# CANCER STAGE AT DIAGNOSIS IN CALIFORNIA, 2009-2013

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# Acknowledgements and Disclaimer

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# Table of Contents

# INTRODUCTION

This report presents information on stage at diagnosis and five-year survival for some of the most commonly diagnosed cancers among Californians 20 years or older. Information obtained through the Behavioral Risk Factor Surveillance System (BRFSS) for the state of California regarding screening for breast, cervical, and colorectal cancers is also presented to show the State's progress towards reaching the Healthy People 2020 goals. By monitoring cancer occurrence over time, California's progress in cancer prevention and early detection can be assessed.

## Cancer Stage at Diagnosis

Cancer staging describes the severity of the disease at the time of diagnosis, taking into account the growth and size of the tumor and whether it has spread to adjacent organs, lymph nodes or distant organs. Knowing the staging of a cancer is crucial for determining the most effective treatment(s) and for predicting survival. Determining the stage of a cancer at the time of diagnosis is also important for identifying whether a patient may be an appropriate candidate for a clinical trial and for exchanging information among health care providers and researchers.

Staging is based on knowing how a cancer progresses. The fundamental problem in cancer is that, for many different reasons, cells begin to grow and multiply abnormally fast and in abnormal ways, and they do not die when normally expected. As a result, they typically form a mass of tissue called a tumor. As the tumor grows, depending on the cell type, it can invade nearby tissues and organs and/or cancerous cells from the tumor can break away and enter the bloodstream or lymphatic system and spread, or metastasize, to lymph nodes or other organs, where they may form new tumors. Different types of cancer grow and spread in different ways.

The methods for staging cancer have evolved over time, and continue to change as more is learned about cancer and as new diagnostic technologies become available. Some staging systems cover many types of cancer, while others focus on one particular type. This report presents information on stage at diagnosis according to the classification developed by the American Joint Committee on Cancer (AJCC), the organization that provides oversight of staging for most forms of cancer (except brain tumors and hematologic malignancies, such as leukemia and lymphomas).

The AJCC classification and staging of cancers is based on the widely used 'TNM system', which describes the three most significant characteristics of cancer progression: size and extent of tumor (T), spread to regional lymph nodes (N), and presence of distant metastasis (M). TNM components are determined through both clinical and pathological exams. The clinical staging uses all information obtained from physical examinations, laboratory tests, and imaging procedures, such as radiographs and CT scans. The pathological staging is based on microscopic confirmation of the cancer through the examination of specimens or tissues removed during surgical treatment. The overall stage of cancer is assigned by combining the T, N, and M information for the tumor. Most cancers have four stages (I to IV); some cancers also have a stage 0 (zero). Stages are often further subdivided, indicated by letters and numbers.

The way the T, N, and M elements are combined into a stage varies according to the specific cancer type. Generally speaking, AJCC staged tumors have the following characteristics:

### Stage 0:

Carcinoma *in situ*, the tumor is still near the place it started and has not extended through the first layer of cells (the basement membrane). Stage 0 tumors are typically highly curable.

### Stage I:

This is usually a small cancer or invasive tumor that has not grown deeply into the nearby tissues and has not spread to either lymph nodes or other parts of the body.

### Stage II:

These stages indicate tumors that are larger in size than stage I tumors and that have grown more deeply into nearby tissue and/or spread to lymph nodes, but not to other parts of the body.

### Stage III:

This stage denotes larger or more advanced tumors than stage II.

### Stage IV:

This stage means that the cancer has spread to other organs or parts of the body and is typically described as being "advanced" or "metastatic".

## Cancer Screening

Screening means checking for a disease before it has caused symptoms. Screening tests may find diseases at an early stage when there is a better chance of curing or materially slowing the progress of the disease, although this is not always the case. Examples of cancer screening tests are the mammogram for breast cancer, the Pap test for cervical cancer, or the prostate-specific antigen (PSA) blood level for prostate cancer. Screening for colorectal cancers can be done with a fecal occult blood test, colonoscopy, or sigmoidoscopy. Cancers of the oral cavity and skin (e.g., melanoma) may be detected at an early stage by careful visual inspection of the skin or mouth during a physical examination. Screening can also include checking for a person's risk of developing an inherited disease by doing genetic tests. For some cancers, screening not only detects tumors at an early stage, but may also prevent cancers from developing by removing pre-cancerous lesions. Most cancers of the cervix, colon, and rectum can be prevented by regular screening.

In this report, charts demonstrating the percent of adults reporting having been screened for breast, cervical and colorectal cancers are based on data from the Behavioral Risk Factor Surveillance Survey (BRFSS), conducted by the Centers for Disease Control and Prevention (CDC), and this data is restricted to only the state of California. Each chart that has a corresponding *Healthy People 2020* goal also has a line illustrating if California has met the national cancer screening objectives set forth by the public health initiative.

## Cancer Survival

In this report, cancer survival is presented by the stage at which the cancer was diagnosed. More specifically, relative survival estimates for each cancer type are presented at 12, 24, 36, 48, and 60 month time periods after diagnosis of Stage 0, Stage I, Stage II, Stage III, and Stage IV cancers. Estimates are also presented for cancers that were either not staged or for which information was not available.

Relative survival is a net survival measure that estimates the probability of avoiding death due to a particular cancer. It is defined as the ratio (expressed as a percent) of the observed survival rate divided by the survival rate expected for people of the same sex, race, and age. Therefore, relative survival compares the survival of people who have the disease with those that do not.

Within this report, the expected survival rate has been based on life tables specific for the California population. A relative survival of 100 percent does not mean that everyone will survive the cancer, but can be interpreted as cancer patients in that specific group being just as likely to survive during that time period as persons in the general population of the same sex, age, and race. Furthermore, certain populations may have a life expectancy that is higher or lower than in the life tables. This can affect the cancer relative survival estimates as well.

## Geographic Distribution of Late-Stage Diagnoses

California maps showing Medical Service Study Areas (MSSA) with a high proportion of patients diagnosed at a late stage disease were created for cancers of the breast, cervix, colon and rectum, oral cavity and pharynx, and melanoma of the skin because these cancers can be screened for. MSSAs are aggregations of census tracts that make up "rational service areas" for primary health care and are used to identify medically underserved areas. MSSA boundaries are defined by the California Office of Statewide Health Planning and Development. For the purpose of identifying areas where cancer cases were diagnosed at a "late stage," the SEER Summary Stage at Diagnosis System was used. Based on this staging system, tumors that extend beyond the limits of the organ of origin were considered late diagnosis. Cases with unknown stage at diagnosis were also considered late stage because their likelihood of survival was similar to the likelihood of survival for late stage disease.

The proportion of cancer cases diagnosed at late stage in each MSSA was compared to the proportion of cancers diagnosed at late stage in the comparison group, taking into consideration differences in the sex and age distribution of the two groups. The comparison group selected was non-Hispanic white persons residing in affluent neighborhoods in California, who had the lowest proportion of cancers diagnosed at late stage compared to other race/ethnicity and income groups. Affluent neighborhoods were identified using census indicators of income, employment, and education for the census block group of residence at diagnosis. For each cancer, percentages of late stage diagnosis were only mapped in MSSAs that had at least 15 cases of that specific cancer diagnosed during the 2009–2013 time period. Additionally, the categories of percentages used were based on the tertiles from the data set for each cancer.

# FEMALE BREAST CANCER

The most commonly occurring cancer in California is breast cancer, and it accounts for 32.3 percent of all cancers diagnosed in women. In 2013, there were 31,758 new breast cancer cases diagnosed in women and over 4,361 deaths due to breast cancer. Screening through mammography helps to detect tumors at an early stage, and as a result of screening 57.3 percent of female breast cancers in California are diagnosed at either stage 0 or stage I; only 4.1 percent of cases are diagnosed at stage IV.

Breast cancer staging is based on the size and degree of infiltration of the tumor, lymph node involvement (detected by clinical or pathological exams), and presence or absence of distant metastases. According to the aforementioned characteristics, breast cancer is staged as follows:

**Stage 0:**
Carcinoma *in situ*.

**Stage I:**
Tumor 2 centimeters (cm) or less in dimension, no spread to lymph nodes.

**Stage II:**
Tumor is either larger than 2 cm without any metastases, or up to 2 cm but with spread to movable axillary lymph nodes.

**Stage III:**
Tumor is larger than 5 cm with spread to axillary lymph nodes; or tumor of any size with spread to axillary lymph nodes that are fixed to one another; or tumor that extends to the chest wall or skin, with or without spread to lymph nodes; or tumor of any size with spread to distant lymph nodes.

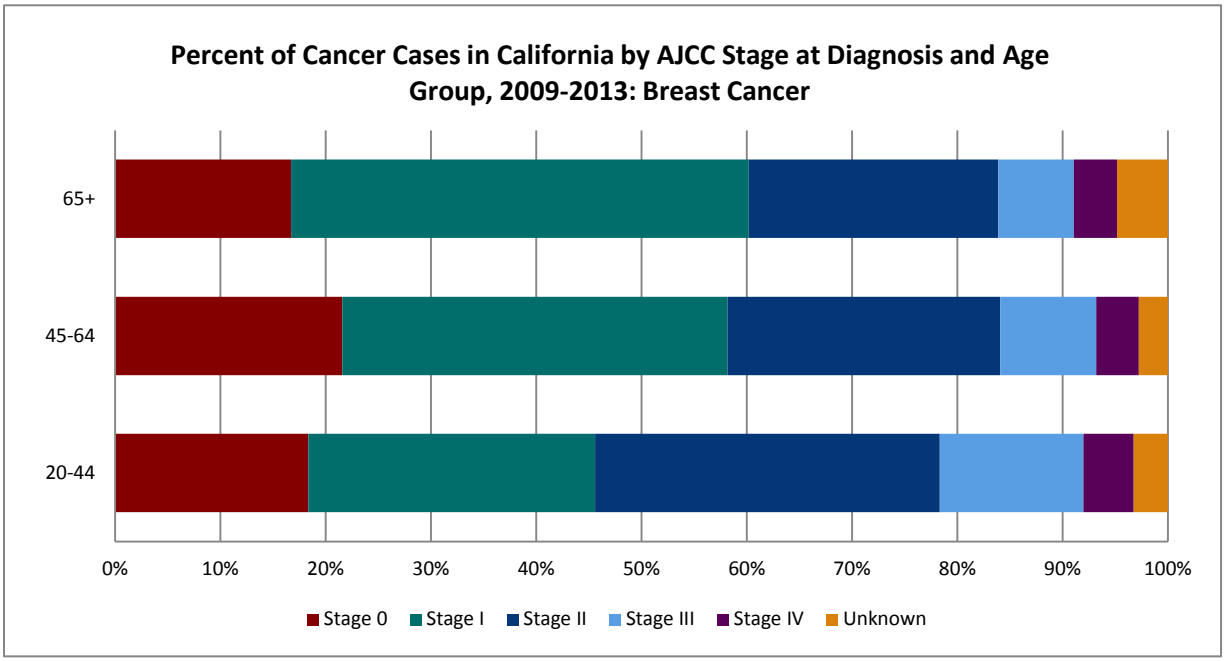
**Stage IV:**
Presence of metastasis to other organs.

Stages I through III breast cancers are currently subdivided into stages IA, IB, IIA, IIB, IIIA, IIIB, and IIIC; data about these more detailed stages are not included in this report. Additional information on these more detailed stage groups can be found in the AJCC Cancer Staging Manual, 6th (2002) and 7th edition (2010), (Springer Science & Business Media Inc., New York, NY).

**Number and Percentage of California Women Age 20 and Older Diagnosed With Breast Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013**

| | Stage 0 | | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Race/Ethnicity** | | | | | | | | | | | | | | |
| Non-Hispanic White | 17,008 | 18.4 | 38,673 | 41.7 | 22,822 | 24.6 | 7,407 | 8.0 | 3,693 | 4.0 | 3,083 | 3.3 | 92,686 | 100.0 |
| African American | 1,919 | 19.5 | 3,048 | 31.0 | 2,710 | 27.6 | 1,125 | 11.4 | 617 | 6.3 | 417 | 4.2 | 9,836 | 100.0 |
| Hispanic | 4,974 | 18.2 | 8,971 | 32.8 | 7,885 | 28.8 | 3,176 | 11.6 | 1,267 | 4.6 | 1,100 | 4.0 | 27,373 | 100.0 |
| Asian/Pacific Islander | 4,956 | 24.2 | 7,166 | 35.0 | 5,431 | 26.6 | 1,594 | 7.8 | 692 | 3.4 | 613 | 3.0 | 20,452 | 100.0 |
| All Race/Ethnicities | 29,375 | 19.3 | 58,536 | 38.4 | 39,276 | 25.7 | 13,444 | 8.8 | 6,340 | 4.2 | 5,581 | 3.7 | 152,552 | 100.0 |
| **Age** | | | | | | | | | | | | | | |
| 20-44 | 3,031 | 18.3 | 4,502 | 27.2 | 5,409 | 32.7 | 2,256 | 13.7 | 789 | 4.8 | 536 | 3.2 | 16,523 | 100.0 |
| 45-64 | 16,017 | 21.6 | 27,165 | 36.6 | 19,224 | 25.9 | 6,755 | 9.1 | 3,006 | 4.0 | 2,057 | 2.8 | 74,224 | 100.0 |
| 65+ | 10,327 | 16.7 | 26,878 | 43.5 | 14,643 | 23.7 | 4,433 | 7.2 | 2,545 | 4.1 | 2,988 | 4.8 | 61,814 | 100.0 |
| All Ages | 29,375 | 19.3 | 58,536 | 38.4 | 39,276 | 25.7 | 13,444 | 8.8 | 6,340 | 4.2 | 5,581 | 3.7 | 152,552 | 100.0 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

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Source: California Cancer Registry, California Department of Public Health
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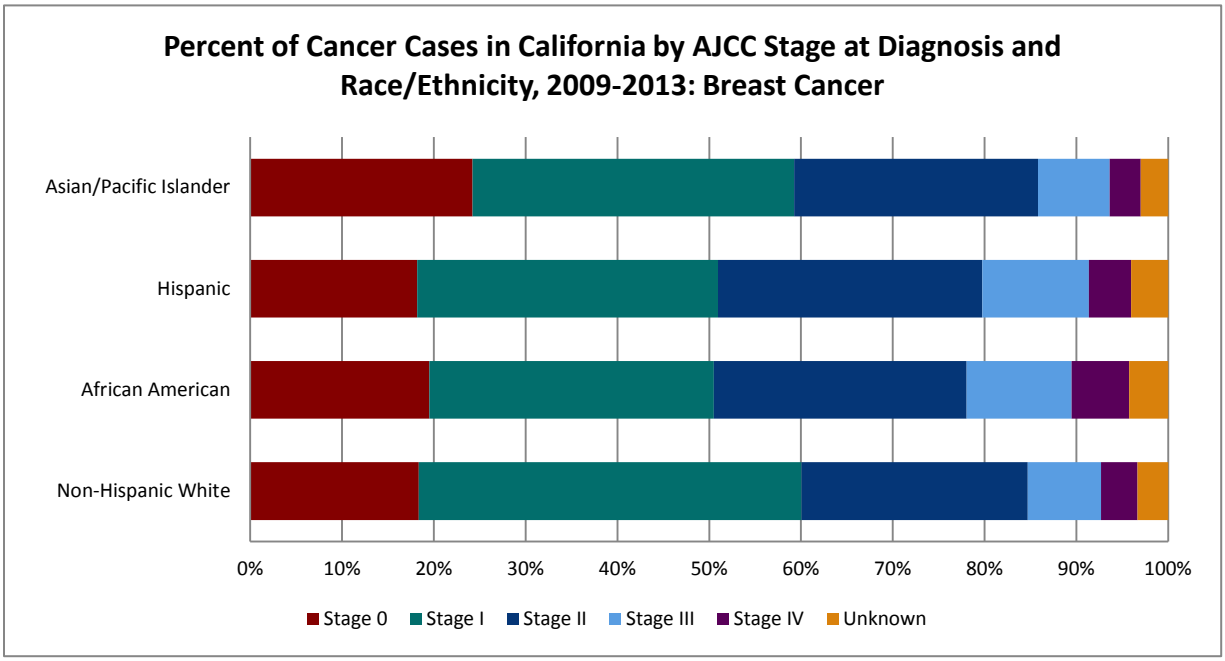


AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
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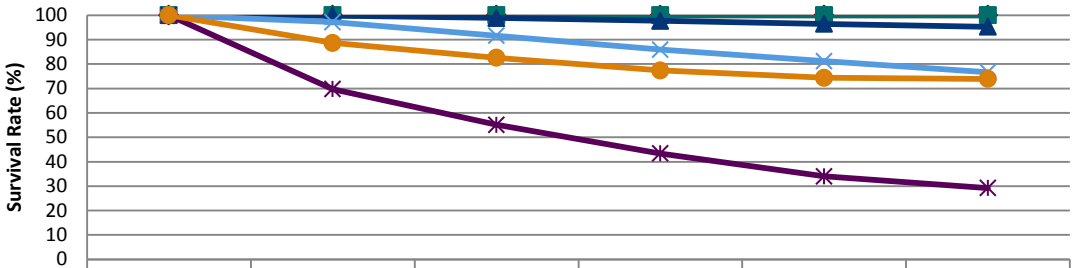
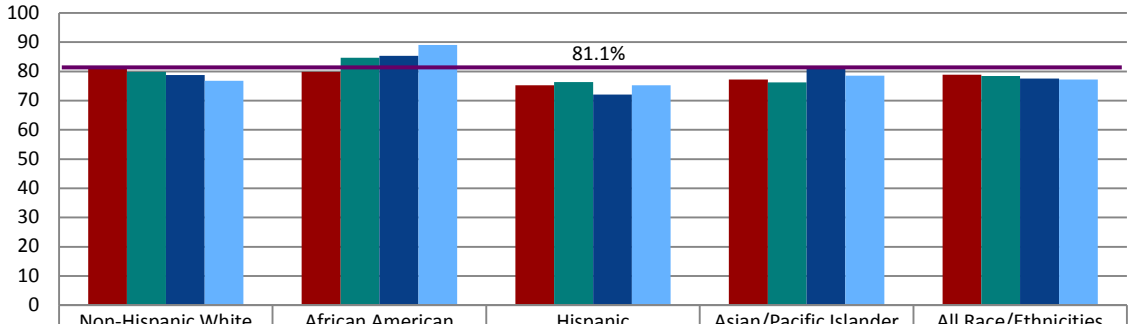
## Five-Year Relative Survival for Breast Cancer by AJCC Stage at Diagnosis, Female, California, 2008-2013




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 100 | 100 | 100 | 100 | 100 |
| Stage I | 100 | 100 | 100 | 100 | 100 | 100 |
| Stage II | 100 | 99.9 | 98.9 | 97.7 | 96.5 | 95.3 |
| Stage III | 100 | 97.2 | 91.6 | 85.9 | 81.2 | 76.7 |
| Stage IV | 100 | 69.7 | 55.1 | 43.4 | 34.0 | 29.2 |
| Unknown | 100 | 88.7 | 82.6 | 77.4 | 74.4 | 73.9 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

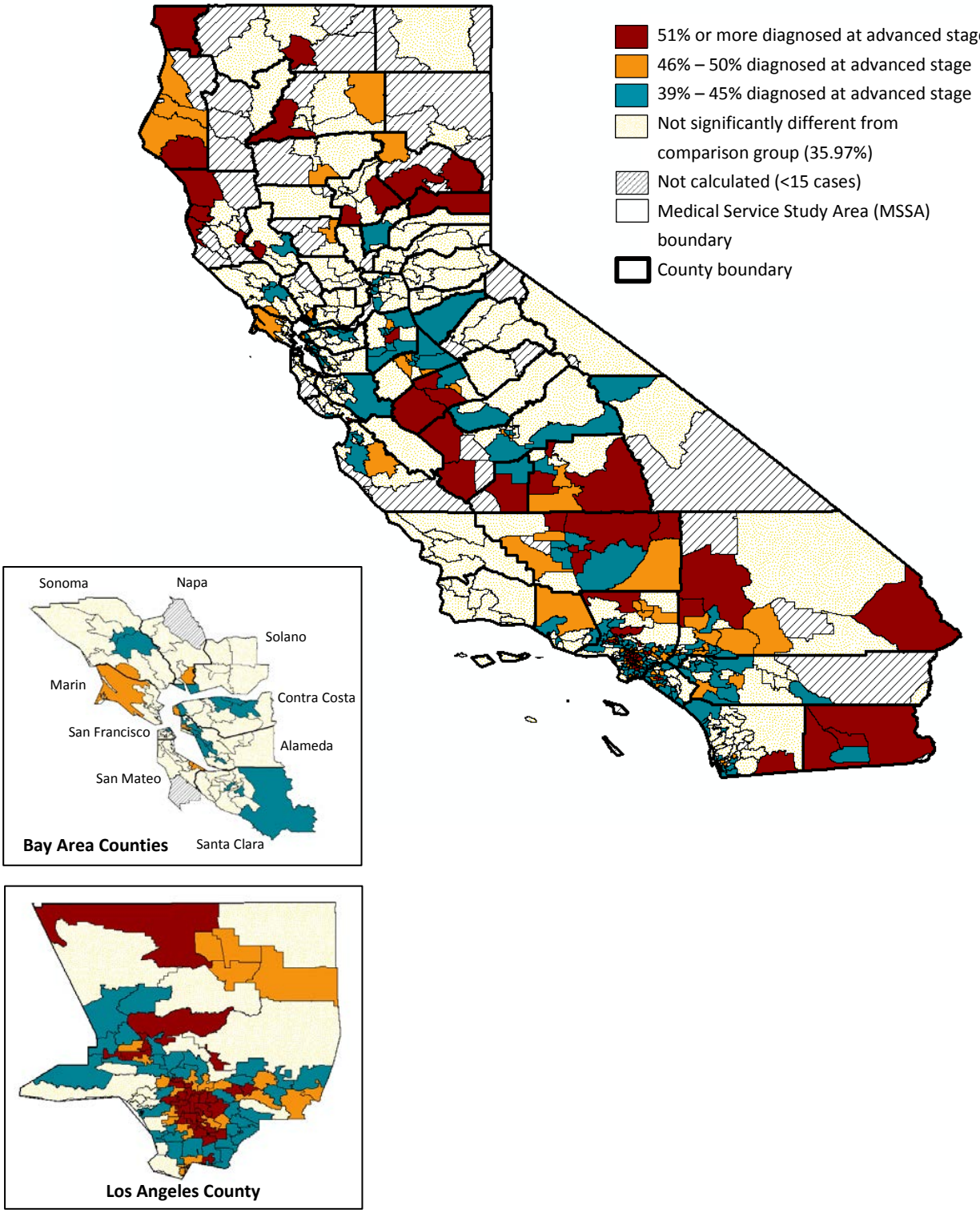
## Percent of California Women Age 40 and Older Who Had a Mammogram Within the Previous Two Years by Race/Ethnicity: 2008-2014




| | Non-Hispanic White | African American | Hispanic | Asian/Pacific Islander | All Race/Ethnicities |
|---|---|---|---|---|---|
| 2008 | 81.4 | 79.9 | 75.3 | 77.2 | 78.9 |
| 2010 | 79.8 | 84.7 | 76.3 | 76.2 | 78.4 |
| 2012 | 78.8 | 85.3 | 72.1 | 81.0 | 77.6 |
| 2014 | 76.8 | 89 | 75.2 | 78.5 | 77.2 |

Note: The BRFSS changed methodology and weights between 2010 and 2011. Healthy People 2020 goal is to increase the proportion of women who receive a mammogram in the past 2 years to 81.1% (https://www.healthypeople.gov/).
Source: Behavioral Risk Factor Surveillance Survey (BRFSS) from the Centers for Disease Control and Prevention (CDC)
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

## Percent of Breast Cancer Cases Diagnosed at Advanced Stage in California Communities among Women Aged 40 and Older, 2009-2013



# CERVIX CANCER

In California, there were 1,399 new cervical cancer cases diagnosed in 2013, and 492 deaths due to the disease. The cervix is the lower third of the uterus and is a site that has an effective screening method, the Pap test. With early detection through screening, cervical cancer is highly curable. With the screening methods available, 45.8 percent of the cases are diagnosed in stage I.

Staging for cervical cancer is based on tumor extension; however, a tumor that spreads to regional lymph nodes is considered stage III. Although pathologists my classify a cervical tumor as stage 0, or an *in situ* tumor, the California Cancer Registry no longer collects information on these tumors. According to the aforementioned characteristics, cervical cancer is staged as follows:

**Stage 0:**
Carcinoma *in situ*.

**Stage I:**
Tumor confined to the uterus.

**Stage II:**
Tumor extends beyond the uterus but not to the pelvic wall or lower third of the vagina.

**Stage III:**
Tumor (a) invades the pelvic wall and/or involves lower third of the vagina, and/or causes non-functioning kidney, or (b) spreads to regional lymph nodes.

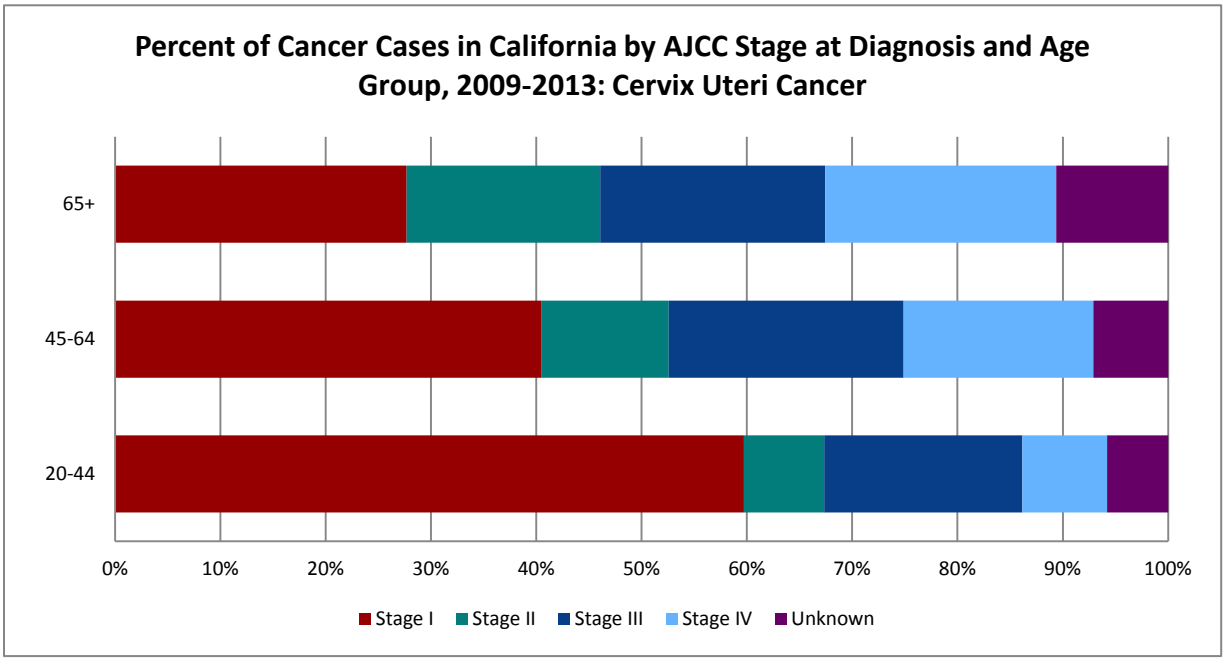
**Stage IV:**
Tumor invades the bladder or rectum, extends beyond the pelvis, or spreads to other distant sites.

