2008

Cervical Cancer Screening Supplement

Provider File Data Documentation

National Center for Health Statistics
12/23/2011

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Appendixes

I. INTRODUCTION

This data file contains data collected in 2008 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 2008, 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 2008 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.

In 2008, 604 NAMCS and NHAMCS respondents completed the 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 59.4% (60.9% weighted). The unweighted individual response rate for the hospital was 83.3% (79.9% weighted), while the unweighted eligibility response rate was 97.4% (98.8% weighted). A total of 459 NHAMCS clinics were considered eligible to participate in the CCSS; 258 were in-scope clinics, of which 189 responded, yielding an unweighted response rate of 73.3% (77.2% 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 497 eligible NAMCS physicians and community health centers (CHCs), 412 providers responded to the CCSS, yielding an overall unweighted response rate of 61.8% (58.0% weighted). The individual response rate for NAMCS physicians was 54.2% unweighted (54.6% weighted), with 244 of the 321 eligible physicians responding to the survey. For CHCs providers, the response rate was 77.6% unweighted (83.4% weighted), with the 168 of the 176 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:

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

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

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

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

1. 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.

2. 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 2008 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.

For this year, certain variables have been removed or replaced from the micro-data file. These include:

a. The variable CCSSELIG was removed from the data-file and replaced with CSELIG and CSELIGW to improve weight calculations.

b. The verbatim variables VCCSSAME, VCCSLATE, and VCCSYRSX have been renamed as CCSSAMR, CCSLATR and CCSYRSR respectively. The variables CCSSAME, CCSLATE, and CCSYRSX have been removed from the data file.

c. HPVDNAGE and HPVPALL have levels for “Women under 21 years old,” “Women 21 years old to 29 years old,” and “Women of 30 years old and over.”

