2007

Cervical Cancer Screening Supplement

Provider File Data Documentation

National Center for Health Statistics
11/10/2010

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Appendixes

I. INTRODUCTION

This data file contains data collected in 2007 from the Cervical Cancer Screening Supplement (CCSS) to the National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (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).

In 2007, office-based physicians, community health centers (CHCs), and outpatient clinics of specific specialties completed the Cervical Cancer Screening Supplement (CCSS), providing information on their cervical cancer screening practices. This data file contains provider-level data on cervical cancer screening practices from the CCSS.

A. NAMCS and NHAMCS

Ambulatory medical care is the predominant method of providing health care services in the United States. Since 1973, data on physicians' offices have been collected through the NAMCS. NAMCS has provided a wide range of data describing the public's use of physician services and characteristics of physician offices. In 1992, the NHAMCS began collecting data on hospital emergency departments (EDs) and outpatient departments (OPDs) to give a more complete picture of ambulatory care utilization. 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.

B. Cervical Cancer Screening Supplement

The 2007 CCSS was sponsored by the Centers for Disease Control and Prevention's (CDC) National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) to examine provider practices regarding cervical cancer screening. 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 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 paper copy of the CCSS supplement with eligible NAMCS providers and NHAMCS OPD clinics after the visit reporting period, so as not to bias patient interactions.

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.

CHCs were also included in the CCSS if they performed cervical cancer screening. The NAMCS collects information from CHCs about their facility and then samples the providers that work within the CHCs for visit data. The CCSS was administered to all providers in CHCs.

NAMCS and NHAMCS respondents had the option of completing the form on the internet or on paper. In 2007, 29 (10.9%) respondents completed the supplement on the internet, while the remaining 392 respondents completed the paper supplement.

II. RESPONSE RATE

Response rates were calculated according to Office of Management and Budget (OMB) guidelines which dictate that response rates for cross sectional sample surveys be calculated as the product for two or more unit-level response rates. OMB guidelines can be found at this website:
http://www.whitehouse.gov/sites/default/files/omb/assets/omb/inforeg/statpolicy/standards_stat_surveys.pdf

A. NHAMCS Response Rate

The response rate for NHAMCS providers was calculated to adjust for nonresponse at the hospital level and to adjust for clinic eligibility, as well as response to the supplement. The overall unweighted NHAMCS response rate for the CCSS was 58.0% (50.8% weighted). The unweighted individual response rate for the hospital was 90.3% (87.2% weighted), while the unweighted eligibility response rate was 88.0% (88.4% weighted). A total of 257 NHAMCS clinics were considered eligible to participate in the CCSS. Of the 257 eligible clinics, 187 clinics responded, yielding an unweighted response rate of 74.4% (54.4% weighted).

B. NAMCS Response Rate

For NAMCS, response rates were adjusted to include the non-response in the CHC portion at two stages and at one stage for the NAMCS portion. Out of 548 eligible NAMCS physicians and community health centers (CHCs), 234 providers responded to the CCSS, yielding an overall unweighted response rate of 33.6% (27.6% weighted). The individual response rate for NAMCS physicians was 24.3% unweighted (25.1% weighted), with 116 of the 347 eligible physicians responding to the survey. For CHCs providers, the response rate was 50.5% unweighted (53.6% weighted), with the 118 of the 201 eligible CHC providers responding to the survey.

III. WEIGHTING

The data file is intended to be used to estimate provider-level cervical cancer screening practices and characteristics. This file contains data on office-based physicians, CHC physicians, and hospital outpatient department clinics.

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

A. Calculation of weights

Provider weights are provided with the variable CCSSWT. The weights for physicians, CHC providers, and outpatient clinics are calculated with four basic components with additional adjustments to account for CHC and OPD clinic sampling. The four components are:

$$\text{Calibration adjustment} = \frac{\text{(\# providers in the universe; accounting for region, specialty)}}{\text{(estimated \# providers as produced by our sample)}}$$

$$\text{Sampling weight} = \frac{1}{\text{(selection probability)}}$$

$$\text{Screener nonresponse} = \frac{\text{(weighted \# providers eligible to answer the screener question)}}{\text{(weighted \# providers that answered the screener question)}}$$

$$\text{Survey nonresponse} = \frac{\text{(weighted \# providers eligible to complete CCSS)}}{\text{(weighted \# providers that actually completed CCSS)}}$$

a. NAMCS Weighting

For office-based physicians, the CCSS weights were calculated with the above components. For CHC providers, two changes are necessary to account for the extra sampling that occurs when surveying CHCs. First, CHC providers receive one of two possible calibration ratios depending on the frame from which they were selected (federally-qualified versus non-federally qualified). Then, the sampling weight is calculated as the inverse of the CHC selection probability multiplied by the inverse of the provider selection probability. The adjustment for screener nonresponse is multiplied by an adjustment for CHC non-response (=weighted # of CHC / weighted # of responding CHCs).