Stages I through IV cervical cancers are currently subdivided into stages IA, $IA_1$, $IA_2$, IB, $IB_1$, $IB_2$, IIA, $IIA_1$, $IIA_2$, IIB, IIIA, IIIB, IVA, and IVB; data about these more detailed stages are not included in this report. Additional information on these more detailed stage groups can be found in the AJCC Cancer Staging Manual, 6th (2002) and 7th edition (2010), (Springer Science & Business Media Inc., New York, NY).

**Number and Percentage of California Women Age 20 and Older Diagnosed With Cervix Uteri Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013**

| | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Race/Ethnicity** | | | | | | | | | | | | |
| Non-Hispanic White | 1,354 | 47.1 | 298 | 10.4 | 564 | 19.6 | 456 | 15.9 | 203 | 7.1 | 2,875 | 100.0 |
| African American | 193 | 39.5 | 39 | 8.0 | 119 | 24.4 | 94 | 19.3 | 43 | 8.8 | 488 | 100.0 |
| Hispanic | 1,220 | 46.2 | 318 | 12.0 | 574 | 21.7 | 352 | 13.3 | 179 | 6.8 | 2,643 | 100.0 |
| Asian/Pacific Islander | 422 | 40.7 | 160 | 15.4 | 223 | 21.5 | 157 | 15.2 | 74 | 7.1 | 1,036 | 100.0 |
| All Race/Ethnicities | 3,257 | 45.4 | 831 | 11.6 | 1,492 | 20.8 | 1,074 | 15.0 | 522 | 7.3 | 7,176 | 100.0 |
| **Age** | | | | | | | | | | | | |
| 20-44 | 1,628 | 59.7 | 208 | 7.6 | 513 | 18.8 | 219 | 8.0 | 158 | 5.8 | 2,726 | 100.0 |
| 45-64 | 1,254 | 40.5 | 374 | 12.1 | 690 | 22.3 | 558 | 18.0 | 220 | 7.1 | 3,096 | 100.0 |
| 65+ | 375 | 27.7 | 249 | 18.4 | 289 | 21.3 | 297 | 21.9 | 144 | 10.6 | 1,354 | 100.0 |
| Total | 2,357 | 32.8 | 831 | 11.6 | 1,492 | 20.8 | 1,074 | 15.0 | 522 | 7.3 | 7,176 | 100.0 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

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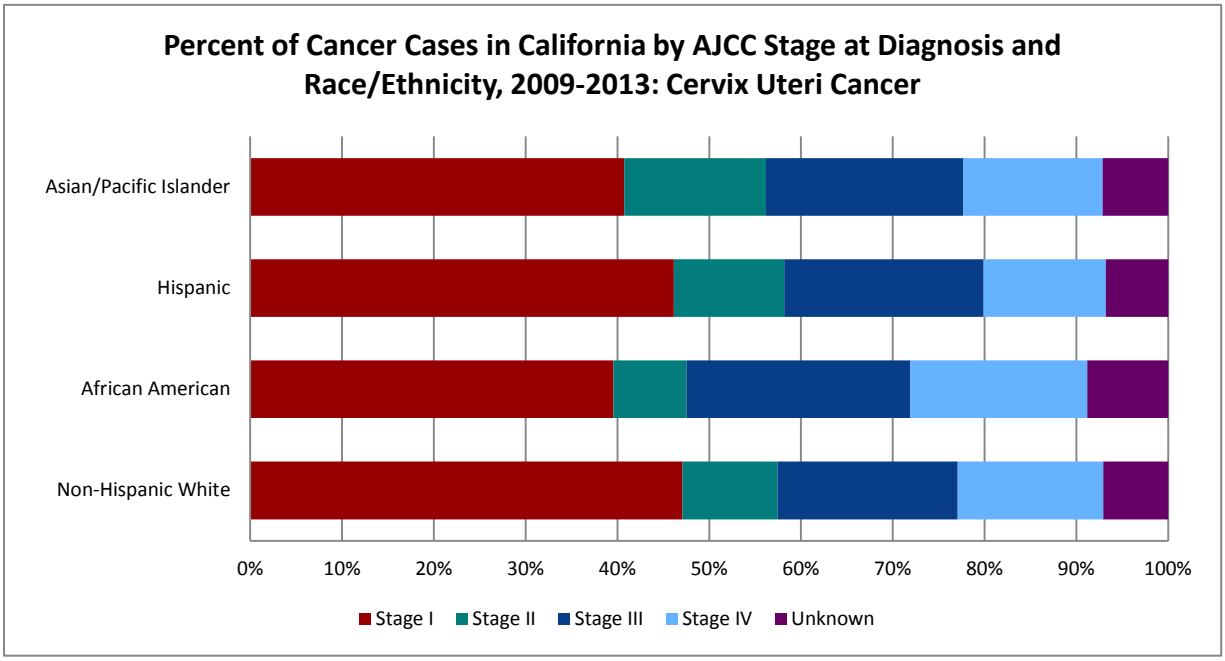


AJCC: American Joint Committee on Cancer
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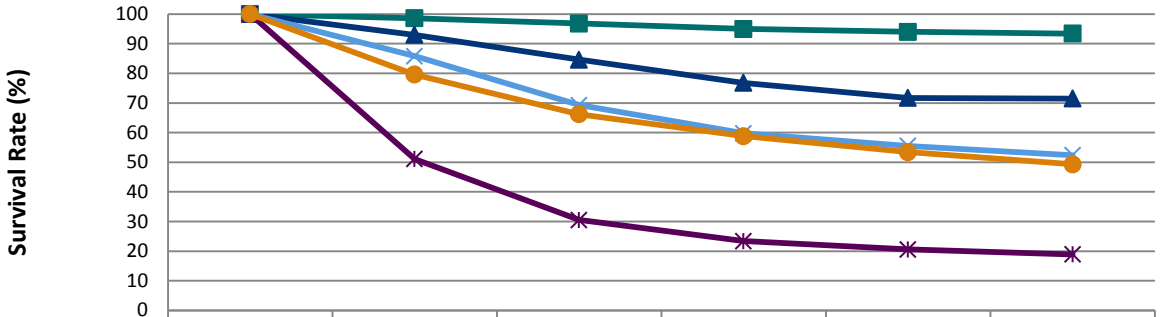
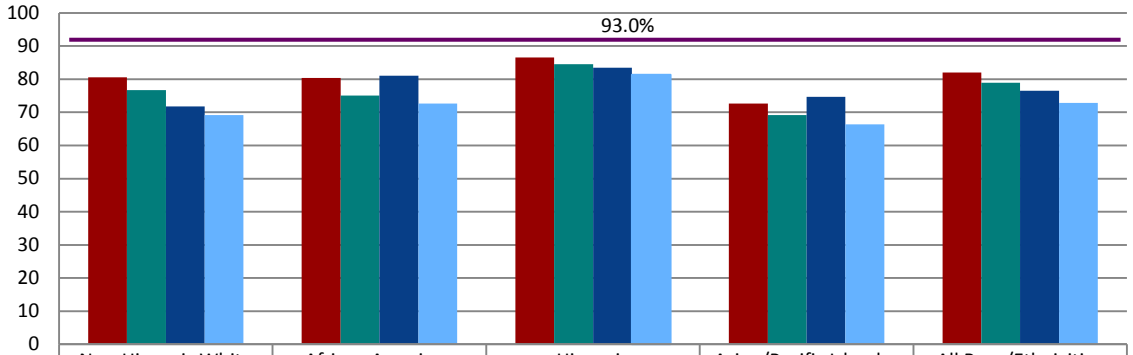
## Five-Year Relative Survival for Cervix Uteri Cancer by AJCC Stage at Diagnosis, Female, California, 2008-2013




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| Stage I | 100 | 98.6 | 96.8 | 95.0 | 94.0 | 93.4 |
| Stage II | 100 | 93.0 | 84.6 | 76.8 | 71.7 | 71.5 |
| Stage III | 100 | 85.8 | 69.3 | 59.8 | 55.5 | 52.4 |
| Stage IV | 100 | 51.1 | 30.5 | 23.4 | 20.6 | 18.9 |
| Unknown | 100 | 79.6 | 66.2 | 58.8 | 53.4 | 49.3 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

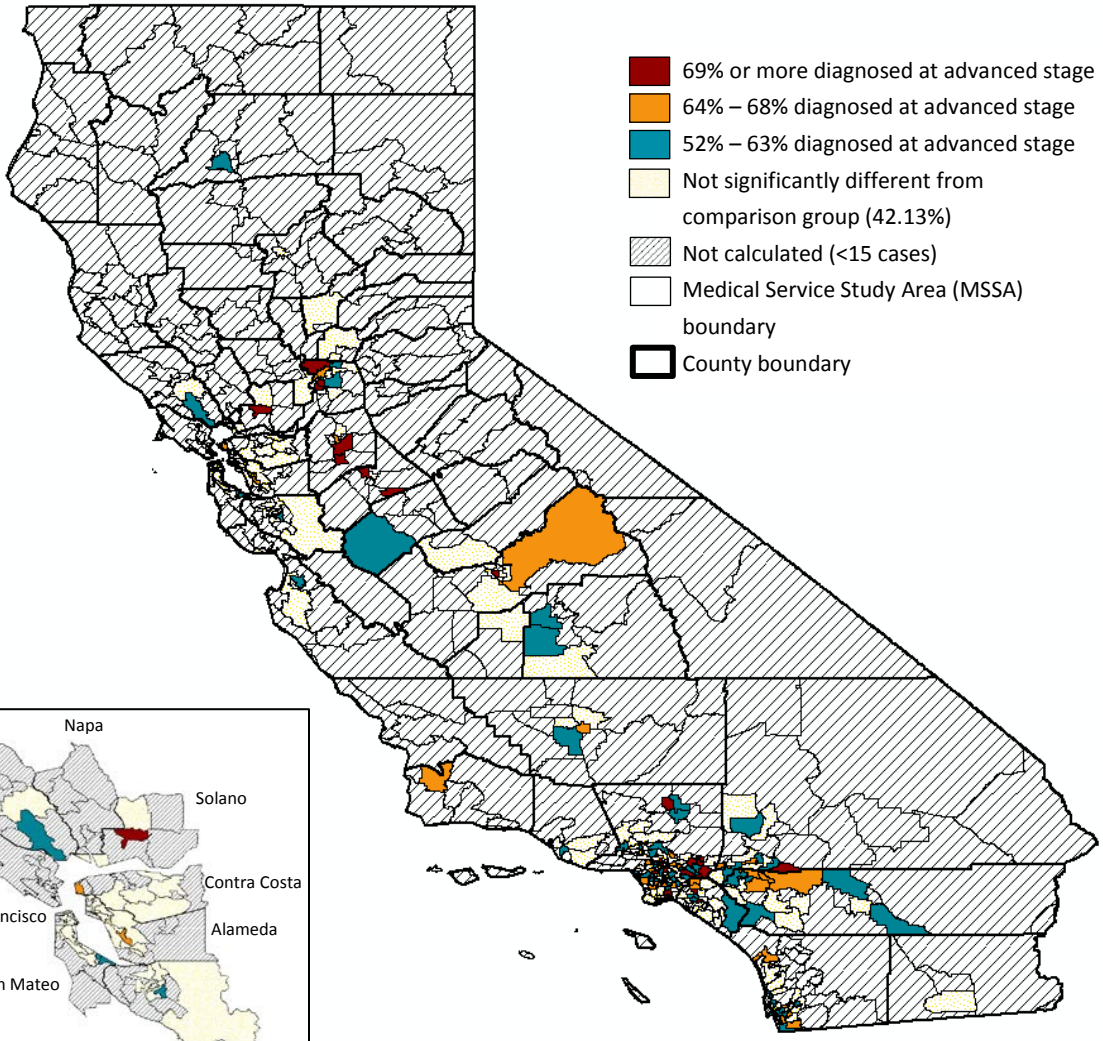
## Percent of California Women Age 20 and Older Who Had a Pap Test Within the Previous Three Years by Race/Ethnicity: 2008-2014




| | Non-Hispanic White | African American | Hispanic | Asian/Pacific Islander | All Race/Ethnicities |
|---|---|---|---|---|---|
| 2008 | 80.6 | 80.4 | 86.6 | 72.7 | 82.0 |
| 2010 | 76.7 | 75.1 | 84.5 | 69.2 | 78.9 |
| 2012 | 71.8 | 81.1 | 83.5 | 74.7 | 76.5 |
| 2014 | 69.2 | 72.7 | 81.3 | 66.4 | 72.8 |

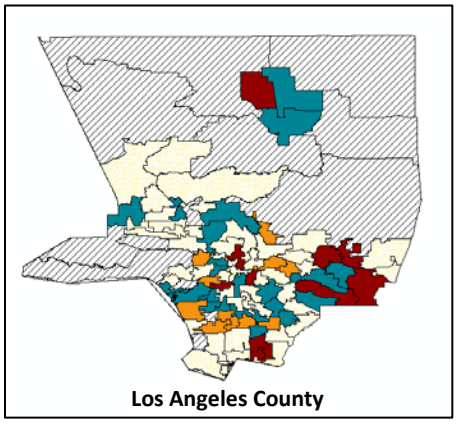
Note: The BRFSS changed methodology and weights between 2010 and 2011. .Healthy People 2020 goal is to increase the proportion of women who receive a Pap test in the past 3 years to 93.0% (https://www.healthypeople.gov/).
Source: Behavioral Risk Factor Surveillance Survey (BRFSS) from the Centers for Disease Control and Prevention (CDC)
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

## Percent of Cervix Cancer Cases Diagnosed at Advanced Stage in California Communities among Women Aged 20 and Older, 2009-2013









# COLON AND RECTUM CANCER

In 2013, there were 10,127 new cases of colon cancer diagnosed in California, and the disease caused 4,125 deaths. The incidence of rectal cancer was less than half of colon cancer, with 4,457 new cases diagnosed in 2013, and 1,032 deaths due to the disease.

The majority of the large intestine makes up the colon, with the rectum being the approximately the last 12 centimeters of the large intestine. Regular screening to detect colorectal should begin at age 50. Fecal occult blood tests, sigmoidoscopy, or colonoscopy are the primary screening methods currently used to detect colon cancer at an early stage when it is most likely to be curable. Screening may prevent colorectal cancer from developing because it can detect the cancer early and allow for the removal of pre-cancerous polyps.

Cancers originating in the colon and rectum are staged according to the depth of invasion into the multiple layers of the intestinal wall (mucosa, lamina propria, submucosa, muscularis propria, subserosa, and serosa) rather than on the size of the tumor. When the tumor spreads to regional lymph nodes, it is classified as Stage III or higher.

According to the aforementioned characteristics, colorectal cancer is staged as follows:

**Stage 0:**
Carcinoma *in situ* (intraepithelial) or tumor invades the lamina propria.

**Stage I:**
Tumor invades submucosa or muscularis propria.

**Stage II:**
Tumor invades into the subserosa, directly extends to other organs or structures, or perforates the serosa or visceral peritoneum.

**Stage III:**
Tumor with any depth of invasion plus spread to regional lymph nodes.

**Stage IV:**
Presence of distant metastasis.

Stages II through IV colon and rectum cancers are currently subdivided into stages IIA, IIB, IIC, IIIA, IIIB, IIIC, IVA, and IVB; data about these more detailed stages are not included in this report. Additional information on these more detailed stage groups can be found in the AJCC Cancer Staging Manual, 6th (2002) and 7th edition (2010), (Springer Science & Business Media Inc., New York, NY).

**Number and Percentage of California Adults Age 20 and Older Diagnosed With Colon Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013**

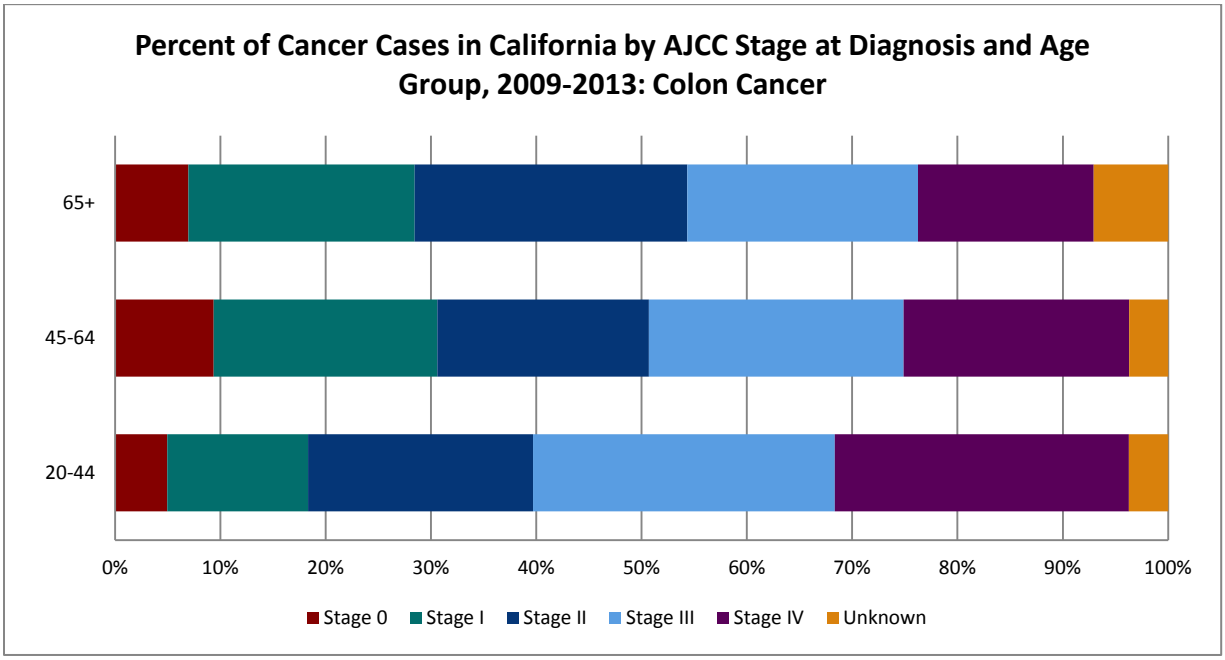
| | Stage 0 | | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Sex** | | | | | | | | | | | | | | |
| Male | 2,285 | 8.7 | 5,637 | 21.4 | 6,099 | 23.2 | 5,861 | 22.3 | 5,047 | 19.2 | 1,406 | 5.3 | 26,335 | 100.0 |
| Female | 1,734 | 6.6 | 5,426 | 20.7 | 6,405 | 24.4 | 6,230 | 23.7 | 4,820 | 18.4 | 1,650 | 6.3 | 26,265 | 100.0 |
| Total | 4,019 | 7.6 | 11,063 | 21.0 | 12,504 | 23.8 | 12,091 | 23.0 | 9,867 | 18.8 | 3,056 | 5.8 | 52,600 | 100.0 |
| **Race/Ethnicity** | | | | | | | | | | | | | | |
| Non-Hispanic White | 2,167 | 6.9 | 6,833 | 21.8 | 7,786 | 24.8 | 7,058 | 22.5 | 5,699 | 18.2 | 1,809 | 5.8 | 31,352 | 100.0 |
| African American | 443 | 10.1 | 886 | 20.2 | 902 | 20.5 | 935 | 21.3 | 960 | 21.9 | 266 | 6.1 | 4,392 | 100.0 |
| Hispanic | 727 | 7.7 | 1,761 | 18.7 | 2,257 | 23.9 | 2,258 | 23.9 | 1,891 | 20.0 | 541 | 5.7 | 9,435 | 100.0 |
| Asian/Pacific Islander | 528 | 8.0 | 1,365 | 20.6 | 1,432 | 21.6 | 1,724 | 26.0 | 1,250 | 18.8 | 338 | 5.1 | 6,637 | 100.0 |
| All Race/Ethnicities | 4,019 | 7.6 | 11,063 | 21.0 | 12,504 | 23.8 | 12,091 | 23.0 | 9,867 | 18.8 | 3,056 | 5.8 | 52,600 | 100.0 |
| **Age** | | | | | | | | | | | | | | |
| 20-44 | 123 | 4.9 | 333 | 13.4 | 532 | 21.4 | 713 | 28.6 | 695 | 27.9 | 93 | 3.7 | 2,489 | 100.0 |
| 45-64 | 1,613 | 9.4 | 3,662 | 21.2 | 3,466 | 20.1 | 4,167 | 24.2 | 3,695 | 21.4 | 637 | 3.7 | 17,240 | 100.0 |
| 65+ | 2,283 | 6.9 | 7,068 | 21.5 | 8,506 | 25.9 | 7,211 | 21.9 | 5,477 | 16.7 | 2,326 | 7.1 | 32,871 | 100.0 |
| Total | 4,019 | 7.6 | 11,063 | 21.0 | 12,504 | 23.8 | 12,091 | 23.0 | 9,867 | 18.8 | 3,056 | 5.8 | 52,600 | 100.0 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

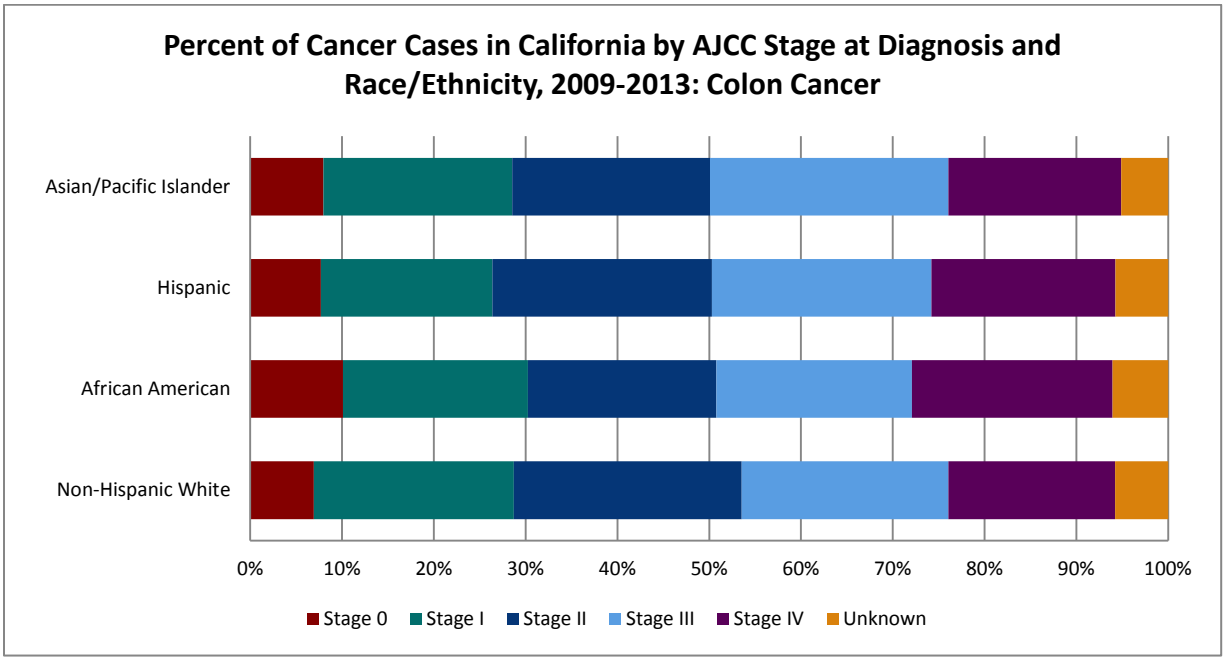
## Number and Percentage of California Adults Age 20 and Older Diagnosed With Rectum and Rectosigmoid Junction Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013

| | Stage 0 | | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Sex** | | | | | | | | | | | | | | |
| Male | 985 | 7.6 | 3,085 | 23.8 | 2,207 | 17.0 | 3,053 | 23.5 | 2,248 | 17.3 | 1,388 | 10.7 | 12,966 | 100.0 |
| Female | 664 | 6.9 | 2,520 | 26.1 | 1,628 | 16.9 | 2,119 | 22.0 | 1,415 | 14.7 | 1,297 | 13.5 | 9,643 | 100.0 |
| Total | 1,649 | 7.3 | 5,605 | 24.8 | 3,835 | 17.0 | 5,172 | 22.9 | 3,663 | 16.2 | 2,685 | 11.9 | 22,609 | 100.0 |
| **Race/Ethnicity** | | | | | | | | | | | | | | |
| Non-Hispanic White | 927 | 7.5 | 3,149 | 25.4 | 2,153 | 17.3 | 2,984 | 24.0 | 2,031 | 16.4 | 1,167 | 9.4 | 12,411 | 100.0 |
| African American | 101 | 7.2 | 338 | 24.1 | 205 | 14.6 | 264 | 18.8 | 247 | 17.6 | 247 | 17.6 | 1,402 | 100.0 |
| Hispanic | 315 | 6.6 | 1,093 | 22.8 | 840 | 17.5 | 1,087 | 22.7 | 846 | 17.7 | 612 | 12.8 | 4,793 | 100.0 |
| Asian/Pacific Islander | 233 | 6.7 | 896 | 25.7 | 591 | 17.0 | 793 | 22.8 | 500 | 14.4 | 468 | 13.4 | 3,481 | 100.0 |
| All Race/Ethnicities | 1,649 | 7.3 | 5,605 | 24.8 | 3,835 | 17.0 | 5,172 | 22.9 | 3,663 | 16.2 | 2,685 | 11.9 | 22,609 | 100.0 |
| **Age** | | | | | | | | | | | | | | |
| 20-44 | 71 | 4.4 | 301 | 18.8 | 220 | 13.8 | 456 | 28.6 | 363 | 22.7 | 186 | 11.6 | 1,597 | 100.0 |
| 45-64 | 749 | 7.2 | 2,523 | 24.4 | 1,619 | 15.7 | 2,517 | 24.3 | 1,771 | 17.1 | 1,161 | 11.2 | 10,340 | 100.0 |
| 65+ | 829 | 7.8 | 2,781 | 26.1 | 1,996 | 18.7 | 2,199 | 20.6 | 1,529 | 14.3 | 1,338 | 12.5 | 10,672 | 100.0 |
| Total | 1,649 | 7.3 | 5,605 | 24.8 | 3,835 | 17.0 | 5,172 | 22.9 | 3,663 | 16.2 | 2,685 | 11.9 | 22,609 | 100.0 |

