Supporting Statement B for Request for Clearance:

NATIONAL AMBULATORY MEDICAL CARE SURVEY

OMB No. 0920-0234

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B. Collections of Information Employing Statistical Methods

1. Respondent Universe and Sampling Methods

The National Ambulatory Medical Care Survey (NAMCS) clearance covers two survey operations. The first is the historical NAMCS (referred to as the Core NAMCS). The Core NAMCS consists of data from a random sample of physicians in private practice combined with data from a sample of physicians practicing in community health centers (CHCs). To enhance estimates among certain specialties, a supplemental sample of physicians in three specialties (oncology, allergy and pulmonology) is also included in the Core. The Core NAMCS has been redesigned for 2012 as will be discussed below.

The second survey operation covers a survey focusing on the use of electronic health records by physicians in private practice -- The National Electronic Health Records Survey and its follow-up Physician Workflow Supplement.

Core NAMCS

There are two major components of the core NAMCS universe:

- The first component (office-based physicians) consists of nonFederally employed physicians (excluding those in the specialties of anesthesiology, radiology, and pathology) practicing in the United States who were classified by the American Medical Association (AMA) and the American Osteopathic Association (AOA) as being in "office-based, patient care." There are about 750,000 physicians in this first component of the NAMCS universe.
- The second component consists of physicians (MDs and DOs) and mid-level providers (i.e., nurse practitioners, physician assistants, and nurse mid-wives) practicing at community health centers (CHCs). Unlike physicians in the office-based NAMCS, there is no complete listing of physicians and mid-level providers working at CHCs to use as a frame. Instead, lists of CHCs are used to select a sample of centers and providers sampled from these selected centers. Three different types of CHCs are in the sample:
  - (1) CHCs that receive grant funds from the Federal government through Section 330 of the Public Health Service Act;
  - (2) look-alike CHCs who meet all the requirements to receive 330 grant funding, but do not actually receive a grant; and
  - (3) Urban Indian Federally Qualified Health Centers.

The list of federally funded CHCs (330 grant) and look-alike CHCs will be provided by the Health Resources and Services Administration (HRSA) The list of Urban Indian Health Centers is provided by the Indian Health Service.

Physician Component

The design for the 2012 samples for core NAMCS differs from the design used in past years in two ways. First, the 2012 design does not use PSUs as the first stage of selection. In the earlier design, PSU-based samples were thought to offer several advantages. One was that clustering of physicians within the PSUs would be cost effective; another was that by using the same PSUs as the National Health Interview Survey (NHIS), additional analyses would be possible through combining population health data from NHIS with provider-based health data from NAMCS. PSU designs also have liabilities: not only do they increase design effects, reducing the overall efficiency of the sample for national estimates, but they also make analyses more complex for users. Furthermore, in recent years, the PSU-based design for NAMCS no longer offers the advantages that it might have in the past. The penetration of Census Field Representatives across the U.S. is such that Census does not anticipate significant differences in cost savings with a PSU-based samples. Also, the sort of NHIS-NAMCS combined analysis that was theoretically possible through shared PSUs did not come to fruition.

Moreover, the current NAMCS sample has become out of date. Its PSU-based design uses PSUs from the 1985-94 NHIS. The NHIS sample has been redesigned twice since then, with PSUs shifting to reflect changes in population distribution. If the distribution of physicians in the U.S. has shifted along with the population (which seems likely) the representativeness of the old sample would be less than optimal. Independent of changes in the size of the NAMCS sample, our program has intended for some time to redesign the sample when time and resources allowed. In designing the new NAMCS sample, both PSU and non-PSU designs were considered. A non-PSU design was selected as eliminating the clustering by PSU is simpler, more efficient, and resulting data files will be more straightforward for data users.

Second, the pre-2012 NAMCS was designed to produce national and regional estimates. There has always been interest in being able to make state estimates from NAMCS and this interest has grown given the changes that are occurring in the provision of health care. Funding has been provided to NCHS to expand the NAMCS to provide as many state based estimates as possible. The 2012 design reflects this mandate. Since final funding levels were not available when the sample was designed, it was necessary to provide flexibility at the design stage. The aim was to create two samples of physicians. The first sample was designed to give estimates for at least 28 individual states and would also provide estimates for 36 states if a larger sample should be deemed affordable. When final funding amounts were available, it was determined that estimates would be made for 34 states. This sample was selected in two phases:

- The full sample (which permitted national and state level estimates for 36 states) was selected in the first phase, and
- A base sample (which permitted national and state level estimates for 28 states) was selected in the second phase from the full sample. The remainder of the full

sample was a reserve from which additional physicians would be added to the base sample after it was determined what sample size could be afforded.

The first phase sample is a stratified list sample of physicians with strata defined by:

- the nine Census divisions and, within divisions, by 36 targeted individual states and groups of the remaining (non-targeted) states, and
- primary care status (i.e., primary care specialty versus not in primary care).

From each of these sampling strata, systematic random sampling was used to select physicians from a list in which the physicians were sorted, in order of priority, by the 15 physician specialty groups used in years immediately prior to 2012.

In the second phase, the base sample was:

- selected from the phase one sample and consists of all phase one sample physicians from the 28 "largest" states and
- a stratified systematic random sample of the remaining phase one sample physicians with strata defined by Census division.

