# 2017 National Survey of Children's Health: <br> Request for OMB Review <br> Supporting Statement B <br> OMB Control No. 0607-0990 

## B. Description of Statistical Methodology

## 1. Statistical Design and Estimation

Sponsored by the U.S. Department of Health and Human Services’ (HHS) Health Resources and Services Administration's Maternal and Child Health Bureau (HRSA MCHB), the National Survey of Children's Health (NSCH) is designed to produce data on the physical and emotional health of children under 18 years of age in the United States. Since its beginning, the NSCH has been a critical component in the estimation of the national and state-level prevalence for a variety of physical, emotional, and behavioral child health indicators in combination with information on the child's family context and neighborhood environment. The National Survey of Children with Special Health Care Needs (NS-CSHCN) was a complementary survey designed to estimate the prevalence and impact of children with special health care needs (CSHCN) at both the state and national levels and to estimate the percent of households with children having one or more CSHCN under 18 years of age.

Recently, decreasing response rates prompted the HRSA MCHB to initiate a redesign of the NSCH and NS-CSHCN. This redesign included combining the original NSCH and NS-CSHCN into a single annual survey that is now known solely as the NSCH. In addition to combining content, the redesign also involved changing the sampling frame from a list-assisted Random Digit Dial (RDD) to an Address-Based Sample (ABS) frame. Results from the 2015 NSCH Pretest and 2016 NSCH inform the multimode design for the 2017 NSCH. A majority of addresses receive an initial attempt to collect information by Web (self-administered) and a nonresponse follow-up with a paper instrument sent by mail (self-administered). The remaining addresses, identified as most likely to respond by paper questionnaire, receive a paper instrument and a Web invitation in the first contact. Both modes are accompanied by Telephone Questionnaire Assistance (TQA). This multimode design differs significantly from the telephone, interviewer-administered mode that was originally used.

The NSCH will use an address-based sample derived from the Census Master Address File (MAF) ${ }^{1}$ covering the 50 states and the District of Columbia. The 2017 NSCH will be conducted from July 2017 through January 2018. Households will be randomly sampled as described in section B.1.1. An invitation to participate in the NSCH with login information for the online survey instrument will be sent to each sampled household, and "High Paper" (or those more likely to respond by mail) addresses will also receive a paper instrument. The first section of the online instrument and the first paper instrument are screening instruments. Information on the

[^0]presence of children within the household, child demographic information, as well as basic questions about each child's health provided in these screeners will be used to determine whether the household is eligible for one of the three age-based surveys: 0 to 5 year old children, 6 to 11 year old children, or 12 to 17 year old children. This screener information is also used for the subsampling selection of a specific child within the household based on an oversampling of CSHCN and a subsequent oversample of young children (ages 0-5). In order to limit respondent burden, regardless of the number of eligible children, no more than one child per household will be sampled for the age-based topical surveys, which means that no more than one topical survey will be administered in any given household. In the online instrument, subsampling is instantaneous and the respondent can continue seamlessly from the screener items to the topical section. In the paper instrument, the screener is returned to Census by mail, and the topical instrument is sent back to the household for the subsampled child. The target population for the NSCH survey consists of children aged 17 or younger living in mailable residential housing units in the United States.

### 1.1 Sampling Households

For the 2017 NSCH, a sample frame of 156,054 household addresses will be used. The sample file is selected from the Census Master Address File (MAF) and supplemented with an administrative records-based flag identifying households with children. The Census Bureau's Center for Administrative Records Research and Applications (CARRA) has developed an indicator based on multiple sources of administrative data which was adopted to identify households with children to improve sampling efficiency in the 2016 NSCH. As background, CARRA is an interdisciplinary group in the Research and Methodology Directorate and is charged with the strategic re-use of administrative data from federal, state, and commercial providers. Information is combined from multiple sources to create new data products that would be impossible to produce using single data sets.

Through combining data sources with the MAF, three flags will be available during sampling and survey data collection management. The three flags are described in detail in Appendix A:

- Flag 1: child record linked to address (1); no child record linked to address, medium probability of children present (2a); no child record linked to address, low probability of children present (2b).
- Flag 2: poverty; non-poverty (block, block-group, or tract level geographic definition).
- Flag 3: ‘high’ paper; ‘low’ paper response block group indicator.