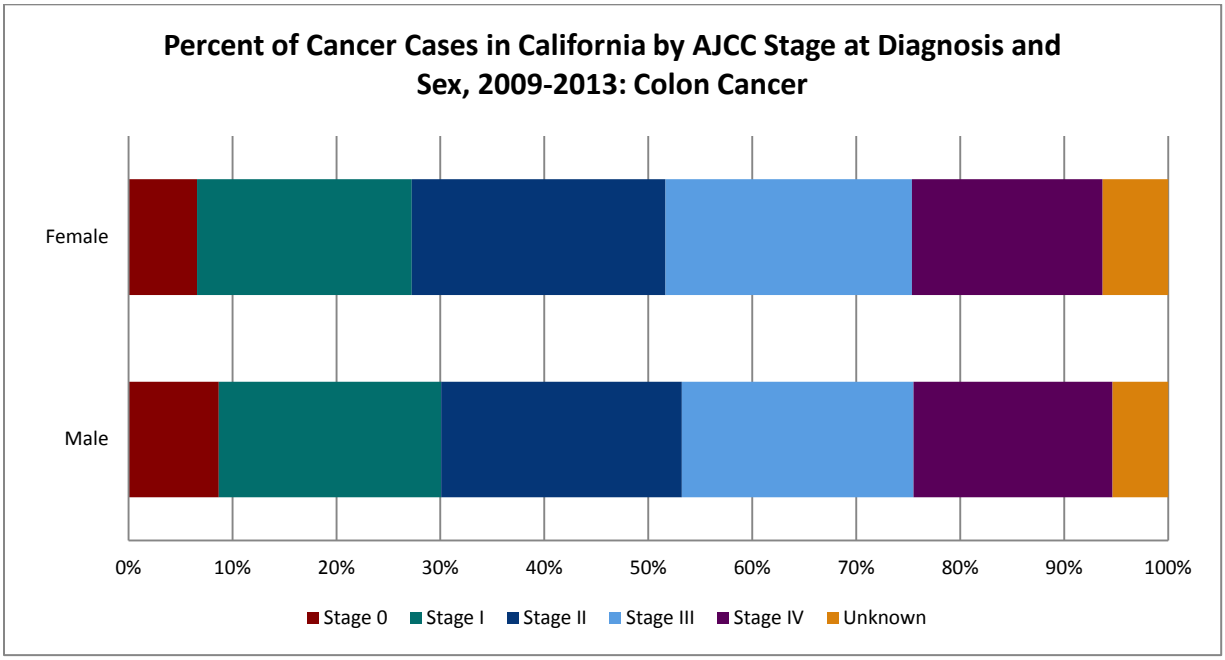
AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System



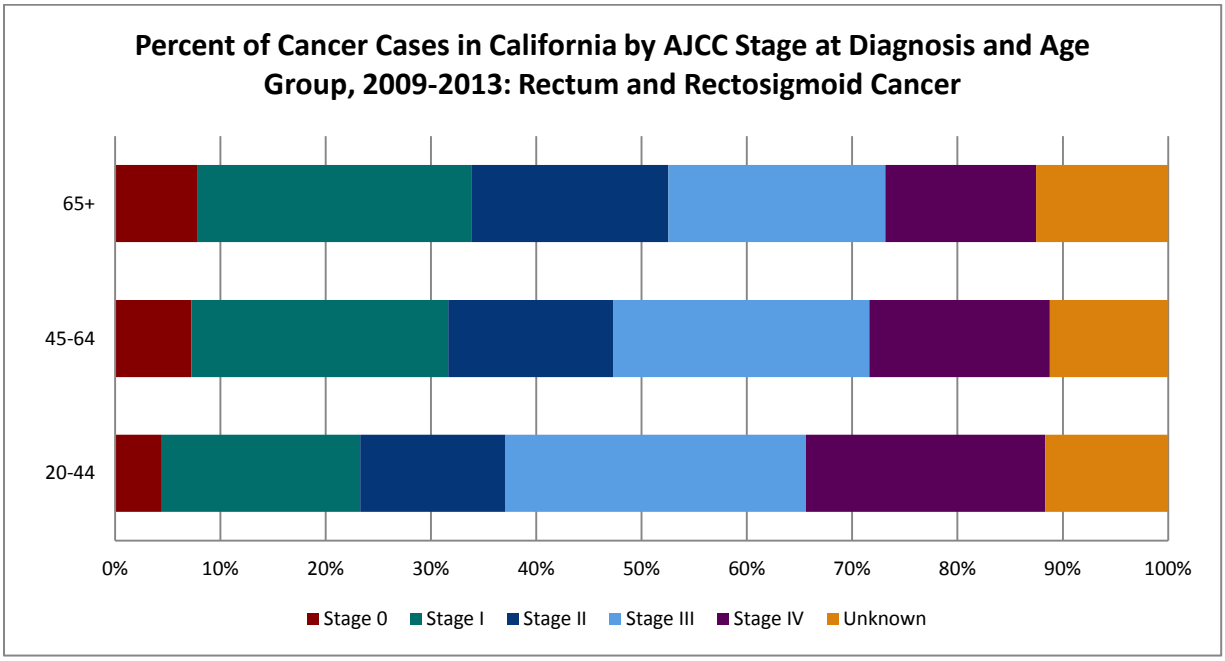

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System



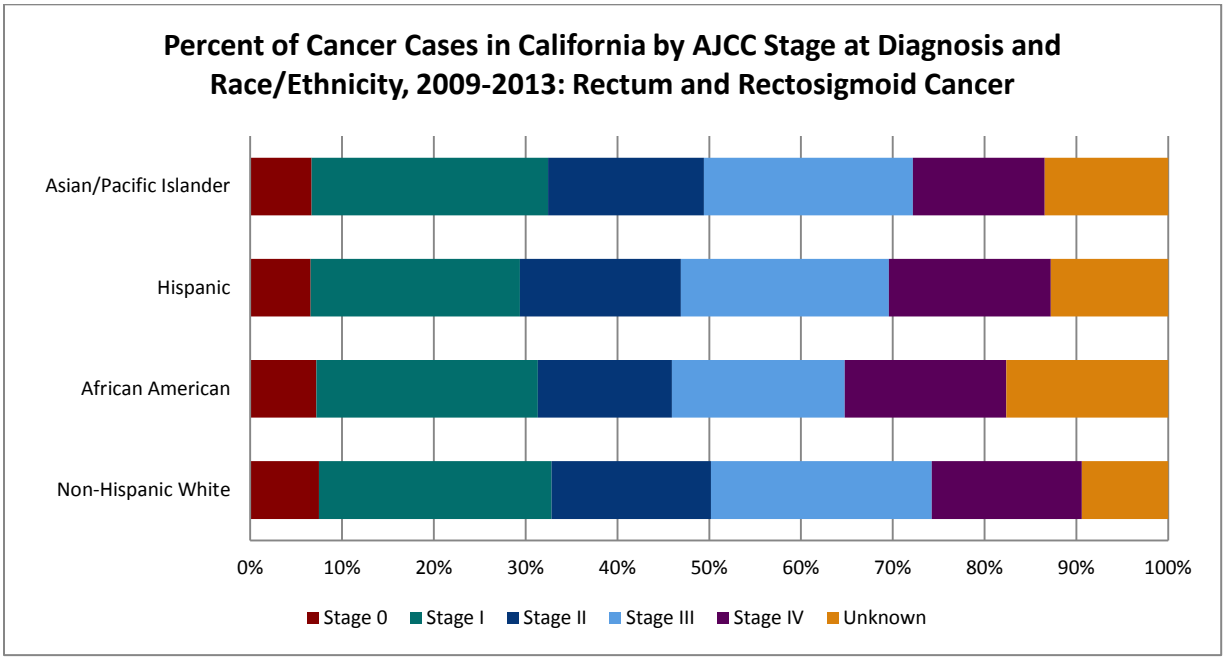

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System



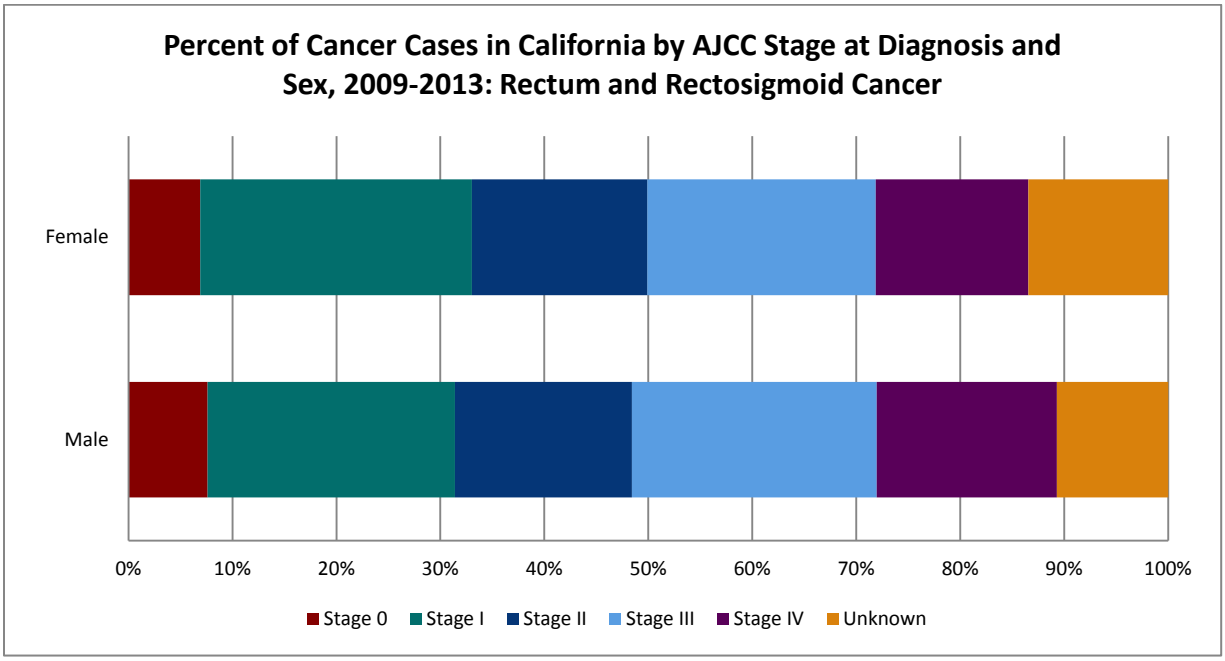

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System



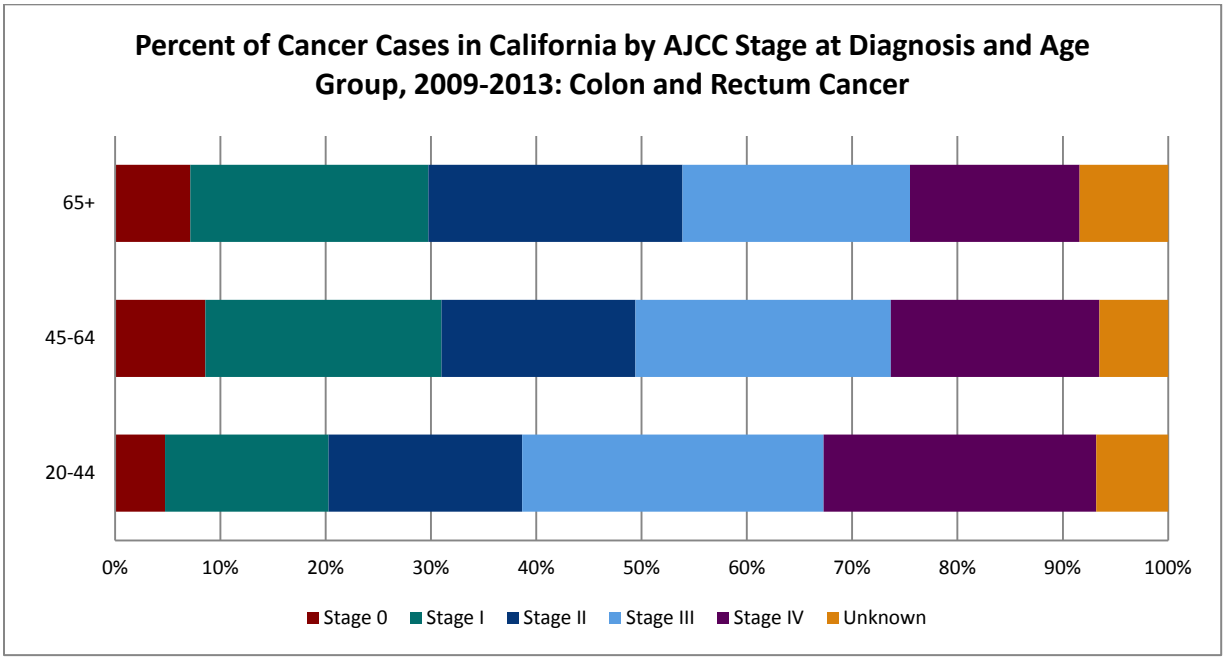

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System



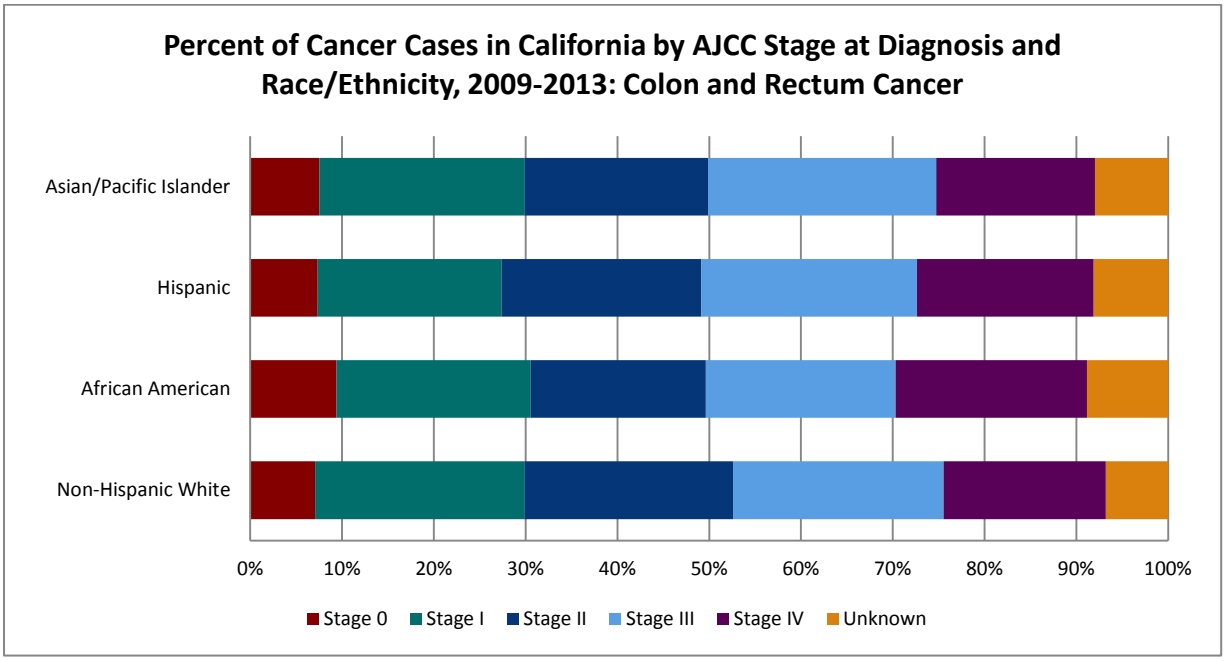

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System



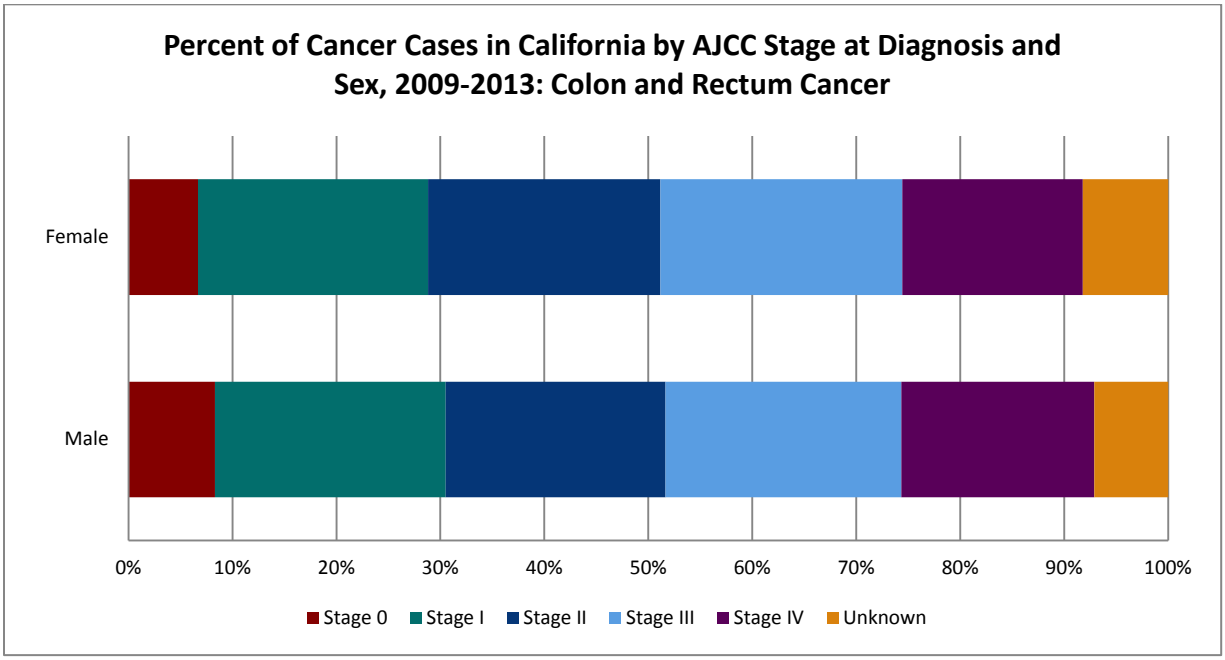

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System




AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

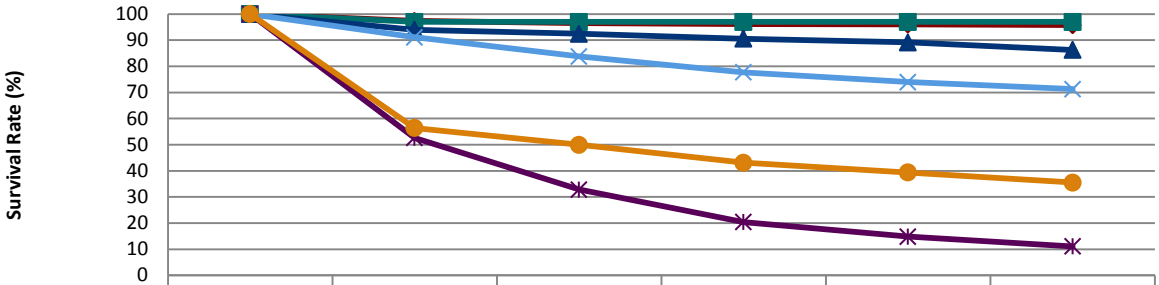



AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System




AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

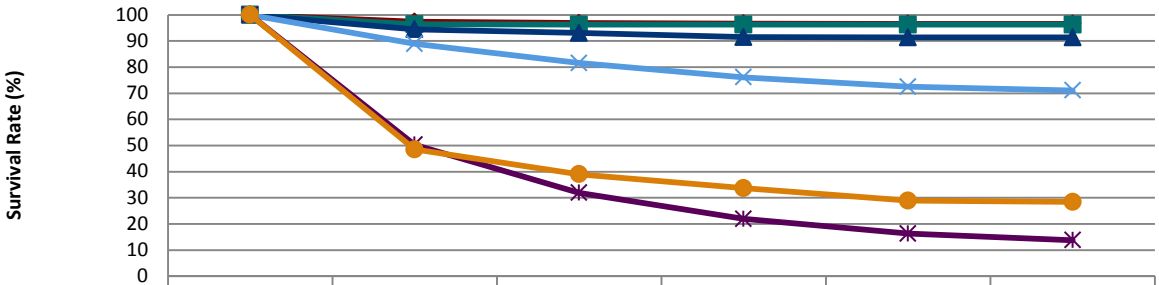
## Five-Year Relative Survival for Colon Cancer by AJCC Stage at Diagnosis, Male, California, 2008-2013




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 97.4 | 96.6 | 96.2 | 96.0 | 95.8 |
| Stage I | 100 | 97.0 | 97.0 | 97.0 | 97.0 | 97.0 |
| Stage II | 100 | 94.0 | 92.5 | 90.6 | 89.2 | 86.3 |
| Stage III | 100 | 91.1 | 83.8 | 77.7 | 74.0 | 71.3 |
| Stage IV | 100 | 52.6 | 32.8 | 20.4 | 14.8 | 11.1 |
| Unknown | 100 | 56.4 | 50.0 | 43.1 | 39.4 | 35.5 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

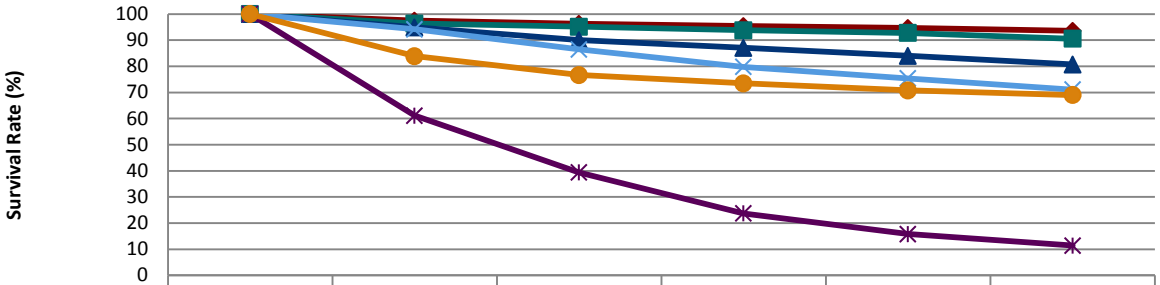
## Five-Year Relative Survival for Colon Cancer by AJCC Stage at Diagnosis, Female, California, 2008-2013




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 97.4 | 96.9 | 96.7 | 96.6 | 96.6 |
| Stage I | 100 | 96.4 | 96.3 | 96.3 | 96.3 | 96.3 |
| Stage II | 100 | 94.5 | 93.1 | 91.5 | 91.4 | 91.4 |
| Stage III | 100 | 88.9 | 81.6 | 76.1 | 72.5 | 71.1 |
| Stage IV | 100 | 50.3 | 31.9 | 21.9 | 16.3 | 13.8 |
| Unknown | 100 | 48.5 | 39.0 | 33.7 | 28.9 | 28.4 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

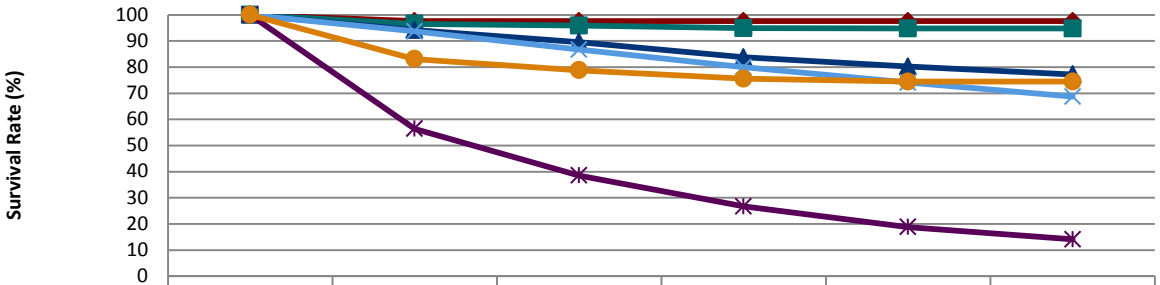
## Five-Year Relative Survival for Rectum and Rectosigmoid Cancer by AJCC Stage at Diagnosis, Male, California, 2008-2013




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 97.5 | 96.3 | 95.4 | 94.7 | 93.6 |
| Stage I | 100 | 96.4 | 95.2 | 93.8 | 92.8 | 90.6 |
| Stage II | 100 | 94.9 | 90.0 | 87.1 | 84 | 80.7 |
| Stage III | 100 | 94.2 | 86.5 | 79.8 | 75.4 | 71.1 |
| Stage IV | 100 | 61.1 | 39.4 | 23.7 | 15.8 | 11.4 |
| Unknown | 100 | 83.9 | 76.7 | 73.5 | 70.8 | 69.0 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

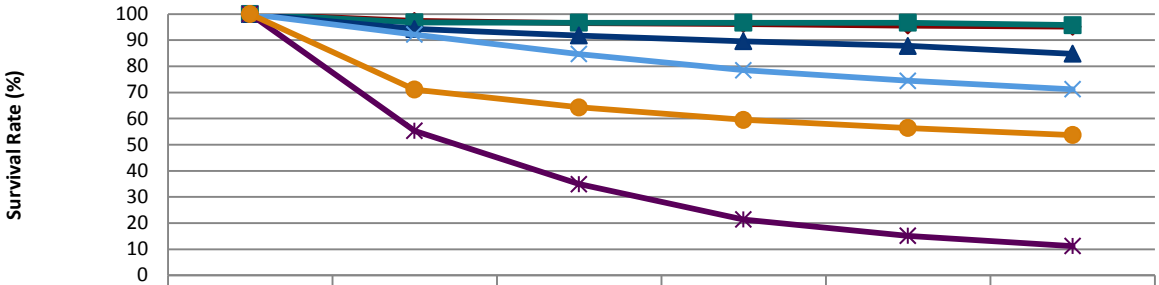
## Five-Year Relative Survival for Rectum and Rectosigmoid Cancer by AJCC Stage at Diagnosis, Female, California, 2008-2013




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 97.6 | 97.6 | 97.6 | 97.6 | 97.6 |
| Stage I | 100 | 96.6 | 95.9 | 94.9 | 94.8 | 94.8 |
| Stage II | 100 | 94.2 | 89.6 | 83.8 | 80.2 | 77.2 |
| Stage III | 100 | 93.7 | 86.7 | 80.0 | 74.1 | 68.7 |
| Stage IV | 100 | 56.4 | 38.5 | 26.7 | 18.8 | 14.1 |
| Unknown | 100 | 83.1 | 78.8 | 75.6 | 74.5 | 74.5 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

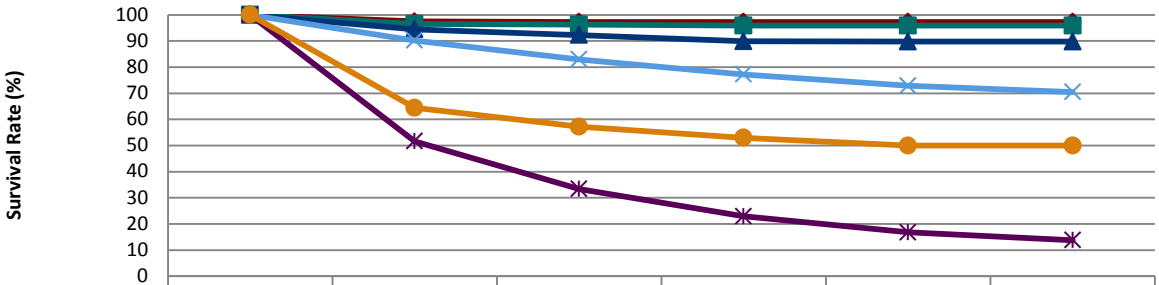
## Five-Year Relative Survival for Colon and Rectum Cancer by AJCC Stage at Diagnosis, Male, California, 2008-2013




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 97.4 | 96.5 | 96.2 | 95.6 | 95.2 |
| Stage I | 100 | 96.8 | 96.7 | 96.7 | 96.7 | 95.8 |
| Stage II | 100 | 94.3 | 91.8 | 89.6 | 87.8 | 84.8 |
| Stage III | 100 | 92.2 | 84.7 | 78.5 | 74.5 | 71.2 |
| Stage IV | 100 | 55.3 | 34.9 | 21.4 | 15.1 | 11.2 |
| Unknown | 100 | 71.1 | 64.3 | 59.5 | 56.4 | 53.7 |