When it was determined that funds were available for 34 states, the remaining phase one sample physicians in the next 6 largest states (after first 28) were added to the base sample in the final sample that will be targeted for data collection efforts.

To enhance estimates among certain specialties, a supplemental physician sample was also drawn. The supplemental national sample is a stratified list sample of physicians selected from a sampling frame restricted to physicians in the three specialties of oncology, allergy, and pulmonology and stratified by these three specialties. From each of the three strata, the sample was selected by systematic random sampling from lists in which the physicians were sorted in the order of priority by Census Division, by MSA status, by state, and by broad specialty categories (primary care, medical, surgical).

Attachment FF gives breakdowns of the number of physicians in the sampling frame and the two combined samples. Table 1 in the attachment gives the breakdowns by the 15 physician specialty groups and region. Table 2 gives the breakdown by Census division and states targeted for state level estimates.

The total combined (physicians in private practice and the physician specialty sample) physician sample for each year is divided into 52 representative groups which are randomly assigned to the 52 weeks of the year. The groups are formed by systematically assigning physicians to groups from a list in which the sample physicians are arrayed according to the order in which they were selected. During the assigned week for each sample physician, a systematic random sample of approximately 30 patient visits is selected from chronologic lists of the visits made to the physician during that week. This provides for continuous data collection throughout the year to account for seasonal

variation in disease and patient visit patterns. Data collection within a physician's practice begins on Monday morning of the assigned reporting week and continues through the following Sunday (substitution of a reporting week is not permitted).

Community Health Center (CHS) Component

The CHC component of the NAMCS will use a three stage design in which the first stage is a stratified list sample of CHC service delivery sites with strata defined by Census division and individual states for which state specific estimates are targeted. From each sampling stratum, systematic random sampling is used to select service sites from a list in which the service sites are arrayed by CHC type and CHC. The total annual sample of CHC sites for each year is divided into 52 subsamples which, in turn, are randomly assigned to the 52 weeks of the year for reporting in the survey. At each sampled service delivery site, a systematic random sample of up to three providers (MDs, DOs, and/or mid-level providers) will be selected from those scheduled to work at the CHC site during the site's assigned sample week. The three providers will be selected with probability proportional to the numbers of visits the providers are expected to see during the reporting week. If fewer than three providers will see patients during the assigned week, then all providers seeing patients at that site in that week are included in the sample. As done with office-based physicians, a systematic random sample of approximately 30 patient visits to each sampled provider will be selected from chronologic lists of visits seen by the provider during the assigned week. Visits define the third stage of sampling

Final sample size for the Core NHAMCS sample

As previously mentioned in section A.1, the NAMCS sample will be supplemented with an additional 11,029 physicians above the currently approved 4,700 physicians annually for the 2012-2014 period. The currently approved NAMCS sample (4,700 physicians) includes 3,000 physicians for the historical sample size, a continued supplement from 2010 of 200 oncologists, and the additional 1,500 office-based physicians funded by the Patient Protection and Affordable Care Act of 2010 (ACA). The proposed additional 11,029 office-based physicians will also be funded by the ACA.

The proposed changes increase the total 2012 NAMCS physician sample to 15,729 physicians. Also, the number of community health center (CHC) sample units (defined as administrative units in 2011 and now service delivery sites in 2012-2014) will increase from the currently approved 104 to a total of 2,008 sites. Since each CHC site has up to 3 providers surveyed, this adds another approximate 6,024 providers to the NAMCS sample. Therefore, the total 2012 core NAMCS sample would increase to 21,753 providers, allowing the NAMCS to produce state level estimates for 34 states. The majority of the increase in sample is funded by the Patient Protection and Affordable Care Act of 2010 (ACA). The ACA, however, did not fund 400 oncologists and the additional 750 physicians likely to see asthma patients ("asthma physicians"), which were funded from other sources. These additional 1,150 asthma physicians will be subsumed into the main sample numbers.

Asthma Supplement

Although the means to control asthma have been widely disseminated from the National Heart, Lung, and Blood Institute (NHLBI) Guidelines for the Diagnosis and Management of Asthma (the Guidelines), uptake of effective management strategies remains suboptimal. The proposed asthma supplement will be administered to a sample of primary care health providers and specialists likely to see asthma patients to assess implementation of the Guidelines, which have been available since 1991 and most recently updated in 2007. Specifically, a 2-year asthma supplement is proposed for 2012-2013 to obtain a robust sample of physician responses to construct an accurate picture of uptake and implementation of asthma management as specified in the Guidelines. This supplement does not impact completion of the core survey materials, and the overall sampling method as physicians selected to receive these questions will be identified via a screening question on the automated NAMCS-1 Physician Induction Interview. All sampled NAMCS physicians will have the opportunity to receive the asthma supplement.

The National Electronic Health Records Survey

The target universe of the National Electronic Health Records Survey (NEHRS), formerly known as the Electronic Medical Records Supplement (EMRS) in 2011, is exactly the same as that for the core NAMCS (office-based physician component); that is, nonFederally employed physicians (excluding those in the specialties of anesthesiology, radiology, and pathology) practicing in the United States who were classified by the American Medical Association (AMA) and the American Osteopathic Association (AOA) as "office-based, patient care." To enable state-based estimates from this survey, a stratified sample of 10,302 physicians is selected annually for the NEHRS with strata defined by state. Within state, the physicians are selected using systematic random sampling from lists in which physicians are arrayed by specialty groups and MSA status. This sample is selected separately from the sample for the office-based component of the core NAMCS. The sampling design for the 2012-2014 NEHRS will be identical to the one used for the 2011 EMRS.