Flag 1 will be used in the sampling process; Flag 2 will be used for sort and stratification; Flag 3 is used to tailor data collection mode switching based on small-area geographic characteristics.

The Flag 1 based sampling strata are mutually exclusive. Stratum 1 consists of addresses to which a specific child is linked using administrative records; other addresses are placed in Stratum 2. A statistical model using a variety of administrative data and small-area geographic characteristics assigns a probability of child presence to each address. These probabilities are used to further divide Stratum 2 into Stratum 2a and Stratum 2b; Stratum 2a addresses have a
higher probability of child presence than Stratum 2 b addresses. The probability threshold between 2 a and 2 b is selected in each state to maximize the number of addresses in Stratum 2 b while maintaining a 95\% coverage rate of households with children in Strata 1 and 2a.

Addresses in Stratum 2 b will not be included in sampling. Stratum 2 b represents $5 \%$ of households with children in each state; children are present in approximately $3 \%$ of addresses in Stratum 2 b versus $17 \%$ of addresses in 2a and $78 \%$ in Stratum 1. Evaluation of the characteristics of households in Strata 1, 2a and 2b demonstrate that excluding Stratum 2b significantly increases the efficiency of the sample (the percent of households with children present) and, in turn, the number of completed interviews, while introducing marginal bias in survey estimates. Approximately $64 \%$ of the sample is expected to be drawn from Stratum 1.

Table B.1.1.A: Addressed-Based Sample by Stratum for the 2017 NSCH

|  | Stratum 1 | Stratum 2a | Total |
| :--- | :---: | :---: | :---: |
| Sample Size | 99,733 | 56,321 | 156,054 |
| \% of Sample | $64 \%$ | $36 \%$ |  |
| \% Households w/ children | $78 \%$ | $17 \%$ | $58 \%$ |

State-level samples will be allocated to achieve an equal number of completed interviews in each state and the District of Columbia. The sampling is designed for an initial sample size of 156,054 addresses nationwide to yield approximately 460 completed interviews from households with children per state (see Appendix B for a table of estimated sample sizes per state).

Variable sampling rates for the screener will be used in both Stratum 1 and Stratum 2a for each state. Within these strata, Flag 2 will be used to sort addresses for sampling. The 2017 NSCH will employ subsampling once data are collected for the screening items (Child Roster with Age, and CSHCN Screener Items 6-10). In the web instrument (Centurion) this will happen instantaneously as that section is completed. In the paper instrument, the screener interview is completed and returned to Census by the respondent, Census employs the subsampling rules to select a single child based on the reported data, and then mails the paper questionnaire with the appropriate topical questions back to the respondent. Reflecting the programmatic importance of collecting data on children with special health needs (CSHCN), in multi-child households, an $80 \%$ oversampling procedure is used for CSHCN following screener completion. Additionally, in multi-child households where the children are either all CSHCN or all Non-CSHCN, a 60\% oversampling procedure of children aged 0-5 is used to increase the representation of children of this age group.

The 2017 NSCH will include an experiment to test the efficacy of an infographic in the initial package. Fifty percent of addresses will be randomly assigned the treatment group, see Table B.1.1.B. While the content and design of the infographic is still being developed, it is anticipated that providing respondents with a visually pleasant overview of the survey, including survey design, key estimates from past iterations, and information on how the data can benefit their community, will encourage response. Higher response can reduce follow-up costs and nonresponse bias.

Table B.1.1.B: Infographic Experiment

| Infographic <br> Treatment Group | Screener Sample Size | Mailings Contents |
| :--- | :---: | :---: |
| Control | 78,027 | No infographic <br> with initial package |
| Treatment | 78,027 | Infographic with <br> initial package |
| Total | 156,054 |  |

The 2017 NSCH sample will also include two key, non-experimental design elements. First, a \$2 screener cash incentive will be mailed to $90 \%$ of the sampled addresses; the remaining $10 \%$ (the control) will receive no incentive to monitor the effectiveness of the cash incentive. The addresses that will receive the cash incentive will be selected randomly from the sampled addresses. This incentive is designed to increase response and reduce nonresponse bias. The incentive amount was chosen following an incentive test in the 2016 NSCH. From this test, we concluded that the $\$ 2$ incentive significantly increased response over no incentive, particularly among low-response groups, and was more cost effective than the $\$ 5$ incentive.