The specifications assume a file with one record for at least each responding sampled physician eligible for NAMCS. While the interest may be in the physicians from only a few of the specialty groups, these specifications produce weights for the whole NAMCS sample because non-zero weights are needed for the whole sample in variance computations to minimize risk of understating variances. That is, variance computations require use of a file that includes the full sample of NAMCS-eligible physicians, not just those who are eligible for the supplement and not just those in the specific specialties of interest for the supplement questionnaires.

b. NHAMCS Weighting

CCSS data for hospitals was collected on the clinic level rather than by provider. For NHAMCS weighting, a number of additional adjustments were necessary. The calibration ratio factors in the hospital's region as well as MSA (metropolitan) status and OPD size (whether greater or less than 4,000 visits). The sampling weight becomes the hospital's selection probability multiplied by (16/13), which adjusts for the number of samplings panels in one year, multiplied by the inverse of the clinic's selection probability. The clinic screener nonresponse is multiplied by an adjustment for hospital non-response. The survey nonresponse accounts for clinic nonresponse.

B. Provider Weight

The "provider 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 data file reflect data concerning only a sample of providers, not a complete count of all providers in the United States. In order to obtain national estimates from the sample, each record is assigned an inflation factor (variable name CCSSWT).

C. Reliability of Estimates

Users should also be aware of the reliability or unreliability of certain estimates, particularly the smaller estimates. NCHS 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.

IV. DATA VARIABLES

The micro-data file contains many variables. Among these variables are CCSS data from providers, SUDAAN design variables, and additional derived variables. The 2007 CCSS Provider File Data Dictionary will be helpful in determining how variables and values are defined.

A. 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 physicians, CHC providers and OPD clinics.

B. 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 CLINTYPE SU/MISSUNIT;
TOTCNT POPCPSU POPCPROV _ZERO_ _ZERO_ POPSU _ZERO;
WEIGHT CCSSWT;

C. 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 derived from OPD and NAMCS visit files that 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.

V. ANALYTICAL GUIDELINES

This data file includes facility characteristics for both NAMCS and NHAMCS providers, and should be used to analyze cervical cancer screening practices of providers.

A. Using weight variables

When creating estimates for the provider data, the weight variable "CCSSWT" must always be used. This weight variable is consistent across NAMCS physicians, CHC providers, and OPD clinics.

B. Analyzing responders only

When producing frequencies on respondent answers to the survey questions, the variable CCSSRESP=1 should be used in the BY or WHERE statement to isolate the responders.

C. Analyzing only NAMCS or NHAMCS PROVIDERS

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

For NAMCS: SUBPOPN SURVEY = **1;** *where 1=NAMCS;
For NHAMCS: SUBPOPN SURVEY = **2;** *where 2=NHAMCS;

D. Combining years of data

One should keep in mind any changes to survey questions or variable values from year to year. For example, starting with 2007 data, the values for "Not Applicable," "Unknown," and "Blank" have become standardized across all variables as -7, -8, and -9 respectively. When combining 2006 and 2007 data, one must change the values from the 2006 data set to match the values on the 2007 data set.

E. Limitations

This data file can only be used to analyze provider-level data. The previously-issued 2006 CCSS visit-level data file cannot be combined with the provider-level data file.

Appendix A:
2007 Cervical Cancer Screening Supplement

Form Approval OMB No. 0920-0234 Exp. Date 08/31/2009 CDC 64.149

FORM **NAMCS-CCS**
(11-24-2006)

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU
ACTING AS DATA COLLECTION AGENT FOR THE
U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Health Statistics

NATIONAL AMBULATORY MEDICAL CARE SURVEY
2007 CERVICAL CANCER SCREENING SUPPLEMENT

NOTICE – Public reporting burden of this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: CDC/ATSDR Reports Clearance Officer; 1600 Clifton Road, MS D-74, Atlanta, GA 30333, ATTN: PRA(0920-0234).

Assurance of Confidentiality – All information which would permit identification of an individual, a practice, or an establishment will be held confidential, will be used by persons engaged in and for the purpose of the survey and will not be disclosed or released to other persons or used for any other purpose without the consent of the individual or the establishment in accordance with section 308(d) of the Public Health Service Act (42 USC 242m).

BACKGROUND INFORMATION

| 0010 | **A.** Provider's name | 0015 | **B.** Provider's telephone | Area code | Number |

| 0020 | **C.** Provider's specialty *(Mark (X) only ONE.)* | 0025 | **D.** Provider's serial number |

1 ☐ General/Family Practice   2 ☐ Internal Medicine   3 ☐ OB/GYN   4 ☐ CHC Mid–level Provider

| 0030 | **E.** Practice contact name | 0035 | **F.** Practice contact telephone | Area code Number |

| 0040 | **G.** Census contact name | 0045 | **H.** Census contact telephone | Area code Number |

INTRODUCTION ▶ The Centers for Disease Control and Prevention is conducting a special survey on cervical cancer screening performed in community health centers and private office settings. Please answer the following questions. We appreciate your time on this important public health concern.

You have the option to complete this questionnaire on the Internet. Go to *www.cdc.gov/namcs*, select the link for the 2007 version of the Cervical Cancer Supplement, enter the User ID and Password displayed, and follow the instructions.

