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What Factors are Associated with Where Women Undergo Clinical Breast Examination? Results from the 2005 National Health Interview Survey

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Abstract: *Background:* Recent studies have suggested that clinical breast examination (CBE) rates may vary according to patient, provider and health care system characteristics.

Objective: To examine the locations where U.S. women received a CBE and other general preventive health, and to examine predictors of location of receipt of general preventive health care (including a recent CBE).

Design: Age-specific and age-adjusted rates of CBE use were calculated using Statistical Analysis Software (SAS) and SUDAAN. A multivariate analysis was carried out using logistic regression techniques.

Participants: Women aged 40 years and older (n = 10,002) who participated in the 2005 National Health Interview Survey (NHIS).

Measurements: Recent CBE use was defined as within the past two years.

Results: Among all women, 65% reported a CBE within two years. The highest rate was found among women receiving routine care from doctors' offices and health maintenance organizations (HMOs) (68.5%). CBE use was somewhat lower among women receiving routine care from clinics or health centers (62.9%), and substantially lower among women receiving care from "other" locations (28.4%) or not reporting receiving preventive care (25.3%). Low income women ($p < .01$) and those with less than a high school education ($p < .01$) are more likely to go to a hospital than higher SES women. Women with health insurance are much more likely than women without health insurance to go to a doctor's office or HMO, and less likely to be seen at a clinic or health center ($p < .01$ in both instances). In multivariate analysis, women who received routine care in a location other than a clinic or health center, doctor's office or HMO, or hospital outpatient department (OPD) were less likely to have received a CBE within the past two years (adjusted OR = 0.4, 95% CI = 0.3, 0.7) compared to those at a doctor's office or HMO.

Conclusions: After adjusting for patient factors, clinics/health centers and hospital OPDs performed as well as doctors' offices/HMOs in delivering CBE. However, women receiving care in other locations were less likely to report CBE.

Keywords: Breast cancer, clinical breast examination, physicians, primary health care.

INTRODUCTION

Over the past decade, major efforts have been made to increase adherence with guidelines for routine breast cancer screening among United States women. The U.S. Preventive Services Task Force recommends screening mammography every 1 to 2 years, with or without clinical breast examination (CBE), among women aged 40 and older [1]. The Task Force concluded that there is insufficient evidence to recommend for or against routine CBE alone to screen for breast cancer. CBE may detect some breast cancers missed by mammography [2], and some suggest a role for CBE as part of comprehensive breast cancer screening [3,4].

Factors associated with not having received a CBE include lack of health insurance, low income, older age, lower education, non-white race, and Hispanic ethnicity [4]. Surveys of healthcare providers have identified several barriers to performing CBE, including clinician discomfort, lack of confidence in performing the examination, lack of time, reliance on mammography as the preferred method of screening, and patient embarrassment or refusal [4]. Gender and specialty also may influence whether a physician performs a CBE [4]. Efforts to ensure that all women have access to routine screening for breast cancer include screening in non-traditional settings [5]. Clarifying where women receive a CBE is important because many interventions for maintaining or increasing cancer screening rates (for example, clinic and physician reminder systems) are specific to particular health care settings (http://www.thecommunityguide.org).

Meissner *et al.* [4] examined trends in CBE for white, black, and Hispanic women from 1990 to 2000 using NHIS data. Although most women reported receiving a recent CBE in both years, the proportion of U.S. women reporting a recent CBE decreased for almost all groups of women, especially those without health insurance, recent immigrants, and women of Hispanic ethnicity [4]. This decline may reflect changing breast cancer screening practices and sole reliance

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on mammography for early detection of breast cancer, or access to clinical services [4]. The authors concluded that healthcare providers should be aware of the lower rates of CBE, particularly among women with decreased access to health care, and that providers should not assume that women who get mammograms have received comprehensive screening for breast cancer [4]. More information is needed to understand how CBE is being used as part of breast cancer screening.

The objectives of this study were to examine how CBE use varies according to location of receipt of general preventive health care [clinic or health center, private doctor's office or HMO, hospital outpatient department (OPD), emergency room (ER) or "other" location, or none], and to identify factors associated with CBE use in those different clinical settings. For example, are low income women or women from major racial and ethnic subgroups (e.g., black women or Hispanic women) more likely to receive a CBE at certain locations? Are women without health insurance or women with certain types of insurance more likely to receive a CBE at certain locations?

METHODS

We used data from the 2005 National Health Interview Survey (NHIS) including the sample adult module and cancer control topical module. NHIS is administered by the Census Bureau under contract to the National Center for Health Statistics (NCHS). The survey incorporates a multistage probability sampling design and includes health information about a nationally representative sample of the civilian, non-institutionalized U.S. population. For 2005, the overall household response rate was 86.5%, with an overall response rate for the sample adult module of 69.0%.The interviews included questions about general health status, demographic and socioeconomic characteristics, CBE, mammography, and various other factors. Each adult female respondent was asked whether she had ever had a CBE and, if so, how long it had been since her last CBE. Recent CBE use was defined as within the past two years. Respondents were asked similar questions regarding mammography. In addition, they were asked whether there is a place that they usually go to when they are sick or need advice about their health (clinic or health center, doctor's office or HMO, hospital OPD, ER or other location, or doesn't get preventive care anywhere).

The study population for this analysis consisted of women aged 40 years and older (n = 11,037). Characteristics of women who reported that they had a CBE in the past 2 years were examined in relation to where they generally receive routine health care services. Women with missing data for a CBE or place of routine health care services were excluded from the analyses for a sample size of 10,002. Age-specific and crude rates of CBE use were calculated using SAS and SUDAAN to calculate the 95% confidence intervals (CIs) and to allow for weighting of the estimates in order to take into account the complex sampling design. Linear contrasts were used to test for statistical significance [6]. A multivariate analysis of predictors of CBE use including locations where women receive health care, was carried out using logistic regression techniques and SUDAAN. Predicted marginals, or adjusted CBE rates expressed as percentages, were obtained from point estimates [7]. Covariates for age categories were included in the model in order to adjust for age differences. Variables were included for health insurance coverage, race, Hispanic ethnicity, and usual location for receipt of routine health care services, along with potential confounders (household income, marital status, education, employment status, family size, health status, gynecology visit in past year, mammogram in past 2 years, region of the U.S., and length of residence in the U.S.). To avoid over parameterization of the model, a covariate for having a usual source of care was not included.

