2009

Cervical Cancer Screening Supplement

Visit File Data Documentation

National Center for Health Statistics
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I. INTRODUCTION

This micro-data file contains data collected in 2009 from the National Ambulatory Medical Care Survey (NAMCS), National Hospital Ambulatory Medical Care Survey (NHAMCS) and the Cervical Cancer Screening Supplement to the NAMCS and NHAMCS. NAMCS and NHAMCS are national probability sample surveys conducted by the Division of Health Care Statistics, National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC).

For the 2009 NAMCS, a national sample of office-based physicians and community health centers (CHCs) provided data on patient visits to physician offices and CHC's. For the 2009 NHAMCS, a national sample of hospitals provided data on patient visits to emergency departments (EDs) and outpatient departments (OPDs). In 2009, office-based physicians, CHCs, and outpatient clinics of specific specialties completed the Cervical Cancer Screening Supplement (CCSS), providing information on their cervical cancer screening practices. This micro-data file combines the patient visit data from NAMCS and NHAMCS and matched provider-level data on cervical cancer screening practice from the CCSS. The purpose of this micro-data file is to provide visit-level data for female patients of ambulatory medical care providers who perform cervical cancer screening.

A. NAMCS and NHAMCS

Ambulatory medical care is the predominant method of providing health care services in the United States. Since 1973, data on ambulatory patient visits to physicians' offices have been collected through the National Ambulatory Medical Care Survey (NAMCS). NAMCS has provided a wide range of data describing the public's use of physician services. In 1992, the National Hospital Ambulatory Medical Care Surveys (NHAMCS) began collecting data on visits to hospital emergency departments (EDs) and outpatient departments (OPDs) to give a more complete picture of ambulatory care services. Together NAMCS and NHAMCS comprise the ambulatory care component of the National Health Care Surveys. Valid data concerning both office and hospital ambulatory medical care are needed to make rational decisions regarding the allocation of resources and training of health professionals, to aid in efforts to control medical care costs, and to plan for the provision of ambulatory medical care. These data have been used extensively for medical care research, education, administration, and public policy decision making.

NAMCS. The basic sampling unit for the NAMCS is the physician-patient encounter or visit. Traditionally, only visits to the offices of non-federally employed physicians classified by the American Medical Association (AMA) or the American Osteopathic Association (AOA) as "office-based, patient care" are included in the NAMCS. Physicians in the specialties of anesthesiology, pathology, and radiology are excluded from the physician universe. However, for 2009, in addition to the traditional sample, the NAMCS included a sample of community health centers, using information from the Health Resources Services Administration and the Indian Health Service to construct a sampling frame. From each sampled community health center, an additional sample of health care providers was selected, which could include physicians as well as mid-level health care providers such as physician assistants, nurse-midwives, and nurse practitioners. A visit was defined as a direct, personal exchange between a patient and a physician, or a staff member acting under a physician's direction, for the purpose of seeking care and rendering health services. Visits solely for administrative purposes, such as payment of a bill, and visits in which no medical care was provided, such as visits to deliver a specimen, were out of scope. Approximately 30 patient visits are targeted for completion from each provider over an interview period of one week. In 2009, a total of 28,691 Patient Record forms (PRFs) were received from office-based physicians and 5,652 PRFs from CHC-based providers who participated in the NAMCS.

NHAMCS. The basic sampling unit for the NHAMCS is the patient visit or encounter. Only visits made in the United States by patients to EDs and OPDs of non-Federal, short-stay, or general hospitals were included in the 2009 NHAMCS. Within emergency service areas or outpatient department clinics, patient visits were systematically selected over a randomly assigned 4-week reporting period. A visit was defined as a direct, personal exchange between a patient and a physician, or a staff member acting under a physician's direction, for the purpose of seeking care and

rendering health services. Visits solely for administrative purposes, such as payment of a bill, and visits in which no medical care was provided, such as visits to deliver a specimen, were out of scope. The target numbers of PRFs to be completed for EDs and OPDs in each hospital were a total of 100 and 150-200, respectively, across all ambulatory units in each respective department. In ambulatory units with volumes higher than these desired figures, visits were sampled by a systematic procedure which selected every nth visit after a random start. The interview period lasts one month. Visit sampling rates were determined from the expected number of patients to be seen during the reporting period and the desired number of completed PRFs. During the 2009 NHAMCS, PRFs were completed for 34,942 ED visits and 33,551 OPD visits.

B. Cervical Cancer Screening Supplement

In 2006, the CDC National Center for Health Statistics (NCHS) began collecting information on cervical cancer screening at hospital-based outpatient departments to examine provider practices. The 2009 CCSS was sponsored by the CDC National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP). Specifically, the supplement examined the provision of HPV tests for approved and non-approved uses, cervical cancer screening methods, the use of HPV tests as an adjunct to Pap testing, the use of HPV test results in managing patients with abnormal Pap tests, and the potential impact of HPV testing on Pap test screening intervals. Data from the CCSS will allow evaluation of adherence to recent national guidelines about the use of HPV testing a) as an adjunct to Pap testing and b) in the management of patients with abnormal Pap tests.

The CCSS, a 15-minute paper-based questionnaire, was administered in physician offices as part of the NAMCS and in hospital OPD clinics as part of the NHAMCS. Field Representatives were instructed to leave a copy of the CCSS supplement with eligible NAMCS providers and NHAMCS OPD clinics after the visit reporting period, so as not to bias their participation in core surveys or patient visit interactions. A total of 17,016 (16.6%) records were obtained from providers who chose to complete the supplement.

NAMCS physicians were considered eligible if their specialty was general and family practice, internal medicine, or obstetrics & gynecology. NHAMCS outpatient clinics were considered eligible if they were categorized as general medicine or obstetrics & gynecology, and perform cervical cancer screening.

CHC providers were also eligible in the CCSS if they performed cervical cancer screening. The NAMCS collects information from CHCs about their facility and then samples the providers, which also includes physicians assistants, nurse practitioners and nurse mid-wives, that work within the CHCs for visit data. All providers who worked at CHC were eligible to participate in the CCSS.

In 2009, the response rate for the NAMCS CCSS, for physicians and CHCs, was 56.0% weighted (60.5% unweighted). The response rate for the NHAMCS CCSS was 51.1% weighted (50.4% unweighted).