Physician Workflow Supplement

The target universe of the NAMCS Physician Workflow Supplement (PWS) mail survey, like the proposed 2012 National Electronic Health Records Survey (NEHRS), is the same as for the core NAMCS; that is, nonFederally employed physicians (excluding those in the specialties of anesthesiology, radiology, and pathology) practicing in the United States who were classified by the American Medical Association (AMA) and the American Osteopathic Association (AOA) as "office-based, patient care." The sample for the workflow supplement is a subset of the sample for the 2011 Electronic Medical Records Supplement (EMRS). This sample will be followed for three successive years from 2011 through 2013. Questions 2, 7 and 8 of the 2011 EMRS mail survey define initial eligibility for the workflow supplement by ensuring that the physician sees ambulatory patients. The sample for the workflow survey includes only the physicians in

the 2011 EMRS mail sample who were deemed to be NAMCS eligible on the basis of data collected for the 2011 EMRS mail survey. Two populations of NAMCS eligible physicians are targeted for estimates in the workflow survey: (1) "Adopters" are those who adopted EHR systems and (2) "Non-adopters" are those who had not adopted an EHR system by the time they responded to the workflow survey. The adoption status for each physician was initially based on the physician's response to Item 17 of the 2011 EMRS mail survey, which was: "Does the reporting location use an electronic medical record (EMR) or electronic health record (EHR) system? Do not include billing record systems."The initial adoption status for non-respondents to the 2011 EMRS mail survey was obtained prior to the workflow survey via phone follow-up.

One version of the 2012 Physician Workflow Supplement will be for those without an EHR system or "nonadopter" and one version will be for those with at least a partial EHR system or "adopter" of EHR. The rest of the methods are similar to those proposed for the 2012 National Electronic Health Records Survey with the mail out/mail back format with phone follow up.

2. Procedures for the Collection of Information

A. Core NAMCS

Training

Primary training in data collection procedures is conducted at different times with three types of staff. First, Census Bureau Headquarters staff are responsible for training the Regional Office staff. Second, Regional Office staff have the primary responsibility for training the FRs and for supervising physician/provider data collection activities. FR training covers the following topics: inducting the physician/provider, confidentiality, HIPAA, , instructing physicians'/providers' staff, supervising patient visit sampling, editing completed forms, retrieving missing data, and medical record abstraction. Finally, FRs induct the physicians/providers and train their staffs on visit sampling and completion of the PRFs if the physicians prefer to fill out the forms, themselves. In preparation for each survey year, Census staff provide initial training to FRs and RO staff on changes related to the forms, items, and procedures.

Census Bureau Headquarters staff are also responsible for writing the field manual. The field manual contains topics that cover the following: purposes of the survey; interviewing techniques; a description of NAMCS-1 questionnaire and related forms; and procedures that cover inducting office-based physicians/providers, conducting physician visits, determining the take every and random start numbers, instructing the physician's staff, supervising patient visit sampling, editing completed forms, and retrieving missing data.

Throughout the year, conference calls are held among Ambulatory and Hospital Care Statistics Branch (AHCSB) staff, Census Bureau Headquarters staff, Census Field

Division staff, and NAMCS supervisory staff from all of the Regional Offices to discuss issues relevant to the ongoing NAMCS data collection.

In October 2011, newly hired FRs will be trained in the ROs on the specifics of the NAMCS survey and introduced to the new automation procedures. As a follow-up, in November of 2011, all field representatives (including the newly hired FRs) from the 12 regional offices across the country will have the opportunity to participate in a national NAMCS/NHAMCS conference highlighting issues related to (1) administering the new computer-based induction instruments in the field, including efforts to increase respondent participation; (2) abstracting data in the automated PRF instrument; (3) how to manage NAMCS electronic cases, and (4) addressing FR questions and concerns. The national conference represents a unique opportunity for FRs to exchange ideas and methods on how to work on a survey that presents unique challenges not faced by other Census FRs.

Initial Contact

Depending on the setting, initial contact is made at varying times prior to the beginning of NAMCS assigned reporting week for the sampled physician/CHC service delivery site. Six weeks prior to the CHCs assigned data collection week, notification is sent to each CHC executive/medical director that his/her particular site has been randomly selected to participate in NAMCS. CHC physicians/providers also receive an introductory letter, patterned after the letter sent to office-based physicians 5 weeks before their assigned reporting period. Finally, office-based physicians who have been selected to participate in the survey receive an introductory letter approximately 4 weeks before their 1-week reporting periods are to begin. All three types of letters are similar, signed by the Director of NCHS, and explain the basics of the survey. Specifically, the letters (1) highlight the voluntary nature of participation, (2) describe the planned contact with a representative from the Bureau of the Census who will act as NCHS's data collection agent, and (3) provide additional instructions and support. See **Attachment U** for copies of all three types of letters. The first letter in the attachment is given to CHC executives/medical directors, the second is intended for office-based physicians, and the final letter is for CHC providers. As mentioned earlier, we include a motivational insert with the introductory letter. This short brochure contains reasons for participation, and questions and answers on confidentiality issues, including the HIPAA Privacy Rule. In addition, the letter sent to sampled NAMCS participants contains endorsing letters from specialty medical colleges and/or associations corresponding to the physician's particular specialty (**Attachment V**).