RESULTS

The percentage distribution of women in this sample according to a variety of characteristics, and by usual location for receipt of routine health care is shown in Appendix A. A majority of the women (79.4%) went to a doctor's office or HMO for routine health care, followed by a clinic or health center (13.6%). About 1.0% each went to a hospital OPD or ER/other place for routine health care. At least 4.5% of the women reported not receiving preventive health care anywhere. Receiving routine care from clinics was less likely among women over age 64 years and more commonly reported among women who were American Indian or Alaska Native (AI/AN), Hispanic, black, single, divorced or separated, less educated, uninsured, lower income and in fair or poor health status compared with women in their respective reference groups. AI/AN women were particularly more likely than other women to report receiving care at clinics or health centers. Women from the Midwest or West, or with no recent mammogram or gynecology visit were also more likely than their reference groups to report care from a clinic. Characteristics of women more likely to report receiving routine care from hospital OPDs or from ERs were generally similar to those of women receiving care in other locations. Women were more likely to report care from these settings if they were black, Hispanic, single (hospital OPDs), less educated, lower income, unemployed, or from the West.

Women in fair or poor health status were more likely to report care from a hospital than women in good health. Women with a recent gynecology visit were more likely to report care from a hospital OPD than without such a visit, although the opposite was true for ERs and other places of routine care. Uninsured women and women with no recent mammogram were more likely to report care from an ER or other location.

Hispanic women are more likely than non-Hispanic women to go to a clinic or health center, hospital OPD, ER or other location, and less likely to be seen at a doctor's office or HMO ($p < .01$ in each instance). Although differences were small, Black women are more likely than white women to go to a hospital OPD ($p < .01$). Low income women ($p < .01$) and those with less than a high school education ($p < .01$) are more likely to go to a hospital than higher SES women. Women with health insurance are much more likely than women without health insurance to go to a doctor's office or HMO, and less likely to be seen at a clinic or health center ($p < .01$ in both instances).

Table **1a** and **1b** show rates of CBE use and bivariable associations with CBE for the sample overall, and across different settings. Among all women, 65% reported a CBE within two years. The highest rate was found among women

Table 1a. Percentage of women in the United States, aged 40 years or older, who had received a clinical breast examination in the past 2 years, by age, race, Hispanic ethnicity, and other characteristics, and according to their usual place for routine health care, National Health Interview Survey, 2005[1]

	Total (n=10022)			Clinic or Health Center (n=1469)			Doctor's Office or HMO (n=7746)		
Characteristic	**%**	**(95% CI)**	**p-value**	**%**	**(95% CI)**	**p-value**	**%**	**(95% CI)**	**p-value**
Total	65.0	(63.8–66.1)	--	62.9	(59.6–66.1)	--	68.5	(67.3–69.7)	--
Age (years)									
40-49	68.9	(67.1–70.7)	0.34	65.7	(61.0–70.2)	0.43	73.7	(71.5–75.8)	0.36
50-64	67.7	(66.0–69.4)	ref	63.1	(58.0–68.0)	ref	72.4	(70.5–74.2)	ref
65-74	62.7	(59.8–65.6)	<0.01	57.8	(48.9–66.3)	0.32	64.5	(61.5–67.5)	<0.01
≥ 75	51.3	(48.4–54.1)	<0.01	60.9	(52.1–69.0)	0.64	50.8	(47.7–53.9)	<0.01
Race									
White	66.1	(64.9–67.4)	ref	64.7	(60.8–68.3)	ref	69.5	(68.1–70.8)	ref
Black	61.9	(58.3–65.4)	0.03	60.5	(52.5–68.0)	0.36	65.5	(61.6–69.2)	0.06
Asian[2]	46.0	(39.1–53.0)	<0.01	37.6	(24.3–53.1)	<0.01	50.2	(42.3–58.1)	<0.01
American Indian/ Alaskan Native	55.4	(38.6–71.1)	0.21	**			56.0	(40.1–70.7)	0.10
Hispanic									
Yes	49.9	(46.1–53.7)	<0.01	46.2	(38.4–54.2)	<0.01	56.0	(51.3–60.5)	<0.01
No	66.5	(65.2–67.7)	ref	65.6	(62.0–69.0)	ref	69.4	(68.1–70.6)	ref
Marital Status									
Currently married	68.8	(67.2–70.3)	ref	68.8	(64.3–73.0)	ref	71.2	(69.5–72.9)	ref
Divorced or separated	63.1	(60.4–65.6)	<0.01	64.5	(58.0–70.5)	0.28	67.5	(64.6–70.3)	0.02
Widowed	57.8	(52.5–63.1)	<0.01	52.3	(41.4–63.0)	<0.01	61.8	(55.3–67.8)	<0.01
Never married	57.7	(53.4–61.8)	<0.01	53.9	(44.6–62.8)	<0.01	62.6	(57.3–67.6)	<0.01
Living with partner	56.5	(47.8–64.8)	<0.01	35.6	(23.8–49.4)	<0.01	62.5	(52.7–71.3)	0.07
Education									
<High school graduate	48.2	(45.3–51.1)	<0.01	47.7	(41.7–53.8)	<0.01	54.7	(51.5–58.0)	<0.01
High school graduate/ GED	63.3	(61.3–65.3)	ref	60.2	(54.5–65.5)	ref	66.7	(64.4–69.0)	ref
Some college/ Tech school	69.3	(67.2–71.3)	<0.01	73.2	(68.4–77.6)	<0.01	71.0	(68.7–73.1)	<0.01
College graduate	73.2	(70.7–75.5)	<0.01	71.3	(63.7–77.8)	<0.01	74.9	(72.3–77.4)	<0.01
Family Income									
≤ $14,999	50.0	(47.0–53.0)	<0.01	47.8	(41.7–53.9)	<0.01	59.2	(55.2–63.1)	<0.01
$15,000 - $34,999	58.2	(55.9–60.5)	<0.01	59.5	(53.8–64.9)	<0.01	62.5	(59.7–65.2)	<0.01
$35,000 - $54,999	65.9	(63.1–68.5)	<0.01	67.3	(58.7–74.8)	0.24	68.1	(65.0–71.1)	0.04
≥ $55,000	71.6	(69.0–74.0)	ref	73.8	(66.6–79.9)	ref	72.8	(70.0–75.4)	ref
Employment									
Employed	70.0	(67.6–72.3)	ref	68.0	(61.4–74.0)	ref	72.7	(70.2–75.1)	ref
Homemaker/Retired	60.9	(58.3–63.3)	<0.01	60.7	(53.9–67.1)	0.12	65.7	(62.7–68.6)	<0.01
Unemployed	57.6	(54.2–61.0)	<0.01	54.0	(45.4–62.4)	0.01	61.8	(58.1–65.4)	<0.01
Family Size									
1	62.6	(60.6–64.5)	ref	62.7	(57.2–67.8)	ref	66.9	(64.7–69.0)	ref
2	68.0	(66.3–69.7)	<0.01	65.7	(60.4–70.6)	0.41	71.2	(69.3–73.0)	<0.01

(Table 1a). Contd…..

