews also represent the CPO/M households in the unknown category.

When a household was identified for the landline sample or a CPO/M household was identified for the cell sample, the household was screened for the presence of children. Some screening interviews were not completed, and the eligibility of the household was unknown. The weights for the completed household-screening interviews must be adjusted to also represent the age-eligible households in this unknown category. This adjustment is made by proportionately increasing the weights for those screening interviews that could be completed, so the completed screening interviews also represent the age-eligible households in the unknown category.

Adjustment for unknown special-needs eligibility

When an age-eligible household was identified, some CSHCN Screeners were not completed. The weights for the completed household-screening interviews must be adjusted to also represent the households in the incomplete category. This adjustment is made by proportionately increasing the weights for those screening interviews that could be completed. The completed screener interviews thus also represent the age-eligible households with incomplete CSHCN Screeners.

Adjustment for Households With Multiple Telephone Lines

Among the households that completed the CSHCN Screener within the cell sample, some reported more than one cell-phone line for personal use by adults. An adjustment to the weight is required for these households to compensate for their multiple chances of selection. This adjustment divides the screener weight by the number of personal cell-phone lines used by adults in the household. A similar adjustment is not made for the landline sample, because the prevalence of households with multiple landlines is small, and a question about the number of landlines in the household was not asked.

Adjustments for Combined Landline and Cell-phone Samples and for Noncovered Populations

The household weights for households with a complete special-health-care-needs screener were adjusted within each state and DC to accomplish three goals:

1. Adjustment for noncoverage of age-eligible children
2. Adjustment for overlap of the landline and cell-phone samples
3. Attenuation of cell sample weights to minimize variance while controlling for bias

Adjustment for noncoverage of age-eligible children

A Keeter adjustment (26) was implemented to adjust weights to account for households with children not covered by the combined landline and cell-phone samples (i.e., households without telephones). In the Keeter adjustment, weights for landline households with an interruption in telephone service are adjusted to also represent phoneless households with children. The method is based on empirical evidence suggesting that phoneless households are more similar to landline households with an interruption in telephone service than to landline households without an interruption with respect to the variables under study (26,27).

Adjustment for overlap of the landline and cell-phone samples

The landline sample included dual landline and cell-phone households while the cell-phone sample included dual landline and cell-phone households self-identifying as CPM households (those unlikely to receive a call on the landline). Thus, when combining the landline and cell samples, the weights for CPM households must be adjusted so the sum of the adjusted weights across landline and cell-phone samples provides an appropriate estimate of CPM households. The method used to achieve this is described in Appendix I.

Attenuation of cell sample weights to minimize variance while controlling for bias

Because the cell-phone sample was sampled at a lower fraction of the population and was fielded in only 2 quarters (rather than 6 quarters as for the landline sample), the cell-phone sample base weights are larger than the landline base weights. Thus, variability associated with the CPO portion of estimates would tend to be large and would adversely affect the precision of the overall estimates. Attenuating the CPO sample weights serves to decrease variability; however, this requires increasing the weight associated with other sample cases, which can increase bias.

Attenuation of the CPO sample weights was achieved by compositing the CPO sample with landline sample cases deemed ‘‘similar’’ to CPO sample cases, to represent the full CPO population (28). Landline sample cases predicted as having a relatively large likelihood of being similar to CPO cases serve as proxy CPO sample cases to be weighted along with true CPO sample cases to represent the total CPO population. Because CSHCN interview

variables are included in the logistic regression model predicting similarity, the identified proxy CPO sample cases are expected to have low bias, relative to the true CPO sample cases. The resulting adjusted survey weights yield minimum mean-squared error (MSE) estimates. This proxy method of attenuating the weights is described in more detail in Appendix I and in a proceedings paper documenting the development of the method (28). A ratio adjustment was implemented to adjust the weights to population controls for the residual set of landline households with children. Separate adjustments were carried out for landline-only households and for combined landline-mostly and landline-or-cell-mixed households.

Raking Adjustment of Household Weight

Despite the weighting efforts and the nonresponse adjustments, the estimated number of households with children is unlikely to perfectly match the population totals. Any discrepancies are likely due to random sampling error and nonrandom response biases. Raking adjusts the weights to match population control totals for key sociodemographic information obtained from external sources. For NS-CSHCN, the independent sources were the 2009 ACS and the 2009 NHIS. Control totals were used for raking adjustment within each state and DC, based on race and ethnicity, number of children in the household, household income, the highest reported education in the household, age of the oldest adult in the household, telephone status, and whether the housing unit was rented or owned.

The various adjustments in previous steps occasionally made some weights substantially larger than other weights. These extremely large weights were truncated to prevent a small number of cases with large weights from having undue influence on the estimates. The weights after truncation were raked again and the process of truncation and raking repeated several times to ensure that the sum of final household weights matched the control totals. Details on the truncation of weights can be found in Appendix I.

Child-screener Weight

A child-screener weight was generated for analysis of information available from the screening interview. For example, the proportion of CSHCN among all children nationally (or in each state) would be weighted using the child-screener weight. Demographic information and information regarding special health care needs status was collected for each resident child. The weight for screened children began with the final household weight but was adjusted so that the final child-screener weight summed to the number of children in the nation, as estimated from the annual population estimates published by the 2009 ACS.

Raking Adjustment of Child-screener Weight

Despite the weighting efforts and the nonresponse adjustments, the estimated number of children is unlikely to match the population totals. Any discrepancies are likely to be due to random sampling error and nonrandom response biases, such as differential nonresponse based on age, sex, or race of the child. For the child-screener weight, the independent source for the population control totals was the 2009 ACS. The child-screener weights were adjusted so that the sum of the weights equaled control totals within each state and DC, based on sex, age, race and ethnicity, number of children in the household, household income, highest reported education in the household, telephone status, and whether the housing unit was rented or owned.

The various adjustments in previous steps occasionally made some weights substantially larger than other weights. These extremely large weights were truncated to prevent a small number of cases with large weights from having undue influence on the estimates. The weights after truncation were raked again and the process of truncation and raking repeated several times to ensure that the sum of final child-screener weights matched the control totals. Details on the truncation of weights can be found in Appendix I.

Child-interview Weight

A child-interview weight was generated for analysis of information available from the interview. For example, the proportion of CSHCN with insurance or the proportion of CSHCN with barriers to needed care would be weighted using the child-interview weight. This weight began with the final raked adjusted-screener weight. This weight was adjusted for the number of CSHCN in the household and for interview nonresponse.

Adjustment for Multiple-CSHCN Households

One child with special health care needs was randomly selected from among all children with special needs in the household. In households with multiple eligible CSHCN, the randomly selected child represents all of the CSHCN in the household. Therefore, the sampling weight for this completed interview must be increased to reflect the fact that this completed interview represents multiple children in that household. This adjustment multiplies the adjusted child-screener weight by the number of eligible children with special needs in the household.

Adjustment for Nonresponse to the NS-CSHCN Interview

When a child with special health care needs was randomly selected, some interviews were not completed. The weights for the completed child interviews must be adjusted to also represent the children who were selected but for whom an interview was not completed. This adjustment is made by proportionately increasing the weights for those interviews that could be completed. The completed interviews, therefore, also represent the sample children with incomplete interviews.

Optimized Combined Landline and Cell-phone Sample

The CSHCN interview nonresponse weights were reoptimized to account for the combination of landline and cell-phone samples prior to final taking adjustments. Optimization applied to the CPO and CPM populations and was carried out in an analogous manner to that performed at the household level.

Adjustment for overlap of the landline and cell-phone samples

The CSHCN interview weights for children in CPM households were adjusted so the sum of the weights across landline and cell-phone samples provides an estimate for children in CPM households. The composite adjustment factor is derived based upon the variance and bias associated with the component estimates. The resulting adjusted survey weights yield minimum (MSE) estimates.

Attenuation of cell sample weights to minimize variance while controlling for bias

The CSHCN interview nonresponse adjusted weights for children in CPO households and children in proxy CPO households were adjusted so the sum of the adjusted weights across landline and cell-phone samples provides an MSE estimate for children in CPO households. Further information about the attenuation methods is provided in Appendix I and in a paper documenting the development of the method (28).

Raking Adjustment of Child-interview Weight

The child-interview weight was once again raked to estimated population control totals. The demographic subgroups used as population control totals for the raking adjustment to the child-interview weights were similar to the demographic subgroups used for the raking adjustment of the child-screener weight.

The various adjustments in previous steps occasionally made some weights substantially larger than other weights. These extremely large weights were truncated to prevent a small number of cases with large weights from having undue influence on the estimates. The weights after truncation were raked again and the process of truncation and raking repeated several times to ensure that the sum of final child-interview weights matched the control totals. Details on the truncation of weights can be found in Appendix I.

Quality Control

Staff compared the formulas for the weights and adjustments developed by the sampling statistician with the actual weights and adjustments constructed by the statistical programmer. Thorough review of both programs and data outputs were reviewed by senior statisticians for accuracy. In addition, univariate statistics were produced and reviewed for the adjustments and weights.

Estimation and Hypothesis Testing

NS-CSHCN data were obtained through a complex sample design involving clustering of children within households, stratification of households within states, and separate sample frames for landline and cell-phone numbers. To produce estimates that are representative of children nationally and within each state, sampling weights must be used. These sampling weights account for the unequal probability of selection of each household and child, and they include adjustments for multiple-telephone households, unit nonresponse, and noncoverage of nontelephone households, as well as adjustments to known population control estimates.

As described earlier, three sampling weights have been developed for interviews from NS-CSHCN. These weights should be used for both national and state-level analyses of the prevalence of special health care needs and the characteristics of CSHCN.

Household weight (WEIGHT_H)—This weight is on the Household File and is used to produce estimates that are representative of households with children nationally and within each state. A household weight has been associated with every age-eligible household screened for CSHCN regardless of whether a detailed special-needs interview has been completed. This weight should be used only when the unit of analysis is the household.

Screener weight (WEIGHT_S)—This weight is on the Screener File and is used to produce estimates that are representative of children nationally and within each state. A screener weight has been associated with every child screened for special needs, regardless of whether a detailed special-needs interview has been completed. This weight should be used only when the unit of analysis is the child and the data analyzed come solely from the Screener File and the Household File.

Interview weight (WEIGHT_I)—This weight is on the CSHCN Interview File and is used to produce estimates that are representative of CSHCN nationally and within each state. An interview weight has been associated with all CSHCN who have completed or partially completed interviews. This weight should be used only when the unit of analysis is the child with special health care needs and the data analyzed include variables that are on the CSHCN Interview File.

Interpretation of Weighted Estimates

Estimates based on the screener weights generalize only to the U.S. noninstitutionalized population of children aged 0–17. Estimates based on the interview weights generalize only to the U.S. noninstitutionalized population of CSHCN aged 0–17. These estimates do not generalize to the population of parents, the population of mothers, or the population of children's health care providers.

Two examples may help make this distinction clearer. Weighted estimates

based on question C4Q07 can be interpreted as the proportion of CSHCN whose parents or guardians experienced difficulties getting referrals for the child, but they should not be interpreted as the proportion of parents who experienced difficulties getting referrals. Similarly, weighted estimates based on C6Q0A_E can be interpreted as the proportion of CSHCN aged 12–17 whose doctors have talked about health insurance, but they should not be interpreted as the proportion of parents who have talked about health insurance with their children's doctors, or as the proportion of doctors who have talked about health insurance with older CSHCN.

Data users should note that it is not possible to create accurate estimates for the landline and cell-phone populations separately, and the data files cannot be used to compare children from CPO households with children from landline households. This is because households in the cell-phone sample include households that have landlines but report that they are unlikely to be reached on them. In addition, the weights for the cell-phone sample were attenuated to minimize variance. Proxy cases from the landline sample were assigned a portion of the household weight associated with the cell-phone population. Therefore, limiting the analysis to either the landline or cell-phone sample cases only will misrepresent the populations and give erroneous weighted estimates.

Analysts should avoid using the child-interview weights to directly estimate the population number of CSHCN with a certain characteristic. The sum of the interview weights does not equal the sum of the screener weights for CSHCN. That is, the estimated total number of CSHCN based on the interview weight does not equal the estimated total number of CSHCN based on the screener weight. These totals were equal in the 2001 and 2005–2006 iterations of the survey, but for 2009–2010, the weighting procedures were modified such that the final child-interview weight was raked to population control totals based on a subsampling weight (see Appendix I) rather than the screener weight. Because the subsampling weight included an adjustment factor that was capped to reduce design effects, raking to control totals based on the subsampling weight rather than to control totals based on the screener weight results in the sum of the child-interview weights being slightly smaller than the sum of child-screener weights for CSHCN.

Practically, this change had little impact on estimates of key indicators of health and health care access and utilization. Analyses suggest that, had the 2001 or 2005–2006 raking procedures been used for the 2009–2010 survey, the largest differences in proportions at the state level would be less than one-third the width of the 95% confidence intervals based on potential sampling error, and these differences would not be in a consistent direction. However, differences in weighted counts of CSHCN at the national and state levels would generally be slightly lower with the 2009–2010 weighting approach than with the 2001 or 2005–2006 weighting approach. Therefore, analysts interested in estimating the weighted number of CSHCN with certain sociodemographic characteristics are strongly encouraged to use the screener weights (rather than the interview weights) for such analyses. Analysts interested in estimating the weighted number of CSHCN with other characteristics only available on the interview file should obtain this estimate by multiplying the weighted proportional estimate based on the interview weights and the weighted number of CSHCN in the population of interest based on the screener weights. For example, an analyst can obtain a proportional estimate of uninsurance for CSHCN in Nebraska from the interview file and an estimate of the number of CSHCN in Nebraska from the screener file, and that analyst can then multiply these two estimates to obtain an estimated number of CSHCN in Nebraska who are uninsured.

Variables Used for Variance Estimation

The sample design of NS-CSHCN is complex, and the household records and the child-level screener and interview records have unequal weights. Therefore, statistical software programs that assume simple random sampling will most often compute standard errors that are too low. Tests of statistical hypotheses may then suggest statistically significant differences or associations that are misleading. However, computer programs are available that provide the capability of variance estimation for complex sample designs (e.g., SUDAAN, Stata, and WesVar). In order to provide the user with the capability of estimating the complex sample variances for the NS-CSHCN data, sample type and stratum identifiers and primary sampling unit (PSU) codes on the data files have been provided. These variables and the sample weights are necessary to properly calculate variances.

The stratum identifiers reported on the data set are not identical to the strata used to draw the main sample. In states with multiple estimation areas, independent samples were selected from each estimation area in proportion to the total number of households with children in each estimation area. Therefore, these estimation areas should be considered strata for variance estimation. However, disclosure of the specific estimation area for each child (even if the code were scrambled) could increase the risk of disclosure of a respondent's identity. In the absence of estimation area-specific identifiers, data users should use the state identifier (STATE) as the stratum identifier. By using the state identifier rather than the suppressed estimation area identifier, the standard errors for national and state estimates with key variables are affected only slightly, and not in a consistent direction. The PSU for NS-CSHCN is the household and is represented on the data sets by the unique household identifier, IDNUMR. The sample type (landline or cell phone) is represented on the data sets by the identifier SAMPLE.

The overall number of persons in this survey is sufficient for most statistical inference purposes. However, analyses of some rare responses and analyses of subclasses can lead to estimators that are unreliable. Small sample sizes used in the variance calculations may also produce unstable estimates of the variances.

Consequently, these analyses require that the user pay particular attention to the variability of estimates of means, proportions, and totals.

Variance Estimation Using SUDAAN or Stata

Standard errors of estimates from NS-CSHCN can be obtained using the Taylor series approximation method, available in software such as SUDAAN, SAS, and Stata. The state and sample type should be identified as stratum variables, and the household should be identified as the PSU.

The simplifying assumption that PSUs have been sampled with replacement allows most complex survey sample design computer programs to calculate Taylor series standard errors in a straightforward way. This method requires no recoding of design variables, but is statistically less efficient (and therefore more conservative) than some other methods because the PSU unit is treated as being sampled with replacement within the stratum unit. For SUDAAN, the data file needs to be sorted by stratum (STATE), sample type (SAMPLE), and PSU (IDNUMR). The default number of stratum and PSU variables to be included in the NEST statement is two; because there are three such variables here, the PSULEV statement is included to indicate that PSU is the third variable in the list. The following SUDAAN design statements are then used for analyses at the household level:

```
PROC . . . DESIGN = WR;
NEST STATE SAMPLE IDNUMR
/ PSULEV = 3;
WEIGHT WEIGHT_H;
```

For Stata, the following design statements are used. Because Stata only allows for a single strata variable, STATE and SAMPLE should first be combined into a single variable with (51*2 = 102) levels (here called STATESAMP):

```
svyset strata STATESAMP
svyset psu IDNUMR
svyset pweight WEIGHT_H
svyset
```

For analyses of the Screener File data at the child level, replace "WEIGHT_H" with "WEIGHT_S." For analyses of the CSHCN Interview File data, replace "WEIGHT_H" with "WEIGHT_I."

Other variance estimation procedures are also applicable to NS-CSHCN. Specifically, the jackknife method with replicate weights and the bootstrap resampling method with replicate weights can also be used (via software such as WesVar) to obtain standard errors that fully reflect the impact of the weighting adjustments on standard errors.

Variance Estimation for Subsets of Data

Many analyses of NS-CSHCN data will focus on specific population subgroups, such as CSHCN in only one state or CSHCN living in poverty. Some analysts will therefore be tempted to delete all records outside of the domain of interest in order to work with smaller data files and run computer jobs more quickly. This procedure of keeping only selected records and list-wise deleting other records is called subsetting the data. Subsetted data that are appropriately weighted can be used to generate correct point estimates (e.g., estimates of population subgroup frequencies or means), but many software packages that analyze complex survey data will incorrectly compute standard errors for subsetted data. When complex survey data are subsetted, the sample design structure is often compromised because the complete design information is not available. Subsetting the data can delete important design information needed for variance estimation (e.g., deleting all records for certain subgroups may result in entire PSUs being removed from the design structure).

The NS-CSHCN sample was designed to provide independent data sets for each of the 50 states and DC. Subsetting the survey data to a particular state does not compromise the design structure of the survey. That is, standard errors calculated in SUDAAN for a particular state will not be affected if the data set has been subsetted to that particular state.

However, subsetting to specific population subgroups (within or across states) can result in incorrect standard errors. For example, subsetting the data to those CSHCN who live in poverty within a specific state will result in standard errors being calculated incorrectly. Typically, the standard errors for subsetted data will be inflated, resulting in a higher probability of type-II error (i.e., failing to detect significant differences that do in fact exist). SUDAAN has a SUBPOPN option that allows the user to target specific subpopulations for analysis while retaining the full unsubsetted data set that includes the full sample design information; Stata has a similar option called SUBPOP. Analysts interested in specific population subgroups must use these subpopulation options rather than subsetting the data sets.

Weighted Frequencies, Prevalence Estimates, and Standard Errors

Weighted frequencies of the number of households having a child with special health care needs and the number of CSHCN by state appear in Appendix XV. Prevalence estimates and standard errors are also provided. Analysts may wish to replicate these tables to determine if they are using the weights correctly.

Weighted frequencies, prevalence estimates, and standard errors for other survey measures are available from the Data Resource Center for Child and Adolescent Health. This online center is led by the Child and Adolescent Health Measurement Initiative at Oregon Health and Science University and is supported through a cooperative agreement with MCHB. The data resource center is accessible at http://www.cshcndata.org.

Guidelines for Data Use

With the goal of mutual benefit, NCHS requests that recipients of data files cooperate in certain actions related to their use.

Any published material derived from the data should acknowledge NCHS as the original source. The suggested citation, "Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Children with Special Health Care Needs, 2009–2010," should appear at the bottom of all tables and figures. Published material derived from the data also should include a disclaimer that credits the author, not NCHS, with any analyses, interpretations, or conclusions reached. NCHS is responsible only for the initial data. Consumers who wish to publish a technical description of the data should make a reasonable effort to ensure that the description is not inconsistent with that published by NCHS.

CIPSEA and the Public Health Service Act (Section 308d) provide that these data collected by NCHS may be used only for the purpose of health statistical reporting and analysis. Any effort to determine the identity of any reported case is prohibited by these laws. NCHS takes extraordinary measures to assure that the identity of survey subjects cannot be disclosed. All direct identifiers, as well as any characteristics that might lead to identification, have been omitted from the data set. Any intentional identification or disclosure of a person or establishment violates the assurances of confidentiality given to the providers of the information. Therefore, users must:

- Use the data in this data set for statistical reporting and analysis only
- Make no use of the identity of any person discovered, inadvertently or otherwise, and advise the NCHS Director of any such discovery (301–458–4500)
- Not link this data set with individually identifiable data from any other NCHS or non-NCHS data sets

Use of the data set signifies users' agreement to comply with the above-stated, statutory-based requirements.

Further Information

Data users can obtain the latest information about SLAITS by periodically checking the SLAITS website at http://www.cdc.gov/nchs/slaits.htm. This site features downloadable data files and documentation for SLAITS modules, as well as important information about any modifications and updates to data or documentation. Data users also will find current contact information if they have any additional questions. Data users with questions may also send e-mail to slaits@cdc.gov.

Researchers also may wish to join the SLAITS electronic mail listserv. To subscribe or unsubscribe, visit http://www.cdc.gov/nchs/about/major/slaits/slaitslistserv.htm and follow the directions listed. The listserv has approximately 1,000 subscribers around the world who use SLAITS data or are interested in SLAITS. Subscribers periodically receive e-mail containing news about SLAITS surveys (e.g., new releases or modifications to existing data), publications, or related conferences. The listserv is moderated and listserv membership is private.

For more information on CDC, users may contact CDC's Information Contact Center (CDC-INFO) in English or Spanish by calling 1–800–CDC–INFO (1–800–232–4636) or e-mailing cdcinfo@cdc.gov. Persons with hearing impairment may contact CDC-INFO with a TTY machine at 1–888–232–6348. Please note, however, that CDC-INFO cannot respond to questions about individual medical cases, provide second medical opinions, or make specific recommendations regarding therapy. These issues should be addressed directly with personal health care providers.

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Appendix I. Sampling and Weighting Technical Summary

Sample Design

The basic design objective of the National Survey of Children with Special Health Care Needs (NS-CSHCN) sample was to select a sample to achieve 750 completed interviews of children under age 18 years with special health care needs in each state and the District of Columbia (DC). Of the 750 completed interviews, 45 were targeted to be completed from cellular-phone (cell) lines. The landline and cell-phone samples were selected by first identifying households with children under age 18 and then screening within these households for the presence of children with special health care needs (CSHCN). In all households where CSHCN were present, one such child was selected. If more than one CSHCN was present, one child was randomly selected for the interview.

Drawing National Immunization Survey sample

The sample of households selected to be screened for NS-CSHCN was a subsample of the households screened for the National Immunization Survey (NIS), a continuous, list-assisted, random-digit-dial (RDD) telephone survey. Starting in 2007, the base NIS sample areas included 56 regions (50 state or ''rest of state'' areas plus 6 grantee urban areas). The six grantee urban areas were Chicago, Ill.; Philadelphia, Pa.; New York, N.Y.; Bexar County, Tex.; Houston County, Tex.; and Washington, D.C. Also starting in 2007, state immunization programs could identify cities or counties of interest to be oversampled. Eight of those regions, which may change annually, were selected and added to the base NIS sample areas to equal a total of 64 sample areas.

Associating telephone numbers with sampling areas

Drawing a sample of telephone numbers in a sampling area requires compiling a list of all telephone numbers that belong to that area. For some sampling areas, this step is straightforward. For example, when the sampling area is a state, the list would consist of all phone numbers within the central-office codes that are in service in the area codes assigned to that state. (Combined, an area code and a central-office code form a ''prefix area.'' For example, 312–555–xxxx is the prefix area corresponding to the 555 central office in the 312 area code.)

For other sampling areas, however, this step encounters a number of complications. When the sampling area is a city, county, or combination of counties, some prefix areas may cover part of the sampling area and part of an adjacent sampling area. In such situations, NIS applies a majority rule: If at least 50% of the directory-listed households in a prefix area fall inside a sampling area, the prefix area is assigned to that sampling area.

For the cell sample, NIS fielded a national cell-sample design in Quarter 4, 2010, so this was not an issue. For the NS-CSHCN Quarters 3 and 4, 2010 cell-augmentation sample, the sample design was state-level. Because no area code encompasses multiple states, there was no issue with a prefix area covering multiple sampling areas.

Drawing the initial NIS sample

The sampling frame of landline telephone numbers for a sampling area consists of banks of 100 consecutive phone numbers within the prefix areas assigned to the sampling area. To exclude banks that contain zero directory-listed residential phone numbers, the Genesys Sampling System [a proprietary product of Marketing Systems Group (MSG)] uses a file of directory-listed residential numbers from Donnelley Marketing Information Services. The result is a file that lists the remaining banks (the ''1+ working banks,'' which contain one or more directory-listed numbers). From the 1+ working banks, a random sample of complete 10-digit phone numbers is drawn for each quarter in such a way that each number has a known and equal probability of selection within each sampling area.

This process is not applicable to the cell sample, as there is no comparable directory-listed file for the cell sample. Therefore, a sample from all known cell-phone numbers is drawn for each quarter in such a way that each number has a known and equal probability of selection within each state.

Updating the NIS sampling frame

The set of phone banks with at least one directory-listed residential phone number changes over time. As a result, the sampling frame needs to be updated on a quarterly basis. Area-code splits produce additional changes to the sampling frame. MSG maintains a separate sampling frame for each sampling area. Each quarter, MSG examines the database to determine whether any currently included banks should be assigned to different sampling areas and to assign newly included banks to sampling areas. The rules for assignment are the same as in the initial definitions of the sampling areas.

Once all modifications have been made to the Genesys database, researchers at NORC at the University of Chicago perform a number of checks to ensure that all changes have been applied correctly and that the new database produces samples consistent with those produced prior to the changes. These checks compare the numbers of active banks and RDD-selectable lines in each sampling area before and after the update. In parallel, the numbers of exchanges assigned to each sampling area before and after the update are compared. Small changes are expected because new banks are put into service as new numbers are assigned. In the event of a major discrepancy in any of these checks, MSG is notified of the difference and asked to provide documentation of the reasons for the change. Similar checks are performed on the cell sample where applicable, though these updates

do not happen as frequently on the cell frame.

Forming NIS sample replicates

Within each sampling area, the landline and cell samples are then segmented into replicates by sample type, or representative subsamples, with each replicate containing sample phone numbers from each of the sampling areas.

Instead of using a single size for all replicates in all sampling areas, NIS divides the sample in each area into the same number of replicates—26. This procedure permits smoother release of the sample (at the rate of one or two replicates per week) for each sampling area separately, as needed. Toward the end of the quarter, half-size replicates allow tighter control over the total amount of sample that is released. The aim is to produce an even distribution of work in the telephone center over the course of a quarter.

For the cell sample, replicates are formed in the same way, but typically consist of more than 26 replicates. Because Quarter 3, 2010 was the first quarter that cell sample was fielded, more replicates were created to allow for even tighter control of the amount of sample that was released across the quarter. This was also the case for both the NIS-Child cell sample and NS-CSHCN cell-augmentation sample released in Quarter 4, 2010.

Preparation of the sample

Coordinated management of the sample followed a sequence of steps. Before a replicate was loaded into the computer-assisted telephone interview (CATI) system, several stages of processing removed as many business and nonworking numbers as possible. A separate step matched the phone numbers in the sample against a large database to obtain addresses so that advance letters could be sent. Phone numbers on the NIS ''do not call list'' were removed from the sample. Also, for each quarter, any duplicate phone numbers (i.e., numbers that had appeared in the sample in the 3 prior quarters) were identified and omitted from the sample files.

This process was the same for both the landline and cell samples, with one exception. There was no database that contained known addresses for the cell sample, and therefore the matching step to obtain addresses to send advanced letters was not implemented for the cell sample. All other steps were applied.

Removing business and nonworking numbers from the landline sample

More than two-thirds of all selected landline phone numbers are typically businesses or unassigned. It would be incredibly inefficient to require the interviewers to dial and classify all of these landline numbers. To prevent that potential expense, NIS used another MSG product (a companion to the Genesys sampling system) to quickly and accurately reduce the size of this task.

First, the selected landline sample was matched against a Genesys file containing phone numbers that are directory-listed in a business Yellow Pages and that are not directory-listed in a residential White Pages. Any business numbers so identified were removed from the sample.

Second, landline numbers listed in residential White Pages were identified and temporarily set aside.

Third, a hardware system screened the remaining landline sample to remove a portion of the nonworking numbers. Using personal computers with special hardware and software, this system (the ''auto-dialer'') automatically dialed the landline phone numbers to detect nonworking landline numbers, which are indicated by the familiar tritone signal for out-of-service numbers, by an extended period of silence, or by continuous noise on the line.

Finally, the directory-listed residential landline numbers were combined with the landline numbers that were not removed by the auto-dialer to produce the landline sample for the phone center. The landline numbers removed within released replicates were themselves considered released; they also were considered prescreened and were assigned disposition codes indicating that they were resolved, nonresidential landline numbers.

This process could not be conducted on the cell-phone sample due to Federal Communications Commission (FCC) rules regarding auto-dialing cell-phone numbers [implementing the Telephone Consumer Protection Act of 1991 (TCPA)]. Therefore, all cell-phone numbers were released and dialed by the phone center, and a disposition code was assigned by the interviewer for business and nonworking numbers.

"Do not call" requests

A file was maintained containing phone numbers of people who had requested not to be called. Each quarter's sample was compared with this file, and numbers that had been added to the ''do not call list'' in the previous 2 years were not included in the quarterly sample of numbers loaded into the CATI system.

Obtaining addresses for advance letters

To obtain addresses that corresponded to phone numbers in the sample, the numbers for each replicate were sent to a vendor, TARGUSinfo (now Neustar Information Services). Neustar maintains a large database, updated daily, for its PhoneData Express program, which includes more than 160 million residential and business landline phone numbers, including unpublished landline phone numbers. Sources for the data include call centers and companies in telecommunications, consumer goods, and the insurance and credit industries. There is no such database for cell-phone numbers.

After the pre-resolution operations described in the previous three sections, the use of TARGUSinfo yielded addresses for about 44.3% of the landline phone numbers loaded into the CATI system. Advance letters were sent to this set of landline numbers. The mailing was approximately 10 days, or 2 weekends prior to the time when the phone numbers in the corresponding replicates were scheduled to be called. No advance letters were mailed to the cell-phone sample.

Ported cell phones

A significant recent development in the telecommunications industry is the new FCC regulation on portability. Local number portability allows wireless phone customers to switch from one company to another while retaining the same phone number. There are three ways in which consumers can take advantage of the new wireless number portability provisions: 1) wireless-to-wireless, 2) wireless-to-landline, and 3) landline-to-wireless. Landline sampling typically includes automated dialing procedures to reduce data collection costs, but FCC rules (implementing TCPA) bar automated calls to wireless phone numbers. The first two ways that consumers can port numbers do not impact the RDD landline sampling strategy, because cell-phone numbers are not in the RDD landline sampling frame. However, the third way—porting landline numbers to wireless service providers—creates the possibility of inadvertently including wireless phone numbers in the RDD landline sample. To preidentify landlines that have been ported to wireless, the selected landline sample was matched to the Neustar database, which contains the national list of ported phone numbers. Details on the database can be found at http://www.tcpacompliance.com. Each quarterly sample was compared with the database, and the ported numbers were flagged accordingly. The flagged numbers were assigned an out-of-scope disposition code and were not called as part of the landline sample. Classifying such cases as out-of-scope for landline dialing did not remove those numbers from the overall universe, because they still could have been randomly selected for the cell-phone sample. Rather, classifying them as out-of-scope for the landline sample simply prevented the landline and cell-phone sample frames from overlapping. The landline numbers in released replicates were also matched to the Neustar database daily to identify any new ports that had not already been finalized within the phone center. Consequently, sample status (landline or cell) was initially set based on the frame from which a case was selected, but the status was updated in some cases accordingly, based on information obtained when the case was called.

Because any number selected for the cell-phone sample was not auto-dialed, ported numbers were not an issue for the cell-phone sample.

Duplicate phone numbers

Because of the repeated quarterly sampling operations in each sampling area by sample type (landline and cell phone), some phone numbers were selected more than once. To avoid any respondent problems created by recontacts for the same survey, a further step of sampling identified duplicate numbers. Each quarterly sample file was compared with all sample files for the 3 prior quarters. The duplicate numbers were excluded from the quarterly sample file. Thus, the quarterly samples were essentially selected by a method of without-replacement sampling. However, analysts are reminded to invoke ''with-replacement sampling'' in SUDAAN for variance estimation, as described earlier.

Weighting and Estimation

This section summarizes the methodology used for weighting the 2009–2010 NS-CSHCN sample. Three sets of weights were produced: a household weight, a child-screener weight, and a child-interview weight. The weighting scheme followed as much as possible the weighting scheme for NIS. The weighting scheme for the 2009–2010 NS-CSHCN involved the following steps:

1. Base sampling weight
2. Adjustment for nonresolution of released phone numbers
3. Adjustment for incomplete S_KIDS screener (affects cell-sample only)
4. Adjustment for incomplete Cell Phone Only/Mainly (CPO/M) screener (affects cell-sample only)
5. Adjustment for incomplete age-eligibility screener
6. Adjustment for incomplete special-needs screener
7. Adjustment for multiple cell-phone lines
8. Derivation of full-sample household weights
9. Adjustment for combined landline and cell-phone sample and noncovered households
10. Raking adjustment of household weights
11. Raking adjustment of child-screener weights
12. Adjustment for subsampling of children with special health care needs
13. Adjustment for nonresponse to the NS-CSHCN interview
14. Optimized combined landline- and cell-sample weights
15. Raking adjustment of the nonresponse-adjusted NS-CSHCN interview weights

Weighting steps 1–10 above applied to households, step 11 applied to all children, and steps 12–15 applied to children with special health care needs. Steps 1–7 were applied within each study quarter, while steps 8–15 were carried out for the total sample across quarters. Steps 1 and 2 were carried out within sampling area for the landline sample and state for the cell sample. Steps 3–15 were carried out within state [including DC and U.S. Virgin Islands (USVI)] for both landline and cell samples. Steps 1–8 were carried out separately by sample source type (landline and cell), while steps 9–15 were carried out on the combined sample across sample source type. Note that the Q4/2010 (Quarter 4, 2010) cell-augmentation sample was not combined with the Q4/2010 NIS cell sample for steps 3–5, due to the inclusion of the extra eligibility screener (S_KIDS) applied to the Q4/2010 cell-augmentation sample. Note that USVI only fielded a landline sample, and therefore some of these steps were not necessary for this estimation area. These modifications are noted within each step, where applicable, for USVI.

Each individual weighting step is discussed in detail below.

Step 1: Base weights

The weighting process started with computing the base sampling weights of the sampled telephone numbers, where

the base weight is the reciprocal of the selection probability of a phone number. Sample cases were selected from both landline and cell-phone numbers. The base weight for the k-th phone number from the t-th source type (landline or cell) in the released sample A_t is defined by

$$W_{1tk} = \frac{1}{\pi_{tk}} = \frac{N_t}{n_t}, \quad \text{where}$$

π_{tk} = probability of selecting the k-th phone number from the t-th source type in the initial release for the quarter,

n_t = sample size (in initial released replicates) for the quarter from the t-th source type in the sampling area, and

N_t = total phone numbers on the sampling frame for the quarter from the t-th source type in the sampling area, as determined by Genesys.

For the landline sample, the base was weight is a constant for all phone numbers within a quarter and sampling area. The sampling area for the landline sample is defined as the NIS sampling area.

The sampling area for the cell sample is defined as the state. Note that the cell sample was comprised of the Q4/2010 NIS cell sample, which was selected at the national level, and the Q4/2010 cell-augmentation sample, which was selected at the state level. For purposes of deriving the base weights, however, and given that selection of a large national sample roughly corresponds to selection of individual state samples (each with a sample size proportional to their population size), the entire Q4/2010 cell sample was treated as having been selected at the state level. Additionally, the cell-sample base weights were calculated across the 2 quarters combined, due to large variation in the base weights between Q3/2010 and Q4/2010.

Step 2: Adjustment for nonresolution of phone numbers

Once the sample of telephone numbers was released, the first step was to identify whether the number was a working residential number (WRN) for landlines or an active personal cell number (APCN) for cell phones. However, even after repeated callbacks, the WRN-APCN status of many telephone numbers remained unresolved. An adjustment to the weight of resolved cases was necessary to account for cases for which the WRN-APCN status was unknown.

To make the adjustment, a number of adjustment cells within each sampling area were formed by controlling for known covariates. The adjustment in each cell was made by assuming that the rate of WRNs to APCNs among unresolved numbers was the same as the rate of WRN to APCNs among resolved numbers. Within each sampling area, the adjusted weights were computed as follows.

$$W_{2tk} = \frac{W_{1tk}}{R_{2t\ell}} \quad \text{if } k \in t, B_t, \ell$$
$$= 0 \text{ otherwise,}$$

where

$$R_{2t\ell} = \frac{\sum_{k \in t, B_t} \delta_{2tk\ell} W_{1tk}}{\sum_{k \in t, A_t} \delta_{2tk\ell} W_{1tk}},$$

B_t = subset in A_t of resolved phone numbers in the quarter from the t-th source type (WRN, non-WRN/APCN, or non-APCN), and

$\delta_{2tk\ell}$ = 1 if the k-th number from the t-th source type is in the ℓ-th cell

= 0 otherwise.

The covariates used to define the adjustment cells for the landline sample within each sampling area are shown in Table I. Different sets of variables were used for sampling areas in different census regions and by listed status. The variables were identified through an analysis of known variables and nonresponse status. The adjustment cells needed to include at least 20 resolved cases to enable stable estimation of the adjustment factor, $R_{2t\ell}$. To achieve this goal when the number of resolved cases was less than 20, adjustment cells were collapsed by dropping covariates in order of importance, with cells formed by the least important covariates collapsed first, where importance was defined by the strength of the relationship between the covariate and the observed resolution rate.

To define the adjustment cells for the cell sample within each sampling area, only metropolitan statistical area (MSA) status associated with the released case was used, due to the smaller sample sizes for the cell sample and the lesser correlation between exchange and geographic area for cell-phone numbers, relative to landline numbers. The adjustment cells needed to include at least 20 resolved cases to enable stable estimation of the adjustment factor, $R_{2t\ell}$. To achieve this goal when the number of resolved cases

Table I. Covariates used to create nonresolution adjustment cells within sampling area, by census region and directory-listed status: Landline sample

Sampling area							
Northeast		Midwest		South		West	
Listed	Unlisted	Listed	Unlisted	Listed	Unlisted	Listed	Unlisted
Rent Minority Income	MSA Grad	Rent Owner Grad	Age Minority Educ	Rent Income Owner	MSA Owner Grad	Minority MSA	Grad Owner Age

NOTES: Covariates are listed in order of importance within a group, based on the strength of the relationship between the covariate and observed nonresponse rates. MSA is metropolitan statistical area.

was less than 20, adjustment cells were broadened by collapsing MSA status.

Due to lack of current census demographic information for USVI, this step was done at the estimation area level with no further adjustment cells used.

Step 3: Adjustment for incomplete presence of children screener

In Q4/2010, additional cell sample was released for NS-CSHCN to augment the NIS cell sample that had been released in Q4/2010. This augmentation sample was asked an additional screener question at the beginning of the interview to determine whether a child lived in the household. This screener question (labeled ''S_KIDS'') was asked in an attempt to reduce the overall screening cost, and was separate from the full age-eligibility screener conducted later in the interview. Therefore, an adjustment for the Q4/2010 cell-augmentation sample ($Aug_{Q4,c}$) was necessary to account for incomplete S_KIDS screener cases. To compensate for this, the weights of the phone numbers from the Q4/2010 cell-augmentation sample with completed S_KIDS screeners were adjusted. The adjusted weight for the k-th number from the t-th source type is derived as follows.

$$W_{3tk} = \frac{W_{2k}}{R_{32\ell}} \quad \text{if } k \in t = 2, C_{Aug,S\_Kids}, Aug_{Q4,c}, \ell$$
$$= W_{2tk} \quad \text{otherwise,}$$

where

$$R_{32\ell} = \frac{\sum_{k \in t, C_{Aug,S\_Kids}, Aug_{Q4,c}} \delta_{32k\ell} W_{2k}}{\sum_{k \in t=2, B_{1r}, Aug_{Q4,c}} \delta_{32k\ell} W_{2k}},$$

$Aug_{Q4,c}$ = subset of phone numbers from the cell-augmentation sample for Q4/2010,

C_{Aug,S_Kids} = set of augmentation cell-phone numbers for Q4/2010 from B_{1Aug} that completes the S_KIDS screener in the state,

B_{1Aug} = set of augmentation cell-phone numbers for the quarter from B_1 that are APCNs in the state, and

$\delta_{32k\ell}$ = 1 if the k-th augmentation cell number is in the ℓ-th cell

= 0 otherwise.

To define the adjustment cells for cell sample within each state, only MSA status associated with the released case was used due to the smaller sample sizes for the cell sample and lesser correlation between exchange and geographic area for cell-phone numbers, relative to landline numbers. The adjustment cells needed to include at least 20 resolved cases to enable stable estimation of the adjustment factor. To achieve this goal when the number of resolved cases was less than 20, adjustment cells were broadened by collapsing MSA status.

For all samples other than the Q4/2010 cell-augmentation sample, the adjustment factor was simply 1 (i.e., no adjustment at this stage).

Step 4: Adjustment for incomplete CPO/M Screener

Some resolved cases in the cell-phone sample did not complete the CPO/M screener. To account for the cases for which the CPO/M status was unknown, the weights of the resolved cell-phone sample cases were adjusted. The adjustment in each cell was made by assuming that the rate of CPO/Ms among screener completed APCNs is the same as the rate of CPO/Ms among those that did not complete the CPO/M screener. Within each state, the adjusted weights were derived as follows.

$$W_{4tk} = \frac{W_{3vk}}{R_{42v\ell}} \quad \text{if } k \in t = 2, v, D_t, \ell$$
$$= W_{31k} \quad \text{otherwise,}$$

where

$$R_{42v\ell} = \frac{\sum_{k \in t,=2v, D_2} \delta_{42k\ell} W_{3vk}}{\sum_{k \in t=2, v, C_{12}} \delta_{42k\ell} W_{3vk}},$$

ν = 2 if the k-th cell number is in $Aug_{Q4,c}$

= 1 otherwise (including for landline phone numbers),

D_t = set of cell-phone numbers for the quarter from the t-th source type in C_{1t} that complete the CPO/M screener in the state,

C_{1t} = set of phone numbers for the quarter from the t-th source type in B_t that are WRNs or APCNs in the state, and, if in $Aug_{Q4,c}$, are also in C_{Aug,S_Kids} (i.e., have yet to screen out), and

$\delta_{42k\ell}$ = 1 if the k-th cell number is in the ℓ-th cell

= 0 otherwise.

To define the adjustment cells for cell sample within each state, the number of call attempts to resolve the phone number (one, or two or more) was used. The adjustment cells needed to include at least 20 resolved cases to enable stable estimation of the adjustment factor. To achieve this goal when the number of resolved cases was less than 20, adjustment cells were broadened by collapsing the number of call attempts.

For this step, the Q4/2010 cell-augmentation sample and Q4/2010 NIS cell sample were treated separately, due to the prescreening on presence of kids for the Q4/2010 cell-augmentation sample.

For all landline and USVI samples, the adjustment factor was simply 1 (i.e., no adjustment at this stage).

Step 5: Adjustment for incomplete age-eligibility screener

Among the resolved landline WRNs and cell-phone CPO/Ms, some sample cases did not complete the age-eligibility screener. For such cases, it was not known if any age-eligible children live in the household. To compensate for this, the weights of the phone numbers from the t-th source type with completed age-eligibility screeners were adjusted. The adjusted weight for the k-th number from the t-th source type is given as:

$$W_{5tk} = \frac{W_{4tvk}}{R_{5tv\ell}} \quad \text{if } k \in t, v, E_t, \ell$$
$$= 0 \quad \text{otherwise,}$$

Table II. Covariates used to create nonresponse adjustment cells for age-eligibility screener within state, by census region and directory-listed status: Landline sample

Sampling area							
Northeast		Midwest		South		West	
Listed	Unlisted	Listed	Unlisted	Listed	Unlisted	Listed	Unlisted
Minority	Minority	MSA Owner	Minority	Minority Income Age	Age	Age Rent	Age

NOTES: Variables are listed in order of importance within a group, based on the strength of the relationship between the covariate and observed nonresponse rates. MSA is metropolitan statistical area.

where

$$R_{5tv\ell} = \frac{\sum_{k\in t,v,E_t} \delta_{5tk\ell} W_{4tvk}}{\sum_{k\in t,v,D_{1t}} \delta_{5tk\ell} W_{4tvk}},$$

E_t = subset of phone numbers for the quarter from the t-th source type in D_{1t} that complete the age-eligibility screener in the state,

D_{1t} = set of landline phone numbers for the quarter that are WRNs (if $t = 1$) or set of cell-phone numbers for the quarterthat are CPO/Ms (if $t = 2$) in the state, and

$\delta_{5tk\ell}$ = 1 if the k-th number from the t-th source type is in the ℓ-th cell

= 0 otherwise.

To define the adjustment cells for the landline sample within each state, the variables listed in Table II were used. The adjustment for age screening was made within state (as opposed to sampling area used for the nonresolution adjustment) due to smaller sample sizes at this stage. Different sets of variables were used for sampling areas in different census regions and by listed status. The variables were identified through an analysis of known variables and nonresponse status. The adjustment cells needed to include at least 20 resolved cases to enable stable estimation of the adjustment factor. To achieve this goal when the number of resolved cases was less than 20, adjustment cells were collapsed by dropping covariates in order of importance, with cells formed by the least important covariates collapsed first, where importance was defined by the strength of the relationship between the covariate and the observed age-eligibility screener completion rate.

To define the adjustment cells for cell sample within each state, the number of call attempts to complete the CPO/M screener (1, 2+) and whether the phone was cell-phone only (CPO) or cell-phone mainly (CPM) were used. The adjustment cells needed to include at least 20 resolved cases to enable stable estimation of the adjustment factor. To achieve this goal when the number of resolved cases was less than 20, adjustment cells were collapsed by dropping covariates (collapsing across call attempts first).

For this step, the Q4/2010 cell-augmentation sample and Q4/2010 NIS cell sample were treated separately, due to the prescreening on presence of kids for the Q4/2010 cell-augmentation sample. After this step, the Q4/2010 cell samples were treated together.

For USVI, this step was done at the estimation area level with no further adjustment cells used.

Step 6: Adjustment for incomplete CSHCN Screener

Among households with age-eligible children, the CSHCN Screener was applied to identify the households with CSHCN. However, not all age-eligible households completed the special-needs screener. To compensate for such nonresponding households, the weights of the phone numbers from the t-th source type with a complete special-needs screener were adjusted. This adjustment was carried out within state. The adjusted weight for the k-th phone number from the t-th source type is given as:

$$W_{6tk} = \frac{W_{5tk}}{R_{6tk\ell}} \quad \text{if } k \in t, F_t, \ell$$
$$= 0 \quad \text{otherwise,}$$

where

$$R_{6tk\ell} = \frac{\sum_{k\in t,F_t} \delta_{6tk\ell} W_{5tk}}{\sum_{k\in t,E_{1t}} \delta_{6tk\ell} W_{5tk}},$$

F_t = set of phone numbers for the quarter from the t-th source type in E_{1t} that complete the special-needs screener in the state,

E_{1t} = set of phone numbers for the quarter from the t-th source type in E_t that reported having age-eligible children in the state, and

$\delta_{6tk\ell}$ = 1 if the k-th number from the t-th source type is in the ℓ-th cell

= 0 otherwise.

To define the adjustment cells for the landline sample within each state, the variables listed in Table III were used. The adjustment for CSHCN screening nonresponse was made within state. Different variables were used for states in different census regions and by listed status. The variables were identified through an analysis of known variables and nonresponse status. The adjustment cells needed to include at least 20 resolved cases to enable stable estimation of the adjustment factor. To achieve this goal when the number of resolved cases was less than 20, adjustment cells were broadened by collapsing the categories of the adjustment cell covariate.

To define the adjustment cells for the cell sample within each state, the

Table III. Covariates used to create nonresponse adjustment cells for CSHCN Screener within state, by census region and directory-listed status: Landline sample

Sampling area							
Northeast		Midwest		South		West	
Listed	Unlisted	Listed	Unlisted	Listed	Unlisted	Listed	Unlisted
Owner	Minority	MSA	MSA	Age	Grad	MSA	Educ

NOTES: CSHCN is children with special health care needs; MSA is metropolitan statistical area.

number of call attempts to complete the age-eligibility screener and to determine whether the phone was CPO or CPM was used. The adjustment cells needed to include at least 20 resolved cases to enable stable estimation of the adjustment factor. To achieve this goal when the number of resolved cases was less than 20, adjustment cells were collapsed by dropping covariates (collapsing across call attempts first).

For USVI, this step was done at the estimation area level with no further adjustment cells used.

Step 7: Adjustment for multiple cell-phone lines

Among the households that completed the CSHCN Screener within the cell-phone sample, some households reported more than one cell-phone number for adult use. An adjustment to the weight was required for these households to compensate for their multiple chances of selection. The adjusted weight for the k-th cell-phone number with a complete CSHCN Screener is defined by

$$W_{7tk} = W_{6tk}/\rho_{k,c},$$

where

$\rho'_{k,c}$ = number of cell-phone numbers for adult use reported by the k-th cell-phone number with a completed CSHCN Screener, and

$\rho_{k,c}$ = min (3, $\rho'_{k,c}$).

The number of adult cell-phone lines was capped at three for purposes of the weight adjustment, both to control variability and to guard against reporting bias.

For all landline and USVI sample, the adjustment factor was simply 1 (i.e., no adjustment at this stage).

Step 8: Derivation of full-sample household weights

In this step, all quarterly samples were combined, separately for the landline and cell samples, and the quarterly base weights were adjusted so that the samples from all quarters jointly represented the corresponding full population. Because the base weights were calculated for each quarter separately, the sum of base weights in each quarter represents the full population for each state. As only 2 quarters of data were collected for the cell sample, full-sample household weights were derived separately by sample source. Typically, the full-sample weights are computed from quarterly weights by applying composition factors proportional to the number of released sample phone numbers in a quarter. Given that augmentation sampling yielded variability in base weights for both landline and cell samples, sample sizes were adjusted by the design effect (DEFF) to reflect effective sample sizes. The full household weights can be expressed as:

$$W_{8tk} = \frac{W_{7tk}}{R_{8tk}} \quad \text{if } k \in t,q,$$

where

$$R_{8tk} = \frac{\sum_{q'=1}^{6} \frac{n_{1q'}}{DEFF_{1q'}}}{\frac{n_{1q}}{DEFF_{1q}}} \quad \text{for } t = 1,$$

$$\frac{\sum_{q'=1}^{2} \frac{n_{2q'}}{DEFF_{2q'}}}{\frac{n_{2q}}{DEFF_{2q}}} \quad \text{for } t = 2,$$

$$\frac{\sum_{q'=1}^{2} \frac{n_{1q'}}{DEFF_{1q'}}}{\frac{n_{1q}}{DEFF_{1q}}} \quad \text{for } t = 1 \text{ and } k \in \text{USVI},$$

n_{tq} = number of households from the t-th source type with a complete CSHCN Screener in quarter q in the state, and

$DEFF_{tq}$ = DEFF from the t-th source type in quarter q in the state

$$= \frac{\sum_{k \in t,q} W_{7tk}^2}{n_{tq}\left(\frac{\sum_{k \in t,q} W_{7tk}}{n_{tq}}\right)^2}.$$

Step 9: Adjustment for combined landline and cell-phone samples and for noncovered populations

The full-sample household weights (W_{8tk}) with a complete CSHCN Screener were adjusted to accomplish four goals:

- Adjustment for noncoverage of age-eligible children
- Adjustment for overlap of the landline and cell-phone samples
- Attenuation of cell sample weights to minimize variance while controlling for bias
- Adjustment to residual landline population controls

Adjustment for noncoverage of age-eligible children—A Keeter adjustment (27) was carried out to adjust weights to account for households with children not covered by the combined landline and cell-phone samples (i.e., phoneless households). In the Keeter adjustment, weights for landline households with an interruption in phone service are adjusted to represent phoneless households with children. The method is based on empirical evidence suggesting that phoneless households are more similar to landline households with an interruption in phone service than to landline households without an

interruption in service (27,28). This adjustment is given as:

$$\hat{Y}_{NP} = \omega \hat{Y}_{LL(Int)},$$

where

ω = adjustment factor, and

$\hat{Y}_{LL(Int)}$ = estimated prevalence of households with one or more CSHCN based on sample households from the landline sampling frame in a household with a service interruption, and for which a household interview was completed.

The adjustment factor can be expressed as:

$$\omega_{LL(Int)} = \frac{N_{NP}}{\sum_{k \epsilon LL(Int)} W_{8k}},$$

where

N_{NP} = population control [from the American Community Survey ACS)] for phoneless households with children.

The adjusted weights for landline sample households with a phone service interruption, controlled to the total population of phoneless households with children, can then be expressed as:

$$W_{9k} = \omega_{LL(Int)} W_{8k} \quad \text{if } k \in LL(Int).$$

Adjustment for overlap of the landline and cell-phone samples—The landline and cell-phone samples, while selected from distinct sampling frames, partially overlap in their coverage of the population. The landline sample includes dual landline and cell-phone households, while the cell-phone sample includes dual landline and cell-phone households self-identifying as CPM (that is, they said they were unlikely to be reached through their landline). Thus, survey weights for dual landline and cell-phone cases from the two sampling frames must be adjusted to account for this overlap. For purposes of weighting, CPM cases will be treated as cell-mostly, as the majority of CPM cases are also self-identified as being cell-mostly (that is, they said that they received all or almost all calls on their cell phone). However, CPM sample cases will be assumed biased when estimating for the cell-mostly population.

The sum of the weights for the landline sample (which estimates the number of landline households with children) and the sum for the cell-phone sample (which estimates the number of cell-phone households with children) both include some dual landline and cell-phone households that are cell-mostly. Thus, when combining the landline and cell samples, the annualized weights for cell-mostly households must be adjusted so the sum of the adjusted weights across landline and cell-phone samples provides an appropriate estimate of cell-mostly households. This adjustment is given as:

$$\hat{Y}_{(CM)} = \lambda \hat{Y}_{CP(CM)} + (1 \sim \lambda) \hat{Y}_{LL(CM)},$$

where

λ = adjustment factor,

$\hat{Y}_{CP(CM)}$ = estimated prevalence of households with one or more CSHCN based on sample households from the cell-phone sampling frame that are CPM, and for which a household interview was completed, and

$\hat{Y}_{LL(CM)}$ = estimated prevalence of households with one or more CSHCN based on sample households from the landline sampling frame that are cell-mostly, and for which a household interview was completed.

The composite adjustment factor is derived based upon the variance and bias associated with the component estimates. The resulting adjusted survey weights yield minimum mean-squared error estimates. The adjustment factor can be expressed as:

$$\lambda = \frac{\text{var}(\hat{Y}_{LL(CM)})}{\text{var}(\hat{Y}_{CP(CM)}) + [bias(\hat{Y}_{CP(CM)})]^2 + \text{var}(\hat{Y}_{LL(CM)})},$$

where

$bias(\hat{Y}_{CP(CM)}) = (\hat{Y}_{CP(CM)}) - (\hat{Y}_{LL(CM)})$ = estimated bias in prevalence of households with one or more CSHCN associated with CPM sample cases, relative to cell-mostly cases from the landline sampling frame.

The adjusted weights for cell-mostly sample cases, controlled to the total population of cell-mostly households with a child, can then be expressed as:

$$W_{9k} = \begin{cases} \frac{N_{CM}}{\sum_{k \epsilon CP(CM)} W_{8k}} \lambda W_{8k} & \text{if } k \epsilon\ CP(CM) \\ \frac{N_{CM}}{\sum_{k \epsilon LL(CM)} W_{8k}} (1 - \lambda) W_{8k} & \text{if } k \in LL(CM) \end{cases},$$

where

N_{CM} = population control calculated by the National Center for Health Statistics (NCHS) for cell-mostly households with children (30).

Attenuation of cell sample weights to minimize variance while controlling for bias—Given larger base weights for the cell-phone sample, variability associated with the CPO portion of estimates will tend to be large, and thus adversely affect the precision of the overall estimates. Attenuating the CPO sample weights would serve to decrease variability; however, this requires increasing the weight associated with other sample cases, which can increase bias.

Attenuation of the CPO sample weights was achieved by compositing the CPO sample with landline sample cases deemed ''similar'' to CPO sample cases, to represent the full CPO population. Landline sample cases predicted as having a relatively large likelihood of being similar to CPO served as proxy CPO sample cases to be weighted along with true CPO sample cases to represent the total CPO population. The predicted probability for a landline sample case being similar to CPO is determined using parameters estimated from a logistic regression model for predicting CPO status run on the full set of dual-frame sample cases (i.e., both landline and cell), and including both sociodemographic characteristics and CSHCN interview variables. As CSHCN interview variables were included in the logistic regression model, the identified proxy CPO sample cases should have low bias relative to the true CPO sample cases.

A child's proxy CPO propensity is the predicted probability that the child reflects the characteristics of a child in a CPO household, calculated from a logistic regression model. Two separate models were estimated—one based on the data at the household level for all sample cases with a completed household interview, and one based on the data from special-needs children. The list of potential predictor variables for the first model is based upon variables available from the household interview, whereas the list of potential predictor variables for the second model is based upon variables available from both the household interview and the special-needs interview. The propensity-based identification of proxy CPO sample cases can be expressed as follows:

Model 1: Let E' denote the national sample of completed household interviews. Consider the indicator variable

Y_j = 1 if the j-th child is in a CPO household

= 0 otherwise,

and fit a (stepwise) logistic regression model to the probability $P(Y_j = 1|j)$, using the selected predictor variables. The model was estimated at the national level using all children in E'. Once the final model was identified, the predicted values (or response propensities) were computed:

$$\hat{p}_{1j} = \frac{e^{x_{1j}\hat{\beta}_1}}{1 + e^{x_{1j}\hat{\beta}_1}},$$

where for the j-th observation, x_{1j} is the row vector of covariates, and $\hat{\beta}_1$ is the column vector of estimated coefficients.

Model 2: Let F' denote the national sample of special-needs children. Consider the indicator variable

Z_j = 1 if the j-th child is in a CPO household

= 0 otherwise,

and fit a (stepwise) logistic regression model to the probability $P(Z_j = 1|j)$, using the selected predictor variables. The model was estimated at the national level using all children in F'. Once the final model was identified, the predicted values (or response propensities) were computed:

$$\hat{p}_{2j} = \frac{e^{x_{2j}\hat{\beta}_2}}{1 + e^{x_{2j}\hat{\beta}_2}},$$

where for the j-th observation, x_{2j} is the row vector of covariates, and $\hat{\beta}_2$ is the column vector of estimated coefficients.

Values $\hat{p}_{2j}$ were used for sample special-needs children, whereas values $\hat{p}_{1j}$ were used for sample cases with completed household interviews, but for which a special-needs child interview was not completed.

Landline sample cases for which $\hat{p}_{1j}(\hat{p}_{2j})$ exceeded the threshold value 0.2 were designated as ''proxy'' CPO cases. The threshold value was defined so as to provide a sufficient sample size of proxy CPO cases to have a positive impact in terms of reducing the variance of survey estimates while controlling the adverse impact of survey estimate bias.

Compositing of the survey weights for the true and proxy CPO sample cases was carried out analogous to the process described above, wherein the composite adjustment factor was derived based upon the variance and bias associated with the component estimates. The resulting adjusted survey weights yielded minimum mean-squared error estimates. This adjustment is given as:

$$\hat{Y}_{CPO} = \kappa\hat{Y}_{CPO(\text{True})} + (1 - \kappa)\hat{Y}_{CPO(\text{Proxy})},$$

where

κ = adjustment factor,

$\hat{Y}_{CPO(\text{True})}$ = estimated prevalence of households with one or more CSHCN based on sample CPO households for which a household interview was completed, and

$\hat{Y}_{CPO(\text{Proxy})}$ = estimated prevalence of households with one or more CSHCN based on sample proxy CPO households for which a household interview was completed.

The adjustment factor can be expressed as:

$$\kappa = \frac{\text{var}(\hat{Y}_{CPO(\text{Proxy})}) + [bias(\hat{Y}_{CPO(Proxy)})]^2}{\text{var}(\hat{Y}_{CPO(\text{True})}) + \text{var}(\hat{Y}_{CPO(\text{Proxy})}) + [bias(\hat{Y}_{CPO(\text{Proxy})})]^2},$$

where

$bias(\hat{Y}_{CPO(\text{Proxy})}) = \hat{Y}_{CPO(\text{Proxy})} - \hat{Y}_{CPO(\text{True})}$ = estimated bias associated with proxy CPO sample cases.

The adjusted weights for true CPO and proxy CPO sample cases, controlled to the total population of CPO households with children, can then be expressed as:

$$W_{9k} = \begin{cases} \dfrac{N_{CPO}}{\sum_{k\epsilon CPO(\text{True})} W_{8k}} \kappa W_{8k} \text{ if } k\epsilon CPO(\text{True}) \\ \dfrac{N_{CPO}}{\sum_{k\epsilon CPO(\text{True})} W_{8k}} (1 - \kappa) W_{8k} \text{ if } k\epsilon CPO(\text{Proxy}) \end{cases},$$

where

N_{CPO} = population control calculated by NCHS for CPO households with children (30).

Adjustment to residual landline population controls—A ratio adjustment was carried out to adjust weights to population controls for the residual set of landline households with children. Separate adjustments were carried out for landline-only households and for combined landline-mostly and landline-cell-mixed households. These adjustments can be expressed as:

$$\hat{Y}_{LLO} = \psi\hat{Y}_{LLO}$$

$$\hat{Y}_{LLM} = \tau\hat{Y}_{LLM},$$

where

ψ = landline-only adjustment factor,

τ = combined landline-mostly and landline-cell-mixed adjustment factor,

$\hat{Y}_{LLO}$ = estimated prevalence of households with one or more CSHCN based on sample landline-only households, and for which a household interview was completed, and

$\hat{Y}_{LLM}$ = estimated prevalence of households with one or more CSHCN based on combined sample landline-mostly and landline-cell-mixed households from the landline sampling

frame, and for which a household interview was completed.

The adjustment factor can be expressed as:

$$\psi_{LLO} = \frac{N_{LLO}}{\sum_{K \epsilon LLO} W_{7k}}$$

$$\tau_{LLM} = \frac{N_{LLO}}{\sum_{K \epsilon LLM} W_{7k}},$$

where

N_{LLO} = population control calculated by NCHS for landline-only households with children (30), and

N_{LLM} = population control calculated by NCHS for combined landline-mostly and landline-cell-mixed households with children (30).

The weights for landline-only sample households were adjusted so that the sum of the weights agreed with the total population of landline-only households with children, and the weights for the combined landline-mostly and landline-cell-mixed sample households were adjusted so that the sum agreed with the total population of combined landline-mostly and landline-cell-mixed households with children. This adjustment can be expressed as:

$$W_{8k} = \psi_{LLO} W_{7k}, k \epsilon \, LLO$$

$$W_{8k} = \tau_{LLM} W_{7k}, k \epsilon \, LLM.$$

Adjustment for USVI—A Keeter adjustment was not possible for USVI, as there was no current accurate information on the number of children in phoneless households. Additionally, because there was no cell-phone sample fielded in USVI, there was no need for the above steps to be applied. Therefore, this adjustment was carried out within five mutually exclusive income categories (income is correlated with whether a household has a phone). The adjustment can be expressed as:

$$W_{9k} = \frac{W_{8k}}{R_{9k}} \quad \text{if } k \epsilon \textit{ U.S. Virgin Islands}$$
$$= 0 \quad \text{otherwise,}$$

where

$$R_{9k} = \frac{PCT_{9l}}{\sum_{k \epsilon \, U.S.VirginIslands} \delta_{9k\ell} W_{8k}},$$

PCT_{9l} = population control total of all children in USVI within the l-th adjustment cell, and

$\delta_{9k\ell}$ = 1 if the k-th number is in the l-th adjustment cell

= 0 otherwise.

Step 10: Raking adjustment of household weights

The combined landline and cell sample weights (W_{9k}) were raked within state such that the sums of the weights at the household level agreed with the control totals in each category of each margin used for raking. The required demographic control totals were obtained from the 2009 ACS data, and the required telephone status control totals were calculated by NCHS (29). The raking adjustments within each state and DC were made using the following margins and categories:

- Number of households with children in each of five nonoverlapping race and ethnicity categories
- Number of households with one child, two children, and three or more children
- Number of households with children that have a household income in each of five nonoverlapping categories
- Number of households with children in which the highest reported education is in each of three nonoverlapping categories
- Number of households owning their housing unit, number of households renting their housing unit, and number of households that neither own nor rent their housing unit (other arrangement)
- Age of oldest adult in household
- Number of households by phone status: CPO, cell mostly, combined landline mostly and landline-cell-mixed, landline only, and phoneless (this dimension was not used for USVI)

The categories of raking dimensions were collapsed where the number of cases was small (less than 40) or if there was any difficulty in raking convergence. In some cases, the values of the raking variables mentioned above may be missing. The missing values for all these variables were imputed using weighted sequential hot deck imputation after forming appropriate imputation classes.

To allow for raking to phone status, the combined landline and cell-phone sample weights were decomposed into respective component weights for each phone status. This was not applied to the USVI sample because there was no cell-phone sample.

The raked weight for the k-th household is

$$W_{10k} = R_{10k} W_{9k} \quad \text{if } k \epsilon F$$
$$= 0 \quad \text{otherwise,}$$

where R_{10k} is the raking adjustment factor for the k-th household, which is determined iteratively, and F is the set of all phone numbers that complete the CSHCN Screener as defined above.

At this stage, the weights were checked, and all extreme weights were trimmed to avoid any undue influence on the variances of the estimates. Any weight greater than the median plus 6 times the interquartile range of the weights within a given state was identified as an extreme weight and truncated to this cutoff value. The raking adjustment was rerun after truncating the extreme weights. The process of truncation and raking adjustment was repeated a few times to ensure that no weight was greater than the trimming cutoff value within a state.

The raked household weight is the final weight to be used for obtaining all household-level estimates. Summary statistics of the household weight by state are presented in Table IV.

The next step in weighting shifted to the child level. The base child-level weight is the same as the corresponding raked-household weight.

Step 11: Raking adjustment of child weights

Because all children within households that completed the CSHCN Screener are included for the child-level analysis, the base child-screener weight

Table IV. Summary statistics for household weights, by state

State	Unweighted sample size	Minimum weight	Maximum weight	Mean weight	Median weight	Sum of weights
Alabama	3,458	19.9	1,294.2	174.0	129.1	601,595
Alaska	4,865	3.5	224.8	18.5	13.8	90,117
Arizona	4,047	12.0	2,361.4	190.0	118.9	768,997
Arkansas	3,331	15.4	1,129.0	114.0	90.0	379,938
California	5,502	4.4	13,295.8	829.7	626.3	4,564,987
Colorado	3,844	7.8	1,597.5	161.9	99.1	622,469
Connecticut	3,681	13.9	818.5	124.4	93.9	458,015
Delaware	3,584	0.5	285.9	30.1	22.0	108,054
District of Columbia	3,879	1.0	346.1	13.6	8.7	52,817
Florida	4,507	11.4	2,950.8	455.0	365.7	2,050,529
Georgia	3,812	15.0	1,783.9	333.2	246.2	1,270,309
Hawaii	5,130	5.6	754.2	30.8	23.8	158,178
Idaho	3,802	5.0	424.9	54.3	35.0	206,431
Illinois	4,466	13.9	2,834.1	360.6	275.8	1,610,525
Indiana	3,499	20.2	1,346.6	236.1	184.4	826,116
Iowa	3,939	6.1	571.3	96.3	71.2	379,387
Kansas	3,343	7.6	2,118.9	106.8	86.6	356,873
Kentucky	3,228	33.8	2,755.2	175.6	105.0	566,780
Louisiana	3,335	20.6	1,742.9	173.9	127.8	580,107
Maine	3,392	7.6	325.0	46.2	32.8	156,663
Maryland	4,004	5.0	1,669.1	177.3	130.3	710,062
Massachusetts	3,545	7.4	1,201.0	215.4	160.5	763,665
Michigan	3,222	34.2	3,209.4	381.6	242.9	1,229,491
Minnesota	3,828	8.3	1,062.7	172.9	136.1	661,877
Mississippi	3,678	9.8	842.0	107.5	81.1	395,317
Missouri	3,444	10.3	1,444.6	220.2	166.0	758,252
Montana	4,057	2.2	315.0	25.8	11.7	104,514
Nebraska	3,706	6.5	621.3	60.7	44.5	224,848
Nevada	4,479	3.2	1,030.1	74.8	40.9	335,017
New Hampshire	3,354	8.5	394.5	47.4	40.6	159,017
New Jersey	4,328	9.7	1,781.3	254.6	187.9	1,101,837
New Mexico	3,769	6.0	1,088.4	67.0	41.7	252,395
New York	4,592	9.8	3,322.5	505.1	437.4	2,319,317
North Carolina	3,698	10.1	2,494.5	327.0	220.8	1,209,307
North Dakota	3,886	2.9	230.7	19.3	13.8	74,851
Ohio	3,596	23.5	1,995.5	398.1	324.8	1,431,605
Oklahoma	3,166	30.6	2,388.8	153.3	106.9	485,289
Oregon	4,065	5.9	2,104.2	110.9	79.5	450,709
Pennsylvania	3,667	7.3	3,279.1	404.8	310.6	1,484,393
Rhode Island	3,390	8.5	208.5	37.2	26.3	126,024
South Carolina	3,625	18.4	2,612.8	155.8	85.2	564,865
South Dakota	4,248	2.0	457.3	24.0	10.8	101,765
Tennessee	3,749	15.5	2,072.4	216.6	167.4	811,906
Texas	4,726	3.4	5,669.6	703.3	543.0	3,323,650
Utah	3,693	17.5	1,046.4	100.6	73.4	371,469
Vermont	3,608	3.7	456.6	20.6	15.1	74,368
Virginia	3,906	4.9	4,220.2	254.8	188.2	995,413
Washington	3,722	5.7	2,143.1	219.3	155.3	816,380
West Virginia	3,344	14.9	597.0	63.7	46.6	212,944
Wisconsin	3,582	7.3	2,536.3	200.8	141.6	719,316
Wyoming	3,838	1.3	191.1	17.5	10.1	67,031

is the same as the final household weight. This weight was assigned to each child in the screened households. The weights were adjusted within state such that the sum of the weights agreed with the control totals in various categories of the following margins within each state and DC:

- Number of male and female children in each of five nonoverlapping age groups
- Number of children in each of five nonoverlapping race and ethnicity categories
- Number of children in one-child households, two-child households, and three-plus child households
- Number of children in households that have a household income in each of five nonoverlapping categories
- Number of children in households in which the highest reported education of parents is in each of three nonoverlapping categories
- Number of children in owner-occupied households, renter-occupied households, and number of children that are neither in owner- nor renter-occupied households (other arrangement)
- Number of children in households by phone status: CPO, cell mostly, combined landline mostly and landline-cell-mixed, landline only,

and phoneless (this dimension was not used for the USVI sample)

The control totals for the categories of the above margins were obtained from the 2009 ACS and the National Health Interview Survey (30). The categories of raking dimensions were collapsed where the number of cases was small (less than 40) or if there was any difficulty in raking convergence.

As with the household raking step, the weights were decomposed into respective component weights for each phone status. This did not apply to the USVI.

The raked weight for the j-th child ($j \in k$) can be expressed as

$$W_{11j} = R_{11j} W_{10k} \quad \text{if } j \in G, k$$
$$= 0 \quad \text{otherwise,}$$

where R_{11j} is the raking adjustment factor for the j-th child, and G is the set of children in households F (i.e., the households that complete the CSHCN Screener).

At this stage, the weights were checked, and all extreme weights were trimmed to avoid any undue influence on the variances of the estimates. Any weight greater than the median plus 6 times the interquartile range of the weights within a given state was identified as an extreme weight and truncated to this cutoff value. The raking adjustment was rerun after truncating the extreme weights. The process of truncation and raking adjustment was repeated a few times to ensure that no weight was greater than the trimming cutoff value within a state.

The raked child weight is the final weight for all screener-level tabulations, including the estimation of the proportion of children with special health care needs. Summary statistics of the child-level screener weight by state are presented in Table V.

The remaining steps in weighting deal with child weights for analysis of the CSHCN interview file.

Step 12: Adjustment for subsampling of children with special care needs

In the households with more than one child with special health care needs, only one child was selected randomly per household for the NS-CSHCN interview. The child-screener weights were adjusted to account for the CSHCN who were not selected. The subsampling weight for the k-th child is defined by

$$W_{12j} = n_{kk} W_{11j} \quad \text{if } j \in H$$
$$= 0 \quad \text{otherwise,}$$

where

H = subset of children in G that is subsampled for CSHCN interview,

n_k^* = the number of CSHCN in household k where $j \in k$, and

n_k = $\min(3, n_k^*)$.

The factor to adjust for the number of special-needs children in a household is capped at three to control variability. This is the basic child-level weight for the CSHCN interview.

Step 13: Adjustment for nonresponse to the CSHCN interview

Not all households with children subsampled for the detailed CSHCN interview completed the interview. The base child-interview weight assigned to a household responding to the detailed interview was adjusted for the nonresponse of other subsampled children. The adjustment was made by forming nonresponse-adjustment cells. The adjusted weight for the j-th child is

$$W_{13j} = \frac{W_{12j}}{R_{13q}} \quad \text{if } j \in I, \ell$$
$$= 0 \quad \text{otherwise,}$$

where

$$R_{13q} = \frac{\sum_{j \in I} \delta_{13j\ell} W_{12k}}{\sum_{j \in H} \delta_{13j\ell} W_{12k}},$$

I = subset of all children in H that complete the CSHCN interview, and

$\delta_{13j\ell}$ = 1 if the j-th number is in the l-th adjustment cell

= 0 otherwise.

The adjustment cells were formed by using the following variables: household income, mother's education, child's age group, and number of children with special needs (listed here in order of importance, as defined by the survey goals and objectives).

After forming the cells initially, any cell with less than 20 responding records was collapsed with a neighboring cell.

Step 14: Optimized combined landline and cell-phone sample weights

The CSHCN interview nonresponse-adjusted weights were reoptimized to account for the combination of landline and cell-phone samples prior to final raking ratio adjustments. Optimization applied to the CPO and cell-mostly populations, and was carried out in an analogous manner to that described above. CSHCN interview nonresponse-adjusted weights for the combined landline-mostly and landline-cell-mixed, landline-only, and phoneless populations, as well as the USVI sample do not need further reoptimization because they consist of only landline sample cases.

