Supporting Statement B

Revision Request for Clearance

**NATIONAL HEALTH INTERVIEW SURVEY**

OMB No**.** 0920-0214

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NHIS Supporting Statement Part B

## 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.

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.

For 2014, a new sampling strategy will be employed to increase the reliability of the domain that includes Native Hawaiian and Pacific Islander households. NCHS will introduce a Native Hawaiian and Pacific Islander (NHPI) nationally representative sample of 4,000 addresses identified from the 2012 American Community Survey (ACS) which will be administered the 2014 NHIS questionnaire. This represents a randomly selected half of the 2012 ACS NHPI households.

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.

Reinterview: 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.

Followback: A sample of adult respondents that are not part of the 2013 sample set aside for MEPS will be selected to participate in a followback study in 2014. The initial effort will be to have the followback study done through a web-based survey with telephone or mail follow up for nonresponse. This design is similar to the 2013 National Health Care Information Survey. Clearance for this study will be sought in 2014.

Immunization Provider Record Check:A number of medical care providers will be contacted as part of the module on child and teen immunizations. Immunization histories will be compared between household respondents to immunization questions and records maintained by health care providers. It will also be compared to results from telephone-based immunization surveys.

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 2012 NHIS was 77.6 percent. This rate is calculated by dividing the number of completed household interviews by the number of assigned, in-scope households. The Preliminary household response rate for the half of 2013 is 76%.

The sample child component was completed in 79.7 percent of participating households in 2012 for an overall response rate of 61.2%. The sample adult component was completed in 81.6 percent of participating households in 2012 for an overall response rate of 66.3 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.

**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 will be tested.

As mentioned above, the NHCIS conducted in 2013 will again be conducted. This multimode followback of previous NHIS participants is used to test new questions and concepts and to obtain information on critical health issues at two points in time. Details as to how this will be conducted in 2014 will be submitted separately.

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). The addition of these questions comprise 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.

Experimentation with the use of incentives on the NHIS will be conducted in quarter 3 of 2014. The design of this test has yet to be determined. The purpose is to improve response rates among hard-to-reach respondents.

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

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

Van L. Parsons,Ph.D.
Statistical Research and Survey Design Staff
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The following person is responsible for collection of the data:

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

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**List of Attachments**

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

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

Attachment 3 OMB statement and Screener (5 minutes)

Attachment 3a Family Core (23 minutes)

Attachment 3b Adult Core (15 minutes)

Attachment 3c Child Core (10 minutes)

Attachment 3d Child/Teen Record Check (5 minutes)

Attachment 3e New Supplements and Core Items, Including Comparison With Questions from Past Surveys (12 minutes)

Attachment 3f NHCIS Multi-mode study (10 minutes)

Attachment 3g Reinterview Survey (5 minutes)

Attachment 3h NHIS 2014 Flashcard Booklet

Attachment 4a Consultants for 1997 Redesign

Attachment 5a Advance Letter

Attachment 5b 60-day Public Notice Comments and Response

Attachment 5c Research Ethics Review Board Approval

Attachment 6 Sample Frame Test

Attachment 7 Incentive Experimentation

Attachment 7a Flowchart

Attachment 7b NHCIS Letters