	Total (n=10022)			Clinic or Health Center (n=1469)			Doctor's Office or HMO (n=7746)		
Characteristic	**%**	**(95% CI)**	**p-value**	**%**	**(95% CI)**	**p-value**	**%**	**(95% CI)**	**p-value**
3	65.4	(62.0–68.7)	0.13	65.6	(55.9–74.1)	0.57	68.0	(64.0–71.8)	0.61
≥ 4	56.4	(52.1–60.6)	<0.01	55.3	(44.0–66.0)	0.24	61.5	(56.6–66.2)	0.04
Health Status									
Excellent	68.8	(66.5–71.1)	<0.01	65.2	(57.9–72.0)	0.42	72.5	(69.9–75.0)	<0.01
Very Good	68.2	(66.3–70.1)	<0.01	66.2	(59.6–72.1)	0.27	70.8	(68.8–72.8)	<0.01
Good	62.0	(59.9–64.2)	ref	61.7	(56.2–66.9)	ref	66.0	(63.5–68.5)	ref
Fair or Poor	59.4	(56.9–61.9)	0.11	58.4	(52.3–64.3)	0.43	63.1	(60.0–66.1)	0.15
Have Usual Source of Care									
Yes	67.4	(66.2–68.5)	ref	64.3	(60.8–67.6)	ref	68.7	(67.4–70.0)	ref
No	34.4	(30.3–38.9)	<0.01	45.5	(35.9–55.4)	<0.01	58.5	(49.0–67.3)	0.03
Health Insurance Coverage									
Yes	67.9	(66.7–69.1)	ref	66.8	(63.2–70.2)	ref	69.5	(68.2–70.7)	ref
No	34.7	(28.4–41.6)	<0.01	38.8	(32.6–45.3)	<0.01	40.8	(35.6–46.2)	<0.01
Region									
Northeast	66.3	(63.8–68.7)	0.04	59.1	(49.1–68.4)	0.78	68.8	(66.1–71.3)	0.38
Midwest	70.3	(68.3–72.3)	<0.01	72.5	(67.0–77.3)	<0.01	72.4	(70.1–74.6)	<0.01
South	63.0	(61.0–64.9)	ref	57.5	(52.4–62.6)	ref	67.3	(65.1–69.3)	ref
West	60.6	(57.6–63.5)	0.19	52.5	(46.3–58.7)	0.22	65.9	(62.8–69.0)	0.49
Length of Residence in U.S.									
<10 years	38.1	(30.1–46.9)	<0.01	55.6	(37.6–72.3)	0.26	29.0	(17.9–43.3)	<0.01
≥ 10 years	52.5	(49.3–55.6)	<0.01	48.1	(40.9–55.3)	<0.01	57.8	(53.8–61.6)	<0.01
Born in U.S.	67.1	(65.8–68.2)	ref	66.2	(62.5–69.7)	ref	70.0	(68.7–71.3)	ref
Mammography in Past 2 Years									
Yes	83.0	(81.9–84.0)	ref	82.5	(79.3–85.2)	ref	83.4	(82.2–84.5)	ref
No	28.6	(26.9–30.3)	<0.01	27.5	(23.6–31.9)	<0.01	32.8	(30.6–35.0)	<0.01
Gynecology Visit in Past Year[3]									
Yes	82.9	(81.2–84.4)	ref	75.1	(69.6–79.9)	ref	83.8	(82.1–85.3)	ref
No	54.4	(52.8–55.9)	<0.01	57.0	(53.2–60.7)	<0.01	58.6	(56.8–60.3)	<0.01

[1]Except for age, results are adjusted for age using survey population. Estimates are weighted; p-values are for tests comparing characteristic levels to referent level. Not ascertained, refused, or don't know responses were excluded.
[2]Asian includes Asian Indian, Chinese, Filipino, and Other Asian.
[3]Respondents were asked if they had seen or talked to a doctor who specializes in women's health in the past 12 months.
**Not reportable, sample size<30 and/or relative standard error>50%.

Table 1b. Percentage of women in the United States, aged 40 years or older, who had received a clinical breast examination in the past 2 years, by age, race, Hispanic ethnicity, and other characteristics, and according to their usual place for routine health care, National Health Interview Survey, 2005[1]

	Hospital Outpatient Department (n=125)			Other[2] (n=163)			Doesn't get preventive care anywhere (n=519)		
Characteristic	**%**	**(95% CI)**	**p-value**	**%**	**(95% CI)**	**p-value**	**%**	**(95% CI)**	**p-value**
Total	62.7	(52.3–72.1)	--	28.4	(19.8–38.9)	--	25.3	(20.8–30.4)	--
Age (years)									
40-49	57.7	(38.6–74.7)	0.40	42.2	(29.6–55.9)	0.01	29.3	(22.7–36.8)	0.49
50-64	67.4	(51.2–80.2)	ref	19.6	(11.3–31.8)	ref	25.7	(19.2–33.7)	ref
65-74	**			**			22.1[§]	(10.1–41.7)	0.69
≥ 75	**			**			18.5[§]	(7.4–39.1)	0.42

(Table 1b). Contd…..

