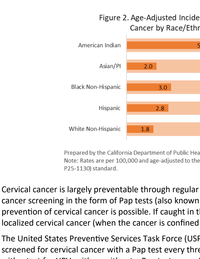
BRFSS DATA
SNAPSHOT
A QUICK LOOK AT CALIFORNIA'S HEALTH BEHAVIORS
April 2023

Snapshot is a publication that demonstrates the uses of Behavioral Risk Factor Surveillance System (BRFSS) data to illustrate various health behaviors among adult Californians. BRFSS is the largest, ongoing, telephone health survey in the world. Established in 1984, the California BRFSS is an annual effort by the California Department of Public Health (CDPH), Chronic Disease Surveillance and Research Branch, in collaboration with the United States Centers for Disease Control and Prevention (CDC), to assess the prevalence of and trends in health-related behaviors and to monitor preventable risk factors for chronic disease and other leading causes of death among the California adult population.

Cervical Cancer Screening among California Adult Women, 2016 - 2020

Cervical cancer is a cancer that starts in the cells of the cervix and usually develops slowly over time. The primary cause of cervical cancer is persistent infection with the human papilloma virus (HPV). All women are at risk for cervical cancer, but it occurs most often in women over age 30.[1,6] In California, approximately 1,500 women are diagnosed with cervical cancer each year and just under 500 women die from the disease annually. While the incidence and mortality rates for cervical cancer have significantly declined over the years, with California trailing slightly behind the U.S. (Figure 1), the risk for acquiring or dying from cervical cancer varies among sociodemographic groups.

Figure 1. Trends in Cervical Cancer Incidence and Mortality in California and U.S., 1988 - 2019



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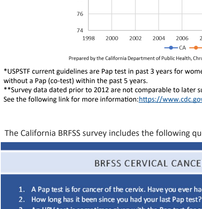
Compared to all other racial and ethnic groups, American Indian women have the highest rate of both acquiring and dying from cervical cancer in California. From 2016 to 2020, they were nearly twice as likely to be diagnosed with cervical cancer as non-Hispanic white women and nearly three times more likely to die from cervical cancer as non-Hispanic white women.[1,2](Figure 2). This may, in part, be due to low rates of cervical cancer screening in this population.[3]

Figure 2. Age-Adjusted Incidence and Mortality Rates for Cervical Cancer by Race/Ethnicity, California 2016-2020



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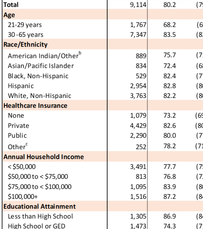
Note: Rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130) standard.

Cervical cancer is largely preventable through regular screening and the HPV vaccine. With regular cervical cancer screening in the form of Pap tests (also known as a Pap smear) and HPV tests, early detection and prevention of cervical cancer is possible. If caught in the early stages, the relative five-year survival rate of localized cervical cancer (when the cancer is confined to the cervix) is 91.2 percent.[1]

The United States Preventive Services Task Force (USPSTF) recommends women ages 21 to 65 years to be screened for cervical cancer with a Pap test every three years or, for women ages 30 to 65 years screening with a test for HPV, with or without a Pap test, every five years. The former guidelines recommending women 18 years or more to be screened for cervical cancer were replaced with the current guidelines in 2012.[4] The U.S. Department of Health and Human Services has set a Healthy People 2030 goal of 84.3 percent of women screened for cervical cancer in accordance with the updated guidance.[5]

A decline in cervical cancer screening practices in the last 20 years is evident among adult women in California and in the U.S. overall (Figure 3). Despite this decline, the Pap test remains to be the most reliable and effective screening test available to prevent cervical cancer as it has proven to be a prevention method for early detection of any abnormal cells in the cervix.[6]

Figure 3. History of Cervical Screening Estimates for Pap Test in Past Three Years, California and U.S. by BRFSS Survey Year*,**



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*USPSTF current guidelines are Pap test in past 3 years for women ages 21 to 65 or for women ages 30 to 65 an HPV test with or without a Pap (co-test) within the past 5 years.
**Survey data dated prior to 2012 are not comparable to later survey years because of changes to the BRFSS methods in 2011. See the following link for more information:https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6122a3.htm?s%

The California BRFSS survey includes the following questions on cervical cancer screening.

BRFSS CERVICAL CANCER SCREENING QUESTIONS

1. A Pap test is for cancer of the cervix. Have you ever had a Pap test?
2. How long has it been since you had your last Pap test?
3. An HPV test is sometimes given with the Pap test for cervical cancer screening. Have you ever had an HPV test?
4. How long has it been since you had your last HPV test?

