

**National Survey of Children's Health:
Request for OMB Review
Supporting Statement B
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, emotional, and behavioral 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 child health indicators in combination with information on the child's family context and neighborhood environment.

Prior to the U.S. Census Bureau administering the survey, 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. 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 each cycle, beginning with the 2015 NSCH Pretest and 2016 production NSCH, inform the multimode design for subsequent iterations of the survey.

A majority of addresses receive an initial attempt to collect information by Web (self-administered) and a non-response 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) and Email Questionnaire Assistance (EQA). 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 2019 NSCH will be conducted from June 2019 through January 2020. Households will be randomly sampled as described in section B.1.1. An invitation to participate in the NSCH with unique login information for the

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).

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 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. Accordingly, only one topical survey will be administered to any given household. When responding via the online instrument, subsampling is instantaneous and respondents are able to continue seamlessly from the screener items to the topical section. When responding via 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 2019 NSCH, 180,000 household addresses will be selected for the production survey and 4,000 addresses will be selected for a complementary screener card test for a total of approximately 184,000 total addresses sampled. The sample file is selected from the Census Master Address File (MAF) and supplemented with an administrative records-based *flag*, which serves to identify households with children. Due to an internal reorganization, the Census Bureau’s Center for Economic Studies (CES) division has continued the work of the Center for Administrative Records Research and Applications (CARRA) division and 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 NSCH. As background, both CES and CARRA are interdisciplinary groups in the Research and Methodology Directorate, 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 are not possible 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 B**:

- Flag 1: Child record linked to address (stratum 1); no child record linked to address, medium probability of children present (stratum 2a); no child record linked to address, low probability of children present (stratum 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 is used in the sampling process. Flag 2 is 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 2b addresses. The probability threshold between 2a and 2b is selected in each state to maximize the number of addresses in Stratum 2b while maintaining an approximated 95% coverage rate of households with children in Strata 1 and 2a.

Addresses in Stratum 2b will not be included in sampling. Stratum 2b represents approximately 5% of households with children in each state (including all invalid mailing addresses); children are present in approximately 3% of addresses in Stratum 2b versus 12% of addresses in 2a and 78% in Stratum 1. Evaluation was done on this proposal using ACS responses across 16 variables representing 76 response categories. We compared relative frequencies for those categories when stratum 2b was included against frequencies without 2b addresses (using a 15% threshold), applying an offsetting weight to 2a responses. The average difference in the relative frequencies across the 76 response categories was less than 0.3 percentage points and less than the average margin of error. In practice, we have used a 5% threshold for assigning 2b addresses and we apply demographic controls in weighting (not just base weights), so this evaluation substantially overestimates the potential for bias in our frame when 2b is excluded. 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. The impact on frame bias is negligible, and gains in sample efficiency allow us to better compensate for nonresponse bias (with nonresponse follow-up and weighting controls), improving both estimate precision and accuracy. Approximately 60% of the sample is expected to be drawn from Stratum 1.

Table B.1.1.A: Addressed-Based Sample by Stratum for the 2019 NSCH

	Stratum 1	Stratum 2a	Total
Sample Size	110,564	73,458	184,021
% of Sample	60%	40%	
% Households w/ children	78%	12%	52%

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 a production sample size of approximately 180,000 addresses nationwide after the 4,000 screener card test cases have been removed to yield roughly 516 completed interviews from households with children per state (see **Appendix C** 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 2019 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 first of two tests that will be conducted with sampled addresses during the 2019 NSCH is an envelope design experiment. This test is intended to evaluate the efficacy of an initial mail package envelope design that differs from the traditional NSCH envelope. Fifty percent of addresses will be randomly assigned to the design treatment group, **see Table B.1.1.B**. While the official design of the envelope is underway, a mock-up of each type of envelope included in the experiment can be found in **Appendix D**. It is anticipated that providing respondents with an eye-catching, visually appealing design may encourage households to open, and ultimately respond to the survey. Higher response can reduce follow-up costs and nonresponse bias. If the envelope proves successful, it may be used throughout additional follow-up mailings.