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;
```

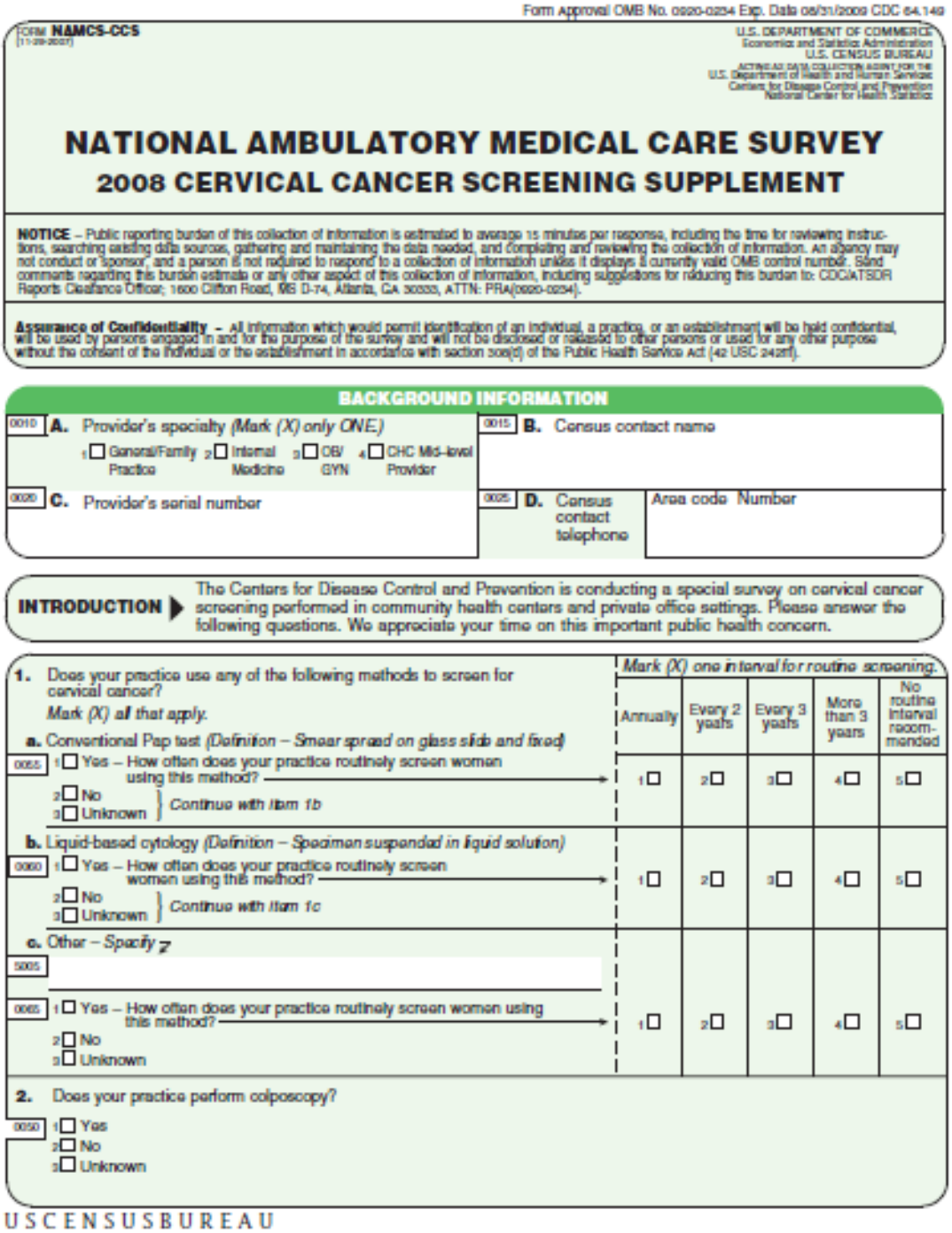
D. Combining years of data

One should keep in mind any changes to survey questions or variable values from year to year. For example, starting with data, the values for "Not Applicable," "Unknown," and "Blank" have become standardized across all variables as -7, -8, and -9 respectively. When combining 2006 through 2008 data, one must change the values from the prior years' data sets to match the values on the 2008 data set.

E. Limitations

This data file can only be used to analyze provider-level data. Visit-level data files cannot be combined with the provider-level data file.

Appendix A:
2008 Cervical Cancer Screening Supplement



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

FORM **NAMCS-CCS** (11-28-2007)

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
2008 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 specialty *(Mark (X) only ONE.)*
1 ☐ General/Family Practice 2 ☐ Internal Medicine 3 ☐ OB/GYN 4 ☐ CHC Mid-level Provider

0015 **B.** Census contact name

0020 **C.** Provider's serial number

0025 **D.** 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.

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

Mark (X) one interval for routine screening.

	Annually	Every 2 years	Every 3 years	More than 3 years	No routine interval recommended
a. Conventional Pap test *(Definition – Smear spread on glass slide and fixed)*					
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* 0065					
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

U S CENSUS BUREAU

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 on page 4*
4 ☐ Unknown

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 low risk HPV DNA test
4 ☐ Type-specific HPV DNA test
5 ☐ Unknown
} *SKIP to item 4a*

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 21 years old
2 ☐ Women 21 years old to 29 years old
3 ☐ Women 30 years old and over
4 ☐ Other – *Specify* ✍

0010

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 21 years old
2 ☐ Women 21 years old to 29 years old
3 ☐ Women 30 years old and over
4 ☐ Women who request the test for cervical cancer screening
5 ☐ Women who request the test to check their HPV infection status
6 ☐ Other – *Specify* 7

0165 _____

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 assistant/ Nurse practitioner/ Nurse midwife 3☐ Registered nurse 4☐ Other office staff

CLOSING STATEMENT

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

FORM NAMCS-CCS (11-28-2007)

Appendix B:
Sample SUDAAN Code

```
PROC SORT DATA=ccss08.CCSSVIS; BY  CSTRAT CPSU PROVIDE DEPT CLINTYPE SU; RUN;

PROC CROSSTAB DATA=ccss08.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=ccss08.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=ccss08.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=ccss08.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 CCSSAMR
CCSLATR CCSFLVAC VACABCYT FEWABTST FEWCOLP NBCCEDP PROFESS;
TABLES      HPVVACDET HPVVACSP HPVVACPT HPVVACAB HPVVACPS CCSCHNG CCSROUT CCSSAMR
CCSLATR 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)