User ID _____   Password _____

1. Does your practice use any of the following methods to screen for cervical cancer?
Mark (X) all that apply.

a. Conventional Pap test *(Definition – Smear spread on glass slide and fixed)*

	Mark (X) one interval for routine screening.				
	Annually	Every 2 years	Every 3 years	More than 3 years	No routine interval recommended
0055 1 ☐ Yes – How often does your practice routinely screen women using this method? ⟶	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

2 ☐ No
3 ☐ Unknown   } Continue with item 1b

b. Liquid-based cytology *(Definition – Specimen suspended in liquid solution)*

| 0060 1 ☐ Yes – How often does your practice routinely screen women using this method? ⟶ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |

2 ☐ No
3 ☐ Unknown   } Continue with item 1c

c. Other – *Specify* ↙

5005 _____

| 0065 1 ☐ Yes – How often does your practice routinely screen women using this method? ⟶ | 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ |

2 ☐ No
3 ☐ Unknown

2. Does your practice perform colposcopy?

0050   1☐ Yes
      2☐ No
      3☐ Unknown

3a. Does your practice ever order or collect the Human Papillomavirus (HPV) DNA test?

0070   1☐ Yes – *Go to item 3b*
      2☐ No – *SKIP to item 3c*
      3☐ Not aware of HPV DNA test ⎱ *SKIP to item 9*
      4☐ Unknown   ⎰ *on page 3*

b. Which of the following HPV DNA tests are ordered or collected in your practice? *Mark (X) all that apply.*

0075   1☐ High risk (HR) HPV DNA test
      2☐ Low risk (LR) HPV DNA test
      3☐ Not aware there was a high risk or   *SKIP to*
         low risk HPV DNA test   *item 4a*
      4☐ Type-specific HPV DNA test
      5☐ Unknown

c. Why is the HPV DNA test not ordered or collected in your practice? – *Mark (X) all that apply.*

0080   1☐ My practice does not see the types of patients for whom the HPV DNA test is indicated.

      2☐ My practice uses other tests, procedures, or examination methods to manage patients for whom the HPV DNA test is indicated.

      3☐ The patients in my practice have timely access to colposcopy.

      4☐ Assessing patients' HPV infection status is not a priority at my practice.

      5☐ The labs affiliated with my practice do not offer the HPV DNA test.

      6☐ The health plans or health systems affiliated with my practice do not recommend the HPV DNA test.

      7☐ The HPV DNA test is not a reimbursed or covered service for most patients in my practice.

      8☐ Discussing cervical cancer screening in the context of an STD is avoided in my practice.

      9☐ Notifying or counseling patients about positive HPV DNA test results would take too much time.

      10☐ Notifying or counseling patients about positive HPV DNA test results might make clinicians in my practice feel uncomfortable.

      11☐ Notifying or counseling patients about positive HPV DNA test results might make patients in my practice feel uncomfortable, angry, or upset.

SKIP to item 7 on page 3.

4a. If a patient's Pap test result is borderline or abnormal, does your practice routinely order an HPV DNA test to be performed on that sample (commonly called reflex HPV DNA testing)? (An HPV DNA test may be run on the same liquid-based medium as the Pap test or an HPV DNA test specimen may be collected at the same time as the conventional Pap test.)

0085   1☐ Yes – *Go to item 4b*
      2☐ No   ⎱ *SKIP to item 5a*
      3☐ Unknown ⎰

b. For which borderline or abnormal Pap test result would your practice order or collect a reflex HPV DNA test? *Mark (X) all that apply.*

0090   1☐ ASC-US (atypical squamous cells of undetermined significance)

      2☐ ASC-H (atypical squamous cells of undetermined significance – cannot exclude high-grade intraepithelial lesion)

      3☐ LSIL (low-grade squamous intraepithelial lesion, encompassing mild dysplasia/CIN1)

      4☐ HSIL (high-grade squamous intraepithelial lesion, moderate dysplasia/CIN2, severe dysplasia/CIN3, and carcinoma in situ)

      5☐ AGC (atypical glandular cells)

c. For which patients does your practice usually order reflex HPV DNA testing? – *Mark (X) all that apply.*

0095   1☐ Women under 30 years old
      2☐ Women 30 years old and over
      3☐ Other – *Specify* ↙

5010   _____

5a. Does your practice routinely recall patients to come back for a second sample collection for an HPV DNA test if their Pap test is abnormal or borderline (recall testing)?

0100   1☐ Yes – *Go to item 5b*
      2☐ No   ⎱ *SKIP to item 6a on page 3*
      3☐ Unknown ⎰

b. For which abnormal or borderline Pap test result would your practice recall a patient for an HPV DNA test? *Mark (X) all that apply.*

0105   1☐ ASC-US (atypical squamous cells of undetermined significance)

      2☐ ASC-H (atypical squamous cells of undetermined significance – cannot exclude high-grade intraepithelial lesion)

      3☐ LSIL (low-grade squamous intraepithelial lesion, encompassing mild dysplasia/CIN1)

      4☐ HSIL (high-grade squamous intraepithelial lesion, moderate dysplasia/CIN2, severe dysplasia/CIN3, and carcinoma in situ)

      5☐ AGC (atypical glandular cells)

6a. Does your practice routinely order or collect an HPV DNA test at the same time as the Pap test as part of routine cervical cancer screening (commonly called adjunct HPV testing or cotesting)?

0110
1 ☐ Yes – *Go to item 6b*
2 ☐ No ⎫
3 ☐ Unknown ⎬ *SKIP to item 7*

b. For which patients does your practice routinely order or collect an HPV DNA test along with the Pap test (commonly called adjunct HPV testing or cotesting)? *Mark (X) all that apply.*

0115
1 ☐ Women under 30 years old
2 ☐ Women 30 years old and over
3 ☐ Women who request the test for cervical cancer screening
4 ☐ Women who request the test to check their HPV infection status
5 ☐ Other – *Specify* ↗

5015
_____

7. Given the following screening histories, when would your practice recommend that a woman between 30 and 60 years of age return for her next Pap test?