During the initial interview with the CHC director, a Census FR completes a computer-assisted interviewing instrument, a NAMCS-201. This NAMCS-201 represents the Community Health Center Induction Interview (**Attachment K**). As with the other survey forms, the NAMCS-201 is being automated beginning in 2012. Items in the automated NAMCS-201 instrument allow for the collection of general CHC contact information, along with the type of center and sources of revenue. The major purpose of the computer-based NAMCS-201 is to list all eligible providers at the sampled location,

including those that will not be subjected to sampling because they are not scheduled to see patients during the CHC site's sample week. This list of providers will include only those that work at the sampled service delivery site. School-based locations of the CHC are not eligible, as institutional and occupational settings are not within the scope of NAMCS. When the list of providers has been supplied, the FR will select three providers to be sampled. This selection will be proportional to visit volume. The FR will then obtain the telephone numbers of the selected providers so they can be contacted and inducted.

Physician/Provider Induction

The introductory letter (**Attachment U**) to the office-based physician is followed by a telephone call from a Census Bureau FR to schedule an appointment so that the physician can be inducted into NAMCS by personal interview (**Attachments F and G**). Each CHC physician/provider is also inducted with a letter followed by appointment scheduling and personal interview (**Attachment K**). During the induction visit, the interviewer provides the physician/CHC provider and staff with verbal and written instructions on the completion of electronic patient records (if they choose to fill out the forms themselves). At this time the interviewer also instructs the physician/CHC provider and staff on the sampling procedures, which vary according to how many visits the physician/CHC provider expects to see during the sample week. Sampling only a fraction of the visits is intended to reduce the burden to busy physicians/CHC providers. Detailed definitions and instructions for selected PRF items are provided as help screens in the electronic instrument, and on a printed card left with the provider.

Data Collection

A computer assisted NAMCS-1 interviewing instrument is completed for each sampled physician and CHC provider during the induction visit (**Attachments F and G**). As mentioned above, the questions in the first-half of the NAMCS-1 are used to guide the FRs through the induction process and verify the physician/provider's eligibility. The second half of the questions is dedicated to obtaining information concerning selected practice characteristics. The computerized NAMCS-1 will basically contain the same items as the current paper 2011 form. However, we plan to add items to evaluate a physician's use of complementary and alternative medicine (CAM) (**Attachment C**). As mentioned numerously throughout this document, the other major modification to the NAMCS-1 data collection protocol is to convert to a computer assisted interviewing instrument. The computer assisted interviewing instrument was evaluated during a April 2011 pretest and will become fully implemented beginning in 2012. It is further anticipated that only Census field representatives (FRs) will use a computer assisted interviewing instrument during the induction interview that will mimic the pervious paper versions of the NAMCS-1.

The bulk of data collection occurs with the completion of Patient Record forms (PRFs) (**Attachment H**). Based on a "start with" and "take every" number (generated by the automated NAMCS-1), the physician/CHC provider records each patient visiting them in

sequence during the reporting week and completes PRFs for the designated sample visits. This record of patient visits may be completed whichever way works best for the physician. Patient sampling rates, based on the "start with" and "take every" number, are assigned to physicians/CHC providers according to practice size so that the physician/CHC provider will complete about 30 PRFs during his/her reporting week. A random start is provided for each physician/CHC provider after which every n^{th} patient is sampled throughout the 1-week reporting period.

A PRF is completed for each sampled patient visit. Questions on the 2012-2014 PRF will basically be the same as the ones currently used in 2011, except that we plan to add additional items to the end of the form in 2012-2014 to measure and evaluate the quality of clinical care in preventing heart disease and stroke (12 month lookback module) (**Attachment E**). The NAMCS PRF collects data on patient characteristics, such as age, sex, race, and ethnicity, and visit characteristics, such as date of visit, expected source of payment, reason for visit in patient's own words, physician diagnoses, and medications provided or prescribed. Similar to the NAMCS-1 automation, we are converting data collection for the PRF to a computerized approach. Census FRs will use a computer assisted interviewing instrument when abstracting data for PRFs. In 2012, we are stressing to FRs that they should complete PRF abstraction as a first resort, and in only cases where the provider might refuse should they allow the provider to do the work themselves. Physicians who choose to complete PRFs will have the option to either enter the data on an electronic device (Centurion), or use a version of the electronic PRF from a secure web site. It is estimated that FRs will abstract data about 80 percent of the time.

Monitoring Data Collection and Quality Control

Census Bureau Headquarters staff, Demographic Surveys Division, Housing Surveys Branch, is responsible for overseeing the data collection for the core NAMCS and asthma supplement. Census Bureau Headquarters staff, Field Division, is responsible for the supervision of staff in the Bureau's Regional Offices, who in turn supervise the field representatives (FRs).