Variables	Labels	N	Weighted Estimate	Standard Error	Percent
CCSSTYPE	TOTAL	2,034	333,896	10674.12	100.00
	1=Physician office	1,350	312,035	10510.24	93.45
	2=OPD	459	8,385	955.15	2.51
	3=CHC	225	13,476	1344.20	4.04
ELIG	TOTAL	3,063	333,896	10674.12	100.00
	1=Eligible for CCSS	832	106,942	6302.54	32.03
	2=Not eligible for CCSS	2,231	226,954	8387.50	67.97
CCSSRESP	TOTAL	3,063	333,896	10674.12	100.00
	1=Responded	604	102,607	6235.47	30.73
	2=Refused	2,459	231,289	8469.99	69.27
OBG	TOTAL	2,600	333,896	10674.12	100.00
	1=OBGYN	230	28,709	1970.30	8.60
	2=Other	2,370	305,187	10143.53	91.40
SURVEY	TOTAL	3,063	333,896	10674.12	100.00
	1=NAMCS	1,575	325,511	10601.27	97.49
	2=NHAMCS	1,488	8,385	955.15	2.51
CCSFINALR	TOTAL	3,063	333,896	10674.12	100.00
	-9=Blank	1,041	0	0.00	0.00
	1=Completed paper	604	102,607	6235.47	30.73
	2=Refused	27	0	0.00	0.00
	3=Does not perform screening	210	41,749	3316.76	12.50
	4=Ineligible for CCS	1,181	189,540	7193.83	56.77

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

Variables	Labels	N	Weighted Estimate	Standard Error	Percent
PAPCON	1 = Yes	195	36,381	4,008.10	35.46
	2 = No	318	49,438	4,064.26	48.18
	-8 = Unknown	1	229	228.59	0.22
	-9 = Blank	90	16,559	2,449.54	16.14
INTCON	1 = Annually	185	35,026	4,000.46	34.14
	2 = Every 2 years	13	2,662	1,101.71	2.59
	3 = Every 3 years	6	1,391	742.41	1.36
	5 = No routine interval recommended	10	1,298	563.64	1.27
	-8 = Blank	387	61,611	4,498.59	60.05
	-9 = Multiple entry	3	619	457.42	0.60
PAPLIQD	1 = Yes	531	86,759	5,426.83	84.55
	2 = No	28	5,324	1,510.59	5.19
	-6 = Multiple entries	1	5	4.75	0.00
	-8 = Unknown	8	2,013	920.31	1.96
	-9 = Blank	36	8,506	1,978.05	8.29
INTLIQD	1 = Annually	481	78,274	5,237.27	76.29
	2 = Every 2 years	31	4,295	1,307.07	4.19
	3 = Every 3 years	7	848	538.01	0.83
	5 = No routine interval recommended	18	5,646	1,807.22	5.50
	-6 = Multiple entry	2	27	19.21	0.03
	-9 = Blank	65	13,517	2,388.65	13.17
PAPOTH	1 = Yes	33	5,522	1,538.96	5.38
	2 = No	129	19,461	2,692.29	18.97
	-8 = Unknown	18	1,833	775.61	1.79
	-9 = Blank	424	75,791	5,682.04	73.87
INTOTH	1 = Annually	33	6,436	1,595.81	6.27
	2 = Every 2 years	2	603	437.85	0.59
	3 = Every 3 years	4	613	437.91	0.60
	5 = No routine interval recommended	2	230	218.47	0.22
	-6 = Multiple entry	1	405	404.27	0.39
	-9 = Blank	562	94,320	6,328.26	91.92