Procedures for 2009 CCSS remained the same as with prior years with NAMCS and NHAMCS respondents completing the form on paper. This visit file was created to accompany the 2009 CCSS data file.

II. DATA VARIABLES

The micro-data file contains many variables. Among these variables are patient record data, Cervical Cancer Screening Supplement data from providers, SUDAAN design variables, and additional derived variables.

A. Patient Record Data

The patient record data on this micro-data file are from the NAMCS and NHAMCS visit file. This file contains data on patient visits to NHAMCS and NAMCS providers. It also includes visits to mid-level providers in CHC's which are not included on the public use files. Data for all variables are provided for female patients in physician offices, CHC's and OPD clinics. For more information on how patient visit forms were completed, see Appendix A.

Patient record data. The variables associated with patient visits include demographic variables (e.g., sex, age, race, etc.), height and weight, reason for visit, provider diagnosis, and diagnostic/screening services (e.g., examinations, blood tests, imaging, scope, etc.).

Numeric recodes for diagnoses and procedures. A prefix of '1' was added to ICD-9-CM codes in the range of 001.0[-] through 999.9[-]. A prefix of '20' was substituted for the letter 'V' for codes in the range of V01.0[-] through V82.9[-]. Inapplicable fourth or fifth digits were zero-filled. This conversion was done to facilitate analysis of ICD-9-CM data using internal NCHS statistical procedures. These recodes apply to diagnosis variables DIAG1R, DIAG2R, DIAG3R, and diagnostic and screening variables DIAGSC1 and DIAGSC2.

Imputed variables. Some variables were imputed to replace blanks, or missing data. Both the original (unimputed) variables and the imputed variables have been provided. The imputed variables are designated with the suffix 'FL' (BDATEFL, SEXFL, ETHNICFL, RACEFL, and TIMEMDFL).

Missing values. For most patient-level data, all data from visits by males and all visits (both male and female) to emergency departments have been recoded as missing except for the variables SEX and SETTYPE. The visit file data dictionary also denotes which variables have values for males and EDs.

Diagnostic/Screening and non-medication treatment services. The Ambulatory and Hospital Care Statistics Branch has attempted to facilitate the use and interpretation of procedure data in the NAMCS. Due to respondents entering the same procedures in either item 7 or item 9 of the Patient Record form, it became increasingly difficult to edit these data in a meaningful way. In order to improve data quality and streamline processing time, starting in 2009, data from items 7 and 9 have been consolidated into one item for editing. The items in questions 7 and 9 are recoded as variables PROC1 to PROC9. The verbatim forms of these variables are recoded as PROC1R to PROC9R. Diagnostic/screening services, and non-medication treatment services have been combined to form a recoded section called "Services Ordered or Provided" (TOTSERV) on the public use file. All of the write-in procedures have been grouped into one section of up to 9 procedures following the checkbox categories. The variable TOTDIAG has been changed to TOTSERV.

B. CCSS Provider Data

Data from the Cervical Cancer Screening Supplement are included in this file. These variables correspond to the CCSS questionnaire administered to eligible NAMCS and OPD providers. For each patient visit to providers who completed the CCSS, the providers' answers to the CCSS are matched with the patient visit.

In the 2009 CCSS survey, some ineligible providers completed the supplement. For OPD providers, these data were recoded as blank. For NAMCS providers, however, the data was not recoded as missing so eligibility status must be taken into account when analyzing these data. **In order to**

distinguish between eligible and non-eligible providers, users should refer to the Provider Data Dictionary for variable definitions.

The CCSS provider data included in this micro-data file enable users to estimate patient visits to CCSS providers. For example, a user can estimate the number of visits made by female patients to providers that routinely conduct conventional Pap tests. **Users must be advised that provider-level estimates cannot be made with this file. For example, a user cannot use the data to estimate the number of visits by females over 21 years old to one particular provider.**

C. Design Variables

The SUDAAN design variables included on this file are necessary for calculating estimates and standard errors. The design variables should be incorporated into SUDAAN analysis code as shown below:

NEST CSTRAT CPSU PROVIDE DEPT SUSTRAT SU CLINIC/MISSUNIT;
TOTCNT POPCPSU POPCPROV _ZERO_ _ZERO_ POPSU _ZERO_ POPVIS;
WEIGHT PATWT;

D. Additional Variables

Additional variables were derived from patient visit data variables themselves and visit data variables that were linked with other data sources. These variables can be grouped by source of information: visit data, Census demographic information, and county-level data from the Area Resource File (ARF).

Visit data. Variables from the OPD and NAMCS visit files to describe clinic or office setting characteristics. These variables give the percent of female visits with a certain visit characteristic to that provider. For example, the variable PCTF1524 gives the percent of visits by females ages 15-24 years of age seen in that particular medical setting (clinic or office).

Census. Variables derived from Bureau of Census data describe demographic characteristics of the visit population, such as median household income (variable CSMEDHHY) or percent of patients with a bachelor's degree (variable CSPCTBA).

ARF. The Area Resource File is a national county-level health resource information database maintained by the Health Research and Services Administration (HRSA). Variables derived from the ARF file describe the demographic characteristics of the county in which the hospital or physician office is located.

III. WEIGHTING

The micro-data file is intended to be used to estimate patient visits by females to providers of cervical cancer screening, This micro-data file contains patient visits to office-based physicians, CHC physicians, hospital emergency departments, and hospital outpatient departments, Data on male patients and patients to emergency departments are included in the file for calculating estimates and standard errors, however, visit characteristics for these patient populations are recoded as missing.

Patient visits on this micro-data file are weighted to allow the user to produce national estimates. **Provider-level weights are not included in this micro-data file**. The file should only be used to make estimates on patient visit characteristics. In order to generate estimates of provider-level characteristics, the user is referred to the 2009 CCSS provider file.

Users must include weight and SUDAAN design variables whenever analyzing the data. Appendix B contains summary data tables and Appendices C and D contain sample SUDAAN code to guide users in creating estimates and using design variables appropriately. Appendix E contains marginal data frequencies.