Table B.1.1.B: Envelope Design Experiment - Production

Envelope Treatment Group	Screener Sample Size	Mailing Group	Envelope Used
Control	90,010	High Paper	BC-1776(0977)
		Low Paper	BC-1328(0977)
Treatment	90,011	High Paper	BC-1776(0977NE)
		Low Paper	BC-1328(0977NE)
Total	180,021		

The second test planned during the 2019 NSCH is a screener card experiment that is aimed at evaluating a replacement of the current paper screener instrument with a simplified screener approach. If proven successful, this simplified version could replace the 8-page paper screener booklet with a detachable perforated portion of the initial letter where a respondent can indicate the number of children in their household (or mark 0 if none), and mail it back in a postage-paid envelope. The primary research goal is to understand the impact of the screener card on the percentage of households that respond and report that they do not have children. However, this experiment also allows us to assess the impact of the new screener approach on households that report having children. Additional goals of the modified approach include:

- Reduced respondent burden by providing “no child households” a simple way to complete the screener without requiring them to log into the web instrument (although web still remains an option).

- Reduce costs by only sending a screener postcard packet (e.g. letter and postcard) instead of a full screener questionnaire package to all sample members. With this approach, cost savings are realized in both the outgoing and return postage.
- Lessen the risk of losing sample cases between the screener and topical survey stages by encouraging households with children to respond using the web. When households with children respond to the screener by web, they can move directly into the topical questionnaire, which eliminates the need for further follow-up mailings.

The screener card test will consist of four groups (A-D) and will mail concurrently with the production mailout schedule. Group A (the control) is comprised of a subset of production cases to which the screener card test cases in Groups B-D can be compared. Groups B and C will receive up to two screener card perforated letters, while Group D will receive only one screener card perforated letter. **Table B.1.1.C** below defines the screener card treatment groups in further detail. Examples of the screener card treatment materials can be found in **Appendix F**.

Table B.1.1.C: Screener Card Test – Treatment Group Mailings

Test Group	Initial Cases	Envelope Test Group	Maximum Cases for Mailing Comparison	Screener Card Treatment Group
Group A – Production Control	12,604	Design Group	6,302	1
		Traditional Group	6,302	2
Group B – Screener Card Included with First Mailing	2,000	Design Group	1,000	3
		Traditional Group	1,000	4
Group C – Screener Card Mentioned with First Mailing	1,000	Design Group	500	5
		Traditional Group	500	6
Group D – Screener Card Mentioned in Pressure-Sealed Mailing	1,000	Design Group	500	7
		Traditional Group	500	8

Table B.1.1.C. NOTE: Test Group A (Control) will utilize the Low Paper production control cases for comparison. No additional sample cases will be selected for this test group.

The 2019 NSCH production sample will also include two key, non-experimental design elements. First, a screener cash incentive evenly split between \$2 (45%) and \$5 (45%) will be mailed to 90% of sampled addresses. The remaining 10% of households function as a control group and will receive no incentive in order 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 strategy is designed to increase response and reduce nonresponse bias within the constraints of the budget. The incentive amount was chosen following an incentive test in 2016 and results of the same non-experimental design element utilized in the 2018 NSCH. The results of each have demonstrated that the \$2 incentive significantly increased response

compared to having no incentive. In addition, the \$5 incentive was proven to be a more costly but effective strategy at encouraging participation.

Additionally, data collection procedures will be modified based on the block group-level paper-only 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. Modeled Web and paper response mode probabilities by block group are created using 2018 ACS response mode choices summarized at the block group. Characteristics of other block group and tract-levels and response mode choices from previous iterations of the NSCH are also used as inputs to the model. 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 B** for additional details.

The following **Table B.1.1.D** is a summary of the comparisons that will be performed between the incentive and control groups, and between ‘High Paper’ and ‘Low Paper’ households, based on the maximum eligible sample. It is anticipated the \$2 incentive will increase response by 3.6 percentage points and the \$5 incentive will increase response by 6.3 percentage points. It is anticipated that the effect of the incentives will vary by Web group (“High paper” versus “Low paper”).