COLPO	1 = Yes	306	43,390	3,044.31	42.29
	2 = No	289	56,338	4,840.52	54.91
	-8 = Unknown	4	1,522	766.20	1.48
	-9 = Blank	5	1,357	728.49	1.32
HPVDNAO	1 = Yes	526	84,302	5,644.46	82.16
	2 = No	58	14,314	2,530.13	13.95
	3 = Not aware of HPVDNA test	5	1,584	784.93	1.54
	-8 = Unknown	9	2,275	1,030.00	2.22
	-9 = Blank	6	132	51.77	0.13
HPVDNALL	1 = High risk (HR) HPV DNA test	277	42,400	4,016.11	41.32
	2 = Low risk (LR) HPV DNA test	6	1,639	690.37	1.60
	3 = Not aware of high/low test	11	1,860	743.63	1.81
	4 = Type-Specific HPVDNA test	41	6,222	1,669.54	6.06
	-6 = Multiple entry	142	23,270	2,866.42	22.68
	-9 = All blank	127	27,216	3,250.44	26.52
HPVDNAHR	0 = Box is unmarked	186	37,288	3,848.03	36.34
	1 = Box is marked	418	65,319	4,524.35	63.66
HPVDNALR	0 = Box is unmarked	457	78,049	5,817.73	76.07
	1 = Box is marked	147	24,558	2,940.14	23.93
HPVDNANA	0 = Box is unmarked	589	99,496	6,077.82	96.97
	1 = Box is marked	15	3,111	877.07	3.03
HPVDNATS	0 = Box is unmarked	522	89,189	5,927.59	86.92
	1 = Box is marked	82	13,418	2,155.49	13.08
HPVDNAUN	0 = Box is unmarked	561	95,674	6,324.12	93.24
	1 = Box is marked	43	6,933	1,743.50	6.76
YNODNALL	3 = Access to colposcopy	1	14	14.00	0.01
	8 = Not discussed in STD context	1	11	11.00	0.01
	-6 = Multiple entry	14	969	481.51	0.94
	-7 = Not applicable	41	12,704	2,426.02	12.38
	-9 = All blank	547	88,909	5,658.45	86.65
HPVDNAR	1 = Yes	474	76,867	5,595.19	74.91
	2 = No	38	5,139	1,324.94	5.01

	-8 = Unknown	14	1,468	612.81	1.43
	-9 = Blank	78	19,133	2,848.95	18.65
ABPALLO	1 = ASC-US	440	70,208	5,147.35	68.42
	2 = ASC-H	12	4,100	1,406.82	4.00
	3 = LSIL	7	1,744	844.24	1.70
	4 = HSIL	5	314	268.62	0.31
	5 = AGC	1	10	10.00	0.01
	-7 = Not applicable	2	594	423.81	0.58
	-9 = Blank	137	25,637	2,953.13	24.99
HPVDNAGE	1 = Under 21 years old	247	42,416	3,941.12	41.34
	2 = 21 years to 29 years old	81	10,800	2,042.66	10.53
	3 = 30 years old and over	37	6,478	1,629.02	6.31
	-7 = Not applicable	1	337	337.00	0.33
	-9 = All blank	238	42,576	3,731.98	41.49
RECALL	1 = Yes	240	43,188	4,032.18	42.09
	2 = No	260	35,255	3,442.87	34.36
	-8 = Unknown	15	2,742	970.45	2.67
	-9 = Blank	89	21,422	3,149.54	20.88
ABPALLR	1 = ASC-US	212	37,306	3,636.35	36.36
	2 = ASC-H	13	1,351	571.91	1.32
	3 = LSIL	9	2,204	945.77	2.15
	4 = HSIL	3	363	280.13	0.35
	5 = AGC	2	166	122.19	0.16
	-7 = Not applicable	1	337	337.00	0.33
	-9 = All blank	364	60,880	4,689.62	59.33
HPVDNAA	1 = Yes	306	48,306	4,163.02	47.08
	2 = No	213	33,894	3,257.23	33.03
	-8 = Unknown	6	1,872	1,112.83	1.82
	-9 = Blank	79	18,535	2,964.17	18.06
HPVPALL	1 = Under 21 years old	124	22,430	2,743.67	21.86
	2 = 21 to 29 years old	26	3,253	1,063.11	3.17
	3 = 30 years old and over	80	12,183	2,021.22	11.87
	4 = Request CCS test	5	872	551.22	0.85
	5 = Request HPV infection status	3	317	269.99	0.31
	-7 = Not applicable	2	594	423.81	0.58