Additionally, we will modify data collection procedures based on the block group-level paperonly response probability (Flag 3). Since 2012, the American Community Survey (ACS) respondents have been able to submit survey forms over the Internet in addition to completing and mailing back a paper questionnaire. We used 2016 ACS response mode choices summarized at the block group and other block group and tract-level characteristics to model Web and paper response mode probabilities by block group. Sample households will be located within block groups and assigned a paper-only response probability - the probability the household would not respond to a web invite but would subsequently respond to a paper questionnaire. The $30 \%$ of households with the highest paper-only response probabilities will be flagged as 'High Paper' and will receive a paper questionnaire with the initial web invitation. The other $70 \%$ of households will be flagged as "Low Paper" and receive their first paper questionnaires in the second follow-up mailing. See Appendix A for additional details.

The following Table B.1.1.C is a summary of the comparisons that will be performed for the infographic treatment group, distributed between the incentive and control groups, and between 'High Paper' and 'Low Paper' households, based on the maximum eligible sample. We anticipate the infographic materials to increase response by 1 percentage point across the entire sample and within incentive groups, but we anticipate a slightly larger effect among 'High Paper’ households (+1.35\%) than among 'Low Paper’ households (+0.85\%).

The Fisher Exact Test is used to derive power in Table B.1.1.D based on the sample sizes and anticipated response differentials of the comparison groups. The high statistical power for the incentive comparison, infographic comparison and infographic comparison within the $\$ 2$ incentive group (power $\approx 1$ ) indicates that there is a near zero probability of concluding there is no difference in response when, in fact, there is one. The probability of a false negative is higher for the infographic comparison within 'High Paper' households and within "Low Paper' households,
but that probability is less than $20 \%$. There is not sufficient statistical power to reliably detect the effect of the infographic on response within the control (\$0) incentive group.

Table B.1.1.C: Incentive and Mailing Treatment Group Comparisons

| Incentive | Initial Cases | Infographic Treatment Status | Maximum <br> Sample for <br> Infographic <br> Comparison | Mode Collection Group | Maximum Sample by Paper | Treatment Groups (TG) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \$2 | $\begin{gathered} 140,450 \\ (43 \%) \end{gathered}$ | Infographic | $\begin{gathered} 70,224 \\ (43.5 \%) \\ \hline \end{gathered}$ | Low Paper | 49,157 (43.425\%) | 1 |
|  |  |  |  | High Paper | 21,067 (43.675\%) | 2 |
|  |  | No Infographic | $\begin{gathered} 70,224 \\ (42.5 \%) \end{gathered}$ | Low Paper | 49,157 (42.575\%) | 3 |
|  |  |  |  | High Paper | 21,067 (42.325\%) | 4 |
| Control | $\begin{aligned} & 15,604 \\ & (40 \%) \end{aligned}$ | Infographic | $\begin{gathered} 7,803 \\ (40.5 \%) \\ \hline \end{gathered}$ | Low Paper | 5,462 (40.425\%) | 5 |
|  |  |  |  | High Paper | 2,341 (40.675\%) | 6 |
|  |  | No <br> Infographic | $\begin{gathered} 7,803 \\ (39.5 \%) \end{gathered}$ | Low Paper | 5,462 (39.575\%) | 7 |
|  |  |  |  | High Paper | 2,341 (39.325\%) | 8 |