When the physician/provider insists on doing his/her own abstracting, the FR calls the physician's office or CHC site 3 times during the sampled week. Calls are intended to answer any questions the office may have and to make sure sampling is being carried out as instructed. Specifically, the first phone call at the beginning of the week is to remind the office to start sampling; mid-week contact is to handle any problems the office may be having; and the final contact, on the last day of the physician's reporting week, is to answer questions and arrange for a meeting to pick-up or delivery of the laptop. An essential part of this effort is quality control, which focuses on the completeness of the patient sampling frame, adherence to the sampling procedures, and assurance that a PRF is completed for every sample visit. Computerization of the Patient Record form allows for automated edits to be built into the instrument, so that keying errors are automatically detected as the data entry person (FR or physician/CHC provider) is entering the data.

Once a case is completed, the survey data are encrypted and sent to a secure Census Bureau database through a secure internet connection. The data are then sent to our keying and coding contractor who will do medical and drug coding on the verbatim text fields. Keying and data entry activities are performed under contract. All medical and drug coding, as well as all data entry operations, are subject to quality control procedures —specifically, a 10-percent quality control sample of survey records are independently keyed and coded. Computer edits for code ranges and inconsistencies are also performed.

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. To help eliminate nonsampling errors, pretesting of proposed PRF changes, and the CHC induction form was completed in August 2005 with subsequent modifications to the forms made before the 2006 survey year. These changes were implemented and included in the current survey, and will remain for the 2012-2014 study period.

Missing values for a few items on the survey are imputed by randomly assigning a value from a PRF with similar characteristics. These imputations are based on physician identity, physician specialty, geographic region, and the 3-digit ICD-9-CM code for primary diagnosis. In 2009 (the latest data available), imputations were performed for the following variables: birth year (2.4 percent), sex (0.7 percent), ethnicity (24.1 percent), race (23.8 percent), patient seen before in practice (0.9 percent), number of visits patient made to that physician/provider in the last 12 months (7.7 percent of visits overall or 8.9 percent of visits by established patients), and time spent with physician (24.6 percent).

As mentioned in section A, a quality control will be implemented through the proposed re-abstraction study. This study will be used to identify any particular data fields on the PRF or lookback module with low agreement between abstraction/re-abstraction. If any are identified, we will explore possible reasons for the low agreement with Census. Results may be used to design supplemental training in 2012 to improve abstraction quality, or may lead to proposed modification of instructions or data collection forms. Also, while re-abstraction will not be used to evaluate individual FRs, it will be used to track the level of abstraction/re-abstraction agreement in Census regional offices, and may identify a need for supplemental training.

Estimation Procedures

National visit estimates and state estimates will be produced based on two fundamental sources of data: (1) private nonFederal office-based physicians, and (2) physicians at CHCs designated as 330 grant-supported Federally funded qualified health centers, Federally qualified look-alikes, and Urban Indian Federally Qualified Health Centers. The estimation procedure has four basic components: (1) inflation by reciprocals of the sampling selection probabilities, (2) adjustments for nonresponse, (3) calibration ratio

adjustment, and (4) weight smoothing. Starting in 2003, the non-response adjustment factor utilized information provided by refusal physicians about the number of patient visits they see during a typical week in their practice and the number of weeks they work during the year. In addition, starting in 2004, the estimation process was modified to (1) take into account season of reporting weeks, and (2) produce unbiased quarterly estimates.

For the first time, beginning in 2012, we plan to make state-based estimates for 34 states. NAMCS data can also be used to make national estimates of office-based physicians and associated medical practices. These estimates are unbiased and based on a complex sampling design with multistage estimation. 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, single-specialty compared with multispecialty practices, and types and numbers of patient encounters in last full week of practice). The NAMCS physician sampling weight can also be modified to produce a national medical practice estimator (e.g., practice size, breadth of specialization, and selected diagnostic and therapeutic services available onsite). Data from the NAMCS samples are weighted by the inverse of selection probabilities with non-response adjustments done at least within Census division and, when feasible within physician specialty groups and/or MSA status. Weights of data from samples designed to produce state estimates incorporate non-response adjustment done within state. Calibration adjustment factors are used to adjust estimated physician total counts to known physician total counts appropriate for each sample.

The lowest reliable NAMCS estimate for all visits to nonfederal, office-based physicians in 2009 is 655,000 patient visits. The relative standard error is one criterion that NCHS uses to determine reliability, and this estimate has an approximate relative standard error (standard error/estimate) of about 30 percent. This relative standard error is the maximum that is allowable for an estimate to be considered reliable. Such precision is adequate for the analyses planned, but any improvement that can be attained is highly desirable.

The new sample design is an update rather than a major methodological change, and estimates will be produced using procedures that are comparable across designs. If weights used for the 2011 sample contained error, there might be some effect on estimates since the new sample would be more representative; however post stratifying to a universe that is a list of all potential units mitigates this possibility. This small risk is unavoidable when the sample design is updated, which we suggest is overdue and critically important. In the event that the 2012 sample size cannot be maintained in future years, we will have to decide among several design possibilities, the most likely of which is that we would continue to use a stratified list sample with strata defined by Census Division and 15 physician specialty groups. Regardless of sampling design, there would be a need to continue calibrating to the AMA/AOA counts of physicians eligible for the NAMCS sample to maintain, as best possible, the trends in estimated total counts.

Details of the prior years' historical statistical design are provided in the 2009 NAMCS Micro-Data File Documentation (ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/NAMCS/doc09.pdf) public use file data documentation. Future description of the newly introduced NAMCS sample design will be released in a later microdata file.