Prior Pap test results in **past 5 years** (excluding current normal results)	Current HPV DNA test results	Current Pap test result	For each of the following scenarios, mark (X) only ONE for each row.						
			No follow-up needed	Less than 6 months	6 months to less than 1 year	1 year	2 years	3 years or more	Have no experience with this type of patient or test
0120 **(a)** Two consecutive normal Pap tests	Has not had test	Normal	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
0125 **(b)** Two consecutive normal Pap tests	Negative	Normal	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
0130 **(c)** Two consecutive normal Pap tests	Positive	Normal	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
0135 **(d)** Has not had a Pap test	Negative	Normal	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
0140 **(e)** Has not had a Pap test	Positive	Normal	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
0145 **(f)** Abnormal Pap test	Negative	Normal	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
0150 **(g)** Abnormal Pap test	Positive	Normal	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐

QUESTIONS 8–14 ASK ABOUT THE HPV VACCINE

8. How often does your practice use an HPV test to determine who should get the HPV vaccine? *Mark (X) only one.*

1 ☐ Rarely or never
2 ☐ Sometimes
3 ☐ Usually
4 ☐ Always or almost always
5 ☐ Do not recommend the HPV vaccine –*SKIP to item 10.*

9. As it relates to the HPV vaccine, how often does your practice –

Mark (X) only ONE for each row.

	Rarely or never	Sometimes	Usually	Always or almost always	Unknown/not applicable/ Do not ask
0120 **a.** Use the number of sexual partners to determine who should get the HPV vaccine?	1☐	2☐	3☐	4☐	5☐
0125 **b.** Perform a Pap test to determine who should get the HPV vaccine?	1☐	2☐	3☐	4☐	5☐
0130 **c.** Recommend the HPV vaccine to females with a history of an abnormal Pap test result (ASC-US or higher)?	1☐	2☐	3☐	4☐	5☐
0135 **d.** Recommend the HPV vaccine to females with a positive HPV test?	1☐	2☐	3☐	4☐	5☐

10. Will your practice's cervical cancer screening and management procedures change for females who have been fully vaccinated with the HPV vaccine?

1☐ Yes
2☐ No – *SKIP to item 14*

11. How will your practice determine when to start routine cervical cancer screening for fully HPV vaccinated females?

Mark (X) all that apply.

1☐ By age
   1☐ At same age as non-HPV vaccinated females – Specify age ⟶ _____
   2☐ At a later age – Specify age ⟶ _____
2☐ By onset of sexual activity – How many year(s) since onset of sexual activity? ⟶ _____
3☐ Will not be screening fully HPV vaccinated females
4☐ Unknown

12. How often will your practice routinely screen for cervical cancer among females that have been fully vaccinated with the HPV vaccine? *Mark (X) one.*

1☐ Annually
2☐ Every 2–3 years
3☐ Every 4–5 years
4☐ Greater than every 5 years
5☐ Will not be screening fully HPV vaccinated females
6☐ Unknown

13. Will your practice be using the HPV DNA test for managing abnormal cytology for females that have been fully vaccinated with the HPV vaccine?

1☐ Yes
2☐ No

14. Please indicate to what extent you agree, disagree, or are unsure with each statement. *Please respond to both a and b.*

	Agree	Disagree	Unsure
a. There will be fewer numbers of abnormal Pap tests among vaccinated females.	1☐	2☐	3☐
b. There will be fewer referrals for colposcopy among vaccinated females.	1☐	2☐	3☐

15. The Centers for Disease Control and Prevention (CDC) funds state health departments to provide breast and cervical cancer screening services to low income women through the National Breast and Cervical Cancer Early Detection Program (Title XV). The state health departments contract out the screening services to physicians and other health care providers. Is this practice currently participating in this state or national screening program?

0155   1☐ Yes   2☐ No   3☐ Unknown

16. For purposes of this survey, which of the following categories describe your profession? – *Mark (X) only ONE.*

0160   1☐ Physician   2☐ Physician assistance/ Nurse practitioner/ Nurse midwife   3☐ Registered nurse   4☐ Other office staff

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CLOSING STATEMENT

Thank you for completing this special survey. We appreciate your time and cooperation.