A. Patient Visit Weight

The "patient visit weight" is a vital component in the process of producing national estimates from sample data, and its use should be clearly understood by all micro-data file users. The statistics contained on the micro-data file reflect data concerning only a sample of patient visits, not a complete count of all the visits that occurred in the United States. Each record on the data file represents one visit in the sample of 102,836 visits. In order to obtain national estimates from the sample, each record is assigned an inflation factor called the "patient visit weight" (variable name PATWT). By aggregating the patient visit weights on the 67,894 sample records for 2009, the user can obtain the estimated total of 1,290,075,819 ambulatory care visits made in the United States.

B. Reliability of Estimates

Users should also be aware of the reliability or unreliability of certain estimates, particularly the smaller estimates. The National Center for Health Statistics considers an estimate to be reliable if it has a relative standard error of 30 percent or less (i.e., the standard error is no more than 30 percent of the estimate). Therefore, it is important to know the value of the lowest possible estimate in this survey that is considered reliable, so as not to present data in a journal article or paper that may be unreliable. It should be noted that estimates based on fewer than 30 records are also considered unreliable, regardless of the magnitude of the relative standard error. Published estimates should be rounded to the nearest thousand.

IV. ANALYTICAL GUIDELINES

This micro-data file includes data on visits to both NAMCS and NHAMCS providers, as well as some data about the providers. In order to identify which variables are visit-level variables, and which are provider-level variables, users should refer to the Microsoft Excel file entitled "2009 CCSS Visit File Data Dictionary," which identifies the source of each variable.

Users should note that complete visit-level data has been provided for all female visits to NAMCS physicians and CHCs and NHAMCS OPDs, but only limited variables are provided for visits from males and all visits to NHAMCS EDs.

A. Using weight variables

When creating estimates for the visit data, the weight variable "PATWT" must always be used. This weight variable is consistent across visits to the ED, OPD, and NAMCS providers.

NOTE: The variable "CCSSWT" in only on the CCSS provider data file, and only applies to provider-level data analysis using the provider file. The "CCSSWT" variable was not included on the visit file because the visit file is only to be used when analyzing visit-level data, not provider-level data.

B. Analyzing only NAMCS or NHAMCS visits

In order to isolate NAMCS visits or OPD clinic visits for analysis, researchers should use the entire dataset but use the SUBPOPN statement in SUDAAN to specify which visits to analyze. In the SUBPOPN statement, the variable "SETTYPE" should be used as follows:

For NAMCS visits: `SUBPOPN SETTYPE = 1; *where 1=NAMCS;`
For NHAMCS visits: `SUBPOPN SETTYPE = 2; *where 2=OPD;`
For NHAMCS visits: `SUBPOPN SETTYPE = 3; *where 3=ED;`

When combining multiple years of visit data, this same method of using "SETTYPE" as the subpopulation applies.

C. Combining years of data

The 2009 CCSS visit data file was created uniquely for NCCDPHP using public-use visit data and provider data from the CCSS supplement. This data file only contains visit data for the year 2009. If researchers wish to analyze data for multiple years of visits, they should refer to the NCHS website (http://www.cdc.gov/nchs/ahcd/ahcd_questionnaires.htm) for public-use visit data from other years. However, researchers must be aware that visit data files from other survey years will not contain data from the CCSS provider supplement.

Currently on the NCHS website, public-use data sets for NAMCS survey years 1973 to 2009 are available for download, as well as NHAMCS survey years 1992 to 2009. When analyzing multiple years of data, it is recommended that the user create a combined data set including NAMCS visit data and NHAMCS ED and OPD visit data. Once the data sets have been combined, the user should use the SUBPOPN statement with the "SETTYPE" variable to specify which medical setting (1=NAMCS, 2=OPD, or 3=ED) to analyze.

D. Limitations

This micro-data file can only be used to analyze visit-level data, and cannot be used to make provider-level estimate. The 2009 CCSS provider-level data file should be used for making provider-level estimates.

Appendix A:
2009 NAMCS/NHAMCS PATIENT RECORD FORM - INSTRUCTIONS AND DEFINITIONS

The following instructions are given to Field Representatives and staff of physician offices and hospitals that are responsible for completing Patient Record forms. Item numbers refer to the item numbers on the patient record form used in abstraction.

1. PATIENT INFORMATION

ITEM 1d. SEX

Please check the appropriate category.

ITEM 1e. ETHNICITY

Ethnicity refers to a person's national or cultural group. The Patient Record form has two categories for ethnicity, Hispanic or Latino and Not Hispanic or Latino. Mark the appropriate category according to your knowledge of the patient or from information in the medical record. You are not expected to ask the patient for this information. If the patient's ethnicity is not known and is not obvious, mark the box which in your judgment is most appropriate. The definitions of the categories are listed below. Do not determine the patient's ethnicity from their last name.

	Ethnicity	Definition
1	Hispanic or Latino	A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.
2	Not Hispanic or Latino	All other persons.

ITEM 1f. RACE

Mark *all* appropriate categories based on observation, or your knowledge of the patient, or from information in the medical record. You are not expected to ask the patient for this information. If the patient's race is not known or not obvious, mark the box(es) which in your judgment is (are) most appropriate. Do not determine the patient's race from their last name.

Race		Definition
1	White	A person having origins in any of the original peoples of Europe, the Middle East or North Africa.
2	Black/African American	A person having origins in any of the black racial groups of Africa.
3	Asian	A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.
4	Native Hawaiian/ Other Pacific Islander	A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.
5	American Indian/ Alaskan Native	A person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition.

ITEM 1h. EXPECTED SOURCE OF PAYMENT FOR THIS VISIT

Mark (X) ALL appropriate expected source(s) of payment.