	-9 = All blank	364	62,958	4,705.77	61.36
PAPNLNOT	1 = No follow-up needed	2	478	348.14	0.47
	2 = Less than 6 months	1	8	7.49	0.01
	3 = 6 months to less than 1 year	2	664	645.63	0.65
	4 = 1 year	410	73,192	4,882.21	71.33
	5 = 2 years	93	15,047	2,195.95	14.66
	6 = 3 years or more	56	5,065	1,348.43	4.94
	7 = Have no experience with this type of patient or test	3	695	496.95	0.68
	-6 = Multiple entry	3	46	30.74	0.04
	-9 = Blank	34	7,412	1,792.95	7.22
PAPNLNEG	1 = No follow-up needed	3	689	406.93	0.67
	3 = 6 months to less than 1 year	3	701	646.69	0.68
	4 = 1 year	329	59,691	4,381.87	58.17
	5 = 2 years	106	18,928	2,551.14	18.45
	6 = 3 years or more	125	14,106	2,386.78	13.75
	7 = Have no experience with this type of patient or test	6	1,216	603.61	1.19
	-6 = Multiple entry	2	43	30.61	0.04
	-9 = Blank	30	7,233	1,782.19	7.05
PAPNLPOS	1 = No follow-up needed	1	465	465.00	0.45
	2 = Less than 6 months	93	16,612	2,413.87	16.19
	3 = 6 months to less than 1 year	156	25,981	3,219.02	25.32
	4 = 1 year	288	45,428	4,051.62	44.27
	5 = 2 years	3	762	617.76	0.74
	7 = Have no experience with this type of patient or test	26	4,572	1,029.89	4.46
	-6 = Multiple entry	5	738	520.19	0.72
	-9 = Blank	32	8,049	1,874.91	7.84
PAPNONEG	2 = Less than 6 months	75	13,789	2,210.35	13.44
	3 = 6 months to less than 1 year	27	2,657	889.53	2.59
	4 = 1 year	418	70,273	5,598.49	68.49
	5 = 2 years	10	1,544	637.38	1.50
	6 = 3 years or more	15	1,882	735.74	1.83
	7 = Have no experience with this type of patient or test	24	4,008	1,165.35	3.91
	-6 = Multiple entry	2	20	19.03	0.02
	-9 = Blank	33	8,434	1,974.85	8.22

PAPNOPOS	1 = No follow-up needed	2	619	489.72	0.60
	2 = Less than 6 months	193	35,318	3,506.93	34.42
	3 = 6 months to less than 1 year	146	21,927	2,969.01	21.37
	4 = 1 year	184	28,485	2,954.08	27.76
	7 = Have no experience with this type of patient or test	42	7,305	1,499.18	7.12
	-6 = Multiple entry	3	484	446.81	0.47
	-9 = Blank	34	8,469	1,917.44	8.25
PAPABNEG	1 = No follow-up needed	4	996	623.09	0.97
	2 = Less than 6 months	151	27,680	3,211.80	26.98
	3 = 6 months to less than 1 year	166	29,940	3,372.21	29.18
	4 = 1 year	220	30,999	2,833.92	30.21
	5 = 2 years	3	711	607.15	0.69
	6 = 3 years or more	9	1,239	601.62	1.21
	7 = Have no experience with this type of patient or test	11	2,209	763.94	2.15
	-6 = Multiple entry	2	38	26.87	0.04
	-9 = Blank	38	8,795	1,922.89	8.57
PAPABPOS	1 = No follow-up needed	8	1,190	642.88	1.16
	2 = Less than 6 months	292	52,108	4,560.29	50.78
	3 = 6 months to less than 1 year	170	24,532	2,867.18	23.91
	4 = 1 year	73	12,655	1,917.06	12.33
	6 = 3 years or more	1	11	10.64	0.01
	7 = Have no experience with this type of patient or test	18	3,135	928.21	3.06
	-6 = Multiple entry	5	494	446.91	0.48
	-9 = Blank	37	8,482	1,876.53	8.27
HPVVACDET	1 = Rarely or never	423	64,167	4,781.89	62.54
	2 = Sometimes	62	14,812	2,498.89	14.44
	3 = Usually	23	6,554	1,769.70	6.39
	4 = Always or almost always	39	5,917	1,544.67	5.77
	5 = Do not recommend the HPV vaccine	25	4,543	1,409.15	4.43
	-9 = Blank	32	6,614	1,661.36	6.45
HPVVACSP	1 = Rarely or never	363	60,404	4,859.29	58.87
	2 = Sometimes	84	15,553	2,291.14	15.16
	3 = Usually	11	1,999	770.86	1.95
	4 = Always or almost always	44	7,800	1,798.94	7.60
	-8 = Unknown/Not applicable/Do not ask	63	10,877	1,984.68	10.60
	-9 = Blank	39	5,974	1,539.30	5.82