Adjustment for overlap of the landline and cell-phone samples—The CSHCN interview nonresponse-adjusted weights for children in cell-mostly households were adjusted so the sum of the adjusted weights across landline and cell-phone samples provided a mean-squared error (MSE) estimate for children in cell-mostly households. This adjustment can be expressed as:

$$\hat{Y}_{2,CM} = \lambda_2 \hat{Y}_{2,CP(CM)} + (1 - \lambda_2) \hat{Y}_{2,LL(CM)},$$

where

λ_2 = adjustment factor,

$\hat{Y}_{2,CP(CM)}$ = estimate based on sample CSHCN from the cell-phone sampling frame that are CPM, and for which a CSHCN interview was completed, and

$\hat{Y}_{LL(CM)}$ = estimate based on sample CSHCN from the landline sampling frame that are cell-mostly, and for which a

Table V. Summary statistics for child-level screener weights, by state

State	Unweighted sample size	Minimum weight	Maximum weight	Mean weight	Median weight	Sum of weights
Alabama	6,223	19.4	1,311.6	180.6	136.9	1,123,910
Alaska	9,859	3.2	252.2	18.6	13.9	183,305
Arizona	7,996	11.3	2,915.8	216.3	133.3	1,729,157
Arkansas	6,120	14.1	1,022.1	115.5	89.4	706,698
California	10,282	3.5	12,119.1	916.1	667.2	9,419,433
Colorado	7,320	8.7	2,045.6	167.3	99.8	1,224,749
Connecticut	6,714	13.2	766.1	120.2	90.5	806,847
Delaware	6,513	0.5	367.1	31.8	23.1	206,826
District of Columbia	6,583	1.0	423.7	17.3	11.2	113,627
Florida	8,085	12.3	3,723.8	500.9	395.7	4,049,599
Georgia	7,083	17.3	2,081.8	364.0	271.2	2,578,088
Hawaii	9,670	0.5	657.1	29.6	22.8	285,765
Idaho	8,334	4.4	524.2	50.2	32.1	418,093
Illinois	8,378	13.2	3,668.7	377.7	283.3	3,164,009
Indiana	6,719	17.6	1,475.7	235.6	186.5	1,582,790
Iowa	7,785	6.2	599.0	90.9	68.2	707,428
Kansas	6,587	6.0	2,953.6	106.2	83.9	699,378
Kentucky	5,878	29.7	2,685.3	172.8	100.2	1,015,973
Louisiana	6,065	14.5	1,966.8	184.7	133.5	1,120,314
Maine	6,093	7.1	280.8	44.9	31.8	273,494
Maryland	7,186	4.3	2,565.6	187.5	134.1	1,347,295
Massachusetts	6,437	8.0	1,795.6	222.2	164.1	1,430,569
Michigan	6,254	29.2	4,268.6	374.6	235.9	2,342,750
Minnesota	7,461	7.7	1,263.9	168.3	129.5	1,255,656
Mississippi	6,817	9.4	1,006.1	112.0	85.0	763,785
Missouri	6,485	9.8	1,614.3	220.1	162.1	1,427,638
Montana	7,931	1.7	324.2	27.6	11.4	218,997
Nebraska	7,453	5.9	633.2	59.7	44.6	445,125
Nevada	8,690	3.0	1,418.3	78.5	63.7	681,986
New Hampshire	6,072	3.9	354.6	47.3	39.8	287,072
New Jersey	7,907	9.8	1,752.1	258.4	185.7	2,043,054
New Mexico	7,363	5.3	1,197.6	69.7	44.0	512,992
New York	8,357	10.9	3,566.0	528.2	440.1	4,413,782
North Carolina	6,623	9.2	2,901.3	342.7	233.0	2,269,536
North Dakota	7,748	1.8	255.5	18.3	13.3	141,694
Ohio	6,793	23.8	2,490.2	398.9	313.2	2,709,474
Oklahoma	6,258	20.2	2,689.2	146.9	103.7	919,513
Oregon	7,619	6.0	2,196.2	114.4	83.7	871,811
Pennsylvania	6,771	8.1	3,950.7	408.2	314.5	2,763,882
Rhode Island	6,135	10.0	253.0	36.9	25.7	226,543
South Carolina	6,604	11.9	2,723.9	163.0	89.6	1,076,481
South Dakota	8,634	1.6	502.1	22.6	10.1	195,331
Tennessee	6,865	15.4	2,354.2	216.6	168.6	1,486,883
Texas	9,127	2.7	6,283.0”	753.5	583.8	6,877,220
Utah	8,932	19.0	1,120.4	97.0	68.5	866,203
Vermont	6,429	3.7	466.4	19.8	14.9	127,219
Virginia	6,947	4.9	4,470.2	265.4	192.9	1,844,002
Washington	7,051	6.7	2,519.2	222.6	157.5	1,569,516
West Virginia	5,915	11.5	774.2	64.7	46.6	382,630
Wisconsin	6,861	6.9	3,281.7	189.7	133.9	1,301,826
Wyoming	7,605	0.9	199.3	16.9	9.6	128,627

CSHCN interview was completed.

The composite adjustment factor was derived based upon the variance and bias associated with the component estimates. The resulting adjusted survey weights yielded minimum MSE estimates. The adjustment factor can be expressed as:

$$\lambda_2 = \frac{\text{var}(\hat{Y}_{2,LL(CM)})}{\text{var}(\hat{Y}_{2,CP(CM)}) + [bias(\hat{Y}_{2CP(CM)})]^2 + \text{var}(\hat{Y}_{2,CP(CM)})},$$

where

$bias(\hat{Y}_{2,CP(CM)}) = \hat{Y}_{2,CP(CM)} - \hat{Y}_{2,LL(CM)} =$ estimated bias associated with CSHCN from CPM sample cases, relative to CSHCN from cell-mostly cases from the landline sampling frame.

The adjusted weights for CPM sample cases, controlled to the total

population of cell-mostly households with a child, can then be expressed as:

$$W_{14j} = \begin{cases} \dfrac{N_{CM}}{\sum_{j \in CP(CM)} W_{13j}} \lambda_2 W_{13j}, & j \in CP(CM) \\ \dfrac{N_{CM}}{\sum_{j \in LL(CM)} W_{13j}} (1-\lambda_2) W_{13j}, & j \in LL(CM) \end{cases},$$

where

N_{CM} = population control for CSHCN in cell-mostly households calculated from the screener file.

Attenuation of cell sample weights to minimize variance while controlling for bias—The CSHCN interview nonresponse adjusted weights for children in CPO households and children in proxy CPO households were adjusted so the sum of the adjusted weights across landline and cell-phone samples provided an MSE estimate for children in CPO households. This adjustment can be expressed as:

$$\hat{Y}_{2,CPO} = \kappa_2 \hat{Y}_{2,CPO(\text{True})} + (1-\kappa_2)\hat{Y}_{2,CPO(\text{Proxy})},$$

where

κ_2 = adjustment factor,

$\hat{Y}_{2,CPO(\text{True})}$ = estimated prevalence of households with one or more CSHCN based on sample CPO households for which a household interview was completed, and

$\hat{Y}_{2,CPO(\text{Proxy})}$ = estimated prevalence of households with one or more CSHCN based on sample proxy CPO households for which a household interview was completed.

The adjustment factor can be expressed as:

$$\kappa_2 = \frac{\text{var}(\hat{Y}_{2,CPO(\text{Proxy})}) + [bias(\hat{Y}_{2,CPO(\text{Proxy})})]^2}{\text{var}(\hat{Y}_{2,CPO(\text{True})}) + \text{var}(\hat{Y}_{2CPO(\text{Proxy})}) + [bias(\hat{Y}_{2,CPO(\text{Proxy})})]^2},$$

where

$bias(\hat{Y}_{2,CPO(\text{Proxy})} = \hat{Y}_{2,CPO(\text{Proxy})} - \hat{Y}_{2,CPO(\text{True})}$ = estimated bias associated with proxy CPO sample cases.

The adjusted weights for true CPO and proxy CPO sample cases, controlled to the total population of CPO households with children, can then be expressed as:

$$W_{14j} = \begin{cases} \dfrac{N_{CPO}}{\sum_{j \in CPO(\text{True})} W_{13k}} \kappa_2 W_{13j}, & j \in CPO(\text{True}) \\ \dfrac{N_{CM}}{\sum_{j \in CPO(\text{True})} W_{13k}} (1-\kappa_2) W_{13j}, & j \in CPO(\text{Proxy}) \end{cases},$$

where

N_{CPO} = population control for CSHCN in CPO households, calculated from the screener file.

Step 15: Raking adjustment of nonresponse-adjusted weights

The optimized NS-CSHCN child weight was further adjusted such that the weighted number of CSHCN based on the final child-interview weight was the same as the weighted number of CSHCN based on the subsampling weight. The adjustment is made by various categories of the following margins within each state and DC:

- Number of male and female CSHCN in each of five nonoverlapping age groups
- Number of CSHCN in each of five nonoverlapping race and ethnicity categories
- Number of CSHCN in one-child households, two-children households, and three-plus-children households
- Number of CSHCN in households that have a household income in each of five nonoverlapping categories
- Number of CSHCN in households in which the highest reported education of parents is in each of three nonoverlapping categories
- Number of CSHCN in owner-occupied households, renter-occupied households, and number of CSHCN children that are neither in owner- nor renter-occupied households (other arrangement)
- Number of CSHCN in households by phone status: CPO, cell mostly, combined landline mostly and landline-or-cell-mixed, landline only, and phoneless (this dimension was not used for the USVI sample)

The categories of raking dimensions were collapsed where the number of cases was small (less than 20) or if there was any difficulty in raking convergence.

The raked weight of the j-th child is

$$\begin{aligned} W_{15j} &= R_{15j} W_{14j} && \text{if } j \in I \\ &= 0 && \text{otherwise,} \end{aligned}$$

where R_{15j} is the raking adjustment factor for the j-th child.

At this stage, the weights were checked, and all extreme weights were trimmed to avoid any undue influence on the variances of the estimates. Any weight greater than the median plus 6 times the interquartile range of the weights within a given state was identified as an extreme weight and truncated to this cutoff value. The raking adjustment was rerun after truncating the extreme weights. The process of truncation and raking adjustment was repeated a few times to ensure that no weight was greater than the trimming cutoff value within a state.

This raked child weight is the final weight for all estimation and analysis for CSHCN based on the interview file. Summary statistics of the child-interview weight by state are presented in Table VI.

Table VI. Summary statistics for child-level interview weights, by state

State	Unweighted sample size	Minimum weight	Maximum weight	Mean weight	Median weight	Sum of weights
Alabama	784	55.7	1,792.9	253.4	192.0	198,672
Alaska	775	4.9	162.7	25.2	17.7	19,567
Arizona	789	31.0	2,610.8	297.0	209.7	234,359
Arkansas	785	15.9	1,701.0	175.0	113.7	137,351
California	823	28.3	9,524.2	1,206.7	926.0	993,124
Colorado	773	8.0	2,681.7	215.9	137.8	166,912
Connecticut	784	26.4	1,661.7	176.3	124.3	138,253
Delaware	781	1.1	366.0	45.9	32.1	35,832
District of Columbia	751	2.2	204.4	24.6	14.7	18,505
Florida	864	36.0	5,210.0	698.9	507.8	603,866
Georgia	817	88.3	4,542.7	497.9	352.2	406,745
Hawaii	791	0.5	332.3	43.7	33.4	34,591
Idaho	776	8.3	533.6	68.0	43.0	52,770
Illinois	793	16.4	8,502.4	564.4	376.4	447,578
Indiana	777	21.4	1,991.1	340.7	253.2	264,750
Iowa	798	13.4	1,150.1	130.7	94.1	104,295
Kansas	787	22.2	1,492.3	153.0	108.3	120,445
Kentucky	790	41.1	2,017.4	247.6	168.2	195,571
Louisiana	774	43.1	2,140.4	266.7	200.8	206,405
Maine	774	9.1	592.6	68.4	44.7	52,925
Maryland	804	6.9	1,893.9	261.1	175.1	209,939
Massachusetts	788	13.9	3,291.1	328.3	234.3	258,686
Michigan	787	10.9	7,207.9	537.4	354.0	422,922
Minnesota	776	6.0	1,365.3	229.1	166.4	177,783
Mississippi	767	12.7	1,148.4	160.7	121.0	123,238
Missouri	792	4.8	2,852.9	315.8	224.1	250,128
Montana	778	2.9	662.6	39.0	17.0	30,350
Nebraska	776	14.9	719.8	77.9	62.5	60,421
Nevada	771	4.6	2.198.8	104.3	61.1	80,414
New Hampshire	765	7.9	476.1	71.0	53.8	54,346
New Jersey	774	36.7	2,421.8	376.5	263.3	291,390
New Mexico	793	9.1	658.8	88.8	59.5	70,379
New York	836	16.2	4,913.6	783.9	562.2	655,354
North Carolina	809	84.2	3,794.4	477.7	347.5	386,431
North Dakota	797	2.1	224.0	24.6	16.8	19,603
Ohio	812	39.0	4,461.5	593.9	434.6	482,281
Oklahoma	774	30.3	872.0	206.8	167.0	160,072
Oregon	771	28.2	1,355.4	154.1	113.2	118,811
Pennsylvania	792	35.1	6,415.9	588.6	439.4	466,156
Rhode Island	766	12.9	404.7	50.6	37.1	38,789
South Carolina	789	27.6	2,130.9	221.3	155.9	174,591
South Dakota	766	1.2	622.5	31.6	14.6	24,232
Tennessee	831	22.8	2,085.9	305.3	213.6	253,715
Texas	878	16.7	13,422.2	1,038.3	725.3	911,596
Utah	776	19.7	1,334.0	142.0	100.2	110,219
Vermont	765	4.0	205.2	28.1	19.1	21,527
Virginia	805	13.2	3,493.4	365.8	259.9	294,455
Washington	779	9.8	2,108.2	301.2	227.5	234,667
West Virginia	781	12.5	887.9	89.6	64.7	69,956
Wisconsin	782	10.8	2,639.5	254.3	176.4	198,869
Wyoming	776	1.4	304.4	23.1	12.6	17,915

Appendix II. 2009–2010 National Survey of Children with Special Health Care Needs Questionnaire

2009–2010 NATIONAL SURVEY OF CHILDREN WITH SPECIAL HEALTH CARE NEEDS

***CA indicates California Supplemental Questions**

Section 1. NIS/SLAITS

INTRO_1 Hello, my name is _____. I'm calling on behalf of the Centers for Disease Control and Prevention. We're conducting a nationwide immunization study to find out how many children under 4 years of age, are receiving all of the recommended vaccinations for childhood diseases. Your telephone number has been selected at random to be included in the study.

CONTINUE WITH INTERVIEW.....1	GO TO S1
CONFIRM BUSINESS.....2	GO TO SALZ
Out of scope 3	GO TO THANK_YOU_OOS
Terminate the Interview 4	GO TO UNIVERSAL EXIT-T1
Cell phone 5	GO TO UNIVERSAL EXIT-CELL_1
Answering machine 6	GO TO MSG_Y
R will call 800 line/verify website 7	GO TO CNOTES_1_1
R asks for letter 8	GO TO UNIVERSAL EXIT M1_NAME
Supervisor review.....9	GO TO CNOTES_1_1
Continue the case with Language Line 16	GO TO S1/N_S1

INTRO_1_HUDI Hello, my name is ___. I'm calling on behalf of the Centers for Disease Control and Prevention. We're conducting a nationwide study to prevent future outbreaks of childhood diseases.

CONTINUE WITH INTERVIEW.....1	GO TO S1
CONFIRM BUSINESS.....2	GO TO SALZ
ANSWERING MACHINE 4	GO TO MSG_Y

INTRO_1 (for partial completes) Hello, my name is _____ and I am calling on behalf of the Centers for Disease Control and Prevention. We recently spoke to (MKR / an adult in this household) and began an important nationwide immunization study regarding (child's name or initials)'s vaccinations. I'm calling to complete the interview now, may I please speak with (MKR / that adult)?

CONTINUE WITH INTERVIEW.....1	GO TO S1
CONFIRM BUSINESS.....2	GO TO SALZ
Out of scope 3	GO TO THANK_YOU_OOS
Terminate the Interview 4	GO TO UNIVERSAL EXIT-T1
Cell phone 5	GO TO UNIVERSAL EXIT-CELL_1
Answering machine 6	GO TO MSG_Y
R will call 800 line/verify website 7	GO TO CNOTES_1_1
R asks for letter 8	GO TO UNIVERSAL EXIT

	M1_NAME
Supervisor review.....9	GO TO CNOTES_1_1

(Raise your hand to get permission before using this code)

INTRO_1 [Incentives_10/Address Available]

Hello. I'm calling on behalf of the Centers for Disease Control and Prevention to follow up on a letter that was sent to your home. Earlier, we had contacted your household to participate in a survey regarding the immunizations of the [IF S_NUMB=1, THEN "child who lives"{IF S_NUMB>1, THEN "children who live"] there. I'm calling back to continue the interview. In appreciation for your time, we will send you $10.

CONTINUE WITH INTERVIEW.....1	GO TO S1
CONFIRM BUSINESS.....2	GO TO SALZ
Out of scope 3	GO TO THANK_YOU_OOS
Terminate the Interview 4	GO TO UNIVERSAL EXIT-T1
Cell phone 5	GO TO UNIVERSAL EXIT-CELL_1
Answering machine 6	GO TO MSG_Y
R will call 800 line/verify website 7	GO TO CNOTES_1_1
R asks for letter 8	GO TO UNIVERSAL EXIT M1_NAME
Supervisor review.....9	GO TO CNOTES_1_1

(Raise your hand to get permission before using this code)

INTRO_1 [Incentives_15/Telephone Only]

Hello. I'm calling on behalf of the Centers for Disease Control and Prevention. Earlier, we had contacted your household to participate in a survey regarding the immunizations of the [IF S_NUMB=1, THEN "child who lives"/IF S_NUMB>1, THEN "children who live"] there. I'm calling back to continue the interview. In appreciation for your time, we will send you $15.

CONTINUE WITH INTERVIEW.....1	GO TO S1
CONFIRM BUSINESS.....2	GO TO SALZ
Out of scope 3	GO TO THANK_YOU_OOS
Terminate the Interview 4	GO TO UNIVERSAL EXIT-T1
Cell phone 5	GO TO UNIVERSAL EXIT-CELL_1
Answering machine 6	GO TO MSG_Y
R will call 800 line/verify website 7	GO TO CNOTES_1_1
R asks for letter 8	GO TO UNIVERSAL EXIT M1_NAME

	Supervisor review.....9	GO TO CNOTES_1_1

(Raise your hand to get permission before using this code)

[IF MOST KNOWLEDGEABLE PARENT HAS NOT BEEN IDENTIFIED:

May I please speak with the parent or guardian who knows the most about the health of the child[ren] in the household?]

[IF MOST KNOWLEDGEABLE PARENT HAS BEEN DETERMINED:

May I please speak with [NAME]/the person who had started the interview?]

THANK_YOU_OOS — We are only interviewing families living in their usual place of residence, those are all the questions I have. Thank you.

SALZ — Is this telephone number for business use only?

	Yes 1	GO TO SALZ_BUS
	No.....2	GO TO INTRO_1
	DORM/PRISON/HOSTEL 3	GO TO SALZ_BUS
	PAGING SERVICE 4	GO TO SALZ_BUS

SASERV — BASED ON THE ANSWERING SERVICE, WAS THIS DEFINITELY A BUSINESS, A HOUSEHOLD, OR COULD NOT BE DETERMINED?

	BUSINESS.....1	TERMINATE
	HOUSEHOLD 2	TERMINATE
	COULD NOT DETERMINE.....3	TERMINATE
	ANSWERING MACHINE SAID "TAKE ME OFF YOUR LIST" 4	TERMINATE

S1 — Am I speaking to someone who lives in this household who is over 17 years old?

IF THE RESPONDENT SAYS NO: ASK TO SPEAK WITH SOMEONE OVER 17 WHO LIVES IN THE HOUSEHOLD.

	I AM THAT PERSON 1	GO TO S_NUMB [IFINCENTIVE=1, GO TO S3_INTRO_INCENT]
	THIS IS A BUSINESS.....2	GO TO SALZ
	NEW PERSON COMES TO PHONE 3	GO TO INTRO_1
	DOESN'T LIVE IN HOUSEHOLD 8	GO TO INSTRUCTION: [ASK FOR ANOTHER PERSON OR SCHEDULE APPOINTMENT ON THE NEXT SCREEN]
	NO PERSON AT HOME WHO IS AT OVER 17.....9	GO TO S2_B

	REFUSED.....99	GO TO UNIVERSAL EXIT-R1

SALZ_BUS WE ARE INTERVIEWING ONLY PRIVATE RESIDENCES. THANK YOU VERY MUCH.

[TERMINATE INTERVIEW]

S2_B Does anyone live in your household who is over 17 years old?

YES, THEY ARE COMING TO THE PHONE 1	GO TO INTRO_1
YES, BUT NO ONE IS HOME, SO SET A CALLBACK 2	GO TO S2_B_WARNING_TEXT SCRIPT SHOWN BELOW
NO, NO ADULTS LIVE IN THE HOUSEHOLD AT ANYTIME 3	GO TO MINOR_EXIT
TEEN LINE (COLLECT ANOTHER PHONE NUMBER) 4	GO TO S2_C
REFUSED.....99	GO TO R1

S2_B_WARNING_TEXT Thank you, we'll try back another time.
[CREATE AN APPOINTMENT OR SET GENERAL CALL BACK. ENTER DATE/TIME AND CONTACT NAME IF KNOWN]

MINOR_EXIT Those are all the questions I have. I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time and effort you've spent answering these questions.

[TERMINATE INTERVIEW]

S2_C Is there another telephone number that I should call? _____

GO TO INSTRUCTION: WARNING: THE PHONE NUMBER FOR THIS INTERVIEW IS CHANGED NOW FROM X TO X.

GO TO CB1 (APPOINTMENT SCREEN) THEN C_NOTES_1_1

NIS SCREENING

S_NUMB How many children between the ages of 12 months and 3 years old are living or staying in your household?

IF ONE OR MORE, ENTER # OF CHILDREN	(ENTER 01 to 09)
IF NO CHILDREN ENTER 0	GO TO S_NUMB2
(77) DON'T KNOW	GO TO SOFTCHECK_77

(99) REFUSED ..... GO TO UNIVERSAL EXIT-R1

SOFT CHECK_77 ASK FOR ANOTHER PERSON OR SCHEDULE APPOINTMENT ON THE NEXT SCREEN

(1) CONTINUE..... GO TO S_NUMB

(2) APPOINTMENT..... GO TO UNIVERSAL EXIT-CB1

S_NUMB2 Just to confirm, there are 0 children between the ages of 12 months and 3 years living or staying in your household?

(1) YES IF S-NUMB =0 AND FLAGGED FOR NS-CSHCN, GO TO NS-CSHCN, IF 1-9 GO T0 S3_LTR

(2) NO ..... GO TO S_NUMB

(77) DON'T KNOW ..... GO TO SOFTCHECK_77

(99) REFUSED ..... GO TO UNIVERSAL EXIT- R1

ROSTER SECTION BEGINS

INTRO_AUG IF SAMPLE_USE_CODE = 3, READ INTRO_AUG.

Hello, my name is _____. I am calling on behalf of the Centers for Disease Control and Prevention. We are doing a national survey [IF RDD_NCCELL_CCELL=2, 3 "on cell phones"] about health services used by children and teenagers (, and I was told that you were the person to talk with about the health of the child or children in your household).

(Use the parenthetical for KR call back interviews)

(1) CONTINUE ..... SEE LOGIC BELOW

IF INTRO_1=1 AND RDD_NCCELL_CCELL = 1, GO TO S1

ELSE IF INTRO_1=1 AND RDD_NCCELL_CCELL = 2 OR 3 AND TXFLG = 1 , GO TO S_CELL

ELSE IF INTRO_1=1 AND RDD_NCCELL_CCELL = 2 OR 3 AND TXFLG = 0 or 2, GO TO S_WARM

(2) CONFIRM BUSINESS ..... GO TO SALZ

(3) OUT OF SCOPE ..... GO TO THANK_YOU_OOS

(4) TERMINATE THE INTERVIEW ..... GO TO T1

IF RDD_NCCELL_CCELL = 1 DISPLAY

(5) CELL PHONE…….. GO TO CELL_1

ELSE IF RDD_NCCELL_CCELL = 2, 3 AND TXFLG = 1 DISPLAY

(5) LANDLINE - YOU WILL NOT TERMINATE …….. GO TO S1 and set RDD_NCCELL_CCELL = 1

ELSE IF RDD_NCCELL_CCELL = 2, 3 AND TXFLG = 0 DISPLAY

(5) LANDLINE…….. GO TO LANDLINE EXIT - set ITS 88

(6) ANSWERING MACHINE [FILL] ..... GO TO S1

If message is to be left then GO TO SASERV else hang up and set ITS =35

(7) R WILL CALL 800 LINE/VERIFY WEBSITE ..... GO TO P1/VERIFY_INFO set ITS =69

(8) R ASKS FOR LETTER..... GO TO M1_NAME

(9) SUPERVISOR REVIEW ..... (Raise your hand to get permission before using this code) – set ITS = 49

(15) Test sample - use only if respondent instruct that this call was a test => set ITS =119

(16) CONTINUE THE CASE WITH LANGUAGE LINE

IF RDD_NCCELL_CCELL = 2, 3 DISPLAY

(17) DROPPED CALL……GO TO CNOTES_1_1> set ITS=81 (SCHEDULE A CALL BACK FOR 1 MINUTES)

S1 Am I speaking to someone who lives in this household who is over 17 years old?

IF THE RESPONDENT SAYS NO: ASK TO SPEAK WITH SOMEONE OVER 17 WHO LIVES IN THE HOUSEHOLD.

(1) I AM THAT PERSON ..... GO TO S_NUMB [IFINCENTIVE=1, GO TO S3_INTRO_INCENT]

(2) THIS IS A BUSINESS..... GO TO SALZ

(3) NEW PERSON COMES TO PHONE ..... GO TO INTRO_1

(8) DOESN'T LIVE IN HOUSEHOLD ..... GO TO INSTRUCTION: [ASK FORANOTHER PERSON OR SCHEDULE APPOINTMENT ON THE NEXT SCREEN]

(9) NO PERSON AT HOME WHO IS AT OVER 17..... GO TO S2_B

(99) REFUSED ..... GO TO UNIVERSAL EXIT-R1

S2_B Does anyone live in your household who is over 17 years old?

IF THE RESPONDENT SAYS NO, READ. "Just to clarify, no one 18 years of age or older lives in this household?")

(1) Yes, They are coming to the phone	GO TO appropriate INTRO
(2) Yes, But no one is home, so set a callback	GO TO S2_B_1_Warning_Text
(3) No, No adults live in the household at any time	IF call count =1 delay it for 7 days or 21 shifts else if call count >1 then finalize the case

(4) Teen Line (Collect another telephone number) ..... GO TO S2_C

(99) REFUSED ..... GO TO R1

S_UNDR18 **[IF S_NUMB GE 1 AND NIS IS DONE, FILL S_UNDR18 FROM NIS DATA S_UNDR18 = C1 – C1A. C1 – C1A CANNOT BE LE 0. IF THAT IS THE CASE, ASK S_UNDR18]**

How many people less than 18 years old live in this household?
(CATI: 2 NUMERIC-CHARACTER FIELD TO ALLOW FOR DK/REF VALUES, RANGE: 00-09)

_____ _____

1 OR GREATER	**[SKIP TO ISC200]**
(0)	**[SKIP TO NOCHILD]**
(77) DON'T KNOW	**[GO TO ASK_ANOTHER]**
(99) REFUSED	**[TERMINATE AND SET AS REFUSAL ((IF INCENTIVE > 0 THEN GO TO ADDRESS COLLECTION), THEN GO TO R1, SET ITS = 23)]**

A CHILD IS COUNTED AS "LIVING IN THE HOUSEHOLD" IF THE CHILD:
- HAS BEEN STAYING THERE (OR IS EXPECTED TO STAY THERE) FOR AT LEAST TWO MONTHS
- THE LENGTH OF THE CURRENT STAY IS UNKNOWN, BUT THERE IS NO OTHER PLACE WHERE THE CHILD USUALLY STAYS
- USUALLY STAYS IN THE HOUSEHOLD, BUT IS CURRENTLY AWAY FOR LESS THAN TWO MONTHS (WHETHER TRAVELING, IN THE HOSPITAL, OR AWAY FOR ANY OTHER REASON)
- USUALLY STAYS IN THE HOUSEHOLD, BUT IS CURRENTLY AWAY FOR TWO MONTHS OR MORE BECAUSE THEY ARE AT SCHOOL (COLLEGE, BOARDING SCHOOL, MILITARY ACADEMY, PREP SCHOOL, ETC.)
- ONLY LIVES PART-TIME IN THE HOUSEHOLD BECAUSE OF CUSTODY ISSUES, BUT IS STAYING THERE AT THE TIME OF THE CALL

NUMBER OF CHILDREN = 0	**[GO TO NOCHILD]**
NUMBER OF CHILDREN > 1 AND HH NIS-ELIGIBLE	**[GO TO SL_INTRO]**
NUMBER OF CHILDREN > 1 AND HH NIS-INELIGIBLE	**[GO TO ISC200]**

S_UNDR18_CONF

WARNING: ACCORDING TO NIS THERE [IF S_NUMB=1 THEN FILL: IS / IF S_NUMB > 1 THEN FILL: ARE] AT LEAST [FILL S_NUMB] [if S_NUMB=1 THEN FILL: CHILD / IF S_NUMB > 1 THEN FILL: CHILDREN] IN THE HOUSEHOLD.

PLEASE RE-ASK S_UNDR18 ASKING FOR ALL OF THE CHILDREN IN THE HOUSEHOLD.

(1) Count incorrect - change total number of children	**[SKIP BACK TO S_UNDR18]**
(2) Total number of children confirmed as correct	**[GO TO LL_TYPE if Language Line case, ELSE go to CHECKPOINT.]**

LL_TYPE WHAT LANGUAGE WAS NEEDED TO COMPLETE THIS INTERVIEW?

(01) KOREAN	**[Go to LL_END]**
(02) MANDARIN	**[Go to LL_END]**
(03) CANTONESE	**[Go to LL_END]**

(04) VIETNEMESE	**[Go to LL_END]**
(05) ARABIC	**[Go to LL_END]**
(06) FRENCH/CREOLE/HAITIAN	**[Go to LL_END]**
(07) ITALIAN	**[Go to LL_END]**
(08) JAPANESE	**[Go to LL_END]**
(09) POLISH	**[Go to LL_END]**
(10) PORTUGESE	**[Go to LL_END]**
(11) TAGALOG/FILIPINO	**[Go to LL_END]**
(12) ENGLISH	**[CONTINUE WITH INTERVIEW AS USUAL]**
(13) SPANISH	**[CONTINUE WITH INTERVIEW AS USUAL]**
(14) ANOTHER LANGUAGE	**[Go to LL_END]**

LL_END IF LL_TYPE = 1,2,3, or 4 DISPLAY:

Those are all the questions I have at this time. I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time and effort you've spent answering these questions. If you have any questions about this survey, you may call my supervisor toll-free at [IF SUC = 1, 2, 4 FILL 1 - 8 6 6 - 9 9 9 - 3 3 4 0 / IF SUC = 3, 5, 6 FILL 1 - 8 8 8 - 9 9 0 - 9 9 8 6] . If you have questions about your rights as a survey participant, you may call the chairman of the Research Ethics Review Board at 1-800-223-8118. Thank you again.

ELSE, DISPLAY:
Those are all the questions I have. I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time and effort you've spent answering these questions. If you have any questions about this survey, you may call my supervisor toll-free at [IF SUC = 1, 2, 4 FILL 1 - 8 6 6 - 9 9 9 - 3 3 4 0 / IF SUC = 3, 5, 6 FILL 1 - 8 8 8 - 9 9 0 - 9 9 8 6]. If you have questions about your rights as a survey participant, you may call the chairman of the Research Ethics Review Board at 1-800-223-8118. Thank you again.

(1) EXIT SCRIPT READ
(2) ASIAN LANGUAGE INTERVIEWERS CONTINUE INTERVIEW

ISC200 IF NIS-ELIGIBLE OR TEEN ELIGIBLE HOUSEHOLD< SKIP TO SL_INTRO

We need to talk to the parent or guardian living in this household who knows about the health and health care of the [IF S_UNDR18 =1 INSERT 'child' / IF S_UNDR18 GT 1, INSERT 'children'] under 18. Who would that be?

(1) MYSELF	**[SKIP TO CSHCN_LTR]**
(2) SOMEONE ELSE	**[SKIP TO ISC240]**

NOTE: THE FOLLOWING OPTION SHOULD BE USED VERY RARELY. IF YOU DO SELECT THIS OPTION, IT WILL BE CAREFULLY REVIEWED BY A SUPERVISOR. BE SURE TO LEAVE GOOD CALL NOTES!!!
(33) THERE IS NO ONE PERSON WHO KNOWS ABOUT ALL THE CHILDREN IN THE HOUSEHOLD [GO TO CWEND, SET ITS CODE AS 53]

ISC240 Because the rest of the survey is about the health and health care of the [IF S_UNDR18 =1 INSERT 'child' / IF S_UNDR18 GT 1, INSERT 'children'] under 18, may I speak with that person now?

(1) YES	**[SKIP TO NEW_RESP]**
(2) NO	**[GO TO SCHEDULE AN APPOINTMENT**]

SCHEDULE APPOINTMENT ON THE NEXT SCREEN IF NOT AVAILABLE

ASK_ANOTHER

Is there anyone in your household who knows how many people in this household are less than 18 years old?

(1) NEW PERSON COMES TO PHONE **[GO TO INTRO_SWITCH]**
(2) NO **[IF INCENTIVE>0 THEN GO TO ADDRESS COLLECTION THEN GO TO CSHCN_TERM]**

CSHCN_TERM Thank you, we'll try back another time.

INTRO_SWITCH

Hello, my name is _____. I'm calling on behalf of the Centers for Disease Control and Prevention. We are doing a national survey about health services used by children and teenagers, and I was told that you were the person to talk with about the health and health care of the [IF S_UNDR18 =1, INSERT "child"; IF S_UNDR18 > 1 INSERT "children"] in the household.

(0) CONTINUE

GO TO S_UNDR18

NOCHILD (IF INCENTIVE > 0 THEN GO TO ADDRESS COLLECTION), THEN READ NOCHILD
Those are all the questions I have. We are only interviewing in households with children. I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time and effort you've spent answering these questions.

TERMINATE > SET ITS = 61

NEW_RESP Hello, my name is _____. I'm calling on behalf of the Centers for Disease Control and Prevention. We are doing a national survey about health services used by children and teenagers, and I was told that you were the person to talk with about the health and health care of the [IF S_UNDR18 =1, INSERT "child"; IF S_UNDR18 > 1 INSERT "children"] in the household.

(1) CONTINUE

CSHCN_LTR IF NO ADVANCE LETTER SENT, THEN SKIP TO SL_INTRO

A letter describing this survey may have been sent to your home recently. Do you remember seeing the letter?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

SL_INTRO MONEY TEXTFILL LOGIC:
IF CSHCN_INCENT = 1 or 7 AND CSHCN_INCENT_FLAG = 1
OR
IF CSHCN_INCENT = 1, 2, 4, or 7 AND CSHCN_INCENT_FLAG = 2 AND CSHCN_LTR_FLAG = 1
OR
IF CSHCN_INCENT=1,2, 4, or 7 AND CSHCN_PASSIVE = 1 OR 2 AND CSHCN_LTR_FLAG = 1

OR
IF CSHCN_INCENT=3
THEN OFFER MONEY_1

IF CSHCN_INCENT = 1, 2,4,5, 6, or 7 AND CSHCN_INCENT_FLAG = 2 AND CSHCN_LTR_FLAG = 2
OR
IF CSHCN_INCENT =1,2,4,5, 6, or 7 AND CSHCN_PASSIVE = 1 OR 2 AND CSHCN_LTR_FLAG = 2
THEN OFFER MONEY_2

IF S3_INTRO OR TIS_INTRO1(full IC) or TIS_INTRO2 (short IC) READ AND NEW_RESP NE 1 AND INTRO_SWITCH NE 1
READ:

[If NIS or TEEN complete, read: I appreciate your answers about the immunizations of [IF SAMPLE_USE_CODE = 2 then fill with NIS-ELIGIBLE CHILDREN, IF SAMPLE_USE_CODE=4 AND NIS DONE BUT NO TEEN THEN FILL WITH NIS-ELIGIBLE CHILDREN, IF SAMPLE_USE_CODE=4 AND TEEN INTERVIEW DONE THEN FILL WITH ST] Next, I have some questions about some other health care needs of children. As before, you may choose not to answer any questions you don't wish to answer, or end the interview at any time with no impact on the benefits you may receive. [IF (INCENTIVE CASE DISPLAY: In appreciation for your time, we will send you $[MONEY_1 / MONEY_2].)] After a few questions, I can tell you how long this survey will take. In order to review my work, my calls are recorded and my supervisor may listen as I ask the questions. I'd like to continue now unless you have any questions.

ELSE READ:
[IF SUC = 2 OR 4 THEN READ: "Next, I have some questions about some other health care needs of children."]

Before we continue, I'd like you to know that taking part in this research is voluntary. You may choose not to answer any questions you don't wish to answer, or end the interview at any time with no impact on the benefits you may receive. We are required by Federal laws to develop and follow strict procedures to protect your information and use your answers only for statistical research. I can describe these laws if you wish. [IF (INCENTIVE CASE DISPLAY: In appreciation for your time, we will send you $[MONEY_1 / MONEY_2].)] After a few questions, I can tell you how long this survey will take. In order to review my work, my calls are recorded and my supervisor may listen as I ask the questions. I'd like to continue now unless you have any questions.

DISPLAY FOR ALL:

READ IF NECESSARY: The Public Health Service Act is Volume 42 of the US Code, Section 242k. The collection of information in this survey is authorized by Section 306 of this Act. Through the National Center for Health Statistics, the confidentiality of your responses is assured by Section 308d of this Act and by the Confidential Information Protection and Statistical Efficiency Act. Would you like me to read the Confidential Information Protection provisions to you?

IF RESPONDENT WOULD LIKE TO HEAR PROVISIONS, READ: The information you provide will be used for statistical purposes only. In accordance with the Confidential Information Protection provisions of Title V, Subtitle A, Public Law 107-347 and other applicable Federal laws, your responses will be kept confidential and will not be disclosed in identifiable form to anyone other than employees or agents. By law, every employee of the National Center for Health

Statistics and its collaborating agency and contractor, specifically the National Center for Immunization and Respiratory Diseases and the National Opinion Research Center, and their agents and contractors who work on this survey, has taken an oath and is subject to a jail term of up to 5 years, a fine of up to $250,000, or both, if he or she willingly discloses ANY identifiable information about you or your household members.

INTERVIEWER INSTRUCTION: If R asks, say: "The date(s) of birth you have provided do not qualify you for the previous section of the survey, but after a few more questions I can tell you if you're eligible for the next section of the survey."

(1) CONTINUE, RECORDING ACCEPTABLE
(2) CONTINUE, DO NOT RECORD

AGE_X **CATI INSTRUCTION (AGE_GRID)** IF S_UNDR18 = 1, FILL “age” AND “child”. ELSE, FILL “ages” AND “children”.

IF S_NUMB = 0, DISPLAY THIS TEXT WHEN ASKING ABOUT FIRST CHILD: “Many of my questions are only for children of certain ages. So, I’ll know which questions to ask, please tell me the [age/ages] of the [child/children] less than 18 years old living in this household.” FOR ALL SUBSEQUENT CHILDREN (LOOP UNTIL # OF CHILDREN=S_UNDR18) DISPLAY: (READ IF NECESSARY): "Please tell me the age of the next child who lives in this household."

ELSE IF (S_NUMB=S_UNDR18 then FILL AGE_1 (and AGE_1Y_X as needed) with age of child and skip to AGE_CONF.

ELSE IF S_NUMB > 0 AND S_UNDR18 – S_NUMB > 0, FILL: "You have already given me (FILL NAME OF NIS-ELIGIBLE CHILD OR CHILDREN)'s birth date(s). Now, would you please tell me the [age/ages] of the other [IF S_UNDER18 - S_NUMB = 1, INSERT "child"; IF S_UNDR18 - S_NUMB > 1, INSERT "children"] living in this household.” FOR ALL SUBSEQUENT CHILDREN (LOOP UNTIL # OF CHILDREN=S_UNDR18 - S_NUMB) DISPLAY: (**READ IF NECESSARY:** "Please tell me the age of the next child who lives in this household.")
Display for AGE_1

INTERVIEWER: IF R PROVIDES AGES FOR ALL CHILDREN UP FRONT, TYPE IN THE AGES AS CATI PROMPTS FOR THEM.

ENTER 77 FOR DON'T KNOW AND 99 FOR REFUSED
IF AGE IS LESS THAN 1 MONTH OLD, RECORD 0 MONTHS. A CHILD IS COUNTED AS "LIVING IN THE HOUSEHOLD" IF THE CHILD:

• HAS BEEN STAYING THERE (OR IS EXPECTED TO STAY THERE) FOR AT LEAST TWO MONTHS

• THE LENGTH OF THE CURRENT STAY IS UNKNOWN, BUT THERE IS NO OTHER PLACE WHERE THE CHILD USUALLY STAYS

• USUALLY STAYS IN THE HOUSEHOLD, BUT IS CURRENTLY AWAY FOR LESS THAN TWO MONTHS (WHETHER TRAVELING, IN THE HOSPITAL, OR AWAY FOR ANY OTHER REASON)

• USUALLY STAYS IN THE HOUSEHOLD, BUT IS CURRENTLY AWAY FOR TWO MONTHS OR MORE BECAUSE THEY ARE AT SCHOOL (COLLEGE, BOARDING SCHOOL, MILITARY ACADEMY, PREP SCHOOL, ETC.)

• ONLY LIVES PART-TIME IN THE HOUSEHOLD BECAUSE OF CUSTODY ISSUES, BUT IS STAYING THERE AT THE TIME OF THE CALL
_____ENTER VALUE

[IF 77 GO TO WHEN_CALL,
IF 99 GO TO AGE_REF]

AGES SHOULD BE STORED IN AGE_1 - AGE_9.

PLEASE VERIFY THAT TEEN "BACKGROUND" VARIABLES FOR ROSTER FILL APPROPRIATELY TO CSHCN. PLEASE ALSO VERIFY THAT MAGE AND YAGE FILL CORRECTLY.

IF SAMPLE_USE_CODE = 4: FILL AGE ROSTER FROM TEEN ROSTER.

AGE1_X _____(1) MONTHS
_____(2) YEARS

CONTINUE TO LOOP FOR ALL REMAINING CHILDREN

IF MONTHS, RANGE CHECK = 1-24;
IF YEARS, RANGE CHECK = 1-17

THESE SHOULD APPEAR ON THE SAME SCREEN AS AGE_X.
AFTER LOOP ENDS, GO TO AGE_1Y_1.

WHEN_CALL What would be a good time to reach a person who knows the child's age?

(1) SET APPOINTMENT FOR CALLBACK **[GO TO CB1]**
(2) PERSON AVAILABLE **[GO TO INTRO_AGE]**

ON A CALL-BACK, POR IS AGE_X.

AGE_REF The reason we need your child's age is to know which health and health care questions to ask. The information you provide is completely confidential.

(1) YES **[GO TO AGE_X]**
(2) NO **[GO TO AGE_TERM]**

AGE_TERM IF INCENTIVE>0 THEN GO TO ADDRESS COLLECTION THEN READ AGE_TERM. Those are all the questions I have. I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time and effort you've spent answering these questions.

INTRO_AGE Hello, my name is _____. I'm calling on behalf of the Centers for Disease Control and Prevention. We are doing a nationwide survey about the health of children and teenagers, and I was told that you were the person to talk with about the health of the (IF S_UNDR18 =1, INSERT "child"; IF S_UNDR18 > 1 INSERT "children") in your household

(1) CONTINUE **[RETURN TO AGE_X]**

AGE_1Y_1 IF EXACTLY 1 AGE_X=1 YEAR OLD OR 0 YEARS OLD, THEN ASK "Because some of our questions are only for children of certain ages, can you please tell me the age of the [1-year-old/0-year-old] child in months? "

ELSE IF > 1 AGE_X = 1 YEAR OLD OR 0 YEARS OLD, THEN ASK "Because some of our questions are only for children of certain ages, can you please tell me the age of the first [1-year-

old/0-year-old] child in months? "

ELSE IF 0 AGE_X = 1 YEAR OLD THEN SKIP TO AGE_CONF.
___ ___ MONTHS **[RANGE: 0-24]**

IF EXACTLY 1 AGE_X = 1 YEAR OLD, GO TO AGE_CONF, ELSE IF > 1 AGE_X = 1 YEAR OLD GO TO AGE_1Y_2-9.

AGE_1Y_2-
AGE_1Y_9 And how about the next [1 year old / 0 year old]?

___ ___ MONTHS **[RANGE: 0-24]**

CONTINUE TO LOOP FOR ALL REMAINING 1 YEAR OLDS. THEN GO TO AGE_CONF.

AGE_CONF So, you have a [FILL WITH AGE IN YEARS FOR ALL CHILDREN 2 YEARS OLD OR OLDER, AND AGE IN MONTHS FOR ALL CHILDREN UNDER 24 MONTHS OLD., INCLUDING AGES FOR ANY NIS-ELIGIBLE CHILDREN. E.G., 16 month old, 10 year old, and 15 year old/ IF > 1 CHILD, INSERT 'and' BEFORE THE LAST AGE_X] living at this address all or most of the time. Is that correct?

(1) YES **[SKIP TO MULTIAGE]**
(2) NO, WRONG AGES **[RETURN TO AGE_X]**
(3) NO, WRONG NUMBER OF CHILDREN **[SKIP TO S_UNDR18]**
(4) NO, NOT ALL CHILDREN LIVING AT THIS ADDRESS ALL OR MOST OF THE TIME **[RETURN TO S_UNDR18]**

MULTIAGE **CATI INSTRUCTION (MULTIAGE):** IF NO CHILDREN ARE THE SAME AGE, SKIP TO C2Q03_X, ELSE ASK

Since you have more than one child who is [FILL DUPLICATE AGES FROM AGE_CONF, E.G. 3 years old], I need a way to refer to each of them during the interview.

RECORD NAMES IN NAME_1 – NAME_9.

(77) DON'T KNOW **[GO TO REFNAME1]**
(99) REFUSED **[GO TO REFNAME1]**

IF SUC=4 THEN FILL FROM TIS_MULTIAGE.
CATI INSTRUCTION: loop for all NAME_X. GO TO C2Q03_X.

NAME_1 -NAME_9
CATI INSTRUCTION: loop for all NAME_X. GO TO C2Q03_X.
IF REFNAME1=99 THEN DISPLAY: INTERVIEWER INSTRUCTION: RESPONDENT REFUSED CHILD'S NAME, ENTER 99

IF REFNAME1 not equal 99 THEN DISPLAY: What is the [other] [FILL AGE] year old child's name or initials?

For all cases display the following in red:
ENTER NAME
(77) DON'T KNOW
(99) REFUSED

NAME: _____

IF SUC=4 THEN FILL FROM TIS_NAME_X.

FILL FROM NIS IF APPROPRIATE.

IF NAME_x = 77 or 99 then the AGEID for that child="[FILL AGE] CHILD [FILL x]" (where x is the roster position for that child).

REFNAME1 I would like to assure you that ALL information will be kept in strict confidence and will be summarized for research purposes only. Since you have two or more children of the same age, we must have some way to tell them apart. You could give me a first name, nickname, or their initials.

(1) RESPONDENT WILL GIVE NAMES **[RETURN TO NAME_1 THROUGH NAME_9 AND ENTER]**
(2) REFUSED **[GO TO REFNAME2]**

REFNAME2 (IF INCENTIVE > 0 THEN GO TO ADDRESS COLLECTION), THEN READ REFNAME2. Those are all the questions I have. I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time and effort you've spent answering these questions.

TERMINATE > SET ITS = 23; POINT OF RETURN SHOULD BE MULTIAGE

CPNIS_ELIG IF SAMPLE_USE_CODE = 2: IF AGE_X= 19-35 MONTHS AND S3_3M/D/Y_x = NULL, GO TO S2Q02A; ELSE SKIP TO C2Q03_X
ELSE IF SAMPLE_USE_CODE = 3, 4, 5, OR 6: IGNORE LOGIC ABOVE.

S2Q02A Based on the ages you have given me, I now have some questions about [AGEID OR AGEIDs].

(1) CONTINUE **[GO TO S3_X]**

FILL S_NUMB APPROPRIATELY AND GO TO S3_X.
ASK NIS FOR ALL CHILDREN THAT HAVE QUALIFIED.

IF ALL CHILDREN ARE NIS INELIGIBLE BASED ON BIRTH DATES:
IF S_UNDR18 = S_NUMB, SKIP TO C2Q03_X
ELSE SKIP TO SL_TRANS2,

IF ONE OR MORE CHILDREN ARE NIS ELIGIBLE AND ONCE NIS INTERVIEW IS FINISHED:
IF COUNT OF NIS ELIGIBLE CHILDREN = S_UNDR18, SKIP TO SL_TRANS
ELSE SKIP TO SL_TRANS2.

SL_TRANS I appreciate your answers about the immunizations of [NIS CHILD].

(1) CONTINUE **[GO TO SC1_INTRO]**

SL_TRANS2 [IF NIS INTERVIEW COMPLETED, THEN DISPLAY: I appreciate your answers about the immunizations of [NIS CHILD / CHILDREN].] Next I have some questions about all of the children under 18 years old living in this household.

(1) CONTINUE **[GO TO C2Q03_X]**

Section 2. INITIAL SCREENING.

Begin Loop

C2Q03_X **[SKIP IF NIS_WHO NE 10 OR NIS_WHO NE BLANK, FILL IN THE DATA FOR THE CHILD FROM NIS – S3.4]**

Is [your AGEID OR INITIALS FROM ROSTER] male or female?

(1) MALE
(2) FEMALE
(77) DON'T KNOW
(99) REFUSED

End Loop

SC1_INTRO The next questions are about any kind of health problems, concerns, or conditions that may affect your **(IF S_UNDR18 = 1, INSERT 'child'/ IF S_UNDR18 > 1, INSERT 'children')**'s physical health, behavior, learning, growth, or physical development. Some of these health problems may affect your **(IF S_UNDR18 = 1, INSERT 'child'/ IF S_UNDR18 = 1, INSERT 'children'**)'s abilities and activities at school or at play. Some of these problems affect the kind or amount of services your **(IF S_UNDR18 = 1, INSERT 'child'/ IF S_UNDR18 > 1, INSERT 'children')** may need or use.

[TIMESTAMP_SECTION23]

CSHCN1 **(IF S_UNDR18 = 1, INSERT 'Does your child'/ IF S_UNDR18 > 1, INSERT 'Do any of your children')** currently need or use *medicine prescribed by a doctor*, other than vitamins?

(1) YES
(2) NO **[SKIP TO CSHCN2]**
(77) DON'T KNOW **[SKIP TO CSHCN2]**
(99) REFUSED **[SKIP TO CSHCN2]**

READ IF NECESSARY: This applies to ANY medications prescribed by a doctor. Do not include over-the-counter medications such as cold or headache medications, or any vitamins, minerals, or supplements that can be purchased without a prescription.

THIS QUESTION REFERS ONLY TO CURRENT NEED FOR PRESCRIPTION MEDICINE. THE RESPONDENT SHOULD REPLY WITH "YES" IF THE CHILD CURRENTLY NEEDS OR USES PRESCRIPTION MEDICINE.

CSHCN1_ROS (CSHCN1_ROS_01 through CSHCN1_ROS_09)

[IF S_UNDR18 = 1, SKIP TO CSHCN1_A]

Is that **[PICKLIST CONSISTING OF CHILDREN LISTED AS IN AGE_CONF]**?

CATI: ALLOW A "CHOOSE ALL THAT APPLY" PICKLIST OF CHILDREN. FOR EACH CHILD CHOSEN, ASK CSHCN1_A AND CSHCN1_B.
FOR EXAMPLE, IF THERE ARE 2 CHILDREN, A 10 YEAR OLD AND A 12 YEAR OLD, AND BOTH ARE CHOSEN FROM THE PICKLIST, ASK CSHCN1_A AND CSHCN1_B ABOUT THE 10 YEAR OLD FIRST, AND THEN ASK THE SERIES ABOUT THE 12 YEAR OLD, USING APPROPRIATE FILL.

CSHCN1_A_X Is (AGEID)'s need for prescription medicine because of ANY medical, behavioral, or other health condition?

(1) YES
(2) NO **[SKIP TO CSHCN1_C_X]**
(77) DON'T KNOW **[SKIP TO CSHCN1_C_X]**
(99) REFUSED **[SKIP TO CSHCN1_C_X]**

CSHCN1_B_X Is this a condition that has lasted or is expected to last 12 months or longer?

(1) YES **[SKIP TO CSHCN2]**
(2) NO **[SKIP TO CSHCN2]**
(77) DON'T KNOW **[SKIP TO CSHCN2]**
(99) REFUSED **[SKIP TO CSHCN2]**

INTERVIEWER INSTRUCTION: IF THE CONDITION, NEED, OR PROBLEM LASTS FOR SHORT PERIODS OF TIME BUT IS EXPECTED TO KEEP COMING BACK FOR 12 MONTHS OR LONGER, THE ANSWER SHOULD BE "YES."

CSHCN1_C_X Has (AGEID)'s need for prescription medication lasted or is it expected to last 12 months or longer?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

INTERVIEWER INSTRUCTION: IF THE CONDITION, NEED, OR PROBLEM LASTS FOR SHORT PERIODS OF TIME BUT IS EXPECTED TO KEEP COMING BACK FOR 12 MONTHS OR LONGER, THE ANSWER SHOULD BE "YES."

CSHCN2 **(IF S_UNDR18 = 1, INSERT '**Does your child'**/ IF S_UNDR18 > 1, INSERT '**Do any of your children'**)** need or use *more* medical care, mental health, or educational services than is *usual* for most children of the same age?

(1) YES
(2) NO **[SKIP TO CSHCN3]**
(77) DON'T KNOW **[SKIP TO CSHCN3]**
(99) REFUSED **[SKIP TO CSHCN3]**

READ IF NECESSARY: The child requires more medical care, the use of more mental health services, or the use of more educational services than most children the same age.

THIS QUESTION REFERS ONLY TO CURRENT NEED FOR SERVICES. THE RESPONDENT SHOULD REPLY WITH "YES" IF THE CHILD CURRENTLY NEEDS OR USES SERVICES

CSHCN2_ROS (CSHCN2_ROS_01 through CSHCN2_ROS_09)

[IF S_UNDR18 = 1, SKIP TO CSHCN2_A]

Is that **[PICKLIST CONSISTING OF CHILDREN LISTED AS IN AGE_CONF]**?
CATI: ALLOW A "CHOOSE ALL THAT APPLY" PICKLIST OF CHILDREN. FOR EACH CHILD CHOSEN, ASK CSHCN2_A AND CSHCN2_B.

CSHCN2_A_X Is **(AGEID)**'s need for medical care, mental health or educational services because of ANY medical, behavioral, or other health condition?

(1) YES
(2) NO **[SKIP TO CSHCN2_C_X]**
(77) DON'T KNOW **[SKIP TO CSHCN2_C_X]**
(99) REFUSED **[SKIP TO CSHCN2_C_X]**

CSHCN2_B_X Is this a condition that has lasted or is expected to last 12 months or longer?

(1) YES **[SKIP TO CSHCN3]**
(2) NO **[SKIP TO CSHCN3]**
(77) DON'T KNOW **[SKIP TO CSHCN3]**
(99) REFUSED **[SKIP TO CSHCN3]**

INTERVIEWER INSTRUCTION: IF THE CONDITION, NEED, OR PROBLEM LASTS FOR SHORT PERIODS OF TIME BUT IS EXPECTED TO KEEP COMING BACK FOR 12 MONTHS OR LONGER, THE ANSWER SHOULD BE "YES."

CSHCN2_C_X Has (AGEID)'s need for medical care, mental health, or educational services lasted or is it expected to last 12 months or longer?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

INTERVIEWER INSTRUCTION: IF THE CONDITION, NEED, OR PROBLEM LASTS FOR SHORT PERIODS OF TIME BUT IS EXPECTED TO KEEP COMING BACK FOR 12 MONTHS OR LONGER, THE ANSWER SHOULD BE "YES."

CSHCN3 **(IF S_UNDR18 = 1, INSERT 'Is your child'/ IF S_UNDR18 > 1, INSERT 'Are any of your children')** *limited or prevented* in any way in (his/ her/their) ability to do the things most children of the same age can do?

(1) YES
(2) NO **[SKIP TO CSHCN4]**
(77) DON'T KNOW **[SKIP TO CSHCN4]**
(99) REFUSED **[SKIP TO CSHCN4]**

READ IF NECESSARY: A child is limited or prevented when there are things the child can't do as much or can't do at all that most children the same age can.

THIS QUESTION REFERS ONLY TO CURRENT LIMITATIONS. THE RESPONDENT SHOULD REPLY WITH "YES" IF THE CHILD IS CURRENTLY LIMITED.

CSHCN3_ROS (CSHCN3_ROS_01 through CSHCN3_ROS_09)

[IF S_UNDR18 = 1, SKIP TO CSHCN3_A]

Is that **[PICKLIST CONSISTING OF CHILDREN LISTED AS IN AGE_CONF]**?

CATI: ALLOW A "CHOOSE ALL THAT APPLY" PICKLIST OF CHILDREN. FOR EACH CHILD CHOSEN, ASK CSHCN3_A AND CSHCN3_B.

CSHCN3_A_X Is (AGEID)'s limitation in abilities because of ANY medical, behavioral, or other health condition?

(1) YES
(2) NO **[SKIP TO CSHCN3_C_X]**
(77) DON'T KNOW **[SKIP TO CSHCN3_C_X]**
(99) REFUSED **[SKIP TO CSHCN3_C_X]**

CSHCN3_B_X Is this a condition that has lasted or is expected to last 12 months or longer?

(1) YES **[SKIP TO CSHCN4]**
(2) NO **[SKIP TO CSHCN4]**
(77) DON'T KNOW **[SKIP TO CSHCN4]**
(99) REFUSED **[SKIP TO CSHCN4]**

INTERVIEWER INSTRUCTION: IF THE CONDITION, NEED, OR PROBLEM LASTS FOR SHORT PERIODS OF TIME BUT IS EXPECTED TO KEEP COMING BACK FOR 12 MONTHS OR LONGER, THE ANSWER SHOULD BE "YES."

CSHCN3_C_X Has (AGEID)'s limitation in abilities lasted or is it expected to last 12 months or longer?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

INTERVIEWER INSTRUCTION: IF THE CONDITION, NEED, OR PROBLEM LASTS FOR SHORT PERIODS OF TIME BUT IS EXPECTED TO KEEP COMING BACK FOR 12 MONTHS OR LONGER, THE ANSWER SHOULD BE "YES."

CSHCN4 **(IF S_UNDR18 = 1, INSERT 'Does your child'/ IF S_UNDR18 > 1, INSERT 'Do any of your children')** need or get *special therapy*, such as physical, occupational, or speech therapy?

(1) YES
(2) NO **[SKIP TO CSHCN5]**
(77) DON'T KNOW **[SKIP TO CSHCN5]**
(99) REFUSED **[SKIP TO CSHCN5]**

READ IF NECESSARY: Special therapy includes physical, occupational, or speech therapy. This is centered on physical needs, and things like psychological therapy are not included here.

THIS QUESTION REFERS ONLY TO CURRENT NEED FOR SPECIAL THERAPY. THE RESPONDENT SHOULD REPLY WITH "YES" IF THE CHILD CURRENTLY NEEDS OR USES SPECIAL THERAPY.

CSHCN4_ROS (CSHCN4_ROS_01 through CSHCN4_ROS_09)

[IF S_UNDR18 = 1, SKIP TO CSHCN4_A]

Is that **(PICKLIST CONSISTING OF CHILDREN LISTED AS IN AGE_CONF)**?

CATI: ALLOW A "CHOOSE ALL THAT APPLY" PICKLIST OF CHILDREN. FOR EACH CHILD CHOSEN, ASK CSHCN4_A AND CSHCN4_B.

CSHCN4_A_X Is (AGEID)'s need for special therapy because of ANY medical, behavioral, or other health condition?

(1) YES
(2) NO **[SKIP TO CSHCN4_C_X]**
(77) DON'T KNOW **[SKIP TO CSHCN4_C_X]**
(99) REFUSED **[SKIP TO CSHCN4_C_X]**

CSHCN4_B_X Is this a condition that has lasted or is expected to last 12 months or longer?

(1) YES **[SKIP TO CSHCN5]**
(2) NO **[SKIP TO CSHCN5]**
(77) DON'T KNOW **[SKIP TO CSHCN5]**
(99) REFUSED **[SKIP TO CSHCN5]**

INTERVIEWER INSTRUCTION: IF THE CONDITION, NEED, OR PROBLEM LASTS FOR

SHORT PERIODS OF TIME BUT IS EXPECTED TO KEEP COMING BACK FOR 12 MONTHS OR LONGER, THE ANSWER SHOULD BE "YES."

CSHCN4_C_X Has (AGEID)'s need for special therapy lasted or is it expected to last 12 months or longer?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

INTERVIEWER INSTRUCTION: IF THE CONDITION, NEED, OR PROBLEM LASTS FOR SHORT PERIODS OF TIME BUT IS EXPECTED TO KEEP COMING BACK FOR 12 MONTHS OR LONGER, THE ANSWER SHOULD BE "YES."

CSHCN5 **(IF S_UNDR18 = 1, INSERT 'Does your child'/ IF S_UNDR18 > 1, INSERT 'Do any of your children')** have any kind of emotional, developmental, or behavioral problem for which **(IF S_UNDR18=1, INSERT 'he/she needs'/ IF S_UNDR18>1, INSERT 'they need')** *treatment or counseling*?

(1) YES
(2) NO **[SKIP TO CP_CWTYPE]**
(77) DON'T KNOW **[SKIP TO CP_CWTYPE]**
(99) REFUSED **[SKIP TO CP_CWTYPE]**

READ IF NECESSARY: These are remedies, therapy, or guidance a child may receive for his/her emotional, developmental, or behavioral problem.

THIS QUESTION REFERS ONLY TO CURRENT NEED FOR TREATMENT OR COUNSELING. THE RESPONDENT SHOULD REPLY WITH "YES" IF THE CHILD CURRENTLY NEEDS OR USES TREATMENT OR COUNSELING.

CSHCN5_ROS (CSHCN5_ROS_01 through CSHCN5_ROS_09)

[IF S_UNDR18 =1, SKIP TO CSHCN5_A]

Is that **(PICKLIST CONSISTING OF CHILDREN LISTED AS IN AGE_CONF)**?

CATI: ALLOW A "CHOOSE ALL THAT APPLY" PICKLIST OF CHILDREN. FOR EACH CHILD CHOSEN, ASK CSHCN5_A.

CSHCN5_A_X Has (AGEID)'s emotional, developmental or behavioral problem lasted or is it expected to last 12 months or longer?

(1) YES **[SKIP TO CP_CWTYPE]**
(2) NO **[SKIP TO CP_CWTYPE]**
(77) DON'T KNOW **[SKIP TO CP_CWTYPE]**
(99) REFUSED **[SKIP TO CP_CWTYPE]**

INTERVIEWER INSTRUCTION: IF THE CONDITION, NEED, OR PROBLEM LASTS FOR SHORT PERIODS OF TIME BUT IS EXPECTED TO KEEP COMING BACK FOR 12 MONTHS OR LONGER, THE ANSWER SHOULD BE "YES."

[TIMESTAMP_SECTION24]

SCREENER DECISION INSTRUCTIONS

CREATE VARIABLE CWTYPE

IN CSHCN SCREENER, IF ANY OF THE FOLLOWING ARE TRUE FOR A PARTICULAR ROSTERED CHILD:
CSHCN1_B = 1;
CSHCN2_B = 1;
CSHCN3_B = 1;
CSHCN4_B = 1;
CSHCN5_A = 1;

THEN CWTYPE = S (SPECIAL).

IF NONE OF THE ABOVE ARE TRUE, THEN CWTYPE = N (NON-SPECIAL NEEDS).

IF ALL CHILDREN IN HOUSEHOLD HAVE CWTYPE = N, THEN SKIP TO C10START (IN SECTION 10).

IF ANY CHILDREN IN HOUSEHOLD HAVE CWTYPE = S, THEN AT THIS POINT, A FOCAL CHILD MUST BE SELECTED FOR THE REST OF THE INTERVIEW FROM ALL CHILDREN WITH A POSITIVE SPECIAL HEALTH CARE NEED SCREEN.

ONE CHILD:
IF ONLY ONE CHILD UNDER 18 YEARS OLD (S_UNDR18 = 1 CHILD) WITH A POSITIVE SPECIAL HEALTH CARE NEED SCREEN, THAT CHILD IS THE FOCAL CHILD [S.C.] FROM THIS POINT.

MORE THAN ONE CHILD:
IF THERE IS MORE THAN ONE CHILD UNDER THE AGE OF 18 (S_UNDR18 > 1 CHILD) WITH A POSITIVE SPECIAL HEALTH CARE NEED SCREEN, ONE OF THESE CHILDREN SHOULD BE RANDOMLY SAMPLED AND THAT CHILD IS THE FOCAL CHILD [S.C.] FROM THIS POINT.

IF S_UNDR18 > 1 THEN GO TO SELECTION1, ELSE IF S_UNDR18 = 1 THEN GO TO SELECTION

SELECTION This survey will continue to be about the health and health care of [S.C.] and will take about 25 minutes. We know your time is valuable, and we will get through the questions as quickly as possible. [IF WOP_POST = 1 "Remember you can end the interview at any time without penalty."]

READ AS NECESSARY: Let's get started and see how far we get. If you have to go, let me know.

(1) CONTINUE WITH INTERVIEW **[GO TO SELECTION1_NAME]**

SELECTION1 The rest of the survey will be about the health and health care of [S.C.] and will take about 25 minutes. We know your time is valuable, and we will get through the questions as quickly as possible. [IF WOP_POST = 1 "Remember you can end the interview at any time without penalty."]

READ AS NECESSARY:
The computer randomly chose this child for the interview.

READ AS NECESSARY:
Let's get started and see how far we get. If you have to go, let me know.

(1) CONTINUE WITH INTERVIEW **[GO TO SELECTION1_NAME]**

SELECTION1_NAME **[SKIP TO S3QINTRO IF NAME OF SELECTED CHILD ALREADY GATHERED BECAUSE FROM MULTIAGE, C2Q01N, NIS INTERVIEW, OR RESPONDENT REFUSED TO ANSWER NAME QUESTIONS.]**

I can continue to refer to your child as (AGEID) for the rest of the interview, or if you prefer, you could give me a first name or initials.

(01) CONTINUE TO USE AGE REFERENCE **[GO TO C3QINTRO]**
(02) USE NAME **[GO TO SELECTION1_NAME_A]**

SELECTION1_NAME_A ENTER NAME/INITIALS: _____ **[GO TO C3QINTRO]**

[FILL [S.C.] WITH THIS NAME FROM THIS POINT ON IN THE INTERVIEW]
(77) DON'T KNOW **[GO TO C3QINTRO]**
(99) REFUSED **[GO TO C3QINTRO]**

Section 3. HEALTH AND FUNCTIONAL STATUS

[TIMESTAMP_SECTION31]

C3QINTRO You told me that [S.C.]

IF CSHCN1_B = 1, ADD "needs prescription drugs..."
IF CSHCN2_B = 1, ADD "needs medical care, mental health, or education services..."
IF CSHCN3_B = 1, ADD "is limited or prevented in [his/her] ability to do things..."
IF CSHCN4_B = 1, ADD "needs special therapy...."
IF CSHCN5_A = 1, ADD "needs treatment or counseling...."
IF MORE THAN ONE OF THESE ITEMS = 1, THEN ADD "AND" BETWEEN EACH ADDITIONAL STATEMENT.

IF CSHCN1_B, CSHCN2_B, CSHCN3_B, OR CSHCN4_B = 1, THEN CONTINUE:
"...because of medical, behavioral, or other health conditions**."**

IFCSHCN1_B = 2, CSHCN2_B = 2, CSHCN3_B = 2, CSHCN4_B = 2, AND CSHCN5_A = 1, THEN CONTINUE: "because of emotional, developmental, or behavioral problems**."**

FOR C3Q02 AND C3Q03 FILLS, IF CSHCN1_B, CSHCN2_B, CSHCN3_B, or CSHCN4_B = 1 USE FIRST FILL. IF CSHCN1_B = 2, CSHCN2_B = 2, CSHCN3_B = 2, CSHCN4_B = 2, AND CSHCN5_A = 1, USE SECOND FILL].

C3Q02 [During the past 12 months/Since [his/her] birth], how often have [S.C.]'s (medical, behavioral, or other health conditions / emotional, developmental, or behavioral problems) affected [his/her] ability to do things other children [his/her] age do? Would you say:

(1) NEVER **[SKIP TO C3Q11]**
(2) SOMETIMES
(3) USUALLY
(4) ALWAYS
(77) DON'T KNOW **[SKIP TO C3Q11]**
(99) REFUSED **[SKIP TO C3Q11]**

READ IF NECESSARY: This question asks how often your child's abilities are affected by his/her health. It does not ask about the severity, intensity, or magnitude of the effect.

ADDITIONAL INFO: FOR EXAMPLE, IF A CHILD'S ASTHMA WAS SEVERE BUT THE ATTACKS WERE RARE, THIS QUESTION WOULD BE ANSWERED WITH "SOMETIMES." IF THE CONDITION IS EPISODIC, RESPONDENTS SHOULD THINK ABOUT HOW OFTEN THE CONDITION HAS AFFECTED THE CHILD'S ABILITIES DURING THE PAST ENTIRE 12 MONTHS.

C3Q03 Do [S.C.]'s (medical, behavioral, or other health conditions/emotional, developmental, or behavioral problems) affect [his/her] ability to do things a great deal, some, or very little?

(1) A GREAT DEAL
(2) SOME
(3) VERY LITTLE
(77) DON'T KNOW
(99) REFUSED

READ IF NECESSARY: You told me your child's health affects his/her ability to do things.

When this occurs, how much are your child's abilities affected?

ADDITIONAL INFO: FOR EXAMPLE, IF A CHILD'S ASTHMA WAS SEVERE BUT THE ATTACKS WERE RARE, THIS QUESTION WOULD BE ANSWERED WITH "A GREAT DEAL." IF THE CONDITION IS EPISODIC, RESPONDENTS SHOULD THINK ABOUT HOW SEVERE THE IMPACT HAS BEEN WHEN THE EPISODES OCCURRED OVER THE PAST 12 MONTHS.

C3Q11 Which of the following statements best describes [S.C.]'s health care needs? [S.C.]'s health care needs change all the time, [S.C.]'s health care needs change only once in a while, or [S.C.]'s health care needs are usually stable?

(1) CHILD'S HEALTH CARE NEEDS CHANGE ALL THE TIME
(2) CHILD'S HEALTH CARE NEEDS CHANGE ONLY ONCE IN A WHILE
(3) CHILD'S HEALTH CARE NEEDS ARE USUALLY STABLE
(4) NONE OF THE ABOVE
(77) DON'T KNOW
(99) REFUSED

[TIMESTAMP_SECTION32]

C3Q23 The next questions are about ways [S.C.] might experience difficulties due to [his/her] health.

Would you say [he/she] experiences a lot, a little, or no difficulty with breathing or other respiratory problems, such as wheezing or shortness of breath?

(1) A LOT OF DIFFICULTY
(2) A LITTLE DIFFICULTY
(3) NO DIFFICULTY
(77) DON'T KNOW
(99) REFUSED

READ IF NECESSARY: We are interested in both on-going and intermittent breathing problems. If the problem comes and goes, please think about the child's breathing throughout the year.

HELP SCREEN: IF RESPONDENT SAYS THAT CHILD HAS MORE THAN A LITTLE DIFFICULTY BUT NOT A LOT OF DIFFICULTY, PLEASE CODE THE ANSWER AS "A LITTLE DIFFICULTY."

C3Q24 Would you say [he/she] experiences a lot, a little, or no difficulty with swallowing, digesting food, or metabolism?

(1) A LOT OF DIFFICULTY
(2) A LITTLE DIFFICULTY
(3) NO DIFFICULTY
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: IF RESPONDENT SAYS THAT CHILD HAS MORE THAN A LITTLE DIFFICULTY BUT NOT A LOT OF DIFFICULTY, PLEASE CODE THE ANSWER AS "A LITTLE DIFFICULTY."

C3Q25 Would you say [he/she] experiences a lot, a little, or no difficulty with blood circulation?

(1) A LOT OF DIFFICULTY
(2) A LITTLE DIFFICULTY
(3) NO DIFFICULTY
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: IF RESPONDENT SAYS THAT CHILD HAS MORE THAN A LITTLE DIFFICULTY BUT NOT A LOT OF DIFFICULTY, PLEASE CODE THE ANSWER AS "A LITTLE DIFFICULTY."

C3Q26 (**READ IF NECESSARY:** Would you say [he/she] experiences a lot, a little, or no difficulty with...)

Repeated or chronic physical pain, including headaches?

(1) A LOT OF DIFFICULTY
(2) A LITTLE DIFFICULTY
(3) NO DIFFICULTY
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: IF RESPONDENT SAYS THAT CHILD HAS MORE THAN A LITTLE DIFFICULTY BUT NOT A LOT OF DIFFICULTY, PLEASE CODE THE ANSWER AS "A LITTLE DIFFICULTY."

C3Q21 (**READ IF NECESSARY:** Would you say [he/she] experiences a lot, a little, or no difficulty...)

Seeing even when wearing glasses or contact lenses?

(1) A LOT OF DIFFICULTY
(2) A LITTLE DIFFICULTY
(3) NO DIFFICULTY
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: IF RESPONDENT SAYS THAT CHILD HAS MORE THAN A LITTLE DIFFICULTY BUT NOT A LOT OF DIFFICULTY, PLEASE CODE THE ANSWER AS "A LITTLE DIFFICULTY."

C3Q22 (**READ IF NECESSARY:** Would you say [he/she] experiences a lot, a little, or no difficulty...)

Hearing even when using a hearing aid or other device?

(1) A LOT OF DIFFICULTY
(2) A LITTLE DIFFICULTY
(3) NO DIFFICULTY
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: IF RESPONDENT SAYS THAT CHILD HAS MORE THAN A LITTLE DIFFICULTY BUT NOT A LOT OF DIFFICULTY, PLEASE CODE THE ANSWER AS "A LITTLE DIFFICULTY."

C3Q27 [**IF S.C. IS YOUNGER THAN 36 MONTHS, SKIP TO C3Q28]**

Compared to other [CSHCN_AGE]-year-old children, would you say [he/she] experiences a lot, a little, or no difficulty taking care of [himself/herself], for example, doing things like eating, dressing and bathing?

(1) A LOT OF DIFFICULTY
(2) A LITTLE DIFFICULTY
(3) NO DIFFICULTY
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: IF RESPONDENT SAYS THAT CHILD HAS MORE THAN A LITTLE DIFFICULTY BUT NOT A LOT OF DIFFICULTY, PLEASE CODE THE ANSWER AS "A LITTLE DIFFICULTY."

C3Q28 IF CHSCN_AGE < 24 MONTHS, THEN "Compared to other [CHSCN_AGE]-month-old children would you say [he/she] experiences a lot, a little, or no difficulty with coordination or moving around, such as….?"

IF CHSCN_AGE > or = 24 MONTHS, THEN "Compared to other [CHSCN_AGE]-year-old children would you say [he/she] experiences a lot, a little, or no difficulty with coordination or moving around, such as..."

(**IF S.C. 0 - 9 MONTHS OLD, SAY**: "crawling or moving arms or legs?"
IF S.C. 10 – 23 MONTHS OLD, SAY: "walking or crawling?"
IF S.C. 24+ MONTHS OLD, SAY: "walking or running?")

(1) A LOT OF DIFFICULTY
(2) A LITTLE DIFFICULTY
(3) NO DIFFICULTY
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: IF RESPONDENT SAYS THAT CHILD HAS MORE THAN A LITTLE DIFFICULTY BUT NOT A LOT OF DIFFICULTY, PLEASE CODE THE ANSWER AS "A LITTLE DIFFICULTY."

C3Q29 IF CHSCN_AGE < 24 MONTHS, THEN "Compared to other [CHSCN_AGE]-month-old children would you say [he/she] experiences a lot, a little, or no difficulty using (his or her) hands such as….?"
IF CHSCN_AGE > or = 24 MONTHS, THEN "Compared other [CHSCN_AGE]-year-old children would you say [he/she] experiences a lot, a little, or no difficulty using (his or her) hands such as..."

(**IF S.C. 0-7 MONTHS, SAY**: " grabbing small objects?"
IF S.C. 8-23 MONTHS, SAY: " holding a cup or eating finger foods?"
IF S.C. 24+ MONTHS, SAY: "using scissors, a pencil, or a fork?")