California BRFSS cervical cancer screening data pooled from 2016 to 2020 indicate an estimated 83.9 percent of California women ages 21 to 65 years received cervical cancer screening in accordance with the USPSTF guidelines.

When comparing cervical cancer screening types (Table 1), demographic differences to adherence were found between having been screened with a Pap test in the past three years (80.2 percent) compared to either having had a Pap test and HPV test in the past five years (46.8 percent) or having an HPV test alone in the past five years (48.4 percent). These differences can be due to the updated USPSTF recommendations for screening type differentiated by age group and by the availability of the HPV test at time of screening.

A significant difference in adherence to screening with a Pap test in the past three years was seen when comparing women ages 21 to 29 (68.2 percent) to women ages 30 to 65 (83.5 percent). Significant differences in adherence to screening with a Pap test and an HPV (co-test) in the past five years were seen between women reporting an annual household income less than $50,000 (41.2 percent) compared to women with an annual household income of $50,000 or more (49.4, 52.9, and 54.7 percent, respectively).

Asian and Pacific Islander women were the least likely to report adherence to cervical cancer screening compared to any other race/ethnicity among each of the three screening types (72.4, 37.9, and 39.3 percent, respectively). Similarly, uninsured women (73.2, 33.3, and 34.5 percent, respectively) were less likely to report adherence compared to those with health insurance for each of the screening types. A significant difference in adherence for any of the three screening types was found among women without a regular healthcare provider (67.8, 36.7, and 38.9 percent, respectively) compared to those with one or more providers (84.0, 50.0, and 51.4 percent, respectively).

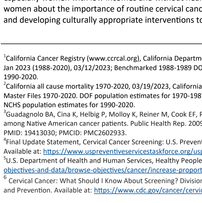
Table 1. Adherence to Cervical Cancer Screening Type by Selected Characteristics, California Women Ages 21 to 65 Years, BRFSS 2016-2020

	Estimated Population Size*	Pap Test in Past 3 Years		Pap Test and HPV Test in Past 5 Years		HPV Test in Past 5 Years	
		Percent (%)	95% CI	Percent (%)	95% CI	Percent (%)	95% CI
Total	9,114	80.2	(79.0 - 81.4)	46.8	(45.2 - 48.4)	48.4	(46.8 - 50.0)
Age							
21-29 years	1,767	68.2	(65.1 -71.3)	43.5	(40.3 - 46.7)	46.6	(43.3 - 49.9)
30 -65 years	7,347	83.5	(82.2 - 84.7)	47.8	(46.0 - 49.6)	48.9	(47.1 - 50.8)
Race/Ethnicity							
American Indian/Other[§]	889	75.7	(71.8 - 79.6)	48.3	(43.3 - 53.3)	49.6	(44.6 - 54.7)
Asian/Pacific Islander	834	72.4	(68.0 - 76.9)	37.9	(32.9 - 42.8)	39.3	(34.3 - 44.3)
Black, Non-Hispanic	529	82.4	(77.5 - 87.4)	49.5	(43.0 - 55.9)	52.3	(45.7 - 58.8)
Hispanic	2,954	82.8	(80.9 - 84.6)	42.9	(40.3 - 45.5)	44.3	(41.7 - 47.0)
White, Non-Hispanic	3,763	82.2	(80.5 - 83.9)	54.2	(51.8 - 56.6)	55.9	(53.5 - 58.4)
Healthcare Insurance							
None	1,079	73.2	(69.5 - 76.9)	33.3	(29.2 - 37.3)	34.5	(30.4 - 38.6)
Private	4,429	82.6	(80.9 - 84.3)	51.5	(49.2 - 53.9)	52.6	(50.2 - 54.9)
Public	2,290	80.0	(77.6 - 82.4)	43.1	(40.0 - 46.2)	45.2	(42.0 - 48.3)
Other[‡]	252	78.2	(71.2 - 85.2)	43.1	(34.1 - 52.1)	46.8	(37.6 - 56.0)
Annual Household Income							
< $50,000	3,491	77.7	(75.8 - 79.7)	41.2	(38.8 - 43.6)	43.0	(40.6 - 45.5)
$50,000 to < $75,000	813	76.8	(72.2 - 81.3)	49.4	(43.8 - 54.9)	51.1	(45.5 - 56.7)
$75,000 to < $100,000	1,095	83.9	(80.7 - 87.1)	52.9	(48.3 - 57.5)	54.1	(49.5 - 58.8)
$100,000+	1,516	87.2	(84.8 - 89.6)	54.7	(50.9 - 58.5)	55.4	(51.6 - 59.2)
Educational Attainment							
Less than High School	1,305	86.9	(84.6 - 89.2)	34.6	(30.8 - 38.5)	35.5	(31.6 - 39.4)
High School or GED	1,473	74.3	(71.0 - 77.7)	40.2	(36.4 - 43.9)	42.2	(38.4 - 46.0)
Some College or Tech School	2,098	76.8	(74.2 - 79.3)	51.1	(48.0 - 54.3)	53.1	(50.0 - 56.3)
College or Post Graduate	4,208	83.0	(81.3 - 84.6)	52.4	(50.0 - 54.8)	53.7	(51.3 - 56.1)
Health Care Provider							
No regular provider	2,148	67.8	(65.0 - 70.6)	36.7	(33.7 - 39.6)	38.9	(35.9 - 41.9)
One or more providers	6,947	84.0	(82.8 - 85.3)	50.0	(48.2 - 51.9)	51.4	(49.5 - 53.3)