Expected Source of Payment	Definition
1 Private insurance	Charges paid in-part or in-full by a private insurer (e.g., Blue Cross/Blue Shield) either directly to the physician or reimbursed to the patient. Include charges covered under a private insurance sponsored prepaid plan.
2 Medicare	Charges paid in-part or in-full by a Medicare plan. Includes payments directly to the physician as well as payments reimbursed to the patient. Include charges covered under a Medicare sponsored prepaid plan.
3 Medicaid/SCHIP	Charges paid in-part or in-full by a Medicaid plan. Includes payments made directly to the physician as well as payments reimbursed to the patient. Include charges covered under a Medicaid sponsored prepaid plan or the State Children's Health Insurance Program (SCHIP).
4 Worker's compensation	Includes programs designed to enable employees injured on the job to receive financial compensation regardless of fault.
5 Self-pay	Charges, to be paid by the patient or patient's family, which will not be reimbursed by a third party. "Self-pay" is perhaps a poor choice of wording since we really have no interest in whether the patient actually pays the bill. This category is intended to include visits for which the patient is expected to be ultimately responsible for most of the bill. DO NOT check this box for a copayment or deductible.
6 No charge/Charity	Visits for which no fee is charged (e.g., charity, special research, or teaching). Do not include visits paid for as part of a total package (e.g., prepaid plan visits, post-operative visits included in a surgical fee, and pregnancy visits included in a flat fee charged for the entire pregnancy). Mark the box or boxes that indicate how the services were originally paid.
7 Other	Any other sources of payment not covered by the above categories, such as CHAMPUS, state and local governments, private charitable organizations, and other liability insurance (e.g., automobile collision policy coverage).
8 Unknown	The primary source of payment is not known.

3. REASON FOR VISIT

ITEM 3. PATIENT'S COMPLAINT(S), SYMPTOM(S), OR OTHER REASON(S) FOR THIS VISIT (in patient's own words.)

Enter the patient's complaint(s), symptom(s), or other reason(s) for this visit *in the Patient's own words*. Space has been allotted for the "most important" and two "other" complaints, symptoms, and reasons as indicated below.

(1) Most important
(2) Other
(3) Other

The *Most Important* reasons should be entered in (1). Space is available for two other reasons in (2) and (3). By "most important" we mean the problem or symptom which in the physician's judgment, was most responsible for the patient making this visit. Since we are interested only in the patient's *most important complaints/symptoms/reasons,* it is not necessary to record more than three.

This is one of the most important items on the Patient Record form. No similar data on office based physician visits are available in any other survey and there is tremendous interest in the findings. Please take the time to be sure you understand what is wanted--especially the following three points:

We want the patient's principal complaint(s), symptom(s) or other reason(s) in the patient's own words. The physician may recognize right away, or may find out after the examination, that the real problem is something entirely different. In item 3 we are interested in how the patient defines the reason for the visit (e.g., "cramps

after eating," or "fell and twisted my ankle").

The item refers to the patient's complaint, symptom, or other reason for *this visit.* Conceivably, the patient may be undergoing a course of treatment for a serious illness, but if his/her principal reason for this visit is a cut finger or a twisted ankle, then that is the information we want.

There will be visits by patients for reasons other than some complaint or symptom. Examples might be well baby check-up or routine prenatal care. In such cases, simply record the *reason for the visit*.

Reminder: If the reason for a patient's visit is to pay a bill, ask the physician to complete an insurance form, or drop off a specimen, then the patient is not eligible for the sample. A Patient Record form should not be completed for this patient.

4. CONTINUITY OF CARE

ITEM 4a. ARE YOU THE PATIENT'S PRIMARY CARE PHYSICIAN/PROVIDER?

The primary care physician/provider plans and provides the comprehensive primary health care of the patient. Mark "Yes" if the health care provided to the patient during this visit was from his/her primary care physician/provider and skip to Item 4b. If the physician/provider seen at this visit was substituting for the primary care physician/provider, also check "Yes." Mark "No" if care was not from the primary care physician/provider or "Unknown" if it is not known.

If "No" or "Unknown" is checked, also indicate whether the patient was referred for this visit by another physician or health care provider. This item provides an idea of the "flow" of ambulatory patients from one physician/provider to another . Mark the "Yes," "No," or "Unknown" category, as appropriate.

Notice that this item concerns referrals to the sample physician by a *different* physician/provider. The interest is in referrals for this visit and not in referrals for any prior visit.

Referrals are any visits that are made because of the advice or direction of a clinic or physician/provider other than the physician/provider being visited.

5. PHYSICIAN'S DIAGNOSIS FOR THIS VISIT

ITEM 5a. AS SPECIFICALLY AS POSSIBLE, LIST DIAGNOSES RELATED TO THIS VISIT INCLUDING CHRONIC CONDITIONS.

(1) Primary diagnosis
(2) Other
(3) Other

This is one of the most important items on the Patient Record form. Item 5a(1) refers to the physician's primary diagnosis for this visit. While the diagnosis may be tentative, provisional, or definitive it should represent the physician's best judgment at this time, expressed in acceptable medical terminology including "problem" terms. If the patient was not seen by a physician, then the diagnosis by the main medical provider should be recorded.

If a patient appears for *postoperative* care (follow up visit after surgery), record the postoperative diagnosis as well as any other. The postoperative diagnosis should be indicated with the letters "P.O."

Space has been allotted for two "other" diagnoses. In Items 5a(2) and 5a(3) list the diagnosis of other conditions related to this visit. Include chronic conditions (e.g., hypertension, depression, etc.) if related to this visit.

6. VITAL SIGNS

(1)	Height	Record the patient's height if measured at this visit. If it was not measured at this visit and the patient is 21 years of age or over, then review the chart for the last time that height was recorded and enter that value. Mark the appropriate box (ft/in or cm).
(2)	Weight	Record the patient's weight if measured at this visit. If it was not measured at this visit and the patient is 21 years of age or over, then review the chart for the last time that weight was recorded and enter that value. Mark the appropriate box (lbs or kg).
(3)	Temperature	Record the patient's temperature if measured at this visit. Mark the appropriate box (C or F).
(4)	Blood pressure	Record the patient's blood pressure if measured at this visit.