Table B.1.1.D: Infographic Treatment Group Comparisons

| Incentive Comparisons | Infographic <br> Comparisons by Incentive | Infographic Comparisons by Paper |
| :---: | :---: | :---: |
| \$2 v. Control $\begin{gathered} \mathrm{TG}(1+2+3+4) \mathrm{v} \text {. TG(5+6+7+8) } \\ \mathrm{p}=0.05, \text { power } \approx 1 \\ \mathrm{p}=0.10, \text { power } \approx 1 \end{gathered}$ | $\begin{gathered} \text { Infographic v. No Infographic } \\ \text { TG(1+2+5+6) v. TG(3+4+7+8) } \\ p=0.05, \text { power } \approx 0.98 \\ p=0.10, \text { power } \approx 1 \end{gathered}$ |  |
|  | Info $\mathbf{v}$. No Info in \$2 TG(1+2) v. TG(3+4) $\mathrm{p}=0.05$, power $\approx 0.97$ $\mathrm{p}=0.10$, power $\approx 1$ | Info $v$. No Info in Low Paper TG(1+5) v. TG(3+7) $\mathrm{p}=0.05$, power $\approx 0.81$ $\mathrm{p}=0.10$, power $\approx 0.88$ |
|  |  | Info v. No Info in High Paper TG(2+6) v. TG(4+8) $\mathrm{p}=0.05$, power $\approx 0.84$ $\mathrm{p}=0.10$, power $\approx 0.91$ |

### 1.2 Within-Household Sampling

Eligible children within households that have a completed screener will be sampled for one of the three age-based topical surveys: 0 to 5 -year-old children, 6 to 11 -year-old children, or 12 to 17 -year-old children. Only one child per household will be selected for a topical questionnaire in an effort to minimize respondent burden.

In order to select the sample child from a household, it must first be determined whether each
eligible child is a Child with Special Health Care Needs (CSHCN) or a Child without Special Health Care Needs (Non-CSHCN). CSHCN are identified by asking respondents if each child rostered in the screening instrument uses more medical care, mental health services, or educational services than is usual for most children of the same age; if the child uses specialized therapies, mental health counseling, or prescription medications; and/or if the child is limited or prevented in any way in his or her ability to do things that most children of the same age can do because of a medical, behavioral, or other health condition that is expected to last at least one year. Children are considered to have special health care needs if the respondent answered "yes" to at least one question in each of these three categories. These questions are part of the screener questionnaire, which was developed by researchers, practitioners, family advocates, and policy makers to identify CSHCN in household surveys ${ }^{2}$.

Households Types (HHTYP) are mutually exclusive and exhaustive (See Table B.1.2.A). An 80 percent oversampling is applied for those households having both CSHCN and Non-CSHCN present; i.e., household types 4, 6, and 7. An additional 60 percent oversampling of children aged $0-5$ years occurs in household types 3 and 5 . This second oversample is designed to offset the age bias of the CSHCN oversample; younger children are less likely to be identified with special health care needs.

Table B.1.2.A: Strategies for Selecting the 2017 NSCH Sample Child

| Household Type | Number of Eligible Children in Household | $\begin{gathered} \text { Number of Eligible } \\ \text { Non-CSHCN,CSHCN } \end{gathered}$ | \% Probability of \% Probability of <br> Selection for Selection for <br> Non-CSHCN CSHCN | Notes |
| :---: | :---: | :---: | :---: | :---: |
| 1 | 0 or 'blank' | 0,0 | 0 | No eligible children in household. |
| 2 | 1 | 1,0 or 0,1 | 100\% | Single child is always selected. |
| 3 | 2 | 2,0 or 0,2 | If only 1 child is aged $0-5$ years, that child's probability of selection is $62 \%$ and the other child's probability of selection is $38 \%$; otherwise, each child has an equal chance of selection of $50 \%$. | Includes $60 \%$ oversampling of children aged 0-5 years. |
| 4 | 2 | 1,1 | 36\% 64\% | Includes 80\% oversampling of CSHCN. |
| 5 | 3 | 3,0 or 0,3 | If only 1 child is aged $0-5$ years, that child's probability of selection is $44 \%$ and each of the other two children have an equal chance of selection of $28 \%$. <br> If 2 children are aged $0-5$ years, each has a probability of selection of $38 \%$ and the other child has a probability of selection of 24\%. <br> If all 3 children are aged $0-5$ or aged 6-17 years, then each child has an equal chance of selection of $33 \%$. | Includes $60 \%$ oversampling of children aged 0-5 years. |