The 2009 NAMCS ended with an unweighted response rate of 62.1 percent, and a weighted response rate of 62.4 percent. Efforts to raise the response rate of future surveys are currently ongoing.

A motivational insert that was introduced in 2001 will continue to be included with the introductory letter that addresses physicians' concerns about participation. The insert covers confidentiality issues, including requirements pertaining to the Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule. Approximately, six years ago we initiated a windowed, multi-colored envelope to send the introductory letter and insert to the sampled physicians. Using this type of envelope increases visibility and exposure to office gatekeepers who, in many cases, decide which mail a physician receives. We are continually in contact with those administering the survey, assisting with any problems that arise while in the field.

We provide our Field Representatives (FRs) with the most current data so they can encourage participation in the surveys as well as promotional material that gives physicians examples of how the survey is used and how important it is for research. In the fall of 2012, a training conference is planned for the FRs and during this time they have an opportunity to learn from each other how to convert physicians that initially refuse to participate. No matter how well we train and equip our FRs, the atmosphere of the physician office makes it very difficult to obtain response rates higher than 70 percent. Because the physician and office staff are already very busy with patients and their associated paperwork, some may view such a survey as additional, volunteer work that they do not have the time or desire to complete. In addition, because of the many Medicaid and Medicare regulations from the government, numerous physicians may view this survey as a further intrusion into their private practice. Our efforts are many times overshadowed by private industry, which may pay the physician and office staff for their time.

Each year we publish weighted response rates by a variety of physician characteristics available from the sampling frame and the physicians themselves. Additional information concerning the 2009 nonresponse is described in Section3 of Part B.

Sampling Errors

Sampling errors are computed using the linearized Taylor series method of approximation as applied in the SUDAAN software package.

B. The National Electronic Health Records Survey (NEHRS)

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

In order to keep costs as low as possible, the supplemental 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 W)**, along with the survey questionnaire. The questions that will be asked of the additional physicians will be similar to those in the NAMCS-1. Slight changes were made to account for the different collection method, as the mail version is self-administered, whereas the core NAMCS questions are asked via a personal interview. Only a very small subset of the questions from the NAMCS-1 that relate to the characteristics of the physician's practice will be used. Please see **Attachment L** for a copy of the proposed 2012 National Electronic Health Records Survey questionnaire.

As mentioned in section A.1, the electronic health record (EHR) items will help guide the policymaking process surrounding Stage II meaningful use. The meaningful use rule is part of a coordinated set of regulations to help create a private and secure 21st century electronic health information system. Criteria for meaningful use, as defined by The Office of the National Coordinator for Health Information Technology (ONC), will be implemented in three stages. Specifically, Stage 1 started in 2011; Stage 2 will begin in 2013, and will add more requirements and new reports; and Stage 3 will begin in 2015 and is expected to add more requirements. The information obtained from the EHR questions (checking insurance eligibility electronically, questions related to information exchange, and the new EHR functionality questions) will provide great value to ONC and NCHS.

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 W** for a copy of the text that will be used for the mail 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 W**) 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 W**), 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 in a final attempt to obtain survey data. If the physician is contacted and agrees to participate, the information will be obtained via telephone.

C. Asthma Supplement

We tested the asthma supplement in Spring 2011, and plan fielding it during the 2012-2014 survey period. See **Attachment B** for a copy of the proposed asthma questions. Although the means to control asthma have been widely disseminated from the National Heart, Lung, and Blood Institute (NHLBI) Guidelines for the Diagnosis and Management of Asthma (the Guidelines), uptake of effective management strategies remains suboptimal. Although other national data sources have reported data on patient health visit outcomes related to asthma, the following relevant points are still uncertain:

(1) Where do major barriers to implementation of asthma management strategies occur on the pathway from health care delivery to acceptance and practice by patients
(2) What is the overall acceptance of the Guidelines by health care practitioners
(3) To what extent can identification of implementation and barriers to use of specific asthma management strategies by health care providers inform ongoing strategies in the hopes of increasing uptake of the Guidelines

The asthma supplement will be administered to a sample of primary care health providers and specialists likely to see asthma patients to assess implementation of the Guidelines, which have been available since 1991 and most recently updated in 2007 (see http://www.nhlbi.nih.gov/guidelines/asthma/index.htm). Specifically, the 2-year asthma supplement will allow NAMCS to obtain a robust sample of asthma visits and physician responses to construct an accurate picture of uptake and implementation of asthma management as specified in the Guidelines. This supplement is sponsored by NHLBI. As result of the pretest, small changes were made to the asthma supplement.

D. Physician Workflow Supplement

As mentioned previously, NCHS will continue to field the longitudinal, Physician Workflow Supplement (PWS), an extension of the EMR surveys with the initial cohort of those physicians that responded to the 2011 Electronic Medical Records Supplement of NAMCS.

In order to keep costs as low as possible, the survey of the initial sample will be conducted using a mail-out/mail back format with phone follow up similar to that of the EMRS. Like the EMRS, the collection method for the PWS is similar, since both mail versions are self-administered. The main mail survey will include an introductory letter **(Attachment X)** along with one of two versions of survey questionnaires based on an algorithm to the 2011 EMRS question 17. The two versions of the Physician Workflow Surveys are for physicians without an EHR system and for physicians with at least some basic EHR attributes. The questions that will be asked of respondents will be more specific to their physician workflow and perceptions of and experiences with EHR systems. The specific content for each survey is based on various levels of EHR adoption. See the two versions provided in **Attachments N and O** that will be used in the 2012 PWS mail survey.