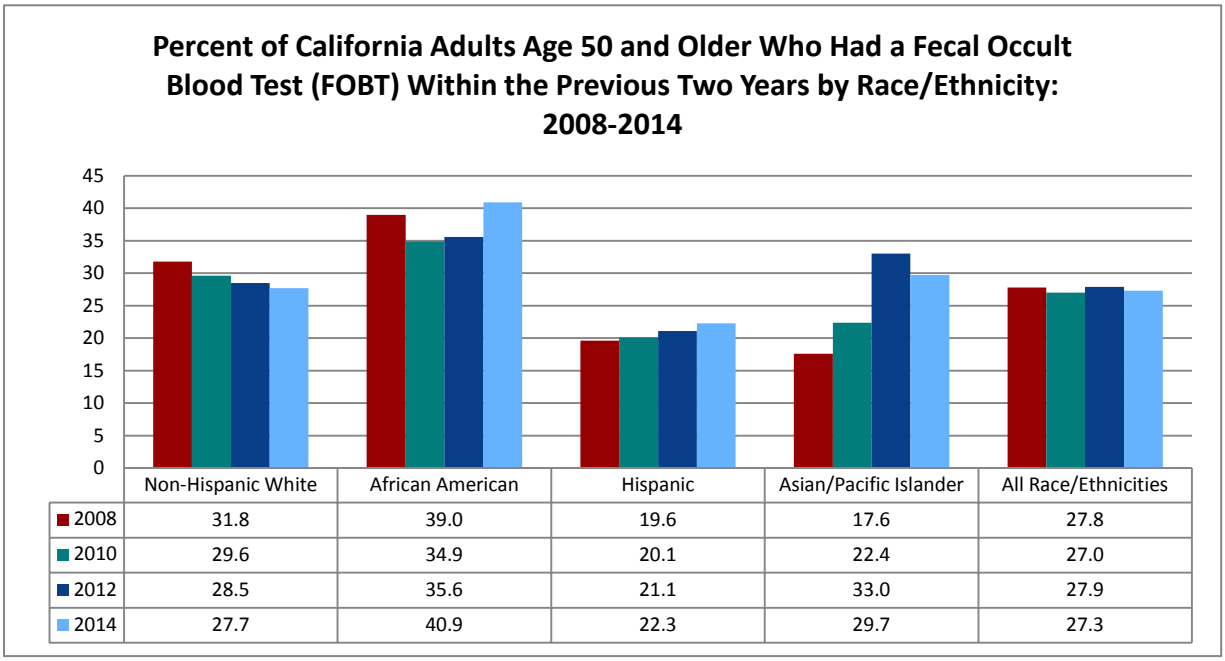
AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

## Five-Year Relative Survival for Colon and Rectum Cancer by AJCC Stage at Diagnosis, Female, California, 2008-2013



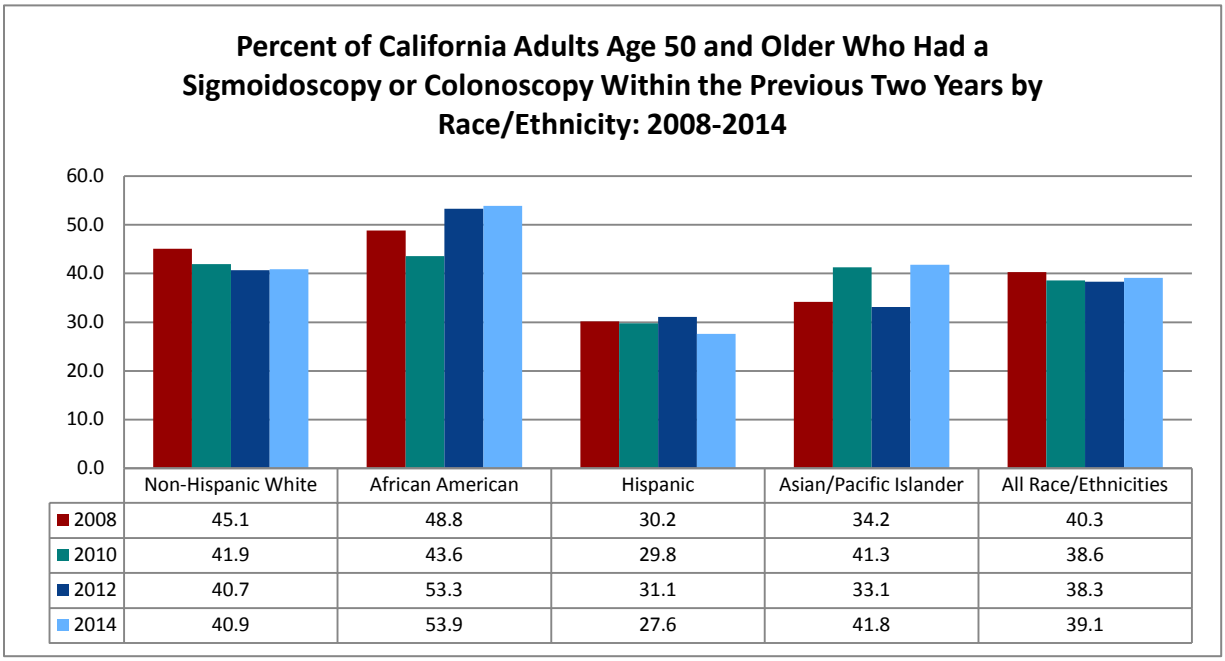

| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 97.5 | 97.3 | 97.3 | 97.3 | 97.3 |
| Stage I | 100 | 96.5 | 96.3 | 95.9 | 95.9 | 95.9 |
| Stage II | 100 | 94.5 | 92.3 | 89.9 | 89.8 | 89.8 |
| Stage III | 100 | 90.2 | 83 | 77.2 | 72.9 | 70.5 |
| Stage IV | 100 | 51.6 | 33.4 | 22.9 | 16.8 | 13.8 |
| Unknown | 100 | 64.4 | 57.2 | 53.0 | 50.0 | 50.0 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System



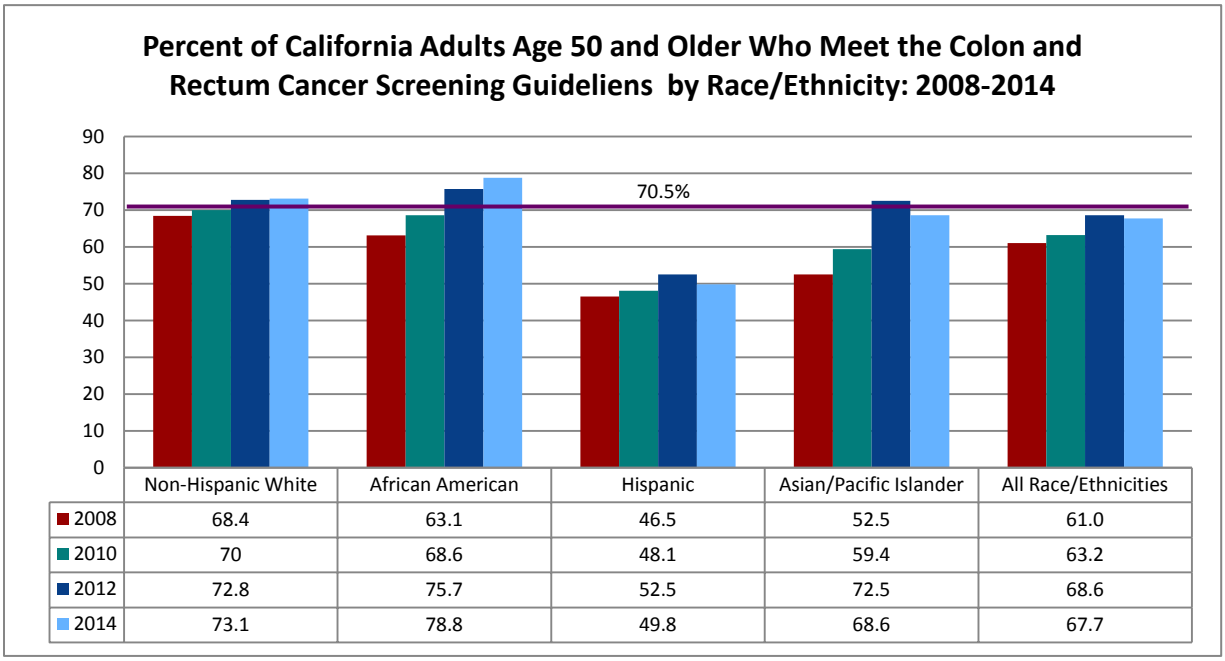

| | Non-Hispanic White | African American | Hispanic | Asian/Pacific Islander | All Race/Ethnicities |
|---|---|---|---|---|---|
| 2008 | 31.8 | 39.0 | 19.6 | 17.6 | 27.8 |
| 2010 | 29.6 | 34.9 | 20.1 | 22.4 | 27.0 |
| 2012 | 28.5 | 35.6 | 21.1 | 33.0 | 27.9 |
| 2014 | 27.7 | 40.9 | 22.3 | 29.7 | 27.3 |

Note: The BRFSS changed methodology and weights between 2010 and 2011. Source: Behavioral Risk Factor Surveillance Survey (BRFSS) from the Centers for Disease Control and Prevention (CDC)
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System




| | Non-Hispanic White | African American | Hispanic | Asian/Pacific Islander | All Race/Ethnicities |
|---|---|---|---|---|---|
| 2008 | 45.1 | 48.8 | 30.2 | 34.2 | 40.3 |
| 2010 | 41.9 | 43.6 | 29.8 | 41.3 | 38.6 |
| 2012 | 40.7 | 53.3 | 31.1 | 33.1 | 38.3 |
| 2014 | 40.9 | 53.9 | 27.6 | 41.8 | 39.1 |

Note: The BRFSS changed methodology and weights between 2010 and 2011. Source: Behavioral Risk Factor Surveillance Survey (BRFSS) from the Centers for Disease Control and Prevention (CDC)
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

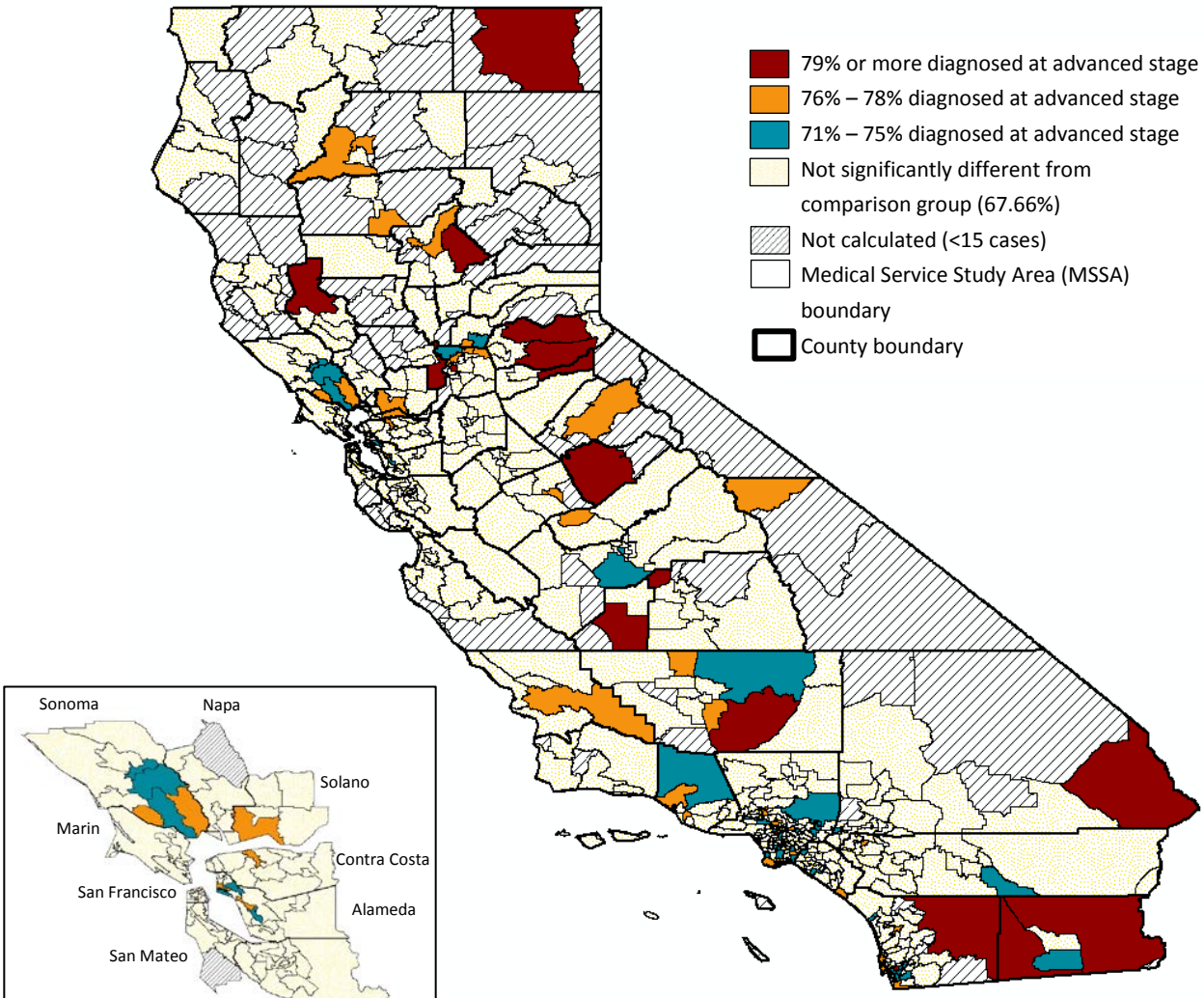



| | Non-Hispanic White | African American | Hispanic | Asian/Pacific Islander | All Race/Ethnicities |
|---|---|---|---|---|---|
| 2008 | 68.4 | 63.1 | 46.5 | 52.5 | 61.0 |
| 2010 | 70 | 68.6 | 48.1 | 59.4 | 63.2 |
| 2012 | 72.8 | 75.7 | 52.5 | 72.5 | 68.6 |
| 2014 | 73.1 | 78.8 | 49.8 | 68.6 | 67.7 |

Note: The BRFSS changed methodology and weights between 2010 and 2011. The Healthy People 2020 Goal is 70.5% of people 50 years or older meet the colon and rectum cancer screening guidelines, which include either a blood stool test in the past year, sigmoidoscopy in the past 5 years and blood stool test in the past 3 years, or a colonoscopy in the past 10 years (https://www.healthypeople.gov/).

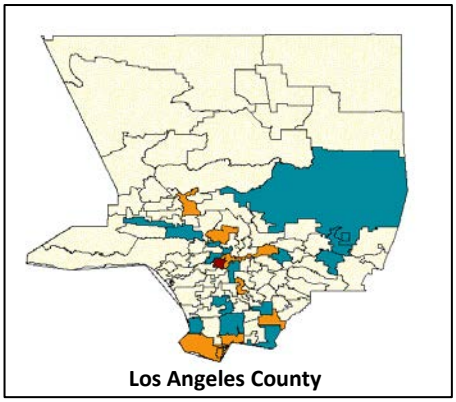
Source: Behavioral Risk Factor Surveillance Survey (BRFSS) from the Centers for Disease Control and Prevention (CDC) Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

## Percent of Colorectal Cancer Cases Diagnosed at Advanced Stage in California Communities among Men and Women Aged 50 and Older, 2009-2013









# ESOPHAGUS CANCER

Cancer of the esophagus is a relatively uncommon cancer; however, it is highly lethal. In California, there were 1,384 new cases diagnosed in 2013, and 1,250 deaths attributed to esophagus cancer. There are few symptoms during the early stages of the disease, so most esophageal cancers are diagnosed after the disease has already spread.

The esophagus wall has four layers: mucosa (the internal layer), submucosa, muscularis propria, and adventitia. Staging of esophageal cancer is based on the depth of tumor invasion into these layers and on spread to lymph nodes (or to other organs), as follows:

**Stage 0:**
Carcinoma *in situ*.

**Stage I:**
Tumor invades the submucosa.

**Stage II:**
Tumor may either (a) invade the adventitia without spread to lymph nodes, or (b) penetrate no deeper than the muscularis propria but with spread to regional lymph nodes.

**Stage III:**
Tumor invades the adventitia and spreads to lymph nodes or tumor extends to adjacent structures.

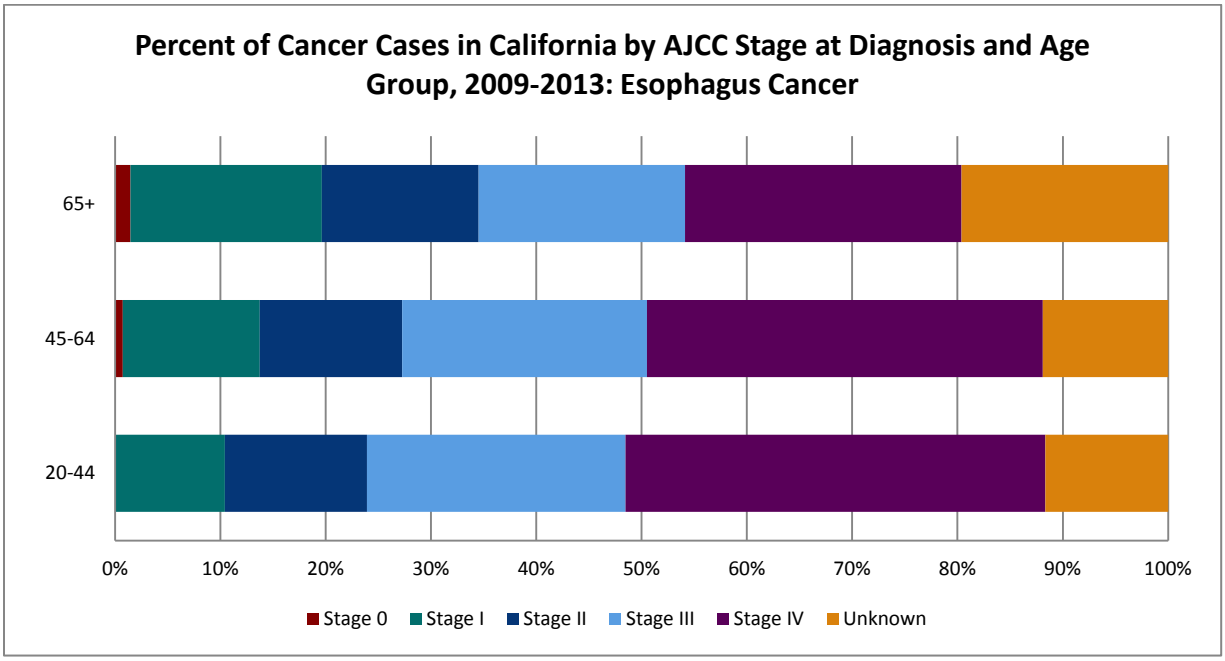
**Stage IV:**
Tumor spreads to distant organs, or lymph nodes.

Stages I through IV esophageal cancers are currently subdivided into stages IA, IB, IIA, IIB,IIIA, IIIB, IIIC, IVA, and IVB; data about these more detailed stages are not included in this report. Additional information on these more detailed stage groups can be found in the AJCC Cancer Staging Manual, 6th (2002) and 7th edition (2010), (Springer Science & Business Media Inc., New York, NY).

**Number and Percentage of California Adults Age 20 and Older Diagnosed With Esophagus Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013**

| | Stage 0 | | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Sex** | | | | | | | | | | | | | | |
| Male | 31 | 0.6 | 874 | 15.7 | 800 | 14.3 | 1,201 | 21.5 | 1,822 | 32.7 | 822 | 14.7 | 5,580 | 100.0 |
| Female | 24 | 1.4 | 299 | 18.0 | 242 | 14.6 | 316 | 19.1 | 384 | 23.2 | 392 | 23.7 | 1,657 | 100.0 |
| Total | 85 | 1.2 | 1,173 | 16.2 | 1,042 | 14.4 | 1,517 | 21.0 | 2,206 | 30.5 | 1,214 | 16.8 | 7,237 | 100.0 |
| **Race/Ethnicity** | | | | | | | | | | | | | | |
| Non-Hispanic White | 63 | 1.2 | 894 | 17.2 | 764 | 14.7 | 1,085 | 20.9 | 1,568 | 30.1 | 829 | 15.9 | 5,203 | 100.0 |
| African American | 3 | 0.7 | 53 | 12.8 | 49 | 11.8 | 98 | 23.6 | 137 | 33.0 | 75 | 18.1 | 415 | 100.0 |
| Hispanic | 8 | 0.8 | 141 | 13.9 | 125 | 12.3 | 215 | 21.1 | 336 | 33.0 | 192 | 18.9 | 1,017 | 100.0 |
| Asian/Pacific Islander | 9 | 1.8 | 69 | 13.6 | 91 | 17.9 | 113 | 22.2 | 143 | 28.1 | 83 | 16.3 | 508 | 100.0 |
| All Race/Ethnicities | 85 | 1.2 | 1,173 | 16.2 | 1,042 | 14.4 | 1,517 | 21.0 | 2,206 | 30.5 | 1,214 | 16.8 | 7,237 | 100.0 |
| **Age** | | | | | | | | | | | | | | |
| 20-44 | 0 | 0.0 | 17 | 10.4 | 22 | 13.5 | 40 | 24.5 | 65 | 39.9 | 19 | 11.7 | 163 | 100.0 |
| 45-64 | 18 | 0.7 | 326 | 13.0 | 338 | 13.5 | 582 | 23.3 | 940 | 37.6 | 298 | 11.9 | 2,502 | 100.0 |
| 65+ | 67 | 1.5 | 830 | 18.2 | 682 | 14.9 | 895 | 19.6 | 1,201 | 26.3 | 897 | 19.6 | 4,572 | 100.0 |
| Total | 85 | 1.2 | 1,173 | 16.2 | 1,042 | 14.4 | 1,517 | 21.0 | 2,206 | 30.5 | 1,214 | 16.8 | 7,237 | 100.0 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

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Source: California Cancer Registry, California Department of Public Health
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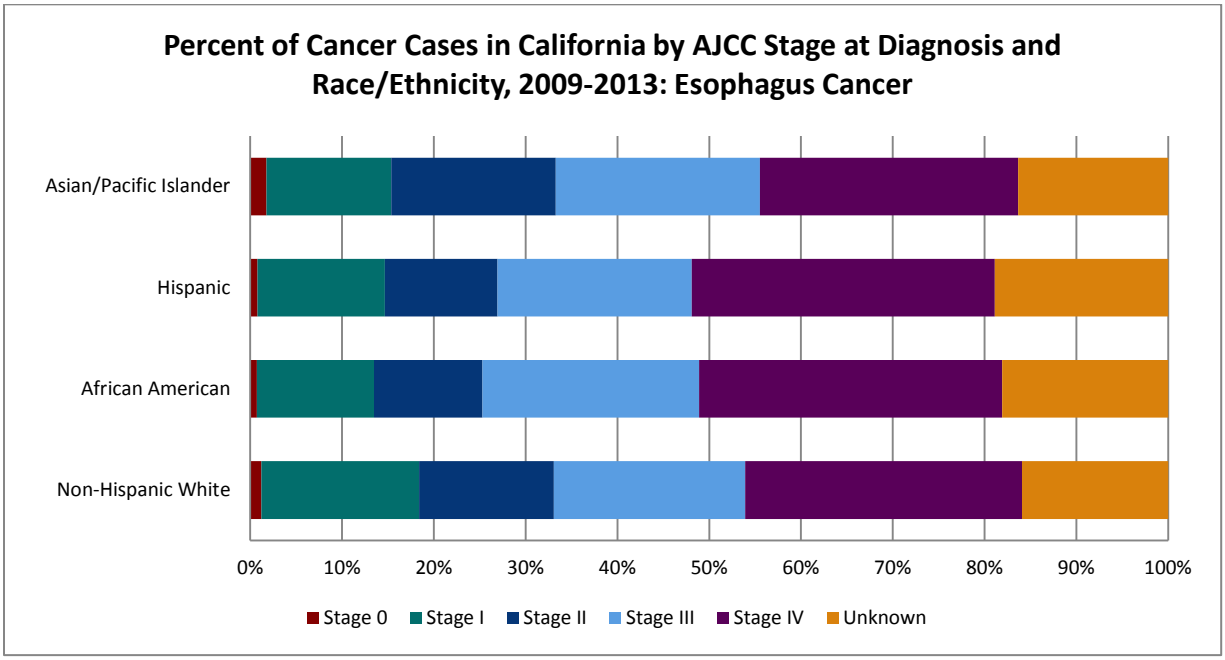


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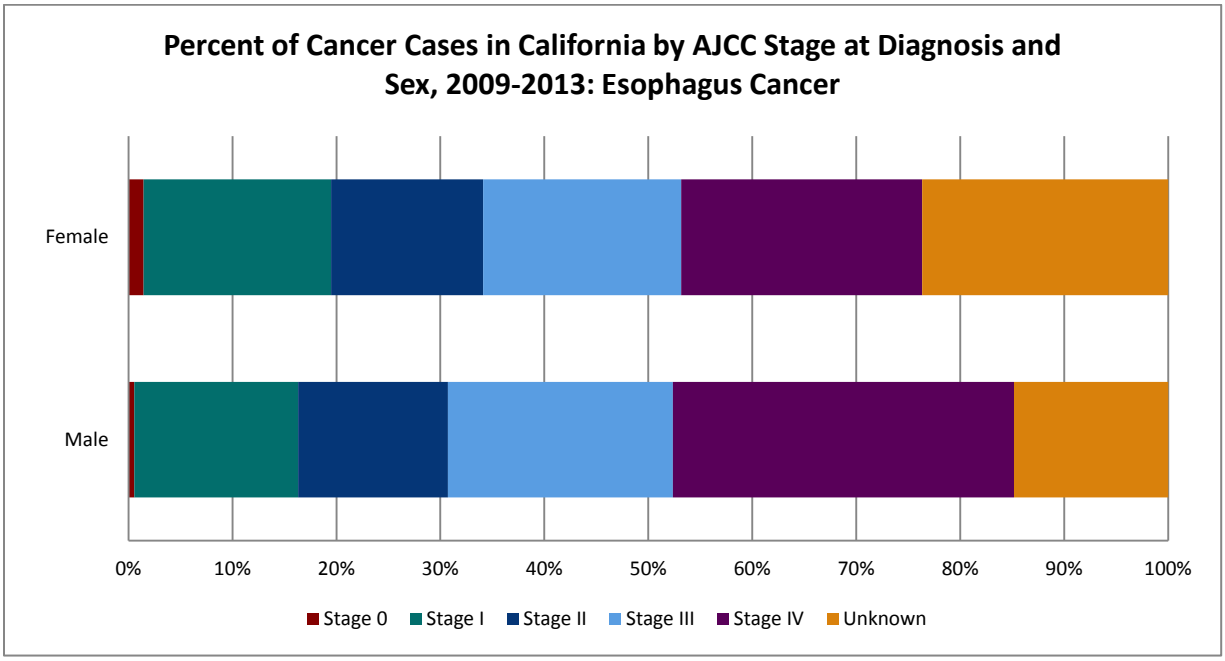