(1) A LOT OF DIFFICULTY
(2) A LITTLE DIFFICULTY
(3) NO DIFFICULTY
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: IF RESPONDENT SAYS THAT CHILD HAS MORE THAN A LITTLE DIFFICULTY BUT NOT A LOT OF DIFFICULTY, PLEASE CODE THE ANSWER AS "A

LITTLE DIFFICULTY."

C3Q30 **[IF S.C. IS YOUNGER THAN 12 MONTHS, SKIP TO CPC3Q35]**

(**READ IF NECESSARY:** Compared to other [CHSCN_AGE]-year-old children, would you say [he/she] experiences a lot, a little, or no difficulty...)

Learning, understanding, or paying attention?

(1) A LOT OF DIFFICULTY
(2) A LITTLE DIFFICULTY
(3) NO DIFFICULTY
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: IF RESPONDENT SAYS THAT CHILD HAS MORE THAN A LITTLE DIFFICULTY BUT NOT A LOT OF DIFFICULTY, PLEASE CODE THE ANSWER AS "A LITTLE DIFFICULTY."

C3Q31 (**READ IF NECESSARY:** Compared to other [CHSCN_AGE]-year-old children, would you say [he/she] experiences a lot, a little, or no difficulty...)

Speaking, communicating, or being understood?

(1) A LOT OF DIFFICULTY
(2) A LITTLE DIFFICULTY
(3) NO DIFFICULTY
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: IF RESPONDENT SAYS THAT CHILD HAS MORE THAN A LITTLE DIFFICULTY BUT NOT A LOT OF DIFFICULTY, PLEASE CODE THE ANSWER AS "A LITTLE DIFFICULTY."

C3Q32 **[IF S.C. IS YOUNGER THAN 18 MONTHS, SKIP TO CPC3Q35]**

Compared to other [CSHCN_AGE]-year-old children, would you say [he/she] experiences a lot, a little, or no difficulty with feeling anxious or depressed?

(1) A LOT OF DIFFICULTY
(2) A LITTLE DIFFICULTY
(3) NO DIFFICULTY
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: IF RESPONDENT SAYS THAT CHILD HAS MORE THAN A LITTLE DIFFICULTY BUT NOT A LOT OF DIFFICULTY, PLEASE CODE THE ANSWER AS "A LITTLE DIFFICULTY."

C3Q33 (**READ IF NECESSARY:** Compared to other [CSHCN_AGE]-year-old children, would you say [he/she] experiences a lot, a little, or no difficulty...)

With behavior problems, such as acting-out, fighting, bullying, or arguing?

(1) A LOT OF DIFFICULTY

(2) A LITTLE DIFFICULTY
(3) NO DIFFICULTY
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: IF RESPONDENT SAYS THAT CHILD HAS MORE THAN A LITTLE DIFFICULTY BUT NOT A LOT OF DIFFICULTY, PLEASE CODE THE ANSWER AS "A LITTLE DIFFICULTY."

C3Q34 **[IF S.C. IS YOUNGER THAN 36 MONTHS, SKIP TO CPC3Q35]**

(**READ IF NECESSARY:** Compared to other [CSHCN_AGE]-year-old children, would you say [he/she] experiences a lot, a little, or no difficulty..)

Making and keeping friends?

(1) A LOT OF DIFFICULTY
(2) A LITTLE DIFFICULTY
(3) NO DIFFICULTY
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: IF RESPONDENT SAYS THAT CHILD HAS MORE THAN A LITTLE DIFFICULTY BUT NOT A LOT OF DIFFICULTY, PLEASE CODE THE ANSWER AS "A LITTLE DIFFICULTY."

[TIMESTAMP_SECTION33]

CPC3Q35 **[IF ALL C3Q21 THROUGH C3Q34 = missing, 3, 77, 99, ASK C3Q35. ELSE, SKIP TO K2Q31_INTRO]**

C3Q35 You reported that [S.C.] does not experience any difficulty in any of the areas just mentioned. In your opinion, would you say this is because [S.C.]'s health problems are being treated and are under control?

(1) YES **[SKIP TO K2Q31_INTRO]**
(2) NO **[SKIP TO C3Q35A]**
(77) DON'T KNOW **[SKIP TO K2Q31_INTRO]**
(99) REFUSED **[SKIP TO K2Q31_INTRO]**

C3Q35A Why is it that [S.C.]'s health problems do not currently cause [him/her] difficulty?

_____**[250 CHARACTERS MAX]**

[NOTE TO INTERVIEWERS: DO NOT RECORD ONLY THE DIAGNOSIS OR CONDITION. IF THE RESPONDENT GIVES ONLY THE DIAGNOSIS OR CONDITION, ASK: "Why doesn't that problem cause any difficulty in the areas just mentioned?"]

[TIMESTAMP_SECTION34]

K2Q31_INTRO 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 [S.C.] had the condition, even if [he/she] does not have the condition now.

CPK2Q31 If SC AGE < 24 MONTHS SKIP TO K2Q40A

CATI INSTRUCTION (K2Q31A-K2Q52A): **IF** SC AGE **< 24 MONTHS SKIP TO K2Q40A.**

K2Q31A Has a doctor or other health care provider *ever* told you that [S.C.] had...

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

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q31A): 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.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q32A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

Depression?

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q32A): 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 child feels, and the way a child eats, sleeps, and functions.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q33A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

Anxiety problems?

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q33A): 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.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION,

BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q34A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

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

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q34A): Oppositional defiant disorder is an ongoing pattern of defiant and hostile behavior that interferes with a child's life and daily activities.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q35A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

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

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q35A): 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.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q36A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

Any developmental delay that affects [his/her] ability to learn?

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q36A): 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.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL

CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q37A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

Intellectual disability or mental retardation?

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q37A): Children with intellectual disabilities or mental retardation learn and develop more slowly than a typical child.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q40A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

Asthma?

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q40A): Asthma is a disease that causes swelling in the tubes that carry air to the lungs. Sometimes asthma blocks or restricts the airways making it difficult to breathe.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q41A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

Diabetes?

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q41A): Diabetes is a disease in which the body does not properly make or use insulin.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR

OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q42A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

Epilepsy or seizure disorder?

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q42A): Epilepsy is a brain disease that involves recurrent seizures.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q43A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

Has a doctor or other health care provider ever told you that [S.C.] had Migraines or frequent headaches?

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q43A): A migraine is a type of severe headache that can cause nausea and vomiting.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q44A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

A head injury, concussion, or traumatic brain injury or concussion?

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q44A): A concussion is an injury of the brain that causes a brief disruption in brain function. Developmental and neurological conditions (such as autism or cerebral palsy) should not be included as head or brain injuries. This question refers only to traumatic injuries. Brain tumors should not be considered brain injuries.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL

CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q45A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

Heart problem, including congenital heart disease?

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN: Heart problems are any type of problems with a child's heart. Congenital heart disease is a defect in the structure of the heart that occurs before birth. Harmless or innocuous heart murmurs should not be included as heart problems.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q46A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

Blood problems such as anemia or sickle cell disease? Please do not include Sickle Cell Trait.

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN: Children with anemia have problems with their blood that can cause them to be very tired. Leukemia should be included as a blood problem.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q47A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

Cystic Fibrosis?

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q47A): Cystic Fibrosis is a disease that causes mucus to build up in the lungs and can cause bronchitis, frequent coughing and pneumonia.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL

CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q48A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

Cerebral Palsy?

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q48A): Cerebral Palsy is caused by damage that occurs to the brain prior to or shortly after birth that can affect body movement and muscle coordination.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q49A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

Muscular Dystrophy?

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q49A): Muscular dystrophy is a group of genetic muscle diseases that cause muscle weakness and muscle degeneration.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q50A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

Down Syndrome?

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q50A): Down Syndrome is a condition that causes delays in the way a child develops, both mentally and physically.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR

OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q51A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

Arthritis or other joint problems?

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q51A): Arthritis causes joint problems including pain, stiffness, swelling, and damage to joints.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q52A (**READ IF NECESSARY:** Has a doctor or other health care provider *ever* told you that [S.C.] had…)

Allergies?

(1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN (K2Q52A): An allergy is an abnormal reaction by a person's immune system against a normally harmless substance.

HELP SCREEN: IF THE RESPONDENT HAS NEVER HEARD OF THE MEDICAL CONDITION OR DOES NOT KNOW WHAT THE CONDITION IS, THEN A DOCTOR OR OTHER HEALTH CARE PROVIDER PROBABLY HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION. IF A DOCTOR OR OTHER HEALTH CARE PROVIDER HAS NOT TOLD THE RESPONDENT THAT THE S.C. HAS THE CONDITION, BUT THE RESPONDENT INSISTS THAT THE S.C. HAS THE CONDITION, WE STILL NEED TO CODE THE ANSWER AS "NO."

K2Q31B **[IF K2Q31A IS NOT "1," THEN SKIP TO K2Q32B]**

Does [S.C.] *currently* have ADD or ADHD?

(1) YES
(2) NO **[SKIP TO K2Q32B]**
(77) DON'T KNOW **[SKIP TO K2Q32B]**
(99) REFUSED **[SKIP TO K2Q32B]**

K2Q31C Would you describe [his/her] ADD or ADHD as mild, moderate, or severe?

(1) MILD
(2) MODERATE

(3) SEVERE
(77) DON'T KNOW
(99) REFUSED

K2Q32B **[IF K2Q32A IS NOT "1," THEN SKIP TO K2Q33B]**

Does [S.C.] *currently* have depression?

(1) YES
(2) NO **[SKIP TO K2Q33B]**
(77) DON'T KNOW **[SKIP TO K2Q33B]**
(99) REFUSED **[SKIP TO K2Q33B]**

K2Q32C Would you describe [his/her] depression as mild, moderate, or severe?

(1) MILD
(2) MODERATE
(3) SEVERE
(77) DON'T KNOW
(99) REFUSED

K2Q33B **[IF K2Q33A IS NOT "1," THEN SKIP TO K2Q34B]**

Does [S.C.] *currently* have anxiety problems?

(1) YES
(2) NO **[SKIP TO K2Q34B]**
(77) DON'T KNOW **[SKIP TO K2Q34B]**
(99) REFUSED **[SKIP TO K2Q34B]**

K2Q33C Would you describe [his/her] anxiety problems as mild, moderate, or severe?

(1) MILD
(2) MODERATE
(3) SEVERE
(77) DON'T KNOW
(99) REFUSED

K2Q34B **[IF K2Q34A IS NOT "1," THEN SKIP TO K2Q35B]**

Does [S.C.] *currently* have behavioral or conduct problems?

(1) YES
(2) NO **[SKIP TO K2Q35B]**
(77) DON'T KNOW **[SKIP TO K2Q35B]**
(99) REFUSED **[SKIP TO K2Q35B]**

K2Q34C Would you describe [his/her] behavioral or conduct problems as mild, moderate, or severe?

(1) MILD
(2) MODERATE
(3) SEVERE
(77) DON'T KNOW
(99) REFUSED

K2Q35B **[IF K2Q35A IS NOT "1," THEN SKIP TO K2Q36B]**

Does [S.C.] *currently* have autism or an autism spectrum disorder?

(1) YES
(2) NO **[SKIP TO K2Q36B]**
(77) DON'T KNOW **[SKIP TO K2Q36B]**
(99) REFUSED **[SKIP TO K2Q36B]**

K2Q35C Would you describe [his/her] autism or ASD as mild, moderate, or severe?

(1) MILD
(2) MODERATE
(3) SEVERE
(77) DON'T KNOW
(99) REFUSED

K2Q35D How old was [S.C.] when a doctor or other health care provider first told you that [he/she] had autism or ASD?

HELP SCREEN: ENTER AGE IN MONTHS FOR 0 TO 23 MONTHS. IF 2 YEARS OR OLDER, ENTER AGE IN YEARS.

___ ____ VALUE (MUST BE LESS THAN OR EQUAL TO AGE OF CHILD)

(77) DON'T KNOW
(99) REFUSED

K2Q35DA Months (00-23)
Years (Range 02-17)

(1) MONTHS
(2) YEARS
(77) DON'T KNOW
(99) REFUSED

K2Q36B **[IF K2Q36A IS NOT "1," THEN SKIP TO K2Q37B]**

Does [S.C.] *currently* have developmental delay?

(1) YES
(2) NO **[SKIP TO K2Q37B]**
(77) DON'T KNOW **[SKIP TO K2Q37B]**
(99) REFUSED **[SKIP TO K2Q37B]**

K2Q36C Would you describe [his/her] developmental delay as mild, moderate, or severe?

(1) MILD
(2) MODERATE
(3) SEVERE
(77) DON'T KNOW
(99) REFUSED

K2Q37B [IF K2Q37A IS NOT "1," THEN SKIP TO K2Q40B.]

Does [S.C.] *currently* have intellectual disability or mental retardation?

(1) YES
(2) NO **[SKIP TO K2Q40B]**
(77) DON'T KNOW **[SKIP TO K2Q40B]**
(99) REFUSED **[SKIP TO K2Q40B]**

K2Q37C Would you describe [his/her] intellectual disability or mental retardation as mild, moderate, or severe?

(1) MILD
(2) MODERATE
(3) SEVERE
(77) DON'T KNOW
(99) REFUSED

K2Q40B **[IF K2Q40A IS NOT "1," THEN SKIP TO K2Q41B]**

Does [S.C.] *currently* have asthma?

(1) YES
(2) NO **[SKIP TO K2Q41B]**
(77) DON'T KNOW **[SKIP TO K2Q41B]**
(99) REFUSED **[SKIP TO K2Q41B]**

K2Q41B [IF K2Q41A IS NOT "1," THEN SKIP TO K2Q42B.]

Does [S.C.] *currently* have diabetes?

(1) YES
(2) NO **[SKIP TO K2Q42B]**
(77) DON'T KNOW **[SKIP TO K2Q42B]**
(99) REFUSED **[SKIP TO K2Q42B]**

K2Q41C Does [S.C.] use insulin?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

K2Q42B **[IF K2Q42A IS NOT "1," THEN SKIP TO K2Q43B]**

Does [S.C.] *currently* have epilepsy or seizure disorder?

(1) YES
(2) NO **[SKIP TO K2Q43B]**
(77) DON'T KNOW **[SKIP TO K2Q43B]**
(99) REFUSED **[SKIP TO K2Q43B]**

K2Q42C Would you describe [his/her] epilepsy or seizure disorder as mild, moderate, or severe?

(1) MILD
(2) MODERATE
(3) SEVERE

(77) DON'T KNOW
(99) REFUSED

K2Q43B **[IF K2Q43A IS NOT "1," THEN SKIP TO K2Q44B]**

Does [S.C.] *currently* have migraines or frequent headaches?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

K2Q44B **[IF K2Q44A IS NOT "1," THEN SKIP TO K2Q45B]**

Does [S.C.] *currently* have a head injury, concussion, or traumatic brain injury?

(1) YES
(2) NO **[SKIP TO K2Q45B]**
(77) DON'T KNOW **[SKIP TO K2Q45B]**
(99) REFUSED **[SKIP TO K2Q45B]**

K2Q44C Would you describe [his/her] injury as mild, moderate, or severe?

(1) MILD
(2) MODERATE
(3) SEVERE
(77) DON'T KNOW
(99) REFUSED

K2Q45B **[IF K2Q45A IS NOT "1," THEN SKIP TO K2Q46B]**

Does [S.C.] *currently* have a heart problem?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

K2Q46B **[IF K2Q46A IS NOT "1," THEN SKIP TO K2Q47B]**

Does [S.C.] *currently* have a blood problem?

(1) YES
(2) NO **[SKIP TO K2Q47B]**
(77) DON'T KNOW **[SKIP TO K2Q47B]**
(99) REFUSED **[SKIP TO K2Q47B]**

K2Q46C Are [his/her] blood problems related to anemia, sickle cell disease, hemophilia, or something else?

(1) ANEMIA
(2) SICKLE CELL DISEASE
(3) HEMOPHILIA
(4) SOMETHING ELSE
(77) DON'T KNOW
(99) REFUSED

K2Q47B **[IF K2Q47A IS NOT "1," THEN SKIP TO K2Q48B]**

Does [S.C.] *currently* have Cystic Fibrosis?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

K2Q48B [IF K2Q48A IS NOT "1," THEN SKIP TO K2Q49B.]

Does [S.C.] *currently* have Cerebral Palsy?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

K2Q49B **[IF K2Q49A IS NOT "1," THEN SKIP TO K2Q50B]**

Does [S.C.] *currently* have Muscular Dystrophy?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

K2Q50B **[IF K2Q50A IS NOT "1," THEN SKIP TO K2Q51B]**

Does [S.C.] *currently* have Down Syndrome?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

K2Q51B **[IF K2Q51A IS NOT "1," THEN SKIP TO K2Q52B]**

Does [S.C.] *currently* have arthritis or other joint problems?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

K2Q52B **[IF K2Q52A IS NOT "1," THEN SKIP TO C3Q14]**

Does [S.C.] *currently* have allergies?

(1) YES
(2) NO **[SKIP TO C3Q14]**
(77) DON'T KNOW **[SKIP TO C3Q14]**
(99) REFUSED **[SKIP TO C3Q14]**

K2Q52C Are any of these food allergies?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

[TIMESTAMP_SECTION35]

C3Q14 **[IF CSHCN_AGE < 60 MONTHS (5 YEARS), SKIP TO C3Q42]**
IF SC=ST then FILL C3Q14 WITH TIS_NOSCHOOL

During the past 12 months, that is since [ONE_YEAR_AGO], about how many days did [S.C.] miss school because of illness or injury?

NOTE: A SCHOOL YEAR IS 240 DAYS

_____NUMBER OF DAYS
(000) NONE
(555) DID NOT GO TO SCHOOL
(666) HOME SCHOOLED
(777) DON'T KNOW
(999) REFUSED

RANGE 000-240, 555, 666,777,999
IF > 40 AND NOT IN 555, 666, 777, 999, GO TO SC_C3Q14 ELSE GO TO C3Q40

SC_C3Q14 YOU ENTERED [FILL WITH ANSWER FROM C3Q14] SCHOOL DAYS. IS THIS CORRECT?

(1) YES **[GO TO C3Q40]**
(2) NO **[GO BACK TO C3Q14]**

C3Q40 Do [S.C.]'s (medical, behavioral, or other health conditions / emotional, developmental, or behavioral problems) interfere with [his/her] ability to attend school on a regular basis?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

C3Q41 Do [S.C.]'s (medical, behavioral, or other health conditions / emotional, developmental, or behavioral problems) interfere with [his/her] ability to participate in sports, clubs, or other organized activities?

(1) YES **[SKIP TO NAME_SEC4]**
(2) NO **[SKIP TO NAME_SEC4]**
(77) DON'T KNOW **[SKIP TO NAME_SEC4]**
(99) REFUSED **[SKIP TO NAME_SEC4]**

C3Q42 **[IF S.C. IS YOUNGER THAN 12 MONTHS, SKIP TO C3Q43]**

Do [S.C.]'s (medical, behavioral, or other health conditions / emotional, developmental, or behavioral problems) interfere with [his/her] ability to participate in play with other children?

(1) YES
(2) NO

(77) DON'T KNOW
(99) REFUSED

C3Q43 Do [S.C.]'s (medical, behavioral, or other health conditions / emotional, developmental, or behavioral problems) interfere with [his/her] ability to go on outings, such as to the park, library, zoo, shopping, church, restaurants, or family gatherings?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

Section 4. ACCESS TO CARE: UTILIZATION AND UNMET NEEDS

[TIMESTAMP_SECTION41]

NAME_SEC4 [**SKIP TO C4Q0A IF NAME OF SELECTED CHILD ALREADY GATHERED FROM MULTIAGE, C2Q01N, SELECTION1_NAME, NIS INTERVIEW, OR RESPONDENT REFUSED TO ANSWER NAME QUESTIONS]**

INTERVIEWER QUESTION: DO NOT READ TO RESPONDENT!
HAS THE HOUSEHOLD GIVEN YOU A NAME FOR THE CHILD?

(1) YES **[GO TO NAME_SEC4_A]**
(2) NO **[GO TO C4Q0A]**

NAME_SEC4_A
ENTER NAME/INITIALS: _____ **[GO TO C4Q0A]**

[**FILL [S.C.] WITH THIS NAME FROM THIS POINT ON IN THE INTERVIEW**]

C4Q0A Is there a place that [S.C.] USUALLY goes when [he/she] is sick or you need advice about [his/her] health?

(1) YES
(2) THERE IS NO PLACE **[SKIP TO C4Q0D]**
(3) THERE IS MORE THAN ONE PLACE
(77) DON'T KNOW **[SKIP TO C4Q0D]**
(99) REFUSED **[SKIP TO C4Q0D]**

C4Q0B **IF C4Q0A = 01, SAY "**What kind of place is it?**"**
IF C4Q0A = 03, SAY "What kind of place does [S.C.] go to most often?**"**
Is it a doctor's office, emergency room, hospital outpatient department, clinic, or some other place?

(1) DOCTOR'S OFFICE
(2) HOSPITAL EMERGENCY ROOM
(3) HOSPITAL OUTPATIENT DEPARTMENT
(4) CLINIC OR HEALTH CENTER
(5) SCHOOL (NURSE'S OFFICE, ATHLETIC TRAINER'S OFFICE, ETC)
(6) FRIEND/RELATIVE
(7) MEXICO/OTHER LOCATIONS OUT OF US
(8) SOME OTHER PLACE **[SKIP TO C4Q0C]**
(9) DOES NOT GO TO ONE PLACE MOST OFTEN
(77) DON'T KNOW **[FILL 77 IN C4Q0A AND SKIP TO C4Q0D]**
(99) REFUSED **[FILL 99 IN C4Q0A AND SKIP TO C4Q0D]**

FOR ALL EXCEPT (8), GO TO C4Q0D

C4Q0C **READ IF NECESSARY**
IF C4Q0A = 01, SAY "What kind of place is it?**"**
IF C4Q0A = 3, SAY "What kind of place does [S.C.] go to most often?**"**

RECORD VERBATIM RESPONSE_____

C4Q0D Is there a place that [S.C.] USUALLY goes when [he/she] needs routine preventive care, such as a physical examination or well-child check-up?

(1) YES
(2) THERE IS NO PLACE **[SKIP TO C4Q02A]**
(3) THERE IS MORE THAN ONE PLACE
(77) DON'T KNOW **[SKIP TO C4Q02A]**
(99) REFUSED **[SKIP TO C4Q02A]**

READ IF NECESSARY: Routine preventive care includes check-ups, immunizations, health screening tests, and discussions about how to keep your child healthy.

C4Q01 **[IF C4Q0A = 2, 77, 99, OR IF C4Q0B = 9, 77, 99, THEN GO TO C4Q02]**
[IF C4Q0B = 6, 7, 8, 77, 99 FILL WITH "place"]

Is that the same [place selected in C4Q0B] where [S.C.] goes when [he/she] is sick?

(1) YES **[SKIP TO C4Q02A]**
(2) NO

(77) DON'T KNOW **[SKIP TO C4Q02A]**
(99) REFUSED **[SKIP TO C4Q02A]**

C4Q02 **IF C4Q0D = 01 OR MISSING, SAY** "What kind of place does [S.C.] USUALLY go to when **[he/she]** needs routine preventive care?"
IF C4Q0D = 03, SAY "What kind of place does [S.C.] go to most often when [he/she] needs routine preventive care?"

(1) DOCTOR'S OFFICE
(2) HOSPITAL EMERGENCY ROOM
(3) HOSPITAL OUTPATIENT DEPARTMENT
(4) CLINIC OR HEALTH CENTER
(5) SCHOOL (NURSE'S OFFICE, ATHLETIC TRAINER'S OFFICE, ETC)
(6) FRIEND/RELATIVE
(7) MEXICO/OTHER LOCATIONS OUT OF US
(8) SOME OTHER PLACE **[SKIP TO C4Q02_01]**
(9) DOES NOT GO TO ONE PLACE MOST OFTEN
(77) DON'T KNOW
(99) REFUSED

FOR ALL EXCEPT (08), GO TO C4Q02A.

C4Q02_01 **READ IF NECESSARY**
IF C4Q0D = 1, SAY "What kind of place is it?**"**
IF C4Q0D = 3, SAY "What kind of place does [S.C.] go to most often?**"**

RECORD VERBATIM RESPONSE_____

C4Q02A A personal doctor or nurse is a health professional who knows your child well and is familiar with your child's health history. This can be a general doctor, a pediatrician, a specialist doctor, a nurse practitioner, or a physician's assistant. Do you have one or more persons you think of as [S.C.]'s personal doctor or nurse?

(1) YES, ONE PERSON
(2) YES, MORE THAN ONE PERSON
(3) NO **[SKIP TO C4Q03]**
(77) DON'T KNOW **[SKIP TO C4Q03]**
(99) REFUSED **[SKIP TO C4Q03]**

C4Q02B **IF C4Q02A = 01 THEN READ**: "Is this person a general doctor, pediatrician, specialist, nurse practitioner, or physician's assistant?" **[MARK ALL THAT APPLY]**

IF C4Q02A = 02 THEN READ: "Are those people general doctors, pediatricians, specialists, nurse practitioners, or physician assistants?" **[MARK ALL THAT APPLY]**

(1) GENERAL DOCTOR (GENERAL PRACTICE, FAMILY OR INTERNAL MEDICINE)
(2) PEDIATRICIAN
(3) SPECIALIST (FOR EXAMPLE; SURGEONS, HEART DOCTORS, PSYCHIATRISTS, OB/GYN)
(4) NURSE PRACTITIONER
(5) PHYSICIAN'S ASSISTANT
(6) MOTHER/FRIEND/RELATIVE
(7) OTHER **[GO TO C4Q02B_01]**
(77) DON'T KNOW
(99) REFUSED

ALL EXCEPT (7) GO TO C4Q03_INTRO.

C4Q02B_01 READ IF NECESSARY:
What type of health professional is this person?

RECORD VERBATIM RESPONSE_____

[TIMESTAMP_SECTION42]

C4Q03_INTRO The next questions are about all the types of services children may need or use, such as medical care, dental care, specialized therapies, counseling, medical equipment, special education, and early intervention. These services can be obtained in clinics, schools, child care centers, through community programs, at home, and other places.

C4Q03_A [During the past 12 months / Since [his/her] birth], did you have any difficulties or delays getting services for [S.C.] because [he/she] was not eligible for the services?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: These questions are about all the types of services children may need or use, such as medical care, dental care, specialized therapies, counseling, medical equipment, special education, and early intervention. These services can be obtained in clinics, schools, child care centers, through community programs, at home, and other places.

C4Q03_B [During the past 12 months / Since [his/her] birth], did you have any difficulties or delays because the services [S.C.] needed were not available in your area?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: These questions are about all the types of services children may need or use, such as medical care, dental care, specialized therapies, counseling, medical equipment, special education, and early intervention. These services can be obtained in clinics, schools, child care centers, through community programs, at home, and other places.

C4Q03_C [During the past 12 months / Since [his/her] birth], did you have any difficulties or delays because there were waiting lists, backlogs, or other problems getting appointments?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: These questions are about all the types of services children may need or use, such as medical care, dental care, specialized therapies, counseling, medical equipment, special education, and early intervention. These services can be obtained in clinics, schools, child care centers, through community programs, at home, and other places.

C4Q03_D (**READ IF NECESSARY:** [During the past 12 months / Since [his/her] birth]

Did you have any difficulties or delays because of issues related to cost?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: These questions are about all the types of services children may need or use, such as medical care, dental care, specialized therapies, counseling, medical equipment, special education, and early intervention. These services can be obtained in clinics, schools, child care centers, through community programs, at home, and other places.

C4Q03_E (**READ IF NECESSARY:** [During the past 12 months/ Since [his/her] birth]

Did you have any difficulties or delays because you had trouble getting the information you needed?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: These questions are about all the types of services children may need or use, such as medical care, dental care, specialized therapies, counseling, medical equipment, special education, and early intervention. These services can be obtained in clinics, schools, child care centers, through community programs, at home, and other places.

C4Q03_F **[IF ANY C4Q03_A THROUGH C4Q03_E = YES, THEN SKIP TO C4Q04.]**

(**READ IF NECESSARY:** [During the past 12 months / Since [his/her] birth]
Did you have any difficulties or delays for any other reason?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN: These questions are about all the types of services children may need or use, such as medical care, dental care, specialized therapies, counseling, medical equipment, special education, and early intervention. These services can be obtained in clinics, schools, child care centers, through community programs, at home, and other places.

C4Q04 [During the past 12 months / Since [his/her] birth], how often have you been frustrated in your efforts to get services for [S.C.]?

Would you say never, sometimes, usually, or always?

(1) NEVER **[GO TO C6Q00]**
(2) SOMETIMES **[GO TO C6Q00]**
(3) USUALLY **[GO TO C6Q00]**
(4) ALWAYS **[GO TO C6Q00]**
(77) DON'T KNOW **[GO TO C6Q00]**
(99) REFUSED **[GO TO C6Q00]**

C6Q00 [During the past 12 months/Since [his/her] birth], how many times did [S.C.] visit a hospital emergency room?

(CATI: 3 NUMERIC-CHARACTER FIELD, RANGE 000-365, 777, 999)

READ IF NECESSARY: This includes emergency room visits that resulted in a hospital admission.

READ IF NECESSARY: THIS QUESTION IS ASKING SPECIFICALLY ABOUT VISITS TO A HOSPITAL EMERGENCY ROOM. DO NOT INCLUDE VISITS TO URGENT CARE CENTERS OR CLINICS, WHICH TAKE SICK PATIENTS WHO CANNOT BE SEEN BY THEIR REGULAR OR PRIMARY CARE DOCTORS.

ENTER NUMBER OF VISITS

_____NUMBER OF VISITS
(000) NO VISITS IN PAST 12 MONTHS
(777) DON'T KNOW
(999) REFUSED

IF > 10 AND NOT IN 777, 999, GO TO SC_C6Q00 ELSE GO TO CPC3Q50

SC_C6Q00 YOU ENTERED [FILL WITH ANSWER FROM C6Q00] VISITS. IS THIS CORRECT?

(1) YES **[GO TO CPC3Q50]**
(2) NO **[GO BACKTO C6Q00]**

[TIMESTAMP_SECTION42A]

CPC3Q50 IF CWTYPE=S AND ASK_CALIF=1 THEN GO TO C3Q50, ELSE GO TO K4Q20

C3Q50*CA [During the past 12 months\ Since [S.C.]'s birth], was [S.C.] admitted to a hospital overnight?

HELP SCREEN: DO NOT INCLUDE OVERNIGHT STAYS IN THE EMERGENCY ROOM.

(1) YES **[GO TO K4Q20]**
(2) NO **[GO TO K4Q20]**
(77) DON'T KNOW **[GO TO K4Q20]**
(99) REFUSED **[GO TO K4Q20]**

[TIMESTAMP_SECTION43]

K4Q20 **IF 0, GO TO C4Q05_1, IF >6 AND NOT IN 77, 99, GO TO SC_K4Q20, ELSE GO TO C4Q05_1A**
(CATI: 2 NUMERIC-CHARACTER FIELD, RANGE 00-76, 77, 99)

[During the past 12 months / Since [his/her] birth], how many times did [S.C.] receive a well-child check-up, that is a general check-up, when [he/she] was not sick or injured?

_____ TIMES

(77) DON'T KNOW
(99) REFUSED

SC_K4Q20 INTERVIEWER CHECK:
YOU ENTERED [FILL WITH ANSWER FROM K4Q20] TIMES. IS THIS CORRECT?

(1) YES **[GO TO C4Q05_1A]**
(2) NO **[GO BACK TO K4Q20]**

C4Q05 (4.5)

(CATI: THIS SERIES SHOULD BE ASKED HORIZONTALLY ACROSS THE TABLE. IN OTHER WORDS, IF THEY ANSWER YES TO SOMETHING IN COLUMN 01, THEY SHOULD IMMEDIATELY BE ASKED THE QUESTIONS IN COLUMN 2, 3, 4, 5 AS APPLICABLE)

ALL RECEIVE THE FOLLOWING INTRODUCTION: [During the past 12 months/ Since [his/her] birth]**,** was there any time when [S.C.] needed any of the following services:	Did [S.C.] receive all the [fill each 'Yes' item from first column] that [he/she] needed?	Why did [S.C.] not get the [fill each yes item from first column] [he/she] needed? **(CHECK ALL THAT APPLY. READ RESPONSES ONLY IF NECESSARY)**		Did [S.C.] get any [fill each yes item from first column] [during the past 12 months/ since [his/her] birth]?

C4Q05_1 [During the past 12 months/ Since [his/her] birth], was there *any* time when [S.C.] needed... a well child check-up? (1) YES **[SKIP TO C4Q05_1B]** (2) NO **[SKIP TO K4Q21]** (77) DON'T KNOW **[SKIP TO K4Q21]** (99) REFUSED **[SKIP TO K4Q21]**	C4Q05_1A Did [S.C.] receive *all* the well-child check-ups that [he/she] needed? (1)YES **[SKIP TO K4Q21]** (2) NO (77) DON'T KNOW **[SKIP TO K4Q21]** (99) REFUSED **[SKIP TO K4Q21]**	C4Q05_1B Why did [S.C.] not get *all* the well-child check-ups [he/she] needed? (1) COST WAS TOO MUCH (2) NO INSURANCE (3) HEALTH PLAN PROBLEM (4) CAN'T FIND PROVIDER WHO ACCEPTS CHILD'S INSURANCE (5) NOT AVAILABLE IN AREA/TRANSPORT PROBLEMS (6) NOT CONVENIENT TIMES/COULD NOT GET APPOINTMENT (7) PROVIDER DID NOT KNOW HOW TO TREAT OR PROVIDE CARE (8) DISSATISFACTION WITH PROVIDER (9) DID NOT KNOW WHERE TO GO FOR TREATMENT (10) CHILD REFUSED TO GO (11) TREATMENT IS ONGOING (13) NO REFERRAL (14) LACK OF RESOURCES AT SCHOOL (15) DID NOT GO TO APPT/NEGLECTED APPT/FORGOT APPT (16) OTHER **[SKIP TO C4Q05_1_O]** (77) DON'T KNOW (99) REFUSED **ALL OTHERS, SKIP TO K4Q21**	C4Q05_1_O **READ IF NECESSARY:** Why did [S.C.] not get *all* the well-child check-ups [he/she] needed? RECORD VERBATIM RESPONSE_____ **[GO TO K4Q21]**	

K4Q21 **IF 0, GO TO C4Q05_31, IF >10 AND NOT IN 77, 99, GO TO SC_K4Q21, ELSE GO TO C4Q05_31A**
RANGE 0-76, 77, 99

[During the past 12 months / Since [his/her] birth], how many times did [S.C.] see a dentist for preventive dental care, such as check-ups and dental cleanings?

_____ TIMES

(77) DON'T KNOW
(99) REFUSED

SC_K4Q21 INTERVIEWER CHECK:
YOU ENTERED [FILL WITH ANSWER FROM K4Q21] TIMES. IS THIS CORRECT?

(1) YES **[GO TO C4Q05_31A]**
(2) NO **[GO BACK TO K4Q21]**

C4Q05_31 [During the past 12 months/ Since [his/her] birth], was there *any* time when [S.C.] needed... Preventive dental care, such as check-ups and dental cleanings? (1) YES **[SKIP TO C4Q05_31B]** (2) NO **[SKIP TO C4Q05_32]** (77) DON'T KNOW **[SKIP TO C4Q05_32]** (99) REFUSED **[SKIP TO C4Q05_32]**	C4Q05_31A Did [S.C.] receive *all* the preventive dental care that [he/she] needed? (1)YES **[SKIP TO C4Q05_32]** (2) NO (77) DON'T KNOW **[SKIP TO C4Q05_32]** (99) REFUSED **[SKIP TO C4Q05_32]**	C4Q05_31B Why did [S.C.] not get *all* the preventive dental care [he/she] needed? (1) COST WAS TOO MUCH (2) NO INSURANCE (3) HEALTH PLAN PROBLEM (4) CAN'T FIND PROVIDER WHO ACCEPTS CHILD'S INSURANCE (5) NOT AVAILABLE IN AREA/TRANSPORT PROBLEMS (6) NOT CONVENIENT TIMES/COULD NOT GET APPOINTMENT (7) PROVIDER DID NOT KNOW HOW TO TREAT OR PROVIDE CARE (8) DISSATISFACTION WITH PROVIDER (9) DID NOT KNOW WHERE TO GO FOR TREATMENT (10) CHILD REFUSED TO GO (11) TREATMENT IS ONGOING (13) NO REFERRAL (14) LACK OF RESOURCES AT SCHOOL (15) DID NOT GO TO APPT/NEGLECTED APPT/FORGOT APPT (16) OTHER **[SKIP TO C4Q05_31_O]** (77) DON'T KNOW (99) REFUSED **ALL OTHERS, SKIP TO C4Q05_32**	C4Q05_31_O **READ IF NECESSARY:** Why did [S.C.] not get all the preventive dental care [he/she] needed ? RECORD VERBATIM RESPONSE_____ **GO TO C4Q05_32**	

C4Q05_32 [During the past 12 months/ Since [his/her] birth,] was there *any* time when [S.C.] needed… Any other dental care or orthodontia? **HELP SCREEN**: OTHER DENTAL CARE CAN INCLUDE ORTHODONTIAL CARE SUCH AS BRACES AND RETAINERS, OR PERIODONTIAL CARE SUCH AS TREATMENT FOR GUM DISEASE. (1) YES (2) NO **[SKIP TO C4Q05_2]** (77) DON'T KNOW **[SKIP TO C4Q05_2]** (99) REFUSED **[SKIP TO C4Q05_2]**	C4Q05_32A Did [S.C.] receive *all* the other dental care that [he/she] needed? (1)YES **[SKIP TO C4Q05_2]** (2) NO (77) DON'T KNOW **[SKIP TO C4Q05_2]** (99) REFUSED **[SKIP TO C4Q05_2]**	C4Q05_32B Why did [S.C.] not get *all* the other dental care [he/she] needed? (1) COST WAS TOO MUCH (2) NO INSURANCE (3) HEALTH PLAN PROBLEM (4) CAN'T FIND PROVIDER WHO ACCEPTS CHILD'S INSURANCE (5) NOT AVAILABLE IN AREA/TRANSPORT PROBLEMS (6) NOT CONVENIENT TIMES/COULD NOT GET APPOINTMENT (7) PROVIDER DID NOT KNOW HOW TO TREAT OR PROVIDE CARE (8) DISSATISFACTION WITH PROVIDER (9) DID NOT KNOW WHERE TO GO FOR TREATMENT (10) CHILD REFUSED TO GO (11) TREATMENT IS ONGOING (13) NO REFERRAL (14) LACK OF RESOURCES AT SCHOOL (15) DID NOT GO TO APPT/NEGLECTED APPT/FORGOT APPT (16) OTHER **[SKIP TO C4Q05_32_O]** (77) DON'T KNOW (99) REFUSED **ALL OTHERS, SKIP TO C4Q05_32C**	C4Q05_32_O **READ IF NECESSARY:** Why did [S.C.] not get *all* the other dental care [he/she] needed ? RECORD VERBATIM RESPONSE_____	C4Q05_32C Did [S.C.] get *any* non-preventive dental care [during the past 12 months/ since [his/her] birth]? (1) YES **[GO TO C4Q05_2]** (2) NO **[GO TO C4Q05_2]** (77) DON'T KNOW **[GO TO C4Q05_2]** (99) REFUSED **[GO TO C4Q05_2]**

C4Q05_2 [During the past 12 months/ Since [his/her] birth], was there *any* time when [S.C.] needed…) Care from a specialty doctor? (1) YES (2) NO **[SKIP TO C4Q05_4]** (77) DON'T KNOW **[SKIP TO C4Q05_4]** (99) REFUSED **[SKIP TO C4Q05_4]** **READ IF NECESSARY:** Specialty doctors focus on one part of your child's health. These include cardiologists, pulmonologists, ear, nose and throat doctors, surgeons, etc. Do not include dentists or psychiatrists. Needs for care from dentists and psychiatrists are asked in other questions.	C4Q05_2A Did [S.C.] receive *all* the Care from a specialty doctor that [he/she] needed? (1)YES **[SKIP TO C4Q05_2AA]** (2) NO (77) DON'T KNOW **[SKIP TO C4Q05_4]** (99) REFUSED **[SKIP TO C4Q05_4]**	C4Q05_2B Why did [S.C.] not get *all* the care from a specialty doctor [he/she] needed? (1) COST WAS TOO MUCH (2) NO INSURANCE (3) HEALTH PLAN PROBLEM (4) CAN'T FIND PROVIDER WHO ACCEPTS CHILD'S INSURANCE (5) NOT AVAILABLE IN AREA/TRANSPORT PROBLEMS (6) NOT CONVENIENT TIMES/COULD NOT GET APPOINTMENT (7) PROVIDER DID NOT KNOW HOW TO TREAT OR PROVIDE CARE (8) DISSATISFACTION WITH PROVIDER (9) DID NOT KNOW WHERE TO GO FOR TREATMENT (10) CHILD REFUSED TO GO (11) TREATMENT IS ONGOING (13) NO REFERRAL (14) LACK OF RESOURCES AT SCHOOL (15) DID NOT GO TO APPT/NEGLECTED APPT/FORGOT APPT (16) OTHER **[SKIP TO C4Q05_2_O]** (77) DON'T KNOW (99) REFUSED **ALL OTHERS, SKIP TO C4Q05_2C**	C4Q05_2_O **READ IF NECESSARY:** Why did [S.C.] not get *all* the care from a specialty doctor [he/she] needed? RECORD VERBATIM RESPONSE_____	C4Q05_2C Did [S.C.] get *any* care from a specialty doctor [during the past 12 months/ since [his/her] birth]? (1) YES **[SKIP TO C4Q05_2AA]** (2) NO **[SKIP TO C4Q05_4]** (77) DON'T KNOW **[SKIP TO C4Q05_4]** (99) REFUSED **[SKIP TO C4Q05_4]** C4Q05_2AA **1-76 ENTER NUMBER** **(77) DON'T KNOW** **(99) REFUSED** **IF > 10 AND NOT IN 77, 99, GO TO SC_C4Q05_2AA** **ELSE GO TO C4Q05_4** [IF C4Q05_2A = 1 OR C4Q05_2C = 1 THEN ASK]: How many different specialty doctors did [S.C.] see [during the past 12 months/ since [his/her] birth]? SC_C4Q05_2AA INTERVIEWER CHECK: YOU ENTERED [FILL WITH ANSWER FROM C4Q05_2AA] SPECIALTY DOCTORS. IS THIS CORRECT? (1) YES **[GO TO C4Q05_4]** (2) NO **[GO BACKTO C4Q05_2AA]**

C4Q05_4 (READ AS NECESSARY: [During the past 12 months/ Since [his/her] birth,] was there any time when [S.C.] needed…) Prescription medications? (1) YES (2) NO **[SKIP TO C4Q05_5]** (77) DON'T KNOW **[SKIP TO C4Q05_5]** (99) REFUSED **[SKIP TO C4Q05_5]**	C4Q05_4A Did [S.C.] receive *all* the prescription medications that [he/she] needed? (1)YES **[SKIP TO C4Q05_5]** (2) NO (77) DON'T KNOW **[SKIP TO C4Q05_5]** (99) REFUSED **[SKIP TO C4Q05_5]**	C4Q05_4B Why did [S.C.] not get *all* the prescription medications [he/she] needed? (1) COST WAS TOO MUCH (2) NO INSURANCE (3) HEALTH PLAN PROBLEM (4) CAN'T FIND PROVIDER WHO ACCEPTS CHILD'S INSURANCE (5) NOT AVAILABLE IN AREA/TRANSPORT PROBLEMS (6) NOT CONVENIENT TIMES/COULD NOT GET APPOINTMENT (7) PROVIDER DID NOT KNOW HOW TO TREAT OR PROVIDE CARE (8) DISSATISFACTION WITH PROVIDER (9) DID NOT KNOW WHERE TO GO FOR TREATMENT (10) CHILD REFUSED TO GO (11) TREATMENT IS ONGOING (13) NO REFERRAL (14) LACK OF RESOURCES AT SCHOOL (15) DID NOT GO TO APPT/NEGLECTED APPT/FORGOT APPT (16) OTHER **[SKIP TO C4Q05_4_O]** (77) DON'T KNOW (99) REFUSED **ALL OTHERS, SKIP TO C4Q05_4C**	C4Q05_4_O **READ IF NECESSARY:** Why did [S.C.] not get *all* the prescription medications [he/she] needed? RECORD VERBATIM RESPONSE_____	C4Q05_4C Did [S.C.] get *any* prescription medications [during the past 12 months/ since [his/her] birth]? (1) YES (2) NO (77) DON'T KNOW (99) REFUSED

C4Q05_5 (READ AS NECESSARY: [During the past 12 months/ Since [his/her] birth,] was there any time when [S.C.] needed…) Physical, occupational or speech therapy? (1) YES (2) NO **[SKIP TO C4Q05_6]** (77) DON'T KNOW **[SKIP TO C4Q05_6]** (99) REFUSED **[SKIP TO C4Q05_6]**	C4Q05_5A Did [S.C.] receive *all* the therapy [he/she] needed? (1)YES **[SKIP TO C4Q05_6]** (2) NO (77) DON'T KNOW **[SKIP TO C4Q05_6]** (99) REFUSED **[SKIP TO C4Q05_6]**	C4Q05_5B Why did [S.C.] not get *all* the therapy [he/she] needed? (1) COST WAS TOO MUCH (2) NO INSURANCE (3) HEALTH PLAN PROBLEM (4) CAN'T FIND PROVIDER WHO ACCEPTS CHILD'S INSURANCE (5) NOT AVAILABLE IN AREA/TRANSPORT PROBLEMS (6) NOT CONVENIENT TIMES/COULD NOT GET APPOINTMENT (7) PROVIDER DID NOT KNOW HOW TO TREAT OR PROVIDE CARE (8) DISSATISFACTION WITH PROVIDER (9) DID NOT KNOW WHERE TO GO FOR TREATMENT (10) CHILD REFUSED TO GO (11) TREATMENT IS ONGOING (13) NO REFERRAL (14) LACK OF RESOURCES AT SCHOOL (15) DID NOT GO TO APPT/NEGLECTED APPT/FORGOT APPT (16) OTHER **[SKIP TO C4Q05_5_O]** (77) DON'T KNOW (99) REFUSED **ALL OTHERS, SKIP TO C4Q05_5C**	C4Q05_5_O **READ IF NECESSARY:** Why did [S.C.] not get *all* the thereapy [he/she] needed? RECORD VERBATIM RESPONSE_____	C4Q05_5C Did [S.C.] get *any* physical, occupational, or speech therapy [during the past 12 months/ since [his/her] birth]? (1) YES (2) NO (77) DON'T KNOW (99) REFUSED

C4Q05_6 (READ AS NECESSARY: [During the past 12 months/ Since [his/her] birth,], was there any time when [S.C.] needed…) Mental health care or counseling? (1) YES (2) NO **[SKIP TO C4Q05_7]** (77) DON'T KNOW **[SKIP TO C4Q05_7]** (99) REFUSED **[SKIP TO C4Q05_7]**	C4Q05_6A Did [S.C.] receive *all* the mental health care or counseling that [he/she] needed? (1)YES **[SKIP TO C4Q05_7]** (2) NO (77) DON'T KNOW **[SKIP TO C4Q05_7]** (99) REFUSED **[SKIP TO C4Q05_7]**	C4Q05_6B Why did [S.C.] not get all the mental health care or counseling [he/she] needed? (1) COST WAS TOO MUCH (2) NO INSURANCE (3) HEALTH PLAN PROBLEM (4) CAN'T FIND PROVIDER WHO ACCEPTS CHILD'S INSURANCE (5) NOT AVAILABLE IN AREA/TRANSPORT PROBLEMS (6) NOT CONVENIENT TIMES/COULD NOT GET APPOINTMENT (7) PROVIDER DID NOT KNOW HOW TO TREAT OR PROVIDE CARE (8) DISSATISFACTION WITH PROVIDER (9) DID NOT KNOW WHERE TO GO FOR TREATMENT (10) CHILD REFUSED TO GO (11) TREATMENT IS ONGOING (13) NO REFERRAL (14) LACK OF RESOURCES AT SCHOOL (15) DID NOT GO TO APPT/NEGLECTED APPT/FORGOT APPT (16) OTHER **[SKIP TO C4Q05_6_O]** (77) DON'T KNOW (99) REFUSED **ALL OTHERS, SKIP TO C4Q05_6C**	C4Q05_6_O **READ IF NECESSARY:** Why did [S.C.] not get all the mental health care or counseling [he/she] needed? RECORD VERBATIM RESPONSE_____	C4Q05_6C Did [S.C.] get *any* mental health care or counseling [during the past 12 months/ since [his/her] birth]? (1) YES (2) NO (77) DON'T KNOW (99) REFUSED

HELP SCREEN: SUBSTANCE ABUSE TREATMENT INCLUDES TREATMENT FOR ALCOHOL AND TOBACCO ABUSE. SOME RESPONDENTS MAY FIND THIS QUESTION INAPPROPRIATE. **IF THIS OCCURS, TELL THE RESPONDENT: I understand this question may be more appropriate for older children, but I am required to ask and**	ES		05_7_O Why S.C.] not get all the substance se treatment or counseling he] needed? RD VERBATIM ONSE_____	C4Q05_7C Did [S.C.] get *any* substance abuse treatment or counseling [during the past 12 months/ since [his/her] birth]? (1) YES (2) NO (77) DON'T KNOW (99) REFUSED

C4Q05_8 (READ AS NECESSARY: During the past 12 months/ Since [his/her] birth, was there any time when [S.C.] needed…) Home health care? (1) YES (2) NO **[SKIP TO C4Q05_9]** (77) DON'T KNOW **[SKIP TO C4Q05_9]** (99) REFUSED **[SKIP TO C4Q05_9]**	C4Q05_8A Did [S.C.] receive *all* the home health care that [he/she] needed? (1)YES (2) NO **[SKIP TO C4Q05_8C]** (77) DON'T KNOW (99) REFUSED **[IF 01,77,99 THEN SKIP TO C4Q05_09]**			C4Q05_8C Did [S.C.] get *any* home health care [during the past 12 months/ since [his/her] birth]? (1) YES (2) NO (77) DON'T KNOW (99) REFUSED
C4Q05_9 (READ AS NECESSARY: During the past 12 months/ since [his/her] birth, was there any time when [S.C.] needed…) Eyeglasses or vision care? (1) YES (2) NO **[SKIP TO C4Q05_10]** (77) DON'T KNOW **[SKIP TO C4Q05_10]** (99) REFUSED **[SKIP TO C4Q05_10]**	C4Q05_9A Did [S.C.] receive *all* the eyeglasses or vision care that [he/she] needed? (1)YES (2) NO **[SKIP TO C4Q05_9C]** (77) DON'T KNOW (99) REFUSED **[IF 01,77,99 THEN SKIP TO C4Q05_10]**			C4Q05_9C Did [S.C.] get *any* eyeglasses or vision care [during the past 12 months/ since [his/her] birth]? (1) YES (2) NO (77) DON'T KNOW (99) REFUSED

C4Q05_10 (READ AS NECESSARY: During the past 12 months/ Since [his/her] birth, was there any time when [S.C.] needed…) Hearing aids or hearing care? (1) YES (2) NO **[SKIP TO C4Q05_11]** (77) DON'T KNOW **[SKIP TO C4Q05_11]** (99) REFUSED **[SKIP TO C4Q05_11]**	C4Q05_10A Did [S.C.] receive *all* the hearing aids or hearing care that [he/she] needed? (1)YES (2) NO**[SKIP TO C4Q05_10C]** (77) DON'T KNOW (99) REFUSED **[IF 01,77,99 THEN SKIP TO C4Q05_11]**			C4Q05_10C Did [S.C.] get *any* hearing aids or hearing care [during the past 12 months/ since [his/her] birth]? (1) YES (2) NO (77) DON'T KNOW (99) REFUSED
C4Q05_11 **[IF AGE IS LESS THAN 3 YEARS OLD SKIP TO C4Q05_14]** (READ AS NECESSARY: During the past 12 months/ Since [his/her] birth, was there any time when [S.C.] needed…) Mobility aids or devices, such as canes, crutches, wheelchairs, or scooters? (1) YES (2) NO **[SKIP TO C4Q05_12]** (77) DON'T KNOW **[SKIP TO C4Q05_12]** (99) REFUSED **[SKIP TO C4Q05_12]**	C4Q05_11A Did [S.C.] receive *all* the mobility aids or devices that [he/she] needed? (1)YES (2) NO **[SKIP TO C4Q05_11C]** (77) DON'T KNOW (99) REFUSED **[IF 01,77,99 THEN SKIP TO C4Q05_12]**			C4Q05_11C Did [S.C.] get *any* mobility aids or devices [during the past 12 months/ since [his/her] birth]? (1) YES (2) NO (77) DON'T KNOW (99) REFUSED

C4Q05_12 **[SKIP IF AGE IS LESS THAN 3 YEARS OLD]** (During the past 12 months / Since [his/her] birth, was there any time when [S.C.] needed) Communication aids or devices, such as communication boards? (1) YES (2) NO **[SKIP TO C4Q05_14]** (77) DON'T KNOW **[SKIP TO C4Q05_14]** (99) REFUSED **[SKIP TO C4Q05_14]**	C4Q05_12A Did [S.C.] receive *all* the communication aids or devices that [he/she] needed? (1)YES **[SKIP TO C4Q05_14]** (2) NO **[SKIP TO C4Q05_12C]** (77) DON'T KNOW **[SKIP TO C4Q05_14]** (99) REFUSED **[SKIP TO C4Q05_14]**			C4Q05_12C Did [S.C.] get *any* communication aids or devices [during the past 12 months/ since [his/her] birth]? (1) YES (2) NO (77) DON'T KNOW (99) REFUSED

C4Q05_14 (READ AS NECESSARY: [During the past 12 months/ Since [his/her] birth,] was there any time when [S.C.] needed…) Durable medical equipment? (1) YES (2) NO **[SKIP TO C4Q06_1]** (77) DON'T KNOW **[SKIP TO C4Q06_1]** (99) REFUSED **[SKIP TO C4Q06_1]** **READ IF NECESSARY:** Some examples of durable medical equipment include nebulizers, blood glucose monitors, hospital beds, oxygen tanks, pressure machines, and orthotics. These are items that are not disposable.	C4Q05_14A Did [S.C.] receive *all* the durable medical equipment that [he/she] needed? (1)YES (2) NO **[SKIP TO C4Q05_14C]** (77) DON'T KNOW (99) REFUSED **[IF 01,77,99 THEN SKIP TO C4Q06_1]**			C4Q05_14C Did [S.C.] get *any* durable medical equipment [during the past 12 months/ since [his/her] birth]? (1) YES (2) NO (77) DON'T KNOW (99) REFUSED

[TIMESTAMP_SECTION44]

C4Q06 (4.6) **[IF CWTYPE = 'N' THEN SKIP TO C3Q12]**
(CATI: THIS SERIES SHOULD BE ASKED HORIZONTALLY ACROSS THE TABLE. IN OTHER WORDS, IF THEY ANSWER YES TO SOMETHING IN COLUMN 01, THEY SHOULD IMMEDIATELY BE ASKED THE QUESTIONS IN COLUMN 02, 03, 4 AS APPLICABLE)

During the past 12 months/ Since [his/her] birth, was there any time when you or other family members needed any of the following services because of **{S.C.'s}** health:	Did you or your family receive all the [fill with underlined words from first column] that was needed?	Why did you or your family not get the [fill with underlined words from first column] that was needed? (CHECK ALL THAT APPLY. READ RESPONSES ONLY IF NECESSARY)	Did you or your family get any [fill with underlined words from first column] during the past 12 months?

C4Q06_1	C4Q06_1A	C4Q06_1B	C4Q06_1C
[During the past 12 months/ Since [his/her] birth], was there any time when you or other family members needed…Respite care? (1) YES (2) NO **[SKIP TO C4Q06_2]** (77) DON'T KNOW **[SKIP TO C4Q06_2]** (99) REFUSED **[SKIP TO C4Q06_2]** **READ IF NECESSARY:** Respite care is care for the child so the family can have a break from ongoing care of the child. Respite care can be thought of as child care or babysitting by someone trained to meet any special needs the child may have. Both professional and non-professional respite care should be included.	Did you or your family receive *all* the respite care that was needed? (1) YES **[SKIP TO C4Q06_2]** (2) NO (77) DON'T KNOW **[SKIP TO C4Q06_2]** (99) REFUSED **[SKIP TO C4Q06_2]**	Why did you or your family not get *all* the respite care that was needed? (1) COST WAS TOO MUCH (2) NO INSURANCE (3) HEALTH PLAN PROBLEM (4) CAN'T FIND DOCTOR WHO ACCEPTS CHILD'S INSURANCE (5) NOT AVAILABLE IN AREA/TRANSPORT PROBLEMS (6) NOT CONVENIENT TIMES/COULD NOT GET APPOINTMENT (7) DOCTOR DID NOT KNOW HOW TO TREAT OR PROVIDE CARE (8) DISSATISFACTION WITH DOCTOR (9) DID NOT KNOW WHERE TO GO FOR TREATMENT (10) CHILD REFUSED TO GO (11) TREATMENT IS ONGOING (13) NO REFERRAL (14) LACK OF RESOURCES AT SCHOOL (15) DID NOT GO TO APPT/NEGLECTED APPT/FORGOT APPT (16) OTHER **[GO TO C4Q06_1_O]** (77) DON'T KNOW (99) REFUSED **ALL EXCEPT 16 GO TO C4Q06_1C** **C4Q06_1_O** **READ IF NECESSARY:** Why did you or your family not get *all* the respite care that was needed? ENTER OTHER_____	Did you or your family get *any* respite care [during the past 12 months/ since [his/her] birth]? (1) YES (2) NO (77) DON'T KNOW (99) REFUSED

C4Q06_2 (During the past 12 months/ Since [his/her] birth, was there any time when you or other family members needed…) Genetic counseling for advice about inherited conditions related to [S.C.]'s medical, behavioral, or other health conditions? (1) YES (2) NO **[SKIP TO C4Q06_3]** (77) DON'T KNOW **[SKIP TO C4Q06_3]** (99) REFUSED **[SKIP TO C4Q06_3]**	C4Q06_2A Did you or your family receive *all* the genetic counseling that was needed? (1) YES **[SKIP TO C4Q06_3]** (2) NO (77) DON'T KNOW **[SKIP TO C4Q06_3]** (99) REFUSED **[SKIP TO C4Q06_3]**	C4Q06_2B Why did you or your family not get *all* the genetic counseling that was needed? (1) COST WAS TOO MUCH (2) NO INSURANCE (3) HEALTH PLAN PROBLEM (4) CAN'T FIND DOCTOR WHO ACCEPTS CHILD'S INSURANCE (5) NOT AVAILABLE IN AREA/TRANSPORT PROBLEMS (6) NOT CONVENIENT TIMES/COULD NOT GET APPOINTMENT (7) DOCTOR DID NOT KNOW HOW TO TREAT OR PROVIDE CARE (8) DISSATISFACTION WITH DOCTOR (9) DID NOT KNOW WHERE TO GO FOR TREATMENT (10) CHILD REFUSED TO GO (11) TREATMENT IS ONGOING (13) NO REFERRAL (14) LACK OF RESOURCES AT SCHOOL (15) DID NOT GO TO APPT/NEGLECTED APPT/FORGOT APPT (16) OTHER **[SKIP C4Q06_2_O]** (77) DON'T KNOW (99) REFUSED **ALL EXCEPT 16 GO TO C4Q06_2C** **C4Q06_2_O** **READ IF NECESSARY:** Why did you or your family not get *all* the genetic counseling that was needed? ENTER OTHER_____	C4Q06_2C Did you or your family get *any* genetic counseling [during the past 12 months/ since [his/her] birth]? (1) YES (2) NO (77) DON'T KNOW (99) REFUSED

C4Q06_3 (During the past 12 months/ Since [his/her] birth, was there any time when you or other family members needed…) Mental health care or counseling related to [S.C.]'s medical, behavioral, or other health conditions? (1) YES (2) NO **[SKIP TO C3Q12]** (77) DON'T KNOW **[SKIP TO C3Q12]** (99) REFUSED **[SKIP TO C3Q12]**	C4Q06_3A Did you or your family receive *all* the mental health care counseling that was needed? (1) YES **[SKIP TO C3Q12]** (2) NO (77) DON'T KNOW **[SKIP TO C3Q12]** (99) REFUSED **[SKIP TO C3Q12]**	C4Q06_3B Why did you or your family not get *all* the mental health care or counseling that was needed? (1) YES (2) NO (77) DON'T KNOW (99) REFUSED (1) COST WAS TOO MUCH (2) NO INSURANCE (3) HEALTH PLAN PROBLEM (4) CAN'T FIND DOCTOR WHO ACCEPTS CHILD'S INSURANCE (5) NOT AVAILABLE IN AREA/TRANSPORT PROBLEMS (6) NOT CONVENIENT TIMES/COULD NOT GET APPOINTMENT (7) DOCTOR DID NOT KNOW HOW TO TREAT OR PROVIDE CARE (8) DISSATISFACTION WITH DOCTOR (9) DID NOT KNOW WHERE TO GO FOR TREATMENT (10) CHILD REFUSED TO GO (11) TREATMENT IS ONGOING (13) NO REFERRAL (14) LACK OF RESOURCES AT SCHOOL (15) DID NOT GO TO APPT/NEGLECTED APPT/FORGOT APPT (16) OTHER **[SKIP C4Q06_3_O]** (77) DON'T KNOW (99) REFUSED **ALL EXCEPT 16 GO TO C4Q06_3C** **C4Q06_3_O**	C4Q06_3C Did you or your family get *any* mental health care or counseling [during the past 12 months/ since [his/her] birth]? (1) YES (2) NO (77) DON'T KNOW (99) REFUSED

		READ IF NECESSARY: Why did you or your family not get *all* the mental health care or counseling that was needed? ENTER OTHER_____	

CPC3Q12 [IF AGE FROM C2Q01 OR C2Q02 IS 36 MONTHS (3 YEARS) OR GREATER, SKIP TO C3Q13]

C3Q12 Does [S.C.] receive services from a program called Early Intervention Services? Children receiving these services often have an Individualized Family Service Plan.

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

READ IF NECESSARY: Early Intervention Services are defined as: family training, counseling, and home visits; health services; medicine; nursing; nutrition; occupational therapy; physical therapy; psychological services; service coordination services; social work services; special instruction; speech-language therapy; transportation, communication or mobility devices; and vision and hearing services.

[ALL SKIP TO C3Q15]

C3Q13 Does [S.C.] receive services from a program called Special Educational Services? Children receiving these services often have an Individualized Education Plan.

(1) YES
(2) NO **[SKIP TO C3Q15]**
(77) DON'T KNOW **[SKIP TO C3Q15]**
(99) REFUSED **[SKIP TO C3Q15]**

READ IF NECESSARY: Special Education is any kind of special school, classes or tutoring.

C3Q13A How old was [S.C.] when [he/she] first began receiving Special Educational Services?

HELP SCREEN: ENTER AGE IN MONTHS FOR 0 TO 23 MONTHS. IF 2 YEARS OR OLDER, ENTER AGE IN YEARS.

___ ____ VALUE (MUST BE LESS THAN OR EQUAL TO AGE OF CHILD)

(77) DON'T KNOW
(99) REFUSED

C3Q13AA Months (00-23)
Years (Range 02-17)

(1) MONTHS
(2) YEARS
(77) DON'T KNOW
(99) REFUSED

C3Q13B At any time before [S.C.] was 3 years old, did [he/she] receive services from a program called Early Intervention Services? Children receiving these services often have an Individualized Family Service Plan.

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

C3Q15 Alternative health care can include acupuncture, chiropractic care, relaxation therapies, herbal supplements, and others. Some therapies involve seeing a practitioner, while others can be done on your own.

[During the past 12 months/ Since [his/her] birth], did [S.C.] use any type of alternative health care or treatment?

HELP SCREEN: RESPONDENTS SHOULD INCLUDE ANY ALTERNATIVE CARE OR THERAPIES REGARDLESS OF WHETHER THE CARE IS FOR THE CHILD'S CONDITIONS. IF THE RESPONDENT CONSIDERS THE HEALTH CARE TO BE ALTERNATIVE, IT SHOULD BE INCLUDED. DO NOT TRY TO DETERMINE IF ANY PARTICULAR TYPE OF TREATMENT IS AN "ALTERNATIVE" TREATMENT.

READ IF NECESSARY: Generally, alternative care and treatments are those not typically provided in conventional medical care settings. Examples of relaxation therapies include biofeedback, deep breathing exercises, and yoga. Examples of herbal supplements include any non-vitamin and non-mineral supplement, as well as homeopathic treatments. Other examples of alternative health care could include chelation therapy, energy healing therapy, hypnosis, massage, naturopathy, and use of traditional healers such as an espiritista or a Native American medicine man.

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

Section 5. CARE COORDINATION

[TIMESTAMP_SECTION51]

C5Q00 IF K4Q20 NOT 1-76 AND K4Q21 NOT 1-76 AND (NONE C4Q05_1A THROUGH C4Q05_14A = 01) AND (NONE C4Q05_2C THROUGH C4Q05_14C = 01) AND (NONE C3Q12, C3Q13, OR C3Q15 = 01), SKIP TO C5Q01

[IF K4Q20 = 1-76 OR K4Q21 = 1-76 OR (ANY C4Q05_1A THROUGH C4Q05_14A = 01) OR (ANY C4Q05_2C THROUGH C4Q05_14C = 01) OR (ANY C3Q12, C3Q13, OR C3Q15 = 01), SAY:
"You told me that, [in the past 12 months/ [WHEN S.C. IS YOUNGER THAN 12 MONTHS] since (his/her) birth], [S.C.] used [FILL WITH ALL NAMES OF SERVICES USED AS REPORTED IN SECTION 4, INCLUDING K4Q20, K4Q21, C3Q12, C3Q13 AND C3Q15]."

[SUM UP HOW MANY TIMES THE RESPONSE (01) IS USED IN THE FOLLOWING VARIABLES: C4Q05_1A THROUGH C4Q05_14A, C4Q05_2C THROUGH C4Q05_14C, C3Q12, C3Q13, AND C3Q15.

IF K4Q20 = 1-76 THEN ADD 1 TO THE SUM.
IF K4Q21 = 1-76 THEN ADD 1 TO THE SUM.

IF THE TOTAL SUM IS GE 2 THEN SKIP TO C5Q11, ELSE SKIP TO C5Q01]

C5Q01 Did [S.C.] use any other health-related medical, educational, or social services [in the past 12 months/ Since [his/her] birth]?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

READ IF NECESSARY: There are many types of services children might use to improve their education, their health, or their well-being. We listed 15 of these services earlier, but there could be others that your child uses.

C5Q11 [During the past 12 months/ Since [his/her] birth], did [S.C.] need a referral to see any doctors or receive any services?

(1) YES
(2) NO **[SKIP TO C5Q12]**
(77) DON'T KNOW **[SKIP TO C5Q12]**
(99) REFUSED **[SKIP TO C5Q12]**

C4Q07 Was getting referrals a big problem, a small problem, or not a problem?

(1) BIG PROBLEM
(2) SMALL PROBLEM
(3) NOT A PROBLEM
(77) DON'T KNOW
(99) REFUSED

[TIMESTAMP_SECTION52]

C5Q12 [SUM UP HOW MANY TIMES THE RESPONSE (01) IS USED IN THE FOLLOWING VARIABLES: C4Q05_1A THROUGH C4Q05_14A, C4Q05_2C THROUGH C4Q05_14C, C5Q01, C3Q12, C3Q13, AND C3Q15.

IF K4Q20 = 1-76 THEN ADD 1 TO THE SUM.
IF K4Q21 = 1-76 THEN ADD 1 TO THE SUM.

IF THE TOTAL SUM IS LT 2 AND C4Q05_2AA is (missing,0,1,77,99) THEN SKIP TO C6Q01]

Does anyone help you arrange or coordinate [S.C.]'s care among the different doctors or services that [he/she] uses?

READ IF NECESSARY: By "arrange or coordinate," I mean: Is there anyone who helps you make sure that [S.C.] gets all the health care and services [he/she] needs, that health care providers share information, and that these services fit together and are paid for in a way that works for you?

READ IF NECESSARY: Anyone means anyone.

(1) YES
(2) NO **[SKIP TO C5Q17]**
(77) DON'T KNOW **[SKIP TO C5Q17]**
(99) REFUSED **[SKIP TO C5Q17]**

C5Q13 Does a doctor or someone in a doctor's office provide this help arranging or coordinating [S.C.]'s care?

(1) YES **[SKIP TO C5Q15]**
(2) NO **[SKIP TO C5Q16]**
(77) DON'T KNOW **[SKIP TO C5Q16]**
(99) REFUSED **[SKIP TO C5Q16]**

C5Q15 Is there anyone else who helps arrange or coordinate [S.C.]'s care?

(1) YES
(2) NO **[SKIP TO C5Q17]**
(77) DON'T KNOW **[SKIP TO C5Q17]**
(99) REFUSED **[SKIP TO C5Q17]**

C5Q16 **IF C5Q13=01 THEN DISPLAY:** Is this person a parent, guardian, other family member, friend, nurse, therapist, social worker, hospital discharge planner, case manager, or someone else?

IF C5Q13=02,77,99 THEN DISPLAY:
Who does provide help arranging or coordinating [S.C.]'s care?

A parent, guardian, other family member, friend, nurse, therapist, social worker, hospital discharge planner, case manager, or someone else? **[MARK ALL THAT APPLY]**

(1) PARENT
(2) GUARDIAN
(3) OTHER FAMILY MEMBER
(4) FRIEND
(5) NURSE
(6) THERAPIST

(7) SOCIAL WORKER
(8) HOSPITAL DISCHARGE PLANNER
(9) CASE MANAGER
(10) SOMEONE AT CHILD'S SCHOOL
(11) SOMEONE ELSE **[SKIP to C5Q16_XOE]**
(77) DON'T KNOW
(99) REFUSED

ALL OTHERS SKIP TO C5Q17

C5Q16_XOE Who would that be?
ENTER RESPONSE _____ **[30 CHARACTERS MAX]**

C5Q17 [During the past 12 months/ Since [his/her] birth], have you felt that you could have used extra help arranging or coordinating [S.C.]'s care among these different health care providers or services?

(1) YES
(2) NO **[SKIP TO C5Q10]**
(77) DON'T KNOW **[SKIP TO C5Q10]**
(99) REFUSED **[SKIP TO C5Q10]**

C5Q09 [During the past 12 months/ Since [his/her] birth], how often did you get as much help as you wanted with arranging or coordinating [S.C.]'s care? Would you say never, sometimes, or usually?

(1) NEVER
(2) SOMETIMES
(3) USUALLY
(77) DON'T KNOW
(99) REFUSED

C5Q10 Overall, are you very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied with the communication among [S.C.]'s doctors and other health care providers?

(1)VERY SATISFIED
(2) SOMEWHAT SATISFIED
(3) SOMEWHAT DISSATISFIED
(4) VERY DISSATISFIED
(5) NO COMMUNICATION NEEDED OR WANTED
(77) DON'T KNOW
(99) REFUSED

C5Q05 Do [S.C.]'s doctors or other health care providers need to communicate with [his/her] school, early intervention program, child care providers, vocational education or rehabilitation program?

(1) YES
(2) NO **[SKIP TO CPC5Q20]**
(77) DON'T KNOW **[SKIP TO CPC5Q20]**
(99) REFUSED **[SKIP TO CPC5Q20]**

C5Q06 Overall, are you very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied with that communication?

(1) VERY SATISFIED

(2) SOMEWHAT SATISFIED
(3) SOMEWHAT DISSATISFIED
(4) VERY DISSATISFIED
(77) DON'T KNOW
(99) REFUSED

[TIMESTAMP_SECTION52A]

CPC5Q20 IF CWTYPE=S AND ASK_CALIF=1 THEN GO TO C5Q20, ELSE GO TO C6Q01

C5Q20*CA If there were a web site that could help you arrange or coordinate [S.C.]'s care, would you say that it is very likely, somewhat likely, somewhat unlikely, or very unlikely that you would use it?

(1) VERY LIKELY
(2) SOMEWHAT LIKELY
(3) SOMEWHAT UNLIKELY
(4) VERY UNLIKELY
(77) DON'T KNOW
(99) REFUSED

Section 6A. FAMILY CENTERED CARE AND SHARED DECISION MAKING

[TIMESTAMP_SECTION61]

C6Q01 [SUM UP HOW MANY TIMES THE RESPONSE (1) IS USED IN THE FOLLOWING VARIABLES: C4Q05_1A THROUGH C4Q05_10A, C4Q05_2C THROUGH C4Q05_10C.

IF K4Q20 = 1-76 THEN ADD 1 TO THE SUM.
IF K4Q21 = 1-76 THEN ADD 1 TO THE SUM.

IF THE TOTAL SUM IS GREATER THAN ZERO, THEN SKIP TO C6Q02]

Did [S.C.] visit any doctors or other health care providers [in the past 12 months/ since [his/her] birth]?

(1) YES **[SKIP TO C6Q02]**
(2) NO **[SKIP TO C6Q07]**
(77) DON'T KNOW **[SKIP TO C6Q07]**
(99) REFUSED **[SKIP TO C6Q07]**

C6Q02 [During the past 12 months/ Since [his/her] birth], how often did [S.C.]'s doctors and other health care providers spend enough time with [him/her]? Would you say never, sometimes, usually, or always?

(1) NEVER
(2) SOMETIMES
(3) USUALLY
(4) ALWAYS
(77) DON'T KNOW
(99) REFUSED

C6Q03 [During the past 12 months/ Since [his/her] birth], how often did [S.C.]'s doctors and other health care providers listen carefully to you? Would you say never, sometimes, usually, or always?

(1) NEVER
(2) SOMETIMES
(3) USUALLY
(4) ALWAYS
(77) DON'T KNOW
(99) REFUSED

C6Q04 When [S.C.] is seen by doctors or other health care providers, how often are they sensitive to your family's values and customs? Would you say never, sometimes, usually, or always?

(1) NEVER
(2) SOMETIMES
(3) USUALLY
(4) ALWAYS
(77) DON'T KNOW
(99) REFUSED

C6Q05 Information about a child's health or health care can include things such as the causes of any health problems, how to care for a child now, and what changes to expect in the future. [During

the past 12 months/ Since [his/her] birth], how often did you get the specific information you needed from [S.C.]'s doctors and other health care providers? Would you say never, sometimes, usually, or always?

(1) NEVER
(2) SOMETIMES
(3) USUALLY
(4) ALWAYS
(77) DON'T KNOW
(99) REFUSED

C6Q06 [During the past 12 months/ Since [his/her] birth], how often did [S.C.]'s doctors or other health care providers help you feel like a partner in [his/her] care? Would you say never, sometimes, usually, or always?

(1) NEVER
(2) SOMETIMES
(3) USUALLY
(4) ALWAYS
(77) DON'T KNOW
(99) REFUSED

[TIMESTAMP_SECTION61A]

CPC6Q11 IF CWTYPE=S AND ASK_CALIF=1 THEN GO TO C6Q11, ELSE GO TO C6Q21

C6Q11*CA **IF S.C. >36 MONTHS, FILL [or S.C.]. ELSE, DO NOT FILL**

An interpreter is someone who repeats what one person says in a language used by another person.

[During the past 12 months\Since [S.C.]'s birth], did you [or S.C.] need an interpreter to help speak with [his/her] doctors or other health care providers?

(1) YES
(2) NO **[SKIP TO C6Q21]**
(77) DON'T KNOW **[SKIP TO C6Q21]**
(99) REFUSED **[SKIP TO C6Q21]**

C6Q12*CA **IF S.C. >36 MONTHS, FILL [or S.C.]. ELSE, DO NOT FILL**

When you [or S.C.] needed an interpreter, how often were you able to get someone other than a family member to help you speak with [his/her] doctors or other health care providers? Would you say never, sometimes, usually, or always?