Appendix B:
Sample SUDAAN Code

```
PROC SORT DATA=ccss07.CCSSVIS; BY  CSTRAT CPSU PROVIDE DEPT CLINTYPE SU; RUN;

PROC CROSSTAB DATA=ccss07.CCSSVIS DESIGN = WOR;
NEST CSTRAT CPSU PROVIDE DEPT CLINTYPE SU/MISSUNIT;
TOTCNT  POPCPSU POPCPROV _ZERO_ _ZERO_ POPSU _ZERO_ ;
WEIGHT CCSSWT;
SUBPOPN CCSSRESP=1;
/* The variables below will change based on the variables of interest*/
CLASS       CCSSTYPE ELIG CCSSRESP OBG SURVEY CCSFINALR;
TABLES      CCSSTYPE ELIG CCSSRESP OBG SURVEY CCSFINALR;
SETENV COLWIDTH = 15;
PRINT nsum wsum sewgt totper/STYLE=NCHS;
RUN;

PROC CROSSTAB DATA=ccss07.CCSSVIS DESIGN = WOR;
NEST CSTRAT CPSU PROVIDE DEPT CLINTYPE SU/MISSUNIT;
TOTCNT  POPCPSU POPCPROV _ZERO_ _ZERO_ POPSU _ZERO_ ;
WEIGHT CCSSWT;
SUBPOPN CCSSRESP=1;
CLASS       PAPCON INTCON PAPLIQD INTLIQD PAPOTH INTOTH COLPO HPVDNAO HPVDNALL
            HPVDNAHR HPVDNALR HPVDNANA HPVDNATS HPVDNAUN;
TABLES      PAPCON INTCON PAPLIQD INTLIQD PAPOTH INTOTH COLPO HPVDNAO HPVDNALL
            HPVDNAHR HPVDNALR HPVDNANA HPVDNATS HPVDNAUN;
SETENV COLWIDTH = 15;
PRINT nsum wsum sewgt totper/STYLE=NCHS;
RUN;

PROC CROSSTAB DATA=ccss07.CCSSVIS DESIGN = WOR;
NEST CSTRAT CPSU PROVIDE DEPT CLINTYPE SU/MISSUNIT;
TOTCNT  POPCPSU POPCPROV _ZERO_ _ZERO_ POPSU _ZERO_ ;
WEIGHT CCSSWT;
SUBPOPN CCSSRESP=1;
CLASS       YNODNALL HPVDNAR ABPALLO HPVDNAGE RECALL ABPALLR HPVDNAA HPVPALL
            PAPNLNOT PAPNLNEG PAPNLPOS PAPNONEG PAPNOPOS PAPABNEG PAPABPOS ;
TABLES      YNODNALL HPVDNAR ABPALLO HPVDNAGE RECALL ABPALLR HPVDNAA HPVPALL
            PAPNLNOT PAPNLNEG PAPNLPOS PAPNONEG PAPNOPOS PAPABNEG PAPABPOS;
SETENV COLWIDTH = 15;
PRINT nsum wsum sewgt totper/STYLE=NCHS;
RUN;

PROC CROSSTAB DATA=ccss07.CCSSVIS DESIGN = WOR;
NEST CSTRAT CPSU PROVIDE DEPT CLINTYPE SU/MISSUNIT;
TOTCNT  POPCPSU POPCPROV _ZERO_ _ZERO_ POPSU _ZERO_ ;
WEIGHT CCSSWT;
SUBPOPN CCSSRESP=1;
CLASS       HPVVACDET HPVVACSP HPVVACPT HPVVACAB HPVVACPS CCSCHNG CCSROUT CCSSAME
            CCSLATE CCSFLVAC VACABCYT FEWABTST FEWCOLP NBCCEDP PROFESS;
TABLES      HPVVACDET HPVVACSP HPVVACPT HPVVACAB HPVVACPS CCSCHNG CCSROUT CCSSAME
            CCSLATE CCSFLVAC VACABCYT FEWABTST FEWCOLP NBCCEDP PROFESS;
SETENV COLWIDTH = 15;
PRINT nsum wsum sewgt totper/STYLE=NCHS;
RUN;
```

Appendix C:
Marginal Data Frequencies

1. Summary Variables (Using CCSSWT)

CCSSTYPE	**N**	**Weighted Size**	**SE Weighted**	**Percent**
1='Physician office'	1,354	303,318	15,103	93.7
2='OPD'	302	6,123	964	1.9
3='CHC'	162	14,290	2,620	4.4
Total	1,819	323,731	15,513	100.0

CCSSRESP	**N**	**Weighted Size**	**SE Weighted**	**Percent**
1='Responded'	422	98,373	9,898	29.5
2='Did not respond'	2,510	235,575	8,577	70.5
Total	2,932	333,948	15,483	100.0

CCSFINALR	**N**	**Weighted Size**	**SE Weighted**	**Percent**
1='Completed paper'	393	87,761	9,898	26.3
2='Completed web'	29	10,659	3,156	3.2
3='Refused'*	…	…	…	…
4='Does not perform screening'	330	39,561	3,006	11.9
5='Ineligible for CCS'	1,130	187,669	7,702	56.2
6='Other'*	…	…	…	…
10='Traditional provider w/ CHC* office'	…	…	…	…
-9='Blank'	1,050	8,298	583	2.5
Total	2,932	333,948	15,483	100.0

These providers were given a weight of zero, and therefore do not appear in weighted analysis.

