

Supporting Statement B for Request for Clearance:  
NATIONAL AMBULATORY MEDICAL CARE SURVEY:  
NATIONAL ELECTRONIC HEALTH RECORDS SURVEY

OMB No. 0920-NEW

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## **B. Collections of Information Employing Statistical Methods**

### **1. Respondent Universe and Sampling Methods**

The National Ambulatory Medical Care Survey (NAMCS) National Electronic Health Records Survey (NEHRS), formerly known as the Electronic Medical Records Supplement (EMRS) from 2008-2011, has been conducted annually since 2008. The target universe of the NAMCS NEHRS, is non-federally employed physicians (excluding those in the specialties of anesthesiology, radiology, and pathology) practicing in the United States and classified as “office-based patient care.” The sampling frame used for the target universe was the American Medical Association (AMA) and the American Osteopathic Association (AOA). To enable state-based estimates from this survey, a sample of 202 physicians is selected from each state and DC (a national total of 10,302) annually for the NAMCS NEHRS. Within each state, the physicians are selected using systematic random sampling from lists in which physicians are arrayed by specialty groups and metropolitan statistical area (MSA) status.

For the determining physicians receiving the NAMCS extended survey in 2014, physicians will be randomly assigned either the NEHRS or NEHRS extended survey by systematic random sampling from a list in which the sampled physicians are arrayed in their order of selection to the 2014 sample, which is by state, specialty and MSA status. The NEHRS survey data will be weighted to produce state and national estimates using the inverses of selection probabilities with non-response adjustments done within state and specialty group. The NEHRS extended survey will be weighted to produce national estimates only using the same inverses of selection probability with non-response adjustment within state and specialty group. Both data sources will undergo calibration adjustment factors are used to adjust estimated total physicians to known totals within specialty strata. Sampling errors are computed using the linearized Taylor series method of approximation as applied in the SUDAAN software package.

### **2. Procedures for the Collection of Information**

#### Data Collection

As mentioned previously, the survey formerly known as the Electronic Medical Records Supplement, the NAMCS NEHRS, will continue to be fielded by NCHS with a sample of 10,302 physicians.

In order to keep costs as low as possible, the sample mentioned above will continue to be conducted using a mail-out/mail back format. The initial main mail survey will include an introductory letter (**Attachment I**), along with the survey questionnaire. Please see a copy of the proposed regular 2014 NAMCS NEHRS (**Attachment C**) and the expanded NAMCS NEHRS (**Attachment D**). ONC is supporting the 2014 NEHRS, the 2015 and

2016 survey collection is subject to available funding and resources which is being finalized with potential sponsors.

The NAMCS NEHRS data collection follows the Dillman<sup>1</sup> survey method with some modifications. Approximately 7 days after the initial survey is sent to physicians, a postcard will be mailed thanking them for their participation or reminding them that their cooperation is still needed. Please see **Attachment I** for a copy of the text that will be used for the sealed thank-you/reminder card. This postcard also allows sampled physicians to request additional information or request the survey instrument. For physicians who have not participated by that time, a second mailing will be sent approximately 3 weeks after release of the initial mail survey. This mailing will consist of a modified introductory letter (see **Attachment I**) and a second copy of the questionnaire, which will be identical to the one sent at the start of the survey. A third mailing will again include the survey instrument and a new introductory letter (see **Attachment I**), and be conducted approximately 5 weeks after the date the first letter and questionnaire were sent. This will be the final wave that includes both a questionnaire and letter. Approximately 7 weeks into the survey, telephone calls will be made to all non-responding physicians as a final attempt to obtain survey data. If the physician is contacted and agrees to participate, the information will be obtained via telephone.

#### Longitudinal Follow-up of the NAMCS NEHRS

The 2014 NAMCS NEHRS respondents will be contacted to participate in a follow-up survey to track changes in their EHR experiences over a 3 year period (2014 to 2016), if funding and resources are available. In 2014, half of the NAMCS NEHRS respondents will receive additional questions about their EHR experiences. For 2015 and 2016, additional data will be collected from all eligible 2014 NAMCS NEHRS respondents through a tri-modal approach of web and the 3 mailings with telephone follow-up. This tri-modal process would begin with sending physicians a mailed and e-mailed message through a secured process to access the web version of the questionnaire. We then will send 3 mailings of surveys to non-respondents with methods being described in the previous paragraph. Slightly modified 2014 introductory letters and thank-you/reminder card will be used in 2015 and 2016 for the follow-up surveys. For non-respondents to the web and mail surveys, telephone calls will be used as a final attempt to obtain survey data. If the physician is contacted and agrees to participate, the information will be obtained via telephone. Physicians will also be offered the option of completing the survey by web modality, if unavailable to complete by phone. Reminders for the web version of the questionnaire will be sent out 1 week before each of the three mailings, phone-follow-up, and close of the data collection period.

#### Monitoring Data Collection and Quality Control

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<sup>1</sup> The Dillman survey method, also known today as the Tailored Design Method (TDM) is often regarded as the standard for mail surveys. The Dillman survey method includes steps such as sending a personalized letter, the questionnaire with return postage prepared, a follow-up postcard, and duplicate packets to non-respondents.