The items on the Physician Workflow Supplement survey for those physicians at locations without an EHR system will provide insight about perceived barriers, benefits and attitudes that physicians have towards EHR systems, technology and risk, and their current workflow conditions. Items on the Physician Workflow Supplement survey for those with at least some basic EHR attributes would ask targeted questions about experienced barriers, benefits, and attitudes, as well as any experienced changes to their workflow resulting from having at least some basic EHR attributes. ONC will use this information to guide the policymaking process surrounding Stage II meaningful use criteria. The meaningful use rule is part of a coordinated set of regulations to help create a private and secure 21st century electronic health information system. ONCs criteria for meaningful use will be implemented in three stages. Stage 1 started in 2011; Stage 2 will begin in 2013, and will add more requirements and new reports; and Stage 3 will begin in 2015 and is expected to add more requirements. The information obtained from the new PWS surveys (perceived barriers, EHR and workflow attitudes, perceived physician and patient benefits, and perceived cost or workflow functionality questions) will provide great value to ONC and NCHS. Together with 2012 National Electronic Health Records Survey, the information obtained will help ONC monitor the effectiveness of federal programs and grants, and inform key policy decisions to develop criteria for successive stages.

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. See **Attachment X** for a copy of the text that will be used for the mail 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 (**Attachment X**) 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 (**Attachment X**), 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 in a final attempt to obtain survey data. If the physician is contacted and agrees to participate, the information will be obtained via telephone.

3. Methods to Maximize Response Rates and Deal with Nonresponse

NAMCS uses multiple methods for maximizing physician response. The medical community, including the American Medical Association and the American Osteopathic Association, is informed and consulted about the study. Twenty major medical societies have endorsed NAMCS and have provided letters of support for use in enlisting sampled physicians during the 2012 – 2014 survey years (**Attachment V**). These letters are typically updated every two years, as our contacts change annually. Survey procedures and forms are designed to minimize the time required of physicians to participate. Physicians selected in the non-CHC NAMCS sample are excluded from possible

selection again for the following two years. Another way that we try to deal with nonresponse is to expose FRs to a video that highlighting scenarios on getting past difficult "gate keepers" in the physician's office and persuading reluctant physicians. In addition, the FRs are given detailed training in survey procedures with special modules on gaining physician cooperation. FR "nurturing" sessions are conducted periodically, as survey funds permit. Another way nonresponse can also be addressed is in FR training sessions. As mentioned earlier in 2.A, in October2011, newly hired FRs will be trained in the ROs on the specifics of the NAMCS survey and introduced to the new automation procedures. In November 2011, all field representatives (including the newly hired FRs) from the regional offices across the country will have the opportunity to participate in a national NAMCS/NHAMCS conference highlighting issues related to (1) administering the new computer-based induction instruments in the field, including efforts to increase respondent participation; (2) abstracting data in the automated PRF instrument; (3) how to manage NAMCS electronic cases, and (4) addressing FR questions and concerns. The national conference represents a unique opportunity for FRs to exchange ideas and methods on how to work on a survey that presents unique challenges not faced by other Census FRs.

As mentioned in a previous section, NCHS has designed a mailing insert to help persuade the physician, gatekeeper, or CHC provider to participate. The insert (**Attachment Y**) includes motivational statements from the Secretary of Health and Human Services and the Director of CDC/ATSDR. It also has answers to questions that physicians may have on why they should participate, describes how the Privacy Rule permits data collection for NAMCS, and provides a link (www.cdc.gov/NAMCS) to our participant Web site. This Web site makes available further material that physicians can use to verify, under the requirements of the Privacy Rule that they are indeed allowed to disclose to NCHS/CDC the information requested as part of this survey. This includes the authority under which NCHS is collecting this information and that the information being collected is the minimum necessary.

The FRs provide the sampled physician with materials that show the importance of NAMCS, including the most recent survey report (for a sample of the most recent NAMCS data brief, see http://www.cdc.gov/nchs/data/databriefs/db69.pdf.)

Survey procedures were also developed to verify the status of the out-of-scope physicians to ensure they were not just refusal cases that were erroneously labeled as out-of-scope. A 20 percent sample of all out-of-scope cases from each FR is reinterviewed over the telephone to confirm that the physician is not within the scope of the survey. If one case is found to be in error, then all out-of-scope cases from that FR are reinterviewed.

This survey requires a commitment from the physicians and their staffs, along with CHC directors and sampled providers. Any of these groups may refuse to participate for many different reasons. Through years of experience with NAMCS, techniques for converting refusals have been developed that are quite effective, each flexible and responsive to individual concerns. Primarily using supervisory personnel, interviewers have successfully converted approximately 15 percent of initial refusals to successful

participants. Conversion is successful by emphasizing the following ideas: professional responsibility to enhance knowledge of the utilization of ambulatory care in the United States, and the fact that no confidential information is collected on any patient resulting in only descriptive statistical reports.

If all else fails to bring the response rates up to the expected levels, then NCHS requests the option to investigate the specific causes of nonresponse, so as to devise additional corrective measures, funding permitting.