2. Supplement Variables Frequencies (Using CCSSWT and CCSSRESP=1)

PAPCON	N	Weighted Estimate	Standard Error	Percent
1='Yes'	171	41,969	7,360	42.7
2='No'	188	39,461	5,564	40.1
-8='Unknown'	1	688	688	0.7
-9='Blank'	62	16,255	4,312	16.5
Total	422	98,373	9,898	100.0

INTCON	N	Weighted Estimate	Standard Error	Percent
1='Annually'	136	28,494	5,212	29.0
2='Every 2 years'	12	4,035	1,622	4.1
3='Every 3 years'	6	1,824	1,190	1.9
4='More than 3 years'	0	…	…	…
5='No routine interval recommended'	4	3,052	2,341	3.1
-6='Multiple entry'	0	…	…	…
-7='N/A'	186	40,095	5,606	40.8
-9='Blank'	78	20,873	5,561	21.2
Total	422	98,373	9,898	100.0

PAPLIQD	N	Weighted Estimate	Standard Error	Percent
1='Yes'	359	75,022	8,449	76.3
2='No'	27	14,231	4,213	14.5
-8='Unknown'	3	690	688	0.7
-9='Blank'	33	8,430	3,120	8.6
Total	422	98,373	9,898	100.0

INTLIQD	N	Weighted Estimate	Standard Error	Percent
1='Annually'	315	61,659	7,546	62.7
2='Every 2 years'	7	1,749	949	1.8
3='Every 3 years'	9	3,026	1,312	3.1
4='More than 3 years'	0	…	…	…
5='No routine interval recommended'	22	5,882	2,709	6.0
-6='Multiple entry'	0	…	…	…
-7='N/A'	27	18,274	4,892	18.6
-9='Blank'	42	7,783	2,794	7.9
Total	422	98,373	9,898	100.0

PAPOTH	N	Weighted Estimate	Standard Error	Percent
1='Yes'	27	6,331	2,047	6.4
2='No'	116	25,676	4,967	26.1
-8='Unknown'	8	2,006	1,191	2.0
-9='Blank'	271	64,360	8,396	65.4
Total	422	98,373	9,898	100.0

INTOTH	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Annually'	23	2,787	1,213	2.8
2='Every 2 years'	2	583	573	0.6
3='Every 3 years'	3	2,024	1,235	2.1
4='More than 3 years'	0	…	…	…
5='No routine interval recommended'	4	29	18	0.0
-6='Multiple entry'	0	…	…	…
-7='N/A'	69	25,849	5,167	26.3
-9='Blank'	321	67,101	8,527	68.2
Total	422	98,373	9,898	100.0

COLPO	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Yes'	223	40,563	4,963	41.2
2='No'	185	52,257	7,759	53.1
-8='Unknown'	3	727	725	0.7
-9='Blank'	11	4,826	2,561	4.9
Total	422	98,373	9,898	100.0

HPVDNAO	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Yes'	353	77,330	8,785	78.6
2='No'	49	15,159	4,530	15.4
3='Not aware of HPVDNA test'	5	114	76	0.1
-6='Multiple entry'	0	…	…	…
-8='Unknown'	1	14	13	0.0
-9='Blank'	14	5,756	2,630	5.9
Total	422	98,373	9,898	100.0

HPVDNAHR	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Box is marked'	286	57,200	7,393	58.2
-7='N/A'	53	14,585	4,478	14.8
-9='Blank'	83	26,588	5,240	27.0
Total	422	98,373	9,898	100.0

HPVDNALR	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Box is marked'	93	18,484	3,892	18.8
-7='N/A'	23	690	280	0.7
-9='Blank'	306	79,199	9,193	80.5
Total	422	98,373	9,898	100.0

HPVDNANA	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Box is marked'	23	5,687	1,967	5.8
-7='N/A'	51	15,045	4,525	15.3
-9='Blank'	348	77,641	8,823	78.9
Total	422	98,373	9,898	100.0

HPVDNATS	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Box is marked'	42	9,297	3,313	9.5
-7='N/A'	0	…	…	…
-9='Blank'	422	98,373	9,898	100.0
Total	42	9,297	3,313	9.5

HPVDNAUN	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Box is marked'	17	8,479	2,975	8.6
-7='N/A'	54	15,273	4,530	15.5
-9='Blank'	351	74,621	8,743	75.9
Total	422	98,373	9,898	100.0

HPVDNAR	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Yes'	321	69,988	8,030	71.2
2='No'	53	12,025	3,278	12.2
-7='N/A'	24	7,409	3,389	7.5
-8='Unknown'	8	3,173	1,330	3.2
-9='Blank'	16	5,774	2,630	5.9
Total	422	98,373	9,898	100.0

HPVDNAGE	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Under 30 years old'	116	14,584	3,929	14.8
2='30 years and older'	24	5,733	1,946	5.8
3='Other'	79	11,910	2,573	12.1
-6='Multiple entry'	85	32,068	5,436	32.6
-7='N/A'	21	6,594	2,915	6.7
-9='Blank'	97	27,484	5,550	27.9
Total	422	98,373	9,898	100.0

RECALL	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Yes'	147	33,377	5,516	33.9
2='No'	213	43,689	5,904	44.4
-7='N/A'	24	7,372	3,387	7.5
-8='Unknown'	16	6,713	2,751	6.8
-9='Blank'	22	7,222	2,820	7.4
Total	422	98,373	9,898	100.0

HPVDNAA	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Yes'	202	40,253	5,429	40.9
2='No'	168	39,547	6,546	40.2
-7='N/A'	24	7,372	3,387	7.5
-8='Unknown'	7	2,860	1,219	2.9
-9='Blank'	21	8,341	2,912	8.5
Total	422	98,373	9,898	100.0