${ }^{2}$ Bethell CD, Read D, Stein RE, Blumberg SJ, Wells N, Newacheck PW. Identifying children with special health care needs:
Development and evaluation of a short screening instrument. Ambulatory Pediatrics, 2002 Jan-Feb; 2(1):38-48. This came from the
2005-2006 CSHCN Chartbook (pg 10): http://mchb.hrsa.gov/cshcn05/MI/NSCSHCN.pdf

| 6 | 3 | 2,1 | 53\% 47\% | Includes 80\% oversampling of CSHCN. |
| :---: | :---: | :---: | :---: | :---: |
| 7 | 3 | 1,2 | 22\% 78\% | Includes 80\% oversampling of CSHCN. |
| 8 | 4 or more | Any combination | Before the sort, each of the first 4 children has an equal $25 \%$ probability of selection | Simple random selection of 1 of the first 4 (sorted) children, regardless of Non-CSHCN or CSHCN. |

Each household will be pre-assigned a value for each of the eight Household Types that corresponds with the oversampling criteria in the Probability of Selection column in the table above. This value denotes the order of the child ( $0,1,2,3$, or 4 ) that should be selected after the proper sorting of eligible children has occurred. For HHTYP 1 and HHTYP 2, no sorting occurs because there are either no eligible children or one eligible child who will always be selected. For HHTYP 3 through HHTYP 8, children will be sorted by their special needs status (CSHCN children first followed by Non-CSHCN) and then sorted by age (youngest to oldest). Finally, HHTYP 8 children will be sorted by their special needs status (CSHCN children first followed by Non-CSHCN), then sorted by name, and then sorted by age (youngest to oldest).

### 1.3 Expected Yield

The respondent universe for the NSCH is adults ages 18 or older who live in the U.S., have a valid household address, and who are parents or guardians of at least one child who is under 18 years of age living in the same household. Those households that do not have any infants or children are asked to mark "No" to the first question on the screener which asks, "Are there any children 0-17 years old who usually live or stay at this address?" and would then screen-out of the remaining survey questions.

The initial sample size for the NSCH is 156,054 unique addresses nationwide. These addresses are then split by strata. With assumed response rates for screener and topical instruments, based primarily on response to the 2016 NSCH, the calculations of the various expected sample sizes for the 2017 NSCH are included in Table B.1.3.A.

Table B.1.3.A: Expected Sample Sizes of 2017 NSCH Incentive Treatment Groups

| Initial <br> Sample |  | $\begin{aligned} & \text { tum } \\ & \text { um } 1 \text { : } \\ & 9 \% \\ & 1 \mathrm{~m} 2 \mathrm{a}: \\ & \hline 1 \% \\ & \hline \end{aligned}$ | Incentive Group \$0: 10\% \$2: 90\% |  | $\begin{gathered} \text { Valid } \\ \text { Addresses } \\ 87.6 \% \end{gathered}$ | Completed Screeners \$0: 40\% \$2: 43\% | Households With Kids <br> Stratum 1: 78\% <br> Stratum 2a: 17\% | $\begin{gathered} \hline \text { Completed } \\ \text { Topicals } \\ 69 \% \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 156,054 | 1 | 99,733 | \$0 | 9,973 | 9,206 | 3,653 | 2,842 | 1,970 |
|  |  |  | \$2 | 89,760 | 82,850 | 35,622 | 27,719 | 19,210 |
|  | 2a | 56,321 | \$0 | 5,632 | 4,464 | 1,773 | 307 | 212 |
|  |  |  | \$2 | 50,688 | 40,180 | 17,296 | 2,990 | 2,068 |
| Totals |  |  |  |  | 136,700 | 58,344 | 33,858 | 23,460 |
| per State |  |  |  |  | 2,680 | 1,114 | 664 | 460 |

### 1.4 Estimation Procedures

There will be written specifications for weighting the data that will have been collected in the 2017 NSCH for people in households selected from the Census Master Address File (MAF). The data from the MAF are supplemented with administrative records based flags to indicate the presence of children in the household. Instructions for computing adjustments (e.g., under coverage and nonresponse) and several final household and person-level weights will be provided.