	Hospital Outpatient Department (n=125)			Other[2] (n=163)			Doesn't get preventive care anywhere (n=519)		
Characteristic	**%**	**(95% CI)**	**p-value**	**%**	**(95% CI)**	**p-value**	**%**	**(95% CI)**	**p-value**
Race									
White	62.1	(49.9–73.0)	ref	30.5	(21.4–41.6)	ref	25.9	(21.1–31.5)	ref
Black	71.5	(53.8–84.3)	0.34	20.6 §	(10.7–36.0)	0.19	20.0	(12.3–30.9)	0.26
Asian[3]	**			**			**		
American Indian/ Alaskan Native	**			**			**		
Hispanic									
Yes	60.0	(45.7–72.8)	0.77	22.8§	(10.7–42.3)	0.53	31.2	(19.6–45.8)	0.33
No	62.7	(50.4–73.5)	ref	28.8	(19.7–40.0)	ref	24.1	(19.4–29.7)	ref
Marital Status									
Currently married	72.7	(56.7–84.4)	ref	40.1	(30.1–51.0)	ref	29.0	(21.4–38.0)	ref
Divorced or separated	50.5	(32.0–68.8)	0.07	31.5	(17.6–49.9)	0.41	24.3	(17.5–32.8)	0.43
Widowed	**			**			26.7§	(13.6–45.8)	0.80
Never married	**			**			21.2	(11.5–35.8)	0.30
Living with partner	**			**			**		
Education									
<High school graduate	56.7	(40.4–71.7)	0.57	8.4§	(3.1–20.6)	0.01	16.8	(10.1–26.6)	0.06
High school graduate/ GED	62.8	(48.1–75.5)	ref	29.5	(17.3–45.6)	ref	28.1	(20.9–36.7)	ref
Some college/ Tech school	**			46.7	(34.0–59.7)	0.08	34.6	(23.4–47.9)	0.40
College graduate	**			39.8	(24.2–57.9)	0.38	35.0	(22.5–49.8)	0.40
Family Income									
≤ $14,999	53.4	(32.8–73.0)		20.1 §	(10.3–35.7)	0.04	19.4	(13.4–27.2)	0.15
$15,000 - $34,999	72.4	(53.5–85.6)		19.2§	(6.5–45.1)	0.08	24.0	(17.1–32.7)	0.38
$35,000 - $54,999	**			**			31.8	(20.3–46.1)	0.98
≥ $55,000	**			43.0	(25.8–61.9)	ref	32.1	(18.4–49.8)	ref
Employment									
Employed	71.6	(57.3–82.6)	ref	37.9	(24.1–54.1)	ref	25.8	(19.2–33.7)	ref
Homemaker/Retired	56.9	(37.6–74.2)	0.20	15.0§	(6.7–30.6)	0.02	20.2	(13.8–28.6)	0.31
Unemployed	57.5	(40.9–72.6)	0.17	37.2	(23.2–53.6)	0.94	30.7	(20.2–43.7)	0.47
Family Size									
1	60.4	(46.7–72.7)	ref	21.0	(12.0–34.2)	ref	26.2	(19.6–34.0)	ref
2	70.7	(53.3–83.6)	0.33	34.4	(20.6–51.4)	0.13	27.3	(20.0–36.1)	0.83
3	**			**			25.7	(17.0–36.9)	0.95
≥ 4	**			14.5	(8.0–24.8)	0.35	22.2	(13.1–35.0)	0.55
Health Status									
Excellent	**			17.7§	(8.9–32.3)	0.04	27.1	(17.8–39.1)	0.44
Very Good	**			28.0§	(14.7–46.8)	0.43	27.5	(20.0–36.7)	0.33
Good	70.6	(53.2–83.6)	ref	36.8	(24.2–51.6)	ref	21.4	(13.8–31.8)	ref
Fair or Poor	49.5	(33.8–65.2)	0.06	39.0	(23.4–57.3)	0.85	29.6	(20.4–40.7)	0.26

(Table 1b). Contd…..

	Hospital Outpatient Department (n=125)			Other[2] (n=163)			Doesn't get preventive care anywhere (n=519)		
Characteristic	**%**	**(95% CI)**	**p-value**	**%**	**(95% CI)**	**p-value**	**%**	**(95% CI)**	**p-value**
Have Usual Source of Care									
Yes	63.0	(52.1–72.7)		41.3	(27.7–56.3)	ref	28.3	(19.9–38.5)	ref
No	**			22.6	(14.3–33.9)	0.04	24.6	(19.7–30.2)	0.47
Health Insurance Cover-age									
Yes	65.6	(53.8–75.8)		41.5	(29.6–54.6)	ref	25.3	(18.9–32.8)	ref
No	**			17.0	(10.3–26.7)	<0.01	38.0	(30.2–46.5)	0.02
Region									
Northeast	**			**			22.1	(13.7–33.7)	0.77
Midwest	69.0	(48.3–84.1)	0.73	**			16.8	(10.6–25.5)	0.17
South	64.4	(45.3–79.8)	ref	17.9	(11.2–27.4)	ref	24.0	(17.7–31.7)	ref
West	40.5	(26.1–56.8)	0.05	22.3	(14.0–33.5)	0.49	39.6	(29.3–50.9)	0.02
Length of Residence in U.S.									
<10 years	**			**			45.5	(26.7–65.6)	0.03
≥ 10 years	45.5	(32.5–59.2)	0.02	15.8§	(6.6–33.3)	0.04	30.2	(18.6–45.1)	0.29
Born in U.S.	67.2	(54.6–77.6)	ref	34.4	(23.5–47.2)	ref	22.4	(17.8–27.8)	ref
Mammography in Past 2 Years									
Yes	78.5	(65.7–87.4)	ref	72.4	(58.1–83.2)	ref	75.0	(65.6–82.5)	ref
No	29.3	(18.6–43.0)	<0.01	8.8	(5.0–15.1)	<0.01	12.2	(8.9–16.4)	<0.01
Gynecology Visit in Past Year[4]									
Yes	75.3	(60.5–85.9)	ref	66.0	(48.6–80.0)	ref	91.6	(83.0–96.0)	ref
No	47.7	(32.5–63.4)	0.01	14.2	(8.9–22.0)	<0.01	18.0	(14.2–22.5)	<0.01

[1]Except for age, results are adjusted for age using survey population. Estimates are weighted; p-values are for tests comparing characteristic levels to referent level. Not ascertained, refused, or don't know responses were excluded.
[2]Hospital emergency room, some other place, or doesn't go to one place for routine care most often.
[3]Asian includes Asian Indian, Chinese, Filipino, and Other Asian.
[4]Respondents were asked if they had seen or talked to a doctor who specializes in women's health in the past 12 months.
§Relative standard error 30-50%, interpret results with caution.
**Not reportable, sample size<30 and/or relative standard error>50%.

receiving routine care from doctors' offices and HMOs (68.5%) as shown in Table **1a**. CBE use was substantially lower among women receiving care from ERs or "other" locations (28.4%) or not reporting receiving preventive care (25.3%). Women older than 64 years were generally less likely than women aged 50-64 to report a recent CBE, although this difference was significant only among women cared for at doctors' offices or HMOs. In both clinics and doctors' offices/HMOs, Asian and Hispanic women were less likely than white and non-Hispanic women to report recent CBEs, and married women were most likely to report an exam. Higher education was also associated with CBE use across settings, as were higher income, being employed, having health insurance or a usual source of care, being from the Midwest compared with the South, being born in the U.S., reporting a recent mammogram, and reporting a recent gynecology visit (Tables **1a** and **1b**). Among women receiving care at doctors' offices and HMOs, excellent or very good health status was associated with reporting a recent CBE.