(1) NEVER
(2) SOMETIMES
(3) USUALLY
(4) ALWAYS
(77) DON'T KNOW
(99) REFUSED

[TIMESTAMP_SECTION62]

C6Q21 We want to know about how [S.C.]'s doctors or other health care providers work with you to make decisions about [his/her] health care services and treatment.

[During the past 12 months/ Since [his/her] birth], how often did [S.C.]'s doctors or other health care providers discuss with you the range of options to consider for [his/her] health care or treatment?

Would you say never, sometimes, usually, or always?

READ IF NECESSARY: The options may include things like whether or not to start, stop or change a medication, treatment or therapy; whether to have certain tests or procedures, see a specialist, consent for surgery, and so on.

(1) NEVER
(2) SOMETIMES
(3) USUALLY
(4) ALWAYS
(5) THERE WERE NO OPTIONS TO CONSIDER
(77) DON'T KNOW
(99) REFUSED

C6Q22 How often did they encourage you to ask questions or raise concerns?

READ IF NECESSARY: [During the past 12 months/ Since [his/her] birth], how often did [S.C.]'s doctors or other health care providers encourage you to ask questions or raise concerns? Would you say never, sometimes, usually, or always?

(1) NEVER
(2) SOMETIMES
(3) USUALLY
(4) ALWAYS
(77) DON'T KNOW
(99) REFUSED

C6Q23 How often did they make it easy for you to ask questions or raise concerns?

READ IF NECESSARY: [During the past 12 months/ Since [his/her] birth], how often did [S.C.]'s doctors or other health care providers make it easy for you to ask questions or raise concerns? Would you say never, sometimes, usually, or always?

(1) NEVER
(2) SOMETIMES
(3) USUALLY
(4) ALWAYS
(77) DON'T KNOW
(99) REFUSED

C6Q24 How often did they consider and respect what health care and treatment choices you thought would work best for [S.C.]?

READ IF NECESSARY: [During the past 12 months/ Since [his/her] birth], how often did [S.C.]'s doctors or other health care providers consider and respect what health care and treatment choices you thought would work best for [him/her]? Would you say never, sometimes, usually, or always?

(1) NEVER
(2) SOMETIMES
(3) USUALLY

(4) ALWAYS
(77) DON'T KNOW
(99) REFUSED

Section 6B. TRANSITION ISSUES

[TIMESTAMP_SECTION63]

C6Q07 **[IF CHILD IS LESS THAN 5 YEARS OF AGE, SKIP TO C6Q30. IF CHILD IS 5-11 YEARS OF AGE, SKIP TO C6Q08]**

The next questions are about preparing for [S.C.]'s health care needs as [he/she] becomes an adult.

Do any of [S.C.]'s doctors or other health care providers treat only children?

(1) YES
(2) NO **[SKIP TO C6Q0A]**
(77) DON'T KNOW **[SKIP TO C6Q0A]**
(99) REFUSED **[SKIP TO C6Q0A]**

C6Q0A_B Have they talked with you about having [S.C.] eventually see doctors or other health care providers who treat adults?

(1) YES **[SKIP TO C6Q0A]**
(2) NO
(77) DON'T KNOW **[SKIP TO C6Q0A]**
(99) REFUSED **[SKIP TO C6Q0A]**

HELP SCREEN: THIS QUESTION REFERS TO DISCUSSIONS BETWEEN THE RESPONDENT AND THE DOCTORS OR OTHER HEALTH CARE PROVIDERS WHO TREAT ONLY CHILDREN.

C6Q0A_C Would a discussion about doctors who treat adults have been helpful to you?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

C6Q0A Have [S.C.]'s doctors or other health care providers talked with you about [his/her] health care needs as [he/she] becomes an adult?

(1) YES **[SKIP TO C6Q0A_E]**
(2) NO
(77) DON'T KNOW **[SKIP TO C6Q0A_E]**
(99) REFUSED **[SKIP TO C6Q0A_E]**

C6Q0A_D Would a discussion about [S.C.]'s health care needs have been helpful?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

C6Q0A_E Eligibility for health insurance often changes as children reach adulthood. Has anyone discussed with you how to obtain or keep some type of health insurance coverage as [S.C.] becomes an adult?

(1) YES **[SKIP TO C6Q08]**
(2) NO
(77) DON'T KNOW **[SKIP TO C6Q08]**
(99) REFUSED **[SKIP TO C6Q08]**

HELP SCREEN: Anyone means anyone.

C6Q0A_F Would a discussion about health insurance have been helpful to you?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

C6Q08 How often do [S.C.]'s doctors or other health care providers encourage (him/her) to take responsibility for [his/her] health care needs, such as:

[IF CHILD IS 5-11 YEARS OF AGE, THEN READ: "learning about [his/her] conditions or helping with treatments and medications?"

[IF CHILD IS 12+ YEARS OF AGE, THEN READ : "taking medication, understanding [his/her] diagnosis, or following medical advice?"

Would you say never, sometimes, usually, or always?

(1) NEVER
(2) SOMETIMES
(3) USUALLY
(4) ALWAYS
(77) DON'T KNOW
(99) REFUSED

Section 6C. DEVELOPMENTAL SCREENING

[TIMESTAMP_SECTION64]

CPC6Q30 IF AGE >= 72 MONTHS, SKIP TO CPSEC7. IF AGE < 12 MONTHS, SKIP TO CPSEC7.

C6Q30 Sometimes a child's doctor or other health care provider will ask a parent to fill out a questionnaire at home or during their child's visit. During the past 12 months, did a doctor or other health care provider have you fill out a questionnaire about specific concerns or observations you may have about [S.C.]'s development, communication, or social behaviors?

HELP SCREEN: IF ANOTHER PERSON READ THE QUESTIONNAIRE TO THE PARENT AND FILLED IN THE ANSWERS FOR THE PARENT, THEN THIS QUESTION SHOULD BE ANSWERED YES. BUT IF A DOCTOR OR NURSE JUST ASKED ABOUT CONCERNS AND DID NOT FILL OUT A QUESTIONNAIRE, THEN THIS QUESTION SHOULD BE ANSWERED NO**.**

(1) YES
(2) NO **[SKIP TO CPSEC7]**
(77) DON'T KNOW **[SKIP TO CPSEC7]**
(99) REFUSED **[SKIP TO CPSEC7]**

CPC6Q31A IF AGE = 24-71 MONTHS, SKIP TO C6Q32A.

C6Q31A Did this questionnaire ask about your concerns or observations about how [S.C.] talks or makes speech sounds?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

C6Q31B Did this questionnaire ask about your concerns or observations about how [S.C.] interacts with you and others?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

[ALL SKIP TO CPSEC7]

C6Q32A Did this questionnaire ask about your concerns or observations about words and phrases [S.C.] uses and understands?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

C6Q32B Did this questionnaire ask about your concerns or observations about how [S.C.] behaves and gets along with you and others?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

Section 7. HEALTH INSURANCE

[TIMESTAMP_SECTION71]

CPSEC7 [SKIP TO C7Q03 IF NAME OF SELECTED CHILD ALREADY GATHERED FROM MULTIAGE, C2Q01N, SELECTION1_NAME, NAME_SEC4_A, NIS INTERVIEW, OR RESPONDENT REFUSED TO ANSWER NAME QUESTIONS]

NAME_SEC7 **INTERVIEWER QUESTION: DO NOT READ TO RESPONDENT!**
HAS THE HOUSEHOLD GIVEN YOU A NAME FOR THE CHILD?

(1) YES [**GO TO NAME_SEC7_A]**
(2) NO [**GO TO C7Q03]**

NAME_SEC7_A
ENTER NAME/INITIALS: _____ **GO TO C7Q03**
[FILL [S.C.] WITH THIS NAME FROM THIS POINT ON IN THE INTERVIEW]

C7Q03 Now I have a few questions about health insurance and health care coverage for [S.C.].

[IF IAP = 095 and (S.C. = NIS-ELIG CHILD OR S.C.=S.T.) THEN DISPLAY: "They may sound similar to questions I have asked previously, but they are slightly different. Please bear with me."]

At this time, is [S.C.] covered by health insurance that is provided through an employer or union?

(1) YES
(2) NO **[SKIP TO C7Q01]**
(77) DON'T KNOW **[SKIP TO C7Q01]**
(99) REFUSED **[SKIP TO C7Q01]**

READ ONLY IF NECESSARY: These plans may be provided in part or fully by a current employer, a former employer, a union, or a professional organization.

IF ONLY PLAN NAME OFFERED, PROBE (READ IF NECESSARY): Is this insurance provided through an employer or union? Do not include dental, vision, school, or accident insurance.

IF NECESSARY, TO HELP THE RESPONDENT DETERMINE WHAT KIND OF INSURANCE THEY HAVE, PROBE (READ IF NECESSARY): Did you get that insurance through an employer? Does it help pay for both doctor visits and hospital stays?

C7Q03A **[IF IAP not equal 095 and INS-1 = 1 AND S.C. = 'NIS-ELIG CHILD', THEN FILL WITH INS-1A]**

IF IAP not equal 095 and SC=ST then FILL WITH TIS_INS_1A.

Does this health insurance help pay for both doctor visits and hospital stays?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

C7Q01 **[IF STATE = AK, CT, DC, FL, HI, IL, IN, KS, LA, ME, MN, MO, NE, NJ, NM, NY, OH, OK, RI, SC, SD, VI, WI, THEN SKIP TO C7Q04]**

[IF IAP not equal 095 and S.C. = 'NIS-ELIG CHILD,' THEN FILL WITH INS-2]

IF IAP not equal 095 and SC=ST then FILL WITH TIS_INS_2.

At this time, is [S.C.] covered by any Medicaid plan? Medicaid is a health insurance program for persons with certain income levels and persons with disabilities. [FILL IF APPLICABLE: In this state, the program is sometimes called [FILL NAME FROM "TEXT FILLS" SPREADSHEET].

READ IF NECESSARY: Medicaid is a federal-state medical assistance program. It serves low-income people of every age. Medical bills are paid from federal, state and local tax funds. It is run by state and local governments within federal guidelines.

IF NECESSARY, TO HELP THE RESPONDENT DETERMINE WHAT KIND OF INSURANCE THEY HAVE, PROBE (READ IF NECESSARY): Did you get that insurance through an employer? Does it help pay for both doctor visits and hospital stays?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

READ IF NECESSARY: Medicaid is a federal-state medical assistance program. It serves low-income people of every age. Medical bills are paid from federal, state and local tax funds. It is run by state and local governments within federal guidelines.

IF NECESSARY, TO HELP THE RESPONDENT DETERMINE WHAT KIND OF INSURANCE THEY HAVE, PROBE (READ IF NECESSARY): Did you get that insurance through an employer? Does it help pay for both doctor visits and hospital stays?

C7Q02 **[IF IAP not equal 095 and S.C. = 'NIS-ELIG CHILD,' THEN FILL WITH INS-3]**

IF IAP not equal 095 and SC=ST then FILL WITH TIS_INS_3.

At this time, is [S.C.] covered by the State Children's Health Insurance Program or S-CHIP? In this state, the program is sometimes called [**FILL NAME FROM "TEXT FILLS" SPREADSHEET]**.

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

READ IF NECESSARY: The State Children's Health Insurance Program (SCHIP), created under Title XXI of the Social Security Act, expands health coverage to uninsured children whose families earn too much for Medicaid but too little to afford private coverage.

IF NECESSARY, TO HELP THE RESPONDENT DETERMINE WHAT KIND OF INSURANCE THEY HAVE, PROBE (READ IF NECESSARY): Did you get that insurance through an employer? Does it help pay for both doctor visits and hospital stays?

[ALL SKIP TO C7Q05]

C7Q04 **[IF IAP not equal 095 and S.C. = 'NIS-ELIG CHILD,' THEN FILL WITH INS-3A]**
IF IAP not equal 095 and SC=ST then FILL WITH TIS_INS_3A.

At this time, is [S.C.] covered by any Medicaid plan or the State Children's Health Insurance Program, which are health insurance programs for persons with certain income levels and persons with disabilities? In this state, it is sometimes called **[FILL NAME FROM "TEXT FILLS" SPREADSHEET]**.

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

READ IF NECESSARY: Medicaid and SCHIP are federal-state medical assistance programs. They serve low-income people of every age. Medical bills are paid from federal, state and local tax funds. Patients usually pay little or no part of costs for covered medical expenses. These programs are run by state and local governments within federal guidelines.

IF NECESSARY, TO HELP THE RESPONDENT DETERMINE WHAT KIND OF INSURANCE THEY HAVE, PROBE (READ IF NECESSARY): Did you get that insurance through an employer? Does it help pay for both doctor visits and hospital stays?

C7Q05 **[IF IAP not equal 095 and S.C. = 'NIS-ELIG CHILD,' THEN FILL WITH INS-5]**
IF IAP not equal 095 and SC=ST then FILL WITH TIS_INS_5.

At this time, is [S.C.] covered by military health care, TRICARE, CHAMPUS, OR CHAMP-VA?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

READ IF NECESSARY: CHAMPUS, CHAMP-VA, and TRICARE are health care plans that are offered to persons in the military (and their dependents). TRICARE is a managed health care program for active duty and retired members of the uniformed services, their families, and survivors. CHAMPUS is a program of medical care for dependents of active or retired military personnel. CHAMP-VA is medical insurance for dependents or survivors of disabled veterans..

IF NECESSARY, TO HELP THE RESPONDENT DETERMINE WHAT KIND OF INSURANCE THEY HAVE, PROBE (READ IF NECESSARY): Did you get that insurance through an employer? Does it help pay for both doctor visits and hospital stays?

C7Q07 **[IF IAP not equal 095 and S.C. = 'NIS-ELIG CHILD,' THEN FILL WITH INS-6 AND USE CSHCN LOGIC]**

IF IAP not equal 095 and S.C. = ST then FILL WITH TIS_INS_6.

IF C7Q01, C7Q02, C7Q03, C7Q04, OR C7Q05 = 01, THEN SHOW: "Besides what you have already told me about,"
Is [S.C.] covered by any *other* health insurance or health care plan?

INTERVIEWER INSTRUCTION: IF RESPONDENT REPORTS DENTAL, VISION, SCHOOL, OR ACCIDENT INSURANCE, MARK NO.

(1) YES

(2) NO **[SKIP TO C7Q09]**
(77) DON'T KNOW **[SKIP TO C7Q09]**
(99) REFUSED **[SKIP TO C7Q09]**

C7Q08A **[IF IAP not equal 095 and S.C. = 'NIS-ELIG CHILD,' THEN FILL WITH INS-6A AND USE CSHCN LOGIC]**

IF IAP not equal 095 and S.C. = ST then FILL WITH TIS_INS_6A.

Does this health insurance help pay for both doctor visits and hospital stays?

(1) YES
(2) NO **[SKIP TO C7Q09]**
(77) DON'T KNOW **[SKIP TO C7Q09]**
(99) REFUSED **[SKIP TO C7Q09]**

C7Q08B **[IF IAP not equal 095 and S.C. = 'NIS-ELIG CHILD,' THEN FILL WITH INS-6B AND USE CSHCN LOGIC]**

IF IAP not equal 095 and S.C. = ST then FILL WITH TIS_INS_6B.

Is this health insurance provided through an employer or union?

(1) YES **[SKIP TO C7Q11]**
(2) NO
(77) DON'T KNOW
(99) REFUSED

C7Q08C **[IF IAP not equal 095 and S.C. = 'NIS-ELIG CHILD,' THEN FILL WITH INS-6C]**
IF IAP not equal 095 and SC=ST then FILL WITH TIS_INS_6C.

Is this health insurance purchased directly from an insurance company?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

C7Q09 **(IF C7Q01, C7Q02, C7Q03A, C7Q04, C7Q05, OR C7Q08A = 01, SKIP TO C7Q11; ELSE IF ((S.C. = 'NIS-ELIG CHILD' AND INS-4 = 1) OR (S.C. = S.T. AND TIS_INS_4 = 1)), THEN GO TO C7Q10; ELSE ASK C7Q09)**

[IF IAP not equal 095 and S.C. = 'NIS-ELIG CHILD,' THEN FILL WITH INS-7]
IF IAP not equal 095 and SC=ST then FILL WITH TIS_INS_7.

It appears that [S.C.] does not have any health insurance coverage to pay for both hospitals and doctors and other health professionals. Is that correct?

(1) YES **[SKIP TO C7Q13]**
(2) NO
(77) DON'T KNOW **[SKIP TO C9Q01]**
(99) REFUSED **[SKIP TO C9Q01]**

C7Q10 [IF IAP not equal 095 and ((S.C. = 'NIS-ELIG CHILD' AND INS-4 = 1) OR (S.C. = S.T. AND TIS_INS_4 = 1)), THEN FILL "Now I have a few questions about health insurance and health care coverage for [S.C.]. Earlier you told me that [S.C.] is covered by Indian Health Service.

Does [S.C.] have any other kind of health coverage?"/

ELSE FILL "At this time, what kind of health coverage does [S.C.] have? Any other kind?"

INTERVIEWER INSTRUCTION: MARK ALL THAT APPLY. MARK SINGLE SERVICE PLAN ONLY IF VOLUNTEERED AS TYPE OF HEALTH INSURANCE.

IF IAP NOT EQUAL 095 AND S.C. = 'NIS-ELIG CHILD,' AND INS-7A NE MISSING, THEN FILL WITH INS-7A.

IF IAP NOT EQUAL 095 AND S.C. = S.T. AND TIS_INS_7A NE MISSING, THEN FILL WITH TIS_INS_7A.

[CATI INSTRUCTIONS: IF IAP NOT EQUAL 095 AND S.C. = 'NIS-ELIG CHILD' AND INS-4 = 1, THEN PRE-FILL C7Q10 = 6]

[CATI INSTRUCTIONS: IF IAP NOT EQUAL 095 AND S.C. = S.T. AND TIS_INS_4 = 1, THEN PRE-FILL C7Q10 = 6]

IF ONLY (8) IS SELECTED, SKIP TO C7Q13.

(1) MEDICAID **[STATE NAME]**
(2) MEDICARE
(3) SCHIP **[STATE NAME]**
(4) MEDIGAP
(5) MILITARY
(6) INDIAN HEALTH SERVICE
(7) PRIVATE INSURANCE
(8) SINGLE SERVICE PLAN (DENTAL, VISION, PRESCRIPTIONS, ETC)
(9) OTHER
(77) DON'T KNOW
(99) REFUSED

C7Q10B [IF IAP not equal 095 and S.C. = 'NIS-ELIG CHILD,' AND INS-7A-1, INS-7A-3, INS-7A-5, OR INS-7A-6 = 1, THEN FILL C7Q10B = 1.

IF IAP not equal 095 and S.C. = 'NIS-ELIG CHILD,' INS-7A-2, INS-7A-4, INS-7A-7 OR INS-7A-9 = 1, THEN FILL WITH INS-7B.]

[IF IAP not equal 095 and S.C. = S.T., AND TIS_INS_7A-1, TIS_INS_7A-3, TIS_INS_7A-5, OR TIS_INS_7A-6 = 1, THEN FILL C7Q10B = 1.

IF IAP not equal 095 and S.C. = S.T., AND TIS_INS_7A-2, TIS_INS_7A-4, TIS_INS_7A-7 OR TIS_INS_7A-9 = 1, THEN FILL WITH TIS_INS_7B.]

Does this health insurance help pay for both doctor visits and hospital stays?

(1) YES
(2) NO **[SKIP TO C7Q13]**
(77) DON'T KNOW **[SKIP TO C9Q01]**
(99) REFUSED **[SKIP TO C9Q01]**

C7Q11 IF IAP not equal 095 and S.C. = 'NIS-ELIG CHILD,' AND INS-11 = 1, THEN DISPLAY "Earlier you told me that since [S.C.]'s birth there was a time when [he/she] was not covered by any health insurance. DURING THE PAST 12 MONTHS, was there any time when [S.C.] was

not covered by any health insurance?"

ELSE DISPLAY:

IF IAP not equal 095 and S.C. = S.T. AND TIS_INS_11 = 1, THEN DISPLAY "Earlier you told me that since [S.C.] was 11 years old there was a time when [he/she] was not covered by any health insurance. DURING THE PAST 12 MONTHS, was there any time when [S.C.] was not covered by any health insurance?"

ELSE DISPLAY:

During the past 12 months/ [WHEN S.C. IS YOUNGER THAN 12 MONTHS: Since [his/her] birth], was there any time when [S.C.] was not covered by ANY health insurance?

(1) YES
(2) NO **[SKIP TO C8Q01_A]**
[DISPLAY RESPONSE (03) IF (S.C. = 'NIS-ELIG CHILD' AND INS-11 =1) OR (S.C. = S.T. AND TIS_INS_11=1)]
(3) CHILD ALWAYS COVERED BY INSURANCE **[SKIP TO C8Q01_A]**
(77) DON'T KNOW **[SKIP TO C8Q01_A]**
(99) REFUSED **[SKIP TO C8Q01_A]**

IF IAP not equal 095 and S.C. = 'NIS-ELIG CHILD' AND INS-11 = 2, 77, 99, THEN FILL 2, 77, 99 AND USE CURRENT LOGIC

IF IAP not equal 095 and S.C. = S.T. AND TIS_INS_11 = 2, 77, 99, THEN FILL 2, 77, 99 AND USE CURRENT LOGIC

C7Q12 [IF S.C. = 'NIS-ELIG CHILD,' AND C7Q11 = 1 AND IF INS-8 = 1, THEN FILL WITH '12']
During the past 12 months/ Since [his/her] birth, about how many months was [S.C.] without any health insurance or coverage?

[IF LESS THAN ONE MONTH, ROUND UP TO ONE MONTH,
IF VALUE LT CWAGE, DISPLAY WARNING: 'TIME WITHOUT INSURANCE CAN'T BE GREATER THAN CHILD'S AGE']

RANGE 01-12, 77, 99
[CATI: 02 NUMERIC-CHARACTER-FIELD, RANGE 01-12, 7, 9]
_____ _____ MONTHS

(77) DON'T KNOW
(99) REFUSED

[IF IAP not equal 095 and S.C. = 'NIS-ELIG CHILD,' AND C7Q11 = 1 AND IF INS-8 = 1, THEN FILL WITH '12']

[IF IAP not equal 095 and S.C. = S.T, AND C7Q11 = 1 AND IF TIS_INS_8 = 1, THEN FILL WITH '12']

[ALL SKIP TO C8Q01_A]

C7Q13 [IF IAP not equal 095 and ((S.C. = 'NIS-ELIG CHILD' AND INS-8 = 2, 77, 99) OR (S.C. = S.T. AND TIS_INS_8 = 1, 2, 77, 99)) THEN DISPLAY: "Earlier you told me that [S.C.] is not covered by health insurance that pays for all types of care."]
IF C7Q10X08 = 1 OR C7Q10B = 2, THEN SAY: About how long has it been since [S.C.] last had

health coverage that helps pay for all types of care?]
[ELSE, READ: About how long has it been since [S.C.] last had health coverage?]

[IF (C7Q13 GE 2 AND CWAGE LT 6) OR (C7Q13 GE 3 AND CWAGE LT 12) OR (C7Q13 GE 4 AND CWAGE LT 36) OR (CWAGE=6 and (02) CHOSEN), DISPLAY WARNING: 'TIME WITHOUT INSURANCE CAN'T BE GREATER THAN CHILD'S AGE']

(1) 6 MONTHS OR LESS
(2) MORE THAN 6 MONTHS, BUT NOT MORE THAN 01 YEAR AGO
(3) MORE THAN 1 YEAR, BUT NOT MORE THAN 3 YEARS AGO **[GO TO C9Q01]**
(4) MORE THAN 3 YEARS **[GO TO C9Q01]**
(5) NEVER **[GO TO C9Q01]**

[DISPLAY RESPONSE (66) IF (S.C. = 'NIS ELIG CHILD' AND INS-8 = 2, 77, OR 99) OR (S.C. = S.T. AND TIS_INS_8= 1, 2, 77, 99)]
(66) CHILD IS COVERED BY INSURANCE **[GO TO C7Q10 AND FOLLOW CSHCN LOGIC]**
(77) DON'T KNOW **[GO TO C9Q01]**
(99) REFUSED **[GO TO C9Q01]**

IF IAP not equal 095 and S.C. = 'NIS-ELIG CHILD,' AND IF INS-8 = 1, THEN FILL C7Q13=5.

C7Q14 (During the past 12 months/ Since [his/her] birth), about how many months was [S.C.] without any health insurance or coverage?

[IF LESS THAN ONE MONTH, ROUND UP TO ONE MONTH
IF VALUE GT CWAGE, DISPLAY WARNING: 'TIME WITHOUT INSURANCE CAN'T BE GREATER THAN CHILD'S AGE']

RANGE 01-12, 77, 99

[CATI: 02 NUMERIC-CHARACTER-FIELD, RANGE 01-12, 6, 7]
_____ _____ MONTHS

(77) DON'T KNOW
(99) REFUSED

C7Q15 [IF S.C. AGE=0 MONTHS, THEN GO TO C9Q01]

[IF C7Q14=12, DK, OR REF, GO TO C9Q01]

[WHEN S.C. IS YOUNGER THAN 12 months, IF C7Q14=AGE OF S.C. IN MONTHS, GO TO C9Q01]

(During the (12 - C7Q14) / [IF S.C. IS YOUNGER THAN 12 MONTHS, During the (S.C. AGE IN MONTHS –C7Q14)] months) when [S.C.] DID have health coverage, what kind of health coverage did [S.C.] have?

[PROBE: Any other kind?]

(1) MEDICAID **[STATE NAME]**
(2) MEDICARE
(3) SCHIP **[STATE NAME]**

(4) MEDIGAP
(5) MILITARY
(6) INDIAN HEALTH SERVICE
(7) PRIVATE INSURANCE
(8) SINGLE SERVICE PLAN (DENTAL, VISION, PRESCRIPTIONS, ETC)
(9) OTHER **[SKIP TO C7Q15A]**
(77) DON'T KNOW
(99) REFUSED

C7Q15A ENTER OTHER_____ **[CATI: 255 CHARACTER-FIELD]**

IF ONLY (8) IS SELECTED, SKIP TO C9Q01

C7Q15B Did this health insurance help pay for both doctor visits and hospital stays?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

[ALL SKIP TO C9Q01]

Section 8. ADEQUACY OF HEALTH CARE COVERAGE

[TIMESTAMP_SECTION81]

C8Q01_A The next questions are about [S.C.]'s health insurance or health care plans. Does [S.C.]'s health insurance offer benefits or cover services that meet [his/her] needs?

Would you say never, sometimes, usually, or always?

(1) NEVER
(2) SOMETIMES
(3) USUALLY
(4) ALWAYS
(77) DON'T KNOW
(99) REFUSED

C8Q01_B Are the costs not covered by [S.C.]'s health insurance reasonable?

Would you say never, sometimes, usually, or always?

(1) NEVER
(2) SOMETIMES
(3) USUALLY
(4) ALWAYS
(5) NO OUT OF POCKET COSTS
(77) DON'T KNOW
(99) REFUSED

IF THE PARENT SEEMS CONFUSED BY HOW TO ANSWER, ASK: Do you have any out-of-pocket costs for your child's health care?

IF YES, THEN ASK: Are those costs reasonable?

C8Q01_C Does [S.C.]'s health insurance allow (him/her) to see the health care providers [he/she] needs?

Would you say never, sometimes, usually, or always?

(1) NEVER
(2) SOMETIMES
(3) USUALLY
(4) ALWAYS
(77) DON'T KNOW
(99) REFUSED

Section 9. IMPACT ON THE FAMILY

[TIMESTAMP_SECTION91]

C9Q01 The next question is about the amount of money paid [during the past 12 months/ Since [his/her] birth] for [S.C.]'s medical care. Please do not include health insurance premiums or costs that were or will be reimbursed by insurance or another source. But do include out-of-pocket payments for all types of health-related needs such as co-payments, dental or vision care, medications, special foods, adaptive clothing, durable equipment, home modifications, and any kind of therapy. (During the past 12 months/ Since [his/her] birth), would you say that the family paid more than $500, $250-$500, less than $250, or nothing for [S.C.]'s medical care?

(1) MORE THAN $500
(2) $250-$500 **[SKIP TO C9Q02]**
(3) LESS THAN $250 **[SKIP TO C9Q02]**
(4) NOTHING, $0 **[SKIP TO C9Q02]**
(77) DON'T KNOW **[SKIP TO C9Q02]**
(99) REFUSED **[SKIP TO C9Q02]**

HELP SCREEN: RESPONDENT MAY GIVE A RANGE AS AN ANSWER TO THIS QUESTION. BE PREPARED TO PROBE FOR A MORE ACCURATE ANSWER.

C9Q01_A [During the past 12 months/ Since [his/her] birth], would you say that the family paid more than $5000, $1000 to $5000, or less than $1000 for [S.C.]'s medical care?

(1) MORE THAN $5000
(2) $1000-$5000
(3) LESS THAN $1000
(77) DON'T KNOW
(99) REFUSED

C9Q02 Many families provide health care at home such as changing bandages, care of feeding or breathing equipment, and giving medication and therapies.

Do you or other family members provide health care at home for [S.C.]?

READ IF NECESSARY: Please base your answer on the last several weeks.

READ IF NECESSARY: Only include care related to the child's condition.

(1) YES
(2) NO **[SKIP TO C9Q04]**
(77) DON'T KNOW **[SKIP TO C9Q04]**
(99) REFUSED **[SKIP TO C9Q04]**

C9Q03 How many hours per week do you or other family members spend providing this kind of care?

READ IF NECESSARY: It is fine to provide an average number of hours per week based on several weeks. Please give your best estimate.

READ IF NECESSARY: Only include care related to the child's condition.

(CATI: 3 NUMERIC-CHARACTER-FIELD, RANGE 000-168, 777, 999)
_____ _____ HOURS PER WEEK

(000) LESS THAN ONE HOUR
(168) AROUND THE CLOCK
(777) DON'T KNOW
(999) REFUSED

[IF C9Q03 < 30 OR = 168, 777, 999, SKIP TO C9Q04]

C9Q03_A I have **[FILL ANSWER FROM C9Q03]** hours. Is that correct?

(1) YES
(2) NO **[SKIP BACK TO C9Q03]**

C9Q04 How many hours per week do you or other family members spend arranging or coordinating [S.C.]'s care? By this I mean making appointments, making sure that care providers are exchanging information, and following up on [S.C.]'s care needs.

READ IF NECESSARY: It is fine to provide an average number of hours per week based on several weeks. Please give your best estimate.

[CATI: 3 NUMERIC-CHARACTER-FIELD, RANGE 000-168, 555, 777, 999]
_ _ _ HOURS PER WEEK

(000) NONE / LESS THAN ONE HOUR
(168) AROUND THE CLOCK
(777) DON'T KNOW
(999) REFUSED

[IF C9Q04 = 000 OR 555, OR IF C9Q04 < 30 or C9Q04 = 168, 777, 999, SKIP TO C9Q05]

C9Q04_A I have **[FILL ANSWER FROM C9Q04]** hours. Is that correct?

(1) YES
(2) NO **[SKIP BACK TO C9Q04]**

C9Q05 Have [S.C.]'s health conditions caused financial problems for your family?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

C9Q10 Have you or other family members stopped working because of [S.C.]'s health conditions?

(1) YES

(2) NO
(77) DON'T KNOW
(99) REFUSED

C9Q06 **[IF C9Q10 = 01, THEN SHOW: Not including the family members who stopped working]**

Have you or other family members cut down on the hours you work because of [S.C.]'s health conditions?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

C9Q11 Have you or other family members avoided changing jobs because of concerns about maintaining health insurance for [S.C.]?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

Section 9.5. ADD/ADHD QUESTIONS

[TIMESTAMP_ADD_START]

CP_ADD IF ASK_ADD=1 AND K2Q31B=1 THEN GO TO C95Q01. ELSE GO TO CPC10.

C95Q01 Earlier you told me that [S.C.] currently has ADD or ADHD. At any time during the past week, did [he/she] take medication for ADD or ADHD?

(1) YES
(2) NO **[SKIP TO C95Q02]**
(77) DON'T KNOW **[SKIP TO C95Q02]**
(99) REFUSED **[SKIP TO C95Q02]**

C95Q01 A What medications did [S.C.] take for ADD or ADHD?

INTERVIEWER INSTRUCTIONS: MARK ALL THAT APPLY AMONG 1-18. DO NOT READ LIST.

PROBE: Did (he/she) take any other medications for ADD or ADHD during the past week?

(1) ADDERALL (ADD-ur-all), ADDERALL XR, AMPHETAMINE (am-FET-a-meen)
(2) CELEXA, CITALOPRAM (si-TAL-o-pram)
(3) CONCERTA
(4) DAYTRANA PATCH
(5) DEXEDRINE, DEXEDRINE SPANSULE, DEXTROSTAT, DEXTRO-AMPHETAMINE
(6) DEXMETHYLPHENIDATE
(7) FLUOXETINE (floo-ox-e-teen)
(8) FOCALIN, FOCALIN XR
(9) METADATE, METADATE CD
(10) METHYLIN
(11) METHYLPHENIDATE
(12) PROZAC
(13) RITALIN, RITALIN LA, RITALIN SR
(14) SERTRALINE (SER-tra-leen)
(15) STRATTERA, ATOMOXETINE (AT-oh-mox-e-teen)
(16) VYVANSE, LISDEXAMFETAMINE (lis-dex-am-FET-a-meen)
(17) ZOLOFT
(18) OTHER
(66) NOT CURRENTLY TAKING MEDICATION [SKIP TO C95Q02]
(77) DON'T KNOW
(99) REFUSED

IF 18, SKIP TO C95Q01B. IF 1 - 17, 77, 99, SKIP TO C95Q03.

C95Q01B ENTER OTHER MEDICATION. IF MORE THAN ONE MEDICATION IS GIVEN ENTER ALL MEDICATIONS ON ONE LINE.

_____ENTER TEXT **[SKIP TO C95Q03]**

C95Q02 In the past 12 months, did [S.C] take any medication for ADD or ADHD?

(1) YES
(2) NO

(77) DON'T KNOW
(99) REFUSED

C95Q03 At any time during the past 12 months, did [S.C.] receive behavioral treatment for ADD or ADHD, such as classroom management, peer interventions, social skills training, or cognitive-behavioral therapy?

HELP TEXT: Cognitive-behavioral therapy, or CBT, is a type of therapy that aims to change negative emotions and behaviors through carious techniques used by a trained psychologist or counselor.

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

C95Q04 At any time during the past 12 months, did [S.C.] take a dietary supplement to treat ADD or ADHD?

HELP TEXT: Dietary supplements are products such as viatmins, minerals, or herbs that are taken to supplement a person's diet.

HELP TEXT: Some common supplements include megavitamins, zinc, chamomile; kava hops; lemon balm; passionflower; melatonin; and ginko biloba.

(1) YES
(2) NO [SKIP TO CPC10]
(77) DON'T KNOW [SKIP TO CPC10]
(99) REFUSED [SKIP TO CPC10]

C95Q04A In the past week, did [S.C.] take a dietary supplement to treat ADD or ADHD?

(1) YES [SKIP TO CPC10]
(2) NO [SKIP TO CPC10]
(77) DON'T KNOW [SKIP TO CPC10]
(99) REFUSED [SKIP TO CPC10]

[TIMESTAMP_ADD_END]

Section 10. DEMOGRAPHICS

[TIMESTAMP_SECTION101]

CPC10 IF CWTYPE = S, THEN SKIP TO C10Q01 ELSE GO TO C10START.

C10START Next, I have some more general questions about you and your household. The rest of the survey will take about 5 minutes.

IF RESPONDENT IS CONCERNED ABOUT THE TIME ESTIMATE, READ ANY OF THE FOLLOWING:

We know your time is valuable, and we will get through the questions as quickly as possible.

Let's get started and see how far we get. If you have to go, let me know.

(1) CONTINUE WITH INTERVIEW

C10Q01 **[IF NIS IS DONE, FILL C10Q01 FROM NIS DATA C1, SKIP TO C10Q02A.]**

[IF CWTYPE = S, THEN DISPLAY: Now I have some questions about your household.]

Including the adults and all the children, how many people live in your household?

[CATI: 02 NUMERIC-CHARACTER FIELD, RANGE 01-30, 77, 99
VALUE MUST BE =/> S_UNDR18 + 1] [DISPLAY WARNING IF VALUE < S_UNDR18+1 -> "NUMBER OF PEOPLE IN THIS HOUSEHOLD CANNOT BE LESS THAN NUMBER OF KIDS + 1."

_____ PERSONS
(77) DON'T KNOW
(99) REFUSED

READ AS NECESSARY: Please include anyone who normally lives there even if they are not there now, like someone who is away traveling or in a hospital.

HELP SCREEN: EACH PERSON IN THE HOUSEHOLD MUST BE A CURRENT RESIDENT OF THE HOUSEHOLD. A CURRENT RESIDENCE IS DEFINED AS A PLACE WHERE THE PERSON IS STAYING FOR MORE THAN TWO MONTHS AT THE TIME OF THE SURVEY CONTACT. IF A PERSON HAS NO PLACE WHERE HE OR SHE USUALLY STAYS, THE PERSON SHOULD BE CONSIDERED A CURRENT RESIDENT REGARDLESS OF THE LENGTH OF THE CURRENT STAY.

PERSONS AWAY FROM THEIR RESIDENCE FOR TWO MONTHS OR LESS, WHETHER TRAVELING OR IN THE HOSPITAL, ARE CONSIDERED "IN RESIDENCE."

PERSONS AWAY FROM THEIR RESIDENCE FOR MORE THAN TWO MONTHS ARE CONSIDERED "NOT IN RESIDENCE" UNLESS THE PERSON IS AWAY AT SCHOOL (I.E., BOARDING SCHOOL, MILITARY ACADEMY, PREP SCHOOL, ETC.).

CPC10Q02A IF CWTYPE = N, THEN SKIP TO C10Q14.

C10Q02A What is your relationship to [S.C.]?

IF R RESPONDS "Mother" or "Father," YOU MUST PROBE:: Are you [S.C.]'s biological, step, foster, or adoptive mother/father?

IF R RESPONDS "Partner," PROBE IF NOT SURE: Are you male or female?

PARENT

(01) BIOLOGICAL MOTHER
(02) STEP MOTHER
(03) FOSTER MOTHER
(04) ADOPTIVE MOTHER
(05) MOTHER, but TYPE REFUSED
(06) BIOLOGICAL FATHER
(07) STEP FATHER
(08) FOSTER FATHER
(09) ADOPTIVE FATHER
(10) FATHER, but TYPE REFUSED

OLDER RELATIVES OR GUARDIANS

(11) GRANDMOTHER
(12) GRANDFATHER
(13) AUNT
(14) UNCLE
(15) FEMALE GUARDIAN
(16) MALE GUARDIAN

OTHER RELATIVES

(17) SISTER (BIOLOGICAL, STEP, FOSTER, HALF, ADOPTIVE)
(18) BROTHER (BIOLOGICAL, STEP, FOSTER, HALF, ADOPTIVE)
(19) COUSIN
(20) IN-LAW OF ANY TYPE
(22) OTHER RELATIVE / FAMILY MEMBER

OTHER NON-RELATIVES

(23) PARENT'S BOYFRIEND / MALE PARTNER
(24) PARENT'S GIRLFRIEND / FEMALE PARTNER
(25) PARENT'S PARTNER, but SEX REFUSED
(26) OTHER NON-RELATIVE OR FRIEND

(77) DON'T KNOW
(99) REFUSED

C10Q02B **[IF C10Q01= 2, SKIP TO C10Q02C.]**

IF C10Q01=77,99 THEN READ:
For the other people that live in your household with you and [S.C.], what is their relationship to [S.C.]?

IF C10Q01 NOT 77,99 THEN READ:
In addition to you and [S.C.], I have that [FILL: C10Q01 - 2] [other person lives/other people live] in your household. What is their relationship to [S.C.]? **[MARK ALL THAT APPLY]**

IF R RESPONDS "Mother" or "Father," YOU MUST PROBE: Is that [S.C.]'s biological, step, foster, or adoptive mother/father?

IF R RESPONDS "Partner," PROBE: Is the partner male or female?

PARENT

(01) BIOLOGICAL MOTHER
(02) STEP MOTHER
(06) BIOLOGICAL FATHER
(07) STEP FATHER

(03) FOSTER MOTHER
(04) ADOPTIVE MOTHER
(05) MOTHER, but TYPE REFUSED
(08) FOSTER FATHER
(09) ADOPTIVE FATHER
(10) FATHER, but TYPE REFUSED

OLDER RELATIVES OR GUARDIANS
(11) GRANDMOTHER
(12) GRANDFATHER
(13) AUNT
(14) UNCLE
(15) FEMALE GUARDIAN
(16) MALE GUARDIAN

OTHER RELATIVES
(17) SISTER
(18) BROTHER
(19) COUSIN
(20) IN-LAW OF ANY TYPE
(21) [S.C.]'S CHILD, SON, OR DAUGHTER
(22) OTHER RELATIVE / FAMILY MEMBER

OTHER NON-RELATIVES
(23) PARENT'S BOYFRIEND / MALE PARTNER
(24) PARENT'S GIRLFRIEND / FEMALE PARTNER
(25) PARENT'S PARTNER, but SEX REFUSED
(26) OTHER NON-RELATIVE OR FRIEND

(77) DON'T KNOW
(99) REFUSED

IF C10Q02A = 1 and C10Q02B = 1, THEN DISPLAY WARNING TEXT.
IF C10Q02A = 6 and C10Q02B = 6, THEN DISPLAY WARNING TEXT.

C10Q02B_CONF — IF C10Q02B_CONF= 2 IS SELECTED AND C10Q01 HAS BEEN FILLED FROM NIS OR TEEN VARIABLES, ALLOW THE CASE TO GO BACK TO C10Q01 AND DISPLAY THE FILL VALUE AND ALLOW IT TO BE CHANGED.

I am now going to list all the people that live in your household.

I have that
[LIST OF RELATIONSHIPS ROSTERED]
live in this household with [S.C.].

Is this a correct list of everyone living in your household?

(1) CONFIRM - THIS LIST IS CORRECT
(2) NOT CORRECT - RETURN TO TOTAL NUMBER OF PEOPLE IN HOUSEHOLD AND START PROCESS AGAIN **[GO TO C10Q01]**

C10Q02B_WARNING — Earlier you told me that there are [VALUE FROM C10Q01] people living in your household. However, based on the relationships you just gave, I have [COUNT OF RELATIONSHIPS INCLUDING R & SC] people living in your household. Let's re-confirm your answers.

(1) RETURN TO RE-CONFIRM ANSWERS **[GO TO C10Q02B_CONF C10Q01]**

USE RARELY:
(2) ISSUE CANNOT BE RESOLVED - CONTINUE ON **[GO TO CPC10Q02C]**

CPC10Q02C — IF ANY BIOLOGICAL MOTHER OR BIOLOGICAL FATHER IN HH [(C10Q02A = 1 OR

C10Q02B = 1) OR (C10Q02A = 6 OR C10Q02B = 6)], SKIP TO C10Q03.

IF RESPONDENT IS ADOPTIVE MOTHER OR ADOPTIVE FATHER (C10Q02A = 4 or 9), SKIP TO C10Q03 ELSE, ASK C10Q02C.

C10Q02C **CATI INSTRUCTION (C10Q02C):** IF ANY BIOLOGICAL MOTHER OR BIOLOGICAL FATHER IN HH [(C10Q02A = 1 OR C10Q02B = 1) OR (C10Q02A = 6 OR C10Q02B = 6)], SKIP TO C10Q03. IF RESPONDENT IS ADOPTIVE MOTHER OR ADOPTIVE FATHER (C10Q02A = 4 or 9), SKIP TO C10Q03.

ELSE, ASK C10Q02C

Have you legally adopted [S.C.]?
(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

C10Q03 **IF C10Q02A = 01 OR 06 OR C10Q02B = 01 OR 06, SKIP TO CPC10Q10. ELSE, IF C10Q02A = 04 OR 09 OR C10Q02B = 04 OR 09 OR C10Q02C = 1, CONTINUE WITH C10Q03. ELSE, SKIP TO C10Q10.**

The next questions will help us better understand the health needs of adopted children.

How old was [S.C.] when the adoption was finalized? By "finalized," I mean when the court papers were signed that completed the adoption process.

HELP SCREEN: IF CHILD WAS LESS THAN 1 MONTH AT THE TIME OF ADOPTION, ENTER 0 MONTHS.

HELP SCREEN: ENTER AGE IN MONTHS FOR 0 TO 23 MONTHS. IF 2 YEARS OR OLDER, ENTER AGE IN YEARS.

___ ____ VALUE (MUST BE LESS THAN OR EQUAL TO AGE OF CHILD)

(55) ADOPTION NOT FINALIZED
(77) DON'T KNOW
(99) REFUSED

C10Q03A Months (00-23)
Years (Range 02-17)

(1) MONTHS
(2) YEARS
(77) DON'T KNOW
(99) REFUSED

C10Q04 Was [S.C.] adopted from another country?

IF RESPONDENT SEEMS UPSET BY THIS QUESTION, READ: We ask this question for all children with adoptive parents.

(1) YES **[SKIP TO C10Q10]**
(2) NO

(77) DON'T KNOW
(99) REFUSED

C10Q05 Prior to being adopted, was [S.C.] in the legal custody of a state or county child welfare agency in the United States? That is, was [S.C.] in the U.S. foster care system?

IF THE CHILD WAS ADOPTED THROUGH A PRIVATE AGENCY AND THE PRIVATE AGENCY WAS ACTING IN ASSOCIATION WITH OR IN COOPERATION WITH A STATE OR COUNTY WELFARE AGENCY, THEN THIS QUESTION SHOULD BE ANSWERED "YES."

IF A FOSTER PARENT ADOPTED ONE OF THEIR OWN FOSTER CHILDREN, THEN THIS QUESTION SHOULD BE ANSWERED "YES."

IF RESPONDENT SEEMS UPSET BY THIS QUESTION, READ: We ask this question for all children with adoptive parents.

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

CPC10Q10 IF HOUSEHOLD INCLUDES A MOTHER (C10Q02A = 1-5 OR C10Q02B = 1-5) AND A FATHER (C10Q02A = 6-10 OR C10Q02B = 6-10), ASK C10Q10. ELSE, SKIP TO C10Q11A.

C10Q10 **CATI INSTRUCTION (C10Q10)**: IF THE RESPONDENT IS THE MOTHER (C10Q02A = 1-5), THEN READ: Are you and [S.C.]'s [FATHER TYPE] currently married, separated, divorced, or never married?

IF THE RESPONDENT IS THE FATHER (C10Q02A = 6-10), THEN READ: Are you and [S.C.]'s [MOTHER TYPE] currently married, separated, divorced, or never married?

IF THE RESPONDENT IS NEITHER THE MOTHER NOR THE FATHER, THEN READ: Are [S.C.]'s [MOTHER TYPE] and [FATHER TYPE] currently married, separated, divorced, or never married?

(1) MARRIED	**[SKIP TO C10Q14]**
(2) SEPARATED	**[SKIP TO C10Q10A]**
(3) DIVORCED	**[SKIP TO C10Q10A]**
(4) NEVER MARRIED	**[SKIP TO C10Q10A]**
(77) DON'T KNOW	**[SKIP TO C10Q10A]**
(99) REFUSED	**[SKIP TO C10Q10A]**

HELP SCREEN: THIS QUESTION ASKS ABOUT THE MARITAL STATUS OF THE CHILD'S PARENTS WHO LIVE IN THE HOUSEHOLD.

C10Q10A IF THE RESPONDENT IS THE MOTHER (C10Q02A = 1-5), THEN READ: Are you and [S.C.]'s [FATHER TYPE] currently living together as partners?

IF THE RESPONDENT IS THE FATHER (C10Q02A = 6-10), THEN READ: Are you and [S.C.]'s [MOTHER TYPE] currently living together as partners?

IF THE RESPONDENT IS NEITHER THE MOTHER NOR THE FATHER, THEN READ: Are [S.C.]'s [MOTHER TYPE] and [FATHER TYPE] currently living together as partners?

(1) YES	**[SKIP TO C10Q14]**
(2) NO	**[SKIP TO C10Q14]**
(77) DON'T KNOW	**[SKIP TO C10Q14]**
(99) REFUSED	**[SKIP TO C10Q14]**

CPC10Q11A IF HOUSEHOLD INCLUDES A MOTHER (C10Q02A = 1-5 OR C10Q02B = 1-5) BUT NOT A FATHER (C10Q02A <> 6-10 AND C10Q02B <> 6-10), ASK C10Q11A. ELSE, SKIP TO C10Q12A.

C10Q11A IF THE RESPONDENT IS THE MOTHER (C10Q02A = 1-5), THEN READ: Are you currently married, separated, divorced, widowed, or never married?

IF THE RESPONDENT IS NOT THE MOTHER, THEN READ: Is [S.C.]'s [MOTHER TYPE] currently married, separated, divorced, widowed, or never married?

(1) MARRIED	
(2) SEPARATED	**[SKIP TO C10Q11C]**
(3) DIVORCED	**[SKIP TO C10Q11C]**
(4) WIDOWED	**[SKIP TO C10Q11C]**
(5) NEVER MARRIED	**[SKIP TO C10Q11C]**
(77) DON'T KNOW	**[SKIP TO C10Q11C]**
(99) REFUSED	**[SKIP TO C10Q11C]**

CPC10Q11B IF MOTHER TYPE IS FOSTER OR ADOPTIVE (C10Q02A = 3-4 OR C10Q02B = 3-4), THEN SKIP TO C10Q14.

C10Q11B **CATI INSTRUCTION (C10Q11B)**: IF RESPONDENT IS THE MOTHER (C10Q02A = 1, 2, or 5), FILL "Are you"; ELSE FILL "Is [S.C.]'S [MOTHER TYPE]".

(Are you / Is [S.C.]'s [MOTHER TYPE]) married to [S.C.]'s biological father?

(1) YES	**[SKIP TO C10Q14]**
(2) NO	**[SKIP TO C10Q14]**
(77) DON'T KNOW	**[SKIP TO C10Q14]**
(99) REFUSED	**[SKIP TO C10Q14]**

C10Q11C IF THE RESPONDENT IS THE MOTHER (C10Q02A = 1-5), THEN READ: Are you currently living with anyone as partners?

IF THE RESPONDENT IS NOT THE MOTHER, THEN READ: Is [S.C.]'s [MOTHER TYPE] currently living with anyone as partners?

(1) YES	**[SKIP TO C10Q14]**
(2) NO	**[SKIP TO C10Q14]**
(77) DON'T KNOW	**[SKIP TO C10Q14]**
(99) REFUSED	**[SKIP TO C10Q14]**

CPC10Q12A IF HOUSEHOLD INCLUDES A FATHER (C10Q02A = 6-10 OR C10Q02B = 6-10) BUT NOT A MOTHER (C10Q02A <> 6-10 OR C10Q02B <> 6-10), ASK C10Q12A. ELSE, SKIP TO C10Q13A.

C10Q12A **CATI INSTRUCTION (C10Q12A)**: IF THE RESPONDENT IS THE FATHER (C10Q02A= 6-10), THEN READ: Are you currently married, separated, divorced, widowed, or never married?

IF THE RESPONDENT IS NOT THE FATHER, THEN READ: Is [S.C.]'s [FATHER TYPE] currently married, separated, divorced, widowed, or never married?

(1) MARRIED
(2) SEPARATED **[SKIP TO C10Q12C]**
(3) DIVORCED **[SKIP TO C10Q12C]**
(4) WIDOWED **[SKIP TO C10Q12C]**
(5) NEVER MARRIED **[SKIP TO C10Q12C]**
(77) DON'T KNOW **[SKIP TO C10Q12C]**
(99) REFUSED **[SKIP TO C10Q12C]**

CPC10Q12B IF FATHER TYPE IS FOSTER OR ADOPTIVE (C10Q02A = 8-9 OR C10Q02B = 8-9), THEN SKIP TO C10Q14.

C10Q12B **CATI INSTRUCTION (C10Q12B)**: IF RESPONDENT IS THE FATHER (C10Q02A = 6, 7, or 10) FILL "Are you"; ELSE FILL "Is [S.C.]'s [FATHER TYPE]".

(Are you / Is [S.C.]'s [FATHER TYPE]) married to [S.C.]'s biological mother?

(1) YES **[SKIP TO C10Q14]**
(2) NO **[SKIP TO C10Q14]**
(77) DON'T KNOW **[SKIP TO C10Q14]**
(99) REFUSED **[SKIP TO C10Q14]**

C10Q12C IF THE RESPONDENT IS THE FATHER (C10Q02A= 6-10), THEN READ: Are you currently living with anyone as partners?

IF THE RESPONDENT IS NOT THE FATHER, THEN READ: Is [S.C.]'s [FATHER TYPE] currently living with anyone as partners?

(1) YES **[SKIP TO C10Q14]**
(2) NO **[SKIP TO C10Q14]**
(77) DON'T KNOW **[SKIP TO C10Q14]**
(99) REFUSED **[SKIP TO C10Q14]**

C10Q13A Are you currently married, separated, divorced, widowed, or never married?

(1) MARRIED
(2) SEPARATED **[SKIP TO C10Q13C]**
(3) DIVORCED **[SKIP TO C10Q13C]**
(4) WIDOWED **[SKIP TO C10Q13C]**
(5) NEVER MARRIED **[SKIP TO C10Q13C]**
(77) DON'T KNOW **[SKIP TO C10Q13C]**
(99) REFUSED **[SKIP TO C10Q13C]**

C10Q13B Does your spouse currently live in the household with [S.C.]?

(1) YES **[SKIP TO C10Q14]**
(2) NO **[SKIP TO C10Q14]**
(77) DON'T KNOW **[SKIP TO C10Q14]**
(99) REFUSED **[SKIP TO C10Q14]**

C10Q13C Are you currently living with a partner?

(1) YES
(2) NO
(77) DON'T KNOW

(99) REFUSED

C10Q14 What is the age of the oldest adult living in the household?

____ YEARS
(777) DON'T KNOW
(999) REFUSED

SC_C10Q14 INTERVIEWER CHECK:
YOU ENTERED [FILL WITH ANSWER FROM C10Q14] YEARS OLD. IS THIS CORRECT?

(1) YES **[GO TO CPC10Q20]**
(2) NO **[GO BACKTO C10Q14]**

CPC10Q20 IF CWTYPE = N, THEN SKIP TO C10Q23.
IF C10Q02A = 1-5 OR C10Q02B = 1-5, ASK C10Q20. ELSE, SKIP TO C10Q21.

C10Q20 IF S.C. = NIS-ELIG CHILD AND (C10Q02A=1 OR C10Q02B=1), THEN FILL with NIS variable C6_06Q3_x as appropriate.

IF S.C. = S.T. AND (C10Q02A=1 OR C10Q02B=1), THEN FILL FROM TIS_C6

CATI INSTRUCTION (C10Q20): IF C10Q02A = 1-5, FILL "you have". ELSE, FILL "[S.C.]'s [MOTHER TYPE] has"

What is the highest grade or year of school [you have / [S.C.]'s [MOTHER TYPE] has] completed?

(1) 8th GRADE OR LESS
(2) 9th-12th GRADE NO DIPLOMA
(3) HIGH SCHOOL GRADUATE OR GED COMPLETED
(4) COMPLETED A VOCATIONAL, TRADE, OR BUSINESS SCHOOL PROGRAM
(5) SOME COLLEGE CREDIT BUT NO DEGREE
(6) ASSOCIATE DEGREE (AA, AS)
(7) BACHELOR'S DEGREE (BA, BS, AB)
(8) MASTER'S DEGREE (MA, MS, MSW, MBA)
(9) DOCTORATE (PhD, EdD) or PROFESSIONAL DEGREE (MD, DDS, DVM, JD)
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN (C10Q20): AT THIS QUESTION, COLLECT INFORMATION ABOUT THE MOTHER (BIOLOGICAL, STEP, FOSTER, ADOPTIVE) LIVING IN THIS HOUSE.

CPC10Q21 IF C10Q02A = 6-10 OR C10Q02B = 6-10, ASK C10Q21. ELSE, SKIP TO C10Q22.

C10Q21 **CATI INSTRUCTION (C10Q21):** IF C10Q20 NOT BLANK AND C10Q02A = 6-10, ASK: "And how about you?"

READ AS NECESSARY: "What is the highest grade or year of school you have completed?"

IF C10Q20 NOT BLANK AND C10Q02A <> 6-10, ASK: "And how about [S.C.]'s [FATHER TYPE]?"

READ AS NECESSARY: "What is the highest grade or year of school [S.C.]'s [FATHER TYPE] has completed?"

IF C10Q20 IS BLANK AND C10Q02A = 6-10, ASK: "What is the highest grade or year of school you have completed?"

IF C10Q20 IS BLANK AND C10Q02A <> 6-10, ASK: "What is the highest grade or year of school [S.C.]'s [FATHER TYPE] has completed?"

IF C10Q20 FILLED FROM NIS AND C10Q02A = 6-10, ASK: "What is the highest grade or year of school you have completed?"

IF C10Q20 FILLED FROM NIS AND C10Q02A <> 6-10, ASK: "What is the highest grade or year of school [S.C.]'s [FATHER TYPE] has completed?"

HELP SCREEN: AT THIS QUESTION, COLLECT INFORMATION ABOUT THE FATHER (BIOLOGICAL, STEP, FOSTER, ADOPTIVE) LIVING IN THIS HOUSE.

(1) 8th GRADE OR LESS
(2) 9th-12th GRADE NO DIPLOMA
(3) HIGH SCHOOL GRADUATE OR GED COMPLETED
(4) COMPLETED A VOCATIONAL, TRADE, OR BUSINESS SCHOOL PROGRAM
(5) SOME COLLEGE CREDIT BUT NO DEGREE
(6) ASSOCIATE DEGREE (AA, AS)
(7) BACHELOR'S DEGREE (BA, BS, AB)
(8) MASTER'S DEGREE (MA, MS, MSW, MBA)
(9) DOCTORATE (PhD, EdD) or PROFESSIONAL DEGREE (MD, DDS, DVM, JD)
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN (C10Q21): AT THIS QUESTION, COLLECT INFORMATION ABOUT THE FATHER (BIOLOGICAL, STEP, FOSTER, ADOPTIVE) LIVING IN THIS HOUSE.

CPC10Q22 IF C10Q02A <> 1-10, ASK C10Q22. ELSE SKIP TO ETH.

C10Q22 **CATI INSTRUCTION (C10Q22):** IF (C10Q20 IS NOT BLANK AND NOT FILLED FROM NIS OR TEEN) OR C10Q21 IS NOT BLANK, ASK: "And how about you?"

READ AS NECESSARY: "What is the highest grade or year of school you have completed?"

IF C10Q20 AND C10Q21 ARE BLANK, ASK: "What is the highest grade or year of school you have completed?"

HELP SCREEN: AT THIS QUESTION, COLLECT INFORMATION ABOUT THE [TEXTFILL: answer from C10Q02A (see TEXTFILL logic)] LIVING IN THIS HOUSE.

(1) 8th GRADE OR LESS
(2) 9th-12th GRADE NO DIPLOMA
(3) HIGH SCHOOL GRADUATE OR GED COMPLETED
(4) COMPLETED A VOCATIONAL, TRADE, OR BUSINESS SCHOOL PROGRAM
(5) SOME COLLEGE CREDIT BUT NO DEGREE
(6) ASSOCIATE DEGREE (AA, AS)
(7) BACHELOR'S DEGREE (BA, BS, AB)
(8) MASTER'S DEGREE (MA, MS, MSW, MBA)
(9) DOCTORATE (PhD, EdD) or PROFESSIONAL DEGREE (MD, DDS, DVM, JD)
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN (C10Q22): AT THIS QUESTION, COLLECT INFORMATION ABOUT THE RESPONDENT.

CPC10Q23 IF CWTYPE = S, THEN SKIP TO ETH ELSE GO TO C10Q23.

C10Q23 What is the highest level of school that any parent in the household has completed or the highest degree any parent in the household has received?

(1) 8th GRADE OR LESS
(2) 9th-12th GRADE NO DIPLOMA
(3) HIGH SCHOOL GRADUATE OR GED COMPLETED
(4) COMPLETED A VOCATIONAL, TRADE, OR BUSINESS SCHOOL PROGRAM
(5) SOME COLLEGE CREDIT BUT NO DEGREE
(6) ASSOCIATE DEGREE (AA, AS)
(7) BACHELOR'S DEGREE (BA, BS, AB)
(8) MASTER'S DEGREE (MA, MS, MSW, MBA)
(9) DOCTORATE (PhD, EdD) or PROFESSIONAL DEGREE (MD, DDS, DVM, JD)
(77) DON'T KNOW
(99) REFUSED

HELP SCREEN (C10Q23): IF RESPONDENT INDICATES THAT NO PARENTS LIVE IN THE HOUSEHOLD, THEN ASK FOR THE HIGHEST LEVEL OF SCHOOL COMPLETED BY ANY ADULT IN THE HOUSEHOLD.

ETH IF S_UNDR18=1 THEN DISPLAY: Is [S.C./AGEID] of Hispanic, Latino, or Spanish origin?

IF S_UNDR18=2 THEN DISPLAY:
My next questions are about all of the children in your household.

Are either of the [S_UNDR18] children in your household of Hispanic, Latino, or Spanish origin?

IF S_UNDR18 > 2 THEN DISPLAY: My next questions are about all of the children in your household.

Are any of the [S_UNDR18] children in your household of Hispanic, Latino, or Spanish origin?

(1) YES	**[IF S_UNDR18 > 1 GO TO ETH_B]**
(2) NO	**[GO TO C10Q32 _X]**
(77) DON'T KNOW	**[GO TO C10Q32 _X]**
(99) REFUSED	**[GO TO C10Q32 _X]**

ETH_B Is that [PICKLIST CONSISTING OF CHILDREN LISTED AS IN AGEID]?

C10Q32_X DISPLAY FOR C10Q32_1: Please choose one or more of the following categories to describe [FILL IN S.C./AGEID for Roster Position 1]'s race.

Is [FILL IN S.C./AGEID for Roster Position 1] White, Black or African American, American Indian, Alaska Native, Asian, Native Hawaiian, or other Pacific Islander?

FOR C10Q32_2 - C10Q32_9, if all questions C10Q32_x prior have been filled from NIS or Teen, DISPLAY: Please choose one or more of the following categories to describe [FILL IN S.C./AGEID for Roster Position]'s race.

Is [FILL IN S.C./AGEID for Roster Position] White, Black or African American, American

Indian, Alaska Native, Asian, Native Hawaiian, or other Pacific Islander?

FOR C10Q32_2 - C10Q32_9, if any previous C10Q32_x question has been asked (not filled from NIS or Teen), THEN DISPLAY:
And how about [FILL IN S.C./AGEID]?

HELP SCREEN: RACE INFORMATION IS COLLECTED BY SELF-IDENTIFICATION. IT IS "WHATEVER RACE YOU CONSIDER YOURSELF TO BE." DO NOT TRY TO EXPLAIN OR DEFINE ANY OF THE GROUPS. MULTIPLE RACES MAY BE SELECTED.

[MARK ALL THAT APPLY]

(1) WHITE / CAUCASIAN
(2) BLACK/ AFRICAN AMERICAN
(3) AMERICAN INDIAN / NATIVE AMERICAN
(4) ALASKA NATIVE
(5) ASIAN
(6) NATIVE HAWAIIAN
(7) PACIFIC ISLANDER
(8) OTHER (SPECIFY)

IF 8, ASK C10Q32A_X. ELSE SKIP TO C10Q40.

ASK FOR ALL CHILDREN IN THE HOUSEHOLD.

[IF C10Q32X08 = 1, ASK C10Q32A. ELSE SKIP TO C10Q40].

C10Q32A_X ENTER OTHER DESCENT
[Fill with NIS variable C3_OTHR as appropriate if S.C.= NIS eligible child.

IF S.C. = ST then FILL WITH TIS_C4_OTHR]

C10Q40 What is the primary language spoken in your home?
[READ RESPONSES ONLY IF NECESSARY]

(1) ENGLISH
(2) SPANISH
(3) ANY OTHER LANGUAGE
(77) DON'T KNOW
(99) REFUSED

C10Q41 Do you own or rent your home?

HELP SCREEN: IF THE HOME IS OWNED OR BEING BOUGHT BY SOMEONE IN THE HOUSEHOLD, THE ANSWER SHOULD BE MARKED AS "OWNED." IF THE HOME IS NOT OWNED BY SOMEONE IN THE HOUSEHOLD AND IS BEING OCCUPIED WITHOUT PAYMENT OF RENT, THE ANSWER SHOULD BE MARKED AS "SOME OTHER ARRANGEMENT."

(1) OWNED OR BEING BOUGHT
(2) RENTED
(3) SOME OTHER ARRANGEMENT
(77) DON'T KNOW
(99) REFUSED

Section 11. INCOME

IF ANY NIS INTERVIEW WAS DONE IN THIS HH, SKIP TO C11Q12 – FILL DATA FROM NIS VARIABLE – CFAMINC; ELSE CONTINUE

[TIMESTAMP_SECTION111]

C11Q01 What was the total combined income of your household in **[CATI: FILL LAST CALENDAR YEAR]**, including income from all sources such as wages, salaries, unemployment payments, public assistance, Social Security or retirement benefits, help from relatives and so forth? Can you tell me that amount before taxes?

[CATI: 9 NUMERIC-CHARACTER FIELD]

RECORD INCOME $_____

(77) DON'T KNOW	**[SKIP TO C11Q01_DONT_KNOW]**
(99) REFUSED	**[SKIP TO C11Q01_REFUSED]**

HELP SCREEN: RESPONDENT MAY GIVE A RANGE AS AN ANSWER TO THIS QUESTION. BE PREPARED TO PROBE FOR A MORE ACCURATE ANSWER.

IF NIS VARIABLE CFAMINC IS ANSWERED, FILL DATA FROM NIS VAR CFAMINC.

IF SUC=4 AND NO NIS INTERVIEW COMPLETED AND TEEN WAS COMPLETED, FILL FROM TIS_CFAMINC.

C11CONF **(NIS VARIABLE - CINC)**
Just to confirm that I entered it correctly, your household income was about (FILL AMOUNT FROM C11Q01). Is that correct?

(1) YES	**[SKIP TO C11Q12]**
(2) NO	**[SKIP BACK TO C11Q01]**

C11Q01 _ DON'T KNOW **(NIS VARIABLE - C12_DONT_KNOW)**
You may not be able to give us an exact figure for your total combined household income, but was your total household income during [FILL LAST CALENDAR YEAR] more or less than $20,000.

(1) MORE THAN $20,000	**[SKIP TO W9Q06]**
(2) $20,000	**[SKIP TO CPC11Q12]**
(3) LESS THAN $20,000	**[SKIP TO W9Q03]**
(77) DON'T KNOW	**[SKIP TO CPC11Q12]**
(99) REFUSED	**[SKIP TO CPC11Q12]**

C11Q01_ REFUSED **(NIS VARIABLE C12_REFUSED)**
Income is important in analyzing the health care information we collect. For example, this information helps us to learn whether persons in one group use these medical services more or less than those in another group. Now you may not be able to give us an exact figure for your total combined household income, but was your total household income during [FILL LAST CALENDAR YEAR] more or less than $20,000?

(1) MORE THAN $20,000	**[SKIP TO W9Q06]**
(2) $20,000	**[SKIP TO CPC11Q12]**
(3) LESS THAN $20,000	**[SKIP TO W9Q03]**
(77) DON'T KNOW	**[SKIP TO CPC11Q12]**
(99) REFUSED	**[SKIP TO CPC11Q12]**

W9Q03 **(NIS VARIABLE - C13)**
Was the total combined household income more or less than $10,000?

(1) MORE THAN $10,000	**[SKIP TO W9Q05]**
(2) $10,000	**[SKIP TO C11Q12]**
(3) LESS THAN $10,000	**[SKIP TO W9Q04]**
(77) DON'T KNOW	**[SKIP TO C11Q12]**
(99) REFUSED	**[SKIP TO C11Q12]**

W9Q04 **(NIS VARIABLE - C14A)**
Was it more than $7,500?

(1) YES	**[SKIP TO W9Q12]**
(2) NO	**[SKIP TO W9Q12]**
(77) DON'T KNOW	**[SKIP TO C11Q12]**
(99) REFUSED	**[SKIP TO C11Q12]**

W9Q05 **(NIS VARIABLE - C15)**
Was it more than $15,000?

(1) YES	**[SKIP TO W9Q05A]**
(2) NO	**[SKIP TO W9Q05B]**
(77) DON'T KNOW	**[SKIP TO C11Q12]**
(99) REFUSED	**[SKIP TO C11Q12]**

W9Q05A **(NIS VARIABLE - C15A)**
Was it more than $17,500?

(1) YES	**[SKIP TO W9Q12]**
(2) NO	**[SKIP TO W9Q12]**
(77) DON'T KNOW	**[SKIP TO C11Q12]**
(99) REFUSED	**[SKIP TO C11Q12]**

W9Q05B **(NIS VARIABLE - C15B)**
Was it more than $12,500?

(1) YES	**[SKIP TO W9Q12]**
(2) NO	**[SKIP TO W9Q12]**
(77) DON'T KNOW	**[SKIP TO C11Q12]**
(99) REFUSED	**[SKIP TO C11Q12]**

W9Q06 **(NIS VARIABLE - C16)**
(**READ IF NECESSARY:** Was the total combined household income)
more or less than $40,000?

(1) MORE THAN $40,000	**[SKIP TO W9Q06A]**
(2) $40,000	**[SKIP TO C11Q12]**
(3) LESS THAN $40,000	**[SKIP TO W9Q07]**
(77) DON'T KNOW	**[SKIP TO C11Q12]**
(99) REFUSED	**[SKIP TO C11Q12]**

W9Q06A **(NIS VARIABLE - C16A)**
(**READ IF NECESSARY:** Was the total combined household income)
more or less than $60,000?

(1) MORE THAN $60,000	**[SKIP TO W9Q08]**
(2) $60,000	**[SKIP TO C11Q12]**
(3) LESS THAN $60,000	**[SKIP TO W9Q06B]**
(77) DON'T KNOW	**[SKIP TO C11Q12]**
(99) REFUSED	**[SKIP TO C11Q12]**

W9Q06B **(NIS VARIABLE - C16B)**
(**READ IF NECESSARY:** Was the total combined household income)
more or less than $50,000?

(1) MORE THAN $50,000	**[SKIP TO W9Q12]**
(2) $50,000	**[SKIP TO C11Q12]**
(3) LESS THAN $50,000	**[SKIP TO W9Q06C]**
(77) DON'T KNOW	**[SKIP TO C11Q12]**
(99) REFUSED	**[SKIP TO C11Q12]**

W9Q06C **(NIS VARIABLE - C16C)**
(**READ IF NECESSARY:** Was the total combined household income) more or less than $45,000?

(1) MORE THAN $45,000	**[SKIP TO W9Q12]**
(2) $45,000	**[SKIP TO C11Q12]**
(3) LESS THAN $45,000	**[SKIP TO W9Q12]**
(77) DON'T KNOW	**[SKIP TO C11Q12]**
(99) REFUSED	**[SKIP TO C11Q12]**

W9Q07 **(NIS VARIABLE - C17)**
(**READ IF NECESSARY:** Was the total combined household income) income more or less than $30,000?

(1) MORE THAN $30,000	**[SKIP TO W9Q07A]**
(2) $30,000	**[SKIP TO C11Q12]**
(3) LESS THAN $30,000	**[SKIP TO W9Q07B]**
(77) DONT KNOW	**[SKIP TO C11Q12]**
(99) REFUSED	**[SKIP TO C11Q12]**

W9Q07A **(NIS VARIABLE - C17A)**
(**READ IF NECESSARY:** Was the total combined household income) more or less than $35,000?

(1) MORE THAN $35,000	**[SKIP TO W9Q12]**
(2) $35,000	**[SKIP TO C11Q12]**
(3) LESS THAN $35,000	**[SKIP TO W9Q12]**
(77) DON'T KNOW	**[SKIP TO C11Q12]**
(99) REFUSED	**[SKIP TO C11Q12]**

W9Q07B **(NIS VARIABLE - C17B)**
(**READ IF NECESSARY:** Was the total combined household income) more or less than $25,000?

(1) MORE THAN $25,000	**[SKIP TO W9Q12]**
(2) $25,000	**[SKIP TO C11Q12]**
(3) LESS THAN $25,000	**[SKIP TO W9Q12]**
(77) DONT KNOW	**[SKIP TO C11Q12]**
(99) REFUSED	**[SKIP TO C11Q12]**

W9Q08 **(NIS VARIABLE - C18)**
(**READ IF NECESSARY:** Was the total combined household income) more or less than $75,000?

(1) MORE THAN $75,000	**[SKIP TO W9Q12]**
(2) $75,000	**[SKIP TO C11Q12]**
(3) LESS THAN $75,000	**[SKIP TO W9Q12]**
(77) DONT KNOW	**[SKIP TO C11Q12]**
(99) REFUSED	**[SKIP TO C11Q12]**

W9Q12 (CHECK_I12)

BASED ON THE RANGE ALREADY IDENTIFIED, THIS NEXT QUESTION WILL BE FILLED WITH A DOLLAR AMOUNT THAT FALLS WITHIN THE RANGE AND IS EQUIVALENT TO 50%, 100%, 133%, 150%, 185%, 200%, 300%, OR 400% OF THE FEDERAL POVERTY LEVEL BASED ON THE NUMBER OF FAMILY MEMBERS. IF THE RANGE IDENTIFIED IS NARROW ENOUGH THAT NONE OF THESE POVERTY LEVEL CUTOFFS FALL WITHIN THE RANGE, THEN SKIP TO C11Q12. FOR A FEW RANGES, TWO ADDITIONAL QUESTIONS WILL BE NEEDED.

Would you say this income was above or below **[$REF]**?

(1) MORE THAN **[$REF]**	**[WHEN INDICATED, ASK W9Q12A]**
(2) EXACTLY **[$REF]**	**[SKIP TO C11Q12]**
(3) LESS THAN **[$REF]**	**[SKIP TO C11Q12]**
(77) DON'T KNOW	**[SKIP TO C11Q12]**
(99) REFUSED	**[SKIP TO C11Q12]**

W9Q12A Would you say this income was above or below **[$REF]**?

(1) MORE THAN **[$REF]**	**[SKIP TO C11Q12]**
(2) EXACTLY **[$REF]**	**[SKIP TO C11Q12]**
(3) LESS THAN **[$REF]**	**[SKIP TO C11Q12]**
(77) DON'T KNOW	**[SKIP TO C11Q12]**
(99) REFUSED	**[SKIP TO C11Q12]**

IF NIS OR TEEN COMPLETED, SKIP TO CPC11Q12.

CPC11Q12 [IF CWTYPE=N, SKIP TO C11Q11]

C11Q12 Does [S.C.] receive SSI, that is, Supplemental Security Income?

(1) YES	
(2) NO	**[SKIP TO C11Q11]**
(77) DON'T KNOW	**[SKIP TO C11Q11]**
(99) REFUSED	**[SKIP TO C11Q11]**

C11Q13 Is this for a disability [he/she] has?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

CPC11Q11 IF CWTYPE = N, GO TO CPC11Q14 ELSE ASK C11Q11 ONLY IN HH WITH INCOME UNDER 200% POVERTY, BASED ON RESULTS FROM TABLE, ELSE SKIP TO CPK11Q30.

C11Q11 At any time during the past 12 months, even for one month, did anyone in this household receive any cash assistance from a state or county welfare program, such as [FILL STATE NAME]?

(1) YES
(2) NO
(77) DON'T KNOW

(99) REFUSED

[TIMESTAMP_SECTION111A]

CPK11Q30 IF CWTYPE=S AND ASK_CALIF=1 THEN GO TO K11Q30, ELSE GO TO CPC11Q14,

K11Q30*CA IF C10Q02A=1-5, FILL "WERE YOU". ELSE, FILL "WAS [S.C.]'S [MOTHER TYPE]"

[WERE YOU / WAS [S.C.]'S [MOTHER TYPE]] BORN IN THE UNITED STATES?