### 1.5 Nonresponse Bias Analysis

Standard 1.3 of the OMB Standards and Guidelines for Statistical Surveys (2006) states that "Agencies must design the survey to achieve the highest practical rates of response, commensurate with the importance of survey uses, respondent burden, and data collection costs, to ensure that survey results are representative of the target population so that they can be used with confidence to inform decisions." Implicit in this standard is the assumption that the frame variables used at the design stage are sufficiently predictive of the collection variables for this to be feasible. Under this assumption, standard nonresponse bias analyses techniques can and will be applied to frame data variables to study potential areas of nonresponse bias (both item and unit) in the survey estimates.

## 2. Survey Collection Procedures

This section describes the data collection procedures that will be used in the NSCH. The Census Bureau will request survey participation from 156,054 households via one of two modes: Web survey or paper questionnaire. The primary mode for the majority of respondents is a letter invitation with the Web URL and login ID included in the letter. The secondary mode will be a mailed paper screener questionnaire with the Web URL and login ID included in the questionnaire package. Addresses identified as most likely to respond only by paper questionnaire are provided a paper screener questionnaire in the initial mailing. See Appendix C for sample letters.

The first section of the survey instrument is a screener. The household will be screened to determine if there are any children under 18 years of age who usually live or stay at that address. Those households that meet the eligibility criteria roster all children living at that address and answer questions to determine the special needs status of each child. Detailed information will be collected for all children living in the household. Those households that are deemed to have eligible children will be directed to complete the survey about one specific child living at that address.

All Web non-respondents will receive a two-phase self-administered paper questionnaire. In the first phase, similar to the Web, households will be screened to determine if there are any children under 18 years of age who usually live or stay at that address. Those households that meet the eligibility criteria go on to roster the children living at that address and answer questions to determine the special needs status of each child (up to 4 children). Detailed information will be collected for Child 1 - Child 4, while basic information (name, age, and sex) will be collected for Child 5 - Child 10. In the second phase, households that are deemed to have eligible children will be mailed one of the three age-based Topical questionnaires that request more information about one specific child living at that address. See Appendix D for a list of new items for NSCH 2017, and copies of the 2016 Screener and Topical instruments (English and Spanish versions). Currently the production survey forms are being updated and revised copies are forthcoming. Such changes include revisions to the Privacy Act Statement; legal citation; and confidentiality statement that will reflect what is provided within the OMB Supporting Statements A and B.

The Topical survey (for both Web and paper) will cover the following content areas: child's health and functional status; the child as an infant; health care services; experience with child's health care providers; child's health insurance coverage and experience of uninsured children in low income families; providing for the child's health; the child's learning, schooling, and activities; family functioning; parental health; neighborhood and community characteristics; and adult demographics.

The NSCH employs multiple contacts with households to maximize response. These include up to four web invitation letters, a pressure sealed reminder postcard, and two ('Low Paper') or four ('High Paper’) paper questionnaires.

The U.S. Census Bureau is conducting the NSCH on the behalf of the HHS under Title 13, United States Code, Section 8(b), which allows the Census Bureau to conduct surveys on behalf of other agencies. Section 501(a)(2) of the Social Security Act (42 USC §701) allows HHS to collect information for the purpose of understanding the health and well-being of children in the United States. There are also three separate partner agreements with the Centers for Disease Control and Prevention’s National Center on Birth Defects and Developmental Disabilities (CDC/NCBDDD), Environmental Protection Agency (EPA), and the United States Department of Agriculture (USDA) in support of particular content on the topical questionnaires. The CDC/NCBDDD supports content on the receipt of training or interventions around the behavioral treatment of attention-deficit disorder and attention-deficit/hyperactivity disorder
under the Public Health Service Act, Section 301, 42 U.S.C. § 241. The EPA supports content on the household exposure to pesticides and mold in children's households under the FIFRA:
Section 20(a); Toxic Substances Control Act: Section 10; 15 U.S.C. § 2609. Finally, the USDA supports content on food sufficiency under the Healthy, Hunger-Free Kids Act of 2010, Pub. L. 111-296. In particular, 42 U.S.C. $1769 \mathrm{~d}(\mathrm{a})$ authorizes USDA to conduct research on the causes and consequences of childhood hunger included in 1769d(a)(4)(B), the geographic dispersion of childhood hunger and food insecurity. The data collected under this agreement are confidential under 13 U.S.C. Section 9. All access to Title 13 data from this survey is restricted to Census Bureau employees and those holding Census Bureau Special Sworn Status pursuant to 13 U.S.C. Section 23(c).