7. DIAGNOSTIC/SCREENING SERVICES

Mark all services that were ordered or provided during this visit for the purpose of screening (i.e., early detection of health problems in asymptomatic individuals) or diagnosis (i.e., identification of health problems causing individuals to be symptomatic). EACH SERVICE ORDERED OR PROVIDED SHOULD BE MARKED. At visits for a complete physical exam, several tests may be ordered prior to the visit, so that the results can be reviewed during the visit. Since these services are related to the visit, the appropriate box(es) should be marked.
Mark the "NONE" box if no Diagnostic/Screening Services were ordered or provided.
For "Electrolytes," include any of the following tests: electrolytes, sodium (Na), chloride (Cl), potassium (K), calcium (Ca), or magnesium (Mg).
For "Lipids/Cholesterol," include any of the following tests: cholesterol, LDL, HDL, cholesterol/HDL ratio, triglycerides, coronary risk profile, or lipid profile.
For "Biopsy," include any form of open or closed biopsy of lesions or tissues.
For "Chlamydia test," only include the following tests if chlamydia is specifically mentioned: enzyme-linked immunosorbent assay (ELISA, EIA), direct fluorescent antibody test (DFA), nucleic acid amplification test (NAAT), nucleic acid hybridization test (DNA probe testing), or chlamydia culture.

"Pap test – conventional" refers to a smear spread on a glass slide and fixed.
"Pap test – liquid-based cytology" refers to a specimen suspended in a liquid solution.
"HPV DNA test" detects the presence in women of human papillomavirus and is performed by collecting cells from the cervix.

If a scope procedure was ordered or provided, mark the "Scope procedure - Specify" box and write-in the type in the space provided.
If services were ordered or provided, but are not listed on the form, mark the "Other test/service - Specify" box and write-in the service(s) in the space provided.

13. TIME SPENT WITH PHYSICIAN

Include here the length of time the physician spent with the patient. DO NOT include the time the patient spent waiting to see the physician or receiving care from someone other than the physician. For example, DO NOT include the time the nurse spent giving the patient an inoculation or the time a technician spent administering an electrocardiogram. It is entirely possible that for visits such as these, the patient would not see the doctor at all. In that case, "0" minutes should be recorded. DO NOT include physician's time spent preparing for a patient such as reviewing the patient's medical records or test results before seeing the patient.

If more than one patient is seen by the doctor at the same time, apply the following rule: If the doctor can easily separate the time spent with each (e.g., 3 minutes with one and 27 minutes with the other), he/she should record that on the Patient Record forms. If the doctor cannot easily estimate how much time was spent with each, he/she should divide the total time equally among the patients seen together.

Appendix B:
Summary Tables

Table 1: Number of Outpatient Visits to Providers in 2009 CCSS Visit File

Patient visits	Number of Records	Estimate	Std error
All visits	102,836	1,290,075,819	49,685,879
NAMCS[1] & OPD VISITS	67,894	1,154,003,689	47,914,401
Female visits (NAMCS[1] & OPD)	40,293	683,490,442	29,259,562

Table 2: Number of Visits in NAMCS[1] and OPD, 2009 CCSS VISIT FILE

CCSS ELIGIBLE	Number of Records	Estimate	Std error
CCSS Completed			
All visits[2]	17,016	319,677,615	23,741,615
Female visits[2]	12,184	221,011,189	16,411,368
Pap test ordered or performed at visit[2]	1,547	28,886,688	3,741,433
Providers offer liquid based cytology[3]	9,345	269,179,469	24,337,735
CCSS Refused			
All visits[2]	9,667	84,627,417	11,409,806
Female visits[2]	6,164	52,669,056	7,350,134
Pap test ordered or performed at visit[2]	188	3,667,766	1,057,167
Providers offer liquid based cytology[3]	58	2,794,944	2,172,212
CCSS Ineligible			
All visits[2]	41,211	749,698,657	35,661,055
Female visits[2]	21,945	409,810,197	20,213,998
Pap test ordered or performed at visit[2]	179	2,249,282	537,922
Providers offer liquid based cytology[3]			

Table 3: Number of Visits to Providers That Offer Liquid-Based Cytology, CCSS Visit File 2009

	Number of Records	Estimate	Std error
Providers offer liquid based cytology			
Yes			
All visits[2]	15,834	291,206,305	24,218,273
Female visits[2]	11,418	202,350,008	16,596,327
Visits w/pap ordered/performed[2]	1,497	27,699,174	3,772,837
No			
All visits[2]	721	15,204,193	4,627,057
Female visits[2]	451	9,721,573	2,893,820
Visits w/pap ordered/performed[2]	30	580,896	252,631
Unknown[4]			
All visits[2]	461	13,267,117	4,936,966
Female visits[2]	315	8,939,608	3,485,524
Visits w/pap ordered/performed[2]	20	606,618	377,976

[1]NAMCS visits include visits to physicians and mid-level providers in CHCs.

[2]Visit level variable.

[3]NAMCS only, provider level variable from Cervical Cancer Screening Supplement.

[4]Unknown category includes records with values marked as unknown, those with blank values, and those with missing values.

[5]Analysis of provider-level variables should not be performed using visits from providers who were ineligible for or who refused the Cervical Cancer Screening Supplement.