A study of nonresponse cases in NAMCS found that break off was most likely to occur at the stage of the telephone screener (43 percent) and that often the refusal is from the office staff rather than the physician. This is consistent with information that shows that a majority of nonresponding physicians do not remember being contacted about NAMCS. Each year in our 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. In 2008, responding versus nonresponding physician distributions were similar for age and sex of the physician, and different for the following characteristics: region, metropolitan status, type of doctor, physician specialty, specialty type, practice type, and annual visit volume. Examining the weighted response rates, higher cooperation was gained among traditional physicians in nonmetropolitan statistical areas (rural), and selected physicians practicing in community health centers. The response rate was the lowest for physicians with a specialty of obstetrics and gynecology. The effect of any differential response is minimized in the visit estimates in most cases as NAMCS uses a nonresponse adjustment factor that takes annual visit volume, specialty, geographic region, MSA, and CHC status into account.

Since January 2007, we have provided physicians and nurses the opportunity to learn more about NAMCS through web-based educational modules presented on the CDC Public Health Training Network. The module presents key NAMCS concepts, interspersed with quiz questions after each concept to reinforce learning. The goal of the web-based material is for physicians and nurses to increase their understanding of NAMCS methodology, and to improve their ability to read critically those articles in peer-related literature that use national estimates of office-based practice parameters. Providing this NAMCS education module to physicians and nurses will not only give participants a chance to receive valuable continuing education credits, but also expand the level of NAMCS exposure to potential survey participants. We plan on continuing to offer this module throughout the 2012-2014 survey period.

4. Tests of Procedures or Methods to be Undertaken

As mentioned earlier, NCHS proposes conducting a pretest in the spring of 2012 to assess the feasibility of developing nationally-representative estimates of payments for care in physician offices using the Current Procedural Terminology (CPT) codes. The NAMCS provides nationally-representative data on the use of medical care in physician offices, but does not collect information on payments to physicians. This pretest proposes to

address that gap, which will allow tracking payments to physicians by patient attributes. The NCHS project team has consulted with outside experts including Dr. Ciaran Phibbs of Stanford University and Dr. Mark Hornbrook of Kaiser Permanente's Center for Health Research in developing this plan. The team plans to communicate further with these experts and with additional experts who work with the Medical Expenditure Panel Survey at the Agency for Healthcare Research and Quality.

Specifically, the NCHS project team will conduct a pretest of approximately 30 visits to each of the 50 physicians chosen from the American Medical Association's frame file. Physicians from all four Census regions and from each of the major NAMCS specialty groups will be chosen. For each PRF, up to fifteen CPT codes associated with the patient visit will be recorded using a modified data collection tool developed by Census. After the pretest, each service provided during a physician contact will be matched via the CPT code to a measure of the relative costliness of the inputs (physician work, practice expenses, and professional liability insurance expenses) used to provide the service and to an estimate of what Medicare would pay for that service. The project team will prepare a report summarizing results and recommendations for beginning survey-wide collection of CPT codes in NAMCS in 2013.

Nonresponse investigations (with 9 or fewer physicians) may be conducted under DHHS task order contracts should such studies be deemed necessary. If nonresponse studies are undertaken, OMB will be notified of the findings.

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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The data will be analyzed under the direction of:

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Supporting Statement
List of Attachments

A. Applicable Laws and Regulations

B. 2012 Asthma Supplement Questions

C. 2012 NAMCS-1 CAM Questions

D. CAM Definitions

E. 2012 NAMCS Lookback Module

F. National Ambulatory Medical Care Survey 2011 Panel-NAMCS 1

G. National Ambulatory Medical Care Survey 2012: Changes to NAMCS-1 and NAMCS-201 for 2012

H. National Ambulatory Medical Care Survey 2012: Patient Record Form

I. National Ambulatory Medical Care Survey 2012: Changes to Patient Record Form

J. National Ambulatory Medical Care Survey 2012: NAMCS-1 EHR items modifications

K. Community Health Center Induction Interview 2011

L. National Electronic Health Records Survey 2012

M. Item modifications to 2012 NEHRS

N. 2012 Physician Workflow Supplement (EHR adopters)

O. 2012 Physician Workflow Supplement (EHR nonadopters)

P. Federal Register / Vol.75, No. 133 / Tuesday, July 13, 2010 / Notices

Q. Federal Register Public Comments

R. Consultants for 2011-2014 NAMCS and NEHRS/Physician Workflow Mail Surveys

S. IRB Continuation of Protocol Approval Letter

T. Pulling and Re-filing Patient Record Forms

U. NAMCS Advanced Letters

W. 2012 NEHRS Mail Survey Letters

V: NAMCS Endorsing Organizational Letters

X 2012 Physician Workflow Supplementary Survey Letters

Y. NAMCS Brochure

Z. National Ambulatory Medical Care Survey 2011 Panel-NAMCS 1 – CPT Pretest

AA. National Ambulatory Medical Care Survey 2012: Changes to NAMCS-1 for 2012-CPT Code Pretest

BB. National Ambulatory Medical Care Survey 2012: Patient Record Form – CPT Code Pretest

CC. Re-abstraction Study PRF

DD. Re-abstraction Study Lookback Module

EE. Re-abstraction Pulling and Re-filing Patient Record Forms

FF. 2012 NAMCS Sample Tables