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Source: California Cancer Registry, California Department of Public Health
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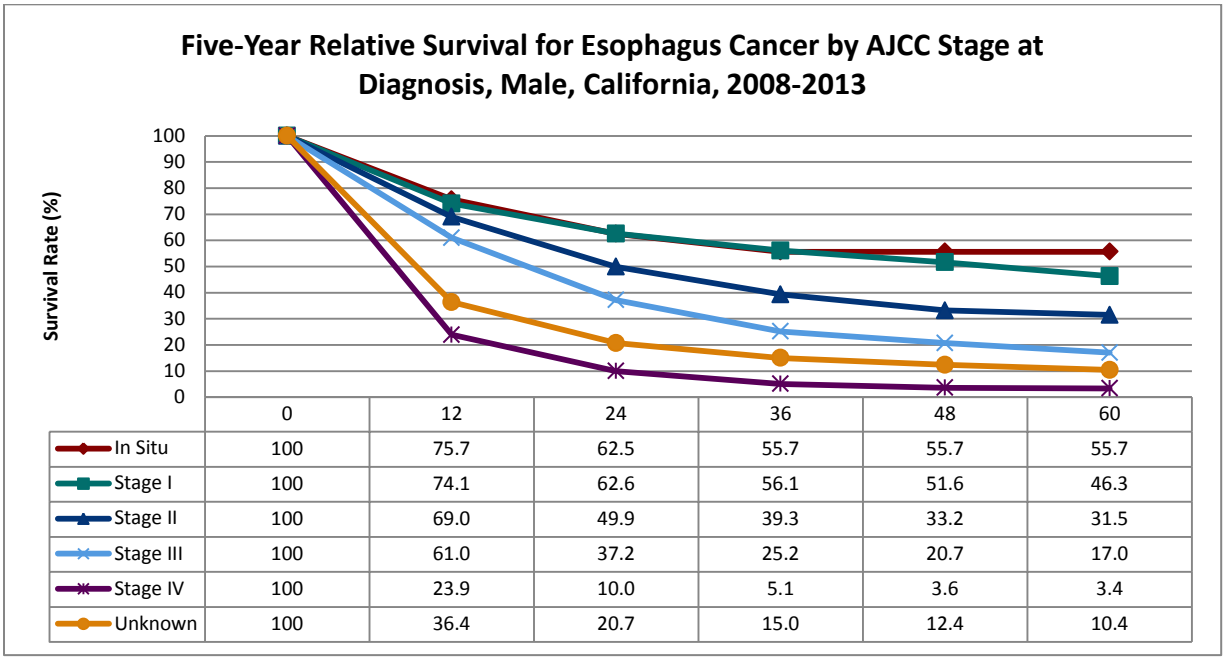
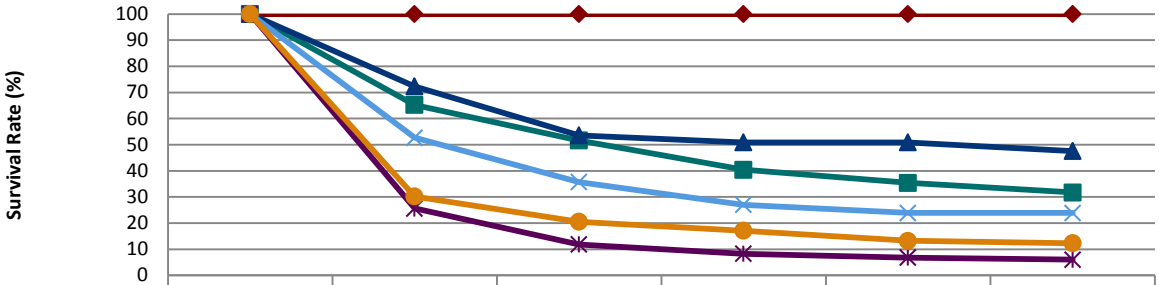



| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 75.7 | 62.5 | 55.7 | 55.7 | 55.7 |
| Stage I | 100 | 74.1 | 62.6 | 56.1 | 51.6 | 46.3 |
| Stage II | 100 | 69.0 | 49.9 | 39.3 | 33.2 | 31.5 |
| Stage III | 100 | 61.0 | 37.2 | 25.2 | 20.7 | 17.0 |
| Stage IV | 100 | 23.9 | 10.0 | 5.1 | 3.6 | 3.4 |
| Unknown | 100 | 36.4 | 20.7 | 15.0 | 12.4 | 10.4 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

**Five-Year Relative Survival for Esophagus Cancer by AJCC Stage at Diagnosis, Female, California, 2008-2013**




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 100 | 100 | 100 | 100 | 100 |
| Stage I | 100 | 65.2 | 51.6 | 40.4 | 35.4 | 31.7 |
| Stage II | 100 | 72.3 | 53.6 | 50.9 | 50.9 | 47.6 |
| Stage III | 100 | 52.7 | 35.7 | 27.0 | 23.9 | 23.9 |
| Stage IV | 100 | 25.6 | 11.8 | 8.3 | 6.8 | 6.0 |
| Unknown | 100 | 30.2 | 20.5 | 17.1 | 13.2 | 12.3 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

# KIDNEY AND RENAL PELVIS CANCER

In 2013, there were 5,711 new kidney and renal pelvis cancers diagnosed in California, and 1,350 deaths due to the disease. Kidney cancer can present with few symptoms during the early stages of the disease; however, over 50 percent of adults with kidney cancer in California were diagnosed at Stage I between 2009 and 2013.

Staging of kidney cancer depends on the size of the primary tumor, invasion of the adjacent structures, and extension to the main blood vessels. Based on these characteristics, kidney and renal pelvis cancers are classified into the following stages:

**Stage 0:**
Carcinoma *in situ*.

**Stage I:**
Tumor 7 cm or less and confined to the kidney.

**Stage II:**
Tumor larger than 7 cm and confined to the kidney.

**Stage III:**
Tumor of any size that invades adjacent tissues, major veins, or the adrenal gland; there may be spread to a single regional lymph node.

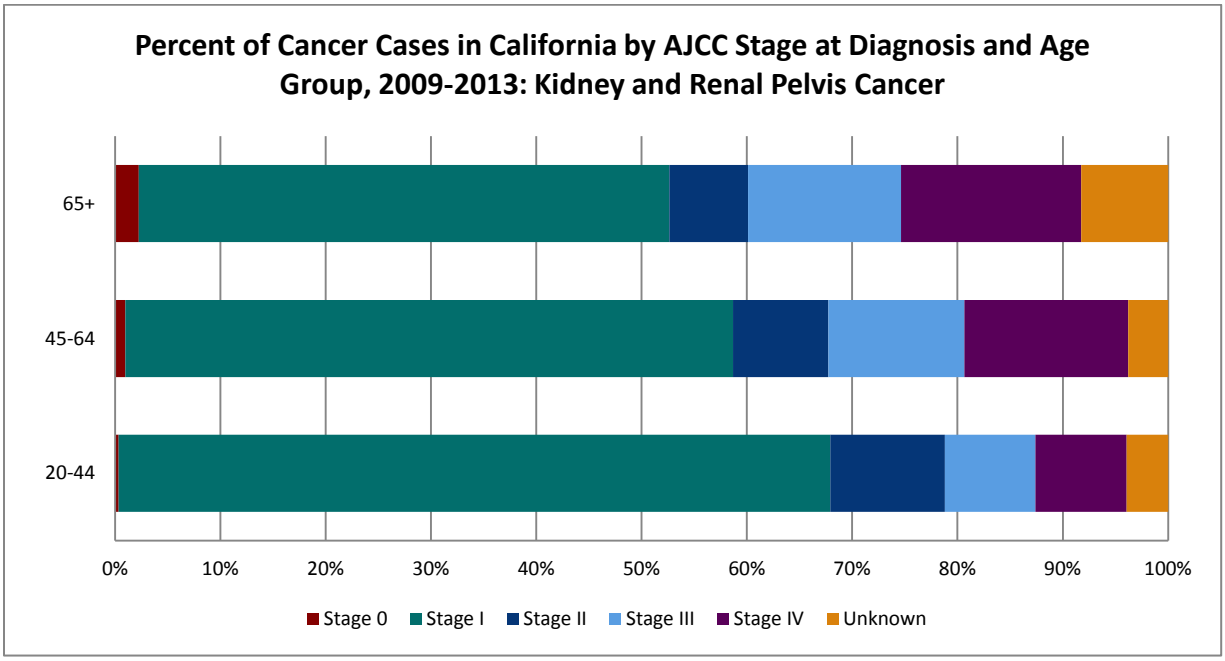
**Stage IV:**
Tumor with extensive invasion, spread to more than a single lymph node, or presence of distant metastasis.

Additional information on the stage groups can be found in the AJCC Cancer Staging Manual, 6th (2002) and 7th edition (2010), (Springer Science & Business Media Inc., New York, NY).

**Number and Percentage of California Adults Age 20 and Older Diagnosed With Kidney and Renal Pelvis Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013**

| | Stage 0 | | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Sex** | | | | | | | | | | | | | | |
| Male | 264 | 1.5 | 9,426 | 53.8 | 1,467 | 8.4 | 2,527 | 14.4 | 2,858 | 16.3 | 971 | 5.5 | 17,513 | 100.0 |
| Female | 165 | 1.7 | 5,533 | 56.5 | 828 | 8.5 | 1,129 | 11.5 | 1,454 | 14.9 | 682 | 7.0 | 9,791 | 100.0 |
| Total | 429 | 1.6 | 14,959 | 54.8 | 2,295 | 8.4 | 3,656 | 13.4 | 4,312 | 15.8 | 1,653 | 6.1 | 27,304 | 100.0 |
| **Race/Ethnicity** | | | | | | | | | | | | | | |
| Non-Hispanic White | 322 | 2.0 | 8,582 | 53.9 | 1,282 | 8.1 | 2,209 | 13.9 | 2,512 | 15.8 | 1,007 | 6.3 | 15,914 | 100.0 |
| African American | 17 | 0.8 | 1,259 | 61.3 | 184 | 9.0 | 183 | 8.9 | 283 | 13.8 | 128 | 6.2 | 2,054 | 100.0 |
| Hispanic | 55 | 0.8 | 3,716 | 55.1 | 600 | 8.9 | 950 | 14.1 | 1,060 | 15.7 | 367 | 5.4 | 6,748 | 100.0 |
| Asian/Pacific Islander | 31 | 1.4 | 1,216 | 54.3 | 202 | 9.0 | 259 | 11.6 | 410 | 18.3 | 120 | 5.4 | 2,238 | 100.0 |
| All Race/Ethnicities | 429 | 1.6 | 14,959 | 54.8 | 2,295 | 8.4 | 3,656 | 13.4 | 4,312 | 15.8 | 1,653 | 6.1 | 27,304 | 100.0 |
| **Age** | | | | | | | | | | | | | | |
| 20-44 | 7 | 0.3 | 1,464 | 67.6 | 236 | 10.9 | 186 | 8.6 | 188 | 8.7 | 85 | 3.9 | 2,166 | 100.0 |
| 45-64 | 111 | 1.0 | 6,546 | 57.7 | 1,029 | 9.1 | 1,466 | 12.9 | 1,766 | 15.6 | 428 | 3.8 | 11,346 | 100.0 |
| 65+ | 311 | 2.3 | 6,949 | 50.4 | 1,030 | 7.5 | 2,004 | 14.5 | 2,358 | 17.1 | 1,140 | 8.3 | 13,792 | 100.0 |
| Total | 429 | 1.6 | 14,959 | 54.8 | 2,295 | 8.4 | 3,656 | 13.4 | 4,312 | 15.8 | 1,653 | 6.1 | 27,304 | 100.0 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

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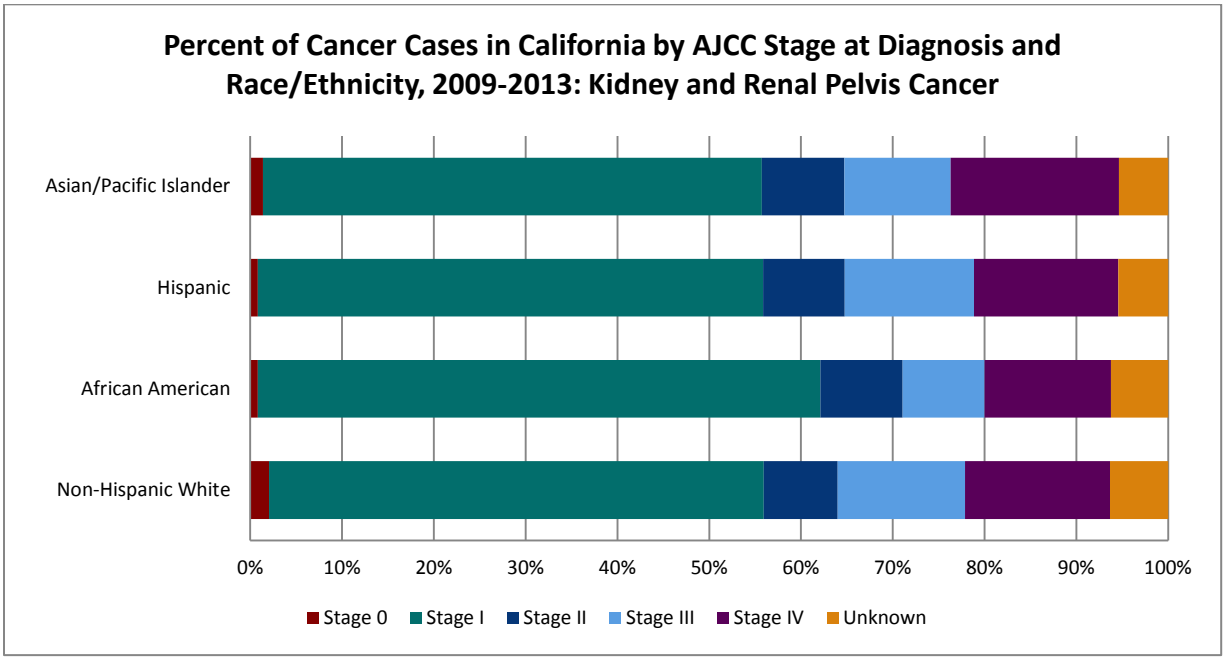


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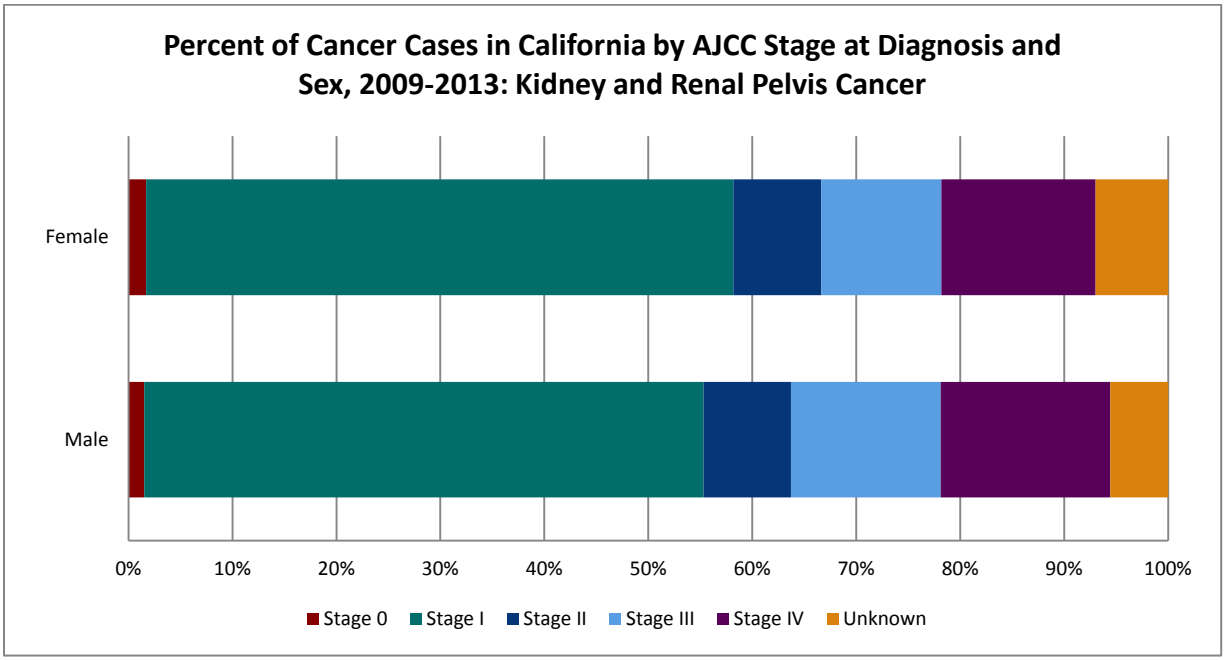


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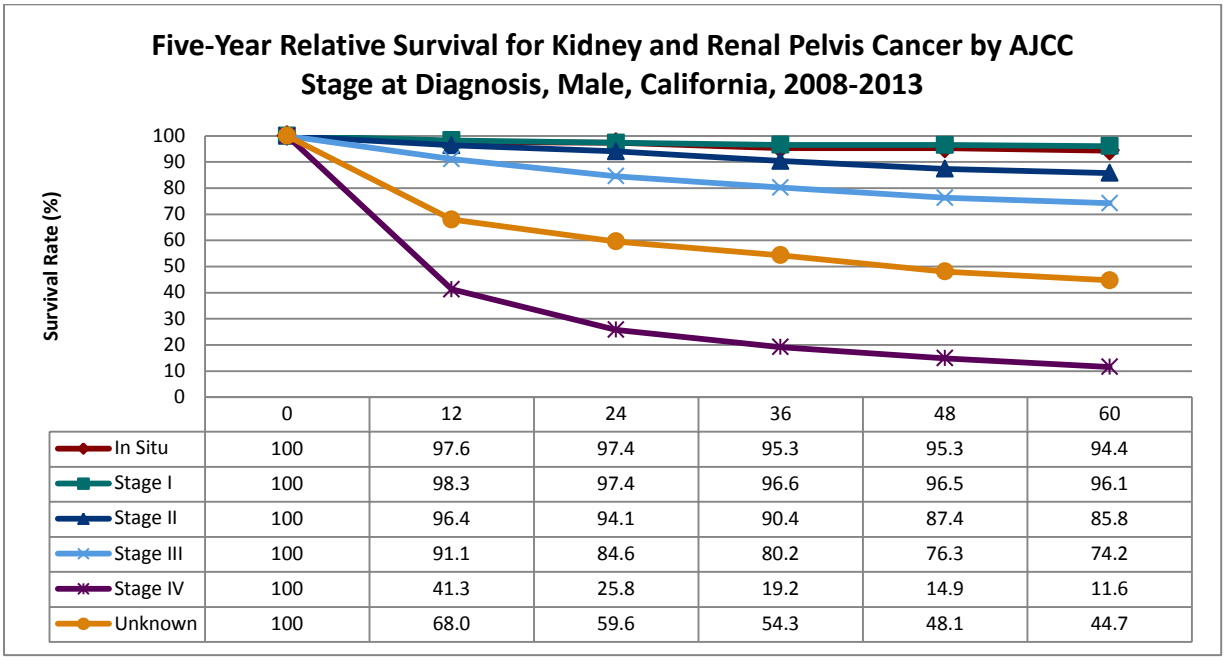
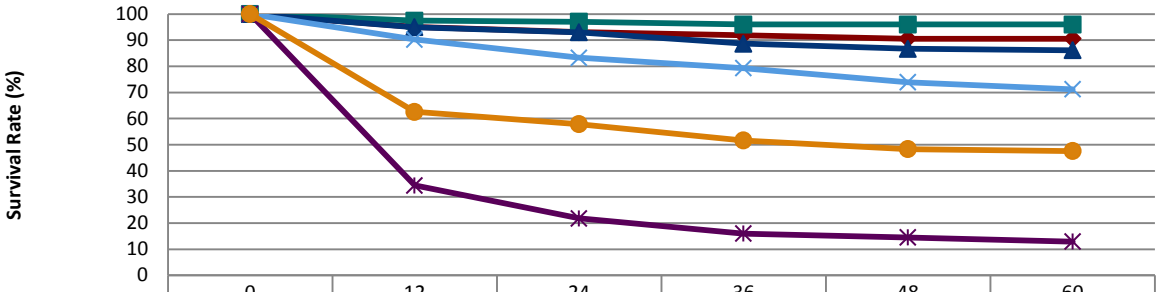



| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 97.6 | 97.4 | 95.3 | 95.3 | 94.4 |
| Stage I | 100 | 98.3 | 97.4 | 96.6 | 96.5 | 96.1 |
| Stage II | 100 | 96.4 | 94.1 | 90.4 | 87.4 | 85.8 |
| Stage III | 100 | 91.1 | 84.6 | 80.2 | 76.3 | 74.2 |
| Stage IV | 100 | 41.3 | 25.8 | 19.2 | 14.9 | 11.6 |
| Unknown | 100 | 68.0 | 59.6 | 54.3 | 48.1 | 44.7 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

## Five-Year Relative Survival for Kidney and Renal Pelvis Cancer by AJCC Stage at Diagnosis, Female, California, 2008-2013




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 95.1 | 93.1 | 91.9 | 90.6 | 90.6 |
| Stage I | 100 | 97.5 | 97.1 | 96.0 | 96.0 | 96.0 |
| Stage II | 100 | 95.0 | 93.0 | 88.7 | 86.7 | 86.2 |
| Stage III | 100 | 90.3 | 83.3 | 79.3 | 73.9 | 71.2 |
| Stage IV | 100 | 34.4 | 21.8 | 16.0 | 14.5 | 12.9 |
| Unknown | 100 | 62.6 | 57.9 | 51.6 | 48.3 | 47.6 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

# LARYNX CANCER

In 2013, there were 907 new cases of larynx cancer in California, and there were 280 deaths due to the disease. The larynx is located in the throat below the pharynx, and it has three distinct subdivisions: glottis (where the vocal cords are located), supraglottis, and subglottis. Presence of symptoms and opportunity for early diagnosis vary depending on the specific site where the tumor develops.

Staging of larynx cancers are based on the anatomic extent of the disease, which varies according to the site or region of the larynx where the tumor originates. For example, a laryngeal cancer that involves the vocal cords may be assigned a Stage II or higher if the tumor is located in the subglottis, but it could be considered Stage I if the tumor was located in other parts of the larynx. In general, cancer of the larynx is staged as follows:

**Stage 0:**
Carcinoma *in situ*.

**Stage I:**
Tumor limited to its site of origin within the larynx, no lymph nodes involved.

**Stage II:**
Tumor invades adjacent tissue.

**Stage III:**
Tumor confined to the larynx, but with vocal cord fixation; tumor invades adjacent tissues, or structures, or there is a metastasis to a single lymph node, 3 cm or less in dimension.

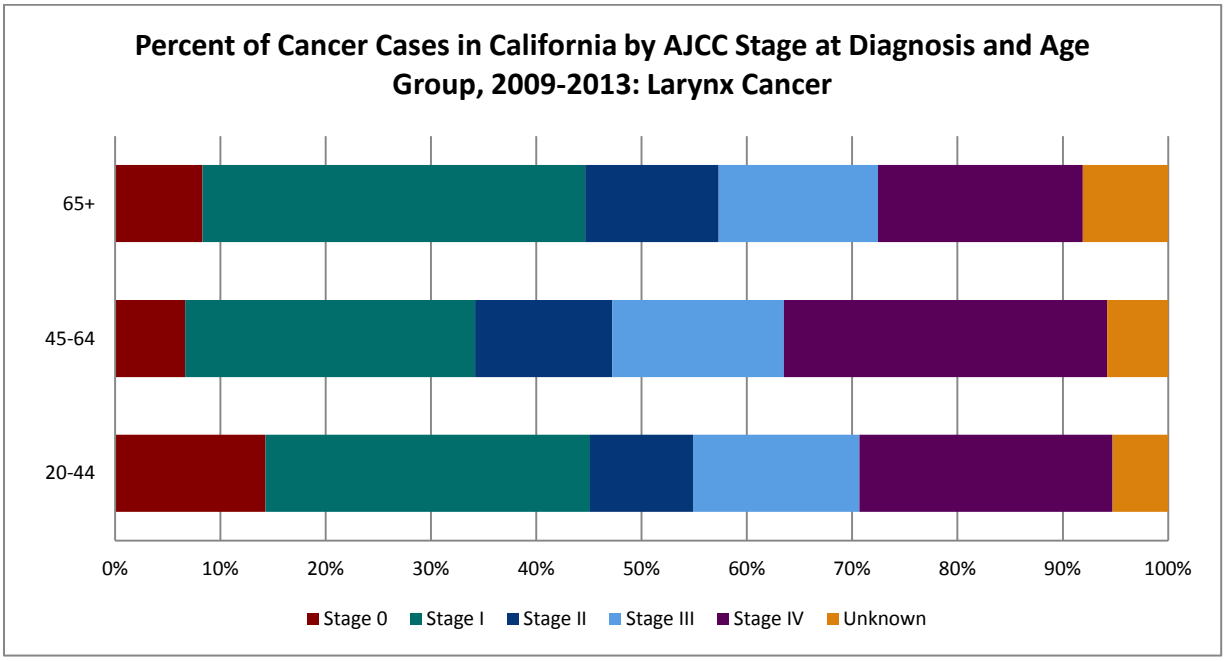
**Stage IV:**
Tumor extends beyond the larynx, has larger or more extensive metastases to lymph nodes, or spreads to distant organs.

Stages IV laryngeal cancers are further subdivided into stages IVA, IVB, and IVC; data about these more detailed stages are not included in this report. Additional information on these more detailed stage groups can be found in the AJCC Cancer Staging Manual, 6th (2002) and 7th edition (2010), (Springer Science & Business Media Inc., New York, NY).