Appendix C:
Sample SUDAAN Code to Produce Summary Table 2

```
*SUMMARY TABLE 2: NUMBER OF VISITS IN NAMCS AND OPD;
LIBNAME CVIS 'X:\xxxx';    *Insert file path;
FILENAME SETABLE  'X:\xxxx\TABLE2.XLS'; *File path for output;

DATA CCSSVIS;
SET CVIS.CCSSVISIT09;
PAPLIQDR=PAPLIQD;
IF PAPLIQDR IN (3,9,.) THEN PAPLIQDR=3;  *Recodes blank and missing values to unknown;
IF PAP=. THEN PAP=0; *Recodes missing values to zero/blank value;
PAP=PAP+1;  *Recodes values from 0-1 range to 1-2 for ease of use in SUDAAN;
KEEP PATWT CSTRAT CPSU PROVIDE DEPT SUSTRAT SU CLINIC
POPCPSU  POPCPROV POPSU  POPVIS
ELIG CCSSRESP SETTYPE
SEX PAP PAPLIQ PAPCONV PAPUNSP HPVDNAO PAPLIQD PAPLIQDR;
*Keep statement retains the variables of interest for the current analysis.
Variables PATWT through POPVIS are needed for NEST and TOTCOUNT statements.
Variables ELIG CCSSRESP and SETTYPE are needed to identify the subpopulation
Variables SEX through PAPLIQDR can be replaced with other variables of interest;
RUN;

*SETTING PAP TO 0 FOR ED;
PROC FREQ DATA=CCSSVIS;
TABLES ELIG *CCSSRESP*SEX ELIG*CCSSRESP*SEX*PAP
/LIST MISSING;
WEIGHT PATWT;
WHERE SETTYPE IN (1,2);
RUN;

PROC FREQ DATA=CCSSVIS;
TABLES ELIG*CCSSRESP*PAPLIQDR/LIST MISSING;
WHERE SETTYPE IN (1,2);
WEIGHT PATWT;
RUN;

PROC FREQ DATA=CCSSVIS;
TABLES ELIG*CCSSRESP*PAPLIQDR/LIST MISSING;
WHERE SETTYPE IN (1,2);
RUN;

*Sort the data prior to running analysis commands;
PROC SORT DATA=CCSSVIS;
BY  CSTRAT CPSU PROVIDE DEPT SUSTRAT SU CLINIC;

*Analysis statement;
PROC CROSSTAB DATA=CCSSVIS DESIGN = WOR;
NEST CSTRAT CPSU PROVIDE DEPT SUSTRAT SU CLINIC/MISSUNIT;
TOTCNT POPCPSU  POPCPROV _ZERO_ _ZERO_ POPSU _ZERO_ POPVIS;
SETENV COLWIDTH=15 DECWIDTH=2;
WEIGHT PATWT;
SUBPOPN SETTYPE = 1 OR SETTYPE = 2;
OUTPUT / FILENAME = WORK.SUDOUT TABLECELL = DEFAULT REPLACE;
/* The variables below will change based on the variables of interest*/
CLASS ELIG CCSSRESP SEX PAP/ NOFREQ;
TABLES ELIG*CCSSRESP*SEX*PAP;
RUN;
```

[CONTINUED ON NEXT PAGE]

```
PROC PRINT DATA=SUDOUT;
VAR TABLENO ELIG CCSSRESP SEX PAP NSUM WSUM SEWGT;
RUN;

DATA SET1; SET SUDOUT;
IF ELIG = 0 THEN DELETE;
IF CCSSRESP = 0 THEN DELETE;
IF PAP = 1 THEN DELETE;
IF SEX = 0 AND PAP = 2 THEN DELETE;
IF ELIG=1 AND CCSSRESP=1 AND SEX IN (0,1) THEN OUTPUT ;
IF ELIG=1 AND CCSSRESP=2 AND SEX IN (0,1) THEN OUTPUT ;
IF ELIG=2 AND CCSSRESP=2 AND SEX IN (0,1) THEN OUTPUT ;

DATA ELIG REF NONELIG; SET SET1;
LENGTH PRNTROW $30; *Specifies the length of the printed row;
IF SEX=0 THEN PRNTROW = 'All visits';
IF SEX = 1 THEN PRNTROW = 'Female visits';
IF PAP = 2 THEN PRNTROW = 'Visits w/pap ordered/performed';
IF ELIG = 1 AND CCSSRESP = 1 THEN OUTPUT ELIG;
IF ELIG = 1 AND CCSSRESP = 2 THEN OUTPUT REF;
IF ELIG = 2 AND CCSSRESP = 2 THEN OUTPUT NONELIG;

/* CREATING HEADER DATASETS FOR PRINTING*/
DATA HEADER1;  SET ELIG;
IF _N_ =1 ;
PRNTROW = 'CCSS Eligible';
WSUM= '';
NSUM = '';
SEWGT = '';

DATA HEADER2; SET HEADER1;
PRNTROW = 'CCSS Refused';

DATA HEADER3; SET HEADER2;
PRNTROW = 'CCSS Ineligible';

DATA PRINT; SET HEADER1 ELIG HEADER2 REF HEADER3 NONELIG;
run;

*ODS Statement refines the printout so that it resembles Table 2 (Appendix B),
 except for the breakdown of providers who offer liquid based cytology;
ODS HTML FILE=SETABLE
HEADTEXT="<STYLE>@page {margin:.50in .30in .50in .30in;
mso-header-margin:.36in;mso-footer-margin:.36in;
mso-horizontal-page-align:center;} BR {mso-data-placement:same-cell}
</STYLE>";

PROC PRINT DATA=PRINT;
LABEL  PRnTROW = 'Patient characteristic'
             NSUM='Sample'
             WSUM='Estimate'
             SEWGT='Std error';
VAR  PRNTROW NSUM WSUM SEWGT;
FORMAT WSUM COMMA13. SEWGT COMMA13.;
RUN;

ODS HTML CLOSE;
RUN;
```

Appendix D:
Sample SUDAAN Code to Produce Summary Table 3

```
*SUMMARY TABLE 3: Data on providers that offer liquid-based cytology;
LIBNAME CVIS 'X:\xxxx';
FILENAME SETABLE  'X:\xxxx\TABLE3.XLS';

TITLE 'Number of Visits in NAMCS and OPD';
TITLE2 'USING SUBPOPN FOR SETTYPE NAMCS & OPD';

DATA CCSSVIS;
SET CVIS.CCSSVISIT09;
FREQWT=PATWT/1000;
PAPLIQDR=PAPLIQD;
IF PAPLIQDR IN (3,9,.) THEN PAPLIQDR=3;  *Recodes blank and missing values to unknown;
IF PAP=. THEN PAP=0; *Recodes missing values to zero/blank value;
PAP=PAP+1;  *Recodes values from 0-1 range to 1-2 for ease of use in SUDAAN;
KEEP FREQWT PATWT CSTRAT CPSU PROVIDE DEPT SUSTRAT SU CLINIC
POPCPSU  POPCPROV POPSU  POPVIS
ELIG CCSSRESP SETTYPE
SEX PAP PAPLIQ PAPCONV PAPUNSP HPVDNAO PAPLIQD PAPLIQDR;
*Keep statement retains the variables of interest for the current analysis.
Variables PATWT through POPVIS are needed for NEST and TOTCOUNT statements.
Variables ELIG CCSSRESP and SETTYPE are needed to identify the subpopulation
Variables SEX through PAPLIQDR can be replaced with other variables of interest;
RUN;

PROC SORT DATA=CCSSVIS;    *Sort the data prior to running analysis commands;
BY  CSTRAT CPSU PROVIDE DEPT SUSTRAT SU CLINIC;

*Analysis statement;
PROC CROSSTAB DATA=CCSSVIS
      DESIGN = WOR;
NEST CSTRAT CPSU PROVIDE DEPT SUSTRAT SU CLINIC/MISSUNIT;
TOTCNT POPCPSU  POPCPROV _ZERO_ _ZERO_ POPSU _ZERO_ POPVIS;
SETENV COLWIDTH=15 DECWIDTH=2;
WEIGHT PATWT;
SUBPOPN SETTYPE = 1 OR SETTYPE = 2;
OUTPUT / FILENAME = WORK.SUDOUT TABLECELL = DEFAULT REPLACE;
/* THE DESIGN STATEMENTS BELOW CHANGE FROM TABLE TO TABLE */
CLASS ELIG CCSSRESP PAPLIQDR SEX PAP/ NOFREQ;
TABLES ELIG*CCSSRESP*PAPLIQDR*SEX*PAP;
RUN;

PROC PRINT DATA=SUDOUT;
VAR TABLENO ELIG CCSSRESP PAPLIQDR SEX PAP NSUM WSUM SEWGT;
RUN;
```