## 3. Methods to Maximize Participation Rates and Deal with Nonresponse

In designing the various modes of the NSCH Screener and Topical questionnaires, attention is placed on the following design elements to help increase cooperation by prospective respondents.

- In developing and refining specific questions, the goal will be to create a logical, clear questionnaire with concrete question wording and simple grammar.
- The Web and paper versions of the questionnaire will be attractive with clear and simple instructions on how to complete specific questions.
- Questions will be grouped according to subject areas.
- Questionnaire formatting will maximize readability, including appropriate question spacing, font type and size and easy to follow skip instructions.
- Questionnaire formatting considerations will also include the use of color and pictures to enhance respondent comprehension.
- Respondent contact strategies and letters have been carefully designed to grab the attention of the respondent and pique interest in the subject matter.
- Respondents will receive a $\$ 2$ bill as an incentive to participate in the survey. See Section A. 9 of the supporting statement for more information on incentives.
- In addition to the methods above, an infographic experiment will evaluate the efficacy of an infographic as a means of increasing respondent cooperation with the NSCH.

Data collection for the NSCH will involve a series of mailings and nonresponse follow-up activities, encouraging questionnaire completion (see Appendix C - Sample letters). Our proposed approach to data collection and nonresponse follow-up is based on previous project experience and recommendations made by Dillman and colleagues (2009) ${ }^{3}$.

Invitation Letter. An initial invitation letter will be mailed to all potential respondents providing details about the study, a Web URL with the login ID for accessing the Web version of the questionnaire (which combines the screener and topical into a consolidated instrument), and a toll-free number for the individual to call if there are questions or comments. Only addresses identified as most likely to respond by paper questionnaire

[^1]will receive a paper questionnaire in the initial mailing. In addition to the invitation letter, $90 \%$ of the sample will also receive a token of appreciation (a $\$ 2$ bill) and $50 \%$ of the sample will receive the infographic as part of the experiment.

Additional mailings. Subsequent to the first invitation mailing, the Census Bureau will send all sample addresses a reminder pressure-sealed postcard containing the Web URL with the login ID. Non-respondents will then receive a second invitation letter (and 'High Paper' addresses will receive a second paper questionnaire). All addresses will then receive two additional mailings with an invitation letter and paper questionnaire, conditional on nonresponse.

Hardcopy questionnaire mailing. For Mail mode cases, the topical questionnaire and accompanying cover letter will be personalized to fill in the sample child's name and other identifying information to ensure that the survey is completed for the correct child. This level of personalization in the questionnaire improves data quality by reducing the opportunity for skip logic errors. It also results in a questionnaire that is as short as possible for the selected child. The shorter the questionnaire, the more likely the respondent is to complete it.

## 4. Individuals Responsible for Study Design and Performance

The Census Bureau will collect the information on behalf of HRSA MCHB. Contact information for the Census Bureau's principal staff on the project is listed below:

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List of Attachments:
Appendix A - NSCH sample frame and sampling flags creation documentation
Appendix B - Table of state sample sizes
Appendix C - Sample letters
Appendix D - List of new survey items to NSCH 2017 production, screener and topicals


[^0]:    ${ }^{1}$ The MAF is a Title 13 data source, and all data collected are confidential under 13 U.S.C. Section 9. All access to Title 13 data from this survey is restricted to Census Bureau employees and those holding Census Bureau Special Sworn Status pursuant to 13 U.S.C. Section 23(c).

[^1]:    ${ }^{3}$ Dillman, D.A.; Smyth, J.D.; Christian, L.M. (2009). Internet, mail and mixed-mode surveys: The tailored design method, 3rd edition. Hoboken, NJ: John Wiley \& Sons.