In multivariate analysis (Table **2**), women who received routine care in a location other than a clinic or health center, doctor's office or HMO, or hospital OPD were less likely than women receiving care from a doctor's office or HMO to have received a CBE within the past two years (adjusted OR = 0.4, 95% CI = 0.3, 0.7). Factors that were associated with recent CBE included location for receipt of routine health care, age, Hispanic ethnicity, education, region of the U.S., length of residence in the U.S., recent mammogram, and gynecology visit in the past year. Older women, Hispanic women, women with less than a high school education, no recent mammogram, no recent gynecology visit, or who were immigrants but lived in the U.S. 10 years or more were less likely than their respective reference groups to report a recent CBE.

Table 2. Adjusted odds ratios and percentage of women in the United States, aged 40 years or older, who had received a clinical breast examination in the past 2 years, National Health Interview Survey, 2005[1]

Characteristic	AOR[2]	(95% CI)	%[3]	(95% CI)	p-value[4]
Routine Care					
Clinic or Health Center	1.0	(0.9, 1.2)	66.4	(63.9, 68.9)	0.83
Doctor's Office or HMO	Ref		66.2	(64.8, 67.4)	Ref
Hospital Outpatient Department	1.1	(0.6, 1.9)	67.7	(59.0, 75.4)	0.71
Other[5]	0.4	(0.3, 0.7)	51.7	(44.2, 59.2)	<0.01
Doesn't get preventive care anywhere	0.6	(0.4, 0.8)	57.5	(52.5, 62.3)	<0.01
Age (years)					
40-49	1.3	(1.1, 1.6)	68.8	(66.8, 70.8)	<0.01
50-64	Ref		64.7	(63.0, 66.4)	Ref
65-74	0.9	(0.8, 1.1)	63.2	(60.5, 65.8)	0.29
≥ 75	0.9	(0.7, 1.1)	63.4	(60.4, 66.3)	0.44
Race					
White	Ref		66.1	(64.8, 67.3)	Ref
Black	0.9	(0.7, 1.1)	64.0	(60.8, 67.2)	0.23
Asian[6]	0.6	(0.4, 1.0)	58.5	(50.9, 65.7)	0.05
American Indian/Alaskan Native	0.7	(0.3,1.5)	60.0	(46.4, 72.2)	0.36
Hispanic					
Yes	0.8	(0.6, 1.0)	62.2	(58.8, 65.5)	0.04
No	Ref		65.9	(64.7, 67.2)	Ref
Marital Status					
Currently married	Ref		66.1	(64.4, 67.6)	Ref
Divorced or separated	1.1	(0.9, 1.3)	66.8	(64.4, 69.1)	0.59
Widowed	0.9	(0.7, 1.1)	64.4	(61.7, 67.0)	0.29
Never married	0.8	(0.6, 1.0)	62.3	(58.4, 66.0)	0.10
Living with partner	0.9	(0.6, 1.3)	64.6	(59.0, 69.9)	0.61
Education					
<High school graduate	0.8	(0.7, 1.0)	61.6	(59.0, 64.1)	0.02
High school graduate	Ref		65.0	(63.2, 66.7)	Ref
Some college/Tech school	1.2	(1.0, 1.4)	67.5	(65.7, 69.3)	0.03
College graduate	1.2	(1.0, 1.5)	67.4	(64.8, 69.9)	0.12
Family Income					
≤ $14,999	0.9	(0.7, 1.1)	64.6	(61.8, 67.3)	0.23
$15,000 - $34,999	0.8	(0.7, 1.0)	64.2	(62.1, 66.1)	0.08
$35,000 - $54,999	0.9	(0.8, 1.2)	65.9	(63.6, 68.2)	0.53
≥ $55,000	Ref		67.0	(64.7, 69.2)	Ref
Employment					

(Table 2). Contd…..

Characteristic	AOR[2]	(95% CI)	%[3]	(95% CI)	p-value[4]
Employed	Ref		65.9	(64.2, 67.5)	Ref
Homemaker/Retired	0.9	(0.8, 1.1)	64.5	(62.6, 66.3)	0.25
Unemployed	1.2	(0.9, 1.4)	68.0	(65.2, 70.8)	0.17
Family Size					
1	Ref		65.4	(63.0, 67.6)	Ref
2	1.1	(0.9, 1.3)	66.4	(64.7, 68.1)	0.48
3	1.0	(0.8, 1.3)	65.9	(63.3, 68.4)	0.76
≥ 4	0.9	(0.7, 1.2)	63.9	(61.1, 66.7)	0.46
Health Status					
Excellent	1.2	(1.0, 1.4)	67.5	(65.2, 69.7)	0.05
Very Good	1.0	(0.9, 1.2)	65.1	(63.3, 66.8)	0.92
Good	Ref		64.9	(63.0, 66.8)	Ref
Fair or Poor	1.0	(0.9, 1.2)	65.4	(63.2, 67.6)	0.71
Health Insurance Coverage					
Yes	Ref		65.9	(64.6, 67.1)	Ref
No	0.9	(0.7, 1.1)	63.4	(59.9, 66.7)	0.16
Region					
Northeast	1.0	(0.8, 1.2)	64.1	(61.8, 66.3)	0.86
Midwest	1.5	(1.3, 1.8)	70.2	(68.5, 71.9)	<0.01
South	Ref		64.3	(62.5, 66.2)	Ref
West	0.9	(0.8, 1.1)	63.2	(60.6, 65.7)	0.45
Length of Residence in U.S.					
<10 years	0.5	(0.3, 1.0)	56.2	(45.9, 66.0)	0.05
≥10 years	0.7	(0.5, 0.8)	60.2	(56.5, 63.7)	<0.01
Born in U.S.	Ref		66.5	(65.2, 67.7)	Ref
Mammography in Past 2 Years					
Yes	Ref		80.8	(79.6, 81.9)	Ref
No	0.1	(0.1, 0.1)	36.1	(34.0, 38.3)	<0.01
Gynecology Visit in Past Year[7]					
Yes	Ref		74.9	(72.9, 76.7)	Ref
No	0.4	(0.4, 0.5)	61.1	(59.6, 62.5)	<0.01

[1]Results are adjusted for all characteristics in the table. Estimates are weighted. Not ascertained, refused, or don't know responses were excluded.
[2]Adjusted odds ratio.
[3]Adjusted percentages (predicted marginals).
[4]T-tests comparing characteristic levels to referent level.
[5]Hospital emergency room, some other place, or doesn't go to one place for routine care most often.
[6]Asian includes Asian Indian, Chinese, Filipino, and Other Asian.
[7]Respondents were asked if they had seen or talked to a doctor who specializes in women's health in the past 12 months.