*Prepared by the California Department of Public Health, Chronic Disease Surveillance and Research Branch.
Abbreviations: CI = Confidence Interval; GED = General Educational Development Certification.
†Estimated population size based on weighted frequencies from BRFSS. Excludes respondents with missing data and women ages 21 to 65 that reported having a hysterectomy. Stratifications may not sum to total due to exclusions.
§Other includes American Indian/Alaska Native, Non-Hispanic and Multiple Races, Non-Hispanic.
‡Other healthcare coverage includes TRICARE, VA, or Military; or some other source.

Findings show that significant differences in adherence to overall USPSTF screening guidelines were seen between women reporting: age 21 to 29 years (68.2 percent) compared to 30 to 65 years (88.2 percent), insured health coverage (84.9 vs 73.9 percent, respectively), household income of less than $75,000 (80.7 vs 90.0 percent, respectively), obtainment of a college degree (87.1 vs 82.2 percent, respectively), and having a routine healthcare provider (87.6 vs 71.8 percent). No differences in adherence to screening were found based on race/ethnicity or on having a disability (Figure 4).

Figure 4. Percent Adherent to USPSTF Guidelines for Cervical Cancer Screening† by Demographics, BRFSS 2016 - 2020



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†Figure is limited to women ages 21 to 65 and excludes women that reported having a hysterectomy.
*Note: Error bars represent 95% confidence intervals (CIs). Prevalence estimates are said to be significantly different when the 95% CIs associated with each of the estimates do not overlap. Disabled is defined as having reported at least one type of disability (vision, hearing, physical or emotional issues, or self-care).

While cervical cancer screening has contributed significantly to the overall decline in cervical cancer incidence and mortality over the past two decades, many women still do not meet current USPSTF guidelines for cervical cancer screening. Screening disparities persist among socioeconomically disadvantaged groups, especially women with low incomes and without health insurance. Greater efforts should focus on educating women about the importance of routine cervical cancer screening and prevention to reduce these disparities and developing culturally appropriate interventions to reduce economic barriers and improve access to care.

[1]California Cancer Registry (www.ccrcal.org), California Department of Public Health. SEER*Stat Database: Incidence - California, Jan 2023 (1988-2020), 03/12/2023; Benchmarked 1988-1989 DOF population estimates, 6/12/2006; NCHS population estimates 1990-2020.
[2]California all cause mortality 1970-2020, 03/19/2023, California Department of Public Health, Center for Health Statistics Death Master Files 1970-2020. DOF population estimates for 1970-1987, benchmarked DOF population estimates for 1988-1989, and NCHS population estimates for 1990-2020.
[3]Guadagnolo BA, Cina K, Helbig P, Molloy K, Reiner M, Cook EF, Peterelt DG. Assessing cancer stage and screening disparities among Native American cancer patients. Public Health Rep. 2009 Jan-Feb;124(1):79-89. doi: 10.1177/003335490912400111. PMID: 19413030; PMCID: PMC2602933.
[4]Final Update Statement, Cervical Cancer Screening: U.S. Preventive Services Task Force, Rockville, MD, updated Aug. 2018. Available at: https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/cervical-cancer-screening
[5]U.S. Department of Health and Human Services, Healthy People 2030. Available from: https://health.gov/healthypeople/objectives-and-data/browse-objectives/cancer/increase-proportion-females-who-get-screened-cervical-cancer-c-09
[6] Cervical Cancer: What Should I Know About Screening? Division of Cancer Prevention and Control, Centers for Disease Control and Prevention. Available at: https://www.cdc.gov/cancer/cervical/basic_info/screening.htm

FOR ADDITIONAL INFORMATION
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