HELP SCREEN: AT THIS QUESTION, COLLECT INFORMATION ABOUT THE MOTHER (BIOLOGICAL, STEP, FOSTER, ADOPTIVE) LIVING IN THIS HOUSE.

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED
IF (C10Q02A=1-5 OR C10Q02B=1-5), ASK K11Q30. ELSE, SKIP TO K11Q31.

K11Q31*CA IF K11Q30 NOT BLANK AND C10Q02A=6-10, ASK: "And how about you?"

READ AS NECESSARY: "Were you born in the United States?"

IF K11Q30 NOT BLANK AND C10Q02A NOT equal 6-10, ASK: "And how about [S.C.]'s [FATHER TYPE]?"

READ AS NECESSARY: "Was [S.C.]'s [FATHER TYPE] born in the United States?"

IF K11Q30 IS BLANK AND C10Q02A=6-10, ASK: "Were you born in the United States?"

IF K11Q30 IS BLANK AND C10Q02A not equal 6-10, ASK: "Was [S.C.]'s [FATHER TYPE] born in the United States?"

HELP SCREEN: AT THIS QUESTION, COLLECT INFORMATION ABOUT THE FATHER (BIOLOGICAL, STEP, FOSTER, ADOPTIVE) LIVING IN THIS HOUSE.

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

IF (C10Q02A=6-10 OR C10Q02B=6-10), ASK K11Q31. ELSE, SKIP TO CPK11Q32.

CPK11Q32 IF C10Q02A NOT equal 1-10, ASK K11Q32. ELSE SKIP TO K11Q33.
K11Q32*CA IF K11Q30 OR K11Q31 ARE NOT BLANK, ASK: "And how about you?"

READ AS NECESSARY: "Were you born in the United States?"

IF K11Q30 AND K11Q31 ARE BLANK, ASK: "Were you born in the United States?"

HELP SCREEN: AT THIS QUESTION, COLLECT INFORMATION ABOUT THE [TEXTFILL: answer from C10Q02A (see TEXTFILL logic)] LIVING IN THIS HOUSE.

(1) YES
(2) NO

(77) DON'T KNOW
(99) REFUSED

K11Q33*CA And how about [S.C.]?

READ AS NECESSARY: Was [S.C.] born in the United States?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

K11Q34A*CA IF C10Q02A=1-5, FILL "have you". ELSE, FILL "has [S.C.]'s [MOTHER TYPE]"

How long [have you / has [S.C.]'s [MOTHER TYPE]] been in the United States?

HELP SCREEN: AT THIS QUESTION, COLLECT INFORMATION ABOUT THE MOTHER(BIOLOGICAL, STEP, FOSTER, ADOPTIVE) LIVING IN THIS HOUSE.

ENTER NUMBER: _____
(777) DON'T KNOW
(999) REFUSED

K11Q34B*CA [MARK PERIOD]

(1) DAYS
(2) WEEKS
(3) MONTHS
(4) YEARS

K11Q35A*CA IF K11Q34A NOT BLANK AND C10Q02A=6-10, ASK: "And how about you?"

READ AS NECESSARY: "How long have you been in the United States?"

IF K11Q34A NOT BLANK AND C10Q02A NOT equal 6-10, ASK: "And how about [S.C.]'s [FATHER TYPE]?"

READ AS NECESSARY: "How long has [S.C.]'s [FATHER TYPE] been in the United States?"

IF K11Q34A IS BLANK AND C10Q02A=6-10, ASK: "How long have you been in the United States?"

IF K11Q34A IS BLANK AND C10Q02A NOT equal 6-10, ASK: "How long has [S.C.]'s [FATHER TYPE] been in the United States?"
HELP SCREEN: AT THIS QUESTION, COLLECT INFORMATION ABOUT THE FATHER (BIOLOGICAL, STEP, FOSTER, ADOPTIVE) LIVING IN THIS HOUSE.

ENTER NUMBER: _____
(777) DON'T KNOW
(999) REFUSED

K11Q35B*CA [MARK PERIOD]

(1) DAYS
(2) WEEKS

(3) MONTHS
(4) YEARS

CPK11Q36A IF C10Q02A NOT equal 1-10 AND K11Q32 = 2, ASK K11Q36A. ELSE SKIP TO K11Q37A.

K11Q36A*CA IF K11Q34A OR K11Q35A ARE NOT BLANK, ASK: "And how about you?"

READ AS NECESSARY: "How long have you been in the United States?"

IF K11Q34A AND K11Q35A ARE BLANK, ASK: "How long have you been in the United States?"

HELP SCREEN: AT THIS QUESTION, COLLECT INFORMATION ABOUT THE [TEXTFILL: answer from C10Q02A (see TEXTFILL logic)] LIVING IN THIS HOUSE.

ENTER NUMBER: _____
(777) DON'T KNOW
(999) REFUSED

K11Q36B*CA [MARK PERIOD]

(1) DAYS
(2) WEEKS
(3) MONTHS
(4) YEARS

K11Q37A*CA IF K11Q33 = 2, ASK K11Q37A. ELSE SKIP TO CPC11Q14.

IF K11Q34A, K11Q35A, OR K11Q36A ARE NOT BLANK, ASK: "And how about [S.C.]?"

READ AS NECESSARY: "How long has [S.C.] been in the United States?"

IF K11Q34A, K11Q35A, AND K11Q36A ARE BLANK, ASK: "How long has [S.C.] been in the United States?"

ENTER NUMBER: _____
(777) DON'T KNOW
(999) REFUSED

K11Q37B*CA [MARK PERIOD]

(1) DAYS
(2) WEEKS
(3) MONTHS
(4) YEAR

Section 11A. TELEPHONE LINE AND HOUSEHOLD INFORMATION

[TIMESTAMP_SECTION112]

CPC11Q14 IF NIS OR TEEN INTERVIEW PERFORMED IN THIS HOUSEHOLD, FILL DATA FROM NIS OR TEEN VARIABLES AND SKIP TO CP_CELLUSUALLY. ELSE GO TO C11Q15_CELL.

C11Q15_CELL FILL FROM NIS VARIABLE C21_06Q3_CELL OR TEEN VARIABLE TIS_C21_06Q3_CELL

The next few questions are about the telephones in your household.

In total, how many working cell phones do you and your household members have available for personal use? Please do not count cell phones that are used exclusively for business purposes [IF RDD_NCCELL_CELL=2,3 then display: "and please include the number we called."]

(1) ONE
(2) TWO
(3) THREE OR MORE
(4) NONE [GO TO C11Q20]
(77) DON'T KNOW
(99) REFUSED

CP_CELLUSUALLY

IF NIS OR TEEN COMPLETED AND C21_06Q3_CELL OR TIS_C21_06Q3_CELL = 2 OR 3, GO TO C11Q15_CELL_USUALLY

ELSE IF NIS OR TEEN COMPLETED AND C21_06Q3_CELL OR TIS_C21_06Q3_CELL = 1,4, 77, 99, GO TO CP_CELLOM

ELSE GO TO C11Q15_CELL_USUALLY

C11Q15_CELL_USUALLY

[IF NIS OR TEEN COMPLETED AND C21_06Q3_CELL = 2 OR 3, DISPLAY: "Earlier you told me that you have at least one cell phone in your household."]

How many of these cell phones do the adults in this household usually use? [If RDD_NCCELL_CELL=2,3 DISPLAY: "Please include the number we called."]

[IF RDD_NCCELL_CELL=2,3 then display: "INTERVIEWER NOTE: THE NUMBER WE CALLED IS ASSUMED TO BE USUALLY USED, SO THE ANSWER MUST BE AT LEAST "ONE""]

(1) ONE
(2) TWO
(3) THREE OR MORE
(4) NONE
(77) DON'T KNOW
(99) REFUSED

CP_CELLOM IF CELL_OM = 1 THEN GO TO CP_CELLONLY, ELSE GO TO C11Q16

C11Q16 **(NIS VARIABLE – C11Q78)**
[(IF NIS DONE AND C11Q78 EQ MISSING AND C21_06Q3_CELL NE 4) OR (IF TEEN DONE AND TIS_C11Q78 EQ MISSING AND TIS_C21_06Q3_CELL NE 4), THEN READ "Earlier you told me that you have at least one cell phone in your household."]

Of all the telephone calls that you and your household receive, are nearly all received on cell phone, nearly all received on regular phones, or some received on cell phones and some received on regular phones?

(1) NEARLY ALL RECEIVED ON CELL PHONES
(2) NEARLY ALL RECEIVED ON REGULAR PHONES
(3) SOME RECEIVED ON CELL PHONES AND SOME RECEIVED ON REGULAR PHONES

(77) DON'T KNOW
(99) REFUSED

CP_ CELLONLY IF CELL_OM = 1 THEN GO TO CPC11Q17, ELSE GO TO C11Q20

C11Q20 **(NIS VARIABLE – CNOSERV)**
Not including cell phones, has your household been without telephone service for 1 week or more during the past 12 months?

(1) YES **[SKIP TO CPC11Q17]**
(2) NO **[SKIP TO CPC11Q17]**
(77) DON'T KNOW **[SKIP TO CPC11Q17]**
(99) REFUSED **[SKIP TO CPC11Q17]**

[TIMESTAMP_SECTION113]

CPC11Q17 IF CWTYPE=S AND ASK_CALIF=1 THEN GO TO C11Q17, ELSE GO TO CPV_ISLAND.

C11Q17*CA Do you have access to the internet at home?

(1) YES
(2) NO
(77) DON'T KNOW
(99) REFUSED

[TIMESTAMP_SECTION114]

CPV_ISLAND IF IAP=95 THEN GO TO V_ISLAND, ELSE GO TO C11Q22.

V_ISLAND IF NIS COMPLETE FILL FROM C_ISLAND.

IF TEEN COMPLETE FROM TIS_C_ISLAND.

On what island do you live?

(1) SAINT CROIX **[GO TO CP_ADDRESS]**
(2) SAINT THOMAS **[GO TO CP_ADDRESS]**
(3) SAINT JOHN **[GO TO CP_ADDRESS]**
(4) WATER ISLAND **[GO TO CP_ADDRESS]**
(5) DON'T LIVE IN VIRGIN ISLANDS **[GO TO C11Q22]**
(77) DON'T KNOW **[GO TO C11Q22]**
(99) REFUSED **[GO TO C11Q22]**

C11Q22 **(NIS VARIABLE – C19A)**
Please tell me your zip code.
[CATI: 5 NUMERIC-CHARACTER-FIELD, RANGE 00001-99998]
_____ _____ _____ ____ _____ (00001-99998)
(77777) DON'T KNOW
(99999) REFUSED

C11Q22_CONF [IF C11Q22 FILLED FROM C19A or TIS_C19A, THEN "Earlier you told me your zip code is" / IF C11Q22 ASKED, THEN "I entered"] [FILL C11Q22], is that correct?

(1) YES **[GO TO LOC_STATE]**
(2) NO **[GO TO C11Q22]**

LOC_STATE What state do you live in?

_____(DROP DOWN MENU OF STATE NAMES) [THIS DOES NOT CHANGE 'STATE' FROM THE SAMPLE PRE-FILL TABLE]

CSHCN_END

CP_ADDRESS

IF LOCATE_FLAG = 1 THEN GO TO LOCATE_TRANSITION.
IF LOCATE_FLAG = 0 AND CASE DID NOT QUALIFY FOR NIS OR CSHCN INCENTIVES, GO TO CWEND.
ELSE IF LOCATE_FLAG = 0 AND CASE DID QUALIFY FOR INCENTIVES, GO TO INCENTIVE_ADDRESS

LOCATE
_TRANSITION We may want to contact you in the future to ask questions about the health and health care of [S.C.]. By participating in future surveys, you will help us better understand the health and health care needs of children and adolescents in your state and the nation.

LOCATE
_NUMBER Is there another number where we can reach you if this number isn't working for some reason?

(1) YES [GO TO LOCATE_NUMBERGIVEN]
(2) NO [GO TO LOCATE_ADDRESS]

LOCATE
_NUMBERGIVEN _ _ _ - _ _ _ - _ _ _ _

ENTER TELEPHONE NUMBER

LOCATE
_NUMBERGIVEN_A
(1) TELEPHONE NUMBER COMPLETE [GO TO TELETYPE]
(2) ENTER TELEPHONE EXTENSION [GO TO LOCATE_NUMBER_EXT]

LOCATE
_NUMBER_EXT
INTERVIEWER INSTRUCTION: ENTER EXTENSION TO TELEPHONE NUMBER.
____ TELEPHONE EXTENSION
ALLOW FOR UP TO FIVE NUMBERS

TELETYPE Is this telephone number a cell phone, landline, work number or other type?
(1) CELL
(2) LANDLINE
(3) WORK
(4) OTHER GO TO LOCATE_ADDRESS

LOCATE_ADDRESS
If we call you back in the future, we may want to mail you a letter explaining more about the survey and the questions we will ask.

IF CASE QUALIFIED FOR CSHCN INCENTIVE
THEN READ: We'd also like to mail you [MONEY_1 / MONEY_2] as a token of our appreciation for taking the time to answer our questions.]

[FOR SECOND FILL: If INCENT_GRP=1 USE $10, IF INCENT_GRP = 2 USE $15]
[If INCENTIVE > 0 and AC_NIS_INCENT_EXIT not previously read, READ: In addition, the National Immunization Study will be sending you $[10/15], which you may have already received.]

[IF NO ADDRESS, READ:
Would you please give me your address?]

[IF ADDRESS ALREADY OBTAINED, READ:
Would you please verify your address?]
GO TO AC_NAME AND PROCEED THROUGH ADDRESS COLLECTION OR VERIFICATION THEN GO TO LOCATING_NAME.

CPNAME — IF NAME OF SC GIVEN DURING SURVEY, THEN SKIP TO PNAME
ELSE GO TO LOCATING_NAME.

LOCATING_NAME — I could refer to your child as [AGEID] if we call you back, or if you prefer, you could give me a first name or initials.

(1) CONTINUE TO USE AGE REFERENCE, GO TO PNAME
(2) USE NAME > GO TO LOCATING_NAME_A

LOCATING_NAME_A — ENTER NAME/INITIALS: _____ GO TO PNAME
(99) REFUSED > GO TO PNAME

PNAME — Since following up with your household may be easier if we have your name, could you please give me your name or initials?

(1) YES [GO TO PNAME_A]
(2) NO [GO TO CWEND]

PNAME_A — ENTER NAME/INITIALS _____ [GO TO CWEND]

CSHCN_ADDRESS_CONF — Those are all the questions I have. Before I go, I'll need your mailing address.

[[IF CASE QUALIFIES FOR CSHCN INCENTIVE BY FULFILLING ANY OF THE FOLLOWING LOGIC:
IF CSHCN_INCENT = 1 AND CSHCN_INCENT_FLAG = 1
OR
IF CSHCN_INCENT = 1 OR 2 AND CSHCN_INCENT_FLAG = 2 AND CSHCN_LTR_FLAG = 1
OR
IF CSHCN_INCENT = 1 OR 2 AND CSHCN_PASSIVE = 1 OR 2 AND CSHCN_LTR_FLAG = 1 THEN OFFER MONEY_1

IF CSHCN_INCENT = 1 OR 2 AND CSHCN_INCENT_FLAG = 2 AND CSHCN_LTR_FLAG = 2
OR
IF CSHCN_INCENT = 1 OR 2 AND CSHCN_PASSIVE = 1 OR 2 AND CSHCN_LTR_FLAG = 2 THEN OFFER MONEY_2

OR
IF CSHCN_INCENT = 3 THEN OFFER MONEY_1]

THEN READ: so we can send you [MONEY_1 / MONEY_2] as a token of our appreciation for taking the time to answer our questions.

[FOR SECOND FILL: IF INCENT_GRP=1 USE $10, IF INCENT_GRP = 2 USE $15]

[If INCENTIVE > 0 AND AC_NIS_INCENT_EXIT NOT PREVIOUSLY READ AND QUALIFIED FOR CSHCN INCENTIVES, READ: In addition, the National Immunization Study will be sending you $[10/15], which you may have already received in the mail.]

[IF INCENTIVE > 0 AND AC_NIS_INCENT_EXIT NOT PREVIOUSLY READ AND CASE DID NOT QUALIFY FOR CSHCN INCENTIVES, READ: so the National Immunization Study can send you $[10/15], which you may have already received in the mail.]

[TIMESTAMP_ADD_EXTRA]

CPGOGETMED

IF ASK_ADD=1 AND C95Q01A = 77 GO TO GOGETMED. ELSE GO TO CPC12

GOGETMED Earlier you told me that [S.C.] has taken medication for ADD or ADHD in the past week, however you did not know the name of the medication. Before we finish the interview, can you please take a moment to get [S.C.]'s medication so we may record the name of the medication?

READ IF NECESSARY: If [S.C.] takes more than one medication for ADD or ADHD, please get all the medications so we can record each name.

(1) YES **[SKIP TO GOGETMED_CNFM]**
(99) REFUSED **[GO TO CPC12]**

GOGETMED_CNFM

READ AS NECESSARY: Please read the name of each medication that [S.C.] takes for ADD or ADHD.

READ AS NECESSARY: Thank you for taking the time to get the medication.

INTERVIEWER INSTRUCTIONS: MARK ALL THAT APPLY AMONG 1-18. DO NOT READ LIST.

(1) ADDERALL (ADD-ur-all), ADDERALL XR, AMPHETAMINE (am-FET-a-meen)
(2) CELEXA, CITALOPRAM (si-TAL-o-pram)
(3) CONCERTA
(4) DAYTRANA PATCH
(5) DEXEDRINE, DEXEDRINE SPANSULE, DEXTROSTAT, DEXTRO-AMPHETAMINE
(6) DEXMETHYLPHENIDATE
(7) FLUOXETINE (floo-ox-e-teen)
(8) FOCALIN, FOCALIN XR
(9) METADATE, METADATE CD
(10) METHYLIN
(11) METHYLPHENIDATE
(12) PROZAC
(13) RITALIN, RITALIN LA, RITALIN SR

(14) SERTRALINE (SER-tra-leen)
(15) STRATTERA
(16) VYVANSE
(17) ZOLOFT
(18) OTHER
(55) COULD NOT FIND BOTTLE/NAME OF MEDICATION
(99) REFUSED

IF 1-17 OR 55, GO TO CPC12, IF 18 GO TO GOGETMED_OTH

GOGETMED_OTH

ENTER OTHER MEDICATION. IF MORE THAN ONE MEDICATION IS GIVEN ENTER ALL MEDICATIONS ON ONE LINE.

_____ENTER TEXT **[SKIP TO CPC12]**

[TIMESTAMP_GOGET_END]

CPC12 IF SUC = 2 OR 4 AND HH HAS CHILD OR CHILDREN 0-18 MONTHS AND/OR 36-155 MONTHS THEN COMPLETE A RANDOM SELECTION OF THIS CHILD/CHILDREN AND GO TO C12_INTRO.

ELSE GO TO CWEND.

[TIMESTAMP_PAN_SELECTION]

CWEND Those are all the questions I have. I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time and effort you've spent answering these questions. If you have any questions about this survey, you may call my supervisor toll-free at [TEXTFILL: If Sample Use Code = 1, 2, or 4: 1 - 8 6 6 - 9 9 9 - 3 3 4 0, if sample use code = 3, 5, or 6: 1 - 8 8 8 - 9 9 0 - 9 9 8 6] . If you have questions about your rights as a survey participant, you may call the chairman of the Research Ethics Review Board at 1 - 8 0 0 - 2 2 3 - 8 1 1 8 . Thank you again.

Language

LANG1 APPEARS AFTER COMPLETED INTERVIEWS ONLY.

INTERVIEWER: WAS THIS INTERVIEW COMPLETED USING ENGLISH ONLY?
(1) YES **[TERMINATE]**
(2) NO **[SKIP TO LANG2]**

LANG2 INTERVIEWER: WHICH LANGUAGES WERE NEEDED TO COMPLETE THIS INTERVIEW?

(1) ENGLISH **[SKIP TO LANG3]**
(2) SPANISH **[SKIP TO LANG3]**
(4) CANTONESE **[SKIP TO LANG3]**
(8) KOREAN **[SKIP TO LANG3]**
(9) MANDARIN **[SKIP TO LANG3]**
(13) VIETNAMESE **[SKIP TO LANG3]**

(14) ANOTHER LANGUAGE **[SKIP TO LANG2_OTHER]**

LANG2_OTHER _____ OTHER LANGUAGE

[IF LANG2X01 AND ANY LANG2X02-LANGX14 SELECTED > GO TO LANG3 / ELSE TERMINATE INTERVIEW, GO TO COMMENTS]

LANG3 THIS INTERVIEW COMPLETED "MOSTLY IN ENGLISH" OR "MOSTLY IN OTHER LANGUAGE"?

(1) MOSTLY IN ENGLISH
(2) MOSTLY IN OTHER LANGUAGE
(3) ABOUT HALF AND HALF

[TERMINATE INTERVIEW. GO TO COMMENTS.]

Callback/Refusal Conversion Script

INTRO_1 [FOR ANY CALLBACKS IN LCS 5 WHERE S_UNDR18 IS > 0 AND CSHCN IS NOT YET FINALIZED AND CSHCN_INCENT = 0 OR IS <NULL>]

Hello, my name is ____. I'm calling on behalf of the Centers for Disease Control and Prevention [(CSHCN_INCENT_FLAG = 2 OR CSHCN_PASSIVE = 1 or 2) AND CSHCN_LTR_FLAG = 1 THEN, "to follow up on a letter that was sent to your home"/ ELSE NO FILL]. Earlier, we contacted your household to participate in a survey about health services used by children and teenagers. I'm calling back to continue the interview.

[IF NAME WAS GIVEN FOR APPOINTMENT, ASK FOR THAT PERSON.]

INTRO_1A [FOR ANY CALLBACKS (IN LCS 5 or SUC 3, 5, 6) WHERE S_UNDR18 IS <null>]

Hello, my name is ____. I'm calling on behalf of the Centers for Disease Control and Prevention. Earlier we contacted your household to participate in a survey about health services used by

children and teenagers. After just a few questions I can determine if your household is eligible to participate.

[IF NAME WAS GIVEN FOR APPOINTMENT, ASK FOR THAT PERSON.]

INTRO_1B [FOR CALLBACKS IN LCS 5 WHERE S_UNDR18 IS > 0 AND CSHCN_INCENT > 0]

[IF CSHCN_INCENT = 1 AND CSHCN_INCENT_FLAG = 1
OR
IF CSHCN_INCENT = 1 OR 2 AND CSHCN_INCENT_FLAG = 2 AND CSHCN_LTR_FLAG = 1
OR
IF CSHCN_INCENT = 1 OR 2 AND CSHCN_PASSIVE = 1 OR 2 AND CSHCN_LTR_FLAG = 1 THEN OFFER MONEY_1

IF CSHCN_INCENT = 1 OR 2 AND CSHCN_INCENT_FLAG = 2 AND CSHCN_LTR_FLAG = 2
OR
IF CSHCN_INCENT = 1 OR 2 AND CSHCN_PASSIVE = 1 OR 2 AND CSHCN_LTR_FLAG = 2 THEN OFFER MONEY_2

IF CSHCN_INCENT = 3 THEN OFFER MONEY_1]

Hello, my name is ____. I'm calling on behalf of the Centers for Disease Control and Prevention. Earlier, someone in your household started a survey about health services used by children and teenagers. I'm calling back now to continue the interview. [IF (CSHCN_INCENT=1 AND CSHCN_INCENT_FLAG ge 1) OR (CSHCN_INCENT=2 AND CSHCN_INCENT_FLAG ge 2) OR CSHCN_INCENT=3, THEN DISPLAY: "In appreciation for your time, we will send you $[MONEY_1 / MONEY_2]."]

(IF NAME WAS GIVEN FOR APPOINTMENT, ASK FOR THAT PERSON.)

S1 Am I speaking to someone who lives in this household who is over 17 years old?

(1) YES, I AM THAT PERSON > IF SUC =2 or 3 and [S.C.] IS SELECTED, GO TO REMIND1/ ELSE CONTINUE WITH INTERVIEW
(2) THIS IS A BUSINESS **[GO TO SALZ]**
(3) NEW PERSON COMES TO PHONE **[GO BACK TO INTRO_1]**
(8) DOES NOT LIVE IN HOUSEHOLD **[ASK FORANOTHER PERSON OR SCHEDULE APPOINTMENT ON THE NEXT SCREEN]**
(9) NO PERSON AT HOME WHO IS OVER 17 **[GO TO S2_B]**
(99) REFUSED **[GO TO REFUSAL CONVERSION, SET DISP AND TERMINATE]**

REMIND1 [CONTINUE WITH INTERVIEW AT POINT OF BREAKOFF]

I want to remind you that we will be asking questions about [S.C.] for the rest of this interview.

Answering Machine Messages

MSG_AUG [PLEASE READ SLOWLY AND CLEARLY.] Hello. The Centers for Disease Control and Prevention is conducting a survey about health services used by children and teenagers. Your telephone number has been selected at random to participate in this survey. For most people, it will take only a few minutes. We're sorry we missed you and will try back at another time. Or,

you can call us at [IF SUC = 1, 2, 4, FILL 1-866-999-3340 / IF SUC = 3, FILL 1-888-990-9986]. Thank you.

MSG_Y_APPT [IF CSHCN_INCENT = 1 AND CSHCN_INCENT_FLAG = 1
OR
IF CSHCN_INCENT = 1 OR 2 AND CSHCN_INCENT_FLAG = 2 AND CSHCN_LTR_FLAG = 1
OR
IF CSHCN_INCENT = 1 OR 2 AND CSHCN_PASSIVE = 1 OR 2 AND CSHCN_LTR_FLAG = 1 THEN OFFER MONEY_1

IF CSHCN_INCENT = 1 OR 2 AND CSHCN_INCENT_FLAG = 2 AND CSHCN_LTR_FLAG = 2
OR
IF CSHCN_INCENT = 1 OR 2 AND CSHCN_PASSIVE = 1 OR 2 AND CSHCN_LTR_FLAG = 2 THEN OFFER MONEY_2

IF CSHCN_INCENT = 3 THEN OFFER MONEY_1]

[PLEASE READ SLOWLY AND CLEARLY.] Hello. I am calling on behalf of the Centers for Disease Control and Prevention regarding a national study about the health services used by children and teenagers. I'm sorry that we've missed you. When we spoke previously about this important study, you requested that we call you back at this time. We'll try to contact you again soon but please feel free to return our call anytime at [IF SUC = 1, 2, 4 FILL 1-866-999-334 0 / IF SUC = 3, 5, 6 FILL 1-888-990-9986]. [If INCENTIVE CASE, DISPLAY "In appreciation for your time, we will send you $[MONEY_1 / MONEY_2]."]. Thank you.

MSG_CSHCN [IF CSHCN_INCENT = 1 AND CSHCN_INCENT_FLAG = 1
OR
IF CSHCN_INCENT = 1 OR 2 AND CSHCN_INCENT_FLAG = 2 AND CSHCN_LTR_FLAG = 1
OR
IF CSHCN_INCENT = 1 OR 2 AND CSHCN_PASSIVE = 1 OR 2 AND CSHCN_LTR_FLAG = 1 THEN OFFER MONEY_1

IF CSHCN_INCENT = 1 OR 2 AND CSHCN_INCENT_FLAG = 2 AND CSHCN_LTR_FLAG = 2
OR
IF CSHCN_INCENT = 1 OR 2 AND CSHCN_PASSIVE = 1 OR 2 AND CSHCN_LTR_FLAG = 2 THEN OFFER MONEY_2

IF CSHCN_INCENT = 3 THEN OFFER MONEY_1]

(PLEASE READ SLOWLY AND CLEARLY.) Hello. I'm calling on behalf of the Centers for Disease Control and Prevention [(IF CSHCN_INCENT_FLAG = 2 AND CSHCN_LTR_FLAG = 1) OR (CSHCN_PASSIVE = 1 OR 2 AND CSHCN_LTR_FLAG = 1) THEN, " to follow up on a letter that was sent to your home"/ ELSE NO FILL]. We recently contacted your household and began a children's health survey. I'm calling back to continue the survey. (If INCENTIVE CASE, DISPLAY: "In appreciation for your time, we will send you $[MONEY_1 / MONEY_2]."). If you would like to participate right away, please call our toll-free number, at [IF SUC = 1, 2, 4 FILL 1-866-999-3340 / IF SUC = 3, 5, 6 FILL 1-888-990-9986]. Thank you.

Appendix III. Summary of Key Differences Between the 2005–2006 and 2009–2010 Questionnaires

This appendix summarizes the key differences between the 2005–2006 questionnaire and the 2009–2010 pretest questionnaire. Please see Appendix V for changes that were made following the pretest and before the main 2009–2010 survey was launched.

Section 2: Initial Screening

For 2009–2010, new follow-up questions to determine whether reported consequences have lasted or are expected to last 12 months or longer (CSHCN1_C_X, CSHCN2_C_X, CSHCN3_C_X, and CSHCN4_C_X) were asked only when parents reported that the consequences were not due to medical, behavioral, or other health conditions. These follow-up questions permitted estimates of prevalence of chronic consequences among children without special health care needs (non-CSHCN), but were not used to identify children with special health care needs (CSHCN).

Section 3: Child Health and Functional Status

Deletions

- For 2009–2010, the questions regarding difficulty seeing or hearing without assistive devices (S3Q01, S3Q01A, S3Q02, and S3Q02A) were removed. Questions about difficulty seeing or hearing even with assistive devices, however, remained in the 2009–2010 survey.
- The rating of overall severity of the functional difficulties (C3Q10) was removed from the 2009–2010 questionnaire.
- The question regarding the number of doctor visits (C6Q01) also was removed prior to 2009–2010.

Revisions

- The response options for functional difficulty questions (C3Q23 through C3Q34) were changed from ''any difficulty'' to ''a lot, a little, or no difficulty.''

Several changes also were made to the condition list between 2005–2006 and 2009–2010:

- ''Autism or autism spectrum disorder'' was changed to ''autism, Asperger's disorder, pervasive developmental delay, or other autism spectrum disorder.''
- ''Mental retardation or developmental delay'' was changed to ''any developmental delay that affects his/her ability to learn'' and ''intellectual disability or mental retardation.''
- ''Depression, anxiety, an eating disorder, or other emotional problem'' was changed to ''depression,'' ''anxiety problems,'' and ''behavioral or conduct problems, such as oppositional defiant disorder or conduct disorder.''
- ''Has a doctor or other health care provider ever told you that child had the condition?'' was added for all conditions. Existing condition questions (''Does child currently have condition?'') were changed to follow-up questions to the initial (i.e., ''ever told'') questions.
- Questions were added to record the severity of reported attention deficit disorder and attention deficit hyperactivity disorder, depression, anxiety problems, behavioral and conduct problems, autism, developmental delay, intellectual disability, epilepsy, and brain injury.
- ''A brain injury or concussion'' was added to the condition list.
- A follow-up to the blood problems question was added: ''Are his/her blood problems related to anemia, sickle cell disease, hemophilia, or something else?''
- Questions were added regarding limits on participation in activities, including play and going on outings (for children aged 0–5 years) and attending school and participating in organized activities (for children aged 6–17 years).

Section 4: Access to Care—Use of Services and Unmet Needs

Deletion

The questions regarding delayed or foregone health care (C4Q03 and C4Q04_A through C4Q04_L) were removed prior to 2009–2010.

Additions

- Questions assessing the reasons for difficulties or delays obtaining services were added:
  - You could not get the information you needed?
  - Child was not eligible for the services?
  - You needed help to pay for the services?
  - The services child needed were not available in your area?
  - Any other reason?
- A question regarding frustration obtaining needed services was added (C4Q04: ''During the past 12 months, how often have you been frustrated in your efforts to obtain services for your child?'').

Section 5: Care Coordination

No changes were made to Section 5 between the 2005–2006 questionnaire and the 2009–2010 pretest questionnaire.

Section 6A: Family Centered Care

Deletion

For 2009–2010, the questions regarding need and unmet need for interpreters (S5Q13, S5Q13A) were removed.

Revision

The denominator for family-centered care questions changed from one or more doctor visits to any report of services used from the list of health care services or from the new ''any doctor visit'' question (see below).

Additions

- A question asking whether the child visited any doctors or other health care providers in the past 12 months (''yes/no'') was asked only if no health care services were reported in Section 4 (C6Q01).
- Shared decision-making questions were added:
  - During the past 12 months, how often did child's doctors or other health care providers:
    - Explain that there was more than one choice for his/her treatment or health care?
    - Discuss with you reasons for and reasons against each choice?
    - Ask you which treatment or service you thought would work best for him/her?
    - Make it easy for you to ask questions and raise concerns about decisions related to his/her treatment or care?

Section 6B: Transition Issues

No changes were made to Section 6B between the 2005–2006 questionnaire and the 2009–2010 pretest questionnaire.

Section 6C: Developmental Screening

In 2005–2006, Section 6C was titled ''Ease of Service Use,'' but was renamed to ''Developmental Screening'' in 2009–2010.

Deletion

In 2009–2010, two questions regarding any difficulty using services and reasons for difficulties (C6Q0D and C6Q0E) were removed.

Revision

The answer choices for the question on satisfaction with care (C6Q40, dropped after pretest) changed from ''very satisfied, somewhat satisfied, somewhat dissatisfied, very dissatisfied'' to an 11-point scale (0–10).

Additions

Questions regarding the receipt of formal developmental screening were added for selected children aged 1–3 years (inclusive):

- C6Q30: During the past 12 months, did a doctor or other health care provider have you fill out a questionnaire about specific concerns or observations you may have about child's development, communication, or social behaviors?
- C6Q31A: Did this questionnaire ask about your concerns or observations about how child talks or makes speech sounds?
- C6Q31B: Interacts with you and others?
- C6Q32A: About words and phrases child uses and understands?
- C6Q32B: Behaves and gets along with you and others?

Section 6D: Hurricane Evacuees

Section deleted.

Section 7: Health Insurance

No changes were made to Section 7 between the 2005–2006 questionnaire and the 2009–2010 pretest questionnaire.

Section 8: Adequacy of Health Insurance

No changes were made to Section 8 between the 2005–2006 questionnaire and the 2009–2010 pretest questionnaire.

Section 9: Impact on the Family

Deletion

The question regarding the need for additional income to cover the child's medical expenses (C9Q07) was removed from the 2009–2010 questionnaire.

Additions

- A question regarding perceived difficulty arranging or coordinating child's care was added to the 2009–2010 questionnaire (C9Q04_B, later dropped: ''How difficult is it for you or other family members to arrange and coordinate child's care?'').
- A question regarding reduced job opportunities due to child's health also was added to the 2009–2010 administration (C9Q11: ''Did you or other family members avoid changing jobs because of concerns about maintaining health insurance for child?'').

Section 10: Demographics

Revisions

- The wording for the question on total number of persons in household (C10Q01) was revised from ''Please tell me how many people live in this household'' to ''Including the adults and all the children, how many people live in this household?''
- The household roster (C10Q02B) was modified from identification of ''parents or people who act as parents'' to a family roster of all relationships to the child with special health care needs.
- The wording for identifying CSHCN adopted from foster care was revised from ''Was child residing in foster care prior to being placed for adoption?'' to ''Prior to being adopted, was child in the legal custody of a state or county child welfare agency in the United States? That is, was the child in the U.S. foster care system?'' (C10Q05).

- The 2005–2006 survey asked for the highest education in the household. In 2009–2010, the survey asked for the highest education of mother and father and guardian (for full CSHCN interviews), or highest education of parents (for non-CSHCN).
- The questions about race and ethnicity of children, as well as the primary language spoken in the household, were moved from Section 2 to Section 10.

Additions

- For sampled CSHCN in households with no biological or adoptive parents, a question was added asking whether the child has been legally adopted (C10Q02C).
- A question asking the age of the oldest adult in the household (C10Q14) was added for all households.
- Questions assessing the marital status of the selected child's parents were asked only for cases that completed the full CSHCN interview.
- A question asking if the respondent owns or rents the home (C10Q41) was added for all households.

Section 10B: Influenza Vaccination Module

Section deleted.

Section 11A: Income

No changes were made to Section 11A between the 2005–2006 questionnaire and the 2009–2010 pretest questionnaire.

Section 11B: Phone Line and Household Information

Additions

- A question regarding cellular- (cell) phone ownership for all households (C11Q15) was added to the 2009–2010 survey.
- A question regarding cell-phone use relative to landline use for households with both services (C11Q16) also was added, allowing a household to be categorized as either a ''cell phone mostly'' or ''landline mostly'' household.

Confirmation questions for ZIP code and state of residence were added for all households (C11Q22 and LOC_STATE).

Appendix IV. Computer-assisted Telephone Interview Pretest

A pretest of the computer-assisted telephone interview (CATI) instrument was conducted from January 29, 2009 through February 1, 2009. A total of 546 households were screened for the presence of children with special health care needs (CSHCN); 129 completed special health-care-needs interviews about children aged 0–17 years were obtained over the course of 4 days. The pretest sample was drawn from a national list sample of households likely to include children (purchased from Survey Sampling International), to facilitate a swift and efficient pretest.

Detailed section timings were captured to assist the National Center for Health Statistics and the Health Resources and Services Administration's Maternal and Child Health Bureau in making decisions about potential revisions to the questionnaire, should the pretest have indicated that the administration time was too long. The administration time for the full CSHCN interview averaged 33 minutes and 31 seconds, which was nearly 6 minutes longer than the 2005–2006 interviews. The targeted administration time was 25 minutes. Modifications of questions and overall questionnaire content were made after the pretest and prior to the main data collection in order to meet that target, and to provide clarity for the interviewers and respondents as needed. The changes made to the pretest questionnaire prior to the start of Quarter 3, 2009 are listed below.

Training

Twenty interviewers were trained for the National Survey of Children with Special Health Care Needs (NS-CSHCN) pretest. One 5-hour training was held in Chicago, Ill., with experienced phone interviewers. See ''Interviewer Training'' in the body of this report for further detail about the training techniques that were utilized.

Modifications to the Questionnaire After Pretest

Changes made to the 2009–2010 NS-CSHCN questionnaire following the pretest and before the main data collection (Quarter 3, 2009) are summarized below.

Section 1—NIS/SLAITS screening

Revisions

- The text of NOCHILD was modified to include the following sentence: ''We are only interviewing in households with children.''
- In the text of SL_INTRO, the sentence ''You may choose not to answer any questions you don't wish to answer, or end the interview at any time'' was changed to ''You may choose not to answer any questions you don't wish to answer, or end the interview at any time *without penalty*.''

Section 2—CSHCN Screener

Revisions

- The interviewer help text for the CSHCN Screener questions was modified to more appropriately fit the question text. The text ''a current condition'' was changed to the following: ''current need for prescription medicine'' (CSHCN1); ''current need for services'' (CSHCN2); ''current limitations'' (CSHCN3); ''current need for special therapy'' (CSHCN4); and ''current need for treatment or counseling'' (CSHCN5).
- For each CSHCN Screener question, the text ''currently has a special health care need'' was changed to the following: ''currently needs or uses prescription medicine'' (CSHCN1); ''currently needs or uses services'' (CSHCN2); ''is currently limited'' (CSHCN3); ''currently needs or uses special therapy'' (CSHCN4); ''currently needs or uses treatment or counseling'' (CSHCN5).
- Help text for the CSHCN Screener follow-up questions (CSHCN1_B_X–CSHCN5_A_X and CSHCN1_C_X–CSHCN4_C_X) was added: ''If the condition, need or problem lasts for short periods of time but is expected to keep coming back for 12 months or longer, the answer should be 'yes.'''

Section 3—Health and Functional Status

Additions

- Question K2Q35D (''How old was [S.C.] when a doctor or other health care provider first told you that [he/she] had autism or ASD?'') was added to the questionnaire.
- C3Q13A (''How old was [S.C.] when [he/she] first began receiving Special Educational Services?'') and C3Q15B (''At any time before [S.C.] was 3 years old, did [he/she] receive services from a program called Early Intervention Services? Children receiving these services often have an Individualized Family Service Plan.'') were added to the questionnaire.
- C3Q21 and C3Q22, assessing difficulty seeing even with glasses or contact lenses, or hearing even with a hearing aid or other device were reordered from before C3Q23 to after C3Q26.
  - C3Q21: ''Would you say [he/she] experiences a lot, a little, or no difficulty seeing even when wearing glasses or contact lenses?''
  - C3Q22: ''Would you say [he/she] experiences a lot, a little, or no difficulty hearing even when using a hearing aid or other device?''
  - C3Q23: ''Would you say [he/she] experiences a lot, a little, or no difficulty with breathing or other respiratory problems, such as wheezing or shortness of breath?''

- C3Q26: ''(READ IF NECESSARY: Would you say [he/she] experiences a lot, a little, or no difficulty with repeated or chronic physical pain, including headaches?''

Revisions

- K2Q44A and K2Q44B were expanded to read ''a head injury, concussion, or traumatic brain injury?''
- The help screens of K2Q44A–K2Q46 were modified to further clarify the definition of the condition referenced.
- C3Q23 was modified to add ''such as wheezing or shortness of breath.'' Interviewer instructions also were added to clarify coding of ongoing and intermittent breathing problems.
- A help screen was added to C3Q21–C3Q34: ''If respondent says that child has more than a little difficulty but not a lot of difficulty, please code the answer as 'a little difficulty.'''
- K2Q44C was changed from ''brain injury'' to ''injury.''
- Additional help text was added to K2Q45A: ''Harmless or innocuous heart murmurs should not be included as heart problems.''

Section 4—Access to Care

Revisions

- Question C4Q01 was shortened to ''Is that the same [place selected in C4Q0B] where [S.C.] goes when [he/she] is sick?''
- Question C4Q03_INTRO was modified. The word ''therapies'' was replaced with ''specialized therapies;'' ''medical equipment'' and ''early intervention'' were added; ''provided by'' was changed to ''obtained in;'' and ''home'' and ''other places'' were added. Help screens also were added to C4Q03_A through C4Q03_F with the text from this question.
- Questions C4Q03_A through C4Q03_F were modified. The order was changed, the question allowing an open-ended response was deleted, C4Q01_C was added, and C4Q03_D was changed from ''needed help to pay for the services'' to ''issues related to cost.''
- Question C4Q05_1 was shortened to ''a well-child check-up?''
- Question C4Q04 was changed from ''obtain services'' to ''get services.''
- In C4Q05_1 through C4Q05_1_0, ''Routine preventive care, such as a physical examination or well-child check-up'' was changed to ''a well-child check-up.''
- Questions C4Q05_1B, and C4Q05_2B through C4Q05_32B, including _O, as well as C4Q06_1B to C4Q06_3_0 were changed from ''not get the'' to ''not get *all* the...''
- The text ''or orthodontia'' was added to the end of C4Q05_32, and a help screen was added to clarify the definition of orthodontial care.
- The ''read if necessary'' text in question C4Q05_14 was modified to drop ''wheelchairs'' and add ''nebulizers, blood glucose monitors.''

Additions

- Questions C6Q00 and SC_C6Q00, which ask about hospital visits.
- Question C3Q50 was added for all CSHCN cases in the state of California.
- Question K4Q20: ''[During the past 12 months/since [his/her] birth], how many times did [S.C.] receive a well-child check-up, that is a general check-up, when [he/she] was not sick or injured?'' SC_K4Q20, an interviewer check, was also added.
- The interviewer check SC_K4Q21 was added.
- Question K4Q21: ''[During the past 12 months/since [his/her] birth], how many times did [S.C.] see a dentist for preventive dental care, such as check-ups and dental cleanings?''
- Question C3Q13A: ''How old was [S.C.] when [he/she] first began receiving Special Educational Services?''
- Question C3Q13B, which asks about receiving Early Intervention Services.
- Question C3Q15, which asks about alternative health care.

Deletions

- The answer choice ''12) Vaccine shortage'' was dropped from all locations in Section 4.
- C4Q05_1C and C4Q05_31C were deleted.
- Questions C4Q05_13, C4Q05_13A, and C4Q05_13C, which ask about medical supplies were deleted.

Section 5—Care Coordination

Addition

- Question C5Q20, which asks about using a website to coordinate care, was added for CSHCN in California.

Revisions

- The instructions in C5Q00 were modified to accommodate the addition of C3Q15.
- C5Q12 was modified so that the second sentence (''By arrange or coordinate, I mean...'') was removed from the question and was added as a ''read if necessary'' (as in the 2007 National Survey of Children's Health). The help screen was also removed.
- The response option, ''someone at child's school,'' was added to the response options for C5Q16.

Deletions

- C5Q14 and C5Q14_XOE were deleted to reduce redundancy, and skip patterns were readjusted throughout the questions C5Q12 through C5Q16.

Section 6A—Family Centered Care

Additions

- Questions C6Q11 and C6Q12, which ask about the use of interpreters, were added for all CSHCN in California.

Deletions

- C6Q01A and C6Q01B, which ask about the respondent attending doctor visits, were dropped. The skip instructions at C6Q01 were modified accordingly.

- C6Q20: ''We want to know how you and [S.C.]'s doctors or other health care providers make decisions about services and health care for [him/her]. This includes things like whether or not to try a new medication, have certain tests or procedures, change existing treatments or therapies, see a specialist, consent for surgery, and so on.''

Revisions

- C6Q21 through C6Q24 were modified to be shorter and clearer.

Section 6B—Transition Issues

C6Q0A was changed from ''talked with you or [S.C.] about'' to ''talked with you about.''

Section 6C—Developmental Screening

C6Q40 (satisfaction rating) was dropped. The skip instructions in Section 6C were modified accordingly.

Section 7—Health Insurance

No changes were made to Section 7, except CATI instructions for interviewers.

Section 8—Adequacy of Health Care Coverage

No changes were made to Section 8 following the pretest.

Section 9—Impact on the Family

Revisions

- The ''read if necessary'' text for questions C9Q02, C9Q03, and C9Q04 was modified to tell respondents to base their answers on the last several weeks. The text ''only include care related to the child's condition'' also was added to the ''read if necessary'' text of C9Q02 and C9Q03.
- A modification was made to the answer choices for C9Q04. Response option ''555'' was dropped, and the option ''000'' was edited to incorporate ''none'' or ''does not coordinate care'' and ''less than one hour.''

Deletion

- C9Q04_B (difficulty coordinating) was dropped. The skip instructions in C9Q04 were modified accordingly.

Section 10—Demographics

Revisions

- C10Q01 was changed from ''live in this household'' to ''live in your household.'' A modification also was made so that the second sentence (''Please include anyone...'') was removed from the question and was added as a ''read if necessary'' instruction. In the new ''read if necessary'' text, ''lives here even if they are not here now'' was changed to ''lives there even if they are not there now.''
- The interviewer help text for the education questions was adjusted to specify which adult the question was referencing.
- The race and ethnicity questions were revised to lessen respondent burden. If there was more than one child in the household, ETH (''Are any of the children in your household of Hispanic, Latino, or Spanish origin?'') was asked rather than repeating C10Q31_X for each child. If respondents answered yes at ETH, they were then asked to identify which children they were referring to from a pick list at ETH_B.
- C10Q41 was shortened to: ''Do you own or rent your home?''
- Questions C10Q10 through C10Q13C were modified and added to help delineate relationships of the parents and adults living in the household.
- An option of ''Adoption not finalized'' was added at C10Q03.

Section 11—Income

Revisions

- In question C11CONF, ''your income was'' was changed to ''your income was about.''
- In C11Q01 _DONT_KNOW and C11Q01_REFUSED, the phrase ''total family income'' was replaced with ''total household income.''
- A modification was made to the skip instructions at C11Q11 (TANF) so that this question was skipped if there were no CSHCN in the household.

Additions

- K11Q30 through K11Q37B, which ask about immigrant status, were added for California respondents.

Section 11A—Phone

Revisions

- C11Q15 was modified to include a ''read if necessary'' section explaining the purpose of the question.
- The response categories of C11Q16 were modified.
- The second sentence of C11Q20 (''Do not include interruptions of phone service due to weather or natural disasters.'') was deleted.

Additions

- C11Q17, which asks about Internet access, was added for all California respondents.
- V_ISLAND was added for the U.S. Virgin Islands sample to ask on which island the respondent lived, instead of asking for ZIP code and state.

Deletions

- C11Q14 and C11Q14_A, which ask about multiple phone numbers, were dropped.

Appendix V. Summary of Questionnaire Changes During Data Collection

During the course of data collection, a number of changes were made to the questionnaire in order to improve the quality of data collected, to accommodate methodological changes, and to address concerns voiced by respondents or interviewers. Questionnaire changes made following the launch of Quarter 3, 2009 are listed by the date on which they were implemented.

On October 1, 2009 (Quarter 4, 2009), the following changes were made:

- An experiment was conducted to test the effect of varying informed consent language on survey break-off rates. Quarter 4, 2009 cases were randomly assigned to one of two groups:
  - The first group received the sentence, ''You may choose not to answer any questions you don't wish to answer, or end the interview at any time *without penalty*.''
  - The second group received a modified version of the consent language, specifically informing respondents that survey participation is not connected to government benefits: ''You may choose not to answer any questions you don't wish to answer, or end the interview at any time. *Your choice has no effect on current or future benefits.*''
- Section 9.5 (ADD/ADHD Questions) was added to the questionnaire and was administered to respondents who reported that the selected child currently has ADD (attention deficit disorder) or ADHD (attention deficit hyperactivity disorder). This section contained several questions addressing treatments that the selected child may have received for ADD or ADHD.
- As a follow-up to Section 9.5, GOGETMED and GOGETMED_CNFM also were added to the questionnaire in Quarter 4, 2009. These variables allowed respondents who did not know the name of an ADD or ADHD medication or medications to get the medication bottle and read the correct name to the interviewer at the end of the interview.
- Revisions were made to the household roster confirmation question (C10Q02B_CONF) and warning screen (C10Q02B_WARNING) to more clearly convey to the respondent that the goal of the household roster was to list each person in the household in relation to the selected child. The revisions also involved new skip logic that allowed the interviewer to reconfirm, clarify, or correct the number of people in the household by returning to question C10Q01.
- At C11CONF, ''income'' was changed to ''household income'' to make the question clearer to respondents.

On January 7, 2010 (Quarter 1, 2010), the following changes were made:

- In order to be consistent with the Centers for Disease Control and Prevention's National Immunization Survey consent language, the National Survey of Children with Special Health Care Needs (NS-CSHCN) consent language was altered so that all respondents were read the sentence: ''You may choose not to answer any questions you don't wish to answer, or end the interview at any time *with no impact on the benefits you may receive*.''
- C11Q15 was replaced with C11Q15_CELL: ''The next few questions are about the phones in your household. In total, how many working cell phones do you and your household members have available for personal use? Please do not count cell phones that are used exclusively for business purposes.''
- C11Q15_CELL_USUALLY (''How many of these cell phones do the adults in this household usually use?'') was added to the Telephone Line section and directly followed C11Q15_CELL.
- The question ''For how long was your household without phone service in the past 12 months?'' (C11Q21A) was removed from the questionnaire.

On March 4, 2010, the following changes were made:

- Respondents who completed the full children with special health care needs (CSHCN) interview were asked to provide locating information for possible recontact in the future. These questions were displayed at the end of the survey and involved gathering an alternate phone number, the type of that given phone number, respondent address, name or initials of selected child (if not already provided), and name or initials of the respondent.

On April 1, 2010 (Quarter 2, 2010), the following changes were made:

- The skip logic at C11Q15_CELL was changed so that cases that reported having one cellular (cell) phone in the household were directed to C11Q15_CELL_USUALLY, rather than skipping this question. Also, the response option ''None'' was added to C11Q15_CELL_USUALLY.

On July 1, 2010 (Quarter 3, 2010), the following changes were made:

- The phrase ''please include the number we called'' was added to C11Q15_CELL and C11Q15_CELL_USUALLY for the cell-phone sample to clarify that the sampled phone number should be included in the respondent's response to these questions. Interviewer help text also was added to C11Q15_CELL_USUALLY for cell-phone cases to explain that the number being called is assumed to be ''usually used,'' and thus, the response should be at least one.

- The phrase ''on cell phones'' was added to the augmentation sample introduction and answering machine scripts to alert respondents that calls made to cell phones were intentional.
- Prior to age screening, a safety screener (S_WARM) was added for cell-phone cases to ensure that the respondent was not doing any activity that required their full attention, such as driving. Questions were also added to assess cell-phone respondents' phone status (LANDLINE and CELLUSE) and to screen out households that were not cell-phone-only or cell-phone-mainly.
- The question C11_AWAY was added to the Phone section of the instrument and was administered to the cell-phone sample to determine if the respondent was away from home during the interview.
- To accommodate calling cases in the United States Virgin Islands (USVI), C7Q04 was modified to use the text ''area'' instead of ''state'' for the USVI sample only.
- Question S1 was modified so that cell-phone respondents were read, ''Am I speaking to someone who is over 17 years old?'' and landline respondents were read, ''Am I speaking to someone who lives in this household who is over 17 years old?'' Similarly, S2_B was modified so that the phrase ''uses this cell phone'' was used for cell-phone sample, whereas ''live in your household'' was displayed for landline sample.

On October 7, 2010 (Quarter 4, 2010), the following changes were made:

- The ''Teen Line'' response option at S2_B was modified so that it was displayed only for landline cases.
- Help text was added to LOCATE_NUMBER to alleviate potential respondent concerns when providing an alternative phone number to call back for future studies. Interviewers could use this text to inform respondents that NORC at the University of Chicago would not sell or disclose their phone number to any other party, and if respondents were to be contacted in the future, they would be able to choose whether to participate at that time.
- The frequency of cell-phone usage was also added to be asked of respondents who previously answered ''don't know'' or refused answer to whether they owned a cell phone.
- For more clarity, the phrase ''Earlier you told me that you have at least one cell phone in your household...'' was removed prior to C11Q16 while determining the proportion of calls received on landlines compared with cell phones, for those respondents who owned both types.
- The screener S_KIDS (''Do you have any children living in the household?'') was added as an expedited age screening mechanism for the cell-phone augmentation sample and was asked immediately after the NS-CSHCN augmentation introduction script.
- For cell-phone cases that received the S_KIDS screener, S_UNDR18 was changed to ''Please tell me *how many* children under 18 live in this household.''
- The interviewer help text at S1 (''If the respondent says no: ask to speak with someone over 17 who lives in the household'') was modified so that it only displayed for landline cases.
- The following interviewer help text was added to C11Q15_CELL, C11Q15_CELL_USUALLY, and S_WARM to alert the interviewer to cases where cell-phone respondents changed their contact number on a previous call—potentially to a landline phone number: Interviewer note: The number for this case was changed by the respondent on a previous call.
- CSHCN_FU_1A, CSHCN_FU_2A, CSHCN_FU_2B, and CSHCN_FU_APPT were added at the end of the survey to inform respondents that they were potentially eligible for the NS-CSHCN follow-up survey—The Survey of Pathways to Diagnosis and Services. Respondents were informed that they may be contacted in the future, but that they could decide if they would like to participate at the time of recontact.

Appendix VI. Procedures for Assigning Household Poverty Status

The U.S. Department of Health and Human Services (HHS) publishes federal Poverty Guidelines for the determination of household poverty status (http://aspe.hhs.gov/poverty). These guidelines are produced annually and developed separately for the 48 contiguous states (plus the District of Columbia), Alaska, and Hawaii.

The 2009–2010 National Survey of Children with Special Health Care Needs (NS-CSHCN) used HHS guidelines to assign household poverty status. Year 2008 guidelines (Tables VII–IX) were used with 2008 income for interviews conducted from July 7, 2009 through February 17, 2010. Year 2009 guidelines (Tables X–XII) were used with 2009 income for interviews conducted from February 18, 2010 through March 3, 2011. Because HHS extended the 2009 guidelines through May 31, 2011, and later determined that the 2010 guidelines were the same as the 2009 guidelines, no change was made to the guidelines used by NS-CSHCN in 2010.

The tables were used to group households into the following poverty status categories:

- Category AA—At or below 50% of poverty level
- Category A—Above 50%, but at or below 100% of poverty level
- Category B—Above 100%, but at or below 133% of poverty level
- Category C—Above 133%, but at or below 150% of poverty level
- Category D—Above 150%, but at or below 185% of poverty level
- Category E—Above 185%, but at or below 200% of poverty level
- Category F—Above 200%, but at or below 300% of poverty level
- Category G—Above 300%, but at or below 400% of poverty level
- Category H—Above 400% of poverty level

Two variables were used to determine an NS-CSHCN household's poverty status: the number of people residing in a household and the household's income during the prior year. It was possible for income data to be gathered using one of three different methods during NS-CSHCN administration. A respondent could provide an exact income, provide an income range based on a closed-ended series of questions, or provide an income range using a set of cascade questions revised to allow exact determination of household poverty status in cases where that would not otherwise be possible. A brief description of each method and the household poverty status assignment process appears in the following text.

Respondent reported exact income—When a respondent reported an exact income, poverty status was assigned by simply comparing the number of household members and the exact income reported with the appropriate guidelines table.

Respondent reported income range based on a closed-ended series of questions—When respondents did not supply a specific dollar amount for household income, it was necessary to ask a series of questions on whether the household income was below, exactly at, or above threshold amounts. A matrix was then created to categorize these responses. Each cell in the matrix was assigned to one of the following income categories:

- Less than $7,500
- $7,500 to $9,999
- $10,000 to $12,499

Table VII. Year 2008 household poverty guidelines for families in the 48 contiguous states and the District of Columbia

	Percent of federal poverty level							
	50	100	133	150	185	200	300	400
	Status categories							
Family size	AA	A	B	C	D	E	F	G
2	$7,000	14,000	18,620	21,000	25,900	28,000	42,000	56,000
3	$8,800	17,600	23,408	26,400	32,560	35,200	52,800	70,400
4	$10,600	21,200	28,196	31,800	39,220	42,400	63,600	84,800
5	$12,400	24,800	32,984	37,200	45,880	49,600	74,400	99,200
6	$14,200	28,400	37,772	42,600	52,540	56,800	85,200	113,600
7	$16,000	32,000	42,560	48,000	59,200	64,000	96,000	128,000
8	$17,800	35,600	47,348	53,400	65,860	71,200	106,800	142,400
9	$19,600	39,200	52,136	58,800	72,520	78,400	117,600	156,800
10	$21,400	42,800	56,924	64,200	79,180	85,600	128,400	171,200
11	$23,200	46,400	61,712	69,600	85,840	92,800	139,200	185,600
12	$25,000	50,000	66,500	75,000	92,500	100,000	150,000	200,000
13	$26,800	53,600	71,288	80,400	99,160	107,200	160,800	214,400
14	$28,600	57,200	76,076	85,800	105,820	114,400	171,600	228,800
15	$30,400	60,800	80,864	91,200	112,480	121,600	182,400	243,200
16	$32,200	64,400	85,652	96,600	119,140	128,800	193,200	257,600
17	$34,000	68,000	90,440	102,000	125,800	136,000	204,000	272,000
18	$35,800	71,600	95,228	107,400	132,460	143,200	214,800	286,400

NOTE: See Appendix VI for full definitions of poverty status categories.

Table VIII. Year 2008 household poverty guidelines for families in Hawaii

	Percent of federal poverty level							
	50	100	133	150	185	200	300	400
	Status categories							
Family size	AA	A	B	C	D	E	F	G
2	$8,050	16,100	21,413	24,150	29,785	32,200	48,300	64,400
3	$10,120	20,240	26,919	30,360	37,444	40,480	60,720	80,960
4	$12,190	24,380	32,425	36,570	45,103	48,760	73,140	97,520
5	$14,260	28,520	37,932	42,780	52,762	57,040	85,560	114,080
6	$16,330	32,660	43,438	48,990	60,421	65,320	97,980	130,640
7	$18,400	36,800	48,944	55,200	68,080	73,600	110,400	147,200
8	$20,470	40,940	54,450	61,410	75,739	81,880	122,820	163,760
9	$22,540	45,080	59,956	67,620	83,398	90,160	135,240	180,320
10	$24,610	49,220	65,463	73,830	91,057	98,440	147,660	196,880
11	$26,680	53,360	70,969	80,040	98,716	106,720	160,080	213,440
12	$28,750	57,500	76,475	86,250	106,375	115,000	172,500	230,000
13	$30,820	61,640	81,981	92,460	114,034	123,280	184,920	246,560
14	$32,890	65,780	87,487	98,670	121,693	131,560	197,340	263,120
15	$34,960	69,920	92,994	104,880	129,352	139,840	209,760	279,680
16	$37,030	74,060	98,500	111,090	137,011	148,120	222,180	296,240
17	$39,100	78,200	104,006	117,300	144,670	156,400	234,600	312,800
18	$41,170	82,340	109,512	123,510	152,329	164,680	247,020	329,360

NOTE: See Appendix VI for full definitions of poverty status categories.

- $12,500 to $14,999
- $15,000 to $17,499
- $17,500 to $19,999
- $20,000 to $24,999
- $25,000 to $29,999
- $30,000 to $34,999
- $35,000 to $39,999
- $40,000 to $44,999
- $45,000 to $49,999
- $50,000 to $59,999
- $60,000 to $74,999
- $75,000 or higher

Respondents who went through the cascade of income questions were assigned a household poverty status by comparing the number of household members and the assigned income range with the appropriate guidelines table. For example, a respondent living in Alaska reporting a household size of three persons and an income (based on the cascade) of $35,000 to $39,000 would be classified into category D (more than 150% of poverty, but at or below 185% of poverty) based on the 2009 guidelines in Table XII. A respondent living in the 48 contiguous states reporting a household size of three persons and an income of $75,000 or higher would be classified into

Table IX. Year 2008 household poverty guidelines for families in Alaska

	Percent of federal poverty level							
	50	100	133	150	185	200	300	400
	Status categories							
Family size	AA	A	B	C	D	E	F	G
2	$8,750	17,500	23,275	26,250	32,375	35,000	52,500	70,000
3	$11,000	22,000	29,260	33,000	40,700	44,000	66,000	88,000
4	$13,250	26,500	35,245	39,750	49,025	53,000	79,500	106,000
5	$15,500	31,000	41,230	46,500	57,350	62,000	93,000	124,000
6	$17,750	35,500	47,215	53,250	65,675	71,000	106,500	142,000
7	$20,000	40,000	53,200	60,000	74,000	80,000	120,000	160,000
8	$22,250	44,500	59,185	66,750	82,325	89,000	133,500	178,000
9	$24,500	49,000	65,170	73,500	90,650	98,000	147,000	196,000
10	$26,750	53,500	71,155	80,250	98,975	107,000	160,500	214,000
11	$29,000	58,000	77,140	87,000	107,300	116,000	174,000	232,000
12	$31,250	62,500	83,125	93,750	115,625	125,000	187,500	250,000
13	$33,500	67,000	89,110	100,500	123,950	134,000	201,000	268,000
14	$35,750	71,500	95,095	107,250	132,275	143,000	214,500	286,000
15	$38,000	76,000	101,080	114,000	140,600	152,000	228,000	304,000
16	$40,250	80,500	107,065	120,750	148,925	161,000	241,500	322,000
17	$42,500	85,000	113,050	127,500	157,250	170,000	255,000	340,000
18	$44,750	89,500	119,035	134,250	165,575	179,000	268,500	358,000

NOTE: See Appendix VI for full definitions of poverty status categories.

Table X. Year 2009 household poverty guidelines for families in the 48 contiguous states and the District of Columbia

	Percent of federal poverty level							
	50	100	133	150	185	200	300	400
	Status categories							
Family size	AA	A	B	C	D	E	F	G
2	$7,285	14,570	19,378	21,855	26,955	29,140	43,710	58,280
3	$9,155	18,310	24,352	27,465	33,874	36,620	54,930	73,240
4	$11,025	22,050	29,327	33,075	40,793	44,100	66,150	88,200
5	$12,895	25,790	34,301	38,685	47,712	51,580	77,370	103,160
6	$14,765	29,530	39,275	44,295	54,631	59,060	88,590	118,120
7	$16,635	33,270	44,249	49,905	61,550	66,540	99,810	133,080
8	$18,505	37,010	49,223	55,515	68,469	74,020	111,030	148,040
9	$20,375	40,750	54,198	61,125	75,388	81,500	122,250	163,000
10	$22,245	44,490	59,172	66,735	82,307	88,980	133,470	177,960
11	$24,115	48,230	64,146	72,345	89,226	96,460	144,690	192,920
12	$25,985	51,970	69,120	77,955	96,145	103,940	155,910	207,880
13	$27,855	55,710	74,094	83,565	103,064	111,420	167,130	222,840
14	$29,725	59,450	79,069	89,175	109,983	118,900	178,350	237,800
15	$31,595	63,190	84,043	94,785	116,902	126,380	189,570	252,760
16	$33,465	66,930	89,017	100,395	123,821	133,860	200,790	267,720
17	$35,335	70,670	93,991	106,005	130,740	141,340	212,010	282,680
18	$37,205	74,410	98,965	111,615	137,659	148,820	223,230	297,640

NOTE: See Appendix VI for full definitions of poverty status categories.

category H (above 400% of poverty) based on the 2009 guidelines in Table X. When respondents did not complete the income cascade, either because they refused or did not know the answer to one of the cascade questions, household poverty status could not be assigned.

Respondent reported income range based on revised series of cascade questions—In some cases, the income categories described above encompassed one or more income category limits for determining household poverty status. In such cases, additional income cascade questions beyond the standard set were asked to permit definitive assignment of poverty status. For these questions, customized income reference values, based on household size and state of residence, were used to obtain a range that would fit into the poverty-level table. For example, the income category cutoff indicating that a two-person household in the contiguous 48 states was below 150% of poverty (using the 2009 guidelines) was $21,855. This income category cutoff is encompassed in the income category of "$25,000 or less." Therefore, for respondents who

Table XI. Year 2009 household poverty guidelines for families in Hawaii

	Percent of federal poverty level							
	50	100	133	150	185	200	300	400
	Status categories							
Family size	AA	A	B	C	D	E	F	G
2	$8,380	16,760	22,291	25,140	31,006	33,520	50,280	67,040
3	$10,530	21,060	28,010	31,590	38,961	42,120	63,180	84,240
4	$12,680	25,360	33,729	38,040	46,916	50,720	76,080	101,440
5	$14,830	29,660	39,448	44,490	54,871	59,320	88,980	118,640
6	$16,980	33,960	45,167	50,940	62,826	67,920	101,880	135,840
7	$19,130	38,260	50,886	57,390	70,781	76,520	114,780	153,040
8	$21,280	42,560	56,605	63,840	78,736	85,120	127,680	170,240
9	$23,430	46,860	62,324	70,290	86,691	93,720	140,580	187,440
10	$25,580	51,160	68,043	76,740	94,646	102,320	153,480	204,640
11	$27,730	55,460	73,762	83,190	102,601	110,920	166,380	221,840
12	$29,880	59,760	79,481	89,640	110,556	119,520	179,280	239,040
13	$32,030	64,060	85,200	96,090	118,511	128,120	192,180	256,240
14	$34,180	68,360	90,919	102,540	126,466	136,720	205,080	273,440
15	$36,330	72,660	96,638	108,990	134,421	145,320	217,980	290,640
16	$38,480	76,960	102,357	115,440	142,376	153,920	230,880	307,840
17	$40,630	81,260	108,076	121,890	150,331	162,520	243,780	325,040
18	$42,780	85,560	113,795	128,340	158,286	171,120	256,680	342,240

NOTE: See Appendix VI for full definitions of poverty status categories.

Table XII. Year 2009 household poverty guidelines for families in Alaska

	Percent of federal poverty level							
	50	100	133	150	185	200	300	400
	Status categories							
Family size	AA	A	B	C	D	E	F	G
2	$9,105	18,210	24,219	27,315	33,689	36,420	54,630	72,840
3	$11,445	22,890	30,444	34,335	42,347	45,780	68,670	91,560
4	$13,785	27,570	36,668	41,355	51,005	55,140	82,710	110,280
5	$16,125	32,250	42,893	48,375	59,663	64,500	96,750	129,000
6	$18,465	36,930	49,117	55,395	68,321	73,860	110,790	147,720
7	$20,805	41,610	55,341	62,415	76,979	83,220	124,830	166,440
8	$23,145	46,290	61,566	69,435	85,637	92,580	138,870	185,160
9	$25,485	50,970	67,790	76,455	94,295	101,940	152,910	203,880
10	$27,825	55,650	74,015	83,475	102,953	111,300	166,950	222,600
11	$30,165	60,330	80,239	90,495	111,611	120,660	180,990	241,320
12	$32,505	65,010	86,463	97,515	120,269	130,020	195,030	260,040
13	$34,845	69,690	92,688	104,535	128,927	139,380	209,070	278,760
14	$37,185	74,370	98,912	111,555	137,585	148,740	223,110	297,480
15	$39,525	79,050	105,137	118,575	146,243	158,100	237,150	316,200
16	$41,865	83,730	111,361	125,595	154,901	167,460	251,190	334,920
17	$44,205	88,410	117,585	132,615	163,559	176,820	265,230	353,640
18	$46,545	93,090	123,810	139,635	172,217	186,180	279,270	372,360

NOTE: See Appendix VI for full definitions of poverty status categories.

went through the cascade and reported income less than $25,000, an additional cascade question asked whether the household was above, at, or below $21,900 (based on rounding rules described in the notes to the poverty guideline tables). If the household reported an income below $21,900 but above $20,000, their assigned household poverty status would be category C (above 133%, but at or below 150% of poverty).

Using the HHS guidelines, tables were developed to provide reference values for the additional income cascade questions. Reference values using the 2008 guidelines are presented in Tables XIII–XV. Reference values using the 2009 guidelines are presented in Tables XVI–XVIII.

Table XIII. Year 2008 reference table for additional income cascade questions for families in the 48 contiguous states and the District of Columbia

Family size	Reported range of household income														
	Less than $7,500	$7,500–$9,999	$10,000–$12,499	$12,500–$14,999	$15,000–$17,499	$17,500–$19,999	$20,000–$24,999	$25,000–$29,999	$30,000–$34,999	$35,000–$39,999	$40,000–$44,999	$45,000–$49,999	$50,000–$59,999	$60,000–$74,999	$75,000 and over
2	7,000	A	A	14,000	B	18,600	21,000	28,000	F	F	42,000	G	56,000	H	H
3	AA	8,800	A	A	A	B	23,400	26,400	32,600	F	F	F	52,800	70,400	H
4	AA	AA	10,600	A	A	A	21,200	28,200	31,800	D	42,400	F	F	63,600	85,000
5	AA	AA	AA	A	A	A	A	B	33,000	37,200	D	E	F	F	100,000
6	AA	AA	AA	AA	A	A	A	28,400	B	37,800	42,600	D	52,500/ 56,800	F	85,000/ 115,000
7	AA	AA	AA	AA	16,000	A	A	A	32,000	B	42,600	48,000	D	64,000	95,000/ 130,000
8	AA	AA	AA	AA	AA	A	A	A	A	B	B	47,300	53,400	65,900/ 71,200	105,000/ 140,000
9	AA	AA	AA	AA	AA	AA	A	A	A	A	B	B	52,100/ 58,800	72,500	80,000/ 120,000
10	AA	AA	AA	AA	AA	AA	21,400	A	A	A	42,800	B	56,900	64,200	85,000/ 130,000
11	AA	AA	AA	AA	AA	AA	23,200	A	A	A	A	46,400	B	61,700/ 69,600	90,000/ 140,000
12	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	A	B	66,500	100,000/ 150,000
13	AA	AA	AA	AA	AA	AA	AA	26,800	A	A	A	A	53,600	71,300	110,000/ 160,000
14	AA	AA	AA	AA	AA	AA	AA	28,600	A	A	A	A	57,200	75,000	115,000/ 170,000
15	AA	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	A	B	120,000/ 180,000
16	AA	AA	AA	AA	AA	AA	AA	AA	32,200	A	A	A	A	64,400	130,000/ 195,000
17	AA	AA	AA	AA	AA	AA	AA	AA	34,000	A	A	A	A	68,000	135,000/ 205,000
18	AA	AA	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	71,600	145,000/ 215,000

NOTES: When the reported range of household income was included within two or more poverty ranges, additional questions (W9Q12 and W9Q12A) were asked to determine the poverty range for the household. Values within the body of this table represent the border between two poverty ranges. Additional income questions were asked with this value ("Would you say this income was above or below [value]?") to identify the proper poverty range for the household. Values were rounded to the nearest $100 if income was below $75,000 and to the nearest $5,000 if income was over $75,000. When income was less than $20,000, the additional income questions were not asked if the value (i.e., the range border) was less than $900 from either endpoint of the reported range of household income. Letters, rather than values, signify that the reported range of household income was entirely within one poverty range. See Appendix VI for full definitions of poverty status categories.

Table XIV. Year 2008 reference table for additional income cascade questions for families in Alaska

Family size	Reported range of household income														
	Less than $7,500	$7,500–$9,999	$10,000–$12,499	$12,500–$14,999	$15,000–$17,499	$17,500–$19,999	$20,000–$24,999	$25,000–$29,999	$30,000–$34,999	$35,000–$39,999	$40,000–$44,999	$45,000–$49,999	$50,000–$59,999	$60,000–$74,999	$75,000 and over
2	AA	8,800	A	A	A	B	23,300	26,300	32,400	F	F	F	52,500	70,000	H
3	AA	AA	11,000	A	A	A	22,000	B	33,000	D	44,000	F	F	66,000	90,000
4	AA	AA	AA	13,300	A	A	A	26,500	B	C	D	49,000	53,000	F	80,000/ 105,000
5	AA	AA	AA	AA	A	A	A	A	31,000	B	41,200	46,500	57,400	62,000	95,000/ 125,000
6	AA	AA	AA	AA	AA	A	A	A	A	B	B	47,200	53,300	65,700/ 71,000	105,000/ 140,000
7	AA	AA	AA	AA	AA	AA	A	A	A	A	B	B	53,200	74,000	80,000/ 120,000
8	AA	AA	AA	AA	AA	AA	22,300	A	A	A	A	B	B	66,800	90,000/ 135,000
9	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	49,000	B	65,200/ 73,500	100,000/ 145,000
10	AA	AA	AA	AA	AA	AA	AA	26,800	A	A	A	A	53,500	71,200	105,000/ 160,000
11	AA	AA	AA	AA	AA	AA	AA	29,000	A	A	A	A	58,000	B	115,000/ 175,000
12	AA	AA	AA	AA	AA	AA	AA	AA	31,300	A	A	A	A	62,500	125,000/ 190,000
13	AA	AA	AA	AA	AA	AA	AA	AA	33,500	A	A	A	A	67,000	135,000/ 200,000
14	AA	AA	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	71,500	145,000/ 215,000
15	AA	AA	AA	AA	AA	AA	AA	AA	AA	38,000	A	A	A	A	150,000/ 230,000
16	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	160,000/ 240,000
17	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	42,500	A	A	A	170,000/ 255,000
18	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	A	A	A	180,000/ 270,000

NOTES: When the reported range of household income was included within two or more poverty ranges, additional questions (W9Q12 and W9Q12A) were asked to determine the poverty range for the household. Values within the body of this table represent the border between two poverty ranges. Additional income questions were asked with this value ("Would you say this income was above or below [value]?") to identify the proper poverty range for the household. Values were rounded to the nearest $100 if income was below $75,000 and to the nearest $5,000 if income was over $75,000. When income was less than $20,000, the additional income questions were not asked if the value (i.e., the range border) was less than $900 from either endpoint of the reported range of household income. Letters, rather than values, signify that the reported range of household income was entirely within one poverty range. See Appendix VI for full definitions of poverty status categories.