[CONTINUED ON NEXT PAGE]

```
DATA YES NO UNK;
SET SUDOUT;
IF ELIG = 0 THEN DELETE;
IF CCSSRESP = 0 THEN DELETE;
IF PAPLIQDR = 0 THEN DELETE;
IF SEX = 2 THEN DELETE;
IF PAP = 1 THEN DELETE;
IF SEX = 0 AND PAP = 2 THEN DELETE;
LENGTH PRNTROW $45;
IF SEX=0 THEN PRNTROW = 'All visits';
IF SEX = 1 THEN PRNTROW = 'Female visits';
IF PAP = 2 THEN PRNTROW = 'Visits w/pap ordered/performed';
IF ELIG = 1 AND CCSSRESP = 1 THEN DO;
       IF PAPLIQDR = 1 THEN OUTPUT YES;
       IF PAPLIQDR = 2 THEN OUTPUT NO;
       IF PAPLIQDR = 3 THEN OUTPUT UNK;
END;

* CREATING HEADER DATASETS FOR PRINTING;
DATA HEADER1;
 SET YES;
IF _N_ =1 ;
PRNTROW = 'Providers offer liquid based cytology';
WSUM= '';
NSUM = '';
SEWGT = '';

DATA HEADER2;
SET HEADER1;
PRNTROW = 'Yes';

DATA HEADER3;
SET HEADER2;
PRNTROW = 'No';

DATA HEADER4;
SET HEADER1;
PRNTROW = 'Unknown';

DATA PRINT;
SET HEADER1 HEADER2 YES HEADER3 NO HEADER4 UNK;
run;

ODS HTML FILE=SETABLE HEADTEXT="<STYLE>@page {margin:.50in .30in .50in .30in;
mso-header-margin:.36in;mso-footer-margin:.36in;
mso-horizontal-page-align:center;} BR {mso-data-placement:same-cell}
</STYLE>";

PROC PRINT DATA=PRINT;
LABEL  PRnTROW = 'Patient characteristic'
             NSUM='Sample'
             WSUM='Estimate'
             SEWGT='Std error';
VAR  PRNTROW NSUM WSUM SEWGT;
FORMAT WSUM COMMA13. SEWGT COMMA13.;
RUN;

ODS HTML CLOSE;
RUN;
```

Appendix E:
Marginal Data Frequencies

Variables	Labels	N	Weighted Estimates	Standard Error	Percent (%)
ETHNIC	1=Hispanic or Latino	6,356	80,245,178	7,474,791.35	11.74
	2=Not Hispanic or Latino	33,937	603,245,264	27,328,834.50	88.26
PAYTYPE	1=Private insurance	26,564	595,177,691	26,758,021.30	51.58
	2=Medicare	14,880	281,904,054	15,588,101.50	24.43
	3=Medicaid or CHIP/SCHIP	15,696	153,808,800	12,261,764.10	13.33
	4=Worker's compensation	576	13,797,443	2,740,516.22	1.20
	5=Self-pay	4,242	47,725,394	3,688,709.45	4.14
	6=No charge/ charity	1,428	7,595,348	2,033,059.35	0.66
	7=Other	2,199	24,850,547	3,503,208.87	2.15
	-8=Unknown	1,711	21,052,841	3,232,236.97	1.82
	-9=All sources for payment are blank	598	8,091,571	1,252,980.21	0.70
SPECR	1=General/Family practice	4,734	140,115,960	10,155,617.30	22.40
	3=Internal Medicine	1,470	92,499,461	11,012,956.60	14.79
	4=Pediatrics	1,469	60,373,308	6,244,957.26	9.65
	5=General Surgery	728	15,100,174	2,612,749.76	2.41
	6=Obstetrics & Gynecology	2,073	77,740,013	7,910,447.71	12.43
	7=Orthopedic Surgery	809	26,391,966	2,703,291.34	4.22
	8=Cardiovascular Diseases	956	16,769,497	1,731,797.66	2.68
	9=Dermatology	666	20,774,595	3,001,536.99	3.32
	10=Urology	492	5,575,302	603,366.14	0.89
	11=Psychiatry	838	18,599,251	2,107,606.19	2.97
	12=Neurology	984	8,804,806	1,514,268.79	1.41
	13=Ophthalmology	1,089	31,465,791	4,290,612.72	5.03
	14=Otolaryngology	744	11,030,640	1,737,348.00	1.76
	15=Other specialties	1,412	85,823,355	7,699,992.03	13.72
	99=Mid-level provider	1,386	14,339,543	4,161,559.67	2.29
CLINTYPE	1=GM	12,616	54,930,577	6,201,346.49	57.14
	2=SURG	6,446	12,767,375	1,967,780.10	13.28
	3=PED	4,059	11,197,005	2,081,100.00	11.65
	4=OBG	4,493	8,200,999	1,281,534.79	8.53
	5=Substance Abuse	395	570,931	283,645.55	0.59
	6=Other	5,542	8,465,390	1,599,330.95	8.81
PRIMCARE	1=Yes	13,404	301,036,586	17,588,102.90	44.04
	2=No	23,360	338,042,991	15,430,333.40	49.46

