Supporting Statement B

Revision Request for Clearance

NATIONAL HEALTH INTERVIEW SURVEY

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Contact Information:

Marcie Cynamon

Survey Planning and Special Surveys Branch
Division of Health Interview Statistics
National Center for Health Statistics/CDC
3311 Toledo Road, Room 2123
Hyattsville, MD 20782
301.458.4174
301.458.4035 (fax)
mlc6@cdc.gov

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B. Collection of Information Employing Statistical Methods

1. Respondent Universe and Sampling Methods

The NHIS is a cross-sectional household interview survey. The sampling plan follows a multistage probability design which permits the continuous sampling of households. Approximately every ten years, the NHIS sampling plan is revised following the decennial census of the population. The current sampling plan started with the 2006 NHIS and is based on the 2000 decennial census. A new sampling plan is intended for 2016. Details regarding the new sampling plan will be submitted for OMB review in 2015.

For the 2006 design, the basic NHIS sample contains 428 primary sampling units (PSUs), usually a county, a small group of counties, or a metropolitan statistical area, drawn from 1,838 PSUs that cover the 50 States and the District of Columbia. Within PSUs, second-stage sampling units called segments contain an expected 4, 8, 12 or 16 housing units. The sample assigned to each month is representative of the target population and the monthly samples are additive.

A major feature of the sample design is the oversample of the minority domains of black, Hispanic and Asian persons by oversampling these groups to increase the reliability of estimates. Two strategies are used to implement such over sampling. The first strategy is to select the household sample from minority density substrata within each PSU. Each substratum except the one for building permits is defined by the concentrations of minority households at the block level. Depending on the block-level distributions of black, Hispanic, and Asian persons, and the total expected sample size within a given PSU, the blocks are stratified into 1 to 8 density strata. Sixteen robust definitions for black, Hispanic, Asian concentrations are used to reduce classification degradation over time and to allow efficient sampling structures for future data analysis. Segments are sampled at higher rates within those substrata having higher concentrations of minorities compared to those substrata with low concentrations of minorities. Within an individual segment not selected from the building permit frame, households with a black, Hispanic or Asian person are sampled at rates 25 to 67 percent higher than the other households with the rate varying by substratum. In addition, at the person level, the sample adult selection process has been structured so that when black, Hispanic, or Asian persons aged 65 years or older are present, they have an increased chance of being selected as the sample adult.

The second oversampling strategy of the black, Hispanic and Asian households is accomplished by having two sampling designations for addresses within a segment, a traditional interview designation and a screening designation. In a typical data collection year about 24,000 addresses will be designated to be screened through the collection of the NHIS core household roster to determine whether the household includes a black, Hispanic or Asian person. The households designated for such screening will be retained in the NHIS sample only if the household contains those minorities. Approximately 12,000 designated screener households are not selected for full survey participation. Households selected for traditional interview will be surveyed regardless of household composition. Screening occurs in all substrata except the one for building permits. This strategy represents a cost-effective sampling approach for producing reliable estimates for the black, Hispanic and Asian populations, attaining a greater level of oversampling than what can be attained with differential sampling rates in density substrata alone. In 2014, NCHS received funds from the Patient Protection and Prevention Fund to increase enrollment of Native Hawaiian/Pacific Island (NHPI) respondents for a one-time survey of NHPI health. Those funds have been expended and survey recruitment has returned to its usual procedures for 2015-2017.

In a typical data collection year, if there are sufficient resources to fund the survey fully, the final NHIS sample will contain approximately 35,000 households and 87,500 persons. Beginning with the 2011 NHIS, additional funding has been provided to increase the sample to improve state-level estimates of key variables in less populous states. The initial sample increases came from sample addresses cut in previous years due to budget shortfalls and addresses assigned to years beyond the current sample design period. These two sources were exhausted at the end of 2012. Beginning with the 2012 NHIS, another source of addresses for increasing sample came from areas in existing NHIS primary sampling units (PSU) that had been subsampled out during an initial phase of within-PSU sampling. Beginning with the 2013 NHIS and continuing into 2014, new PSUs were added to the NHIS, allowing additional NHIS sample increases.