Table XV. Year 2008 reference table for additional income cascade questions for families in Hawaii

Family size	Reported range of household income														
	Less than $7,500	$7,500–$9,999	$10,000–$12,499	$12,500–$14,999	$15,000–$17,499	$17,500–$19,999	$20,000–$24,999	$25,000–$29,999	$30,000–$34,999	$35,000–$39,999	$40,000–$44,999	$45,000–$49,999	$50,000–$59,999	$60,000–$74,999	$75,000 and over
2	AA	A	A	A	16,100	B	21,400	D	32,200	F	F	48,300	G	64,400	H
3	AA	AA	A	A	A	A	B	26,900	D	37,400	F	F	F	G	81,000
4	AA	AA	AA	A	A	A	A	B	32,400	36,600	D	48,800	F	73,100	100,000
5	AA	AA	AA	AA	A	A	A	28,500	B	37,900	42,800	D	52,800/ 57,000	F	85,000/ 115,000
6	AA	AA	AA	AA	16,300	A	A	A	32,700	B	43,400	49,000	D	65,300	100,000/ 130,000
7	AA	AA	AA	AA	AA	18,400	A	A	A	36,800	B	48,900	55,200	68,100/ 73,600	110,000/ 145,000
8	AA	AA	AA	AA	AA	AA	A	A	A	A	B	B	54,500	61,400	80,000/ 125,000
9	AA	AA	AA	AA	AA	AA	22,500	A	A	A	A	B	B	67,600	90,000/ 135,000
10	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	A	B	65,500/ 73,800	100,000/ 150,000
11	AA	AA	AA	AA	AA	AA	AA	26,700	A	A	A	A	53,400	71,000	105,000/ 160,000
12	AA	AA	AA	AA	AA	AA	AA	28,800	A	A	A	A	57,500	B	115,000/ 175,000
13	AA	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	A	61,600	125,000/ 185,000
14	AA	AA	AA	AA	AA	AA	AA	AA	32,900	A	A	A	A	65,800	130,000/ 195,000
15	AA	AA	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	69,900	140,000/ 210,000
16	AA	AA	AA	AA	AA	AA	AA	AA	AA	37,000	A	A	A	74,100	150,000/ 220,000
17	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	155,000/ 235,000
18	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	41,200	A	A	A	165,000/ 245,000

NOTES: When the reported range of household income was included within two or more poverty ranges, additional questions (W9Q12 and W9Q12A) were asked to determine the poverty range for the household. Values within the body of this table represent the border between two poverty ranges. Additional income questions were asked with this value ("Would you say this income was above or below [value]?") to identify the proper poverty range for the household. Values were rounded to the nearest $100 if income was below $75,000 and to the nearest $5,000 if income was over $75,000. When income was less than $20,000, the additional income questions were not asked if the value (i.e., the range border) was less than $900 from either endpoint of the reported range of household income. Letters, rather than values, signify that the reported range of household income was entirely within one poverty range. See Appendix VI for full definitions of poverty status categories.

Table XVI. Year 2009 reference table for additional income cascade questions for families in the 48 contiguous states and the District of Columbia

Family size	Reported range of household income														
	Less than $7,500	$7,500–$9,999	$10,000–$12,499	$12,500–$14,999	$15,000–$17,499	$17,500–$19,999	$20,000–$24,999	$25,000–$29,999	$30,000–$34,999	$35,000–$39,999	$40,000–$44,999	$45,000–$49,999	$50,000–$59,999	$60,000–$74,999	$75,000 and over
2	AA	A	A	A	B	B	21,900	27,000	F	F	43,700	G	58,300	H	H
3	AA	AA	A	A	A	18,300	B	27,500	33,900	36,600	F	F	54,900	73,200	H
4	AA	AA	11,000	A	A	A	22,100	B	33,100	D	E	F	F	66,200	88,000
5	AA	AA	AA	A	A	A	A	B	B	38,700	D	47,700	51,600	F	80,000/ 105,000
6	AA	AA	AA	AA	A	A	A	A	B	B	C	D	54,600	F	90,000/ 120,000
7	AA	AA	AA	AA	16,600	A	A	A	33,300	B	B	C	D	61,600/ 66,500	100,000/ 135,000
8	AA	AA	AA	AA	AA	18,500	A	A	A	37,000	B	B	55,500	68,500/ 74,000	110,000/ 150,000
9	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	B	54,200	61,100	80,000/ 120,000
10	AA	AA	AA	AA	AA	AA	22,200	A	A	A	A	B	B	66,700	90,000/ 135,000
11	AA	AA	AA	AA	AA	AA	24,100	A	A	A	A	48,200	B	64,100/ 72,300	95,000/ 145,000
12	AA	AA	AA	AA	AA	AA	AA	26,000	A	A	A	A	52,000	69,100	105,000/ 155,000
13	AA	AA	AA	AA	AA	AA	AA	27,900	A	A	A	A	55,700	B	110,000/ 165,000
14	AA	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	A	B	120,000/ 180,000
15	AA	AA	AA	AA	AA	AA	AA	AA	31,600	A	A	A	A	63,200	125,000/ 190,000
16	AA	AA	AA	AA	AA	AA	AA	AA	33,500	A	A	A	A	66,900	135,000/ 200,000
17	AA	AA	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	70,700	140,000/ 210,000
18	AA	AA	AA	AA	AA	AA	AA	AA	AA	37,200	A	A	A	A	150,000/ 225,000

NOTES: When the reported range of household income was included within two or more poverty ranges, additional questions (W9Q12 and W9Q12A) were asked to determine the poverty range for the household. Values within the body of this table represent the border between two poverty ranges. Additional income questions were asked with this value ("Would you say this income was above or below [value]?") to identify the proper poverty range for the household. Values were rounded to the nearest $100 if income was below $75,000 and to the nearest $5,000 if income was over $75,000. When income was less than $20,000, the additional income questions were not asked if the value (i.e., the range border) was less than $900 from either endpoint of the reported range of household income. Letters, rather than values, signify that the reported range of household income was entirely within one poverty range. See Appendix VI for full definitions of poverty status categories.

Table XVII. Year 2009 reference table for additional income cascade questions for families in Alaska

Family size	Reported range of household income														
	Less than $7,500	$7,500–$9,999	$10,000–$12,499	$12,500–$14,999	$15,000–$17,499	$17,500–$19,999	$20,000–$24,999	$25,000–$29,999	$30,000–$34,999	$35,000–$39,999	$40,000–$44,999	$45,000–$49,999	$50,000–$59,999	$60,000–$74,999	$75,000 and over
2	AA	AA	A	A	A	18,200	B	27,300	33,700	36,400	F	F	54,600	72,800	H
3	AA	AA	11,400	A	A	A	22,900	B	30,400	D	42,300	F	F	68,700	90,000
4	AA	AA	AA	13,800	A	A	A	27,600	B	36,700	41,400	D	51,000/ 55,100	F	85,000/ 110,000
5	AA	AA	AA	AA	16,100	A	A	A	32,300	B	42,900	48,400	D	64,500	100,000/ 130,000
6	AA	AA	AA	AA	AA	18,500	A	A	A	36,900	B	B	55,400	68300/ 73900	110,000/ 150,000
7	AA	AA	AA	AA	AA	AA	A	A	A	A	41,600	B	55,300	62,400	85,000/ 125,000
8	AA	AA	AA	AA	AA	AA	23,100	A	A	A	A	46,300	B	61,600/ 69,400	95,000/ 140,000
9	AA	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	51,000	67,800	100,000/ 155,000
10	AA	AA	AA	AA	AA	AA	AA	27,800	A	A	A	A	55,700	74,000	110,000/ 165,000
11	AA	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	A	B	120,000/ 180,000
12	AA	AA	AA	AA	AA	AA	AA	AA	32,500	A	A	A	A	65,000	130,000/ 195,000
13	AA	AA	AA	AA	AA	AA	AA	AA	34,800	A	A	A	A	69,700	140,000/ 210,000
14	AA	AA	AA	AA	AA	AA	AA	AA	AA	37,200	A	A	A	74,400	150,000/ 225,000
15	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	160,000/ 235,000
16	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	41,900	A	A	A	165,000/ 250,000
17	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	A	A	A	175,000/ 265,000
18	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	46,500	A	A	185,000/ 280,000

NOTES: When the reported range of household income was included within two or more poverty ranges, additional questions (W9Q12 and W9Q12A) were asked to determine the poverty range for the household. Values within the body of this table represent the border between two poverty ranges. Additional income questions were asked with this value ("Would you say this income was above or below [value]?") to identify the proper poverty range for the household. Values were rounded to the nearest $100 if income was below $75,000 and to the nearest $5,000 if income was over $75,000. When income was less than $20,000, the additional income questions were not asked if the value (i.e., the range border) was less than $900 from either endpoint of the reported range of household income. Letters, rather than values, signify that the reported range of household income was entirely within one poverty range. See Appendix VI for full definitions of poverty status categories.

Table XVIII. Year 2009 reference table for additional income cascade questions for families in Hawaii

Family size	Reported range of household income														
	Less than $7,500	$7,500–$9,999	$10,000–$12,499	$12,500–$14,999	$15,000–$17,499	$17,500–$19,999	$20,000–$24,999	$25,000–$29,999	$30,000–$34,999	$35,000–$39,999	$40,000–$44,999	$45,000–$49,999	$50,000–$59,999	$60,000–$74,999	$75,000 and over
2	AA	8,400	A	A	16,800	B	22,300	D	31,000/33,500	F	F	F	G	67,000	H
3	AA	AA	A	A	A	A	21,000	28,000	31,600	39,000	42,100	F	F	63,200	85,000
4	AA	AA	AA	A	A	A	A	B	33,700	38,000	D	46,900	F	75,000	100,000
5	AA	AA	AA	AA	A	A	A	A	B	B	C	D	54,900	F	90,000/120,000
6	AA	AA	AA	AA	AA	A	A	A	34,000	B	B	C	D	62,800/67,900	100,000/135,000
7	AA	AA	AA	AA	AA	AA	A	A	A	38,300	B	B	57,400	70,800	75,000/115,000
8	AA	AA	AA	AA	AA	AA	21,300	A	A	A	42,600	B	56,600	63,800	85,000/130,000
9	AA	AA	AA	AA	AA	AA	23,400	A	A	A	A	46,900	B	62,300/70,300	95,000/140,000
10	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	A	51,200	68,000	100,000/155,000
11	AA	AA	AA	AA	AA	AA	AA	27,700	A	A	A	A	55,500	73,800	110,000/165,000
12	AA	AA	AA	AA	AA	AA	AA	29,900	A	A	A	A	A	B	120,000/180,000
13	AA	AA	AA	AA	AA	AA	AA	AA	32,000	A	A	A	A	64,100	130,000/190,000
14	AA	AA	AA	AA	AA	AA	AA	AA	AA	A	A	A	A	68,400	135,000/205,000
15	AA	AA	AA	AA	AA	AA	AA	AA	AA	36,300	A	A	A	72,700	145,000/220,000
16	AA	AA	AA	AA	AA	AA	AA	AA	AA	38,500	A	A	A	A	155,000/230,000
17	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	40,600	A	A	A	165,000/245,000
18	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	42,800	A	A	A	170,000/255,000

NOTES: When the reported range of household income was included within two or more poverty ranges, additional questions (W9Q12 and W9Q12A) were asked to determine the poverty range for the household. Values within the body of this table represent the border between two poverty ranges. Additional income questions were asked with this value ("Would you say this income was above or below [value]?") to identify the proper poverty range for the household. Values were rounded to the nearest $100 if income was below $75,000 and to the nearest $5,000 if income was over $75,000. When income was less than $20,000, the additional income questions were not asked if the value (i.e., the range border) was less than $900 from either endpoint of the reported range of household income. Letters, rather than values, signify that the reported range of household income was entirely within one poverty range. See Appendix VI for full definitions of poverty status categories.

Appendix VII. Program Names Used for Medicaid and Children's Health Insurance Program Questions

For questions regarding Medicaid and the Children's Health Insurance Program (CHIP), the state-specific program names for each type of coverage were included in the question text, in case respondents recognized the state program name but not the national program affiliation. These program names are shown in Table XIX. States could be divided into three classes, depending on how they named the expanded or created programs that use Title XXI funds. In 2009–2010, 29 states had distinct Medicaid and CHIP programs and used different names for their CHIP programs than for their Medicaid programs. Eleven states had distinct Medicaid and CHIP programs but used the same (or substantially similar) name for both programs. Eleven states (including the District of Columbia) used Title XXI funds to expand their Medicaid program without establishing a distinct CHIP program.

Eligibility for specific health insurance questions and the use of state-specific program names were based on this classification. For states that did not have a distinct CHIP program or that used similar names for both the Medicaid and CHIP programs, a single question about both Medicaid and CHIP was asked. This question (C7Q04) included the state-specific program names (if any) for both types of programs. For all other states, the name of the Medicaid program was used for the question regarding Medicaid (C7Q01), and the name of the CHIP program was used for the question regarding CHIP (C7Q02).

Because a single question about both Medicaid and CHIP was asked for nearly one-half of the states, survey analysts will not be able to distinguish between Medicaid and CHIP coverage in national or regional analyses. Analysts may be required to report on ''public'' insurance only.

Maryland was categorized as a combination state, which meant that separate questions were asked for Medicaid and CHIP. However, Maryland discontinued its separate CHIP program in 2007. So analysts using 2009–2010 data from the National Survey of Children with Special Health Care Needs for estimates of CHIP will inadvertently include Maryland in their analyses. Analysts should blank out Medicaid responses (C7Q01) and CHIP responses (C7Q02) for Maryland and ''create'' C7Q04, which would be YES if either Medicaid or CHIP was YES.

Table XIX. State-specific program names for Medicaid and CHIP

State	Type of program	Category[1]	Name used with Medicaid questions	Name used with CHIP questions	Name used with combination questions
Alabama	Separate	A	Patient 1st	ALL Kids	. . .
Alaska	Expansion	B	. . .	. . .	Denali KidCare
Arizona	Separate	A	Arizona Health Care Cost Containment System	KidsCare	. . .
Arkansas	Combination	A	ConnectCare	ARKids First	. . .
California	Combination	A	Medi-Cal	Healthy Families Program	. . .
Colorado	Separate	A	. . .	Child Health Plan Plus	. . .
Connecticut	Separate	C	. . .	. . .	HUSKY Health
Delaware	Combination	A	Diamond State Health Plan	Delaware Healthy Children Program	. . .
District of Columbia	Expansion	B	. . .	. . .	DC Healthy Families
Florida	Combination	C	. . .	. . .	Florida KidCare (includes Healthy Kids and MediKids programs)
Georgia	Separate	A	Georgia Better Health Care Program, Georgia Families, or Georgia Enhanced Care Program	PeachCare for Kids	. . .
Hawaii	Expansion	B	. . .	. . .	Hawaii QUEST
Idaho	Combination	A	Healthy Connections	Children's Health Insurance Program	. . .
Illinois	Combination	C	. . .	. . .	All Kids
Indiana	Combination	C	. . .	. . .	Hoosier Healthwise
Iowa	Combination	A	MediPASS	Healthy and Well Kids in Iowa	. . .
Kansas	Separate	C	. . .	. . .	HealthWave
Kentucky	Combination	A	KyHealth Choices or Kentucky Patient Access and Care	Kentucky Children's Health Insurance Program	. . .
Louisiana	Combination	C	. . .	. . .	CommunityCARE or Louisiana Children's Health Insurance Program
Maine	Combination	C	. . .	. . .	MaineCare
Maryland	Combination	A	Medical Assistance Program or HealthChoice	Maryland Children's Health Program	. . .
Massachusetts	Combination	A	MassHealth	Massachusetts Children's Medical Security Plan	. . .

See footnotes at end of table.

Table XIX. State-specific program names for Medicaid and CHIP—Con.

State	Type of program	Category[1]	Name used with Medicaid questions	Name used with CHIP questions	Name used with combination questions
Michigan	Combination	A	Healthy Kids or Low Income Families	MIChild	. . .
Minnesota	Combination	C	. . .	. . .	Medical Assistance or MinnesotaCare
Mississippi	Separate	A	Medical Assistance Program	Mississippi Children's Health Insurance Program	. . .
Missouri	Combination	C	. . .	. . .	MC-Plus and MC-Plus for Kids
Montana	Combination	A	Passport to Health	Montana Child Health Insurance Plan	. . .
Nebraska	Expansion	B	. . .	. . .	Kids Connection or Nebraska Health Connection
Nevada	Separate	A	. . .	Nevada Check Up	. . .
New Hampshire	Combination	A	. . .	Healthy Kids Gold or Healthy Kids Silver	. . .
New Jersey	Combination	C	. . .	. . .	NJ FamilyCare
New Mexico	Expansion	B	. . .	. . .	SALUD!, or New MexiKids
New York	Combination	C	. . .	. . .	Child Health Plus
North Carolina	Combination	A	Carolina ACCESS	North Carolina Health Choice	. . .
North Dakota	Combination	A	. . .	Healthy Steps	. . .
Ohio	Expansion	B	. . .	. . .	Healthy Start and Healthy Families
Oklahoma	Expansion	B	. . .	. . .	SoonerCare
Oregon	Separate	A	Oregon Health Plan	Oregon State Children's Health Insurance Program	. . .
Pennsylvania	Separate	A	HealthChoices Program or the ACCESS card	Pennsylvania Children's Health Insurance Program	. . .
Rhode Island	Combination	C	. . .	. . .	RIteCare or RIteShare
South Carolina	Expansion	B	. . .	. . .	Partners for Healthy Children
South Dakota	Combination	C	. . .	. . .	The PRIME program or the Children's Health Insurance Program
Tennessee	Combination	A	TennCare	CoverKids	. . .
Texas	Separate	A	State of Texas Access Reform program, STAR program, or STAR+PLUS	Texas Children's Health Insurance Program	. . .

See footnotes at end of table.

Table XIX. State-specific program names for Medicaid and CHIP—Con.

State	Type of program	Category[1]	Name used with Medicaid questions	Name used with CHIP questions	Name used with combination questions
Utah	Separate	A	. . .	Utah Children's Health Insurance Program	. . .
Vermont	Separate	A	. . .	Dr. Dynasaur or the Vermont Children's Health Care Program	. . .
Virgin Islands	Expansion	B	. . .	. . .	Medical Assistance Program
Virginia	Combination	A	Medallion program	Family Access to Medical Insurance Security Plan	. . .
Washington	Separate	A	Healthy Options or Basic Health Plus	Washington Children's Health Insurance Program	. . .
West Virginia	Separate	A	Physician Assured Access System, Mountain Health Choices, or Mountain Health Trust	West Virginia Children's Health Insurance Program	. . .
Wisconsin	Expansion	B	. . .	. . .	BadgerCare
Wyoming	Separate	A	EqualityCare	Wyoming KidCare or KidCare CHIP	. . .

. . . Category not applicable.

[1]States in category A had separate Medicaid and a Children's Health Insurance Program (CHIP) and used different names for their CHIP programs than for their Medicaid programs. For states in category B, the CHIP program was an expansion of the Medicaid program. States in category C had separate Medicaid and CHIP programs but used the same name (or a substantially similar name) for both programs. For states in categories B and C, a single question about public insurance coverage was asked using the program name.

Appendix VIII. Program Names Used for Temporary Assistance for Needy Families Questions

When respondents were asked if their household received any cash assistance from a state or county welfare program within the past year (C11Q11), state-specific Temporary Assistance for Needy Families program names were included in the question text, in case respondents recognized the state program name but not the welfare program affiliation. These program names are shown in Table XX.

Table XX. State-specific program names for Temporary Assistance for Needy Families

State	TANF program name
Alabama	Family Assistance Program
Alaska	Alaska Temporary Assistance Program
Arizona	Employing and Moving People off Welfare and Encouraging Responsibility
Arkansas	Transitional Employment Assistance
California	California Work Opportunity and Responsibility to Kids
Colorado	Colorado Works
Connecticut	Jobs First
Delaware	A Better Chance
District of Columbia	Temporary Assistance for Needy Families
Florida	Welfare Transition Program
Georgia	Temporary Assistance for Needy Families
Hawaii	Temporary Assistance for Needy Families
Idaho	Temporary Assistance for Families in Idaho
Illinois	Temporary Assistance for Needy Families
Indiana	Temporary Assistance for Needy Families
Iowa	The Family Investment Program
Kansas	KANSASWORKS
Kentucky	Kentucky Transitional Assistance Program
Louisiana	Family Independence Temporary Assistance Program
Maine	Temporary Assistance for Needy Families
Maryland	Family Investment Program
Massachusetts	Traditional Aid to Families with Dependent Children
Michigan	Family Independence Program
Minnesota	Minnesota Family Investment Program
Mississippi	Temporary Assistance for Needy Families
Missouri	Beyond Welfare
Montana	FAIM or Families Achieving Independence in Montana
Nebraska	Employment First
Nevada	Temporary Assistance for Needy Families
New Hampshire	Family Assistance Program or the NH Employment Program
New Jersey	Work First New Jersey
New Mexico	New Mexico Works
New York	Family Assistance Program
North Carolina	Work First
North Dakota	Training, Employment, Education Management
Ohio	Ohio Works First
Oklahoma	Temporary Assistance for Needy Families
Oregon	Job Opportunities and Basic Skills program
Pennsylvania	Pennsylvania Temporary Assistance for Needy Families
Rhode Island	Family Independence program
South Carolina	Family Independence
South Dakota	Temporary Assistance for Needy Families
Tennessee	Families First
Texas	Texas Works
Utah	Family Employment Program
Vermont	Aid to Needy Families with Children
Virgin Islands	Family Improvement Program
Virginia	Virginia Initiative for Employment Not Welfare
Washington	WorkFirst
West Virginia	WV WORKS
Wisconsin	Wisconsin Works
Wyoming	Personal Opportunities with Employment Responsibility

Appendix IX. Letters Sent to Sampled Households

This appendix contains the full complement of National Survey of Children with Special Health Care Needs (NS-CSHCN) letters that were sent to households. Differences among the various types of incentive groups are discussed in detail in Appendix XII. The following letters are included:

NS-CSHCN Advance Letter (Augmentation Sample)

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Centers for Disease Control and Prevention

National Center for Health Statistics
3311 Toledo Road
Hyattsville, Maryland 20782

Dear Resident,
The CDC needs your help!

In the next few weeks, the Centers for Disease Control and Prevention (CDC) will call your household to participate in a study about the health of children and teenagers. Information about all children will help the U.S. Department of Health and Human Services develop programs to promote the health of children in your state and throughout the United States.

Your household is very important to the study because it has been scientifically selected and cannot be replaced. It is important that we talk to your household to learn about the health of children in your community. When we call you, we will ask a few questions to see if your household is eligible for this study.

We hope you will share this important information with us by phone when an interviewer calls to ask you to take part in the study. If you do, you can choose not to answer any questions you do not wish to answer. All information collected for this study is confidential and protected by federal law. The back of this letter provides answers to some questions you may have and ways to get more information about the survey.

To learn more about the study or to take part right away, call 1-866-999-3340, toll-free. CDC has hired the National Opinion Research Center (NORC) at the University of Chicago to conduct the survey. Our website shows how we have used the data from the 2005 survey - http://mchb.hrsa.gov/cshcn05/.

Thank you very much for your help with this important research.

Sincerely,

/ Edward J. Sondik, Ph.D/

Edward J. Sondik, Ph.D.
Director, National Center for Health Statistics
Centers for Disease Control and Prevention

If you prefer to use TTY

Please call the AT&T Relay Service at 1-800-855-2880 and request that 1-866-999-3340 be called. The call is toll-free.

National Survey of Children with Special Health Care Needs
Frequently Asked Questions

What is the purpose of this study?

This survey is designed to count the number of children with special health care needs in each state, to describe the types of services that they need and use, and to identify any problems they have in getting care. People have very different experiences with their children's health and health care. In order to improve children's health and well-being, it is important that we learn about how children use health care services and about any problems that they have in getting care that they need.

Does this study apply to me?

The CDC is interested in talking with all households. We need your information to get a complete picture of your area's special health needs. It will take a few minutes or less to determine if you are eligible for the study.

How will you protect my privacy?

We are bound by law to maintain strict confidentiality standards. Your information and the child's information will never be associated with any results.

If you would like more information about the confidentiality of the research or the federal laws that ensure the protection of your information, including the Public Health Service Act and the Confidential Information Protection and Statistical Efficiency Act, these are described in detail at: http://www.cdc.gov/nchs/about/policy/confidentiality.htm. If you want to know more about your rights as a study participant you may call 1-800-223-8118, toll-free. This is the number for the Research Ethics Review Board at CDC. You will be asked to leave a message and say you are calling about Protocol 2009-04.

How will this information be used?

Maternal and child health agencies in your state will use this information to improve health care services for children and their families. The federal government will also use this information to learn about the types of support services that states need for children's health care.

You may visit http://www.cdc.gov/nchs/slaits.htm to find general information about the study. To find results from the last time the survey was done, please visit http://mchb.hrsa.gov/cshcn05/.

NORC's Toll-Free Number: 1-866-999-3340

You can call NORC's toll-free number to take part in the study right away, learn more about the study, and hear what you will be asked.

Refusal Converter Letter (No Offer)

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Centers for Disease Control and Prevention

National Center for Health Statistics
3311 Toledo Road
Hyattsville, Maryland 20782

Dear Parent or Guardian,

The CDC needs your help!

Recently, your family was asked to take part in a survey about the health services used by children and teenagers, but we have not been able to complete the interview yet. We hope you will reconsider our request. Information about all children will help the U.S. Department of Health and Human Services develop programs to promote the health of children in your state and throughout the United States.

We hope you will share this important information with us by phone when an interviewer calls to ask you to take part in the study. If you would like to participate right away or find out more about the survey, please call the toll-free phone number 1-866-999-3340.

Your household is very important to the study because it has been scientifically selected and cannot be replaced. All information collected for this study is confidential and protected by federal law. The back of this letter provides answers to some questions you may have and ways to get more information about the survey.

Thank you very much for your help with this important research.

Sincerely,

/ Edward J. Sondik, Ph.D/

Edward J. Sondik, Ph.D.
Director, National Center for Health Statistics
Centers for Disease Control and Prevention

National Survey of Children with Special Health Care Needs
Frequently Asked Questions

Why is this study being conducted?

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Maternal and Child Health Agencies in your state will use this information to improve programs and services for children and their families. The federal government will also use this information to learn about the types of support services that states need for children's health and well-being. You may visit **http://www.cdc.gov/nchs/slaits.htm** to find general information about the study. To find results from the last time the survey was done, please visit **http://mchb.hrsa.gov/cshcn05/**.

Does this study apply to me?

The CDC is interested in talking with all households. We need your information to get a complete picture of your area's special health needs. It will take a few minutes or less to determine if you are eligible for the study.

How will you protect my privacy?

We are bound by law to maintain strict confidentiality standards. Your information and the child's information will never be associated with any results.

If you would like more information about the confidentiality of the research, the federal laws, including the Public Health Service Act and the Confidential Information Protection and Statistical Efficiency Act, that ensure the protection of your information have been described in detail at: http://www.cdc.gov/nchs/about/policy/confidentiality.htm. If you want to know more about your rights as a study participant you may call 1-800-223-8118, toll free. This is the number for the Research Ethics Review Board at CDC. You will be asked to leave a message and say you are calling about Protocol 2009-04.

How can I find out more about this survey?

If you have any questions about this research study, please call 1-866-999-3340.

$5 Promise Refusal Converter Letter

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Centers for Disease Control and Prevention

National Center for Health Statistics
3311 Toledo Road
Hyattsville, Maryland 20782

Dear Parent or Guardian,

The CDC needs your help!

Recently, your family was asked to take part in a survey about health services used by children and teenagers, but we have not been able to complete the interview yet. We hope you will reconsider our request. Information about all children will help the U.S. Department of Health and Human Services develop programs to promote the health of children in your state and throughout the United States.

We hope you will share this important information with us by phone when an interviewer calls to ask you to take part in the study. If you would like to participate right away or find out more about the survey, please call the toll-free phone number 1-866-999-3340.

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Thank you very much for your help with this important research.

Sincerely,

/ Edward J. Sondik, Ph.D/

Edward J. Sondik, Ph.D.
Director, National Center for Health Statistics
Centers for Disease Control and Prevention

P.S. In appreciation for your time and effort, we will send you $5 in cash once you complete the interview.

National Survey of Children with Special Health Care Needs
Frequently Asked Questions

Why is this study being conducted?

This survey is designed to count the number of children with special health care needs in each state, to describe the types of services that they need and use, and to identify any problems they have in getting care. People have very different experiences with their children's health and health care. In order to improve children's health and well-being, it is important that we learn about how children use health care services and about any problems that they have in getting care that they need.

How will this information be used?

Maternal and Child Health Agencies in your state will use this information to improve programs and services for children and their families. The federal government will also use this information to learn about the types of support services that states need for children's health and well-being. You may visit **http://www.cdc.gov/nchs/slaits.htm** to find general information about the study. To find results from the last time the survey was done, please visit **http://mchb.hrsa.gov/cshcn05/**.

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How can I find out more about this survey?

If you have any questions about this research study, please call 1-866-999-3340.

$1 Prepaid/$10 Promise Refusal Converter Letter

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Centers for Disease Control and Prevention

National Center for Health Statistics
3311 Toledo Road
Hyattsville, Maryland 20782

Dear Parent or Guardian,

The CDC needs your help!

Recently, your family was asked to take part in a survey about health services used by children and teenagers, but we have not been able to complete the interview yet. We hope you will reconsider our request. Information about your child and other children will help the U.S. Department of Health and Human Services develop programs to promote the health of children in your state and throughout the United States.

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Edward J. Sondik, Ph.D.
Director, National Center for Health Statistics
Centers for Disease Control and Prevention

P.S. In appreciation for your time and effort, we have enclosed $1. We will send an additional $10 in cash once you complete the interview.

National Survey of Children with Special Health Care Needs
Frequently Asked Questions

Why is this study being conducted?

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How can I find out more about this survey?

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$1 Prepaid/No Promise Refusal Converter Letter

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Centers for Disease Control and Prevention

National Center for Health Statistics
3311 Toledo Road
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$5 Prepaid/$10 Promise Refusal Converter Letter

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Public Health Service
Centers for Disease Control and Prevention

National Center for Health Statistics
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Director, National Center for Health Statistics
Centers for Disease Control and Prevention

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National Survey of Children with Special Health Care Needs
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$5 Prepaid/No Promise Refusal Converter Letter

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Centers for Disease Control and Prevention

National Center for Health Statistics
3311 Toledo Road
Hyattsville, Maryland 20782

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We hope you will share this important information with us by phone when an interviewer calls to ask you to take part in the study. If you would like to participate right away or find out more about the survey, please call the toll-free phone number 1-866-999-3340.

Your household is very important to the study because it has been scientifically selected and cannot be replaced. All information collected for this study is confidential and protected by federal law. The back of this letter provides answers to some questions you may have and ways to get more information about the survey.

Thank you very much for your help with this important research.

Sincerely,

/ Edward J. Sondik, Ph.D/

Edward J. Sondik, Ph.D.
Director, National Center for Health Statistics
Centers for Disease Control and Prevention

P.S. In appreciation for your time and effort, we have enclosed $5 cash.

National Survey of Children with Special Health Care Needs
Frequently Asked Questions

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How can I find out more about this survey?

If you have any questions about this research study, please call 1-866-999-3340.

$5 Thank You Letter

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Centers for Disease Control and Prevention

National Center for Health Statistics
3311 Toledo Road
Hyattsville, Maryland 20782

Dear Parent or Guardian,

Thank you for taking part in the National Survey of Children with Special Health Care Needs. The information that you gave about your child will help the Centers for Disease Control and Prevention develop programs to promote the health of children in your state and throughout the United States.

In appreciation for your time and effort spent answering our questions, we have enclosed $5.

If you would like more information about the survey, you may visit **http://www.cdc.gov/nchs/slaits.htm**, or call the toll-free phone number for the study at 1-866-999-3340. To find results from the last time the survey was done, please visit **http://mchb.hrsa.gov/cshcn05/**.

Thank you again for your help with this important research.

Sincerely,

/ Edward J. Sondik, Ph.D/

Edward J. Sondik, Ph.D.
Director, National Center for Health Statistics
Centers for Disease Control and Prevention

$10 Thank You Letter

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Centers for Disease Control and Prevention

National Center for Health Statistics
3311 Toledo Road
Hyattsville, Maryland 20782

Dear Parent or Guardian,

Thank you for taking part in the National Survey of Children with Special Health Care Needs. The information that you gave about your child will help the Centers for Disease Control and Prevention develop programs to promote the health of children in your state and throughout the United States.

In appreciation for your time and effort spent answering our questions, we have enclosed $10.

If you would like more information about the survey, you may visit **http://www.cdc.gov/nchs/slaits.htm**, or call the toll-free phone number for the study at 1-866-999-3340. To find results from the last time the survey was done, please visit **http://mchb.hrsa.gov/cshcn05/**.

Thank you again for your help with this important research.

Sincerely,

/ Edward J. Sondik, Ph.D/

Edward J. Sondik, Ph.D.
Director, National Center for Health Statistics
Centers for Disease Control and Prevention

$11 Thank You Letter

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Centers for Disease Control and Prevention

National Center for Health Statistics
3311 Toledo Road
Hyattsville, Maryland 20782

Dear Parent or Guardian,

Thank you for taking part in the National Survey of Children with Special Health Care Needs. The information that you gave about your child will help the Centers for Disease Control and Prevention develop programs to promote the health of children in your state and throughout the United States.

In appreciation for your time and effort spent answering our questions, we have enclosed $11.

If you would like more information about the survey, you may visit **http://www.cdc.gov/nchs/slaits.htm**, or call the toll-free phone number for the study at 1-866-999-3340. To find results from the last time the survey was done, please visit **http://mchb.hrsa.gov/cshcn05/**.

Thank you again for your help with this important research.

Sincerely,

/ Edward J. Sondik, Ph.D/

Edward J. Sondik, Ph.D.
Director, National Center for Health Statistics
Centers for Disease Control and Prevention

$15 Thank You Letter

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Centers for Disease Control and Prevention

National Center for Health Statistics
3311 Toledo Road
Hyattsville, Maryland 20782

Dear Parent or Guardian,

Thank you for taking part in the National Survey of Children with Special Health Care Needs. The information that you gave about your child will help the Centers for Disease Control and Prevention develop programs to promote the health of children in your state and throughout the United States.

In appreciation for your time and effort spent answering our questions, we have enclosed $15.

If you would like more information about the survey, you may visit **http://www.cdc.gov/nchs/slaits.htm**, or call the toll-free phone number for the study at 1-866-999-3340. To find results from the last time the survey was done, please visit **http://mchb.hrsa.gov/cshcn05/**.

Thank you again for your help with this important research.

Sincerely,

/ Edward J. Sondik, Ph.D/

Edward J. Sondik, Ph.D.
Director, National Center for Health Statistics
Centers for Disease Control and Prevention

Appendix X. Disposition Code Frequencies and Response Rate Calculations

This appendix consists of Tables XXI–XXIV, which show the disposition code frequencies and how response rates were calculated.

Table XXI. Unweighted response rate calculations for 2009–2010 National Survey of Children with Special Health Care Needs: All sample

Disposition categories and response rates	Frequency or calculated rate	Disposition category code for formulas or formula
Summary of disposition categories		
Not resolved as residential or nonresidential	1,801,992	UH
Nonresidential out of scope (i.e., business, nonworking, fax or modem)	4,657,759	ZN
Residential, out of scope (i.e., landline only or minor only cell)	74,504	ZR
Known household, age eligibility undetermined	183,208	UOC
Age- and cell-screened household, no child in range	883,656	XC
Known age- and cell-eligible household, special-needs eligibility undetermined	78,081	UOS
Special-needs screened, no eligible child	150,790	XS
Special-needs eligible household, interview not completed	7,933	R
Special-needs eligible household, partially completed interview	534	P
Completed interview	40,052	I
Total	7,878,509	T
Calculation of response rates (percent)		
Interview completion rate (ICR)	83.65	(P+I)/(R+P+I)
Special-needs screener completion rate (SNSCR)	71.85	(XS+R+P+I)/ (UOS+XS+R+P+I)
Age- and cell-status screener completion rate (ASCR)	87.09	(ZR+XC+UOS+XS+R+P+I)/ (ZR+UOC+XC+UOS+XS+R+P+I)
Resolution rate (RR)	77.13	(ZN+ZR+UOC+XC+UOS+XS+R+P+I)/ (UH+ZN+ZR+UOC+XC+UOS+XS+R+P+I)
Council of American Survey Research Organizations rate	40.37	ICR*SNSCR*ASCR*RR

Table XXII. Unweighted response rate calculations for 2009–2010 National Survey of Children with Special Health Care Needs: Landline sample

Disposition categories and response rates	Frequency or calculated rate	Disposition category code for formulas or formula
Summary of disposition categories		
Not resolved as residential or nonresidential	1,175,038	UH
Nonresidential out of scope (i.e., business, nonworking, fax or modem)	4,325,961	ZN
Residential, out of scope (i.e., landline only or minor only cell)	–	ZR
Known household, age eligibility undetermined	122,503	UOC
Age-screened household, no child in range	777,356	XC
Known age-eligible household, special-needs eligibility undetermined	64,480	UOS
Special-needs screened, no eligible child	133,440	XS
Special-needs eligible household, interview not completed	6,981	R
Special-needs eligible household, partially completed interview	460	P
Completed interview	36,791	I
Total	6,643,010	T
Calculation of response rates (percent)		
Interview completion rate (ICR)	84.22	(P+I)/(R+P+I)
Special-needs screener completion rate (SNSCR)	73.37	(XS+R+P+I)/(UOS+XS+R+P+I)
Age-screener completion rate (ASCR)	89.27	(ZR+XC+UOS+XS+R+P+I)/ (ZR+UOC+XC+UOS+XS+R+P+I)
Resolution rate (RR)	82.31	(ZN+ZR+UOC+XC+UOS+XS+R+P+I)/ (UH+ZN+ZR+UOC+XC+UOS+XS+R+P+I)
Council of American Survey Research Organizations rate	45.41	ICR*SNSCR*ASCR*RR

– Quantity zero.

NOTE: Sample excludes the U.S. Virgin Islands.

Table XXIII. Unweighted response rate calculations for 2009–2010 National Survey of Children with Special Health Care Needs: Landline sample for U.S. Virgin Islands only

Disposition categories and response rates	Frequency or calculated rate	Disposition category code for formulas or formula
Summary of disposition categories		
Not resolved as residential or nonresidential	10,117	UH
Nonresidential out of scope (i.e., business, nonworking, fax or modem)	70,566	ZN
Residential, out of scope (i.e., landline only or minor only cell)	–	ZR
Known household, age eligibility undetermined	896	UOC
Age-screened household, no child in range	9,373	XC
Known age-eligible household, special-needs eligibility undetermined	736	UOS
Special-needs screened, no eligible child	2,773	XS
Special-needs eligible household, interview not completed	33	R
Special-needs eligible household, partially completed interview	5	P
Completed interview	339	I
Total	94,838	T
Calculation of response rates (percent)		
Interview completion rate (ICR)	91.25	(P+I)/(R+P+I)
Special-needs screener completion rate (SNSCR)	81.06	(XS+R+P+I)/ (UOS+XS+R+P+I)
Age-screener completion rate (ASCR)	93.67	(ZR+XC+UOS+XS+R+P+I)/ (ZR+UOC+XC+UOS+XS+R+P+I)
Resolution rate (RR)	89.33	(ZN+ZR+UOC+XC+UOS+XS+R+P+I)/ (UH+ZN+ZR+UOC+XC+UOS+XS+R+P+I)
Council of American Survey Research Organizations rate	61.89	ICR*SNSCR*ASCR*RR

– Quantity zero.

Table XXIV. Unweighted response rate calculations for 2009–2010 National Survey of Children with Special Health Care Needs: Cell-phone sample

Disposition categories and response rates	Frequency or calculated rate	Disposition category code for formulas or formula
Summary of disposition categories		
Not resolved as residential or nonresidential	616,837	UH
Nonresidential out of scope (i.e., business, nonworking, fax or modem)	261,232	ZN
Residential, out of scope (i.e., landline only or minor only cell)	74,504	ZR
Known household, age eligibility undetermined	59,809	UOC
Age- and cell-screened household, no child in range	96,927	XC
Known age- and cell-eligible household, special-needs eligibility undetermined	12,865	UOS
Special-needs screened, no eligible child	14,577	XS
Special-needs eligible household, interview not completed	919	R
Special-needs eligible household, partially completed interview	69	P
Completed interview	2,922	I
Total	1,140,661	T
Calculation of response rates (percent)		
Interview completion rate (ICR)	76.50	(P+I)/(R+P+I)
Special-needs screener completion rate (SNSCR)	58.97	(XS+R+P+I)/(UOS+XS+R+P+I)
Age and cell status screener completion rate (ASCR)	77.22	(ZR+XC+UOS+XS+R+P+I)/ (ZR+UOC+XC+UOS+XS+R+P+I)
Resolution rate (RR)	45.92	(ZN+ZR+UOC+XC+UOS+XS+R+P+I)/ (UH+ZN+ZR+UOC+XC+UOS+XS+R+P+I)
Council of American Survey Research Organizations rate	16.00	ICR*SNSCR*ASCR*RR

Appendix XI. Alternative Response Rates

By definition, the response rate is the number of completed interviews as a proportion of the number of eligible units in the sample. For the special-needs detailed interview response rate, the numerator is the number of households that completed Section 7, and the denominator is the number of households in the sample that contain a special-needs child. For the special-needs screener response rate, the numerator is the number of households that completed the special-needs screener, and the denominator is the number of age- and cell-status eligible households (or the number of children in such households) in the sample. In either case, the response rate is given as:

$$\frac{Complete\ Interviews}{Eligibles}.$$

However, due to nonresponse prior to completion of the screeners, the eligibility status is not observed for all sample units, and the number of eligible units in the sample must be estimated. The response rate formula is therefore often written as:

$$\frac{Complete\ Interviews}{Observed\ Eligibles + eU},$$

where U is the number of sampled telephone numbers for which the eligibility status has not been observed, and e is the assumed rate of eligibility among these unobserved units. This equation is of the form of the response rate formulae from the American Association for Public Opinion Research's (AAPOR) ''Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys'' (31). The value for e must be assumed, and the calculated response rate value can vary a great deal depending on the assumption used to estimate e.

Setting $e = 1$—that is, assuming that all sample units with unobserved eligibility status are actually eligible—represents the minimum response rate and corresponds to AAPOR Response Rate 1 (31). For the National Survey of Children with Special Health Care Needs (NS-CSHCN), the minimum household-level special-needs screener response rate was 11.3% for the landline sample, 2.7% for the cellular- (cell) phone sample, and 4.6% overall; the minimum child-level special-needs screener response rate was 11.2% for the landline sample, 2.6% for the cell-phone sample, and 4.5% overall; and the minimum special-needs interview response rates were 2.6%, 0.4%, and 0.9% for the landline sample, cell-phone sample, and overall, respectively.

Setting $e = 0$ represents the maximum response rate, reflecting an assumption that all of the sample units with unobserved eligibility status are actually ineligible and correspond to AAPOR Response Rate 5 (31). For NS-CSHCN, the maximum household-level special-needs screener response rate was 72.6% for the landline sample, 56.5% for the cell-phone sample, and 64.3% overall; the maximum child-level special-needs screener response rate was 71.9% for the landline sample, 54.3% for the cell-phone sample, and 63.0% overall; and the maximum special-needs interview response rates were 83.6%, 76.6%, and 80.8% for the landline sample, cell-phone sample, and overall, respectively.

Setting e somewhere between 0 and 1 corresponds to AAPOR Response Rate 3 (31). Survey researchers have used several methods to choose a value for e (32). Perhaps the most commonly used method is to set e equal to the observed eligibility rate among those sample units for which the eligibility status has been determined. That is,

$$e = \frac{Observed\ Eligibles}{Observed\ Eligibles + Observed\ Ineligibles},$$

where the observed ineligibles include all types of ineligible units. This proportional allocation method is recommended by the Council of American Survey Research Organizations (32). This approach yielded a household-level special-needs screener response rate of 57.7% for the landline sample, 23.0% for the cell-phone sample, and 36.7% overall; the child-level special-needs screener response rates under this approach were 57.0% for the landline sample, 22.1% for the cell-phone sample, and 36.0% overall; and the special-needs interview response rates under this approach were 65.4%, 30.2% and 45.2%, respectively.

The method above used a single value of e for all sample units for which eligibility status was not determined. Another method commonly used in telephone surveys divides the units with undetermined eligibility into groups corresponding to nonrespondents to different components of the survey and assumes a separate e value for each group. For NS-CSHCN, the formula for the special-needs interview response rate under this approach becomes

$$\frac{Completed\ Interviews}{Observed\ Eligibles + e_1e_2e_3U_1 + e_2e_3U_2 + e_3U_3},$$

where

U_1 = the number of unresolved telephone numbers,

e_1 = the assumed residential number rate among U_1,

U_2 = the number of known residential telephone numbers that did not complete the age- and cell-status screener,

e_2 = the assumed age- and cell-status eligibility rate among U_2,

U_3 = the number of age- and cell-status-eligible households that did not complete the special-needs screener, and

e_3 = the assumed special-needs eligibility rate among U_3.

For the special-needs screener response rate, the numerator is the number of special-needs screened households (or children), and the denominator excludes the e_3 and U_3 parameters. Again, it is common to use the proportional allocation (33) method to estimate e_1, e_2, and e_3: letting e_1 equal the observed working residential number rate among the resolved telephone numbers, letting e_2 equal the observed age- and cell-status eligibility rate among the age- and cell-status screened

households, and letting e_3 equal the observed special-needs eligibility rate among the households that completed the special-needs screener. This approach yielded a household-level special-needs screener response rate of 52.3% for the landline sample, 19.9% for the cell-phone sample, and 31.6% overall; the child-level special-needs screener response rates under this approach were 51.8% for the landline sample, 19.1% for the cell-phone sample, and 30.9% overall; and the special-needs interview response rates under this approach were 43.7% for the landline sample, 15.2% for the cell-phone sample, and 25.5% overall. Note that these rates are the same as the overall response rates given in Tables N–P.

The response rates above treat all telephone numbers that resulted in no contact (i.e., all attempts resulted in rings with no answer or in a busy signal) as unresolved. Using an alternative approach for calculating the resolution rate that treats these ''noncontact'' numbers as nonworking numbers results in a household-level special-needs screener response rate of 57.3% for the landline sample, 23.3% for the cell-phone sample, and 35.7% overall; the child-level special-needs screener response rates under this approach were 56.8% for the landline sample, 22.4% for the cell-phone sample, and 35.0% overall; and the special-needs interview response rates under this approach were 47.9% for the landline sample, 17.9% for the cell-phone sample, and 28.9% overall.

The various household-level special-needs screener response rates for each state are given in Tables XXV, XXVI, and XXVII for the landline, cell-phone, and overall sample, respectively; the child-level special-needs screener response rates for each state are given in Tables XXVIII–XXX; and the special-needs interview response rates for each state are given in Tables XXXI–XXXIII.

The variability in calculated response rates in Tables XXV–XXXIII demonstrates that response rates can be highly sensitive to the choice of e and to the choice of using a single estimate of e or multiple estimates of e for different types of nonrespondents. Comparisons of response rates across different surveys should only be made when the response rates have been calculated similarly. For example, the method above using a single value of e for all sample units for which eligibility status was not determined is the approach used by the Behavioral Risk Factor Surveillance System (BRFSS), a landline random-digit dial survey of American adults (34,35). Thus, if one were interested in comparing 2009–2010 NS-CSHCN and BRFSS response rates, the appropriate NS-CSHCN response rate to be used in such comparisons is the special-needs interview response rate for the landline sample using the proportional allocation method and a single value of e (i.e., 65.4%).

Table XXV. Weighted NS-CSHCN household-level special-needs screener response rates, nationally and by state: Landline sample

Area	Minimum	Maximum	Single *e*, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation (alternative)
			Rate (percent)		
Total (excluding USVI)	11.3	72.6	57.5	52.3	57.3
Total (including USVI)	11.3	72.6	57.5	52.3	57.3
Alabama	10.7	74.3	57.7	52.7	58.5
Alaska	15.3	73.6	60.7	54.9	59.9
Arizona	9.5	67.4	53.0	48.0	52.9
Arkansas	12.5	76.6	64.6	59.9	64.1
California	9.8	67.4	49.4	44.1	51.1
Colorado	12.8	75.9	60.7	55.8	60.7
Connecticut	10.9	71.9	53.7	48.8	53.4
Delaware	9.5	70.9	53.7	48.8	53.8
District of Columbia	6.1	70.3	56.4	51.1	57.7
Florida	7.6	69.8	55.2	49.5	54.0
Georgia	11.0	71.4	57.2	51.8	56.4
Hawaii	10.5	67.7	55.4	49.3	53.0
Idaho	13.7	74.5	61.7	57.2	61.7
Illinois	12.6	75.1	61.3	56.0	61.0
Indiana	15.5	74.7	62.3	58.0	62.3
Iowa	13.9	76.5	64.1	59.7	63.7
Kansas	14.2	74.5	62.3	57.7	61.7
Kentucky	12.6	74.2	60.2	55.4	59.8
Louisiana	10.4	68.3	56.1	50.3	54.4
Maine	12.6	76.4	62.3	57.8	62.2
Maryland	11.3	72.9	56.1	50.7	56.2
Massachusetts	10.8	72.7	55.4	50.0	54.4
Michigan	11.8	76.8	63.0	57.7	62.4
Minnesota	15.9	76.5	63.6	59.1	62.9
Mississippi	11.8	73.2	60.4	54.9	59.4
Missouri	14.5	75.0	62.3	57.7	62.0
Montana	14.3	76.5	65.1	60.7	63.7
Nebraska	14.3	76.1	64.1	59.3	63.1
Nevada	8.7	67.0	50.3	45.0	50.7
New Hampshire	12.5	74.6	58.7	54.2	58.5
New Jersey	9.9	69.4	52.8	47.2	52.9
New Mexico	10.5	74.3	60.2	54.9	59.5
New York	9.3	68.2	52.8	47.0	52.1
North Carolina	12.5	75.5	59.6	54.7	60.0
North Dakota	16.7	78.1	67.4	63.3	66.7
Ohio	12.7	74.6	61.1	56.1	59.9
Oklahoma	11.3	73.4	59.1	54.0	59.1
Oregon	13.3	76.1	62.5	58.2	62.8
Pennsylvania	12.7	74.6	58.4	53.9	58.8
Rhode Island	12.3	75.6	59.1	53.9	58.0
South Carolina	10.6	73.1	58.4	53.2	57.8
South Dakota	13.9	75.3	64.4	59.8	63.3
Tennessee	11.2	71.3	57.6	53.1	57.5
Texas	9.9	71.7	56.8	50.6	55.9
Utah	17.4	76.3	61.9	57.1	62.0
Vermont	15.0	81.0	66.2	61.9	66.4
Virginia	12.4	75.0	58.4	53.3	58.7
Washington	14.2	76.9	62.4	57.4	61.4
West Virginia	11.6	74.0	57.2	53.2	58.0
Wisconsin	14.9	79.2	65.3	60.7	65.0
Wyoming	11.7	75.4	62.2	57.6	62.2
U.S. Virgin Islands	21.1	81.1	71.6	67.8	73.4

NOTES: NS-CSHCN is National Survey of Children with Special Health Care Needs; USVI is U.S. Virgin Islands.

Table XXVI. Weighted NS-CSHCN household-level special-needs screener response rates, nationally and by state: Cell-phone sample

Area	Minimum	Maximum	Single *e*, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation (alternative)
			Rate (percent)		
Total (excluding USVI)	2.7	56.5	23.0	19.9	23.3
Total (including USVI)	. . .	. . .	. . .	. . .	. . .
Alabama	2.5	62.4	28.2	23.7	30.0
Alaska	2.1	74.9	34.3	30.7	47.9
Arizona	3.0	60.0	23.4	20.2	24.4
Arkansas	4.0	65.9	30.2	26.0	32.9
California	2.4	47.5	19.7	16.9	18.3
Colorado	3.4	60.4	22.7	20.3	24.5
Connecticut	1.4	56.1	18.7	17.3	22.0
Delaware	2.0	60.5	20.7	19.0	26.3
District of Columbia	2.3	64.7	21.8	20.2	28.8
Florida	2.8	54.6	23.0	19.4	21.4
Georgia	3.1	55.8	26.0	21.8	24.8
Hawaii	3.1	60.8	20.7	19.4	24.5
Idaho	5.7	69.9	29.4	26.7	32.3
Illinois	3.1	53.9	23.6	20.2	23.0
Indiana	3.2	60.1	24.0	20.9	25.4
Iowa	3.1	60.6	26.6	23.4	29.2
Kansas	3.2	65.7	31.5	27.3	33.3
Kentucky	2.9	59.2	23.5	20.5	26.1
Louisiana	2.8	57.5	26.4	22.3	27.3
Maine	2.4	66.1	22.7	20.5	27.4
Maryland	2.4	58.2	19.1	17.1	21.4
Massachusetts	1.9	59.2	21.4	18.6	22.8
Michigan	2.2	54.9	22.3	19.0	22.8
Minnesota	2.7	63.7	25.2	22.5	27.2
Mississippi	2.9	55.9	27.1	22.6	29.6
Missouri	3.0	55.9	22.3	19.9	23.1
Montana	2.9	75.1	35.1	30.2	41.4
Nebraska	3.3	67.6	31.4	27.5	33.0
Nevada	2.9	61.0	20.8	18.7	24.6
New Hampshire	1.9	61.9	21.6	19.5	25.4
New Jersey	1.8	55.5	20.9	18.5	22.5
New Mexico	3.7	62.3	28.2	25.6	31.6
New York	1.9	50.8	18.5	16.0	18.2
North Carolina	2.9	56.2	23.8	20.3	23.3
North Dakota	1.6	70.0	29.0	26.1	40.3
Ohio	2.4	55.4	21.6	18.7	21.7
Oklahoma	2.9	62.2	27.0	23.6	29.3
Oregon	3.4	61.8	23.7	22.0	26.1
Pennsylvania	1.8	56.0	21.3	18.4	21.0
Rhode Island	1.8	60.5	20.2	18.7	24.4
South Carolina	2.8	60.7	24.8	21.3	26.0
South Dakota	3.0	67.3	36.4	32.5	39.6
Tennessee	3.0	57.7	21.2	18.8	22.5
Texas	3.5	55.3	23.3	19.9	22.1
Utah	4.7	63.0	24.8	22.2	27.8
Vermont	1.7	68.0	23.6	21.4	28.1
Virginia	2.4	59.7	21.8	19.0	22.4
Washington	3.1	59.0	22.5	20.3	23.3
West Virginia	2.1	63.0	20.9	18.6	24.0
Wisconsin	2.9	61.3	27.1	23.8	28.9
Wyoming	2.8	76.1	41.6	36.3	48.2
U.S. Virgin Islands	. . .	. . .	. . .	. . .	. . .

. . . Category not applicable.

NOTES: NS-CSHCN is National Survey of Children with Special Health Care Needs; USVI is U.S. Virgin Islands.

Table XXVII. Weighted NS-CSHCN household-level special-needs screener response rates, overall, nationally, and by state

Area	Minimum	Maximum	Single *e*, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation (alternative)
			Rate (percent)		
Total (excluding USVI)	4.6	64.3	36.7	31.6	35.7
Total (including USVI)	. . .	. . .	. . .	. . .	. . .
Alabama	4.2	68.3	39.1	33.7	40.1
Alaska	4.7	74.1	44.4	39.6	52.2
Arizona	4.5	63.3	35.4	30.2	34.7
Arkansas	5.3	69.6	41.7	36.5	42.6
California	4.4	57.7	31.5	26.8	30.1
Colorado	5.5	67.6	38.2	33.3	37.8
Connecticut	4.0	67.0	35.1	31.6	36.6
Delaware	3.8	66.4	34.7	31.1	37.7
District of Columbia	2.9	66.5	34.2	30.5	38.3
Florida	3.9	60.4	35.0	29.4	32.2
Georgia	4.9	62.7	37.7	31.8	35.3
Hawaii	4.6	63.9	35.8	31.6	36.1
Idaho	7.4	71.6	43.3	38.4	43.5
Illinois	5.2	63.4	38.0	32.4	36.0
Indiana	5.9	67.7	40.6	35.4	40.0
Iowa	5.5	68.5	42.3	37.3	42.6
Kansas	5.3	70.0	43.5	38.4	43.8
Kentucky	5.0	66.5	38.4	33.4	38.7
Louisiana	4.3	62.1	37.3	31.7	36.4
Maine	4.9	72.2	41.7	37.3	43.3
Maryland	4.5	66.2	34.7	30.1	35.0
Massachusetts	4.0	67.1	35.6	30.8	35.3
Michigan	4.1	65.5	38.0	32.7	37.0
Minnesota	5.7	71.2	42.6	37.7	42.2
Mississippi	4.4	62.6	37.7	32.2	38.8
Missouri	5.5	65.4	39.0	34.2	38.0
Montana	4.9	75.8	46.9	41.5	49.8
Nebraska	5.7	71.9	45.4	40.0	44.9
Nevada	4.1	63.6	32.1	28.0	33.9
New Hampshire	4.5	70.0	38.5	34.5	40.1
New Jersey	3.9	64.0	35.1	30.5	35.4
New Mexico	5.1	66.8	39.8	35.7	41.2
New York	3.7	60.1	32.8	27.6	31.0
North Carolina	5.1	65.6	37.8	32.5	36.4
North Dakota	3.5	74.7	42.1	38.4	49.8
Ohio	4.6	65.5	38.2	33.0	36.4
Oklahoma	4.7	67.5	39.5	34.6	40.2
Oregon	5.8	68.8	40.9	36.8	41.1
Pennsylvania	4.5	67.8	38.0	33.2	36.9
Rhode Island	4.3	70.0	37.4	33.7	39.1
South Carolina	4.5	66.4	38.0	32.7	37.5
South Dakota	5.2	71.4	47.8	43.2	49.0
Tennessee	4.6	63.4	34.9	30.4	34.4
Texas	4.8	61.3	34.9	29.2	32.3
Utah	7.2	68.7	38.5	33.6	39.0
Vermont	5.3	77.5	46.1	41.8	47.8
Virginia	4.7	68.1	36.9	31.8	36.1
Washington	5.8	68.3	39.9	35.0	38.5
West Virginia	4.4	69.4	36.5	32.7	38.1
Wisconsin	5.6	71.0	43.5	38.6	43.7
Wyoming	4.1	75.8	47.3	42.2	52.1
U.S. Virgin Islands	. . .	. . .	. . .	. . .	. . .

. . . Category not applicable.

NOTES: NS-CSHCN is National Survey of Children with Special Health Care Needs; USVI is U.S. Virgin Islands.

Table XXVIII. Weighted NS-CSHCN child-level special-needs screener response rates, nationally and by state: Landline sample

Area	Minimum	Maximum	Single *e*, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation (alternative)
			Rate (percent)		
Total (excluding USVI)	11.2	71.9	57.0	51.8	56.8
Total (including USVI)	11.2	71.9	57.0	51.8	56.8
Alabama	10.5	73.1	56.8	51.8	57.5
Alaska	15.1	72.9	60.2	54.3	59.3
Arizona	9.5	67.1	52.8	47.7	52.7
Arkansas	12.4	75.7	63.8	59.2	63.3
California	9.6	66.0	48.4	43.2	50.0
Colorado	12.6	75.2	60.2	55.3	60.2
Connecticut	10.9	71.5	53.4	48.5	53.0
Delaware	9.3	69.9	53.0	48.1	53.0
District of Columbia	5.9	68.2	54.7	49.5	56.0
Florida	7.5	69.1	54.6	49.0	53.4
Georgia	11.0	71.1	56.9	51.5	56.1
Hawaii	10.3	66.4	54.4	48.3	52.0
Idaho	13.7	74.7	61.9	57.4	61.9
Illinois	12.5	74.4	60.7	55.5	60.4
Indiana	15.4	74.1	61.8	57.5	61.8
Iowa	13.8	75.9	63.5	59.2	63.1
Kansas	14.0	73.7	61.6	57.1	61.0
Kentucky	12.6	73.9	60.0	55.2	59.6
Louisiana	10.4	67.8	55.7	50.0	54.0
Maine	12.6	76.0	61.9	57.5	61.9
Maryland	11.2	72.5	55.8	50.4	55.9
Massachusetts	10.8	72.6	55.3	49.9	54.3
Michigan	11.7	76.1	62.4	57.2	61.9
Minnesota	15.7	75.7	62.9	58.5	62.2
Mississippi	11.6	72.5	59.8	54.3	58.7
Missouri	14.5	74.9	62.2	57.7	62.0
Montana	14.3	76.5	65.0	60.6	63.7
Nebraska	14.2	75.7	63.8	59.0	62.7
Nevada	8.6	66.4	49.8	44.6	50.3
New Hampshire	12.4	73.7	58.0	53.5	57.8
New Jersey	9.9	69.1	52.5	46.9	52.6
New Mexico	10.5	74.3	60.2	54.9	59.5
New York	9.2	67.2	52.0	46.3	51.3
North Carolina	12.4	74.7	59.0	54.1	59.4
North Dakota	16.7	77.9	67.3	63.1	66.5
Ohio	12.6	74.0	60.7	55.7	59.4
Oklahoma	11.2	73.0	58.7	53.7	58.7
Oregon	13.1	75.3	61.9	57.6	62.2
Pennsylvania	12.5	73.6	57.6	53.1	58.0
Rhode Island	12.3	75.6	59.1	53.9	58.1
South Carolina	10.6	72.6	58.0	52.8	57.3
South Dakota	13.8	74.7	63.8	59.3	62.8
Tennessee	11.2	70.7	57.2	52.7	57.1
Texas	9.9	71.4	56.6	50.4	55.6
Utah	17.7	77.6	63.0	58.1	63.1
Vermont	14.9	80.8	66.0	61.7	66.2
Virginia	12.2	74.2	57.8	52.7	58.1
Washington	14.1	76.5	62.1	57.1	61.0
West Virginia	11.5	73.4	56.7	52.8	57.5
Wisconsin	14.9	79.0	65.1	60.5	64.8
Wyoming	11.6	75.2	62.0	57.5	62.1
U.S. Virgin Islands	20.9	80.0	70.7	66.9	72.4

NOTES: NS-CSHCN is National Survey of Children with Special Health Care Needs; USVI is U.S. Virgin Islands.

Table XXIX. Weighted NS-CSHCN child-level special-needs screener response rates, nationally and by state: Cell-phone sample

Area	Minimum	Maximum	Single *e*, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation (alternative)
			Rate (percent)		
Total (excluding USVI)	2.6	54.3	22.1	19.1	22.4
Total (including USVI)	. . .	. . .	. . .	. . .	. . .
Alabama	2.4	60.5	27.3	23.0	29.1
Alaska	2.0	73.7	33.8	30.2	47.2
Arizona	2.9	56.7	22.1	19.1	23.0
Arkansas	3.8	63.3	29.0	25.0	31.6
California	2.3	44.8	18.6	16.0	17.3
Colorado	3.5	61.2	23.0	20.6	24.8
Connecticut	1.3	52.1	17.3	16.0	20.5
Delaware	1.9	57.6	19.7	18.1	25.0
District of Columbia	2.2	61.6	20.8	19.3	27.4
Florida	2.7	52.5	22.1	18.6	20.5
Georgia	3.0	54.6	25.5	21.3	24.2
Hawaii	2.9	58.2	19.9	18.5	23.4
Idaho	5.8	70.1	29.5	26.8	32.4
Illinois	3.0	51.7	22.7	19.4	22.1
Indiana	3.1	56.7	22.6	19.8	24.0
Iowa	2.9	56.6	24.9	21.8	27.3
Kansas	3.0	62.1	29.7	25.8	31.5
Kentucky	2.8	57.4	22.8	19.9	25.3
Louisiana	2.8	55.7	25.5	21.6	26.4
Maine	2.3	62.1	21.3	19.3	25.8
Maryland	2.3	55.4	18.2	16.3	20.4
Massachusetts	1.8	57.7	20.8	18.2	22.2
Michigan	2.1	52.2	21.2	18.1	21.6
Minnesota	2.6	60.7	24.0	21.4	25.9
Mississippi	2.8	54.6	26.5	22.1	28.9
Missouri	2.9	53.1	21.2	18.9	22.0
Montana	2.8	74.5	34.8	30.0	41.1
Nebraska	3.4	68.8	31.9	28.0	33.6
Nevada	2.8	59.9	20.4	18.3	24.1
New Hampshire	1.9	61.1	21.4	19.3	25.1
New Jersey	1.7	52.1	19.6	17.4	21.2
New Mexico	3.6	60.7	27.5	25.0	30.8
New York	1.8	48.3	17.6	15.2	17.3
North Carolina	2.9	56.2	23.8	20.3	23.3
North Dakota	1.6	68.4	28.3	25.5	39.4
Ohio	2.2	51.1	19.9	17.2	20.0
Oklahoma	2.9	61.1	26.5	23.2	28.8
Oregon	3.3	58.4	22.4	20.8	24.6
Pennsylvania	1.7	52.7	20.0	17.3	19.7
Rhode Island	1.7	57.7	19.3	17.8	23.2
South Carolina	2.8	59.7	24.4	20.9	25.6
South Dakota	2.8	63.7	34.5	30.8	37.5
Tennessee	2.9	55.8	20.6	18.2	21.8
Texas	3.4	53.6	22.5	19.2	21.4
Utah	4.5	60.4	23.8	21.3	26.6
Vermont	1.7	67.4	23.4	21.2	27.8
Virginia	2.3	57.7	21.1	18.3	21.6
Washington	3.0	56.0	21.4	19.3	22.1
West Virginia	2.0	60.0	20.0	17.7	22.9
Wisconsin	2.8	59.0	26.1	22.9	27.9
Wyoming	2.8	75.1	41.1	35.9	47.6
U.S. Virgin Islands	. . .	. . .	. . .	. . .	. . .

. . . Category not applicable.

NOTES: NS-CSHCN is National Survey of Children with Special Health Care Needs; USVI is U.S. Virgin Islands.

Table XXX. Weighted NS-CSHCN child-level special-needs screener response rates, overall, nationally, and by state

Area	Minimum	Maximum	Single *e*, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation (alternative)
			Rate (percent)		
Total (excluding USVI)	4.5	63.0	36.0	30.9	35.0
Total (including USVI)	. . .	. . .	. . .	. . .	. . .
Alabama	4.1	66.7	38.2	32.9	39.2
Alaska	4.6	73.2	43.8	39.2	51.6
Arizona	4.3	61.3	34.2	29.3	33.6
Arkansas	5.2	67.4	40.5	35.4	41.3
California	4.2	55.7	30.5	25.9	29.1
Colorado	5.5	67.8	38.3	33.4	37.9
Connecticut	3.9	65.5	34.3	30.8	35.8
Delaware	3.7	64.3	33.7	30.2	36.5
District of Columbia	2.8	63.7	32.8	29.2	36.7
Florida	3.8	58.8	34.1	28.6	31.3
Georgia	4.8	61.7	37.1	31.3	34.8
Hawaii	4.5	61.7	34.6	30.5	34.8
Idaho	7.5	71.9	43.4	38.6	43.7
Illinois	5.0	61.9	37.2	31.6	35.2
Indiana	5.8	65.7	39.4	34.3	38.8
Iowa	5.3	66.2	40.9	36.1	41.2
Kansas	5.2	67.7	42.1	37.1	42.4
Kentucky	4.9	65.7	37.9	33.0	38.2
Louisiana	4.2	60.8	36.5	31.1	35.7
Maine	4.8	70.2	40.5	36.3	42.1
Maryland	4.4	64.7	34.0	29.5	34.2
Massachusetts	3.9	66.6	35.3	30.6	35.0
Michigan	4.1	64.3	37.3	32.0	36.3
Minnesota	5.6	69.7	41.7	36.9	41.3
Mississippi	4.3	61.2	36.9	31.4	37.9
Missouri	5.4	64.3	38.3	33.6	37.3
Montana	4.9	75.5	46.7	41.3	49.6
Nebraska	5.7	72.3	45.6	40.2	45.1
Nevada	4.1	62.7	31.6	27.6	33.4
New Hampshire	4.4	69.3	38.1	34.2	39.7
New Jersey	3.8	62.5	34.3	29.8	34.5
New Mexico	5.0	65.7	39.2	35.1	40.6
New York	3.6	58.9	32.1	27.1	30.4
North Carolina	5.0	64.9	37.4	32.2	36.1
North Dakota	3.5	73.9	41.7	38.0	49.3
Ohio	4.5	63.2	36.9	31.9	35.2
Oklahoma	4.6	66.7	39.0	34.2	39.7
Oregon	5.6	66.6	39.6	35.6	39.8
Pennsylvania	4.4	66.3	37.2	32.4	36.1
Rhode Island	4.3	69.0	36.9	33.3	38.6
South Carolina	4.4	65.6	37.5	32.3	37.0
South Dakota	5.0	69.3	46.4	41.9	47.6
Tennessee	4.5	61.9	34.1	29.7	33.6
Texas	4.7	60.1	34.3	28.6	31.7
Utah	7.2	68.5	38.4	33.5	38.9
Vermont	5.3	77.2	45.9	41.6	47.6
Virginia	4.6	66.8	36.2	31.2	35.4
Washington	5.7	67.0	39.2	34.4	37.8
West Virginia	4.3	67.6	35.6	31.8	37.1
Wisconsin	5.5	69.8	42.7	38.0	42.9
Wyoming	4.1	75.2	47.0	41.8	51.7
U.S. Virgin Islands	. . .	. . .	. . .	. . .	. . .

. . . Category not applicable.

NOTES: NS-CSHCN is National Survey of Children with Special Health Care Needs; USVI is U.S. Virgin Islands.

Table XXXI. Weighted NS-CSHCN interview response rates, nationally and by state: Landline sample

Area	Minimum	Maximum	Single *e*, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation (alternative)
			Rate (percent)		
Total (excluding USVI)	2.6	83.6	65.4	43.7	47.9
Total (including USVI)	2.6	83.6	65.4	43.7	47.9
Alabama	2.7	86.0	66.0	45.3	50.3
Alaska	2.8	84.5	68.7	46.3	50.6
Arizona	2.0	82.6	64.0	39.6	43.7
Arkansas	3.3	83.6	69.9	50.1	53.6
California	1.7	83.4	59.9	36.8	42.6
Colorado	2.9	82.8	65.4	46.2	50.3
Connecticut	2.6	84.1	61.7	41.0	44.9
Delaware	2.2	82.2	61.4	40.1	44.2
District of Columbia	1.2	84.0	66.9	42.9	48.5
Florida	1.6	82.7	64.7	41.0	44.7
Georgia	2.7	86.7	68.5	44.9	48.9
Hawaii	1.8	81.4	65.8	40.1	43.2
Idaho	3.2	86.3	70.6	49.3	53.3
Illinois	2.6	79.9	64.5	44.7	48.7
Indiana	4.0	83.7	68.9	48.5	52.2
Iowa	3.2	85.7	71.0	51.2	54.6
Kansas	3.8	86.0	71.0	49.6	53.0
Kentucky	3.5	85.0	68.2	47.1	50.8
Louisiana	2.7	81.2	65.9	40.9	44.2
Maine	3.2	84.3	67.9	48.7	52.4
Maryland	2.6	83.6	63.4	42.4	47.0
Massachusetts	2.6	80.8	60.7	40.4	43.9
Michigan	3.3	84.8	68.9	48.9	52.9
Minnesota	3.7	85.1	69.9	50.3	53.5
Mississippi	2.7	84.6	69.0	46.5	50.2
Missouri	3.8	87.0	71.4	50.2	53.9
Montana	3.1	86.4	72.8	52.4	55.1
Nebraska	3.4	88.9	74.1	52.7	56.1
Nevada	1.7	84.2	62.1	37.9	42.7
New Hampshire	3.2	83.5	64.8	45.2	48.8
New Jersey	2.0	79.7	59.6	37.6	42.1
New Mexico	2.5	85.7	68.7	47.1	51.0
New York	2.0	82.5	62.8	38.8	43.0
North Carolina	3.1	82.7	64.5	45.2	49.6
North Dakota	4.0	87.6	74.9	55.4	58.4
Ohio	3.2	83.6	67.8	46.9	50.0
Oklahoma	3.1	84.6	67.3	45.7	50.0
Oregon	2.8	84.4	68.6	49.1	53.1
Pennsylvania	3.1	81.6	63.0	44.0	48.0
Rhode Island	3.1	83.3	64.2	44.9	48.3
South Carolina	2.6	83.5	66.0	44.4	48.2
South Dakota	2.9	86.5	73.2	51.7	54.8
Tennessee	2.8	85.9	68.6	45.6	49.4
Texas	2.2	83.3	65.2	42.2	46.5
Utah	4.2	86.1	68.7	49.1	53.4
Vermont	3.5	85.7	69.4	53.0	56.9
Virginia	2.9	83.4	64.0	44.5	49.0
Washington	3.4	84.2	67.5	48.3	51.7
West Virginia	3.0	85.5	65.1	45.5	49.5
Wisconsin	3.8	88.8	72.4	53.9	57.7
Wyoming	2.6	85.4	69.7	49.3	53.2
U.S. Virgin Islands	2.8	91.2	79.9	61.9	67.0

NOTES: NS-CSHCN is National Survey of Children with Special Health Care Needs; USVI is U.S. Virgin Islands.

Table XXXII. Weighted NS-CSHCN interview response rates, nationally and by state: Cell-phone sample

Area	Minimum	Maximum	Single *e*, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation (alternative)
			Rate (percent)		
Total (excluding USVI)	0.4	76.6	30.2	15.2	17.9
Total (including USVI)	. . .	. . .	. . .	. . .	. . .
Alabama	0.4	71.6	31.7	17.0	21.5
Alaska	0.3	80.7	36.7	24.7	38.7
Arizona	0.5	81.4	30.8	16.5	19.8
Arkansas	0.7	73.9	33.0	19.2	24.3
California	0.3	79.4	31.6	13.4	14.6
Colorado	0.6	81.5	29.4	16.5	20.0
Connecticut	0.2	73.2	23.8	12.6	16.1
Delaware	0.4	68.6	22.9	13.0	18.0
District of Columbia	0.4	81.8	26.9	16.5	23.5
Florida	0.5	78.0	31.8	15.1	16.7
Georgia	0.5	73.1	33.1	16.0	18.1
Hawaii	0.3	65.5	21.4	12.7	16.0
Idaho	1.0	83.1	33.7	22.2	26.8
Illinois	0.5	74.8	31.6	15.1	17.2
Indiana	0.6	71.9	27.7	15.1	18.3
Iowa	0.7	83.8	35.8	19.6	24.5
Kansas	0.6	74.6	35.0	20.4	24.9
Kentucky	0.5	78.1	30.1	16.0	20.4
Louisiana	0.5	71.1	31.7	15.9	19.4
Maine	0.6	80.0	26.8	16.4	21.9
Maryland	0.4	76.3	24.1	13.1	16.3
Massachusetts	0.3	72.1	25.4	13.4	16.4
Michigan	0.4	75.0	29.6	14.2	17.1
Minnesota	0.5	81.2	31.4	18.2	22.0
Mississippi	0.6	78.3	37.0	17.7	23.2
Missouri	0.6	76.8	29.5	15.3	17.8
Montana	0.5	81.8	37.8	24.7	33.9
Nebraska	0.7	78.8	35.9	21.7	26.0
Nevada	0.4	70.1	23.0	13.1	17.2
New Hampshire	0.3	70.1	24.0	13.7	17.8
New Jersey	0.2	61.5	22.6	11.4	13.9
New Mexico	0.5	66.2	29.1	16.9	20.9
New York	0.3	72.7	25.6	11.6	13.3
North Carolina	0.5	75.6	31.0	15.3	17.6
North Dakota	0.3	78.3	32.1	20.5	31.6
Ohio	0.5	77.4	29.2	14.5	16.8
Oklahoma	0.5	76.6	32.4	18.1	22.4
Oregon	0.6	73.3	27.2	16.1	19.1
Pennsylvania	0.3	71.3	26.4	13.1	14.9
Rhode Island	0.4	84.6	27.5	15.8	20.6
South Carolina	0.5	80.3	31.9	17.1	20.9
South Dakota	0.4	71.2	38.0	23.2	28.2
Tennessee	0.6	76.1	26.9	14.3	17.1
Texas	0.5	78.4	31.6	15.6	17.3
Utah	0.9	85.7	32.3	19.1	23.8
Vermont	0.5	87.5	29.9	18.7	24.6
Virginia	0.5	86.8	30.8	16.5	19.4
Washington	0.4	81.5	30.0	16.5	19.0
West Virginia	0.5	80.7	26.1	15.0	19.4
Wisconsin	0.4	77.9	33.7	18.6	22.6
Wyoming	0.4	84.2	45.7	30.6	40.6
U.S. Virgin Islands	. . .	. . .	. . .	. . .	. . .