The Fisher Exact Test is used to derive power in **Table B.1.1.E** and **Table B.1.1.F** based on the sample sizes and anticipated response differentials of the comparison groups. The high statistical power for the incentive comparison and the envelope comparison (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. There is sufficient power to reliably detect the effect of the envelope design within the incentive groups and Low Paper group. There is not sufficient statistical power to reliably detect the effect of the envelope on response within the control (\$0 incentive) group and High Paper group.

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

Incentive	Initial Cases	Envelope Test Group	Maximum Sample for Envelope Comparison	Mode Collection Group	Maximum Sample by Paper	Treatment Groups (TG)
\$2	81,007 (36.5%)	Traditional Group	40,503 (36.0%)	Low Paper	28,352 (36.0%)	1
				High Paper	12,151 (36.0%)	2
		Design Group	40,504 (37.0%)	Low Paper	28,353 (37.0%)	3
				High Paper	12,151 (37.0%)	4
\$5	81,007 (39.2%)	Traditional Group	40,504 (38.7%)	Low Paper	28,353 (38.7%)	5
				High Paper	12,151 (38.7%)	6
		Design Group	40,503 (39.7%)	Low Paper	28,352 (39.7%)	7
				High Paper	12,151 (39.7%)	8
Control	18,007 (32.9%)	Traditional Group	9,004 (32.4%)	Low Paper	6,303 (32.4%)	9
				High Paper	2,701 (32.4%)	10
		Design Group	9,003 (33.4%)	Low Paper	6,302 (33.4%)	11
				High Paper	2,701 (33.4%)	12

Table B.1.1.E: Production Treatment Group Comparisons

Incentive Comparisons	Envelope Comparisons by Incentive	Envelope Comparisons by Paper
<p>\$2 v. Control TG(1+2+3+4) v. TG(9+10+11+12) p=0.05, power≈1 p=0.10, power≈1</p>	<p>Traditional Group v. Design Group TG(1+2+5+6+9+10) v. TG(3+4+7+8+11+12) p=0.05, power≈1 p=0.10, power≈1</p>	
<p>\$5 v. Control TG(5+6+7+8) v. TG(9+10+11+12) p=0.05, power≈1 p=0.10, power≈1</p>	<p>Traditional Group v. Design Group in \$2 TG(1+2) v. TG(3+4) p=0.05, power=0.83 p=0.10, power=0.90</p>	<p>Traditional Group v. Design Group in Low Paper TG(1+5+9) v. TG(3+7+11) p=0.05, power≈1 p=0.10, power≈1</p>
	<p>Traditional Group v. Design Group in \$5 TG(5+6) v. TG(7+8) p=0.05, power=0.83 p=0.10, power=0.90</p>	<p>Traditional Group v. Design Group in High Paper* TG(2+6+10) v. TG(4+8+12) p=0.05, power≈0.70 p=0.10, power≈0.77</p>

*This comparison does not meet the minimum power threshold of 0.8.

Table B.1.1.F: Screener Card Treatment Group Comparison

Screener Card Treatment Comparisons by Group
<p>Screener Card Groups B+C+D v. Control (Group A) TG(3+4+5+6+7+8) v. TG(1+2) p=0.05, power≈1 p=0.10, power≈1</p>

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 (T1), 6 to 11-year-old children (T2), or 12 to 17-year-old children (T3). As previously mentioned 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). Children are considered to have special health care needs if the respondent answers “Yes” to at least one question in one of three categories listed below. These questions are part of the screener questionnaire, which was developed by researchers, practitioners, family advocates, and policy makers to identify CSHCN in household surveys².

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>

CSHCN are identified by asking respondents if each child rostered in the screening instrument: 1) needs or uses more medical care, mental health services, or educational services than is usual for most children of the same age; 2) if the child needs or uses specialized therapies, mental health counseling, or prescription medications; and/or 3) 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.