DISCUSSION

The important differences in CBE rates observed in the current study by location of routine care may reflect differences in patient populations, differences in providers who practice in these settings, or variations in the healthcare environment. Minority women including those who are black or Hispanic are more likely than non-Hispanic white women to seek care from outpatient departments [8,9]. Many primary

care visits occur in physicians offices and in HMOs, including for population subgroups such as racial minorities and Hispanic women. However, community health centers and hospital OPDs are also important providers of primary health care for many women including those who are recent immigrants to the United States [9,10]. Prior studies have shown that the women seen at community health centers are more likely to be up to date for breast cancer screening tests than low-income women in the general population [8]. The rates of recent CBE observed in this study were only slightly lower among women who reported they received routine health care at a clinic or health center, or hospital OPD, as compared with those who received health care at a doctor's office or HMO, and differences did not persist after adjustment for other factors. This suggests that after controlling for patient factors, these settings performed as well as doctors' offices or HMOs in delivering CBE to women. However, CBE rates were particularly low among women who received routine health care at other locations or who reported that they do not get preventive care anywhere.

The results of this study are consistent with those of previous studies that have shown that socioeconomic and demographic factors such as lower education, older age, and Hispanic ethnicity are associated with not having had a recent CBE [4]. Women who were unemployed and those with a larger family size were also less likely to have received a CBE, although these findings did not persist in multivariate analysis. The relatively low CBE rates among Asian women, and among AI/AN women, may be due to a lack of access to culturally appropriate and sensitive preventive health care or to a lack of awareness of the importance of routine breast cancer screening. There may also be a need for preventive health services available for persons with lower health literacy. Studies have shown that persons with lower health literacy are less likely to undergo routine cancer screening [11,12]. Among women who received routine care at a doctors' office or HMO, those with a shorter duration of residence in the U.S were much less likely to have received a recent CBE, with less than 30% of these women reporting a recent exam compared with 70% of women born in the U.S. In comparison, in clinics and health centers, 56% of women with a shorter duration of residence in the U.S. reported screening, which was not significantly different from women born in the U.S (66%). Differences in patient acculturation or the availability of culturally appropriate health care services may partly account for these differential findings by health care setting.

The lower CBE rates among elderly women are consistent with results from prior studies that have shown lower CBE and mammography rates among older women [4]. Medical and scientific controversies exist about the value of routine breast cancer screening among women in the oldest age categories [13]. Uncertainty exists about whether the potential benefits of screening mammography outweigh the harms for elderly women. Nevertheless, about 58.3% of deaths from breast cancer among women occur among those aged 65 years or older. Our regression analysis suggests that the lower CBE use among older women is attributable to other patient, access and healthcare utilization factors.

Women who reported not receiving preventive care were somewhat less likely to have received a recent CBE along with those with no gynecology visit in the past year and those without a usual source of health care. Prior studies have shown that having a regular provider, continuity of care, and having a recent physician visit are related to breast cancer screening [14,15]. Women with more frequent contact with health care providers are more likely to have a CBE or a provider recommendation for other cancer screening tests. Continuity of care improves patient compliance with physician recommendations for cancer screening [14]. Information about continuity of care or about the reason for a provider visit was not assessed in the current study. Patients may be especially likely to undergo cancer screening in conjunction with a health maintenance visit or a physical examination [16].

Approximately 1/3 of uninsured women in our sample reported not receiving any preventive care or receiving preventive care from an ER or other location, compared with < 3% of insured women. In addition, health insurance status was an important determinant of recent CBE after adjustment for age (Table **1a** and **1b**) but not in multivariate analysis (Table **2**). Thus, after adjustment for location of receipt of routine care, family income, employment status, and other covariates associated with health insurance coverage and access to health care, health insurance was no longer an important predictor of recent CBE.

This current study did not assess reasons why providers did not perform a CBE such as physician attitudes or beliefs or patient refusal. Prior studies have suggested that clinician or patient embarrassment, lack of confidence in performing the examination, lack of time during a health care visit, and reliance on mammography as a preferred method of screening may be barriers to performing CBE [4]. In the current study, women who had had a mammogram in the past year were more likely to have received a recent CBE. However, about 17.0% of women who reported that they had had a recent mammogram indicated they had not received a CBE. Some providers may rely solely on mammography for routine breast cancer screening. Information about institutional guidelines for breast screening or other detailed characteristics of the locations where women received care was unavailable from NHIS. A further issue is that the current study lacked information about provider characteristics such as age, gender, or ethnicity. However, having a visit to a gynecologist in the past year was positively associated with having received a CBE. In addition, the current study did not provide detailed information about why women did or did not have a recent CBE. Information about the acceptability of CBE to the respondents was not available.

With respect to other limitations, response bias is a possibility because not all women identified as sample adults responded to the survey. In addition, self-reported information about breast cancer screening services may also differ from information obtained from the records of health care providers. Validation studies have suggested that patients tend to over-report their use of cancer screening services and under-estimate the time since their last screening [17,18]. The 2005 NHIS was limited by the small number of Asian and AI/AN respondents.

Our findings that factors related to healthcare access and utilization predicted CBE use, coupled with the finding that the vast majority of women reporting a recent mammogram

also reported recent CBE, may suggest that variations in CBE use may more likely be related to access to care than to sole reliance on mammography for breast cancer screening. After adjusting for differences in patient factors, results were similar for women seen by providers in clinics/health centers and hospital OPDs as compared with those seen in doctors' offices or HMOs. However, women receiving care in other locations were less likely to report a recent exam. The results of this study may be helpful to healthcare providers and program planners who are working to improve the quality of preventive care. Providers and planners in the U.S. should be aware of the lower rates of CBE, particularly among women with decreased access to health care.

CONFLICT

The findings and conclusions in this report are those of the authors and do not necessarily reflect the views of the Centers for Disease Control and Prevention.