. . . Category not applicable.

NOTES: NS-CSHCN is National Survey of Children with Special Health Care Needs; USVI is U.S. Virgin Islands.

Table XXXIII. Weighted NS-CSHCN interview response rates, overall, nationally, and by state

Area	Minimum	Maximum	Single *e*, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation	Separate *e* for each type of nonrespondent, proportional allocation (alternative)
			Rate (percent)		
Total (excluding USVI)	0.9	80.8	45.2	25.5	28.9
Total (including USVI)	. . .	. . .	. . .	. . .	. . .
Alabama	0.9	80.0	45.1	27.0	32.1
Alaska	0.8	83.1	49.2	32.9	43.4
Arizona	0.8	82.1	44.8	24.8	28.4
Arkansas	1.1	77.9	45.9	28.4	33.2
California	0.7	82.0	43.6	22.0	24.7
Colorado	1.1	82.3	45.4	27.4	31.1
Connecticut	0.8	81.7	41.9	25.8	29.9
Delaware	0.8	76.7	39.4	23.8	28.9
District of Columbia	0.5	82.7	41.9	25.2	31.7
Florida	0.7	80.2	45.6	23.6	25.8
Georgia	1.0	80.4	47.3	25.6	28.4
Hawaii	0.6	73.9	40.5	23.3	26.6
Idaho	1.5	84.4	49.9	32.4	36.8
Illinois	0.9	77.7	45.6	25.2	28.0
Indiana	1.3	79.2	46.5	28.0	31.7
Iowa	1.2	84.9	51.6	31.7	36.2
Kansas	1.2	80.8	49.5	31.0	35.4
Kentucky	1.1	82.5	46.6	27.6	32.0
Louisiana	0.9	76.5	45.1	24.3	27.9
Maine	1.2	82.6	47.0	30.8	35.8
Maryland	0.9	81.1	41.6	24.4	28.4
Massachusetts	0.8	78.0	40.6	24.1	27.5
Michigan	0.9	81.2	46.3	26.5	30.0
Minnesota	1.2	83.7	49.2	31.6	35.3
Mississippi	0.9	81.1	47.9	26.1	31.5
Missouri	1.2	82.9	48.4	28.4	31.5
Montana	0.9	84.3	51.6	35.0	42.0
Nebraska	1.2	84.2	52.4	33.6	37.8
Nevada	0.6	77.3	38.0	21.7	26.2
New Hampshire	1.0	79.7	43.1	27.5	32.0
New Jersey	0.6	74.8	40.3	22.8	26.4
New Mexico	0.9	75.5	44.2	27.0	31.1
New York	0.7	79.2	42.2	21.9	24.6
North Carolina	1.1	79.8	45.0	26.0	29.1
North Dakota	0.7	84.3	47.1	32.4	42.0
Ohio	1.0	81.2	46.5	26.8	29.6
Oklahoma	1.0	81.4	46.9	28.2	32.7
Oregon	1.1	79.3	46.3	29.2	32.6
Pennsylvania	1.0	78.6	43.3	26.1	29.0
Rhode Island	1.0	83.7	44.0	28.2	32.7
South Carolina	0.9	82.1	46.1	26.9	30.8
South Dakota	0.9	80.4	53.2	34.7	39.4
Tennessee	1.0	81.0	43.6	24.6	27.8
Texas	0.9	80.8	44.9	23.6	26.1
Utah	1.5	85.9	46.7	28.9	33.5
Vermont	1.2	86.2	50.7	36.0	41.2
Virginia	1.0	84.6	44.9	26.9	30.5
Washington	1.1	83.4	47.7	29.2	32.1
West Virginia	1.0	83.7	43.2	27.3	31.9
Wisconsin	1.1	85.2	51.4	32.9	37.3
Wyoming	0.7	84.8	52.5	35.8	44.2
U.S. Virgin Islands	. . .	. . .	. . .	. . .	. . .

. . . Category not applicable.

NOTES: NS-CSHCN is National Survey of Children with Special Health Care Needs; USVI is U.S. Virgin Islands.

Appendix XII. Incentive Effort

To improve the likelihood that eligible households would participate in the 2009–2010 National Survey of Children with Special Health Care Needs (NS-CSHCN) and would contribute to a more complete data set, a detailed incentive plan was executed during NS-CSHCN data collection. Guided by successful incentive efforts in the 2005–2006 NS-CSHCN and the 2007 National Survey of Children's Health (NSCH), a very extensive incentive experiment was conducted on NS-CSHCN cases from Quarters 3 and 4, 2009 to identify best practices for mail delivery, monetary amount included, timing of the incentive offer, and other features. This appendix summarizes the design and results of the experiment, as well as the performance of the incentive model ultimately chosen for the remaining quarters of data collection. The model chosen for landline cases was refusal-based and included a prepaid incentive. Soon after the start of cellular- (cell) phone dialing in Quarter 3, 2010, a different incentive model was applied to cell-phone cases, due to the fact that addresses were not available for the cell-phone sample in NS-CHSCN.

Eligible Cases

Cases eligible for an incentive were known age-eligible households that had not completed the NS-CSHCN interview. The incentive models included in the experiment, and those that were ultimately chosen, were primarily refusal-based. Refusals were defined by specific combinations of cases in which potential respondents hung up during introduction (HUDI) and cases with active (or verbal) refusals. For cases that were eligible for the main National Immunization Survey (NIS-Child) or NIS-Teen, and had refusals in either of these surveys, those refusals counted toward NS-CSHCN incentive eligibility.

Passive refusals, or cases with zero or one active refusal to which multiple attempts resulted in no contact for 21 days, also were eligible for incentives and received similar treatment as incentive cases with two active refusals (or the equivalent HUDI-refusal combination). Hostile refusals and cases that requested to be taken off the list of sampled phone numbers were not eligible for incentives and were not dialed again. Cases that had been offered an incentive previously by NIS also were eligible for an NS-CSHCN incentive.

Incentive Experiment

Starting in Quarter 3, 2009, the incentive experiment was designed to evaluate the comparative effectiveness of a variety of different incentive treatments—eight in total. The experiment was conducted on Quarters 3 and 4, 2009 sample cases.

To implement the experiment, each case flagged for NS-CSHCN Quarters 3 and 4, 2009 was randomly assigned to an incentive treatment group during sample preparation. The groups—designed to explore the effect of prepaid incentives compared with promised incentives, as well as variations in the monetary amount offered—were primarily refusal-based. However, a control group (Group 1) was offered no incentive, and a second group (Group 2) was offered $5 as soon as the case became age eligible, regardless of refusal status. The eight incentive models tested are summarized in Table XXXIV. Group 3A represents the incentive model implemented in the previous State and Local Area Integrated Telephone Survey, the 2007 NSCH.

On average, each incentive group had approximately 9,380 age-eligible households identified with 7,770 completed screeners, 1,590 completed special-needs interviews, and 5,720 completed without special-needs interviews.

As seen in Table XXXV, Group 3A provided the highest screener completion rate, the highest special-needs interview completion rate, the highest without-special-needs interview completion rate, and the third lowest special-needs prevalence rate. Differences in the special-needs prevalence rates were taken into account because the incentives may have differentially affected participation rates of households with children with special health care needs (CSHCN) compared with households without CSHCN. Ultimately, Group 5B was selected in consideration of both costs and rates. Implementation of Group 5B was determined to be less expensive than Group 3A, and Group 5B provided the second highest special-needs interview completion rate.

Table XXXVI summarizes the overall response rates for special-needs and without-special-needs cases for each incentive group.

Selected Incentive Models

Although the incentive experiment was designed to be fielded for Quarters 3 and 4, 2009 sample cases, the protocol continued to be fielded during the experiment analysis and decision stages through most of Quarter 2, 2010. A later sample in Quarter 2, 2010 was fielded with the experiment decision protocol (Group 5B). Quarter 3, 2010 was the first quarter for which the selected incentive model was fielded for the entire quarter for landline cases.

Shortly after cell-phone dialing began in Quarter 3, 2010, it was determined that the design of Group 5B may not be as effective for cell-phone cases due to the nature of cell-phone sampling. Because addresses were not available for this sample, incentive-eligible cases were not benefitting from the prepaid incentive mailed to households. The design of Group 3A, which involved a verbal incentive offer after the first refusal, was determined to be more appropriate for cell-phone respondents. As the model with the highest overall response rates and the model utilized in the 2007 NSCH, as well as a top performer in the incentive experiment, Group 3A had proven successful in the past. This model was

Table XXXIV. Incentive experiment groups

Group	First refusal	Second refusal	
		Cases with mailing address	Cases with no mailing address
Group 1 (control)	No incentives offered at any point (cases with mailing address sent refusal conversion letter after two refusals)		
Group 2	Offer of $5 directly after age eligibility established (cases with mailing address sent refusal conversion letter after two refusals)		
	Age eligibility established		
Group 3			
3A	Offer of $10 upon call back	$5 mailing with promise of $10	Offer of $15 upon call back
3B	No offer	$5 mailing with promise of $10	Offer of $15 upon call back
Group 4	No offer	$5 mailing with no promise	Offer of $5 upon call back
Group 5			
5A	Offer of $10 upon call back	$1 coin mailing with promise of $10	Offer of $11 upon call back
5B	No offer	$1 coin mailing with promise of $10	Offer of $11 upon call back
Group 6	No offer	$1 coin mailing with no promise	Offer of $5 upon call back

applied to cell-phone cases shortly after the start of cell-phone dialing in Quarter 3, 2010. The procedures involved in executing both Group 5B and Group 3A are described below.

Experimental Procedures

Experiment Group 5B

In incentive model 5B, no incentive treatment was applied after the first active refusal. Following the second refusal, age-eligible cases were put on hold for a period of 2 weeks. During this period, cases received a prepaid incentive of a $1 coin, which was mailed first class. With this mailing, respondents were promised an additional $10 for participation. (See Appendix IX for the letters used for incentive mailings.) Age-eligible cases without addresses were promised $11 for participation upon call back after the second refusal. As noted above, age-eligible, passive-refusal cases—zero- or one-refusal cases with no contact for a period of 21 days—received similar treatment as those cases with two active refusals. Figure 1 below maps the incentive treatment for both active- and passive-refusal cases.

Experiment Group 3A

In incentive model Group 3A, on the next call, age-eligible one-refusal cases received a verbal promise of $10 upon completion of the survey. The incentive offer of $10 was introduced in various interview scripts (i.e., consent script, callback script, and answering

Table XXXV. Response rates, by incentive group

Group	First refusal	Second refusal	Screener completion rate	Special-needs prevalence rate	Special-needs interview completion rate	Without-special-needs interview completion rate
Group 1	No offer	Refusal conversion letter (no offer)	81.7	24.8	81.5	97.6
Group 2	Offer of $5 directly after age eligibility established (refusal conversion letter after second refusal)		82.6	24.0	83.1	98.1
Group 3						
3A	Offer of $10 upon call back	$5 prepay $10 promise	83.7	24.6	84.5	98.2
3B	No offer	$5 prepay $10 promise	83.5	24.8	82.7	97.6
Group 4	No offer	$5 prepay only	83.3	24.8	81.6	97.5
Group 5						
5A	Offer of $10 upon call back	$1 coin prepay $10 promise	82.9	25.8	82.6	97.8
5B	No offer	$1 coin prepay $10 promise	82.9	24.9	83.4	97.4
Group 6	No offer	$1 coin prepay only	82.3	24.2	82.0	98.0

NOTE: Rates are percentages.

Table XXXVI. Overall response rates, by incentive group

Group	First refusal	Second refusal	Special-needs overall response rate (percent)	Without-special-needs overall response rate (percent)
Group 1	No offer	Refusal conversion letter (no offer)	66.6	79.7
Group 2	Offer of $5 directly after age-eligibility established (refusal conversion letter after 2nd refusal)		68.6	81.0
Group 3				
3A	Offer of $10 upon call back	$5 prepay $10 promise	70.8	82.2
3B	No offer	$5 prepay $10 promise	69.1	81.3
Group 4	No offer	$5 prepay only	67.9	81.5
Group 5				
5A	Offer of $10 upon call back	$1 coin prepay $10 promise	68.5	81.1
5B	No offer	$1 coin prepay $10 promise	69.1	80.8
Group 6	No offer	$1 coin prepay only	67.4	80.6

machine script). If a household completed the NS-CSHCN interview, or if a respondent requested the incentive without completing the interview, address information for the household was either confirmed or collected. The $10 payment was mailed to the household, along with a letter expressing appreciation for the respondent's time and effort.

Cases that received the $10 incentive offer but refused a second time prior to completing the interview received the two-refusal incentive treatment unique to Group 3A. These cases were put on hold for a period of 2 weeks. Upon recontact, cases were then verbally offered $15 upon completion of the interview. Because addresses were not available for cell-phone cases for NS-CSHCN, the prepaid component of this incentive model was not utilized for this survey. Similar to Group 5B, passive-refusal cases received the two-refusal incentive treatment as well. Figure 2 maps the Group 3A incentive treatment for both active- and passive-refusal cases.

Once households met the criteria for the incentive group to which they were assigned, upon recontact, they were read an introductory script that varied the dollar amount depending on sample type and whether an incentive letter had been sent, and that content varied slightly depending on where in the interview the case had broken off.

Response Rates

A total of 107,705 cases—37% of all age-eligible cases—became eligible for some type of an incentive across all 6 quarters of NS-CSHCN data collection. Active-refusal cases accounted for 80.9% (n = 87,158) of all cases eligible for incentive treatment (as applicable according to the case's incentive group), and passive-refusal cases accounted for the remainder (19.1% or n = 20,547). Of the cases eligible for an incentive treatment,

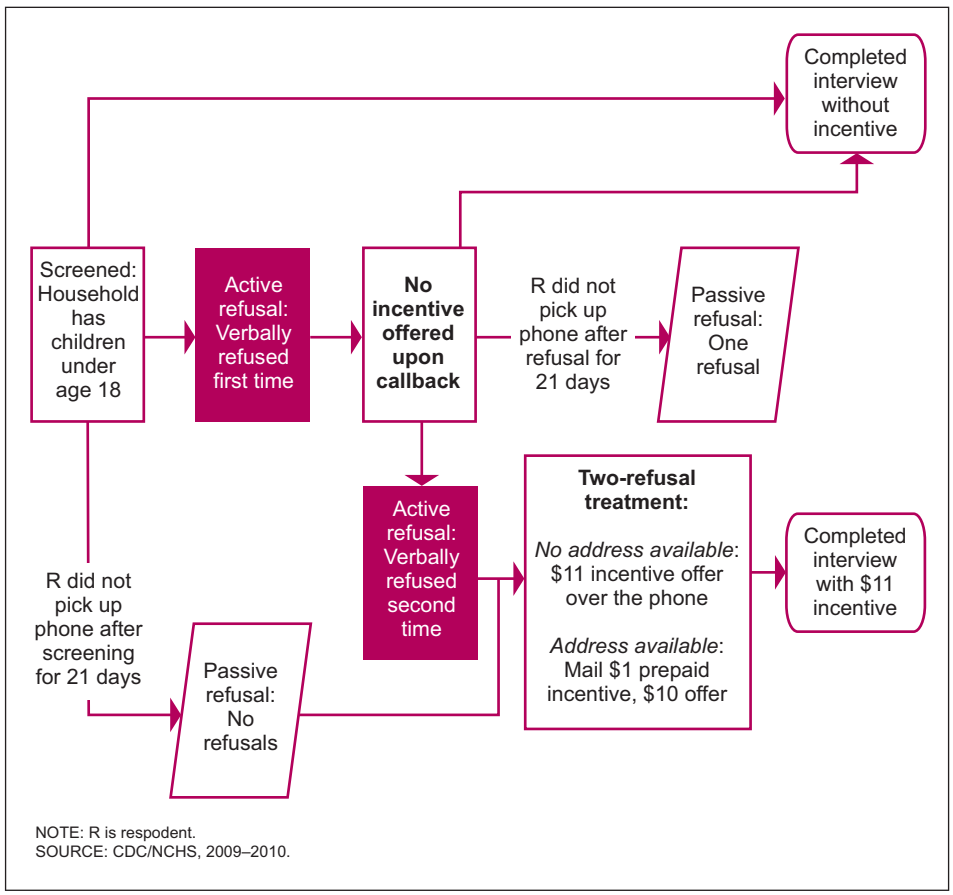

Figure 1. Incentive Group 5B eligibility

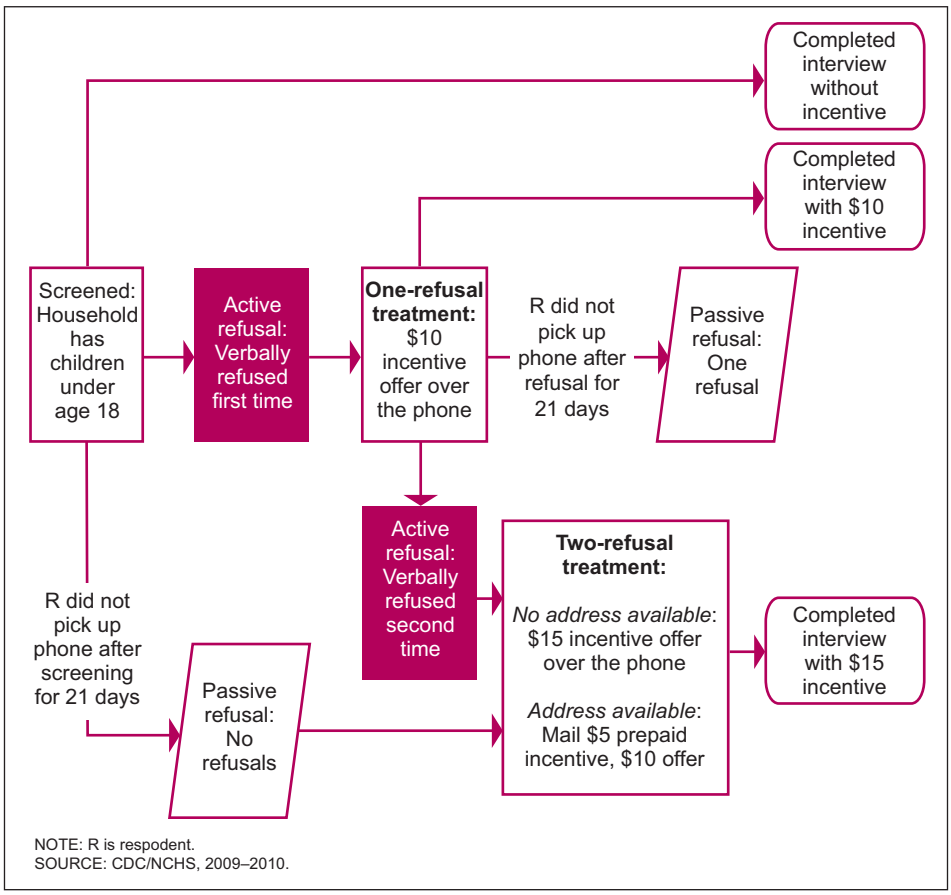

Figure 2. Incentive Group 3A eligibility

46.7% (n = 50,312) completed the CSHCN Screener, 9.8% (n = 10,545) of households with CSHCN completed the interview, and 30.5% (n = 32,791) of households without CSHCN completed the interview. Final dispositions of cases that received incentive treatment are shown in Table XXXVII.

Table XXXVIII provides information on incentive completion rates by incentive group solely for Quarters 3 and 4, 2010—the quarters following the incentive experiment. Group 3A was comprised solely of a cell-phone sample, whereas Group 5B was predominantly comprised of a landline sample, but it included a cell-phone sample as well (for cases released prior to the decision to apply Group 3A to all cell-phone samples). A total of 643 special-needs interviews were completed from cases that received Group 3A incentive treatment, and a total of 1,556 special-needs interviews were completed following Group 5B incentive treatment.

Table XXXVII. Number and percentage of active and passive incentive cases by final case disposition, all quarters

Disposition	Active-refusal cases			Passive-refusal cases		
	One refusal	Two refusals	Total	No refusals	One refusal	Total
All cases	43,404	43,754	87,158	14,039	6,508	20,547
Completed interview (households with CSHCN)	5,704 (13.14)	2,774 (6.34)	8,478 (9.73)	1,648 (11.74)	419 (6.44)	2,067 (10.06)
Completed special-needs screening but did not complete the interview	1,033 (2.38)	3,457 (7.90)	4,490 (5.15)	1,726 (12.29)	760 (11.68)	2,486 (12.1)
Completed interview (households without CSHCN)	21,658 (49.90)	7,443 (17.01)	29,101 (33.39)	2,739 (19.51)	951 (14.61)	3,690 (17.96)
All other dispositions	15,009 (34.58)	30,080 (68.75)	45,089 (51.73)	7,926 (56.46)	4,378 (67.27)	12,304 (59.88)

NOTE: CSHCN is children with special health care needs.

Table XXXVIII. Completion rates by incentive group: Quarters 3 and 4, 2010

Group	Quarter 3				Quarter 4			
	Number of cases	Special-needs completes	Nonspecial-needs completes	Percent completed	Number of cases	Special-needs completes	Nonspecial-needs completes	Percent completed
Group 3A								
Age-eligible cases	4,983	481	2,044	50.67	34,368	1,990	9,602	33.73
Active-refusal cases	1,252	80	304	30.67	3,511	332	1,347	47.82
One refusal ($10 offer)	573	66	251	55.32	1,980	274	1,178	73.33
Two refusal ($15 offer)	679	14	53	9.87	1,531	58	169	14.83
Passive-refusal cases	787	53	103	19.82	2,631	178	350	20.07
No refusal ($15 offer)	596	42	83	20.97	1,876	143	279	22.49
One refusal ($15 offer)	191	11	20	16.23	755	35	71	14.04
Total incentive cases	2,039	133	407	26.48	6,142	510	1,697	35.93
Group 5B								
Age-eligible cases	51,665	7,616	28,051	69.04	29,843	4,328	16,054	68.30
Active-refusal cases	16,115	1,552	5,505	43.79	7,493	828	2,873	49.39
One refusal (no offer)	7,790	988	4,028	64.39	3,867	532	2,259	72.17
Two refusals ($1 prepay and $10 offer; $11 offer if no address)	8,325	564	1,477	24.52	3,626	296	614	25.10
Passive-refusal cases	3,899	438	777	31.16	2,045	258	429	33.59
No refusal ($1 prepay and $10 offer; $11 offer if no address)	2,705	344	602	34.97	1,304	201	301	38.50
One refusal ($1 prepay and $10 offer; $11 offer if no address)	1,194	94	175	22.53	741	57	128	24.97
Total incentive cases	20,014	1,990	6,282	41.33	9,538	1,086	3,302	46.01

NOTES: ''Age-eligible cases'' includes all age-eligible cases flagged for the incentive group. Incentives are offered only after age eligibility has been confirmed and the refusal criteria has been met. ''Number of cases'' includes all cases in the incentive group regardless of special-needs status. Cases that were not incentivized (i.e., no refusal cases) are not displayed.

Appendix XIII. Nonresponse Bias Analysis

Nonresponse in the 2009–2010 National Survey of Children with Special Health Care Needs

The stages of the 2009–2010 National Survey of Children with Special Health Care Needs (NS-CSHCN) and the types of nonrespondents are shown in Figure 3. A cellular- (cell) phone sample and a landline sample were drawn in each state, and an attempt was made to identify households containing children under age 18 years. In order to contribute to the survey estimates, a telephone number first had to be "resolved"; that is, it had to be determined whether the telephone number belonged to a household, as opposed to being a nonworking number or used only for business purposes.

If a household was identified, it then needed to be screened for the presence of children under age 18. The cell-phone sample underwent additional screening to determine whether the cell phone was used by an adult in a cell-phone-only (CPO) or cell-phone-mainly (CPM) household; that is, households identified in the cell-phone sample underwent a "cell-phone-status" screener. If the cell phone was used only by a minor, or if the household had a landline phone that was somewhat or extremely likely to be answered, the cell-phone number was screened out as ineligible for the survey.

Once it was determined that the household contained children under age 18 (and for the cell-phone sample, that the cell phone was used by an adult in a CPO or CPM household), the children in the household were screened for special health care needs. If one or more children in the household had special needs, a special-needs child was randomly selected, and a detailed interview about that child was administered.

Nonresponse occurred at each stage: For some telephone numbers, it was never determined whether the number belonged to a household. That is, some numbers remained unresolved; some households that were identified did not complete the age-eligibility or cell-phone-status screeners; some households that were screened for age-eligibility and cell-phone status and were found to be eligible did not complete the special-needs screener; and some households that were identified as having special-needs children did not complete the detailed special-needs interview. This appendix examines the effect of the nonresponse, that is, unresolved telephone numbers, age- and cell-phone-status screener nonresponse, special-needs screener nonresponse, and special-needs-interview nonresponse on key national survey estimates.

Nonresponse Bias

Nonresponse bias in a survey estimate $\bar{y}_r$ can be expressed in two forms (36), given the data collection protocol. The first formulation assumes that each unit in the target population is, *a priori*, either a respondent or a nonrespondent:

$$Bias(\bar{y}_r) = \frac{M}{N}(\bar{Y}_r - \bar{Y}_m), \quad (1)$$

where M is the number of nonrespondents in the population, N is the total number of units in the target population, $\bar{Y}_r$ is the respondent mean in the target population, and $\bar{Y}_m$ is the nonrespondent mean in the target population. The second formulation assumes that each unit (i) in the target population has a propensity p_i to respond:

$$Bias(\bar{y}_r) = \frac{\sigma_{yp}}{\bar{p}}, \quad (2)$$

where σ_{yp} is the correlation between the survey variable and the response propensity, and $\bar{p}$ is the mean response propensity in the population. In either

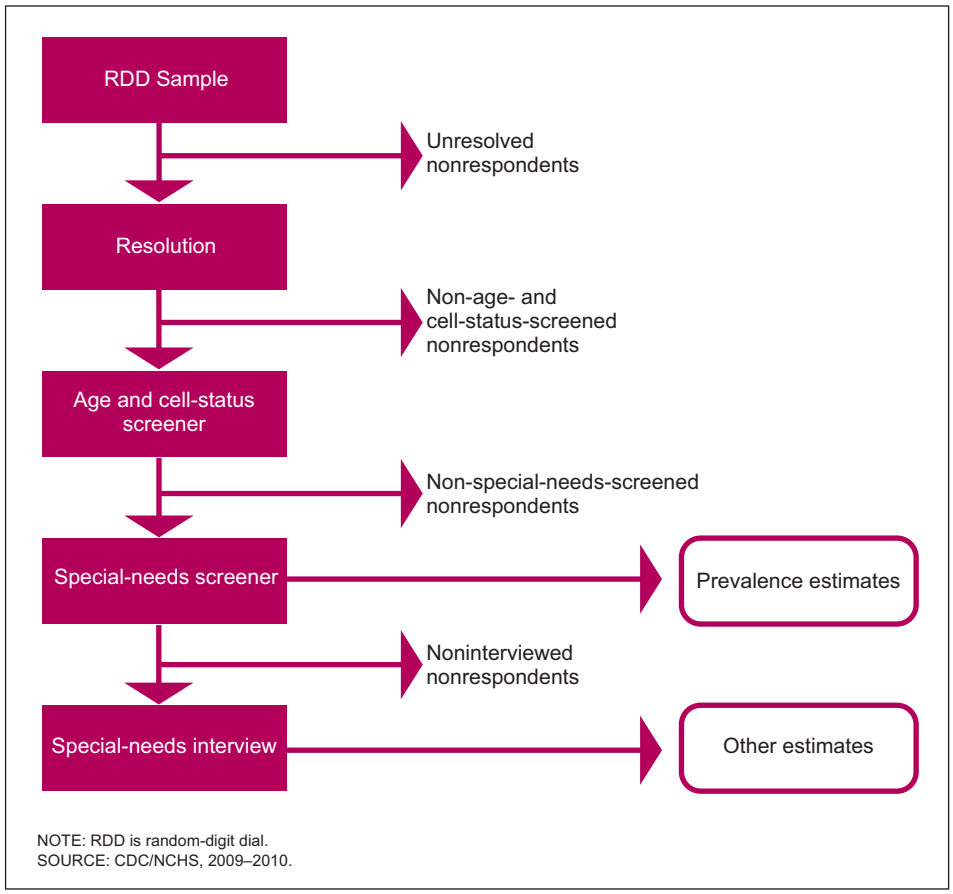

Figure 3. Survey stages and types of nonrespondents

formulation, the bias is related to both the response rate and the degree to which the respondents differ from the nonrespondents with respect to the survey variable.

Nonresponse rates represent a potential for substantial nonresponse bias. However, this is only a potential. In a meta-analysis of nonresponse bias studies, Robert Groves found little to no relationship between the magnitude of nonresponse and nonresponse bias. In fact, Groves found more variation in nonresponse bias between estimates from the same survey than between estimates from different surveys with differing response rates (36).

The more important factor contributing to nonresponse bias is the degree to which respondents differ from nonrespondents with respect to the survey variables. This quantity is generally unknown, and nonresponse bias analyses attempt to measure this difference in either a direct or an indirect way. Groves summarizes the typical approaches (36):

1. Response rate comparisons across subgroups
2. Using rich sampling frame data or supplemental matched data
3. Comparison to similar estimates from other sources
4. Studying variation within the existing survey
5. Contrasting alternative postsurvey adjustments for nonresponse

This appendix presents the results of analyses using approaches 1–4 for the 2009–2010 NS-CSHCN. (Alternative postsurvey adjustments for nonresponse are not available for NS-CSHCN.) Each of these approaches has its weaknesses; using many different approaches may arrive at conclusions that overcome the weaknesses of any individual approach and provide an accurate picture of the nonresponse bias.

Information Available on Nonrespondents

Several of the approaches used to assess nonresponse bias rely on the availability of information for both respondents and nonrespondents. Because NS-CSHCN is a random-digit-dial (RDD) survey, the information available on the nonrespondents was very limited. Table XXXIX shows the information known for both respondents and nonrespondents in the 2009–2010 NS-CSHCN landline sample. The first two variables—residential listed status and advance letter status—are case-specific, and the remaining variables are ecological. That is, they contain information not about each case specifically but about the telephone exchange containing the case's telephone number. (The telephone exchange is the area code plus the first three digits of the telephone number.) For example, while the income of each case was unknown, the median income for households sharing the case's telephone exchange was known. This ecological information is based on census tract-level data, aggregated to the telephone-exchange level. Because there are no directories of cell-phone numbers, and because cell-phone numbers are not tied to geography the way landline numbers are, these frame variables were available only for the landline sample and were not available for the cell-phone sample.

Key Survey Estimates

The assessment of nonresponse bias focused on nine key survey estimates:

1. The child-level special-needs prevalence rate
2. The percentage of children with special health care needs (CSHCN) with a medical home
3. The percentage of CSHCN with adequate insurance
4. The percentage of CSHCN with any unmet need for specific health care services
5. The percentage of CSHCN whose conditions affect their activities usually, always, or a great deal
6. The percentage of CSHCN whose conditions cause family members to cut back or stop working
7. The percentage of CSHCN without family-centered care
8. The percentage of CSHCN with a routine preventive medical visit and a routine preventive dental visit

Table XXXIX. Information available for both respondents and nonrespondents

Variable name	Description
Listed	Indicator of residential listed status
Advance_letter	Indicator of advance letter sent status
MSA	Indicator of metropolitan statistical area status
Median_HH_income	Median household income in the telephone exchange
Median_home_val	Median home value in the telephone exchange
Median_rent	Median rent in the telephone exchange
Median_years_educ	Median years of education of the population in the telephone exchange
College_graduate	Percentage of the population in the telephone exchange that are college graduates
Approx_median_age	Approximate median age of the population in the telephone exchange
Hispanic_p	Percentage of the population in the telephone exchange that is Hispanic
White_p	Percentage of the population in the telephone exchange that is non-Hispanic white
Black_p	Percentage of the population in the telephone exchange that is non-Hispanic black
Asian_pacif_p	Percentage of the population in the telephone exchange that is non-Hispanic Asian or Pacific Islander
Household_density	Household density in the telephone exchange
Percent_listed	Percentage of telephone numbers in the telephone exchange that are residential listed
Owner_occupied_p	Percentage of homes in the telephone exchange that are owner-occupied
Rent_other_p	Percentage of homes in the telephone exchange that are rented or otherwise not owner-occupied

9. The percentage of CSHCN whose families pay $1,000 or more out of pocket in medical expenses per year

The child-level special-needs prevalence rate was calculated as the percentage of CSHCN among children for whom the CSHCN Screener was completed. The remainder of the key survey estimates above was computed among CSHCN with a completed CSHCN interview.

NS-CSHCN Weighting

While it is important to understand how nonrespondents differ from respondents, the more important consideration for data users is how well the weighting adjustments that were made to correct for nonresponse actually did that. Thus, the following analyses attempted to answer two questions:

1. What level of bias would be present in the key survey estimates if no postsurvey adjustments for nonresponse were performed? That is, what is the effect of nonresponse on the raw estimates?
2. How well do the postsurvey adjustments for nonresponse mitigate the raw nonresponse bias?

To answer these questions, each of the analyses is presented twice, first using only the base weights—the weights that reflect the probabilities of telephone number selection but do not reflect postsurvey adjustments—and then using either the nonresponse-adjusted weights (the weights that have been adjusted for nonresponse at each stage) or the final weights that have been both adjusted for nonresponse at each stage and raked to population control totals. Table XL shows the weight variables used in these analyses.

Assessing Nonresponse Bias in the 2009–2010 NS-CSHCN

Response rate comparisons across subgroups

A comparison of response rates across subgroups could reveal the presence of nonresponse bias in a survey. If the response rate is lower (or higher) for a particular subgroup relative to that of other subgroups, then that would indicate that the subgroup is underrepresented (or overrepresented) in the final sample, and, to the extent that the key survey estimate is different for that particular subgroup compared with other subgroups, there would be bias in the overall survey estimate. If, on the other hand, the response rate is the same across subgroups, or if the key survey estimate does not differ by these subgroups, the key survey estimate could still be biased, but unequal response rates across these subgroups will have been ruled out as a source of bias.

Table XLI presents the national response rates for various subgroups. The response rates are presented first using only the base weights and then using the weights that have been sequentially adjusted for nonresponse at each stage. The subgroups were formed based on the sample frame information listed in Table XXXIX. For each of the continuous variables in Table XXXIX, cases were classified into two subgroups: those with values above and those with values below the median value of the variable for all cases in the landline sample. Because the frame information was available only for the landline sample, the response rate comparisons in Table XLI are presented only for the landline sample.

Table XLI shows that it was more difficult to interview households in urban areas, in wealthier areas, and in areas with larger nonwhite populations. The response rates were more than 5 percentage points higher for cases outside of metropolitan statistical areas (MSAs) than for cases inside MSAs, and about 3 to 4 percentage points lower for areas with higher household density. The response rates were lower in areas above the median in terms of measures associated with wealth (household income, home value, and rental costs) and higher in areas with a relatively older population. Finally, the response rates were 5 to 6 percentage points higher in areas above the median in terms of percentage of the population that is white, and lower in areas above the median in terms of percentage of the

Table XL. Weight variables used in the nonresponse analysis

Weight name	Description
BASE_WT	Weight reflecting the initial selection probability of each telephone number in the sample.
RES_WT	BASE_WT, adjusted for nonresolution of telephone numbers. This weight is valid for all resolved telephone numbers.
AGE_SCR_WT	RES_WT, adjusted for nonresponse to the age- and cell-phone-status eligibility screeners. This weight is valid for all households that completed the age- and cell-status-eligibility screeners.
TLINE_WT	AGE_SCR_WT, adjusted for nonresponse to the special-needs screener. This weight is valid for all households that completed the special-needs screener.
WEIGHT_H	TLINE_WT, adjusted for multiple telephone lines, adjusted for combining the landline and cell-phone samples, and raked to population control totals. This is the final dual-frame household-level weight for households completing the special-needs screener.
WEIGHT_CH	WEIGHT_H, converted to the child level and raked to population control totals. This is the final dual-frame child-level weight for children for whom the special-needs screener was completed.
CH_INT_WT	WEIGHT_H, adjusted for the selection of one CSHCN per household, and adjusted for nonresponse to the CSHCN interview. This weight is valid for all children for whom the CSHCN interview was completed.
WEIGHT_I	CH_INT_WT, raked to population control totals. This is the final dual-frame child-level CSHCN interview weight.

NOTE: CSHCN is children with special health care needs.

Table XLI. Special-needs screener and interview response rates, by subgroup: Landline sample

Frame variable	Subgroup	Special-needs screener response rate		CSHCN interview response rate	
		Using base weight	Using adjusted weights	Using base weight	Using adjusted weights
Listed	Not listed	49.1	49.1	39.6	39.2
Listed	Listed	47.3	47.2	39.7	39.7
Advance_letter	Not sent	50.0	50.0	40.2	40.0
Advance_letter	Sent	45.1	45.1	38.2	38.3
MSA	Outside of MSA	56.9	57.0	48.2	48.5
MSA	In MSA	51.4	51.4	42.8	42.8
Median_HH_income	Below median	53.5	53.5	45.0	44.9
Median_HH_income	Above median	51.1	51.2	42.6	42.6
Median_home_val	Below median	54.9	55.0	46.5	46.4
Median_home_val	Above median	49.8	49.9	41.2	41.3
Median_rent	Below median	54.8	54.8	46.2	46.2
Median_rent	Above median	50.0	50.1	41.4	41.5
Median_years_educ	Below median	51.9	51.9	43.6	43.6
Median_years_educ	Above median	52.5	52.6	43.8	43.8
College_graduate	Below median	52.2	52.2	44.0	44.0
College_graduate	Above median	52.3	52.4	43.5	43.5
Approx_median_age	Below median	50.8	50.9	42.5	42.7
Approx_median_age	Above median	54.0	54.0	45.1	44.9
Hispanic_p	Below median	55.3	55.4	46.5	46.6
Hispanic_p	Above median	49.3	49.4	41.0	41.0
White_p	Below median	49.2	49.3	40.8	40.9
White_p	Above median	55.1	55.1	46.3	46.4
Black_p	Below median	53.5	53.5	45.0	44.9
Black_p	Above median	51.0	51.1	42.4	42.5
Asian_pacif_p	Below median	54.5	54.6	46.0	45.9
Asian_pacif_p	Above median	50.2	50.3	41.6	41.8
Household_density	Below median	54.7	54.8	45.9	45.6
Household_density	Above median	50.9	51.0	42.5	42.6
Percent_listed	Below median	52.4	52.5	43.8	43.8
Percent_listed	Above median	51.7	51.7	43.2	43.2
Owner_occupied_p	Below median	50.7	50.7	42.3	42.2
Owner_occupied_p	Above median	53.6	53.6	44.9	45.0
Rent_other_p	Below median	53.6	53.6	44.9	45.0
Rent_other_p	Above median	50.7	50.7	42.3	42.2

NOTES: CSHCN is children with special health care needs; MSA is metropolitan statistical area.

population that is Hispanic, black, or Asian. As can be seen when comparing the base-weighted response rates with those using the adjusted weights, the weighting adjustments for nonresponse did little to remove these response rate differences. These results are nearly identical to those observed in the 2005–2006 NS-CSHCN.

There are three limitations to this approach. First, to form subgroups, each continuous sampling frame variable in Table XXXIX had to be categorized into groups, resulting in a loss of some of the information contained in these variables. Second, the adjusted response rates presented in Table XLI necessarily reflect only the weighting adjustments for nonresponse at each stage and not the final raking of the weights to population control totals; the extent to which this final raking reduced the under- or overrepresentativeness of a particular subgroup in the final weighted sample was not captured by this analysis. Finally, because the frame information was not available for the cell-phone sample, the analysis was limited to the landline sample.

The next section presents a similar approach that is not subject to the first limitation.

Using rich sampling frame data or supplemental matched data

Using the frame information, respondents were compared at each stage of the survey with all of the cases eligible for the stage. That is, the nonresponse bias in each frame variable was directly measured at each stage (because the frame information was available for both respondents and nonrespondents at each stage, the stage-specific nonresponse bias in these variables can be measured directly). The overall nonresponse bias for the survey was estimated for each frame variable (i.e., the stage-specific measures of bias in the frame variables were used to estimate the total nonresponse bias in each frame variable across the stages of the survey). Logistic regression models were used to translate the estimated overall biases in the frame variables into estimates of bias in the key survey estimates.

Table XLII shows, for each stage of the survey, a comparison of the frame information for the entire landline sample eligible for the stage and the landline sample respondents to the stage, first using the base weights only and then using the weights that have been sequentially adjusted for nonresponse at each stage.

Table XLII. Comparing respondents and nonrespondents at each stage using frame information: Landline sample

Frame variable	Stage	Using base weight			Using nonresponse adjusted weight		
		All cases eligible for the stage	Respondents at the stage	Respondent/all cases percent difference	All cases eligible for the stage	Respondents at the stage	Respondent/all cases percent difference
	1. Resolution	40.81	36.23	–11.22	40.81	40.84	0.08
	2. Age screener	89.20	89.80	67.00	90.81	90.81	–
	3. Special-needs screener	87.18	88.17	113.00	88.41	88.41	–
	4. Interview	88.11	88.54	49.00	85.79	85.86	0.09
	Overall (stages 1–3)[1]	. . .	. . .	–9.61	. . .	. . .	0.08
Listed	Overall (stages 1–4)[2]	. . .	. . .	–9.17	. . .	. . .	0.17
	1. Resolution	25.63	21.23	–17.18	25.63	23.64	–7.76
	2. Age screener	72.78	73.61	1.14	73.32	73.93	0.83
	3. Special-needs screener	70.22	72.27	2.92	70.61	72.26	2.33
	4. Interview	73.53	74.56	1.40	70.96	71.12	0.23
	Overall (stages 1–3)	. . .	. . .	–13.79	. . .	. . .	–4.82
Advance letter sent	Overall (stages 1–4)	. . .	. . .	–12.58	. . .	. . .	–4.60
	1. Resolution	81.79	81.24	–0.67	81.79	81.84	0.06
	2. Age screener	81.53	81.14	–0.47	81.75	81.68	–0.09
	3. Special-needs screener	83.82	83.27	–0.66	84.35	84.25	–0.12
	4. Interview	82.66	82.44	–0.26	82.83	82.96	0.15
	Overall (stages 1–3)	. . .	. . .	–1.80	. . .	. . .	–0.15
In MSA	Overall (stages 1–4)	. . .	. . .	–2.05	. . .	. . .	0.01
	1. Resolution	56,217	55,818	–0.71	56,217	56,220	0.00
	2. Age screener	57,283	57,188	–0.17	57,488	57,468	–0.03
	3. Special-needs screener	59,661	59,713	0.09	59,970	60,143	0.29
	4. Interview	59,262	59,052	–0.35	56,739	56,884	0.26
	Overall (stages 1–3)	. . .	. . .	–0.79	. . .	. . .	0.26
Median_HH_income	Overall (stages 1–4)	. . .	. . .	–1.14	. . .	. . .	0.51
	1. Resolution	234,083	230,091	–1.71	234,083	234,345	0.11
	2. Age screener	230,878	229,252	–0.70	233,319	233,079	–0.1
	3. Special-needs screener	240,028	237,230	–1.17	244,498	245,363	0.35
	4. Interview	225,217	223,298	–0.85	218,218	218,965	0.34
	Overall (stages 1–3)	. . .	. . .	–3.54	. . .	. . .	0.36
Median_home_val	Overall (stages 1–4)	. . .	. . .	–4.36	. . .	. . .	0.71
	1. Resolution	574	568	–0.98	574	574	–0.01
	2. Age screener	571	568	–0.42	573	573	–0.07
	3. Special-needs screener	590	587	–0.55	595	596	0.16
	4. Interview	574	571	–0.57	561	563	0.24
	Overall (stages 1–3)	. . .	. . .	–1.94	. . .	. . .	0.07
Median_rent	Overall (stages 1–4)	. . .	. . .	–2.49	. . .	. . .	0.31
	1. Resolution	13.18	13.17	–0.06	13.18	13.18	0.01
	2. Age screener	13.17	13.17	0.03	13.17	13.17	0.02
	3. Special-needs screener	13.22	13.23	0.13	13.22	13.23	0.10
	4. Interview	13.25	13.24	–0.05	13.14	13.15	0.03
	Overall (stages 1–3)	. . .	. . .	0.10	. . .	. . .	0.13
Median_years_educ.	Overall (stages 1–4)	. . .	. . .	0.06	. . .	. . .	0.16
	1. Resolution	26.27	26.13	–0.52	26.27	26.30	0.10
	2. Age screener	25.98	26.01	0.08	26.06	26.09	0.12
	3. Special-needs screener	26.85	27.02	0.66	26.92	27.09	0.62
	4. Interview	26.94	26.86	–0.30	25.60	25.66	0.21
	Overall (stages 1–3)	. . .	. . .	0.22	. . .	. . .	0.84
College_graduate	Overall (stages 1–4)	. . .	. . .	–0.08	. . .	. . .	1.05
	1. Resolution	37.65	37.66	0.03	37.65	37.66	0.01
	2. Age screener	37.72	37.77	0.13	37.71	37.73	0.05
	3. Special-needs screener	37.09	37.13	0.11	37.05	37.06	0.04
	4. Interview	37.22	37.2	–0.04	37.00	37.01	0.02
	Overall (stages 1–3)	. . .	. . .	0.27	. . .	. . .	0.10
Approx_median_age	Overall (stages 1–4)	. . .	. . .	0.23	. . .	. . .	0.12
	1. Resolution	13.60	13.36	–1.73	13.60	13.56	–0.24
	2. Age screener	12.60	12.29	–2.48	12.82	12.73	–0.68
	3. Special-needs screener	13.57	13.05	–3.84	14.13	14.04	–0.59
	4. Interview	11.33	11.39	0.50	12.98	12.97	–0.12
	Overall (stages 1–3)	. . .	. . .	–7.85	. . .	. . .	–1.50

See footnotes at end of table.

Table XLII. Comparing respondents and nonrespondents at each stage using frame information: Landline sample—Con.

Frame variable	Stage	Using base weight			Using nonresponse adjusted weight		
		All cases eligible for the stage	Respondents at the stage	Respondent/all cases percent difference	All cases eligible for the stage	Respondents at the stage	Respondent/all cases percent difference
Hispanic_p	Overall (stages 1–4)	. . .	. . .	–7.39	. . .	. . .	–1.62
	1. Resolution	66.73	66.94	0.32	66.73	66.74	0.01
	2. Age screener	69.47	70.01	0.78	69.31	69.45	0.21
	3. Special-needs screener	68.55	69.50	1.39	67.90	68.16	0.39
	4. Interview	71.48	71.55	0.09	67.78	67.81	0.04
	Overall (stages 1–3)	. . .	. . .	2.51	. . .	. . .	0.62
White_p	Overall (stages 1–4)	. . .	. . .	2.60	. . .	. . .	0.66
	1. Resolution	12.30	12.43	1.04	12.30	12.33	0.23
	2. Age screener	11.05	10.90	–1.28	10.92	10.88	–0.37
	3. Special-needs screener	10.58	10.33	–2.33	10.52	10.37	–1.43
	4. Interview	10.68	10.60	–0.75	12.69	12.67	–0.11
	Overall (stages 1–3)	. . .	. . .	–2.58	. . .	. . .	–1.58
Black_p	Overall (stages 1–4)	. . .	. . .	–3.31	. . .	. . .	–1.68
	1. Resolution	4.55	4.44	–2.39	4.55	4.54	–0.05
	2. Age screener	4.19	4.12	–1.72	4.26	4.24	–0.39
	3. Special-needs screener	4.54	4.39	–3.42	4.68	4.66	–0.53
	4. Interview	3.86	3.83	–1.00	3.86	3.86	0.24
	Overall (stages 1–3)	. . .	. . .	–7.36	. . .	. . .	–0.97
Asian_pacif_p	Overall (stages 1–4)	. . .	. . .	–8.29	. . .	. . .	–0.73
	1. Resolution	2.53	2.53	–0.18	2.53	2.53	0.01
	2. Age screener	2.56	2.55	–0.28	2.56	2.56	–0.12
	3. Special-needs screener	2.62	2.61	–0.39	2.63	2.63	–0.13
	4. Interview	2.59	2.59	0.02	2.60	2.60	–
	Overall (stages 1–3)	. . .	. . .	–0.85	. . .	. . .	–0.24
Household_density	Overall (stages 1–4)	. . .	. . .	–0.82	. . .	. . .	–0.24
	1. Resolution	55.92	55.52	–0.71	55.92	55.68	–0.43
	2. Age screener	60.57	60.65	0.14	60.53	60.50	–0.05
	3. Special-needs screener	60.72	60.88	0.27	60.57	60.54	–0.05
	4. Interview	61.30	61.25	–0.08	60.66	60.64	–0.04
	Overall (stages 1–3)	. . .	. . .	–0.31	. . .	. . .	–0.53
Percent_listed	Overall (stages 1–4)	. . .	. . .	–0.38	. . .	. . .	–0.57
	1. Resolution	66.26	66.30	0.07	66.26	66.27	0.02
	2. Age screener	69.16	69.32	0.23	69.14	69.15	0.02
	3. Special-needs screener	69.34	69.68	0.49	69.15	69.21	0.08
	4. Interview	70.38	70.41	0.04	68.68	68.72	0.06
	Overall (stages 1–3)	. . .	. . .	0.79	. . .	. . .	0.11
Owner_occupied_p	Overall (stages 1–4)	. . .	. . .	0.83	. . .	. . .	0.17
	1. Resolution	33.74	33.70	–0.13	33.74	33.73	–0.04
	2. Age screener	30.84	30.68	–0.52	30.86	30.85	–0.04
	3. Special-needs screener	30.66	30.32	–1.10	30.85	30.79	–0.17
	4. Interview	29.62	29.59	–0.10	31.32	31.28	–0.13
	Overall (stages 1–3)	. . .	. . .	–1.74	. . .	. . .	–0.25
Rent_other_p	Overall (stages 1–4)	. . .	. . .	–1.84	. . .	. . .	–0.38

– Quantity zero.

. . . Category not applicable.

0.0 Quantity more than zero but less than 0.05.

[1]Percent is equal to the product of the "Respondent/all cases percent difference" category across the resolution, age-screener, and special-needs screener stages. This provides an estimate of the percent difference in the frame variable between the special-needs-screener respondents and the nonrespondents (at any stage) who are eligible for the special-needs questions (i.e., households with children). That is, it is an estimate of the over- or underrepresentativeness of the special-needs-screened households compared with the eligible sample as a whole. This technique assumes that the mean of the frame variable for the eligible nonrespondents is equal to the observed mean of the frame variable for the respondents. Using "Residential listed" as an example, it assumes that, among the nonresolved numbers that are actually households, the proportion that is listed is equal to the proportion that are listed among the resolved households; and it assumes that, among the non-age-screened households that actually contain children, the proportion that are listed is equal to the proportion that are listed among the age-screened-eligible households.

[2]Percent is equal to the product of the "Respondent/all cases percent difference" category across the resolution, age-screener, special-needs screener, and interview stages. This provides an estimate of the percent difference in the frame variable between the interviewed respondents and the nonrespondents (at any stage).

NOTES: Median_HH_income, Median_home_val, and Median_rent variables are in dollars. MSA is metropolitan statistical area.

For example, for the "Listed" variable in Table XLII, using the base weights generated an estimate of 40.8% of the entire landline sample of telephone numbers being residential-listed, while among the landline sample resolved cases (i.e., the respondents to the resolution stage), 36.2% were residential-listed. That is, after the resolution stage, without any adjustment for nonresolution, the landline sample is biased downward 11.2% in terms of residential-listed status. However, using the weights that have been adjusted for nonresolution, 40.8% of the landline sample resolved cases are residential-listed; all of the bias in residential-listed status due to nonresolution has been

removed by the nonresponse adjustment. (This is no accident; residential-listed status was one of the variables used to form the landline sample nonresponse adjustment cells.)

Moving to the age-screener stage and using only the unadjusted base weights, among all landline sample resolved households, 89.2% were residential-listed, and among landline sample age-screener respondents, 89.8% are residential-listed (that is, the age-screener respondents were 0.7% more residential-listed than they would be if there were full response at the age-screener stage, meaning that an upward bias of 0.7% was introduced in residential-listed status at the age-screener stage). However, using the nonresolution adjusted weights, 90.8% of resolved households were listed, and, using the weights that were adjusted for nonresponse to the age screener, 90.8% of age-screened households were listed. The weighting adjustment for non-age-screening removed all of the bias introduced by nonresponse to the age-screener stage.

Next, moving to the special-needs-screener stage and using only the unadjusted base weights, among all landline sample age-eligible households, 87.2% were residential-listed, and among landline sample special-needs-screener respondents, 88.2% were residential-listed (that is, an upward bias of 1.1% in residential-listed status was introduced at the special-needs-screener stage). Using the non-age-screened adjusted weights, 88.4% of age-eligible households were listed, and, using the weights that were adjusted for nonresponse to the special-needs screener, 88.4% of special-needs screened households were listed. Again, the weighting adjustment for nonspecial-needs screening removed all of the bias introduced by nonresponse to the special-needs-screener stage.

Finally, moving to the CSHCN interview stage and using only the base weights, among households with a special-needs child, 88.1% were residential-listed, and 88.5% of the completed CSHCN interviews were residential-listed, that is, an upward bias of 0.4% was introduced at the CSHCN interview stage. Using the weights adjusted for nonspecial-needs screening, 85.8% of the special-needs screened eligible households were listed, and, using the weights that were adjusted for nonresponse to the CSHCN interview, 85.9% of interviewed households were listed. Thus, the interview nonresponse adjustment greatly lowered, but did not completely eliminate, the residential-listed bias introduced due to CSHCN interview nonresponse.

Multiplying the biases at the resolution, age-screener, and special-needs-screener stages, calculated using only the base weights, generated an estimate that the eligible household population identified and screened for special needs; that is 9.6% less residential-listed than the eligible household population as a whole. (For this calculation, the proportion residential-listed among unresolved cases that are actually households was assumed to be equal to the proportion residential-listed among the resolved households, and the proportion residential-listed among the non-age-screened households that are really age-eligible was assumed to be equal to the proportion residential-listed among the age-screened eligible households.) Using the same calculation, but using the weights that were sequentially adjusted for nonresponse to each stage, generated an estimate that the eligible household population identified and screened for special needs was 0.1% more residential-listed than the eligible household population as a whole. That is, while a bias of about 9.6% in residential-listed status was introduced due to nonresponse at the resolution, age-screener, and special-needs-screener stages, the weighting adjustments for nonresponse eliminated nearly all of that bias.

Table XLIII. Observed and expected means of frame variables for respondents: Landline sample

	Through special-needs screener stage				Through CSHCN interview stage			
	Using base weight		Using nonresponse-adjusted weights		Using base weight		Using nonresponse-adjusted weights	
Frame variable	Observed	Expected	Observed	Expected	Observed	Expected	Observed	Expected
Listed	88.17	97.55	88.41	88.34	88.54	97.48	85.86	85.72
Advance_letter	72.27	83.83	72.26	75.92	74.56	85.29	71.12	74.55
MSA	83.27	84.79	84.25	84.37	82.44	84.17	82.96	82.95
Median_HH_income	59,713	60,188	60,143	59,988	59,052	59,733	56,884	56,594
Median_home_val	237,230	245,924	245,363	244,476	223,298	233,471	218,965	217,429
Median_rent	587	598	596	596	571	586	563	561
Median_years_educ	13.23	13.22	13.23	13.21	13.24	13.23	13.15	13.13
College_graduate	27.02	26.96	27.09	26.86	26.86	26.88	25.66	25.39
Approx_median_age	37.13	37.03	37.06	37.03	37.20	37.12	37.01	36.97
Hispanic_p	13.05	14.16	14.04	14.26	11.39	12.30	12.97	13.18
White_p	69.50	67.80	68.16	67.74	71.55	69.73	67.81	67.36
Black_p	10.33	10.60	10.37	10.54	10.60	10.97	12.67	12.89
Asian_pacif_p	4.39	4.74	4.66	4.70	3.83	4.17	3.86	3.89
Household_density	2.61	2.63	2.53	2.54	2.59	2.61	2.60	2.61
Percent_listed	60.88	61.07	60.54	60.86	61.25	61.49	60.64	60.99
Owner_occupied_p	69.68	69.14	69.21	69.13	70.41	69.83	68.72	68.60
Rent_other_p	30.32	30.86	30.79	30.87	29.59	30.15	31.28	31.40

NOTES: Median_HH_income, Median_home_val, and Median_rent variables are in dollars. CSHCN is children with special health care needs; MSA is metropolitan statistical area.

Table XLIV. Estimates of nonresponse biases in the key survey estimates attributable to biases in the frame information: Landline sample

Key survey variable	Using base weights			Using adjusted weights		
	Model evaluated at observed respondent means of the frame information[1]	Model evaluated at means of the frame information expected under full response	Estimated percent bias[2]	Model evaluated at observed respondent means of the frame information[1]	Model evaluated at means of the frame information expected under full response	Estimated percent bias[2]
Special-needs prevalence rate	16.2	16.0	1.12	15.2	15.2	–0.04
Percent of CSHCN with medical home	47.2	47.6	–0.90	43.5	43.5	–0.13
Percent of CSHCN with adequate insurance	62.8	62.8	–0.11	61.0	61.1	–0.06
Percent of CSHCN with any unmet need for specific health care services	19.7	19.3	2.30	22.5	22.5	0.08
Percent of CSHCN whose conditions affect their activities usually, always, or a great deal	23.8	23.1	2.97	26.1	26.1	0.15
Percent of CSHCN whose conditions cause family members to cut back or stop working	22.4	21.9	1.90	24.2	24.2	–0.01
Percent of CSHCN without family-centered care	31.0	30.7	1.09	34.3	34.3	–0.15
Percent of CSHCN with a routine preventive medical visit and a routine preventive dental visit	81.2	81.6	–0.44	79.5	79.5	–0.04
Percent of CSHCN whose families pay $1,000 or more out of pocket in medical expenses per year	25.0	25.4	–1.47	21.3	21.1	0.77

[1]Although the logistic regression models at the observed means of the frame information were evaluated, the results were not the observed means of the key survey variables (i.e., the final estimates of special-needs prevalence, the percentage of CSHCN with a medical home, etc.), as would be the case for linear regression models.

[2]Calculated as (model evaluated at observed means – model evaluated at expected means) / model evaluated at expected means.

NOTE: CSHCN is children with special health care needs.

Similarly, multiplying the biases at the resolution, age-screener, special-needs-screener, and CSHCN interview stages, calculated using only the base weights, generated an estimate that the eligible population that was identified and completed the CSHCN interview was 9.2% less residential-listed than the eligible household population as a whole, but the nonresponse adjustments reduced this to a 0.2% upward bias.

Table XLII shows that this is generally the case for the other frame variables as well. Nonresponse introduced small biases, but the nonresponse adjustments substantially reduced those biases. The variables with the largest biases remaining after the nonresponse adjustments are advance letter status (–4.8% through the special-needs screener and –4.6% through the CSHCN interview), the percentage of the population that is non-Hispanic black in the telephone exchange (–1.6% through the special-needs screener and –1.7% through the CSHCN interview), and the percentage of the population that is Hispanic in the telephone exchange (–1.5% through the special-needs screener and –1.6% through the CSHCN interview).

Table XLIII shows the observed means of the frame variables for landline sample respondents and the means that would be expected under full response. The biases in the frame information translate into biases in the key survey estimates only to the extent that the frame information is related to the key survey estimates. To examine these relationships for each key survey estimate, a logistic regression model was estimated of the form

$$p_i = \frac{e^{X_i'\beta}}{1 + e^{X_i'\beta}},$$

where p_i is the probability that the ith respondent's child is positive for the key survey variable (i.e., has special needs, has a medical home, has adequate insurance, etc.); X_i' is a vector containing the frame information for the ith child; and β is a vector of unknown parameters to be estimated. By evaluating the fitted model first at the observed means of the frame information and then at the expected means of the frame information from Table XLIII, an estimate of the bias in each key survey estimate was generated that could be attributed to biases in the frame variables due to nonresponse. These estimates of biases in the key survey estimates using this approach are shown in Table XLIV.

As Table XLIV shows, the small biases in the frame information translate into even smaller biases in the key survey estimates for the landline sample. In these analyses, the largest landline sample bias found when the base weights were used was in the percentage of CSHCN whose conditions affect their activities usually, always, or a great deal (3.0% bias), but this bias was reduced to 0.2% when the final weights were used. The largest landline sample absolute bias when the nonresponse-adjusted weights were used was in the percentage of CSHCN whose families pay $1,000 or more out of pocket in medical expenses per year (0.8% bias).

Table XLV. Comparing non-HUDIs with converted HUDIs, by sample type

Analysis variable	Landline sample				Cell-phone sample			
	Estimate for non-HUDIs	Estimate for converted HUDIs	Percent difference between high-effort and low-effort respondents[1]	*p* value for test of no difference	Estimate for non-HUDIs	Estimate for converted HUDIs	Percent difference between high-effort and low-effort respondents[1]	*p* value for test of no difference
Special-needs prevalence rate	16.7	15.0	–10.08	0.000000	14.9	13.3	–10.87	0.00777
Percent of CSHCN with medical home	48.6	43.4	–10.77	0.000000	39.3	36.6	–6.91	0.27856
Percent of CSHCN with adequate insurance	63.4	60.4	–4.69	0.000529	59.0	54.7	–7.30	0.09276
Percent of CSHCN with any unmet need for specific health care services	19.4	22.5	15.70	0.000038	26.6	25.5	–4.11	0.63174
Percent of CSHCN whose conditions affect their activities usually, always, or a great deal	23.5	25.8	–9.85	0.002760	29.2	36.1	23.68	0.00467
Percent of CSHCN whose conditions cause family members to cut back or stop working	21.8	25.2	15.54	0.000012	28.0	34.8	24.30	0.00518
Percent of CSHCN without family centered care	30.1	35.5	17.71	0.000000	38.8	37.9	–2.52	0.69586
Percent of CSHCN with a routine preventive medical visit and a routine preventive dental visit	81.4	78.6	–3.44	0.000100	74.3	74.5	0.22	0.94398
Percent of CSHCN whose families pay $1,000 or more out of pocket in medical expenses per year	26.7	23.4	–12.28	0.000010	19.9	19.7	–0.87	0.93213

[1]Calculated as (converted HUDI respondent mean – non-HUDI respondent mean) / non-HUDI respondent mean.

NOTES: Estimates in this table are weighted by the base weights reflecting the probability of selection of the telephone number. HUDI is hung up during introduction; CSHCN is children with special health care needs.

Although these results suggest that differences between landline sample respondents and nonrespondents in terms of the frame information lead to very little bias in the key survey estimates, this does not necessarily mean that the key survey estimates are biased very little. It is possible that there are differences between the landline sample respondents and nonrespondents that are not reflected in the frame information.

In fact, the relationship between the frame information and the key survey variables is poor. One method of assessing how well the logistic regression model relates the frame information to the key survey variable is to examine the receiver operating characteristic (ROC) curve. For each child, the model produces a predicted probability of, for example, the child having special health care needs; the ROC curve shows how well the model prediction of whether the child has special needs agrees with whether the child truly has special needs, using various cutoff values for turning the model's predicted probability into a binary prediction of special-needs status. If the area under the ROC curve equals 1.0, then the model perfectly predicts the response for all cutoff values; if the area under the ROC curve equals 0.5, then the model does no better than random chance in predicting the response. The models relating the frame information to the key survey variables had areas under the ROC curves ranging from 0.53 to 0.61, indicating that the models do not do very much better than randomly choosing the response. Therefore, while the models indicate little bias in the key survey estimates, they have little power to detect such bias because the frame information is not well-related to the key survey variables.

The results in this section include only the landline sample and do not reflect the final raking of the nonresponse-adjusted weights to population control totals. This final raking could have reduced or increased bias, but if so, that reduction or increase was not captured in the analysis in this section. The next sections present analyses that made use of the final, raked weights for the dual-frame sample.

Comparison to similar estimates from other sources

While key survey estimates for CSHCN are not available from other sources, the Medical Expenditure Panel Survey (MEPS) produces an estimate of the special-needs prevalence rate. The most recent year for which the MEPS national special-needs prevalence rate is available is 2008. Whereas NS-CSHCN is a telephone survey, the MEPS Household Component is an in-person survey and reports a 2008 response rate of 59.3% (37); thus, MEPS may be a higher-quality source for the national special-needs prevalence rate estimate.

The 2008 MEPS national child-level special-needs prevalence rate estimate was 17.9% (38); the corresponding estimate from the 2009–2010 NS-CSHCN is somewhat lower, at 15.1%; that is, the NS-CSHCN estimate is 15.8% lower than the MEPS estimate. The difference could be attributable to nonresponse bias in NS-CSHCN, but it could also be due to other factors such as nonresponse bias in MEPS, mode differences between MEPS and NS-CSHCN (MEPS is in-person and

Table XLVI. Comparing non-HUDIs with converted HUDIs: Dual-frame sample

Key survey outcome	Using base weight				Using final weight			
	Estimate for non-HUDIs	Estimate for converted HUDIs	Percent difference between high-effort and low-effort respondents[1]	*p* value for test of no difference	Estimate for non-HUDIs	Estimate for converted HUDIs	Percent difference between high-effort and low-effort respondents[1]	*p* value for test of no difference
Special-needs prevalence rate	15.9	14.3	–9.90	0.000000	15.6	13.7	–12.02	0.000000
Percent of CSHCN with medical home	44.9	40.9	–8.99	0.000179	44.2	39.3	–10.94	0.000003
Percent of CSHCN with adequate insurance	61.7	58.4	–5.38	0.002294	61.2	58.6	–4.21	0.016008
Percent of CSHCN with any unmet need for specific health care services	22.2	23.6	6.01	0.165721	23.0	25.4	10.47	0.015675
Percent of CSHCN whose conditions affect their activities usually, always, or a great deal	25.7	29.5	14.69	0.000228	26.4	29.1	10.48	0.006151
Percent of CSHCN whose conditions cause family members to cut back or stop working	24.2	28.6	18.23	0.000015	24.1	27.6	14.32	0.000460
Percent of CSHCN without family-centered care	33.5	36.3	8.31	0.008489	34.3	38.9	13.43	0.000016
Percent of CSHCN with a routine preventive medical visit and a routine preventive dental visit	78.7	77.2	–1.91	0.114882	79.2	76.3	–3.71	0.001789
Percent of CSHCN whose families pay $1,000 or more out of pocket in medical expenses per year	24.0	22.1	–8.12	0.027506	22.9	19.7	–14.11	0.000035

[1]Calculated as (converted HUDI respondent mean – non-HUDI respondent mean) / non-HUDI respondent mean.

NOTES: HUDI is hung up during introduction; CSHCN is children with special health care needs.

NS-CSHCN is via telephone), measurement error in one or both surveys, or the different data-collection periods for the surveys (2008 for MEPS and 2009–2010 for NS-CSHCN).

Studying variation within the existing survey

In a ''level-of-effort'' analysis, respondents who respond only after a great deal of interviewing effort has been applied are assumed to resemble nonrespondents. Given this assumption, a difference in a survey estimate between ''high-effort'' respondents and ''low-effort'' respondents would indicate that a difference exists between the respondents and nonrespondents, and therefore, the survey estimate is biased.

''Interviewing effort'' was measured in three ways: verbal-refusal status, nonverbal-refusal status [i.e., whether the respondent ''hung up during the introduction'' (HUDI)], and the number of calls placed. It was assumed that respondents who verbally refused at least once, who nonverbally refused at least once, or who required more calls before completing the interview are high-effort respondents and would resemble the nonrespondents with respect to the key survey variables.

Table XLV compares, by sample type, the key survey estimates for converted verbal-refusal cases with those for cases that completed the interview without verbally refusing, using base weights. Table XLVI shows the same comparison for the dual-frame sample, first using the base weights, and then using the final weights. Tables XLVII and XLVIII show the comparisons for converted HUDIs compared with cases that completed without HUDI. Tables XLIX and L show the comparisons for households completing the interview in five calls or more compared with those completing it in four calls or fewer. If high-effort respondents resemble nonrespondents, then a difference in the survey estimate between converted refusals and nonrefusals, between converted HUDIs and non-HUDIs, or between those completing the interview in five calls or more and those completing it in four calls or less would suggest the presence of nonresponse bias.

The findings of the level-of-effort analyses for each of the key survey estimates presented in the tables are summarized below:

- The **special-needs prevalence rate** was significantly higher for converted refusals and was significantly lower for converted HUDIs and households completing in five calls or more. These results hold both for the dual-frame estimates as well as for the landline and cell-phone samples individually.
- The **percentage of CSHCN with medical homes** was not significantly different for converted refusals or households completing in five calls or more, but it was lower for converted HUDIs. The magnitudes of the significant differences were similar for both the landline and cell-phone samples.
- The **percentage of CSHCN with adequate insurance** was not significantly different for converted refusals, but it was significantly lower for converted HUDIs and marginally significantly lower for households completing in five calls or more. The magnitudes of the significant differences were similar

Table XLVII. Comparing nonrefusals with converted refusals, by sample type

Key survey outcome	Landline sample				Cell-phone sample			
	Estimate for nonrefusals	Estimate for converted refusals	Percent difference between high-effort and low-effort respondents[1]	*p* value for test of no difference	Estimate for nonrefusals	Estimate for converted refusals	Percent difference between high-effort and low-effort respondents[1]	*p* value for test of no difference
Special-needs prevalence rate	15.9	18.1	13.52	0.0000	14.3	16.5	15.25	0.0051
Percent of CSHCN with medical home	47.7	45.5	–4.57	0.0265	38.2	42.0	9.78	0.2196
Percent of CSHCN with adequate insurance	62.7	62.8	0.09	0.9506	57.9	59.4	2.59	0.6230
Percent of CSHCN with any unmet need for specific health care services	20.2	19.8	–1.97	0.6154	26.9	22.8	–15.35	0.1149
Percent of CSHCN whose conditions affect their activities usually, always, or a great deal	23.9	24.6	2.85	0.4275	30.4	32.8	8.13	0.3930
Percent of CSHCN whose conditions cause family members to cut back or stop working	22.7	22.1	–2.87	0.4355	29.3	30.1	2.68	0.7838
Percent of CSHCN without family-centered care	31.1	33.0	6.31	0.0357	38.7	38.5	–0.42	0.9570
Percent of CSHCN with a routine preventive medical visit and a routine preventive dental visit	81.0	79.7	–1.67	0.0900	74.7	72.0	–3.69	0.3198
Percent of CSHCN whose families pay $1,000 or more out of pocket in medical expenses per year	25.8	26.5	2.61	0.4349	19.5	22.0	12.92	0.3210

[1]Calculated as (converted refusal respondent mean – nonrefusal respondent mean) / nonrefusal respondent mean.

NOTES: Estimates in this table are weighted by the base weights reflecting the probability of selection of the telephone number. CSHCN is children with special health care needs.

for both the landline and the cell-phone samples.

- The **percentage of CSHCN with an unmet need** was not significantly different for converted refusals or households completing in five calls or more, but it was significantly higher for converted HUDIs (using final weights). This difference was observed in the landline sample but not in the cell-phone sample.
- The **percentage of CSHCN with activities affected** was not significantly different for converted refusals or households completing in five calls or more, but it was significantly higher for converted HUDIs. This difference was observed in both the landline and cell-phone samples.
- The **percentage of CSHCN whose conditions cause family members to cut back or stop working** was not significantly different for converted refusals or households completing in five calls or more, but it was significantly higher for converted HUDIs. This difference was observed in both the landline and cell-phone samples.
- The **percentage of CSHCN without family-centered care** was not significantly different for converted refusals, but it was significantly higher for converted HUDIs and households completing in five calls or more. The difference for converted HUDIs was observed in the landline sample but not in the cell-phone sample; the magnitudes of the difference for households completing in five calls or more were similar in the landline and cell-phone samples.
- The **percentage of CSHCN with a routine preventive medical visit and a routine preventive dental visit** was not significantly different for converted refusals or households completing in five calls or more, but it was significantly lower for converted HUDIs. This difference was observed in the landline sample but not in the cell-phone sample.
- The **percentage of CSHCN whose families pay $1,000 or more out of pocket in medical expenses per year** was not significantly different for converted refusals or households completing in five calls or more, but it was significantly lower for converted HUDIs. This difference was observed in the landline sample but not in the cell-phone sample.

The conclusions that one might draw from this level-of-effort analysis rely on the assumption that high-effort respondents resemble nonrespondents with respect to the survey variables. The validity of this assumption is questionable, and some studies have found that it does not hold (39,40). As part of the 2005–2006 NS-CSHCN nonresponse analysis and the 2007 National Survey of Children's Health nonresponse analysis, this assumption was tested using the frame information, which was available for both respondents and nonrespondents at each stage of the survey. (Because these surveys utilized only a landline sample, these tests of the level-of-effort assumption were limited to landline sample.) In both tests, converted refusals did not resemble nonrespondents in terms of the frame information. While converted HUDIs resembled nonrespondents better than converted refusals, respondents completing in five calls or more most resembled nonrespondents in terms of the frame information.

Table XLVIII. Comparing nonrefusals with converted refusals: Dual-frame sample

Key survey outcome	Using base weight				Using final weight			
	Estimate for nonrefusals	Estimate for converted refusals	Percent difference between high-effort and low-effort respondents[1]	*p* value for test of no difference	Estimate for nonrefusals	Estimate for converted refusals	Percent difference between high-effort and low-effort respondents[1]	*p* value for test of no difference
Special-needs prevalence rate	15.2	17.5	15.15	0.0000	14.8	16.5	11.49	0.0000
Percent of CSHCN with medical home	44.0	44.3	0.84	0.7638	43.2	41.7	–3.61	0.1827
Percent of CSHCN with adequate insurance	60.8	61.6	1.38	0.4860	60.4	61.2	1.31	0.4995
Percent of CSHCN with any unmet need for specific health care services	22.9	20.8	–8.95	0.0499	23.7	23.0	–2.95	0.5161
Percent of CSHCN whose conditions affect their activities usually, always, or a great deal	26.4	27.3	3.27	0.4474	26.8	28.4	5.96	0.1581
Percent of CSHCN whose conditions cause family members to cut back or stop working	25.3	24.7	–2.36	0.5941	25.2	24.0	–4.74	0.2643
Percent of CSHCN without family-centered care	34.0	34.8	2.28	0.5167	35.1	37.0	5.23	0.1213
Percent of CSHCN with a routine preventive medical visit and a routine preventive dental visit	78.5	77.1	–1.81	0.1893	78.6	77.6	–1.33	0.3155
Percent of CSHCN whose families pay $1,000 or more out of pocket in medical expenses per year	23.3	25.0	7.18	0.1065	22.0	22.7	3.13	0.4598

[1]Calculated as (converted refusal respondent mean – nonrefusal respondent mean) / nonrefusal respondent mean.

NOTE: CSHCN is children with special health care needs.

The tests of the assumptions, then, supported the idea that high-effort respondents resemble nonrespondents when "effort" is defined in terms of the number of call attempts. Under the assumption that respondents requiring five calls or more to complete the interview resemble nonrespondents, the analysis of the key survey variables by the number of calls needed to complete the survey (Table L) suggests that the final survey estimates of the special-needs prevalence rate are too high. That is, it is biased upward—and the final survey estimate of the percentage of CSHCN without family-centered care is too low; that is, it is biased downward.