**Number and Percentage of California Adults Age 20 and Older Diagnosed With Larynx Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013**

| | Stage 0 | | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Sex** | | | | | | | | | | | | | | |
| Male | 300 | 7.8 | 1,311 | 33.9 | 490 | 12.7 | 584 | 15.1 | 918 | 23.7 | 266 | 6.9 | 3,869 | 100.0 |
| Female | 67 | 8.4 | 226 | 28.2 | 104 | 13.0 | 144 | 18.0 | 192 | 23.9 | 69 | 8.6 | 802 | 100.0 |
| Total | 367 | 7.9 | 1,537 | 32.9 | 594 | 12.7 | 728 | 15.6 | 1,110 | 23.8 | 335 | 7.2 | 4,671 | 100.0 |
| **Race/Ethnicity** | | | | | | | | | | | | | | |
| Non-Hispanic White | 240 | 8.0 | 1,004 | 33.5 | 404 | 2.0 | 459 | 15.3 | 685 | 22.9 | 204 | 6.8 | 2,996 | 100.0 |
| African American | 27 | 6.1 | 115 | 26.0 | 61 | 19.6 | 94 | 21.2 | 123 | 27.8 | 23 | 5.2 | 443 | 100.0 |
| Hispanic | 59 | 7.1 | 276 | 33.1 | 87 | 4.0 | 127 | 15.2 | 214 | 25.7 | 71 | 8.5 | 834 | 100.0 |
| Asian/Pacific Islander | 32 | 10.1 | 115 | 36.2 | 33 | 186.8 | 37 | 11.6 | 77 | 24.2 | 24 | 7.5 | 318 | 100.0 |
| All Race/Ethnicities | 367 | 7.9 | 1,537 | 32.9 | 594 | 12.7 | 728 | 15.6 | 1,110 | 23.8 | 335 | 7.2 | 4,671 | 100.0 |
| **Age** | | | | | | | | | | | | | | |
| 20-44 | 19 | 14.3 | 41 | 30.8 | 13 | 9.8 | 21 | 15.8 | 32 | 24.1 | 7 | 5.3 | 133 | 100.0 |
| 45-64 | 116 | 6.7 | 479 | 27.5 | 227 | 13.0 | 284 | 16.3 | 534 | 30.7 | 101 | 5.8 | 1,741 | 100.0 |
| 65+ | 232 | 8.3 | 1,017 | 36.4 | 354 | 12.7 | 423 | 15.1 | 544 | 19.4 | 227 | 8.1 | 2,797 | 100.0 |
| Total | 367 | 7.9 | 1,537 | 32.9 | 594 | 12.7 | 728 | 15.6 | 1,110 | 23.8 | 335 | 7.2 | 4,671 | 100.0 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

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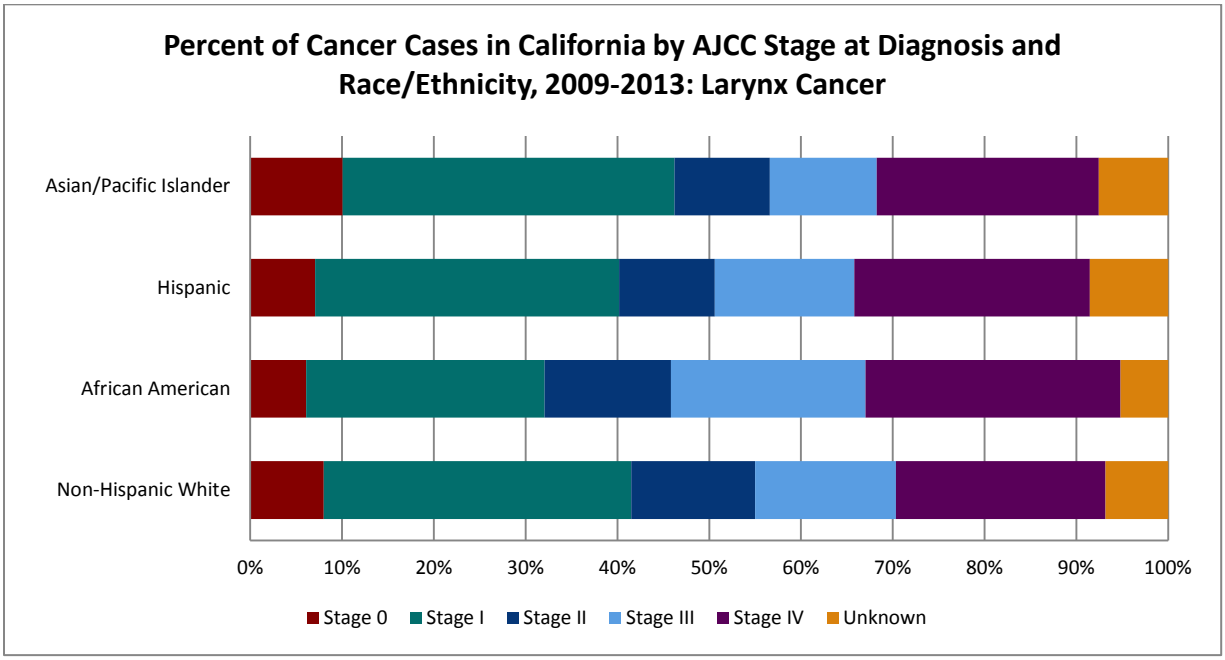


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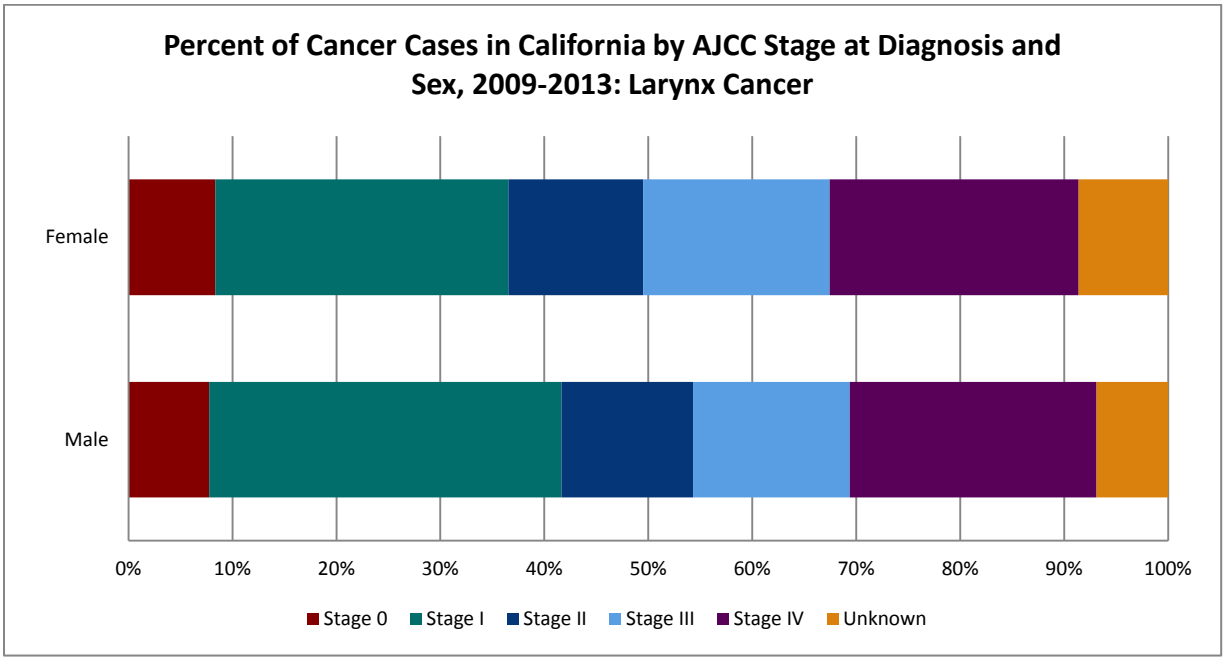
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

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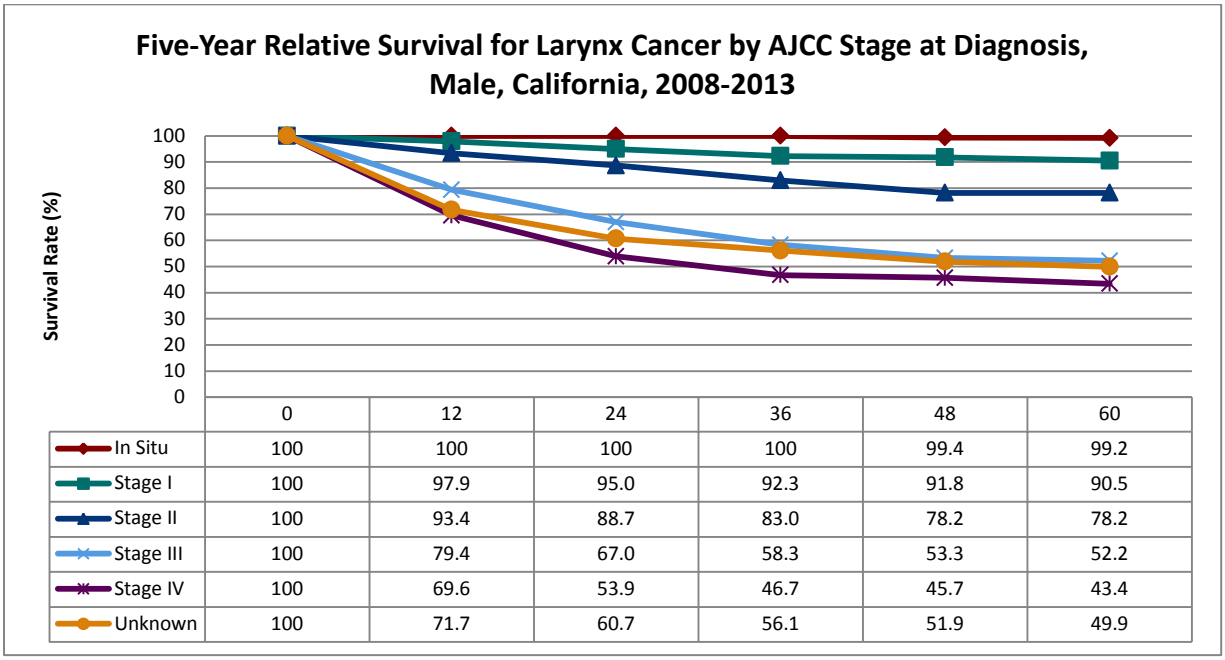
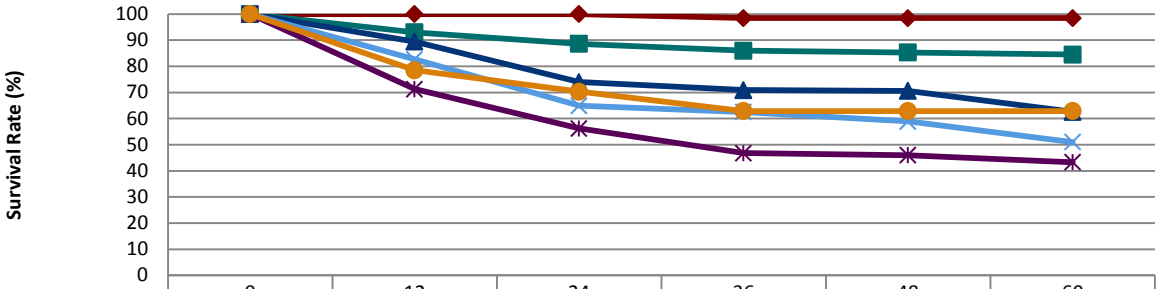



| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 100 | 100 | 100 | 99.4 | 99.2 |
| Stage I | 100 | 97.9 | 95.0 | 92.3 | 91.8 | 90.5 |
| Stage II | 100 | 93.4 | 88.7 | 83.0 | 78.2 | 78.2 |
| Stage III | 100 | 79.4 | 67.0 | 58.3 | 53.3 | 52.2 |
| Stage IV | 100 | 69.6 | 53.9 | 46.7 | 45.7 | 43.4 |
| Unknown | 100 | 71.7 | 60.7 | 56.1 | 51.9 | 49.9 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

## Five-Year Relative Survival for Larynx Cancer by AJCC Stage at Diagnosis, Female, California, 2008-2013




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 100 | 100 | 98.5 | 98.5 | 98.5 |
| Stage I | 100 | 93.0 | 88.6 | 86.0 | 85.3 | 84.5 |
| Stage II | 100 | 89.5 | 74.0 | 70.9 | 70.6 | 62.6 |
| Stage III | 100 | 82.7 | 64.9 | 62.5 | 58.9 | 51.0 |
| Stage IV | 100 | 71.3 | 56.2 | 46.8 | 46.0 | 43.3 |
| Unknown | 100 | 78.5 | 70.3 | 62.9 | 62.9 | 62.9 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

# LIVER AND INTRAHEPATIC BILE DUCT CANCER

In 2013, there were 3,998 new cases of liver and intrahepatic bile duct cancer diagnosed in California, and 3,165 deaths were due to the disease. Typically, early stage liver cancers do not cause symptoms, which explains why the disease is often not detected until after it has spread.

The staging of liver cancer is based on factors that affect prognosis: presence or absence of tumor invasion into the blood vessels (vascular invasion), number of tumor nodules (single verses multiple), size of the largest nodule (≤5 cm compared to >5 cm), and lymph node involvement. If imaging studies show that complete removal of the tumor is not possible, surgery may not be performed. As a result, stage at diagnosis is not known for a substantial proportion of liver cancers. The following characteristics are used to stage liver cancer:

**Stage I:**
Single tumor without vascular invasion.

**Stage II:**
Solitary tumor with vascular invasion or multiple tumors, with none larger than 5 cm.

**Stage III:**
Any of the following: multiple tumors larger than 5 cm, major vascular invasion, direct invasion of adjacent organs, tumor perforates the visceral peritoneum, or spreads to regional lymph node(s).

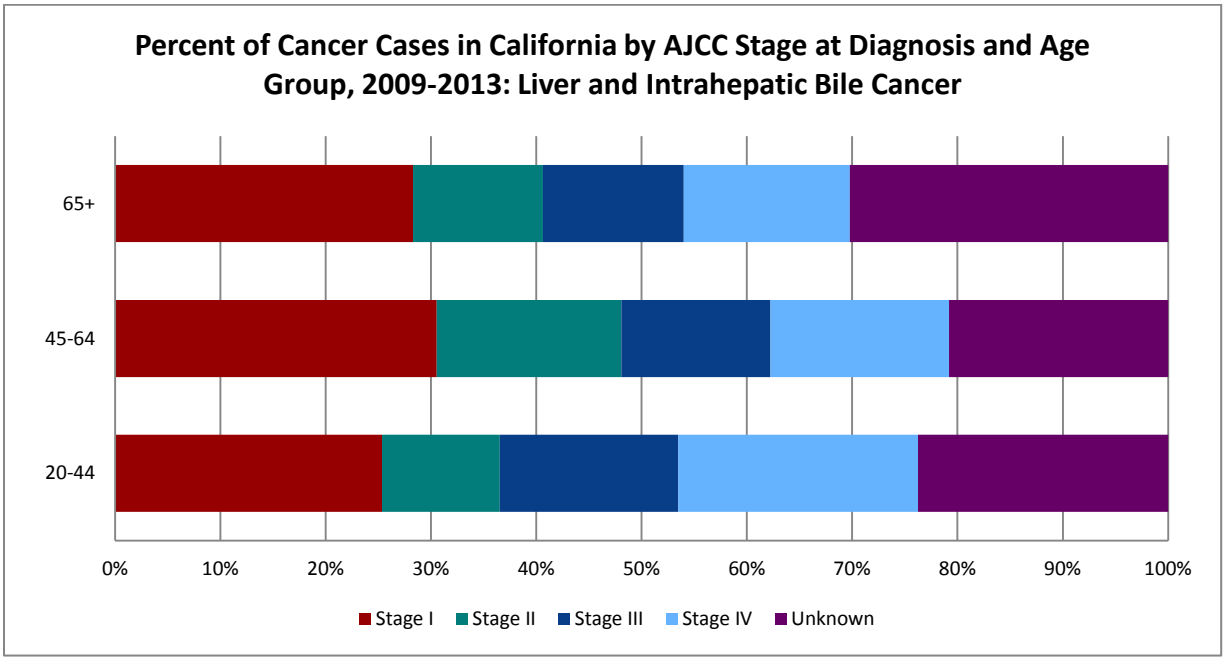
**Stage IV:**
Presence of distant metastasis.

Stages III and IV liver cancers are currently subdivided into stages IIIA, IIIB, IIIC, IVA and IVB; data about these more detailed stages are not included in this report. Additional information on these more detailed stage groups can be found in the AJCC Cancer Staging Manual, 6th (2002) and 7th edition (2010), (Springer Science & Business Media Inc., New York, NY).

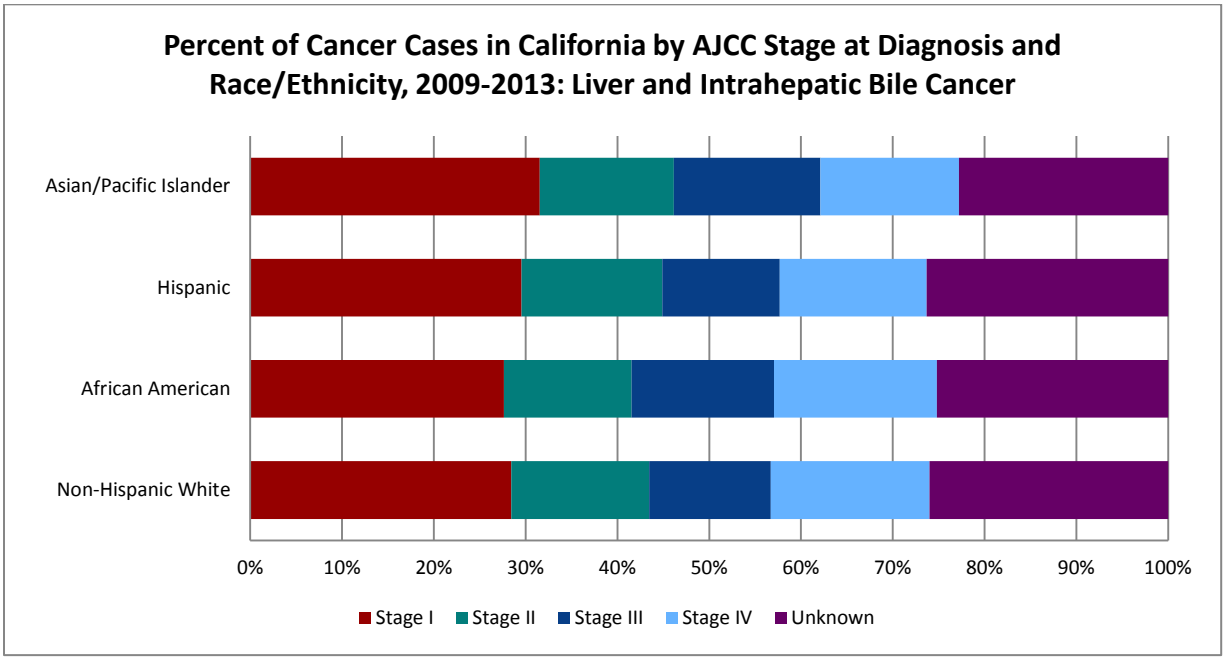
**Number and Percentage of California Adults Age 20 and Older Diagnosed With Liver and Intrahepatic Bile Duct Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013**

| | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Sex** | | | | | | | | | | | | |
| Male | 3,952 | 29.4 | 2,011 | 15.0 | 2,039 | 15.2 | 2,295 | 17.1 | 3,141 | 23.4 | 13,438 | 100.0 |
| Female | 1,542 | 29.2 | 784 | 14.8 | 556 | 10.5 | 802 | 15.2 | 1,600 | 30.3 | 5,284 | 100.0 |
| Total | 5,494 | 29.3 | 2,795 | 14.9 | 2,595 | 13.9 | 3,097 | 16.5 | 4,741 | 25.3 | 18,722 | 100.0 |
| **Race/Ethnicity** | | | | | | | | | | | | |
| Non-Hispanic White | 2,174 | 28.4 | 1,149 | 15.0 | 1,013 | 13.2 | 1,322 | 17.3 | 1,989 | 26.0 | 7,647 | 100.0 |
| African American | 397 | 27.6 | 200 | 13.9 | 223 | 15.5 | 255 | 17.7 | 362 | 25.2 | 1,437 | 100.0 |
| Hispanic | 1,613 | 29.5 | 838 | 15.3 | 698 | 12.8 | 875 | 16.0 | 1,436 | 26.3 | 5,460 | 100.0 |
| Asian/Pacific Islander | 1,237 | 31.5 | 573 | 14.6 | 626 | 16.0 | 592 | 15.1 | 894 | 22.8 | 3,922 | 100.0 |
| All Race/Ethnicities | 5,494 | 29.3 | 2,795 | 14.9 | 2,595 | 13.9 | 3,097 | 16.5 | 4,741 | 25.3 | 18,722 | 100.0 |
| **Age** | | | | | | | | | | | | |
| 20-44 | 127 | 25.3 | 56 | 11.2 | 85 | 17.0 | 114 | 22.8 | 119 | 23.8 | 501 | 100.0 |
| 45-64 | 2,873 | 30.5 | 1,652 | 17.6 | 1,332 | 14.2 | 1,595 | 17.0 | 1,958 | 20.8 | 9,407 | 100.0 |
| 65+ | 2,494 | 28.3 | 1,087 | 12.3 | 1,178 | 13.4 | 1,391 | 15.8 | 2,664 | 30.2 | 8,814 | 100.0 |
| Total | 5,494 | 29.3 | 2,795 | 14.9 | 2,695 | 14.4 | 3,097 | 16.5 | 4,741 | 25.3 | 18,722 | 100.0 |

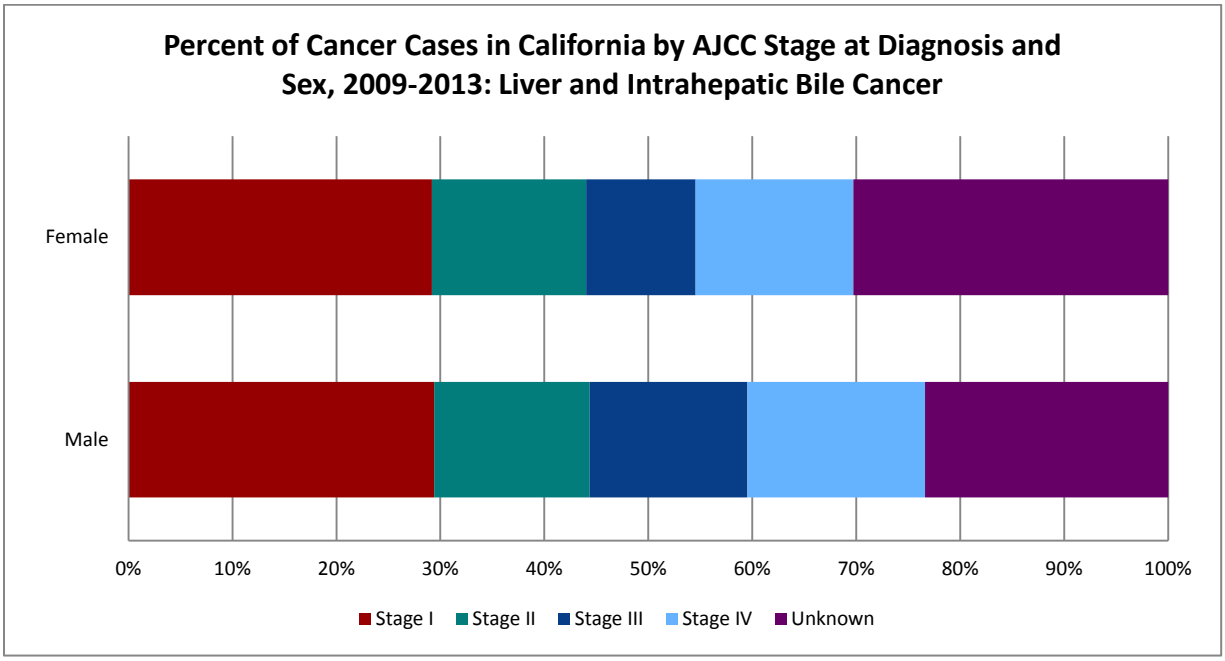
AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System



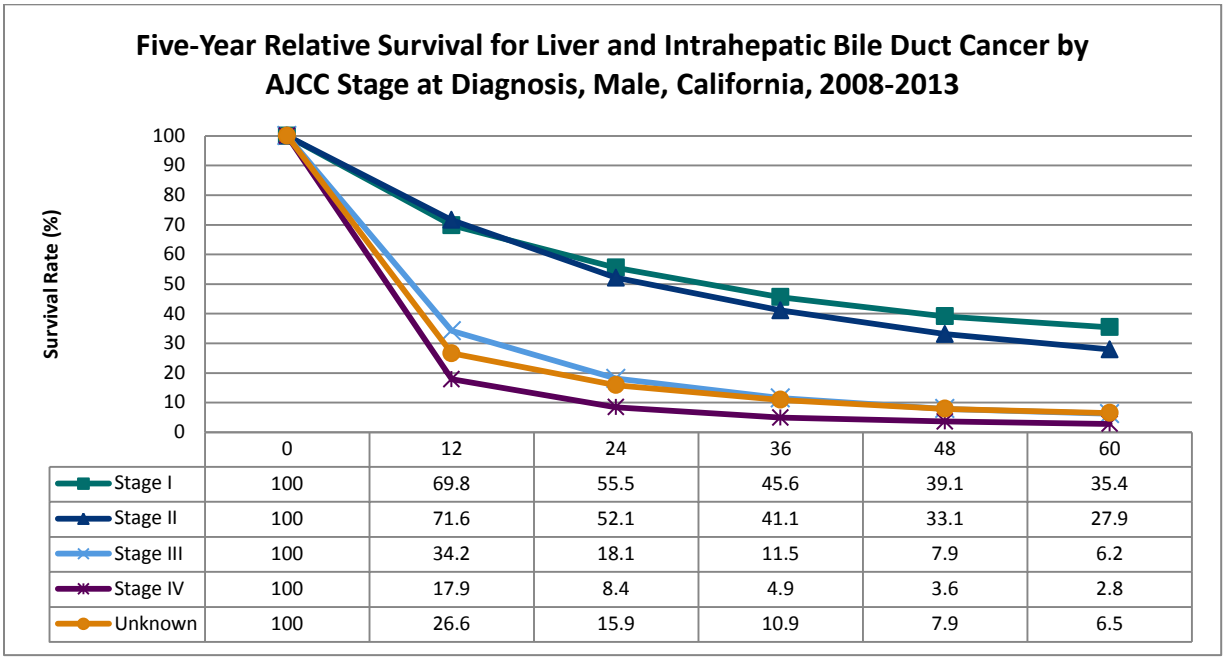

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System




AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System



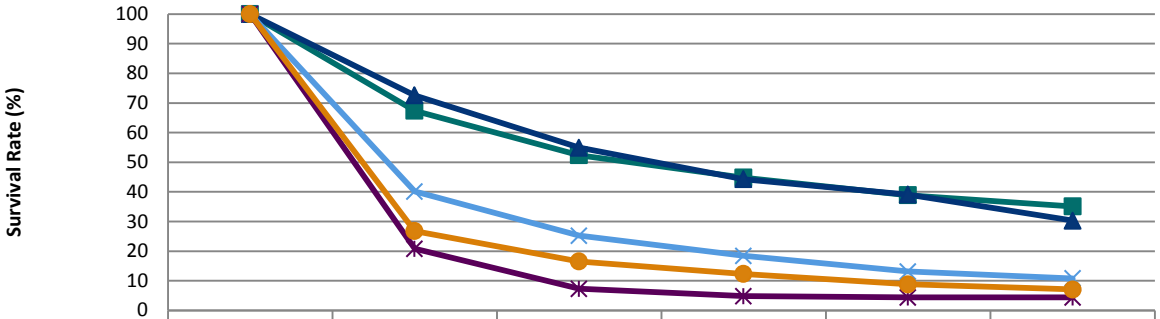

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| Stage I | 100 | 69.8 | 55.5 | 45.6 | 39.1 | 35.4 |
| Stage II | 100 | 71.6 | 52.1 | 41.1 | 33.1 | 27.9 |
| Stage III | 100 | 34.2 | 18.1 | 11.5 | 7.9 | 6.2 |
| Stage IV | 100 | 17.9 | 8.4 | 4.9 | 3.6 | 2.8 |
| Unknown | 100 | 26.6 | 15.9 | 10.9 | 7.9 | 6.5 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

**Five-Year Relative Survival for Liver and Intrahepatic Bile Duct Cancer by AJCC Stage at Diagnosis, Female, California, 2008-2013**




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| Stage I | 100 | 67.4 | 52.4 | 44.8 | 38.9 | 35.1 |
| Stage II | 100 | 72.6 | 54.9 | 44.3 | 39.1 | 30.3 |
| Stage III | 100 | 40.1 | 25.2 | 18.4 | 13.1 | 10.8 |
| Stage IV | 100 | 20.8 | 7.3 | 4.8 | 4.4 | 4.4 |
| Unknown | 100 | 26.8 | 16.5 | 12.3 | 8.8 | 7.1 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

# LUNG AND BRONCHUS CANCER

Lung cancer is the third most frequently diagnosed cancer in California for both men and women. Nearly 90 percent of lung cancer continues to be caused by smoking cigarettes. In California, there were 16,686 new cases of lung and bronchus cancer diagnosed in 2013, and 12,408 deaths due to the disease. The prognosis for lung cancer is typically poor because the lack of effective screening tests has resulted in the disease usually being diagnosed too late for surgery and other treatments to be curative.