HPVVACPT	1 = Rarely or never	418	65,102	4,837.84	63.45
	2 = Sometimes	46	11,780	2,089.63	11.48
	3 = Usually	18	3,106	1,285.91	3.03
	4 = Always or almost always	31	7,321	1,759.49	7.13
	-8 = Unknown/Not applicable/Do not ask	50	9,281	1,682.16	9.05
	-9 = Blank	41	6,017	1,539.64	5.86
HPVVACAB	1 = Rarely or never	101	17,043	2,394.91	16.61
	2 = Sometimes	88	14,717	2,322.98	14.34
	3 = Usually	114	18,609	2,610.86	18.14
	4 = Always or almost always	202	35,816	3,727.81	34.91
	-8 = Unknown/Not applicable/Do not ask	57	10,396	1,826.07	10.13
	-9 = Blank	42	6,026	1,539.65	5.87
HPVVACPS	1 = Rarely or never	117	20,529	2,757.24	20.01
	2 = Sometimes	87	13,303	2,251.24	12.97
	3 = Usually	87	13,603	2,015.80	13.26
	4 = Always or almost always	199	36,896	3,883.13	35.96
	-8 = Unknown/Not applicable/Do not ask	70	11,785	1,933.75	11.49
	-9 = Blank	44	6,491	1,602.88	6.33
CCSCHNG	1 = Yes	38	7,553	1,692.03	7.36
	2 = No	521	88,897	5,858.83	86.64
	-9 = Blank	45	6,157	1,430.83	6.00
CCSROUT	1 = By age	29	6,334	1,647.32	6.17
	2 = By onset of sexual activity	22	4,417	1,272.92	4.30
	3 = Will not be screening fully HPV vaccinated females	2	479	446.57	0.47
	-8 = Unknown	11	1,702	829.78	1.66
	-9 = Blank	540	89,675	5,927.77	87.40
CCSSAMR	1	1	599	598.29	0.58
	9	5	712	467.07	0.69
	11	4	464	329.31	0.45
	13	1	400	400.00	0.39
	18	6	2,199	974.71	2.14
	20	1	422	422.00	0.41
	21	8	958	453.36	0.93
	-9 = Blank	578	96,853	5,990.80	94.39

CCSLATR	1	1	599	598.29	0.58
	18	1	84	84.00	0.08
	21	1	308	307.26	0.30
	26	1	252	252.00	0.25
	-9 = Blank	600	101,364	6,134.63	98.79
CCSFLVAC	1 = Annually	40	8,152	1,760.38	7.94
	2 = Every 2-3 years	18	3,587	1,245.54	3.50
	5 = Will not be screening fully HPV vaccinated females	1	11	10.64	0.01
	-8 = Unknown	14	2,187	951.44	2.13
	-9 = Blank	531	88,670	5,870.70	86.42
VACABCYT	1 = Yes	45	9,525	1,991.69	9.28
	2 = No	11	2,222	814.08	2.17
	-9 = Blank	548	90,860	5,842.59	88.55
FEWABTST	1 = Agree	369	60,739	4,908.38	59.20
	2 = Disagree	40	8,351	1,679.57	8.14
	3 = Unsure	184	32,331	3,898.46	31.51
	-9 = Blank	11	1,186	535.90	1.16
FEWCOLP	1 = Agree	367	59,638	5,042.09	58.12
	2 = Disagree	40	8,854	1,792.18	8.63
	3 = Unsure	187	32,945	3,638.06	32.11
	-9 = Blank	10	1,170	535.71	1.14
NBCCEDP	1 = Yes	205	19,926	2,275.57	19.42
	2 = No	195	45,674	4,544.21	44.51
	-8 = Unknown	184	33,727	3,694.81	32.87
	-9 = Blank	20	3,280	931.57	3.20
PROFESS	1 = Physician	289	58,036	5,024.67	56.56
	2 = Physician assistant/Nurse practitioner/Nurse midwife	119	11,068	1,523.95	10.79
	3 = Registered nurse	90	6,734	1,442.57	6.56
	4 = Other clinic staff	104	26,474	3,256.81	25.80
	-9 = Blank	2	295	270.39	0.29