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Appendix A. Characteristics of women in the United States, aged 40 years or older, by age, race, Hispanic ethnicity, and other characteristics according to their usual place of routine health care services, National Health Interview Survey, 2005.[1]

		Clinic or Health Center (n=1583)			Doctor's Office or HMO (n=8548)			Hospital Outpatient Department (n=145)			Other[2] (n=181)			Doesn't get preventive care anywhere (n=580)		
Characteristic	**Total**	**%**	**(95% CI)**	**p-value**	**%**	**(95% CI)**	**p-value**	**%**	**(95% CI)**	**p-value**	**%**	**(95% CI)**	**p-value**	**%**	**(95% CI)**	**p-value**
Total	11037	13.6	(12.7–14.4)	--	79.4	(78.3–80.3)	--	1.0	(0.8–1.3)	--	1.6	(1.3–1.8)	--	4.5	(4.1–4.9)	--
Age (years)																
40-49	3330	15.6	(14.1–17.3)	0.18	74.9	(73.1–76.6)	0.02	0.9	(0.6–1.3)	0.14	2.3	(1.8–2.9)	0.06	6.3	(5.5–7.2)	0.04
50-64	4044	14.4	(13.2–15.7)	ref	77.7	(76.0–79.3)	ref	1.3	(0.9–1.7)	ref	1.6	(1.2–2.1)	ref	5.0	(4.3–5.9)	ref
65-74	1738	10.7	(9.1–12.5)	<0.01	85.7	(83.7–87.6)	<0.01	0.9[§]	(0.4–2.1)	0.43	0.9	(0.5–1.5)	0.02	1.7	(1.2–2.5)	<0.01
≥ 75	1925	9.6	(8.2–11.1)	<0.01	87.4	(85.6–89.1)	<0.01	0.9	(0.5–1.4)	0.15	0.6[§]	(0.3–1.1)	<0.01	1.6	(1.1–2.2)	<0.01
Race																
White	9068	12.9	(12.1–13.8)	ref	80.3	(79.2–81.4)	ref	0.8	(0.6–1.1)	ref	1.3	(1.1–1.6)	ref	4.6	(4.1–5.1)	ref
Black	1576	15.2	(13.2–17.4)	0.04	75.7	(73.0–78.2)	<0.01	2.5	(1.7–3.7)	<0.01	2.7	(1.8–3.9)	0.01	3.9	(2.8–5.4)	0.32
Asian[3]	287	17.5	(12.6–23.8)	0.11	73.2	(66.4–79.0)	0.03	2.6[§]	(1.3–5.1)	0.04	2.1[§]	(0.9–4.7)	0.39	4.6	(2.7–7.7)	0.98
American Indian/ Alaskan Native	78	35.9	(23.8–50.1)	<0.01	59.7	(45.3–72.5)	<0.01	**			**			**		
Hispanic																
Yes	1393	22.2	(19.7–25.0)	<0.01	59.5	(56.1–62.9)	<0.01	3.9	(2.5–6.1)	<0.01	3.0	(2.0–4.4)	<0.01	11.3	(9.5–13.5)	<0.01
No	9644	12.6	(11.8–13.5)	ref	81.4	(80.4–82.4)	ref	0.8	(0.6–1.0)	ref	1.4	(1.2–1.7)	ref	3.8	(3.4–4.2)	ref
Marital Status																
Currently married	4896	12.5	(11.5–13.6)	ref	82.0	(80.7–83.2)	ref	0.8	(0.6–1.2)	ref	1.3	(1.1–1.7)	ref	3.4	(2.9–3.9)	ref
Divorced or separated	2393	15.3	(13.6–17.2)	<0.01	75.1	(73.0–77.2)	<0.01	1.4	(0.9–2.2)	0.06	1.9	(1.3–2.6)	0.14	6.3	(5.3–7.6)	<0.01
Widowed	2447	13.6	(11.0–16.8)	0.47	75.3	(70.4–79.7)	<0.01	1.1[§]	(0.6–2.1)	0.47	2.1[§]	(1.1–3.9)	0.29	7.9	(4.9–12.6)	0.02
Never married	966	18.1	(14.9–21.7)	<0.01	70.7	(66.9–74.2)	<0.01	2.0	(1.3–3.0)	0.01	1.9	(1.1–3.1)	0.30	7.4	(5.9–9.3)	<0.01
Living with partner	269	16.2	(12.2–21.3)	0.11	74.4	(69.2–79.1)	<0.01	**			2.6[§]	(1.2–5.7)	0.25	5.8	(3.7–9.1)	0.07
Education																
<High school graduate	2146	20.8	(18.6–23.2)	<0.01	64.2	(61.6–66.7)	<0.01	2.6	(1.8–3.8)	<0.01	3.5	(2.5–4.9)	<0.01	8.9	(7.4–10.5)	<0.01
High school graduate/ GED	3377	14.4	(13.0–15.9)	ref	78.5	(76.8–80.1)	ref	0.9	(0.6–1.3)	ref	1.3	(0.9–1.8)	ref	4.9	(4.2–5.7)	ref
Some college/ Tech school	2922	12.9	(11.6–14.3)	0.11	81.4	(79.8–83.0)	<0.01	0.7	(0.5–1.0)	0.34	1.2	(0.8–1.7)	0.71	3.8	(3.1–4.7)	0.04
College graduate	2460	9.9	(8.4–11.6)	<0.01	85.8	(83.9–87.5)	<0.01	0.6	(0.3–0.9)	0.10	1.2	(0.8–1.8)	0.88	2.5	(2.0–3.2)	<0.01
Family Income																
≤ $14,999	2360	21.5	(19.1–24.2)	<0.01	60.3	(57.5–63.1)	<0.01	2.7	(1.8–3.9)	<0.01	3.9	(2.7–5.5)	<0.01	11.6	(9.8–13.7)	<0.01
$15,000 - $34,999	3293	17.5	(15.7–19.3)	<0.01	72.5	(70.3–74.6)	<0.01	1.3	(0.8–2.0)	0.01	2.1	(1.4–3.1)	0.04	6.7	(5.6–8.0)	<0.01
$35,000 - $54,999	1980	13.0	(11.3–14.8)	<0.01	80.6	(78.4–82.6)	<0.01	1.1	(0.7–1.9)	0.04	1.2	(0.7–2.0)	0.68	4.1	(3.2–5.3)	<0.01
≥ $55,000	3404	9.8	(8.6–11.1)	ref	86.7	(85.3–88.0)	ref	0.4[§]	(0.2–0.7)	ref	1.1	(0.7–1.5)	ref	2.0	(1.5–2.7)	ref
Employment																
Employed	5312	14.0	(12.4–15.8)	ref	80.5	(78.6–82.2)	ref	0.7	(0.5–1.0)	ref	1.2	(1.0–1.5)	ref	3.6	(3.1–4.1)	ref
Homemaker/Retired	4264	13.9	(12.3–15.6)	0.88	77.1	(75.0–79.1)	<0.01	0.8	(0.5–1.2)	0.77	2.2	(1.4–3.2)	0.04	6.1	(4.9–7.5)	<0.01
Unemployed	1440	16.1	(14.0–18.5)	0.13	72.5	(69.8–75.1)	<0.01	2.6	(1.8–3.9)	<0.01	2.3	(1.6–3.4)	0.02	6.4	(5.1–8.1)	<0.01