Much research has been done to find effective screening tests for lung cancer. Routine chest radiographs and examination of sputum cytology have not been found useful for this purpose. However, low dose computerized tomography (CT) of the lungs recently has been shown to be useful in detecting early stage lung cancer in persons at high risk of developing lung cancer (e.g., 30 or more pack years of smoking). Some organizations are now recommending routine screening with CT scans for persons who are at a high risk of developing lung cancer.

Staging of lung cancer is based on clinical information obtained from imaging procedures and laboratory tests plus pathological information obtained from surgical procedures and examination of the resected tumor and lymph nodes. Based on these characteristics, lung cancer stage of disease at diagnosis can be summarized as follows:

**Stage 0:**
Carcinoma *in situ*.

**Stage I:**
Tumor may involve the main bronchus or visceral pleura, but has not spread to lymph nodes.

**Stage II:**
Tumor either (a) as above, but with spread to lymph nodes, or (b) there is no spread to lymph nodes but the tumor extends to adjacent structures (such as the chest wall or diaphragm) or is associated with atelectasis or obstructive pneumonitis of the entire lung.

**Stage III:**
Tumor with either (a) any of the features described above plus presence of extensive spread to lymph nodes, or (b) regardless of lymph node status, tumor spreads further into adjacent organs (such as the chest wall or diaphragm) or is associated with atelectasis or obstructive pneumonitis of the entire lung.

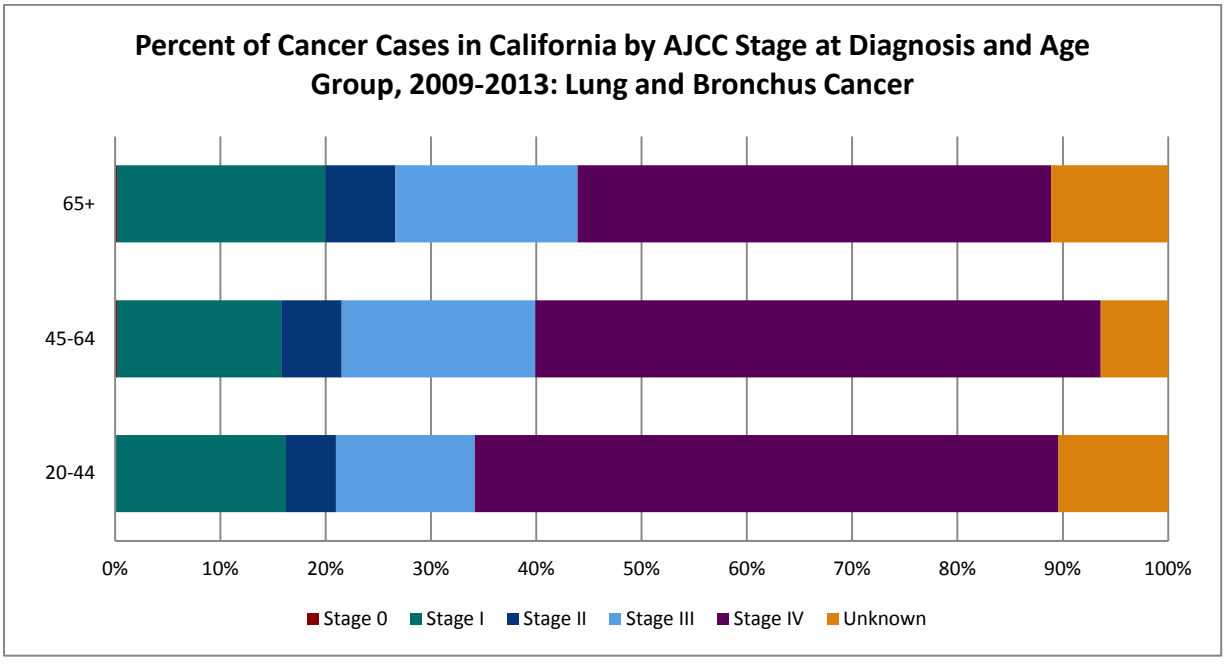
**Stage IV:**
Presence of metastasis to a distant organ.

Stages I, II, and III lung cancers are further subdivided into stages IA, IB, IIA, IIB, IIIA, and IIIB; data about these more detailed stages are not included in this report. Additional information on these more detailed stage groups can be found in the AJCC Cancer Staging Manual, 6$^{th}$ (2002) and 7$^{th}$ edition (2010), (Springer Science & Business Media Inc., New York, NY).

## Number and Percentage of California Adults Age 20 and Older Diagnosed With Lung and Bronchus Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013

| | Stage 0 | | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Sex** | | | | | | | | | | | | | | |
| Male | 54 | 0.1 | 7,214 | 16.5 | 2,855 | 6.5 | 7,900 | 18.1 | 21,477 | 49.2 | 4,150 | 9.5 | 43,650 | 100.0 |
| Female | 108 | 0.3 | 8,744 | 20.9 | 2,613 | 6.2 | 7,077 | 16.9 | 19,049 | 45.5 | 4,305 | 10.3 | 41,896 | 100.0 |
| Total | 162 | 0.2 | 15,958 | 18.7 | 5,468 | 6.4 | 14,977 | 17.5 | 40,526 | 47.4 | 8,455 | 9.9 | 85,546 | 100.0 |
| **Race/Ethnicity** | | | | | | | | | | | | | | |
| Non-Hispanic White | 108 | 0.2 | 11,706 | 19.8 | 3,886 | 6.6 | 10,343 | 17.5 | 27,140 | 45.9 | 5,968 | 10.1 | 59,151 | 100.0 |
| African American | 8 | 0.1 | 1,002 | 15.3 | 422 | 6.4 | 1,259 | 19.2 | 3,285 | 50.2 | 574 | 8.8 | 6,550 | 100.0 |
| Hispanic | 22 | 0.2 | 1,494 | 15.9 | 540 | 5.7 | 1,582 | 16.8 | 4,792 | 50.9 | 982 | 10.4 | 9,412 | 100.0 |
| Asian/Pacific Islander | 24 | 0.2 | 1,629 | 16.8 | 578 | 6.0 | 1,661 | 17.1 | 5,001 | 51.6 | 794 | 8.2 | 9,687 | 100.0 |
| All Race/Ethnicities | 162 | 0.2 | 15,958 | 18.7 | 5,468 | 6.4 | 14,977 | 17.5 | 40,526 | 47.4 | 8,455 | 9.9 | 85,546 | 100.0 |
| **Age** | | | | | | | | | | | | | | |
| 20-44 | 1 | 0.1 | 191 | 16.1 | 56 | 4.7 | 156 | 13.2 | 656 | 55.5 | 123 | 10.4 | 1,183 | 100.0 |
| 45-64 | 43 | 0.2 | 3,420 | 15.6 | 1,262 | 5.7 | 4,044 | 18.4 | 11,797 | 53.7 | 1,403 | 6.4 | 21,969 | 100.0 |
| 65+ | 118 | 0.2 | 12,347 | 19.8 | 4,150 | 6.7 | 10,777 | 17.3 | 28,073 | 45.0 | 6,929 | 11.1 | 62,394 | 100.0 |
| Total | 162 | 0.2 | 15,958 | 18.7 | 5,468 | 6.4 | 14,977 | 17.5 | 40,526 | 47.4 | 8,455 | 9.9 | 85,546 | 100.0 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

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Source: California Cancer Registry, California Department of Public Health
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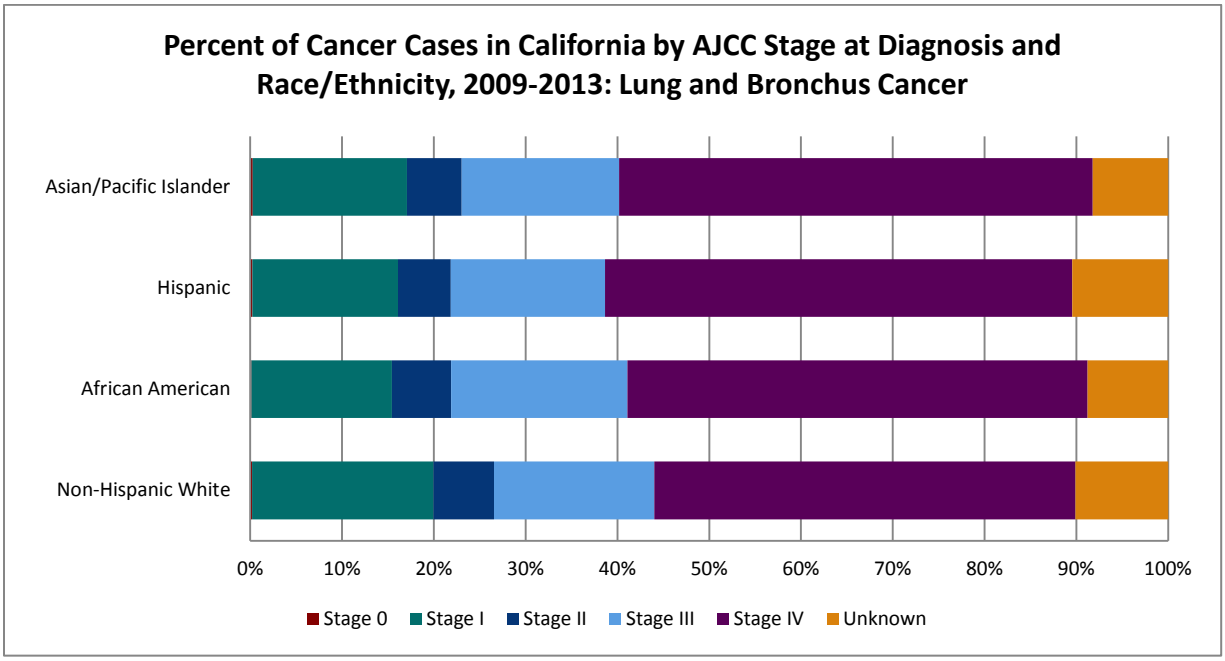


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Source: California Cancer Registry, California Department of Public Health
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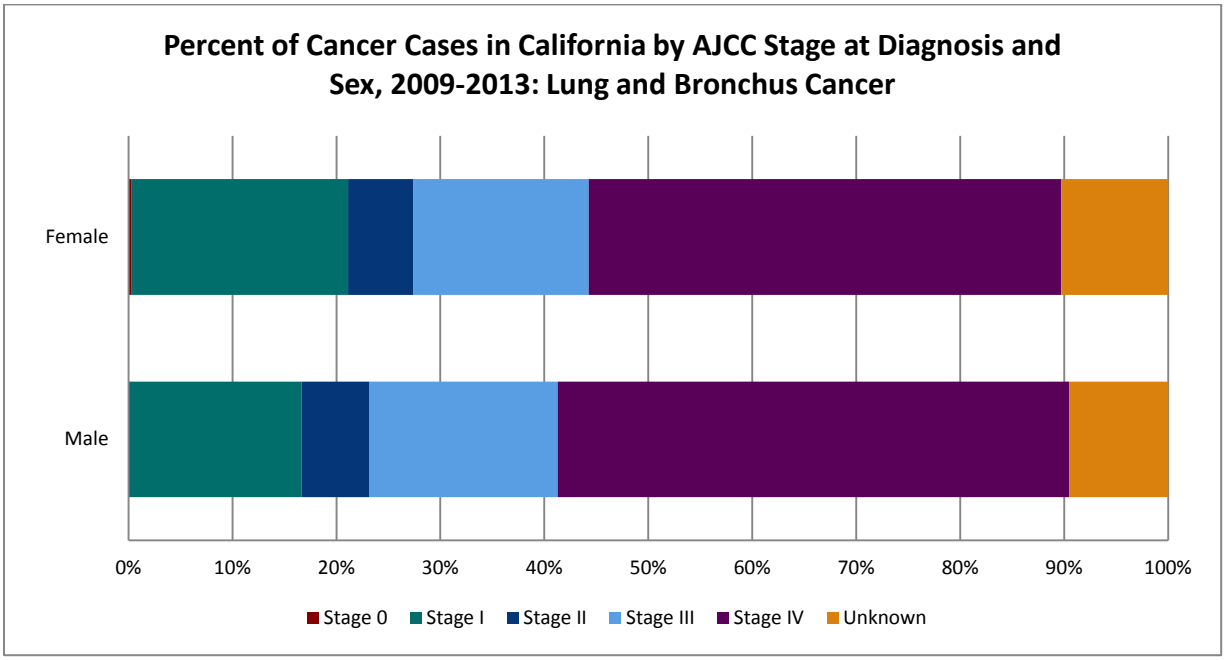
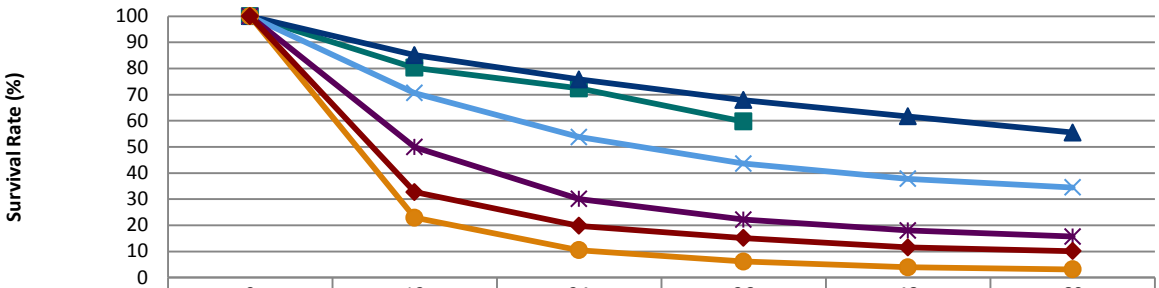



AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

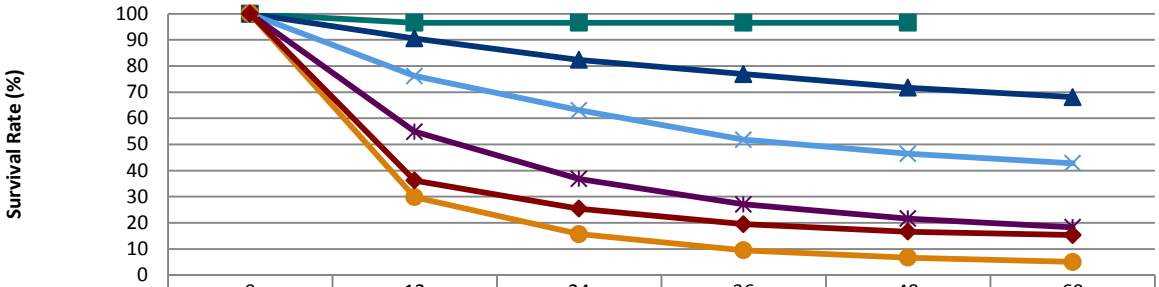
## Five-Year Relative Survival for Lung and Bronchus Cancer by AJCC Stage at Diagnosis, Male, California, 2008-2013




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 80.3 | 72.4 | 59.7 | | |
| Stage I | 100 | 85.1 | 75.8 | 67.9 | 61.7 | 55.5 |
| Stage II | 100 | 70.6 | 53.8 | 43.6 | 37.8 | 34.5 |
| Stage III | 100 | 49.9 | 30.1 | 22.2 | 18.0 | 15.7 |
| Stage IV | 100 | 22.9 | 10.5 | 6.1 | 3.9 | 3.1 |
| Unknown | 100 | 32.7 | 19.8 | 15.1 | 11.5 | 10.1 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

## Five-Year Relative Survival for Lung and Bronchus Cancer by AJCC Stage at Diagnosis, Female, California, 2008-2013




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 96.6 | 96.6 | 96.6 | 96.6 | |
| Stage I | 100 | 90.6 | 82.4 | 76.9 | 71.7 | 68.1 |
| Stage II | 100 | 76.2 | 63.1 | 51.8 | 46.4 | 42.8 |
| Stage III | 100 | 54.9 | 36.8 | 27.1 | 21.6 | 18.3 |
| Stage IV | 100 | 29.8 | 15.7 | 9.5 | 6.7 | 5.0 |
| Unknown | 100 | 36.2 | 25.4 | 19.5 | 16.6 | 15.3 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

# MELANOMA OF THE SKIN

Melanoma is the most serious and aggressive type of skin cancer. The incidence of the disease has sharply increased since the early 1990s. In 2013, there were 15,748 new cases of melanoma of the skincancer diagnosed in California, and there were 914 deaths due to the disease. If detected early, these tumors are highly curable. In California, over 80 percent of melanomas are diagnosed at Stage 0 or Stage I.

Staging of melanomas is based on the tumor thickness, depth of invasion, presence of ulceration, and the evaluation of lymph nodes for metastasis. Generally speaking, the following characteristics are used to describe the stage at diagnosis for melanoma of the skin:

**Stage 0:**
Melanoma *in situ*.

**Stage I-II:**
Different combinations of tumor thickness and presence (or absence) of skin ulceration, without spread to lymph nodes.

**Stage III:**
Tumor of any thickness (with or without ulceration) that has spread to regional lymph nodes.

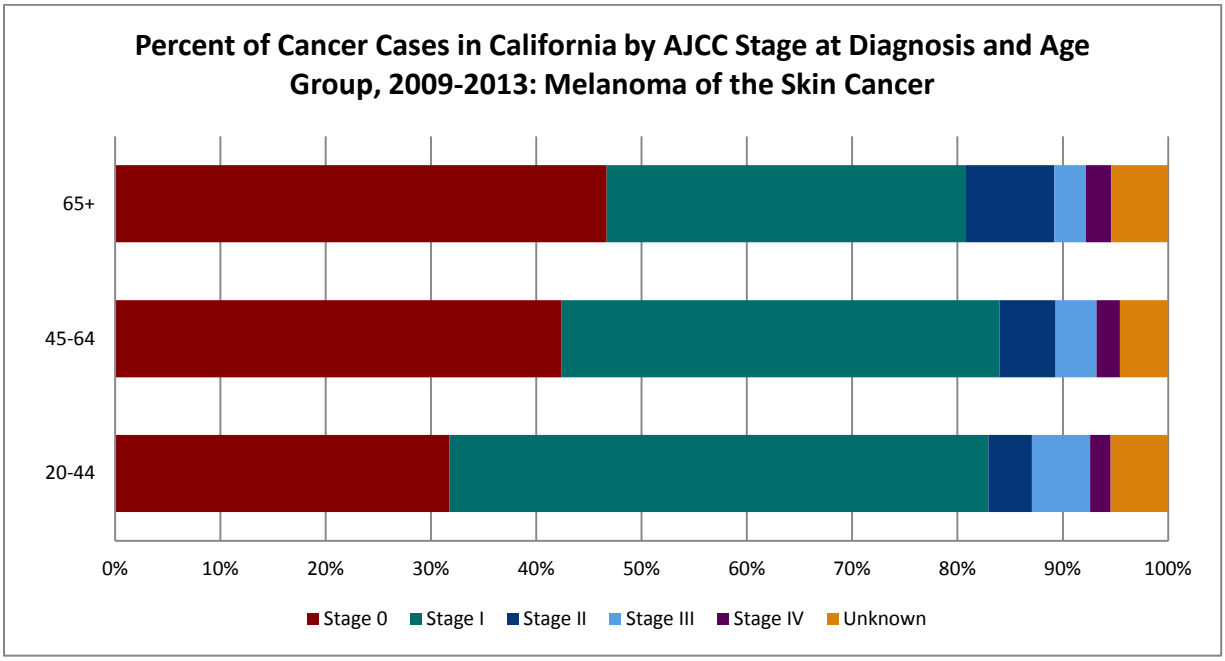
**Stage IV:**
Presence of metastasis to any distant lymph node or organ.

Stages I, II, and III melanomas of the skin are currently subdivided into stages IA, IB, IIA, IIB, IIC, IIIA, IIIB, and IIIC; data about these more detailed stages are not included in this report. Additional information on these more detailed stage groups can be found in the AJCC Cancer Staging Manual, 6th (2002) and 7th edition (2010), (Springer Science & Business Media Inc., New York, NY).

**Number and Percentage of California Adults Age 20 and Older Diagnosed With Melanoma of the Skin Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013**

| | Stage 0 | | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Sex** | | | | | | | | | | | | | | |
| Male | 18,246 | 43.1 | 15,912 | 37.6 | 3,120 | 7.4 | 1,710 | 4.0 | 1,160 | 2.7 | 2,211 | 5.2 | 42,359 | 100.0 |
| Female | 12,416 | 44.3 | 11,313 | 40.3 | 1,673 | 6.0 | 820 | 2.9 | 453 | 1.6 | 1,376 | 4.9 | 28,051 | 100.0 |
| Total | 30,662 | 43.5 | 27,225 | 38.7 | 4,793 | 6.8 | 2,530 | 3.6 | 1,613 | 2.3 | 3,587 | 5.1 | 70,410 | 100.0 |
| **Race/Ethnicity** | | | | | | | | | | | | | | |
| Non-Hispanic White | 25,163 | 42.3 | 23,550 | 39.6 | 4,318 | 7.3 | 2,204 | 3.7 | 1,422 | 2.4 | 2,762 | 4.6 | 59,419 | 100.0 |
| African American | 31 | 23.1 | 37 | 27.6 | 22 | 16.4 | 12 | 9.0 | 11 | 8.2 | 21 | 15.7 | 134 | 100.0 |
| Hispanic | 1,064 | 35.9 | 1,013 | 34.2 | 296 | 10.0 | 245 | 8.3 | 147 | 5.0 | 198 | 6.7 | 2,963 | 100.0 |
| Asian/Pacific Islander | 123 | 28.7 | 153 | 35.7 | 60 | 14.0 | 42 | 9.8 | 26 | 6.1 | 24 | 5.6 | 428 | 100.0 |
| All Race/Ethnicities | 30,662 | 43.5 | 27,225 | 38.7 | 4,793 | 6.8 | 2,530 | 3.6 | 1,613 | 2.3 | 3,587 | 5.1 | 70,410 | 100.0 |
| **Age** | | | | | | | | | | | | | | |
| 20-44 | 2,282 | 31.8 | 3,677 | 51.2 | 295 | 4.1 | 399 | 5.6 | 138 | 1.9 | 393 | 5.5 | 7,184 | 100.0 |
| 45-64 | 11,143 | 42.4 | 10,949 | 41.6 | 1,404 | 5.3 | 1,021 | 3.9 | 588 | 2.2 | 1,200 | 4.6 | 26,305 | 100.0 |
| 65+ | 17,237 | 46.7 | 12,599 | 34.1 | 3,094 | 8.4 | 1,110 | 3.0 | 887 | 2.4 | 1,994 | 5.4 | 36,921 | 100.0 |
| Total | 30,662 | 43.5 | 27,225 | 38.7 | 4,793 | 6.8 | 2,530 | 3.6 | 1,613 | 2.3 | 3,587 | 5.1 | 70,410 | 100.0 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

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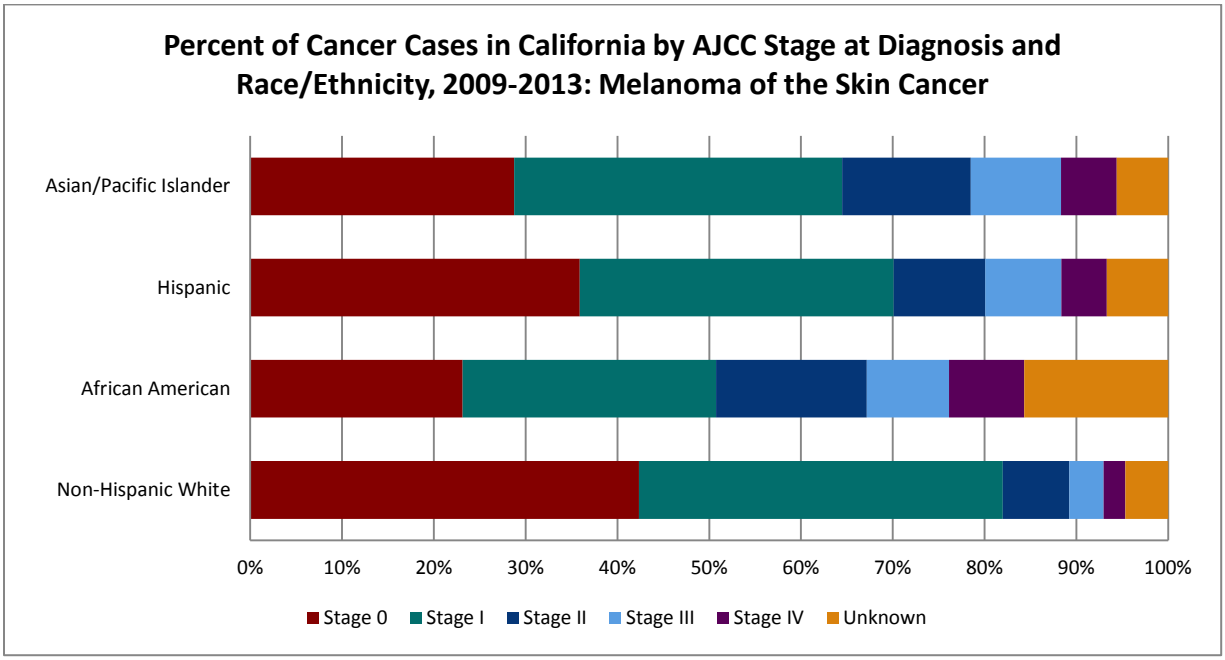