2. Procedures for the Collection of Information

The U.S. Bureau of the Census is responsible for drawing the final sample and for performing the necessary field procedures related to data collection and initial processing. Specifications for the

field operations are provided by the Division of Health Interview Statistics (DHIS) staff at NCHS.

DHIS staff provides specifications for the sample design, specific content of the questionnaire, detailed instructions for the administration of the interview, and procedures to measure quality control by reinterview and paradata analysis. The Census Bureau, in addition to drawing the sample, performs supervisor and interviewer training and conducts the field operations. These operations include first contacting all households via an advance letter (5a), followed by a personal visit. Making contact via telephone is also sometimes used to follow up on respondents who were unable to be contacted in person or to complete the interview during a personal visit. DHIS staff monitors the field activities through observation and communication with Census during all phases of data collection and through the analysis of paradata such as audit trails, contact history, and item timing.

All data are weighted to provide national estimates using the following four components: 1) The reciprocal of the probability of selection; 2) a household nonresponse adjustment within segment; 3) a first-stage ratio adjustment; and 4) a second stage ratio (or post stratification) adjustment to the U.S. population by age, sex, and race-ethnicity.

Standard errors may be calculated using a Taylor linearization approach as applied in SUDAAN variance software. (See: Research Triangle Institute. SUDAAN Language Manual; Release 11.0. Research Triangle Park, NC: Research Triangle Institute. 2012.)

A small sample of respondents is reinterviewed by the Census Bureau to ensure that interviewers are not submitting falsified interviews. NHIS reinterviews are usually conducted by a Census field supervisor over the telephone. The reinterview is very brief and verifies that the original interview was completed. Typically, the NHIS reinterview is conducted within two to three weeks of the main survey with the same respondent who originally participated in the NHIS. After a brief introduction, the reinterviewer determines if the original interview was done, and asks a few standard questions about the interview, such as its length. The reinterview questionnaire is shown in Attachment 3g.

A sample of adult respondents that are not part of the sample set aside for MEPS will be selected to participate in a follow-back study in 2015. The effort will include the completion of a web and phone survey with possible mail follow up for nonresponse.

The previously-approved NHIS protocol included the Immunization Provider Record Check component, in which medical care providers were contacted to cross-reference vaccination records. This component of the NHIS was originally developed to assess the impact of noncoverage of households without telephones and, later, cell phone only households, on the National Immunization Survey (NIS). Undercoverage is much better understood and accounted for now after years of NIS-related research, rendering the NHIS provider component unnecessary on an ongoing basis. It has therefore been removed from the 2015 survey protocol.

Additional technical details on sample design and survey execution can be found in the National Center for Health Statistics (2012) Survey Description Document available at ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/NHIS/2012/srvydesc.pdf

3. Methods to Maximize Response Rates and Deal with Nonresponse

The final household response rate for the 2013 NHIS was 75.7 percent. This rate is calculated by dividing the number of completed household interviews by the number of assigned, in-scope households. The sample child component was completed in 92.1 percent of participating households in 2012 for an overall response rate of 69.0%. The sample adult component was completed in 81.7 percent of participating households in 2013 for an overall response rate of 61.2 percent.

In order to maximize response rates a letter is sent to all sample households prior to the interviewer's arrival (Attachment 5a). The letter contains a reference to the authorizing legislation of the survey, a statement of confidentiality and an explanation of how the data will be used as well as the voluntary nature of the survey. The letter explains the purpose and need for the survey and tells the respondent that there is some chance that they may be contacted more than once. If at the time of the initial contact the interviewer is told that the letter was not received, another letter is provided prior to the interview and time is allowed for the person to read it before proceeding. The letter legitimizes and justifies the survey, increasing the probability that the respondent will cooperate.

If the time of contact is inconvenient for an interview, interviewers offer to schedule an appointment for a more convenient time. If the respondent refuses to cooperate with one interviewer,

the field work supervisor often reassigns the case to a more experienced interviewer with experience and skill at converting reluctant respondents. Although face-to-face interviews are preferred, interviewers are allowed to substitute telephone interviews if attempts to get a face-to-face interview are not successful.

In 2014, a flyer was developed based on published NHIS data to demonstrate to respondents the value of their participation. Additional materials to improve salience will be developed jointly by NCHS and the Census Bureau.