To translate the differences between those completing in five calls or more and those completing in four calls or less into numerical estimates of bias for each key survey estimate, the five-or-more-calls respondent mean of the key survey estimate was assigned to all nonrespondents. The results are presented in Table LI. For example, when using the base weights, the special-needs prevalence rate based on all respondents was 15.6%, and Table LI shows that this rate for respondents completing in five calls or more was 14.6%. The dual-frame response rate through the special-needs screener was 30.9% (and therefore, the nonresponse rate was 69.1%). By assigning a weight of 0.309 to the 15.6% estimate for respondents, and by assuming an estimate of 14.6% for the nonrespondents and assigning them a weight of 0.691, an overall special-needs prevalence rate estimate for both respondents and nonrespondents of 14.9% was derived.

This method results in estimates of bias in the key survey estimates that are small in absolute value (i.e., 1 percentage point or less). Because the estimates of the biases are similar when the base weights and final weights are used, the weighting adjustments seem to have had little effect on the bias.

Conclusions

Assessing the extent to which nonresponse produces biased survey estimates is difficult, particularly in a multistage RDD survey where little information about the nonrespondents is known. This analysis has applied the most commonly used methods, each of which has its shortcomings. By taking multiple approaches, it was hoped that reasonably accurate conclusions about the level of nonresponse bias in key survey estimates could be drawn.

Generally, the results indicate that the interviewed population was more likely to live in rural and other areas with lower household density when compared with the nonresponding population. The interviewed population also was more likely to live in areas associated with higher levels of home ownership, lower home values, and a greater percentage of non-Hispanic white persons. When the nonresponse-adjusted weights were used, minor differences by home ownership, home values, and race remained. In general, the analysis suggests that nonresponse introduced small biases, but nonresponse adjustments to the weights substantially reduced biases. Table LII presents estimates of bias for each key survey estimate; the findings are summarized below.

Note that here, as elsewhere in this appendix, the biases are presented as percentage terms, not absolute terms. So a 5.1% bias in an estimate of 15.1% means that the reported estimate is 5.1%

Table XLIX. Comparing low-call-attempt respondents with high-call-attempt respondents, by sample type

Analysis variable	Landline sample				Cell-phone sample			
	Estimate for respondents with four calls or less	Estimate for respondents with five calls or more	Percent difference between high-effort and low-effort respondents[1]	*p* value for test of no difference	Estimate for respondents with four calls or less	Estimate for respondents with five calls or more	Percent difference between high-effort and low-effort respondents[1]	*p* value for test of no difference
Special-needs prevalence rate	17.3	15.2	–11.75	0.0000	15.3	13.7	–10.25	0.0023
Percent of CSHCN with medical home	48.5	46.2	–4.87	0.0016	38.6	38.8	0.59	0.9109
Percent of CSHCN with adequate insurance	63.5	61.9	–2.50	0.0265	59.6	56.6	–5.12	0.1401
Percent of CSHCN with any unmet need for specific health care services	19.9	20.4	2.20	0.4660	26.3	26.4	0.39	0.9560
Percent of CSHCN whose conditions affect their activities usually, always, or a great deal	23.8	24.2	1.64	0.5386	29.4	31.9	8.49	0.1951
Percent of CSHCN whose conditions cause family members to cut back or stop working	22.4	22.8	1.78	0.5255	27.5	31.3	13.77	0.0477
Percent of CSHCN without family-centered care	29.8	32.9	10.23	0.0000	37.6	39.6	5.22	0.3361
Percent of CSHCN with a routine preventive medical visit and a routine preventive dental visit	81.2	80.4	–0.95	0.1855	74.1	74.6	0.68	0.7851
Percent of CSHCN whose families pay $1,000 or more out of pocket in medical expenses per year	25.9	25.9	0.05	0.9830	18.9	20.8	10.14	0.2467

[1]Calculated as (five calls or more respondent mean – four calls or less respondent mean) / four calls or less respondent mean.

NOTES: Estimates in this table are weighted by the base weights reflecting the probability of selection of the telephone number. CSHCN is children with special health care needs.

higher than the ''true'' value; that is, the true value is 15.1% / 1.051 = 14.3%. In absolute terms, the maximum estimated bias for either the frame information or level-of-effort analyses presented in Table LII was 1.05 percentage points (for the percentage of CSHCN without family-centered care).

Special-needs prevalence rate

The analyses revealed inconsistent measures of the bias in the estimate of the percentage of CSHCN. The final prevalence rate estimate and 95% confidence limits were 15.1%, and 14.8% and 15.3%, respectively; the estimates of bias in this estimate were –0.04% (from the frame analysis based on only the landline sample), 5.1% (from the level-of-effort analysis), and –15.8% (based on the comparison with the MEPS estimate). The 2005–2006 NS-CSHCN nonresponse bias analysis suggested that the special-needs prevalence estimate was biased upwards slightly, which is consistent with the finding here for the 2009–2010 NS-CSHCN, based on the level-of-effort analysis.

Percentage of CSHCN with a medical home

The analysis detected little bias in the estimates of the percentage of CSHCN with a medical home. The final estimate and confidence interval of the percentage of CSHCN with a medical home was 43.0%, and 42.1% and 43.8%, and the estimates of bias in this estimate were –0.1% (from the frame analysis based only on the landline sample) and 1.3% (from the level-of-effort analysis). Both of these bias estimates imply that the true value is within the calculated 95% confidence interval. These results are very similar to those found in the 2005–2006 NS-CSHCN nonresponse bias analysis.

Percentage of CSHCN with adequate insurance

The analysis found little evidence of bias in the percentage of CSHCN with adequate insurance. The final estimate of the percentage of CSHCN with adequate insurance was 60.6% (95% confidence limits 59.7% and 61.5%). The estimates of the bias in this estimate were –0.1% (from the frame analysis) and 1.0% (from the level-of-effort analysis). These bias estimates are nearly identical to those estimated in the 2005–2006 NS-CSHCN nonresponse bias analysis.

Percentage of CSHCN with any unmet need for specific health care services

The analysis did not detect significant bias in the estimate of the percentage of CSHCN with any unmet need for specific health care services. The final estimate of the percentage of CSHCN with an unmet need was 23.6% (22.8%, 24.4%), and the bias was estimated to be 0.1% (frame analysis) and –0.7% (level-of-effort analysis).

Percentage of CSHCN whose conditions affect their activities usually, always, or a great deal

The analysis detected little bias in the estimate of the percentage of CSHCN whose conditions affect their activities usually, always, or a great deal. The final estimate of the percentage of CSHCN with activities affected was 27.1% (26.2%, 27.9%).

Table L. Comparing low-call-attempt respondents with high-call-attempt respondents: Dual-frame sample

Key survey outcome	Using base weight				Using final weight			
	Estimate for respondents with four calls or less	Estimate for respondents with five calls or more	Percent difference between high-effort and low-effort respondents[1]	*p* value for test of no difference	Estimate for respondents with four calls or less	Estimate for respondents with five calls or more	Percent difference between high-effort and low-effort respondents[1]	*p* value for test of no difference
Special-needs prevalence rate	16.4	14.6	–10.87	0.0000	16.1	14.0	–13.02	0.0000
Percent of CSHCN with medical home	44.7	43.3	–3.15	0.1248	43.7	42.3	–3.35	0.1059
Percent of CSHCN with adequate insurance	62.0	59.9	–3.48	0.0176	61.4	59.7	–2.76	0.0631
Percent of CSHCN with any unmet need for specific health care services	22.4	22.7	1.46	0.6854	23.4	23.8	1.90	0.5906
Percent of CSHCN whose conditions affect their activities usually, always, or a great deal	26.0	27.2	4.66	0.1501	26.5	27.6	4.37	0.1719
Percent of CSHCN whose conditions cause family members to cut back or stop working	24.4	26.1	7.03	0.0397	24.3	25.6	5.24	0.1273
Percent of CSHCN without family-centered care	32.8	35.5	8.11	0.0030	33.9	36.8	8.63	0.0013
Percent of CSHCN with a routine preventive medical visit and a routine preventive dental visit	78.5	78.2	–0.39	0.6974	79.1	77.9	–1.41	0.1490
Percent of CSHCN whose families pay $1,000 or more out of pocket in medical expenses per year	23.2	23.9	3.11	0.3382	22.4	21.8	–2.51	0.4260

[1]Calculated as (five calls or more respondent mean – four calls or less respondent mean) / four calls or less respondent mean.

NOTE: CSHCN is children with special health care needs.

The bias in this estimate was estimated to be 0.2% (frame analysis) and –1.5% (level-of-effort analysis).

Percentage of CSHCN whose conditions cause family members to cut back or stop working

The analysis found little bias in the estimate of the percentage of CSHCN whose conditions caused family members to cut back or stop working. The final estimate was 25.0% (24.2%, 25.8%). The bias in this estimate was estimated to be –0.01% (frame analysis) and –1.8% (level-of-effort analysis).

Percentage of CSHCN without family-centered care

The estimate of the percentage of CSHCN without family-centered care may be slightly too low. The final survey estimate was 35.4% (34.5%, 36.3%). The bias in this estimate was estimated to be –0.2% (frame analysis) and –2.9% (level-of-effort analysis). If the estimated bias based on the level-of-effort analysis is accurate, then the true value of the percentage of CSHCN without family-centered care was higher than the calculated survey estimate and falls outside the 95% confidence range.

Percentage of CSHCN with a routine preventive medical visit and a routine preventive dental visit

The analysis did not detect significant bias in the estimate of the percentage of CSHCN with a routine preventive medical visit and a routine preventive dental visit. The final estimate of the percentage of CSHCN with routine preventive visits was 78.5% (77.7%, 79.3%), and the bias was estimated to be –0.04% (frame analysis) and 0.5% (level-of-effort analysis).

Percentage of CSHCN whose families pay $1,000 or more out of pocket in medical expenses per year

The analysis did not detect significant bias in the estimate of the percentage of CSHCN whose families pay $1,000 or more out of pocket in medical expenses per year. The final survey estimate and confidence interval were 22.1%, and 21.4% and 22.8%, and the bias was estimated to be 0.8% (frame analysis) and 0.9% (level-of-effort analysis).

Table LI. Estimates of nonresponse biases in the key survey estimates, based on the comparison of respondents with five calls or more with all respondents: Dual-frame sample

Key survey outcome	Using base weights				Using final weights			
	Estimate, all respondents	Estimate, respondents with five calls or more	Estimate, respondents and nonrespondents[1]	Estimated percent bias[2]	Estimate, all respondents	Estimate, respondents with five calls or more	Estimate, respondents and nonrespondents[1]	Estimated percent bias[2]
Special-needs prevalence rate	15.55	14.59	14.89	4.43	15.07	14.01	14.34	5.13
Percent of CSHCN with medical home	44.02	43.33	43.51	1.18	42.96	42.25	42.43	1.25
Percent of CSHCN with adequate insurance	60.92	59.86	60.13	1.31	60.56	59.74	59.95	1.02
Percent of CSHCN with any unmet need for specific health care services	22.53	22.69	22.65	–0.53	23.62	23.84	23.78	–0.68
Percent of CSHCN whose conditions affect their activities usually, always, or a great deal	26.57	27.16	27.01	–1.64	27.07	27.63	27.49	–1.52
Percent of CSHCN whose conditions cause family members to cut back or stop working	25.22	26.06	25.84	–2.42	24.99	25.61	25.45	–1.81
Percent of CSHCN without family-centered care	34.16	35.47	35.13	–2.76	35.41	36.83	36.47	–2.89
Percent of CSHCN with a routine preventive medical visit and a routine preventive dental visit	78.31	78.15	78.19	0.14	78.47	77.93	78.07	0.51
Percent of CSHCN whose families pay $1,000 or more out of pocket in medical expenses per year	23.58	23.93	23.84	–1.1	22.11	21.84	21.91	0.92

[1]Calculated as (estimate for all respondents × response rate) + (estimate for respondents with five calls or more × nonresponse rate).

[2]Calculated as (estimate for all respondents – estimate for respondents and nonrespondents) / estimate for respondents and nonrespondents.

NOTE: CSHCN is children with special health care needs.

Table LII. Estimates of survey bias in key survey variables, by method used to estimate the bias

Analysis variable	Key survey estimate (95% confidence interval)	Estimates of bias[1]		Comparison with MEPS estimate analysis
		Frame information analysis[2]	Level-of-effort analysis	
Special-needs prevalence rate	15.07 (14.84, 15.30)	–0.04	5.13	–15.81
Percent of CSHCN with medical home	42.96 (42.07, 43.84)	–0.13	1.25	. . .
Percent of CSHCN with adequate insurance	60.56 (59.67, 61.45)	–0.06	1.02	. . .
Percent of CSHCN with any unmet need for specific health care services	23.62 (22.81, 24.43)	0.08	–0.68	. . .
Percent of CSHCN whose conditions affect their activities usually, always, or a great deal	27.07 (26.24, 27.91)	0.15	–1.52	. . .
Percent of CSHCN whose conditions cause family members to cut back or stop working	24.99 (24.17, 25.81)	–0.01	–1.81	. . .
Percent of CSHCN without family-centered care	35.41 (34.52, 36.31)	–0.15	–2.89	. . .
Percent of CSHCN with a routine preventive medical visit and a routine preventive dental visit	78.47 (77.71, 79.23)	–0.04	0.51	. . .
Percent of CSHCN whose families pay $1,000 or more out of pocket in medical expenses per year	22.11 (21.42, 22.80)	0.77	0.92	. . .

. . . Category not applicable.

[1]Biases are presented in percentage terms, not absolute terms. So, a 5.13% bias in an estimate of 15.07 means that the reported estimate is 5.13% higher than the true value; that is, the true value is 15.07 / 1.0513 = 14.33.

[2]Because the frame information was available only for the landline sample, the bias estimates presented here apply only to the landline sample.

NOTES: Key survey estimates use final weights that have been adjusted for nonresponse and raked to population control totals; estimates of bias use the nonresponse-adjusted or raked weights, depending on the analysis. MEPS is Medical Expenditure Panel Survey; CSHCN is children with special health care needs.

Appendix XIV. Multiple Imputation of Income and Demographic Variables

The 2009–2010 National Survey of Children with Special Health Care Needs (NS-CSHCN) provides a rich source of data for studying the relationships between income and health and for monitoring health and health care for children with special health care needs (CSHCN) at different income levels. However, as is common for most household interview surveys, nonresponse rates were high for the questions on total combined household income for the previous calendar year. Answers to these questions, along with the number of people living in the household, are used to create an index of income relative to the Department of Health and Human Services Federal Poverty Guidelines. If data for either of these two components were missing, refused, or had a ''don't know'' response, the household poverty status indicator was assigned a missing value code in the publicly released data sets. (Further details about the procedures for assigning household poverty status are available in Appendix VI.)

For the 2009–2010 NS-CSHCN, poverty status is missing for 18.8% of the households (36,907 of 196,159 households). Missing values for poverty status were predominately the result of missing data for income, rather than missing data for household size. Only 7,572 households (3.9%) had missing data for household size.

Nonresponse analysis shows that missingness is related to several variables, including items pertaining to health, neighborhood and community characteristics, and demographics. Thus, the respondents cannot be treated as a random subset of the original sample. It follows that the most common method for handling missing data in software packages, ''complete-case analysis'' (also known as ''listwise deletion''), will generally be biased because this method deletes cases that are missing any of the variables involved in the analysis. Moreover, because deletion of incomplete cases discards some of the observed data, complete-case analysis is generally inefficient as well; that is, it produces inferences that are less precise than those produced by methods that use all of the observed data.

Imputation is a more appropriate approach to handling nonresponse on items in a survey for several reasons. First, imputation adjusts for observed differences between item nonrespondents and item respondents; such an adjustment is generally not made by complete-case analysis. Second, imputation results in a completed data set, so that the data can be analyzed using standard software packages without discarding any observed values. Third, when a data set is being produced for analysis by the public, imputation by the data producer allows the incorporation of specialized knowledge about the reasons for missing data in the imputation procedure, including confidential information that cannot be released to the public. Moreover, the nonresponse problem is addressed in the same way for all users so that analyses will be consistent across users. Imputed values are flagged in the public-use microdata, so analysts who prefer to work only with unimputed data have that option.

Although single imputation, that is, imputing one value for each missing datum, enjoys the positive attributes just mentioned, analysis of a singly imputed data set using standard software generally fails to reflect the uncertainty stemming from the fact that the imputed values are plausible replacements for the missing values but are not the true values themselves. As a result, analyses of singly imputed data tend to produce estimated standard errors that are too small, confidence intervals that are too narrow, and significance tests that reject the null hypothesis too often when it is true.

Multiple imputation is a technique that seeks to retain the advantages of single imputation while also allowing the uncertainty due to imputation to be reflected in the analysis (41). The idea is to first simulate $M > 1$ plausible sets of replacements for the missing values, which are then combined with the nonmissing values to generate M complete data sets. The M complete data sets are then analyzed separately using a standard method for analyzing complete data, and finally, the results of the M analyses are combined in a way that reflects the uncertainty due to imputation. For public-use data, M is not usually greater than five, which is the value that has been used here in multiply imputing missing data for NS-CSHCN.

This appendix describes the procedures used in multiply imputing household income and household size for NS-CSHCN. Household poverty status is expressed as a percentage; households with income below 100% of the federal poverty level are considered to be living in poverty. For each of the multiply imputed data sets, household poverty status was derived from the imputed values for household income and household size.

Income relative to the poverty level and household size were not the only variables with missing data. Item nonresponse rates for questions on race, ethnicity, highest education in the household, and primary household language were higher in 2009–2010 than in 2001 or 2005–2006. The position of these questions in the questionnaire had been moved from very early in the interview (in the CSHCN Screener section) to very late in the interview for the 2009–2010 survey. The higher level of item nonresponse on these questions in the 2009–2010 survey was nonrandom with respect to the presence of CSHCN in the household—households with CSHCN were more likely than households without CSHCN to have missing data on these variables—and thus it was decided to impute missing data for these variables as well. The highest education in the household was missing for 11,741 households (5.9% of households); primary language was missing for 10,326 households (5.2%); child's ethnicity was missing for 20,059

children (5.3% of children) in 8,922 households (4.5% of households); and child's race was missing for 43,132 children (11.4% of children) in 19,245 households (9.7% of households).

Imputation Procedures

Income, household size, and the other demographic variables listed above were each imputed five times. The literature on multiple imputation suggests that this is a sufficient number of imputations unless the amount of missing information is extreme (41). As noted earlier, the number of survey records with missing household size values was much smaller than the number of survey records with missing household income values. Because there was very little missingness in household size to explain, predictors for household size were not explored separately from predictors for household income. Therefore, household size was imputed using the same predictors used for household income (and the same decision was made for the other demographic variables to be imputed). When both household size and household income were missing for a single case, five *pairs* of imputed values were produced.

Five data sets at the household level were created, containing imputed values for income, household size, highest education in the household, and primary language in the household. Five data sets were created at the child level, containing imputed values for child race and ethnicity. However, because children in most households with multiple children share the same race and ethnicity as their siblings, race and ethnicity were imputed at the household level with the other variables, and all children with missing race or ethnicity in a particular household were given the same imputed values of race and ethnicity that were generated for the household.

The imputation of household income and household size was complicated by two issues. First, household income was not normally distributed. This is a disadvantage because linear regression modeling assumes that the dependent variable being modeled has a normal distribution. Therefore, a transformed variable was used for modeling and imputation. To determine the suitable transformation for income to conform to the normality assumption in the imputation model, Box-Cox transformations were estimated from the observed data. The optimal transformation was the fifth-root (income to the power of 0.2). After the imputation procedure was completed, the imputed values were transformed back to their original scale.

Second, in some cases, the imputed values of household income and household size needed to be constrained within certain bounds. Household respondents were asked to provide an exact household income. However, when respondents did not provide an exact household income, a series (i.e., cascade) of questions asking whether the household income was below, exactly at, or above threshold amounts were then asked. The multiple-imputation procedures employed for NS-CSHCN needed to impute the income value so that it was consistent with any information gathered from the cascade questions. For households with missing data on household size, the imputed values needed to be restricted so that they were consistent with other information provided in the survey (e.g., household size is greater than the number of children in the household).

The software IVEware (available online at http://www.isr.umich.edu/src/smp/ive) allows the user to specify lower and upper limits of imputed values, constraining the imputation distribution from which draws are made. This software has been used to impute family income and family earnings for the National Health Interview Survey, and to impute household income and household size (to derive household poverty status) for the 2001 and 2005–2006 NS-CSHCNs and the 2003 and 2007 National Survey of Children's Health (NSCH).

IVEware uses sequential regression multivariate imputation (SRMI). With sequential regression imputations, income and household size had separate models that used the same covariates, including each other. This technique was not as robust as some other imputation techniques that specify a joint model for both income and household size conditional on the predictor variables (42,43). However, this slight disadvantage of using SRMI is outweighed by IVEware's ability to constrain the imputed values within specified lower and upper limits.

IVEware builds regression models, and then multiply imputes variables based on the models built. For understanding relationships between variables, parsimony is desired, but in prediction (imputation can be thought of as "predicting" the missing values), more complicated models are often better for two reasons. First, using more variables leads to a higher correlation between the observed and predicted values for a model. Second, the validity of analyses conducted on multiply imputed data sets is broader when more variables are included in the model.

In the imputation model, as many predictors as possible were included. To produce high-quality imputations, variables that were potentially related to household income and potentially related to the missingness of household income were included. Another important consideration was to include variables that account for features of the sampling design. Inclusion of variables to reflect the sampling design is necessary so that approximately valid inferences will be obtained when the multiply imputed data are analyzed.

The imputation model included variables related to the questionnaire items on demographics (for the child and household), health and functional status of the child, health insurance coverage, health care access and utilization, medical home, and characteristics of the telephone exchange. For most of the variables, the "refused" or "don't know" answers were recoded to missing. For some variables having logical skips, logical imputation was used to obtain more complete variables. For example, the variable C11Q11 (receipt of cash assistance) is missing when the household's income does not qualify for the cash assistance. Therefore, it was recoded as a no response for such households. Also, some categorical

variables were recoded or collapsed to reduce the number of rarer categories, and some continuous variables with long-tailed distributions were recoded with top-coding. For example, for the variable C6Q00 (number of emergency room visits), the values ranged from 0 to 365, with small frequencies for values greater than 3. The number of categories was reduced to four with category ''3'' defined as three visits or more.

In addition, for the CSHCN interview variables, it was necessary to make a decision regarding the noninterview cases; most (79.6%) households in the main sample were not selected for the interview. It was decided that the noninterview cases were most likely to be children without special needs, so the most appropriate values given that assumption were logically imputed (for example, variables C3_Q21 through C3_Q29 were set to ''child experiences no difficulty''). This was preferable to leaving these values missing, which would lead the modeling to behave as though the noninterview cases were equivalent to the interview cases.

Because fitting the regressions in the SRMI procedure does not automatically account for features of the sample design, variables reflecting the design were included as predictors in the regression models. The strata for this design were the 50 states and the District of Columbia. To account for the stratum effect, states, in the form of 50 indicator variables, and state-level income summary variables (mean and standard deviation with log transformation) were considered as possible covariates in the imputation model. Survey weights also were considered as covariates in the model, after transforming the weights to a logarithmic scale. Ultimately, the state-level income summary variables were dropped before the final imputations were carried out, while the state indicator variables and the weight variable were retained in the final model.

Any variables that were included in the imputation models but were missing in some survey records were imputed in IVEware iteratively with the imputation of income and the other demographic variables.

Results of Modeling

Table LIII shows the 119 variables used in the imputation modeling, with full text descriptions of the variables and grouped by data category: interview, household, screener, design, or Genesys (the sample vendor provided contextual data measured at the telephone exchange level). Table LIV shows the same 119 variables in order of their stepwise selection for the income imputation model; 115 out of 119 variables were eventually included in the model. Most, but not all, have a significant relationship with income. Those with negative parameters decrease predicted income, whereas those with positive parameters increase predicted income. The model was highly significant, $F(262, 143{,}765) = 463.41$, $p < 0.0001$. The R-squared value for the final model was 0.4579. The square root of the R-squared value (0.6767) shows a strong correlation between the observed values of income and the values predicted by the model.

It should be noted that the imputed values for family income were not obtained from this regression model. The imputed values were drawn from the posterior distribution of missing family income based on the model derived from this regression.

Use of Multiply Imputed Values

The derived poverty level variable that is available for public use was calculated from household income and household size. When either or both were missing, the derived poverty level was calculated from the imputed values. Regardless of whether the derived poverty level was based on reported or imputed values, the variable has been given the same name (POVLEVEL_IMP). A flag (POVLEVEL_F) indicates whether the derived poverty level was based on reported or imputed values.

When missing, household income and household size were imputed five times. Therefore, the resulting data set contains five times as many observations as were in the original data set. For the 2009–2010 NS-CSHCN, the data sets have 5(196,159) = 980,795 records. Each complete set of derived poverty level values is distinguished by the SAS variable IMPUTATION. Therefore, each IDNUMR value appears five times in the file, with IMPUTATION having values of 1, 2, 3, 4, and 5 corresponding to the five separate complete sets of derived poverty level values.

The public-use data files for NS-CSHCN do not include household income to protect against inadvertent disclosure of survey subjects' identities. Only poverty level is reported on the public-use data files. Similarly, imputed household income will not be released as public-use data. Researchers interested in accessing the original and imputed household income data may access the data through the National Center for Health Statistics' Research Data Center.

The other imputed variables on the household file consist of highest education in the household (EDUCR_IMP, with flag variable EDUCR_F indicating whether cases were imputed); primary language in the household (PLANGUAGE_IMP, with flag variable PLANGUAGE_F indicating whether cases were imputed); and number of adults in the household, top-coded at 4 (TOTADULTR_IMP, with flag variable TOTADULTR_F indicating whether cases were imputed).

Imputed child race and ethnicity appear on the imputed-screener file. Again, when missing, values were imputed five times, and the resulting screener data set contains five times as many observations as in the original data set, or 5(371,617) = 1,858,085 records. The imputed variables on the screener file consist of HISPANIC_IMP, with flag variable HISPANIC_F; RACER_IMP, with flag variable RACER_F; RACEASIA_IMP, with flag variable RACEASIA_F; RACE_HI_IMP, with flag variable RACE_HI_F; and RACENAAN_IMP, with flag variable RACENAAN_F.

Three possible ways to analyze the data are described below. One invalid way to use the data that researchers should not attempt is also described.

Considering valid methods, a complete-case (only) analysis is the simplest, which uses only the cases with observed values. This can be done by using the poverty-level variable (POVLEVEL) in the NS-CSHCN data file. Any analysis using this variable could be biased due to nonresponse, and the variability will be larger because of the missing values.

The second possible method is to use only a single imputation from the multiple-imputation files. Each of the five imputations has been drawn from a valid distribution based on a regression model, but this model and the distribution are slightly different for each imputation. To analyze only one imputation, choose only the subset of cases with IMPUTATION = *c*, where *c* is 1, 2, 3, 4, or 5. Single imputation analyses result in estimated standard errors that are too small because the imputed values are treated as if they were observed. This ignores the inherent uncertainty resulting from lack of knowledge about the true (unobserved) value but is superior to the complete-case analysis. Note that slightly different results will be obtained depending on which subset of cases is chosen, but no subset is superior to another.

The most statistically valid way to analyze the data is to analyze all five imputed data sets together. To do this, five separate analyses are conducted, one on each of the five imputed data sets. These analyses are then combined following the standard multiple-imputation combining rules (41). This is superior to the previous two methods.

An invalid way to analyze the data is to combine the five imputed values into one analysis. For example, taking the average poverty level (which might not be an integer) to derive one ''average'' poverty status value per case is invalid. Poverty status must be analyzed as a multiply imputed variable with SAS, SUDAAN, IVEware, or another appropriate statistical software package to make use of the multiply imputed data.

Regardless of the statistical software used to analyze the data, one must merge the survey data from the public-use analysis files with the data from the multiple-imputation file by the unique household identifier (IDNUMR). To combine the imputation and child-interview files, analysts must first sort both files by IDNUMR and then merge them using this identifier as the merge variable. To combine the imputation and screener files, this technique will not work because there will be multiple records for each IDNUMR value in each of the two files (multiple children per household in the screener file and five records per household in the imputation file). Instead, analysts should create five separate data sets from the imputation file (one for each iteration of the IMPUTATION variable) and merge each of these with the public-screener data by IDNUMR. Then, the five merged data sets can be combined into one analysis file.

For SAS analyses, it is also very important to have the data set sorted by IMPUTATION because analyses of the multiply imputed data need to be done separately by IMPUTATION. Separate analyses are specified in SAS by using the procedure option keyword BY (''BY IMPUTATION''; there should be one line within the analysis). In SAS, the two basic steps to using the multiply imputed data are to 1) analyze the data separately by IMPUTATION as if each were a separate data set, and 2) combine the results from the different imputed data sets using the SAS procedure PROC MIANALYZE. In the first step, separate analyses are done with options set to keep the covariances that are needed to combine the analyses. Then, PROC MIANALYZE combines these different analyses using the standard multiple-imputation combining rules.

For SUDAAN analyses, a separate analytical file is necessary for each of the five imputations. The five data sets should then be sorted by the stratum variables (STATE and SAMPLE) and the primary sampling unit (IDNUMR) variable as described in ''Estimation and Hypothesis Testing'' in the main text section. To analyze the data using the five imputation files, the MI_COUNT command should be added to the SUDAAN procedure call. The MI_COUNT command tells SUDAAN how many imputation files to expect.

Further instructions and examples for using SAS and SUDAAN are available in the ''User's Guide,'' included as part of an earlier report on the multiple imputation of missing household poverty-level values from the 2001 NS-CSHCN and the 2003 NSCH (44).

Table LIII. Independent variables used in multiple-imputation model

Model variable	Category	Description
COLLEGE_GRADUATE_Q	Genesys	Number of college graduates by exchange
TOTAL_HHN_Q	Genesys	Total number of HH
TOTAL_POPULATION_Q	Genesys	Total population
AGE_0_17_P_Q	Genesys	Percentage of people aged 0–17 years by exchange
AGE_18_34_P_Q	Genesys	Percentage of people aged 18–34 by exchange
AGE_35_54_P_Q	Genesys	Percentage of people aged 35–54 by exchange
AGE_55_P_Q	Genesys	Percentage of people aged 55 and over by exchange
INC_0_25_P_Q	Genesys	Percentage of income $0–$25,000 by exchange
INC_25_50_P_Q	Genesys	Percentage of income $25,000–$50,000 by exchange
INC_50_75P_Q	Genesys	Percentage of income $50,000–$75,000 by exchange
INC_75_P_Q	Genesys	Percentage of income $75,000 or more by exchange
HOUSEHOLD_DENSITY_Q	Genesys	HH density by exchange
MEDIAN_HH_INCOME_Q	Genesys	Median household income by exchange
MEDIAN_HOME_VAL_Q	Genesys	Median home value by exchange
MEDIAN_RENT_Q	Genesys	Median rent by exchange
MEDIAN_YEARS_EDUC_Q	Genesys	Median years of education by exchange
OWNER_OCCUPIED_P_Q	Genesys	Percentage of housing ownership by exchange
ASIAN_PACIF_P_Q	Genesys	Percentage of Asian or Pacific Islander persons by exchange
BLACK_P_Q	Genesys	Percentage of black persons by exchange
HISPANIC_P_Q	Genesys	Percentage of Hispanic persons by exchange
WHITE_P_Q	Genesys	Percentage of white persons by exchange
C11Q12_R	Interview	Receive supplemental security income?
C3Q02_R	Interview	How often has child's [medical, behavioral, or other health conditions/ emotional, developmental, or behavioral problems] affected [his/her] ability to do things other children age do?
C3Q11_R	Interview	Best describes child's health care needs: child's health care needs change all the time, child's health care needs change only once in a while, or child's health care needs are usually stable?
C3Q15_R	Interview	Did child use any type of alternative health care or treatment?
C3Q21_R	Interview	Would you say child experiences a lot, a little, or no difficulty seeing even when wearing glasses or contact lenses?
C3Q22_R	Interview	Would you say child experiences a lot, a little, or no difficulty hearing even when using a hearing aid or other device?
C3Q23_R	Interview	Would you say child experiences a lot, a little, or no difficulty with breathing or other respiratory problems, such as wheezing or shortness of breath?
C3Q24_R	Interview	Would you say child experiences a lot, a little, or no difficulty with swallowing, digesting food, or metabolism?
C3Q25_R	Interview	Would you say child experiences a lot, a little, or no difficulty with blood circulation?
C3Q26_R	Interview	Would you say child experiences a lot, a little, or no difficulty with repeated or chronic physical pain, including headaches?
C3Q28_R	Interview	Compared with other [s.c.'s age] -old children would you say child experiences a lot, a little, or no difficulty with coordination or moving around?
C3Q29_R	Interview	Compared with other [s.c.'s age] -old children, would you say child experiences a lot, a little, or no difficulty using [his/her] hands?
C4Q02A_R	Interview	Do you have one or more persons you think of as child's personal doctor or nurse?
C4Q02BX08_NBC_R	Interview	Personal doctor or nurse—mental health professional
C4Q03_A_R	Interview	Did you have any difficulties or delays getting services for child because child was not eligible for the services?
C4Q03_B_R	Interview	Did you have any difficulties or delays because the services child needed were not available in your area?
C4Q03_C_R	Interview	Did you have any difficulties or delays because there were waiting lists, backlogs, or other problems getting appointments?
C4Q03_D_R	Interview	Did you have any difficulties or delays because of issues related to cost?
C4Q03_E_R	Interview	Did you have any difficulties or delays because you had trouble getting the information you needed?
C4Q0A_R	Interview	Is there a place that child usually goes when child is sick or you need advice about [his/her] health?
C4Q0B_R	Interview	Place child goes to most often
C4Q0D_R	Interview	Is there a place that child usually goes when child needs routine preventive care, such as a physical examination or well-child check-up?
C6Q00_R	Interview	How many times did child visit a hospital emergency room?
C6Q02_R	Interview	How often did child's doctors and other health care providers spend enough time with [him/her]? Would you say never, sometimes, usually, or always?
C6Q03_R	Interview	How often did child's doctors and other health care providers listen carefully to you? Would you say never, sometimes, usually, or always?
C6Q04_R	Interview	When child is seen by doctors or other health care providers, how often are they sensitive to your family's values and customs? Would you say never, sometimes, usually, or always?
C6Q05_R	Interview	How often did you get the specific information you needed from child's doctors and other health care providers? Would you say never, sometimes, usually, or always?
C6Q06_R	Interview	How often did child's doctors or other health care providers help you feel like a partner in [his/her] care? Would you say never, sometimes, usually, or always?
C7Q01_R	Interview	Is child covered by any Medicaid plan?
C7Q02_R	Interview	Is child covered by the state children's health insurance program or CHIP? In this state, the program is sometimes called [program name].
C7Q03_R	Interview	Child covered by health insurance that is provided through an employer or union?
C7Q04_R	Interview	Is child covered by any Medicaid plan or the state children's health insurance program?
C7Q05_R	Interview	Is child covered by military health care, Tricare, Champus, or Champ-VA?

See footnotes at end of table.

Table LIII. Independent variables used in multiple-imputation model—Con.

Model variable	Category	Description
C7Q07_R	Interview	Is child covered by any other health insurance or health care plan?
C7Q09_R	Interview	It appears that child does not have any health insurance coverage to pay for both hospitals and doctors and other health professionals. Is that correct?
C7Q11_R	Interview	Was there any time when child was not covered by any health insurance?
C8Q01_A_R	Interview	Does child's health insurance offer benefits or cover services that meet [his/her] needs? Would you say never, sometimes, usually, or always?
C8Q01_C_R	Interview	Does child's health insurance allow [him/her] to see the health care providers child needs? Would you say never, sometimes, usually, or always?
C9Q01_R	Interview	Would you say that the family paid more than $500, $250–$500, less than $250, or nothing for child's medical care?
C9Q01_A_R	Interview	Would you say that the family paid more than $5,000, $1,000–$5,000, or less than $1,000 for child's medical care?
C9Q02_R	Interview	Do you or other family members provide health care at home for child?
C9Q03_R	Interview	How many hours per week do you or other family members spend providing this kind of care?
C9Q04_R	Interview	How many hours per week do you or other family members spend arranging or coordinating child's care?
C9Q05_R	Interview	Have child's health conditions caused financial problems for your family?
C9Q06_R	Interview	[Not including the family members who stopped working,] have you or other family members cut down on the hours you work because of child's health conditions?
C9Q10_R	Interview	Have you or other family members stopped working because of child's health conditions?
C9Q11_R	Interview	Have you or other family members avoided changing jobs because of concerns about maintaining health insurance for child?
K2Q40A_R	Interview	Has a doctor or other health care provider ever told you that child had asthma?
K2Q41A_R	Interview	Has a doctor or other health care provider ever told you that child had diabetes?
K2Q42A_R	Interview	Has a doctor or other health care provider ever told you that child had epilepsy or seizure disorder?
K2Q43A_R	Interview	Has a doctor or other health care provider ever told you that child had migraines or frequent headaches?
K2Q44A_R	Interview	Has a doctor or other health care provider ever told you that child had a head injury, concussion, or traumatic brain injury?
K2Q45A_R	Interview	Has a doctor or other health care provider ever told you that child had heart problem, including congenital heart disease?
K2Q46A_R	Interview	Has a doctor or other health care provider ever told you that child had blood problems such as anemia or sickle cell disease?
K2Q47A_R	Interview	Has a doctor or other health care provider ever told you that child had cystic fibrosis?
K2Q48A_R	Interview	Has a doctor or other health care provider ever told you that child had cerebral palsy?
K2Q49A_R	Interview	Has a doctor or other health care provider ever told you that child had muscular dystrophy?
K2Q50A_R	Interview	Has a doctor or other health care provider ever told you that child had down syndrome?
K2Q51A_R	Interview	Has doctor or other health care provider ever told you that child had arthritis or other joint problems?
K2Q52A_R	Interview	Has a doctor or other health care provider ever told you that child had allergies?
RELATION_R	Interview	DERIVED. Respondent's relation to selected child
CASHASST	Household	HH member received cash assistance from welfare
OWNHOME	Household	Own home
CELLPHONE	Household	Do you or anyone in your household have a working cell phone?
NUMCELL	Household	How many working cell phones do you and your household members have?
INTERUPT	Household	Has your household been without landline service for 1 week or more during the past 12 months?
EDUC	Household	Highest education level of anyone in HH
NM_NSP	Household	Total number of children in household without a special health care need
NM_NSPF	Household	Total number of female children in household without a special health care need
NM_SP	Household	Total number of children in household with a special health care need
WEEKNOPH	Household	Without telephone service for 1 week or more during the past 12 months
OLDESTAGE	Household	IMPUTED. What is the age of the oldest adult living in the household?
NOTENG	Household	Interview done in language other than English
TELSTATUS	Household	IMPUTED. Household telephone status for landline sample (telephone_status)
TOTKIDS	Household	DERIVED. Total number of children in household aged 0–17 years
TOTKIDSF	Household	DERIVED. Total number of female children in household
TOTPERS	Household	DERIVED. Total number of people living in household
MSA	Household	True metropolitan statistical area status (three categories)
WEIGHT_H	Household	HH weight
STATE	Household	DERIVED. True state of residence
HHSTATUS	Household	FLAG. Interview status of this household
PLANG3	Household	What is the primary language spoken in your home?
CALLYRF	Screen	Interview begin year
ALLMALE	Screen	All male children in HH
ALLFEM	Screen	All female children in HH
MIXGEND	Screen	Both female and male child in HH
HMORECARE	Screen	Any child in HH needs more med care/mental hlth/educ than peers
HPRESCRIPT	Screen	Any child in HH currently needs prescription medication
HLMTABIL	Screen	Any child in HH limited in ability to do things
HSPEECH	Screen	Any child in HH needs physical, occupational, or speech therapy
HEMOTPROB	Screen	Any child in HH has emotional, developmental, or behavioral problem
HHASNEED	Screen	FLAG. Special-needs child or nonspecial-needs child, based on the screener

See footnotes at end of table.

Table LIII. Independent variables used in multiple-imputation model—Con.

Model variable	Category	Description
OLDEST	Screen	Age of oldest child in HH
YOUNG	Screen	Age of youngest child in HH
RACEARRAY_11CAT	Screen	All responses to race of child (after back coding)
HISPANIC_HH	Screen	Indicates whether child is of Hispanic origin or ethnicity
STATE_MEAN	Design	Transformed income mean by state
STATE_STD	Design	Transformed income STD by state

NOTE: HH is household.

Table LIV. Parameter estimates for the multiple-imputation model

Parameter	Estimate	Standard error	*t* value	*p* value of *t* statistic
Intercept	8.3032	0.6433	12.91	<0.0001
educ 1	–1.4979	0.0197	–76.01	<0.0001
educ 2	–1.1289	0.0101	–111.55	<0.0001
educ 3	–0.6998	0.0078	–90.03	<0.0001
educ 4 (reference)	. . .	. . .	. . .	. . .
ownhome 0	–0.8936	0.0092	–97.48	<0.0001
ownhome 1 (reference)	. . .	. . .	. . .	. . .
Inc_75_p_q 1	–0.0534	0.0351	–1.52	0.1300
Inc_75_p_q 2	0.0023	0.0309	0.07	0.9400
Inc_75_p_q 3	–0.0043	0.0255	–0.17	0.8700
Inc_75_p_q 4 (reference)	. . .	. . .	. . .	. . .
telstatus 1	–1.4299	0.5183	–2.76	0.0058
telstatus 2	–0.0837	0.0567	–1.48	0.1400
telstatus 3 (reference)	. . .	. . .	. . .	. . .
numcell 0	0.4433	0.5200	0.85	0.3900
numcell 1	–0.6320	0.0127	–49.96	<0.0001
numcell 2	–0.1804	0.0095	–19.05	<0.0001
numcell 3 (reference)	. . .	. . .	. . .	. . .
racearray_hh 1	0.0580	0.0556	1.04	0.3000
racearray_hh 2	–0.4363	0.0567	–7.70	<0.0001
racearray_hh 3	–0.0024	0.0577	–0.04	0.9700
racearray_hh 4	–0.2712	0.0599	–4.53	<0.0001
racearray_hh 5	–0.0893	0.0642	–1.39	0.1600
racearray_hh 6	–0.1480	0.0608	–2.43	0.0150
racearray_hh 7	0.1750	0.0615	2.85	0.0044
racearray_hh 8	–0.1421	0.0626	–2.27	0.0230
racearray_hh 9	–0.2219	0.0721	–3.08	0.0021
racearray_hh 10	–0.0062	0.0741	–0.08	0.9300
racearray_hh 11 (reference)	. . .	. . .	. . .	. . .
State : Alaska	–0.0868	0.0318	–2.73	0.0063
State : Alabama	–0.1741	0.0347	–5.02	<0.0001
State : Arkansas	–0.0441	0.0343	–1.28	0.2000
State : Arizona	–0.2256	0.0343	–6.57	<0.0001
State : California	–0.4860	0.0389	–12.48	<0.0001
State : Colorado	–0.2431	0.0332	–7.32	<0.0001
State : Connecticut	–0.0603	0.0349	–1.73	0.0840
State : Washington, D.C.	0.3604	0.0362	9.95	<0.0001
State : Delaware	–0.0341	0.0351	–0.97	0.3300
State : Florida	–0.3127	0.0348	–8.99	<0.0001
State : Georgia	–0.1736	0.0345	–5.03	<0.0001
State : Hawaii	–0.2715	0.0380	–7.14	<0.0001
State : Iowa	–0.1347	0.0325	–4.15	<0.0001
State : Idaho	–0.2622	0.0321	–8.16	<0.0001
State : Illinois	–0.1922	0.0333	–5.78	<0.0001
State : Indiana	–0.1788	0.0338	–5.29	<0.0001
State : Kansas	–0.1671	0.0329	–5.07	<0.0001
State : Kentucky	–0.1097	0.0347	–3.16	0.0016
State : Louisiana	–0.0458	0.0355	–1.29	0.2000
State : Massachusetts	–0.1588	0.0353	–4.50	<0.0001
State : Maryland	0.0155	0.0348	0.45	0.6600
State : Maine	–0.1505	0.0344	–4.37	<0.0001
State : Michigan	–0.2506	0.0352	–7.11	<0.0001
State : Minnesota	–0.1682	0.0325	–5.18	<0.0001
State : Missouri	–0.2368	0.0336	–7.05	<0.0001
State : Mississippi	–0.1696	0.0357	–4.75	<0.0001
State : Montana	–0.1743	0.0309	–5.64	<0.0001
State : North Carolina	–0.2220	0.0343	–6.48	<0.0001
State : North Dakota	–0.0384	0.0323	–1.19	0.2300
State : Nebraska	–0.0652	0.0320	–2.04	0.0410
State : New Hampshire	–0.0851	0.0350	–2.44	0.0150
State : New Jersey	–0.1449	0.0351	–4.12	<0.0001
State : New Mexico	–0.1269	0.0361	–3.52	0.0004
State : Nevada	–0.1337	0.0345	–3.87	0.0001
State : New York	–0.1926	0.0353	–5.46	<0.0001
State : Ohio	–0.2940	0.0349	–8.41	<0.0001
State : Oklahoma	–0.1756	0.0347	–5.06	<0.0001

See footnotes at end of table.

Table LIV. Parameter estimates for the multiple-imputation model—Con.

Parameter	Estimate	Standard error	*t* value	*p* value of *t* statistic
State : Oregon	–0.2194	0.0331	–6.63	<0.0001
State : Pennsylvania	–0.2279	0.0351	–6.50	<0.0001
State : Rhode Island	–0.1342	0.0360	–3.73	0.0002
State : South Carolina	–0.1524	0.0348	–4.38	<0.0001
State : South Dakota	–0.1199	0.0312	–3.84	0.0001
State : Tennessee	–0.2397	0.0338	–7.10	<0.0001
State : Texas	–0.2694	0.0363	–7.43	<0.0001
State : Utah	–0.3241	0.0340	–9.52	<0.0001
State : Virginia	–0.1082	0.0340	–3.18	0.0015
State : Vermont	–0.1638	0.0339	–4.84	<0.0001
State : Washington	–0.2530	0.0337	–7.50	<0.0001
State : Wisconsin	–0.1468	0.0331	–4.43	<0.0001
State : West Virginia	–0.1357	0.0349	–3.89	<0.0001
State : Wyoming (reference)	. . .	. . .	. . .	. . .
C7Q01_R 0	0.3140	0.0268	11.72	<0.0001
C7Q01_R 1 (reference)	. . .	. . .	. . .	. . .
C7Q04_R 0	0.3572	0.0282	12.67	<0.0001
C7Q04_R 1 (reference)	. . .	. . .	. . .	. . .
C7Q03_R 0	–0.3513	0.0228	–15.38	<0.0001
C7Q03_R 1 (reference)	. . .	. . .	. . .	. . .
College_Graduate_q 1	–0.1253	0.0243	–5.16	<0.0001
College_Graduate_q 2	–0.0911	0.0200	–4.55	<0.0001
College_Graduate_q 3	–0.0725	0.0154	–4.70	<0.0001
College_Graduate_q 4 (reference)	. . .	. . .	. . .	. . .
plang3 1	0.3124	0.0235	13.28	<0.0001
plang3 2	0.0897	0.0411	2.18	0.0290
plang3 3 (reference)	. . .	. . .	. . .	. . .
WEIGHT_H	0.0004	–	23.19	<0.0001
weeknoph 0	0.7177	0.1935	3.71	0.0002
weeknoph 1 (reference)	. . .	. . .	. . .	. . .
Median_Home_Val_q 1	–0.1947	0.0223	–8.72	<0.0001
Median_Home_Val_q 2	–0.1437	0.0178	–8.09	<0.0001
Median_Home_Val_q 3	–0.1260	0.0126	–9.96	<0.0001
Median_Home_Val_q 4 (reference)	. . .	. . .	. . .	. . .
C9Q05_R 0	0.2593	0.0206	12.57	<0.0001
C9Q05_R 1 (reference)	. . .	. . .	. . .	. . .
TOTPERS	0.0743	0.0045	16.50	<0.0001
cashasst 0	0.4605	0.0344	13.37	<0.0001
cashasst 1 (reference)	. . .	. . .	. . .	. . .
Median_Rent_q 1	–0.1312	0.0229	–5.73	<0.0001
Median_Rent_q 2	–0.0958	0.0172	–5.57	<0.0001
Median_Rent_q 3	–0.0793	0.0122	–6.49	<0.0001
Median_Rent_q 4 (reference)	. . .	. . .	. . .	. . .
Oldestage	–0.0055	0.0003	–16.02	<0.0001
C9Q01_A_R 1	0.3219	0.0371	8.67	<0.0001
C9Q01_A_R 2	0.1155	0.0229	5.05	<0.0001
C9Q01_A_R 3 (reference)	. . .	. . .	. . .	. . .
Owner_Occupied_p_q 1	0.1348	0.0166	8.11	<0.0001
Owner_Occupied_p_q 2	0.0411	0.0119	3.45	0.0006
Owner_Occupied_p_q 3	0.0270	0.0093	2.90	0.0037
Owner_Occupied_p_q 4 (reference)	. . .	. . .	. . .	. . .
noteng 0	0.4034	0.0351	11.49	<0.0001
noteng 1 (reference)	. . .	. . .	. . .	. . .
RELATION_R 1	–0.3245	0.0528	–6.14	<0.0001
RELATION_R 2	–0.1755	0.0549	–3.20	0.0014
RELATION_R 3	–0.0183	0.0598	–0.31	0.7600
RELATION_R 4 (reference)	. . .	. . .	. . .	. . .
HHSTATUS 1	–0.3195	0.0674	–4.74	<0.0001
HHSTATUS 2 (reference)	. . .	. . .	. . .	. . .
Median_HH_Income_q 1	–0.2215	0.0361	–6.13	<0.0001
Median_HH_Income_q 2	–0.1311	0.0307	–4.27	<0.0001
Median_HH_Income_q 3	–0.0473	0.0250	–1.89	0.0580
Median_HH_Income_q 4 (reference)	. . .	. . .	. . .	. . .
Inc_50_75p_q 1	0.1328	0.0147	9.02	<0.0001
Inc_50_75p_q 2	0.0497	0.0120	4.14	<0.0001
Inc_50_75p_q 3	0.0303	0.0094	3.21	0.0013

See footnotes at end of table.

Table LIV. Parameter estimates for the multiple-imputation model—Con.

Parameter	Estimate	Standard error	*t* value	*p* value of *t* statistic
Inc_50_75p_q 4 (reference)	. . .	. . .	. . .	. . .
C9Q01_R 1	0.2112	0.0283	7.47	<0.0001
C9Q01_R 2	0.1848	0.0251	7.36	<0.0001
C9Q01_R 3	0.0874	0.0242	3.61	0.0003
C9Q01_R 4 (reference)	. . .	. . .	. . .	. . .
C4Q03_D_R 0	0.1605	0.0240	6.69	<0.0001
C4Q03_D_R 1 (reference)	. . .	. . .	. . .	. . .
Young	0.0049	0.0014	3.52	0.0004
TOTKIDS	–0.2205	1.1548	–0.19	0.8500
Age_35_54_p_q 1	–0.0662	0.0146	–4.55	<0.0001
Age_35_54_p_q 2	–0.0228	0.0123	–1.85	0.0640
Age_35_54_p_q 3	0.0067	0.0103	0.65	0.5200
Age_35_54_p_q 4 (reference)	. . .	. . .	. . .	. . .
hprescript 0	0.0724	0.0112	6.47	<0.0001
hprescript 1 (reference)	. . .	. . .	. . .	. . .
mixgend 0	–0.0573	0.0106	–5.40	<0.0001
mixgend 1 (reference)	. . .	. . .	. . .	. . .
C9Q11_R 0	0.1034	0.0191	5.42	<0.0001
C9Q11_R 1 (reference)	. . .	. . .	. . .	. . .
HISPANIC_HH 0	0.0722	0.0135	5.35	<0.0001
HISPANIC_HH 1 (reference)	. . .	. . .	. . .	. . .
C7Q07_R 0	–0.1037	0.0237	–4.37	<0.0001
C7Q07_R 1 (reference)	. . .	. . .	. . .	. . .
hlmtabil 0	0.1048	0.0174	6.02	<0.0001
hlmtabil 1 (reference)	. . .	. . .	. . .	. . .
Asian_Pacif_p_q 1	–0.0677	0.0176	–3.84	0.0001
Asian_Pacif_p_q 2	–0.0427	0.0143	–2.99	0.0028
Asian_Pacif_p_q 3	–0.0343	0.0117	–2.94	0.0033
Asian_Pacif_p_q 4 (reference)	. . .	. . .	. . .	. . .
C3Q02_R 1	–0.0807	0.0280	–2.88	0.0040
C3Q02_R 2	–0.0732	0.0253	–2.89	0.0039
C3Q02_R 3	–0.0088	0.0300	–0.29	0.7700
C3Q02_R 4 (reference)	. . .	. . .	. . .	. . .
C8Q01_A_R 1	–0.1198	0.0743	–1.61	0.1100
C8Q01_A_R 2	–0.0764	0.0271	–2.82	0.0048
C8Q01_A_R 3	–0.0582	0.0172	–3.38	0.0007
C8Q01_A_R 4 (reference)	. . .	. . .	. . .	. . .
Inc_25_50_p_q 1	0.0940	0.0201	4.68	<0.0001
Inc_25_50_p_q 2	0.0361	0.0133	2.71	0.0068
Inc_25_50_p_q 3	0.0120	0.0104	1.15	0.2500
Inc_25_50_p_q 4 (reference)	. . .	. . .	. . .	. . .
C11Q12_R 0	0.1137	0.0264	4.30	<0.0001
C11Q12_R 1 (reference)	. . .	. . .	. . .	. . .
C9Q06_R 0	–0.0793	0.0208	–3.81	0.0001
C9Q06_R 1 (reference)	. . .	. . .	. . .	. . .
msa 1	0.0352	0.0112	3.14	0.0017
msa 2	0.0430	0.0105	4.09	<0.0001
msa 3 (reference)	. . .	. . .	. . .	. . .
Total_Population_q 1	0.0437	0.0595	0.73	0.4600
Total_Population_q 2	0.0373	0.0291	1.28	0.2000
Total_Population_q 3	0.0367	0.0160	2.30	0.0220
Total_Population_q 4 (reference)	. . .	. . .	. . .	. . .
Inc_0_25_p_q 1	0.0536	0.0247	2.17	0.0300
Inc_0_25_p_q 2	0.0548	0.0204	2.68	0.0073
Inc_0_25_p_q 3	0.0545	0.0156	3.48	0.0005
Inc_0_25_p_q 4 (reference)	. . .	. . .	. . .	. . .
C7Q02_R 0	0.1087	0.0293	3.71	0.0002
C7Q02_R 1 (reference)	. . .	. . .	. . .	. . .
NM_NSPF	–0.0094	0.0129	–0.73	0.4700
Age_0_17_p_q 1	–0.0598	0.0158	–3.79	0.0002
Age_0_17_p_q 2	–0.0628	0.0129	–4.85	<0.0001
Age_0_17_p_q 3	–0.0260	0.0107	–2.44	0.0150
Age_0_17_p_q 4 (reference)	. . .	. . .	. . .	. . .
Age_55_p_q 1	–0.0688	0.0188	–3.67	0.0002
Age_55_p_q 2	–0.0352	0.0149	–2.37	0.0180
Age_55_p_q 3	–0.0165	0.0117	–1.40	0.1600

See footnotes at end of table.

Table LIV. Parameter estimates for the multiple-imputation model—Con.

Parameter	Estimate	Standard error	*t* value	*p* value of *t* statistic
Age_55_p_q 4 (reference)	. . .	. . .	. . .	. . .
Age_18_34_p_q 1	–0.0200	0.0151	–1.32	0.1900
Age_18_34_p_q 2	–0.0388	0.0126	–3.07	0.0021
Age_18_34_p_q 3	–0.0265	0.0107	–2.48	0.0130
Age_18_34_p_q 4 (reference)	. . .	. . .	. . .	. . .
C3Q29_R 1	0.1086	0.0435	2.50	0.0130
C3Q29_R 2	0.0464	0.0251	1.85	0.0640
C3Q29_R 3 (reference)	. . .	. . .	. . .	. . .
C7Q09_R 0	0.1487	0.0507	2.93	0.0034
C7Q09_R 1 (reference)	. . .	. . .	. . .	. . .
C4Q03_B_R 0	–0.0618	0.0253	–2.44	0.0150
C4Q03_B_R 1 (reference)	. . .	. . .	. . .	. . .
hmorecare 0	0.0334	0.0133	2.51	0.0120
hmorecare 1 (reference)	. . .	. . .	. . .	. . .
White_p_q 1	0.0190	0.0211	0.90	0.3700
White_p_q 2	0.0238	0.0171	1.39	0.1600
White_p_q 3	0.0279	0.0118	2.36	0.0190
White_p_q 4 (reference)	. . .	. . .	. . .	. . .
C6Q06_R 1	0.0597	0.0531	1.12	0.2600
C6Q06_R 2	–0.0277	0.0317	–0.87	0.3800
C6Q06_R 3	–0.0172	0.0204	–0.84	0.4000
C6Q06_R 4 (reference)	. . .	. . .	. . .	. . .
Household_Density_q 1	0.0377	0.0152	2.48	0.0130
Household_Density_q 2	0.0197	0.0129	1.53	0.1300
Household_Density_q 3	0.0183	0.0108	1.70	0.0900
Household_Density_q 4 (reference)	. . .	. . .	. . .	. . .
C3Q26_R 1	–0.0259	0.0349	–0.74	0.4600
C3Q26_R 2	–0.0420	0.0185	–2.26	0.0240
C3Q26_R 3 (reference)	. . .	. . .	. . .	. . .
Hispanic_p_q 1	–0.0340	0.0180	–1.89	0.0590
Hispanic_p_q 2	–0.0206	0.0156	–1.32	0.1900
Hispanic_p_q 3	–0.0264	0.0133	–1.98	0.0480
Hispanic_p_q 4 (reference)	. . .	. . .	. . .	. . .
interupt 0	–0.4397	0.1938	–2.27	0.0230
interupt 1 (reference)	. . .	. . .	. . .	. . .
C9Q04_R	–0.0012	0.0005	–2.58	0.0098
C8Q01_C_R 1	0.0451	0.0787	0.57	0.5700
C8Q01_C_R 2	0.0193	0.0298	0.65	0.5200
C8Q01_C_R 3	–0.0288	0.0190	–1.52	0.1300
C8Q01_C_R 4 (reference)	. . .	. . .	. . .	. . .
C3Q15_R 0	0.0416	0.0206	2.02	0.0440
C3Q15_R 1 (reference)	. . .	. . .	. . .	. . .
C4Q03_C_R 0	–0.0396	0.0208	–1.91	0.0570
C4Q03_C_R 1 (reference)	. . .	. . .	. . .	. . .
C3Q11_R 1	–0.2755	0.2173	–1.27	0.2000
C3Q11_R 2	–0.2566	0.2156	–1.19	0.2300
C3Q11_R 3	–0.2345	0.2154	–1.09	0.2800
C3Q11_R 4 (reference)	. . .	. . .	. . .	. . .
NM_SP	0.2063	1.1549	0.18	0.8600
C6Q00_R 0	0.0208	0.0258	0.81	0.4200
C6Q00_R 1	0.0273	0.0284	0.96	0.3400
C6Q00_R 2	0.0546	0.0324	1.69	0.0910
C6Q00_R 3 (reference)	. . .	. . .	. . .	. . .
C6Q03_R 1	–0.0692	0.0717	–0.97	0.3300
C6Q03_R 2	–0.0406	0.0324	–1.25	0.2100
C6Q03_R 3	–0.0258	0.0199	–1.30	0.2000
C6Q03_R 4 (reference)	. . .	. . .	. . .	. . .
C3Q22_R 1	0.1115	0.0646	1.73	0.0840
C3Q22_R 2	–0.0118	0.0337	–0.35	0.7300
C3Q22_R 3 (reference)	. . .	. . .	. . .	. . .
C9Q03_R	0.0005	0.0003	1.31	0.1900
hspeech 0	0.0199	0.0128	1.55	0.1200
hspeech 1 (reference)	. . .	. . .	. . .	. . .
C4Q0A_R 1	–0.0450	0.0308	–1.46	0.1400
C4Q0A_R 2	–0.0644	0.0596	–1.08	0.2800
C4Q0A_R 3 (reference)	. . .	. . .	. . .	. . .

See footnotes at end of table.

Table LIV. Parameter estimates for the multiple-imputation model—Con.

Parameter	Estimate	Standard error	*t* value	*p* value of *t* statistic
C3Q23_R 1	–0.0284	0.0322	–0.88	0.3800
C3Q23_R 2	–0.0386	0.0192	–2.02	0.0440
C3Q23_R 3 (reference)	. . .	. . .	. . .	. . .
callyrf 2009	–0.0392	0.0314	–1.25	0.2100
callyrf 2010	–0.0231	0.0275	–0.84	0.4000
callyrf 2011 (reference)	. . .	. . .	. . .	. . .
K2Q40A_R 0	–0.0254	0.0190	–1.34	0.1800
K2Q40A_R 1 (reference)	. . .	. . .	. . .	. . .
K2Q50A_R 0	–0.1040	0.0698	–1.49	0.1400
K2Q50A_R 1 (reference)	. . .	. . .	. . .	. . .
K2Q46A_R 0	–0.0453	0.0378	–1.20	0.2300
K2Q46A_R 1 (reference)	. . .	. . .	. . .	. . .
Median_Years_Educ_q 1	–0.0002	0.0237	–0.01	0.9900
Median_Years_Educ_q 2	–0.0053	0.0192	–0.28	0.7800
Median_Years_Educ_q 3	–0.0143	0.0149	–0.96	0.3400
Median_Years_Educ_q 4 (reference)	. . .	. . .	. . .	. . .
K2Q47A_R 0	–0.1288	0.1073	–1.20	0.2300
K2Q47A_R 1 (reference)	. . .	. . .	. . .	. . .
C6Q05_R 1	–0.0262	0.0393	–0.67	0.5100
C6Q05_R 2	–0.0180	0.0264	–0.68	0.4900
C6Q05_R 3	0.0088	0.0184	0.48	0.6300
C6Q05_R 4 (reference)	. . .	. . .	. . .	. . .
cellphone 0	0.5877	0.5202	1.13	0.2600
cellphone 1 (reference)	. . .	. . .	. . .	. . .
C9Q02_R 0	–0.0158	0.0142	–1.11	0.2700
C9Q02_R 1 (reference)	. . .	. . .	. . .	. . .
C4Q0D_R 1	0.0375	0.0656	0.57	0.5700
C4Q0D_R 2	–0.0123	0.0841	–0.15	0.8800
C4Q0D_R 3 (reference)	. . .	. . .	. . .	. . .
K2Q44A_R 0	–0.0257	0.0263	–0.98	0.3300
K2Q44A_R 1 (reference)	. . .	. . .	. . .	. . .
C3Q25_R 1	0.0859	0.0806	1.07	0.2900
C3Q25_R 2	0.0133	0.0343	0.39	0.7000
C3Q25_R 3 (reference)	. . .	. . .	. . .	. . .
hemotprob 0	0.0167	0.0153	1.09	0.2800
hemotprob 1 (reference)	. . .	. . .	. . .	. . .
K2Q51A_R 0	0.0382	0.0383	1.00	0.3200
K2Q51A_R 1 (reference)	. . .	. . .	. . .	. . .
C3Q28_R 1	0.0066	0.0432	0.15	0.8800
C3Q28_R 2	0.0217	0.0229	0.95	0.3400
C3Q28_R 3 (reference)	. . .	. . .	. . .	. . .
C3Q24_R 1	–0.0080	0.0366	–0.22	0.8300
C3Q24_R 2	–0.0185	0.0209	–0.88	0.3800
C3Q24_R 3 (reference)	. . .	. . .	. . .	. . .
allfem 0	–0.0183	0.0141	–1.30	0.1900
allfem 1 (reference)	. . .	. . .	. . .	. . .
TOTKIDSF	–0.0147	0.0140	–1.05	0.2900
Total_HHn_q 1	–0.0389	0.0590	–0.66	0.5100
Total_HHn_q 2	–0.0193	0.0289	–0.67	0.5000
Total_HHn_q 3	–0.0120	0.0158	–0.76	0.4500
Total_HHn_q 4 (reference)	. . .	. . .	. . .	. . .
Black_p_q 1	0.0018	0.0180	0.10	0.9200
Black_p_q 2	0.0030	0.0158	0.19	0.8500
Black_p_q 3	–0.0057	0.0134	–0.43	0.6700
Black_p_q 4 (reference)	. . .	. . .	. . .	. . .
K2Q43A_R 0	–0.0204	0.0248	–0.82	0.4100
K2Q43A_R 1 (reference)	. . .	. . .	. . .	. . .
C6Q04_R 1	–0.0203	0.0578	–0.35	0.7300
C6Q04_R 2	0.0210	0.0330	0.64	0.5200
C6Q04_R 3	0.0029	0.0199	0.15	0.8800
C6Q04_R 4 (reference)	. . .	. . .	. . .	. . .
C7Q05_R 0	–0.0281	0.0339	–0.83	0.4100
C7Q05_R 1 (reference)	. . .	. . .	. . .	. . .
C9Q10_R 0	–0.0182	0.0238	–0.76	0.4500
C9Q10_R 1 (reference)	. . .	. . .	. . .	. . .
K2Q45A_R 0	0.0228	0.0310	0.74	0.4600

See footnotes at end of table.

Table LIV. Parameter estimates for the multiple-imputation model—Con.

Parameter	Estimate	Standard error	*t* value	*p* value of *t* statistic
K2Q45A_R 1 (reference)	. . .	. . .	. . .	. . .
C3Q21_R 1	–0.0242	0.0382	–0.63	0.5300
C3Q21_R 2	0.0062	0.0227	0.27	0.7900
C3Q21_R 3 (reference)	. . .	. . .	. . .	. . .
C4Q02A_R 1	0.0154	0.0301	0.51	0.6100
C4Q02A_R 2	0.0202	0.0308	0.66	0.5100
C4Q02A_R 3 (reference)	. . .	. . .	. . .	. . .
C6Q02_R 1	0.0226	0.0419	0.54	0.5900
C6Q02_R 2	0.0048	0.0231	0.21	0.8300
C6Q02_R 3	0.0043	0.0187	0.23	0.8200
C6Q02_R 4 (reference)	. . .	. . .	. . .	. . .
C4Q0B_R 1	–0.0152	0.0461	–0.33	0.7400
C4Q0B_R 2	–0.0009	0.0784	–0.01	0.9900
C4Q0B_R 3	–0.0231	0.0609	–0.38	0.7100
C4Q0B_R 4	–0.0191	0.0495	–0.39	0.7000
C4Q0B_R 5 (reference)	. . .	. . .	. . .	. . .
Oldest	0.0007	0.0014	0.49	0.6200
C4Q03_A_R 0	–0.0119	0.0282	–0.42	0.6700
C4Q03_A_R 1 (reference)	. . .	. . .	. . .	. . .
K2Q42A_R 0	–0.0139	0.0341	–0.41	0.6800
K2Q42A_R 1 (reference)	. . .	. . .	. . .	. . .
K2Q52A_R 0	0.0058	0.0145	0.40	0.6900
K2Q52A_R 1 (reference)	. . .	. . .	. . .	. . .
C4Q03_E_R 0	–0.0101	0.0294	–0.34	0.7300
C4Q03_E_R 1 (reference)	. . .	. . .	. . .	. . .
K2Q49A_R 0	0.0291	0.1164	0.25	0.8000
K2Q49A_R 1 (reference)	. . .	. . .	. . .	. . .
C7Q11_R 0	0.0074	0.0341	0.22	0.8300
C7Q11_R 1 (reference)	. . .	. . .	. . .	. . .
K2Q48A_R 0	0.0117	0.0571	0.21	0.8400
K2Q48A_R 1 (reference)	. . .	. . .	. . .	. . .
NM_NSP	0.1778	1.1548	0.15	0.8800
C4Q02BX08_NBC_R 0	0.0090	0.0943	0.10	0.9200
C4Q02BX08_NBC_R 1 (reference)	. . .	. . .	. . .	. . .
K2Q41A_R 0	0.0036	0.0460	0.08	0.9400
K2Q41A_R 1 (reference)	. . .	. . .	. . .	. . .
K2Q42A_R 0	–0.0139	0.0341	–0.41	0.6800
K2Q42A_R 1 (reference)	. . .	. . .	. . .	. . .
K2Q52A_R 0	0.0058	0.0145	0.40	0.6900
K2Q52A_R 1 (reference)	. . .	. . .	. . .	. . .
C4Q03_E_R 0	–0.0101	0.0294	–0.34	0.7300
C4Q03_E_R 1 (reference)	. . .	. . .	. . .	. . .
K2Q49A_R 0	0.0291	0.1164	0.25	0.8000
K2Q49A_R 1 (reference)	. . .	. . .	. . .	. . .
C7Q11_R 0	0.0074	0.0341	0.22	0.8300
C7Q11_R 1 (reference)	. . .	. . .	. . .	. . .
K2Q48A_R 0	0.0117	0.0571	0.21	0.8400
K2Q48A_R 1 (reference)	. . .	. . .	. . .	. . .
NM_NSP	0.1778	1.1548	0.15	0.8800
C4Q02BX08_NBC_R 0	0.0090	0.0943	0.10	0.9200
C4Q02BX08_NBC_R 1 (reference)	. . .	. . .	. . .	. . .
K2Q41A_R 0	0.0036	0.0460	0.08	0.9400
K2Q41A_R 1 (reference)	. . .	. . .	. . .	. . .
C7Q11_R 0	0.0074	0.0341	0.22	0.8300
C7Q11_R 1 (reference)	. . .	. . .	. . .	. . .
K2Q48A_R 0	0.0117	0.0571	0.21	0.8400
K2Q48A_R 1 (reference)	. . .	. . .	. . .	. . .
NM_NSP	0.1778	1.1548	0.15	0.8800
C4Q02BX08_NBC_R 0	0.0090	0.0943	0.10	0.9200
C4Q02BX08_NBC_R 1 (reference)	. . .	. . .	. . .	. . .
K2Q41A_R 0	0.0036	0.0460	0.08	0.9400
K2Q41A_R 1 (reference)	. . .	. . .	. . .	. . .

. . . Category not applicable.

– Quantity zero.

Appendix XV. Key Prevalence Estimates and Weighted Frequencies

This appendix consists of Table LV, which shows weighted frequencies of the number of households with a child with special health care needs and the number of children with special health care needs, by state. Prevalence estimates and standard errors are also provided. Analysts may wish to replicate this table to determine if they are using the weights correctly.

Table LV. Unweighted and weighted estimates of the frequency and prevalence of households with children with special health care needs

State	Total unweighted number of households	Total weighted estimate of number of households	Unweighted number of households with CSHCN	Weighted estimate of number of households with CSHCN	Standard error of weighted estimate of number of households with CSHCN	Percent of households with children that include CSHCN	Standard error of percentage of households with children that include CSHCN
Total (excluding U.S. Virgin Islands)	196,159	38,145,781	48,142	8,765,468.14	63,846.18	22.98	0.1617
Total (including U.S. Virgin Islands)	199,309	38,162,661	48,519	8,767,766.06	63,846.40	22.97	0.1617
Alabama	3,458	601,595	921	155,916.55	5,725.94	25.92	0.9058
Alaska	4,865	90,117	919	16,133.18	602.20	17.90	0.6543
Arizona	4,047	768,997	960	166,810.66	6,865.13	21.69	0.8686
Arkansas	3,331	379,938	950	105,841.47	4,396.34	27.86	1.0635
California	5,502	4,564,987	992	810,506.79	31,709.98	17.75	0.6744
Colorado	3,844	622,469	936	135,769.65	5,717.75	21.81	0.8931
Connecticut	3,681	458,015	944	113,739.36	4,013.70	24.83	0.8458
Delaware	3,584	108,054	961	27,430.05	1,096.76	25.39	0.9577
District of Columbia	3,879	52,817	899	12,746.86	548.64	24.13	0.9819
Florida	4,507	2,050,529	1,058	453,943.96	15,117.08	22.14	0.7194
Georgia	3,812	1,270,309	958	304,631.80	11,168.11	23.98	0.8444
Hawaii	5,130	158,178	982	28,778.83	1,189.28	18.19	0.7287
Idaho	3,802	206,431	901	43,960.58	1,635.85	21.30	0.7832
Illinois	4,466	1,610,525	994	350,669.87	12,655.90	21.77	0.7535
Indiana	3,499	826,116	942	212,736.38	7,612.18	25.75	0.8837
Iowa	3,939	379,387	933	84,011.40	2,995.73	22.14	0.7698
Kansas	3,343	356,873	923	94,253.34	3,380.84	26.41	0.9220
Kentucky	3,228	566,780	935	152,632.94	6,943.14	26.93	1.1567
Louisiana	3,335	580,107	962	158,253.79	6,009.72	27.28	0.9884
Maine	3,392	156,663	922	42,480.38	1,562.22	27.12	0.9410
Maryland	4,004	710,062	966	164,024.09	6,308.11	23.10	0.8483
Massachusetts	3,545	763,665	982	203,039.41	6,749.44	26.59	0.8599
Michigan	3,222	1,229,491	939	329,120.26	13,513.32	26.77	1.0566
Minnesota	3,828	661,877	915	148,692.31	5,157.46	22.47	0.7675
Mississippi	3,678	395,317	912	96,529.45	3,754.36	24.42	0.8983
Missouri	3,444	758,252	917	196,603.75	6,955.04	25.93	0.8825
Montana	4,057	104,514	903	21,814.32	1,102.56	20.87	0.9765
Nebraska	3,706	224,848	881	49,814.86	1,858.13	22.15	0.8079
Nevada	4,479	335,017	928	60,447.50	3,140.60	18.04	0.8970
New Hampshire	3,354	159,017	928	43,286.97	1,417.59	27.22	0.8659
New Jersey	4,328	1,101,837	988	239,279.19	8,322.00	21.72	0.7380
New Mexico	3,769	252,395	941	55,088.05	2,262.23	21.83	0.8883
New York	4,592	2,319,317	1,027	518,443.14	17,519.26	22.35	0.7297
North Carolina	3,698	1,209,307	985	304,357.70	11,499.32	25.17	0.9100
North Dakota	3,886	74,851	915	16,222.86	687.78	21.67	0.8873
Ohio	3,596	1,431,605	984	391,454.45	13,122.77	27.34	0.8706
Oklahoma	3,166	485,289	921	126,408.17	5,153.36	26.05	1.0440
Oregon	4,065	450,709	924	96,807.93	3,491.82	21.48	0.7598
Pennsylvania	3,667	1,484,393	990	374,967.69	13,130.37	25.26	0.8619
Rhode Island	3,390	126,024	920	32,188.98	1,121.03	25.54	0.8727
South Carolina	3,625	564,865	948	133,451.01	6,202.80	23.63	1.0577
South Dakota	4,248	101,765	898	19,262.58	1,162.26	18.93	1.0740
Tennessee	3,749	811,906	978	196,785.99	6,842.66	24.24	0.8233
Texas	4,726	3,323,650	1,066	707,050.44	26,335.07	21.27	0.7551
Utah	3,693	371,469	903	86,569.95	3,534.09	23.30	0.9060
Vermont	3,608	74,368	892	18,283.01	688.74	24.58	0.8894
Virginia	3,906	995,413	962	232,924.84	8,600.62	23.40	0.8351

See footnote at end of table.

Table LV. Unweighted and weighted estimates of the frequency and prevalence of households with children with special health care needs—Con.

State	Total unweighted number of households	Total weighted estimate of number of households	Unweighted number of households with CSHCN	Weighted estimate of number of households with CSHCN	Standard error of weighted estimate of number of households with CSHCN	Percent of households with children that include CSHCN	Standard error of percentage of households with children that include CSHCN
Washington	3,722	816,380	925	191,052.24	7,256.00	23.40	0.8596
West Virginia	3,344	212,944	916	56,736.15	2,202.59	26.64	0.9699
Wisconsin	3,582	719,316	888	168,716.86	6,401.03	23.46	0.8767
Wyoming	3,838	67,031	908	14,796.12	697.74	22.07	0.9731
U.S. Virgin Islands	3,150	16,880	377	2,297.92	166.54	0.14	0.0093

NOTE: CSHCN is children with special health care needs.

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