PAPNLNOT	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='No follow-up needed'	4	2,955	2,337	3.0
2='Less than 6 months'	1	454	454	0.5
3='6 months to less than 1 year'	2	806	797	0.8
4='1 year'	285	59,695	7,312	60.7
5='2 years'	37	8,443	1,961	8.6
6='3 years or more'	47	10,414	2,733	10.6
7='Have no experience with this type of patient or test'	14	3,410	2,346	3.5
-6='Multiple entry'	0	…	…	…
-9='Blank'	32	12,196	4,227	12.4
Total	422	98,373	9,898	100.0

PAPNLNEG	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='No follow-up needed'	5	2,936	2,337	3.0
2='Less than 6 months'	5	1,421	975	1.4
3='6 months to less than 1 year'	3	448	438	0.5
4='1 year'	223	48,445	6,535	49.3
5='2 years'	53	11,591	2,975	11.8
6='3 years or more'	81	17,718	3,739	18.0
7='Have no experience with this type of patient or test'	20	5,796	3,239	5.9
-6='Multiple entry'	0	…	…	…
-9='Blank'	32	10,018	3,629	10.2
Total	422	98,373	9,898	100.0

PAPNLPOS	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='No follow-up needed'	1	688	688	0.7
2='Less than 6 months'	59	17,816	4,515	18.1
3='6 months to less than 1 year'	94	16,306	3,302	16.6
4='1 year'	182	41,895	5,772	42.6
5='2 years'	7	1,141	850	1.2
6='3 years or more'	6	1,689	1,061	1.7
7='Have no experience with this type of patient or test'	38	8,838	3,506	9.0
-6='Multiple entry'	0	…	…	…
-9='Blank'	35	10,000	3,585	10.2
Total	422	98,373	9,898	100.0

PAPNONEG	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='No follow-up needed'	0	…	…	…
2='Less than 6 months'	43	13,152	3,366	13.4
3='6 months to less than 1 year'	24	1,766	808	1.8
4='1 year'	276	63,046	6,814	64.1
5='2 years'	8	963	656	1.0
6='3 years or more'	13	2,638	1,165	2.7
7='Have no experience with this type of patient or test'	24	7,425	3,391	7.5
-6='Multiple entry'	0	…	…	…
-9='Blank'	34	9,383	3,533	9.6
Total	422	98,373	9,898	100.0

PAPNOPOS	<u>N</u>	**Weighted Estimate**	**Standard Error**	**Percent**
1='No follow-up needed'	2	1,551	1,103	1.6
2='Less than 6 months'	126	27,077	5,144	27.5
3='6 months to less than 1 year'	89	18,067	3,567	18.4
4='1 year'	108	27,759	5,123	28.2
5='2 years'	2	48	48	0.1
6='3 years or more'	1	347	347	0.4
7='Have no experience with this type of patient or test'	54	13,186	3,963	13.4
-6='Multiple entry'	1	22	22	0.0
-9='Blank'	39	10,316	3,607	10.5
Total	422	98,373	9,898	100.0

PAPABNEG	<u>N</u>	**Weighted Estimate**	**Standard Error**	**Percent**
1='No follow-up needed'	0	…	…	…
2='Less than 6 months'	96	24,307	4,839	24.7
3='6 months to less than 1 year'	106	20,374	3,643	20.7
4='1 year'	147	32,982	5,067	33.5
5='2 years'	5	1,133	852	1.2
6='3 years or more'	6	876	573	0.9
7='Have no experience with this type of patient or test'	24	6,629	3,336	6.7
-6='Multiple entry'	1	11	11	0.0
-9='Blank'	37	12,061	4,219	12.3
Total	422	98,373	9,898	100.0

PAPABPOS	<u>N</u>	**Weighted Estimate**	**Standard Error**	**Percent**
1='No follow-up needed'	1	3	3	0.0
2='Less than 6 months'	190	47,044	6,698	47.8
3='6 months to less than 1 year'	96	18,302	3,367	18.6
4='1 year'	55	12,853	3,325	13.1
5='2 years'	0	…	…	…
6='3 years or more'	0	…	…	…
7='Have no experience with this type of patient or test'	34	7,523	3,390	7.6
-6='Multiple entry'	2	13	11	0.0
-9='Blank'	44	12,635	4,240	12.9
Total	422	98,373	9,898	100.0

HPVVACDET	<u>N</u>	**Weighted Estimate**	**Standard Error**	**Percent**
1='Rarely or never	285	65,483	7,539	66.6
2='Sometimes'	40	9,817	3,478	10.0
3='Usually'	18	4,620	1,568	4.7
4='Always or almost always'	20	1,918	896	2.0
5='Do not recommend the HPV vaccine'	22	5,594	3,238	5.7
6='3 years or more'	0	…	…	…
-6='Multiple entry'	0	…	…	…
-9='Blank'	37	10,941	3,697	11.1
Total	422	98,373	9,898	100.0

HPVVACSP	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Rarely or never	222	48,747	6,035	49.6
2='Sometimes'	49	17,517	4,399	17.8
3='Usually'	13	2,594	1,130	2.6
4='Always or almost always'	27	6,532	2,864	6.6
5='Do not recommend the HPV vaccine'	67	9,315	2,000	9.5
6='3 years or more'	0	…	…	…
-6='Multiple entry'	0	…	…	…
-9='Blank'	44	13,668	4,647	13.9
Total	422	98,373	9,898	100.0