Targeted interviewer training modules on improving respondent cooperation are presented at initial interviewer training and at least once a year. New modules will be introduced this year to assist interviewers with gaining cooperation, accessing respondents through gate keepers, and averting refusals. These will be introduced as self-study activities using a multi-mode format.

A proposal for a future incentive test will be introduced as a part of this revision submission, including a description of its anticipated impact on response rates. NHIS has never used cash incentives to boost participation rates. The finalized plan will be submitted in a future nonsubstantive change package. A description of the initial proposed study is noted below in the next section.

4. Tests of Procedures or Methods to be Undertaken

The developmental work related to the NHIS questionnaire is conducted by the NCHS Questionnaire Design Research Laboratory (QDRL) under their clearance (OMB No. 0920-0222). New questions for 2015 on cancer and on occupational injury were tested.

A multimode followback targeted to persons with no or tenuous insurance coverage will examine change in insurance status and access to care following the initial interview.

At the end of the family interview a random half of families will receive six supplemental disability questions originally developed for use on the American Community Survey (ACS). Randomization of families into one of the two treatment groups will occur at the time the family roster is established during the Household Module. Randomization will occur using a software-generated pre-assigned table of random numbers, a method developed by Kish (1949). The addition of these questions comprises one component of a larger

testing effort to develop and adopt a standard set of disability questions to be used with multiple surveys in multiple countries. In addition, the Adult Functioning and Disability Supplement (AFD) will be administered to sample adults from the random half of families that did not receive the six test disability questions at the end of the family interview. The AFD supplement is part of an international project to develop and test improved measures of functioning.

A future nonsubstantive change package will further describe the details of an incentive program that is being introduced here. The proposed incentives will be used in two Census Regions (New York and Denver) for a three month period. As for the randomization of families above, assignment to one of the two experimental incentive groups will occur via a software-generated pre-assigned table of random numbers, and will occur independently within each Census Region. Half of the addresses in these two regions will be sent $5 in the advance letter. All households in the two regions will be offered debit cards upon completion of the interview: a $20 debit card for the family respondent and a $20 debit card for the adult sample person for a total of up to $45. About 1,400 households from each Region will be included. Results will be compared to the previous months for the same geographic areas and to the other regions. Specifically, t-Tests (or similar comparative statistics) will be generated to compare response rates (1) in the two combined Census Regions included in the experiment to those in the other regions (the non-incentive control group); (2) in the two Census Regions included in the experiment in 2015 to response rates in those regions in prior years (both combined and separately); and (3) between the two experimental groups to determine the impact of sending an incentive along with the advance letter.

5. Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data

The following person was consulted in the statistical aspects of the design and collection of the NHIS:

Van L. Parsons,Ph.D.
Statistical Research and Survey Design Staff
Office of Research and Methodology
National Center for Health Statistics
(301)458-4421
VParsons@cdc.gov

The following person is responsible for collection of the data:

Anne Kearney
Survey Director, National Health Interview Survey
Demographic Surveys Division
U.S. Bureau of the Census
Suitland, MD
(301)763-6780
Anne.Theresa.Kearney@census.gov

The following person is responsible for analysis of the NHIS data:

Stephen Blumberg, Ph.D.
Associate Director for Science
Division of Health Interview Statistics
National Center for Health Statistics
(301)458-4107
sblumberg@cdc.gov

List of Attachments

Attachment 1 Applicable Laws and Regulations: NHIS Legislative Mandate (42 USC 242K)

Attachment 2a Federal Register Notice of 60-day Public Comment Period

Attachment 2b Comment and Response on Federal Register Notice of 60-day Public Comment Period

Attachment 3 OMB statement and Screener

Attachment 3a Family Core

Attachment 3b Adult Core

Attachment 3c Child Core

Attachment 3d New Supplements and Core Items

Attachment 3e NHIS 2015 Flashcard Booklet

Attachment 3f Reinterview Survey

Attachment 3g NHIS Followback Survey Questionnaire

Attachment 3h NHIS Followback Survey Description

Attachment 3i Summary of Removed Health Care Reform Questions

Attachment 3j Core and Supplement Changes Summary Table

Attachment 4 Consultants for 1997 Redesign

Attachment 5a Advance Letters for Incentive Study and NHIS Followback Survey

Attachment 5b Research Ethics Review Board Approval