

Supporting Statement B for Request for Clearance:  
**NATIONAL HEALTH INTERVIEW SURVEY**

OMB No. 0920-0214

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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 latest sampling plan started with the 2006 NHIS and is based on the 2000 decennial census.

As in 2006, the 2010 NHIS sample will contain 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 week is representative of the target population and the weekly samples are additive.

A major feature of the sample design is to increase the reliability of estimates on the minority domains of black, Hispanic and Asian persons by oversampling these groups. To implement such over sampling, two strategies are used. Each is described in turn.

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.

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 10,000 of 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 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. Of these households about 20% will have been selected by the screening process.

## **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 the survey. 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 in the information collection for the reinterview phase. 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 (5b), followed by a personal visit when possible. 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.

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.

A small sample of respondents is reinterviewed by the Census Bureau to insure 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 after the main survey. It is conducted 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 questionnaire is administered by telephone using a Computer Assisted Personal Interview. A copy of the CAPI Reference Questionnaire (CRQ) for the reinterview is shown as Attachment 2b.

Additional technical details concerning sample design and survey execution can be found in the National Center for Health Statistics (2008) Survey Description Document available at <http://www.cdc.gov/nchs/nhis.htm>

### **3. Methods to Maximize Response Rates and Deal with Nonresponse**

Based on the final response rates for the 2008 NHIS, it is expected that the household response rate for the 2010 data collection will be approximately 85 percent. This rate is calculated by dividing the number of completed household interviews by the number of assigned, in-scope households. Of those not responding, about half are expected to be refusals to participate, and about half are expected to be households where no one was ever found at home after repeated tries. The sample child component is completed in about 86 percent of participating households for an overall response rate of 72 percent. The sample adult component is completed in about 74 percent of participating households for an overall response rate of 63 percent.

In order to maximize response rates a letter is sent to all sample households prior to the interviewer's arrival (Attachment 5b). 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 inter-

viewer 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 interviewers are preferred, interviewers are allowed to substitute telephone interviews if attempts to get a face-to-face interview are not successful.

At the end of the interview, respondents are given a letter thanking them for their participation (Attachment 6). In addition to being an appropriate gesture, the thank you letter is intended and expected to create and maintain goodwill that may improve response to future contacts with the respondent as part of follow-up or linked surveys.

#### **4. Tests of Procedures or Methods to be Undertaken**

##### **Tests of the Basic Module**

The developmental work related to the NHIS questionnaire was conducted by the NCHS Questionnaire Design Research Laboratory (QDRL)(OMB No. 0920-0222).

##### **Tests of the 2010 Topical Modules**

Many of the questions in the topical modules have been on previous NHIS surveys, or were tested in the QDRL.

#### **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

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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:

Jane Gentleman, Ph.D.  
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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 Section of the Family Core (5 minutes)
- Attachment 3a    Family Core (23 minutes)
- Attachment 3b    Adult Core (17 minutes)
- Attachment 3c    Child Core (9 minutes)
- Attachment 3d    Child and Adult Immunization (4 minutes)
- Attachment 3e    Family Disability (3 minutes)
- Attachment 3f    Adult Cancer (19 minutes)
- Attachment 3g    Child Cancer (1 minute)
- Attachment 3h    Adult Occupational Injury (2 minutes)
- Attachment 3i    Adult Epilepsy (1 minute)
- Attachment 3j    Child Mental Health (2 minutes)
- Attachment 3k    Adult Quality of Life (5 minutes)
- Attachment 3l    Child Record Check (5 minutes)
- Attachment 3m    Teen Record Check (5 minutes)
- Attachment 3n    NHIS 2010 Flashcard Booklet
- Attachment 3o    Reinterview Survey (5 minutes)
- Attachment 4a    Consultants for 1997 Redesign
- Attachment 4b    Consultants for 2010 Topical Modules
- Attachment 4c    Board of Scientific Counselors Review Panel Members



Attachment 4d Board of Scientific Counselors Review Panel Report  
Attachment 5a HIV Testing  
Attachment 5b Advance Letter  
Attachment 5c 60-day Public Notice Comments and Response  
Attachment 5d Research Ethics Review Board Approval