Family Size																
1	4201	13.4	(12.0–15.0)	ref	76.4	(74.6–78.1)	ref	1.6	(1.2–2.2)	ref	1.8	(1.4–2.4)	ref	6.7	(5.6–7.9)	ref
2	3966	13.3	(12.0–14.6)	0.86	80.8	(79.2–82.2)	<0.01	0.9	(0.7–1.3)	<0.01	1.5	(1.2–2.0)	0.37	3.5	(2.9–4.2)	<0.01
3	1375	11.8	(10.1–13.8)	0.20	80.7	(78.3–82.9)	<0.01	1.2§	(0.5–3.0)	0.44	1.2	(0.7–1.9)	0.09	5.1	(4.1–6.4)	0.07
≥ 4	1495	16.3	(13.6–19.3)	0.08	75.3	(72.0–78.3)	0.52	0.9§	(0.5–1.7)	0.07	1.7	(1.1–2.7)	0.83	5.8	(4.5–7.5)	0.36
Health Status																
Excellent	2224	11.3	(9.7–13.0)	<0.01	82.5	(80.5–84.3)	<0.01	0.7	(0.5–1.2)	0.19	1.7	(1.2–2.5)	0.95	3.8	(3.1–4.7)	<0.01
Very Good	3270	12.6	(11.3–14.0)	0.03	81.7	(80.1–83.2)	<0.01	0.7	(0.5–1.2)	0.25	1.1	(0.7–1.7)	0.04	3.9	(3.2–4.6)	<0.01
Good	3316	14.7	(13.3–16.3)	ref	76.6	(74.8–78.2)	ref	1.1	(0.7–1.6)	ref	1.7	(1.3–2.2)	ref	5.9	(5.1–7.0)	ref
Fair or Poor	2222	18.0	(16.0–20.2)	<0.01	73.1	(70.7–75.4)	0.01	1.8	(1.3–2.5)	0.03	2.1	(1.5–3.1)	0.33	4.9	(3.9–6.2)	0.14
Have Usual Source of Care																
Yes	10203	13.9	(13.0–14.8)	ref	83.5	(82.6–84.5)	ref	1.0	(0.8–1.3)	ref	0.5	(0.4–0.7)	ref	1.0	(0.8–1.3)	ref
No	833	9.8	(7.4–12.8)	<0.01	25.9	(22.2–30.0)	<0.01	1.0§	(0.5–2.0)	0.86	14.9	(12.1–18.3)	<0.01	48.4	(44.2–52.5)	<0.01
Health Insurance Coverage																
Yes	9838	12.4	(11.6–13.3)	ref	83.8	(82.8–84.7)	ref	0.9	(0.7–1.2)	ref	0.8	(0.7–1.0)	ref	2.1	(1.8–2.5)	ref
No	1166	20.5	(15.8–26.1)	<0.01	43.5	(35.0–52.3)	<0.01	**			6.9	(5.0–9.5)	<0.01	25.5	(19.3–32.8)	<0.01
Region																
Northeast	2049	9.2	(7.9–10.7)	0.53	85.5	(83.3–87.5)	0.02	1.2§	(0.6–2.2)	0.32	1.6	(1.1–2.6)	0.79	2.4	(1.7–3.4)	<0.01
Midwest	2609	22.0	(19.8–24.4)	<0.01	72.8	(70.3–75.2)	<0.01	0.9	(0.7–1.3)	0.49	0.8	(0.5–1.3)	0.01	3.4	(2.7–4.2)	<0.01
South	4080	9.8	(8.7–11.0)	ref	82.3	(80.7–83.8)	ref	0.8	(0.5–1.2)	ref	1.5	(1.2–2.0)	ref	5.6	(4.8–6.5)	ref
West	2299	14.3	(12.5–16.2)	<0.01	76.0	(74.0–78.0)	<0.01	1.5	(1.1–2.2)	0.03	2.4	(1.8–3.1)	0.03	5.7	(4.9–6.8)	0.85
Length of Residence in U.S.																
<10 years	180	26.6	(18.9–36.2)	<0.01	47.0	(38.5–55.6)	<0.01	3.7§	(1.6–8.4)	0.06	3.7§	(1.9–7.1)	0.06	19.0	(13.0–26.9)	<0.01
≥ 10 years	1405	17.8	(15.8–20.1)	<0.01	69.4	(66.2–72.3)	<0.01	3.1	(2.1–4.8)	<0.01	2.8	(1.8–4.2)	0.02	6.9	(5.5–8.6)	<0.01
Born in U.S.	9417	12.7	(11.8–13.6)	ref	81.4	(80.3–82.4)	ref	0.7	(0.6–0.9)	ref	1.3	(1.1–1.6)	ref	3.9	(3.4–4.4)	ref
Mammography in Past 2 Years																
Yes	6537	13.2	(12.1–14.3)	ref	83.8	(82.6–85.0)	ref	0.9	(0.7–1.3)	ref	0.8	(0.6–1.0)	ref	1.3	(1.1–1.6)	ref
No	3538	15.2	(13.7–16.9)	0.04	69.2	(67.2–71.2)	<0.01	1.1	(0.8–1.5)	0.53	3.4	(2.7–4.2)	<0.01	11.1	(9.9–12.5)	<0.01
Gynecology Visit in Past Year[4]																
Yes	3757	10.5	(9.3–11.7)	<0.01	86.0	(84.5–87.3)	<0.01	1.5	(1.0–2.1)	0.03	0.9	(0.6–1.3)	<0.01	1.2	(0.9–1.7)	<0.01
No	7210	15.6	(14.5–16.8)	ref	74.4	(73.0–75.8)	ref	0.8	(0.6–1.2)	ref	2.1	(1.7–2.6)	ref	7.0	(6.3–7.8)	ref

[1]Except for age, results are adjusted for age using survey population. Estimates are weighted; p-values are for tests comparing characteristic levels to referent level. Not ascertained, refused, or don't know responses were excluded.
[2]Hospital emergency room, some other place, or doesn't go to one place for routine care most often.
[3]Asian includes Asian Indian, Chinese, Filipino, and Other Asian.
[4]Respondents were asked if they had seen or talked to a doctor who specializes in women's health in the past 12 months.
§Relative standard error 30-50%, interpret results with caution.
**Not reportable, sample size<30 and/or relative standard error>50%.