	-8=Unknown	2,824	33,279,374	6,324,499.94	4.87
	-9=Blank	705	11,131,491	1,874,762.33	1.63
BREAST	1=Box is marked	2,786	47,377,204	4,823,914.25	6.93
	0=Box is not marked	37,507	636,113,238	27,198,838.00	93.07
PELVIC	1=Box is marked	3,621	53,011,193	4,781,078.72	7.76
	0=Box is not marked	36,672	630,479,249	27,022,710.20	92.24
RECTAL	1=Box is marked	792	17,910,795	3,176,621.32	2.62
	0=Box is not marked	39,501	665,579,647	28,827,616.60	97.38
SKIN	1=Box is marked	6,088	91,786,522	9,468,973.42	13.43
	0=Box is not marked	34,205	591,703,920	27,091,958.10	86.57
EXAM	1= Coded in PROC1 – PROC9	7,785	133,040,031	14,128,932.10	19.46
	0= No entry made	32,508	550,450,411	23,652,949.50	80.54
TOTSERV	0= No procedures or services	2,298	39,750,222	3,544,507.27	5.82
	1= 1 procedure	4,685	74,081,890	5,238,179.90	10.84
	2= 2 procedures	4,729	79,988,107	5,002,993.25	11.70
	3= 3 procedures	6,644	119,920,778	7,038,342.46	17.55
	4= 4 procedures	7,446	131,555,967	7,618,220.19	19.25
	5= 5 procedures	5,477	91,528,950	6,067,779.05	13.39
	6= 6 procedures	3,575	56,836,568	3,922,098.90	8.32
	7= 7 procedures	2,215	34,524,209	2,985,243.90	5.05
	8= 8 procedures	1,295	20,703,868	1,905,490.22	3.03
	9= 9 procedures	831	13,975,940	1,512,725.59	2.04
	10= 10 procedures	483	8,092,865	897,201.73	1.18
	11= 11 procedures	245	4,474,030	637,692.34	0.65
	12= 12 procedures	187	3,714,558	689,785.56	0.54
	13= 13 procedures	94	2,080,112	515,778.87	0.30
	14= 14 procedures	40	941,733	271,249.82	0.14
	15= 15 procedures	16	270,208	143,430.04	0.04
	16= 16 procedures	13	463,352	194,343.22	0.07
	17= 17 procedures	14	468,402	311,597.95	0.07
	18= 18 procedures	5	100,438	77,835.47	0.01
	19= 19 procedures	1	18,245	18,245.00	0.00
OTHSERV	1= At least one procedure is in PROC1-PROC9	12,772	210,199,015	15,478,992.90	30.75
	0= No procedures in PROC1-PROC9	27,521	473,291,427	21,285,986.10	69.25

SERVICES	1= At least one service was ordered or provided at this visit	37,995	643,740,220	29,073,833.00	94.18
	0= No services were ordered or provided at this visit	2,298	39,750,222	3,544,507.27	5.82
DEPRESS	1=Box is marked	658	6,985,187	1,110,712.43	1.02
	0=Box is not marked	39,635	676,505,255	29,234,334.70	98.98
ANYIMG	1=Box is marked	6,900	117,748,275	7,000,055.23	17.23
	0=Box is not marked	33,393	565,742,167	24,578,609.70	82.77
BONEDENS	1=Box is marked	197	6,632,426	1,135,502.77	0.97
	0=Box is not marked	40,096	676,858,016	28,736,402.30	99.03
MAMMO	1=Box is marked	1,131	22,938,642	2,503,806.06	3.36
	0=Box is not marked	39,162	660,551,800	27,986,981.80	96.64
MRI	1=Box is marked	714	10,642,548	1,078,777.13	1.56
	0=Box is not marked	39,579	672,847,894	28,942,254.40	98.44
XRAY	1=Box is marked	2,067	36,893,132	2,539,613.45	5.40
	0=Box is not marked	38,226	646,597,310	27,984,351.40	94.60
CBC	1=Box is marked	4,398	83,274,447	5,972,493.42	12.18
	0=Box is not marked	35,895	600,215,995	25,817,906.70	87.82
GLUCOSE	1=Box is marked	2,417	44,195,520	4,000,842.74	6.47
	0=Box is not marked	37,876	639,294,922	27,659,824.50	93.53
HGBA1C	1=Box is marked	1,344	26,053,564	2,879,908.00	3.81
	0=Box is not marked	38,949	657,436,878	28,380,979.70	96.19
CHOLEST	1=Box is marked	2,161	55,831,190	4,629,429.30	8.17
	0=Box is not marked	38,132	627,659,252	27,198,735.60	91.83
PSA	0=Box is not marked	40,293	683,490,442	29,259,561.90	100.00
OTHERBLD	1=Box is marked	5,139	93,829,408	6,346,455.99	13.73
	0=Box is not marked	35,154	589,661,034	25,879,245.70	86.27
BIOPSY	1=Box is marked	548	9,883,072	1,038,488.69	1.45
	0=Box is not marked	39,745	673,607,370	29,036,707.10	98.55

CHLAMYD	1=Box is marked	664	8,282,048	1,975,659.83	1.21
	0=Box is not marked	39,629	675,208,394	28,433,637.80	98.79
PAPCONV	1=Box is marked	473	6,396,562	1,269,151.38	0.94
	0=Box is not marked	39,820	677,093,880	28,891,802.80	99.06
PAPLIQD	1=Box is marked	1,040	21,861,928	2,872,853.84	3.20
	0=Box is not marked	39,253	661,628,514	28,262,065.70	96.80
PAPUNSP	1=Box is marked	402	6,546,362	1,514,639.16	0.96
	0=Box is not marked	39,891	676,944,080	28,593,418.70	99.04
HPVDNA	1=Box is marked	186	2,980,194	613,167.71	0.44
	0=Box is not marked	40,107	680,510,248	29,115,546.60	99.56
EKG	1=Box is marked	908	15,385,158	1,641,369.94	2.25
	0=Box is not marked	39,385	668,105,284	28,784,419.80	97.75
URINE	1=Box is marked	4,068	66,537,128	6,622,319.78	9.73
	0=Box is not marked	36,225	616,953,314	26,484,881.00	90.27