Throughout the data collection period, conference calls are held among Ambulatory and Hospital Care Statistics Branch (AHCSB) staff and the contractor who handles the mailing and follow-up phone calls to discuss issues relevant to the data collection. There are project management principles that guide our quality control, including weekly data status reports to monitor the flow and completeness of data collection. NCHS also includes internal staff to receive mailings and phone calls to allow NCHS to monitor the quality of the products to ensure materials, survey mailings and phone scripts are followed to our specifications..

As in any survey, results are subject to both sampling and nonsampling errors. Nonsampling errors include reporting and processing errors, as well as biases due to nonresponse and incomplete response. To eliminate ambiguities and encourage uniform reporting, attention has been given to the phrasing of items, terms, and definitions.

Quality control procedures and edit checks reduce errors in data coding and processing. During processing, our contractor performs a 100 percent independent rekey of the data. The contractor performs adjudication if discrepancies occur in the two sets of keyed data. Additionally NCHS staff go on a site visit to evaluate, monitor, and improve on the contractors survey operations..

#### Estimation Procedures

The NAMCS NEHRS data can be used to produce national and state estimates on nonfederal office-based physicians and their practices. The estimation procedure has three basic components: (1) inflation by reciprocals of the sampling selection probabilities, (2) calibration to known totals, (3) adjustments for nonresponse, and (4) weight smoothing. Starting in 2010, physicians who cannot be located are deemed as out-of-scope under the assumption that if survey personnel cannot find them in the survey telephone follow-up, patients would also not be able to find the physicians as required if the physicians were, indeed, seeing patients in an office-based practice.

Physician weights are used to estimate national numbers and characteristics of office-based physicians (e.g., sex, age, and specialty) and their practices (e.g., numbers of physicians in the practice and single-specialty compared with multispecialty practices). The physician sampling weight can also be modified to produce a national medical practice estimator (e.g., practice size, breadth of specialization, and selected EHR functionalities available onsite).

The relative standard error (= standard error/estimate) is one criterion that NCHS uses to determine reliability. For an estimate to be considered reliable, its relative standard error must be 30 percent or less. The sample of 202 physicians per state is sufficient to produce relative standard errors of 30 percent or less for the key statistics targeted in the survey (namely, for each state, the percent of physicians adopting and the percent using specific features of electronic health record systems). Such precision is adequate for planned analysis of the survey data.

### Sampling Errors

Standard errors are calculated using a first-order Taylor series approximation method as applied in SUDAAN software.

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

The 2012 NEHRS had an unweighted response rate of 68 percent, and a weighted response rate of 66 percent. We expect the 2014-2016 NAMCS NEHRS response rates to be similar to those in 2012, because the procedures and materials are the same or similar to those used in 2012. Efforts to raise the response rate of future surveys are currently ongoing.

NAMCS NEHRS uses multiple methods for maximizing physician response. The survey form is designed to minimize the time required of physicians to participate. Along with the questionnaire, we provide a NCHS report that uses the NEHRS data to show the importance of the survey.

Extensive web searches and follow-up phone calls will be performed to locate the status of non-responding physicians. Techniques for converting refusals have been developed that are quite effective, each flexible and responsive to individual concerns. Conversion is successful by emphasizing the following ideas: professional responsibility to enhance knowledge of the adoption of EHR in the United States, and data are only reported as descriptive statistics.

NCHS will investigate the specific causes of nonresponse, so as to devise additional corrective measures, funding permitting. This may include further understanding about survey methods in order to inform the reason for non-response (e.g., burden, brand, time, content). Each year in an annual statistical report, we describe weighted characteristics of NAMCS physician respondents and nonrespondents on numerous variables including age, gender, geographic region, metropolitan statistical area (MSA) status, type of doctor, specialty, specialty type, type of practice, and annual visit volume.

For the 2015 and 2016 data collection, web-modality may be used to increase response and survey representativeness in a similar approach used in the 2013 NAMCS Physician Workflow Survey. The 2013 NAMCS Physician Workflow Survey used a tri-modal approach of web and 3 mailings with telephone follow-up to encourage physicians to participate in the survey.

### **4. Test of Procedures or Methods to be undertaken**

No tests of procedures are anticipated because the survey questions and procedures have been used in prior surveys.

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

The statistician responsible for the survey sample design is:

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Supporting Statement  
List of Attachments

- A. Applicable Laws and Regulations
- B. Changes to 2014 NEHRS
- C. Regular 2014 National Electronic Health Records Survey
- D. Expanded 2014 National Electronic Health Records Survey
- E. Federal Register / Vol.78, No. 165, 52769-52770 / Monday, August 26, 2013 /  
Notices
- F. Federal Register Public Comments
- G. Consultants for 2014-2016 NAMCS National Electronic Health Records Survey
- H. IRB Continuation of Protocol Approval Letter
- I. 2014 NAMCS NEHRS Letters