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 NSCH Sample Child

Household Type	Number of Eligible Children in Household	Number of Eligible Non-CSHCN, CSHCN	% Probability of Selection for Non-CSHCN	% Probability of Selection for 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 (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 (28%). 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 (24%). If all 3 children are aged 0-5 or aged 6-17 years, then each child has an equal chance of selection (33.3%).		Includes 60% oversampling of children aged 0-5 years.
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 probability of selection (25%).		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 production NSCH is approximately 180,000 unique addresses nationwide. These addresses are then split by strata. Response probabilities are estimated using response patterns from the 2018 NSCH. The expected analytic sample sizes are listed in **Table B.1.3.A**.

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

Initial Sample	Stratum		Incentive Group		Valid Addresses	Completed Screeners	Households With Kids		Completed Topicals
	Stratum 1: 60%	Stratum 2a: 40%	\$0: 10%	\$2: 45%			\$5: 45%	Stratum 1: 79%	
180,000	1	108,160	\$0	10816	10,034	3,650	2,870	2,155	
			\$2	48672	45,155	38,052	14,193	10,655	
			\$5	48672	45,155	19,271	15,151	11,374	
	2a	71,861	\$0	71861	5,436	2,380	275	194	
			\$2	32337	24,463	11,590	1,339	945	
			\$5	32338	24,463	12,250	1,415	999	
Totals					154,706	67,193	35,242	26,321	
per State					3,033	1,318	691	516	

1.4 Estimation Procedures

There will be written specifications for weighting the data that will have been collected in the 2019 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 approximately 180,000 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 a unique 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 E** for production sample letters.

The first section of the production 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.

“High Paper” addresses and “High 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 A** for a list of new items for NSCH 2019, and copies of the 2018 Screener and

Topical instruments (English and Spanish versions). Currently the production survey forms are being updated and revised copies are forthcoming.

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, two pressure sealed reminder postcards, and two ('Low Paper') or four ('High Paper') paper questionnaires.

The Census Bureau will also request participation from approximately 4,000 households in a test of a new survey instrument called a screener card. This screener card is a perforated section at the bottom of a Web-Push letter that can be detached, completed, and placed in a postage-paid return envelope. The screener card will contain a single question about the number of children in the household and is aimed at simplifying the process for households without children or providing a way for households without access to the Web to request a paper questionnaire. See **Appendix F** for an example of the screener card letter design.

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 two separate partner agreements with the Centers for Disease Control and Prevention's National Center on Birth Defects and Developmental Disabilities (CDC/NCBDDD) 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 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. 1769d(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, along with 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 redesigned to grab the attention of the respondent and pique interest in the subject matter.
- Respondents will receive a \$2 or \$5 bill as an incentive to participate in the survey. See **Section A.9** of the supporting statement for more information on incentives.

Data collection for the NSCH will involve a series of mailings and nonresponse follow-up activities, encouraging questionnaire completion (see **Appendix E** – Production Sample Letters and **Appendix F** – Screener Card Test Sample Letter). 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 a unique 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 and email address for the individual to utilize if there are questions or comments. Only addresses identified as most likely to respond by paper questionnaire will receive a paper questionnaire in the initial mailing. In addition to the invitation letter, 90% of the production sample will also receive a token of appreciation (a \$2 or \$5 bill).

Additional mailings. Subsequent to the first and second invitation mailings, the Census Bureau will send all sample addresses a reminder pressure-sealed postcard containing the NSCH questionnaire Web URL with a unique login ID. 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

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.

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 are listed below:

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Sample Design

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List of Attachments:

Appendix A – 2019 NSCH Questionnaire Content Revisions
Appendix B – 2019 NSCH Sample Frame and Sampling Flags Creation
Appendix C – 2019 NSCH Table of State Sample Sizes
Appendix D – 2019 NSCH Envelope Design Drafts
Appendix E – 2019 NSCH Production Sample Letters
Appendix F – 2019 NSCH Screener Card Test Letter