HPVVACPT	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Rarely or never	252	60,705	7,264	61.7
2='Sometimes'	25	6,776	2,815	6.9
3='Usually'	16	4,971	1,728	5.1
4='Always or almost always'	23	3,595	2,321	3.7
5='Do not recommend the HPV vaccine'	61	8,647	1,963	8.8
6='3 years or more'	0	…	…	…
-6='Multiple entry'	0	…	…	…
-9='Blank'	45	13,679	4,647	13.9
Total	422	98,373	9,898	100.0

HPVVACAB	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Rarely or never	63	13,898	3,520	14.1
2='Sometimes'	52	17,514	4,723	17.8
3='Usually'	77	16,601	3,118	16.9
4='Always or almost always'	109	25,013	4,639	25.4
5='Do not recommend the HPV vaccine'	73	8,343	1,837	8.5
6='3 years or more'	0	…	…	…
-6='Multiple entry'	0	…	…	…
-9='Blank'	48	17,004	5,185	17.3
Total	422	98,373	9,898	100.0

HPVVACPS	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Rarely or never	85	14,454	3,059	14.7
2='Sometimes'	41	14,380	3,794	14.6
3='Usually'	60	14,049	3,466	14.3
4='Always or almost always'	110	28,459	5,600	28.9
5='Do not recommend the HPV vaccine'	76	12,006	3,070	12.2
6='3 years or more'	0	…	…	…
-6='Multiple entry'	0	…	…	…
-9='Blank'	50	15,025	4,685	15.3
Total	422	98,373	9,898	100.0

CCSCHNG	N	Weighted Estimate	Standard Error	Percent
1='Yes'	32	5,234	1,539	5.3
2='No'	336	77,261	8,082	78.5
-9='Blank'	54	15,878	4,514	16.2
Total	422	98,373	9,898	100.0

CCSROUT	N	Weighted Estimate	Standard Error	Percent
1='By age'	26	11,636	3,549	11.8
2='By onset of sexual activity'	28	7,309	1,970	7.4
3='Will not be screening fully HPV vaccinated females'	2	2,339	2,236	2.4
-6='Multiple entry'	12	4,769	1,707	4.9
-7='N/A'	137	51,168	6,884	52.0
-8='Unknown'	43	5,473	1,711	5.6
-9='Blank'	174	15,679	4,210	15.9
Total	422	98,373	9,898	100.0

CCSAME	N	Weighted Estimate	Standard Error	Percent
1='Yes'	34	12,013	3,179	12.2
-7='N/A'	165	64,405	7,846	65.5
-9='Blank'	223	21,955	4,509	22.3
Total	422	98,373	9,898	100.0

CCSLATE	N	Weighted Estimate	Standard Error	Percent
1='Yes'	6	1,845	1,114	1.9
-7='N/A'	184	72,319	8,031	73.5
-9='Blank'	232	24,209	4,669	24.6
Total	422	98,373	9,898	100.0

CCSFLVAC	N	Weighted Estimate	Standard Error	Percent
1='Annually'	68	22,818	4,220	23.2
2='Every 2-3 years'	22	5,618	1,706	5.7
3='Every 4-5 years'	0	…	…	…
4='Greater than every 5 years'	0	…	…	…
5='Will not be screening fully HPV vaccinated females'	1	2,233	2,233	2.3
-6='Multiple entry'	0	…	…	…
-7='N/A'	2	228	221	0.2
-8='Unknown'	25	2,739	988	2.8
-9='Blank'	304	64,737	8,437	65.8
Total	422	98,373	9,898	100.0

VACABCYT	N	Weighted Estimate	Standard Error	Percent
1='Yes'	77	21,942	4,012	22.3
2='No'	28	9,883	3,203	10.1
-6='Multiple entry'	0	…	…	…
-7='N/A'	137	50,476	6,721	51.3
-8='Unknown'	0	…	…	…
-9='Blank'	180	16,072	4,235	16.3
Total	422	98,373	9,898	100.0

FEWABTST	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Agree'	239	53,345	7,713	54.2
2='Disagree'	18	3,822	1,496	3.9
3='Unsure'	120	23,839	4,690	24.2
-6='Multiple entry'	0	…	…	…
-9='Blank'	45	17,367	4,649	17.7
Total	422	98,373	9,898	100.0

FEWCOLP	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Agree'	244	51,700	7,015	52.6
2='Disagree'	21	6,517	2,694	6.6
3='Unsure'	135	29,423	5,009	29.9
-6='Multiple entry'	0	…	…	…
-9='Blank'	22	10,733	4,157	10.9
Total	422	98,373	9,898	100.0

NBCCEDP	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Yes'	169	19,124	2,918	19.4
2='No'	118	38,810	6,697	39.4
-8='Unknown'	105	30,276	5,018	30.8
-9='Blank'	30	10,163	3,857	10.3
Total	422	98,373	9,898	100.0

PROFESS	**N**	**Weighted Estimate**	**Standard Error**	**Percent**
1='Physician'	187	60,724	8,242	61.7
2='Physician assistant/Nurse practitioner/Nurse midwife'	77	5,525	1,264	5.6
3='Registered nurse'	74	3,769	1,138	3.8
4='Other clinic staff'	69	21,775	4,483	22.1
-9='Blank'	15	6,580	2,741	6.7
Total	422	98,373	9,898	100.0