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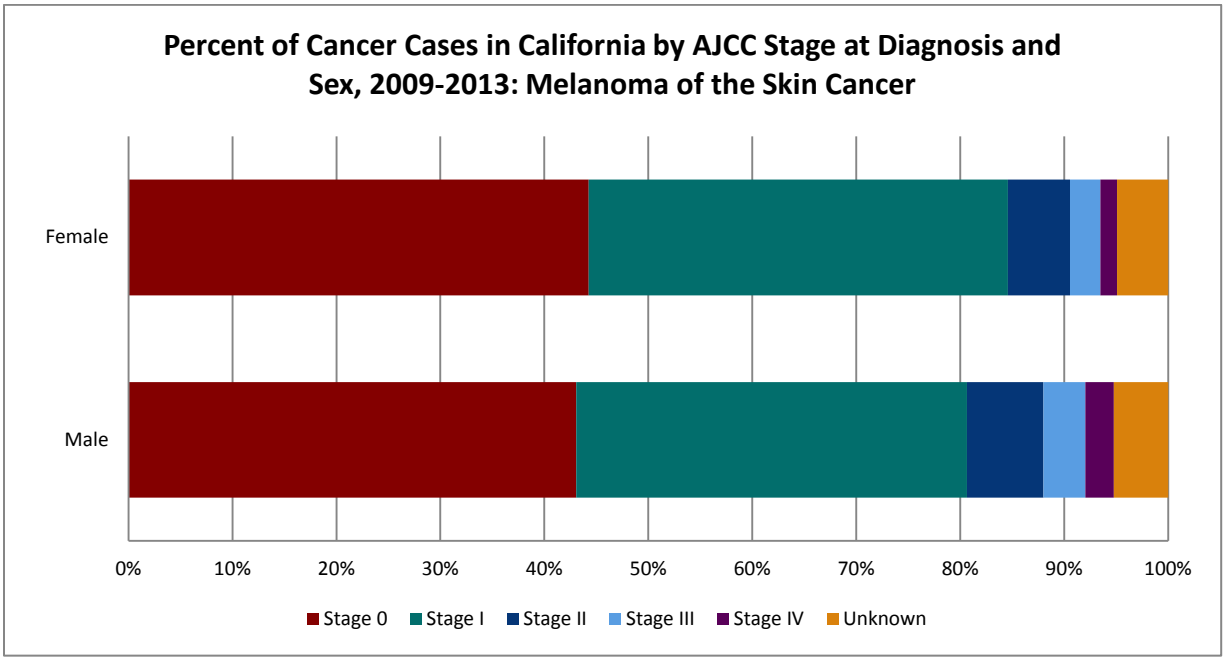


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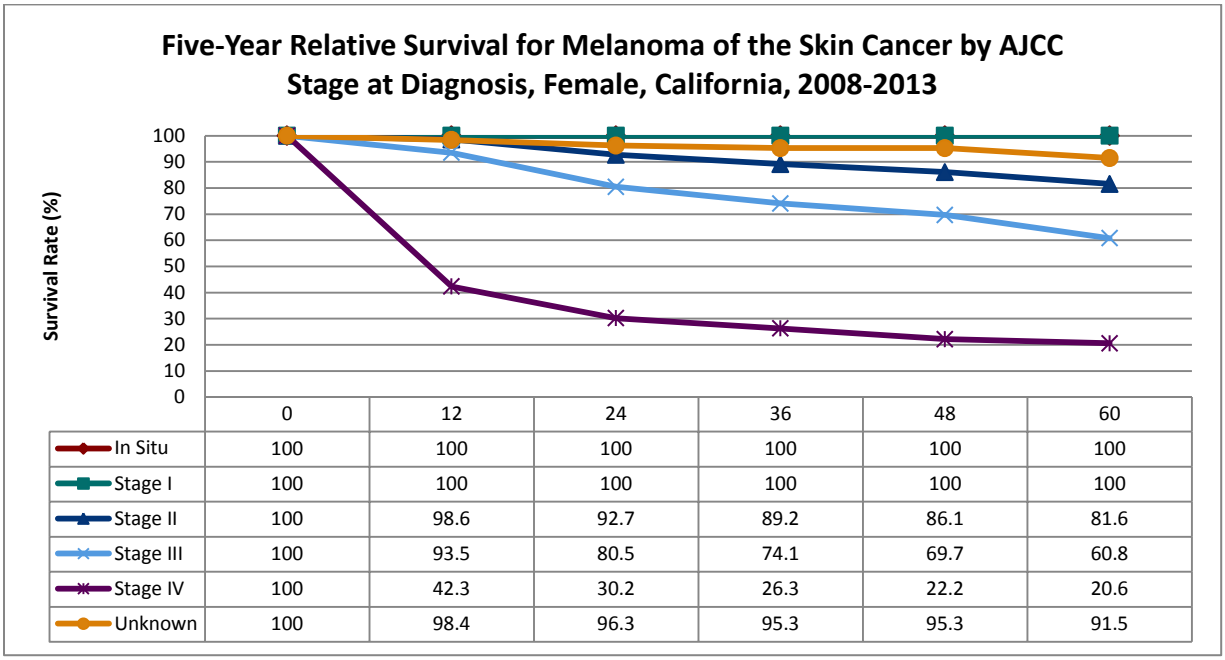
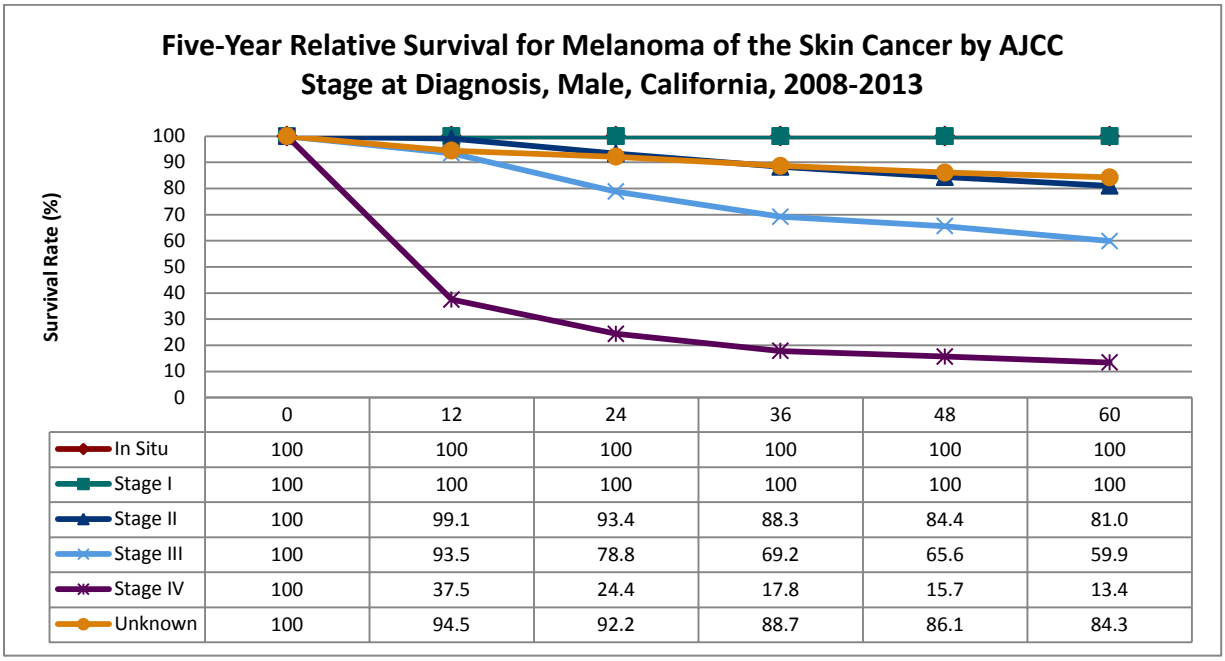



| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 100 | 100 | 100 | 100 | 100 |
| Stage I | 100 | 100 | 100 | 100 | 100 | 100 |
| Stage II | 100 | 98.6 | 92.7 | 89.2 | 86.1 | 81.6 |
| Stage III | 100 | 93.5 | 80.5 | 74.1 | 69.7 | 60.8 |
| Stage IV | 100 | 42.3 | 30.2 | 26.3 | 22.2 | 20.6 |
| Unknown | 100 | 98.4 | 96.3 | 95.3 | 95.3 | 91.5 |

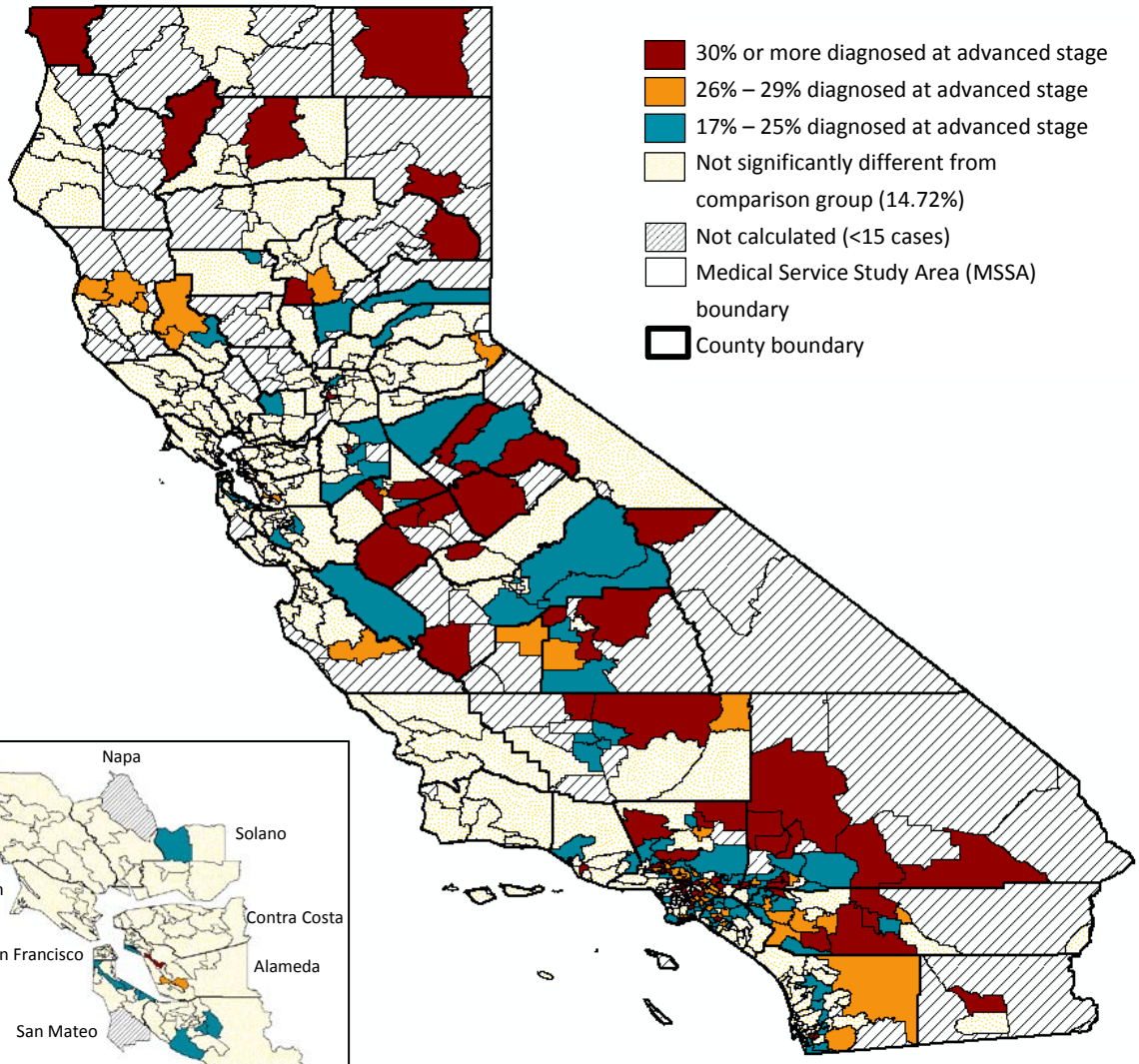
AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 100 | 100 | 100 | 100 | 100 |
| Stage I | 100 | 100 | 100 | 100 | 100 | 100 |
| Stage II | 100 | 99.1 | 93.4 | 88.3 | 84.4 | 81.0 |
| Stage III | 100 | 93.5 | 78.8 | 69.2 | 65.6 | 59.9 |
| Stage IV | 100 | 37.5 | 24.4 | 17.8 | 15.7 | 13.4 |
| Unknown | 100 | 94.5 | 92.2 | 88.7 | 86.1 | 84.3 |

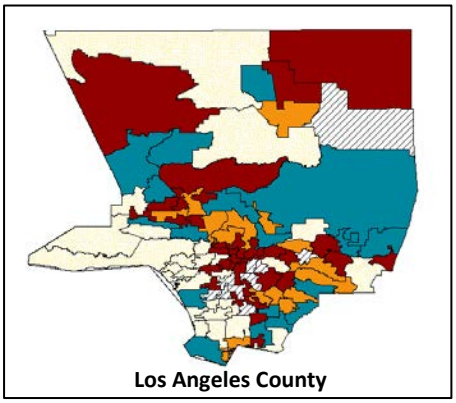
AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

## Percent of Melanoma of the Skin Cancer Cases Diagnosed at Advanced Stage in California Communities among Men and Women Aged 20 and Older, 2009-2013









# ORAL CAVITY AND PHARYNX CANCER

Despite advances in surgical treatment, cancers of the oral cavity and pharynx remain a challenge because of the functional and esthetic problems that may result from treatment. In 2013, there were 4,280 new cases of cancers of the oral cavity and pharynx diagnosed in California, and 949 deaths due to the disease.

The oral cavity includes the lip, tongue, floor of the mouth, gingiva, buccal surface (mucosa), hard palate, and oropharynx. Although these sites are accessible for self-inspection or during medical and dental exams, cancer is often confused with more common benign lesions. As a result, the majority of oral pharyngeal cancers are diagnosed after the disease has spread, when the prognosis for both survival and quality of life are poor. Greater awareness of the condition is needed to improve the detection of oral cancers.

Staging of oral cavity cancers is based on tumor size and extent of invasion to adjacent tissues. Spread to any lymph node places the tumor at Stage III or higher. Although staging rules vary according to the specific site of the tumor within the oral cavity, the following characteristics are considered in the staging of cancers of the oral cavity and pharynx:

**Stage 0:**
Carcinoma *in situ*.

**Stage I:**
Tumor 2 cm or less in dimension, confined to the specific site of origin.

**Stage II:**
Tumor between 2 and 4 cm or with extension to the adjacent tissue.

**Stage III:**
Tumor larger than 4 cm or a smaller tumor with metastasis no larger than 3 cm in a single lymph node.

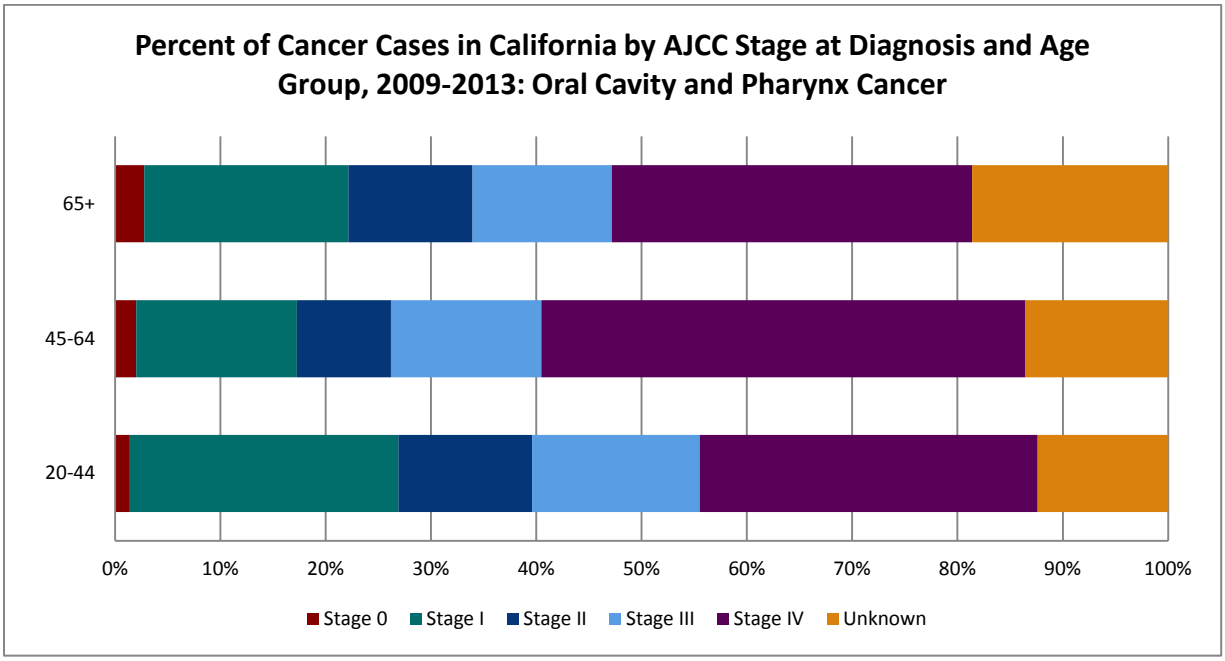
**Stage IV:**
Tumor invades muscle, bone or other structures; tumor with larger metastases to lymph nodes; or presence of distant organ metastasis.

Stage IV oral cancer is further subdivided into stages IVA, IVB, and IVC; data about these more detailed stages are not included in this report. Additional information on these more detailed stage groups can be found in the AJCC Cancer Staging Manual, 6th (2002) and 7th edition (2010), (Springer Science & Business Media Inc., New York, NY).

**Number and Percentage of California Adults Age 20 and Older Diagnosed With Oral Cavity and Pharynx Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013**

| | Stage 0 | | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Sex** | | | | | | | | | | | | | | |
| Male | 316 | 2.2 | 2,143 | 14.8 | 1,394 | 9.6 | 2,058 | 14.2 | 6,416 | 44.3 | 2,156 | 14.9 | 14,483 | 100.0 |
| Female | 155 | 2.6 | 1,525 | 25.4 | 762 | 12.7 | 795 | 13.3 | 1,694 | 28.2 | 1,066 | 17.8 | 5,997 | 100.0 |
| Total | 471 | 2.3 | 3,668 | 17.9 | 2,156 | 10.5 | 2,853 | 13.9 | 8,110 | 39.6 | 3,222 | 15.7 | 20,480 | 100.0 |
| **Race/Ethnicity** | | | | | | | | | | | | | | |
| Non-Hispanic White | 357 | 2.5 | 2,631 | 18.8 | 1,372 | 9.8 | 1,901 | 13.6 | 5,555 | 39.6 | 2,199 | 15.7 | 14,015 | 100.0 |
| African American | 22 | 2.1 | 127 | 11.9 | 101 | 9.5 | 145 | 13.6 | 534 | 50.0 | 139 | 13.0 | 1,068 | 100.0 |
| Hispanic | 37 | 1.3 | 469 | 16.8 | 302 | 10.8 | 400 | 14.4 | 1,158 | 41.6 | 420 | 15.1 | 2,786 | 100.0 |
| Asian/Pacific Islander | 21 | 1.0 | 373 | 17.6 | 348 | 16.4 | 370 | 17.4 | 752 | 35.4 | 259 | 12.2 | 2,123 | 100.0 |
| All Race/Ethnicities | 471 | 2.3 | 3,668 | 17.9 | 2,156 | 10.5 | 2,853 | 13.9 | 8,110 | 39.6 | 3,222 | 15.7 | 20,480 | 100.0 |
| **Age** | | | | | | | | | | | | | | |
| 20-44 | 22 | 1.4 | 403 | 25.5 | 201 | 12.7 | 252 | 15.9 | 507 | 32.1 | 196 | 12.4 | 1,581 | 100.0 |
| 45-64 | 193 | 2.0 | 1,474 | 15.3 | 863 | 8.9 | 1,379 | 14.3 | 4,440 | 46.0 | 1,306 | 13.5 | 9,655 | 100.0 |
| 65+ | 256 | 2.8 | 1,791 | 19.4 | 1,092 | 11.8 | 1,222 | 13.2 | 3,163 | 34.2 | 1,720 | 18.6 | 9,244 | 100.0 |
| Total | 471 | 2.3 | 3,668 | 17.9 | 2,156 | 10.5 | 2,853 | 13.9 | 8,110 | 39.6 | 3,222 | 15.7 | 20,480 | 100.0 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

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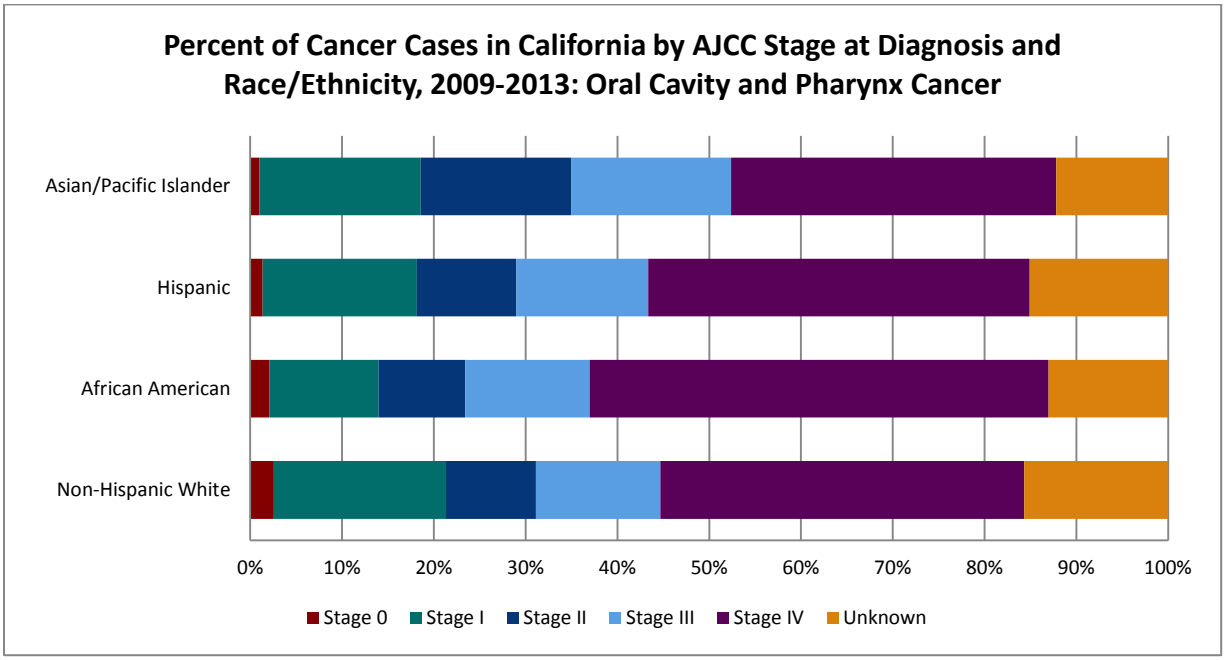


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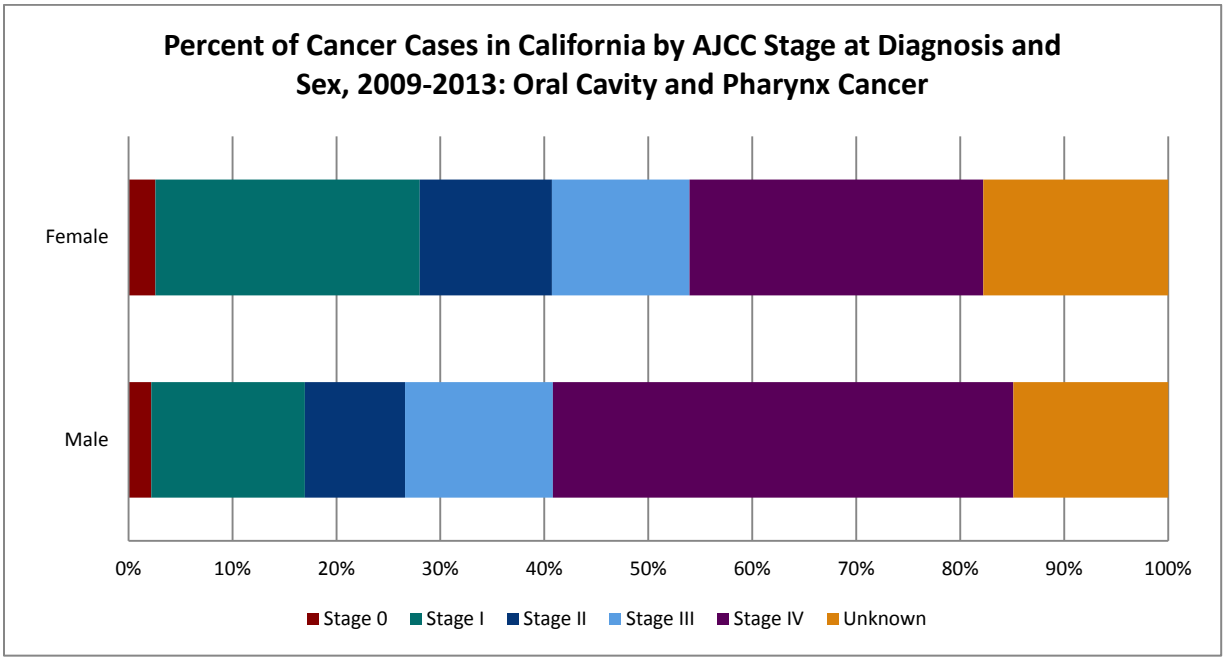


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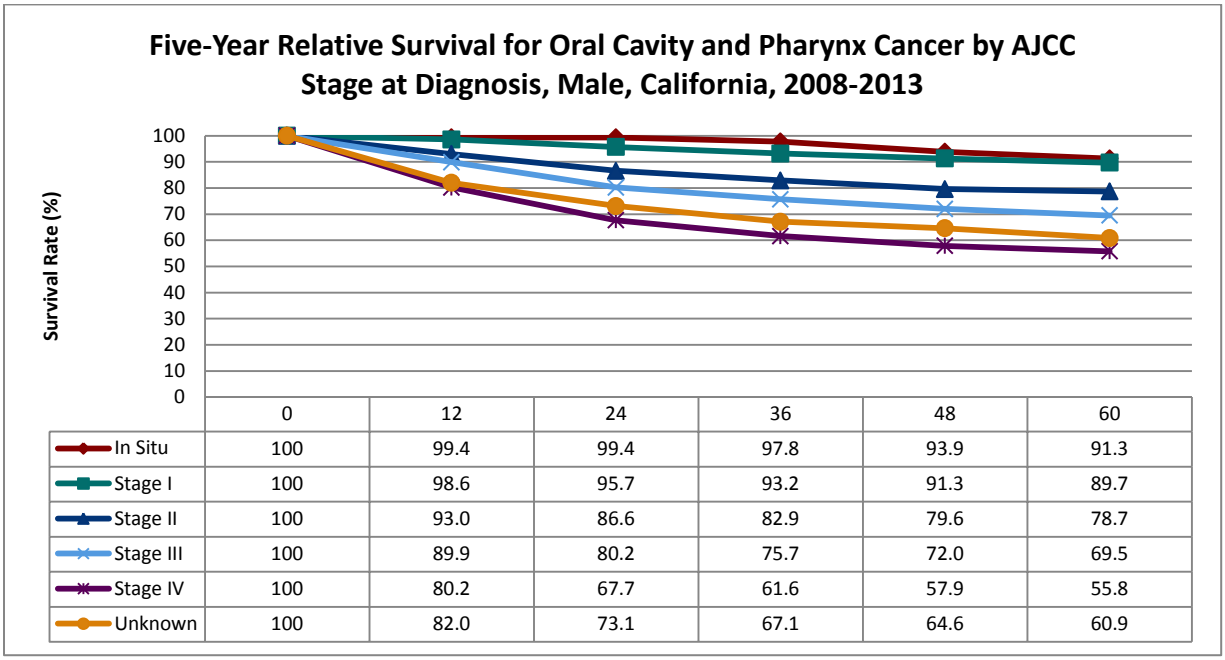


| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 99.4 | 99.4 | 97.8 | 93.9 | 91.3 |
| Stage I | 100 | 98.6 | 95.7 | 93.2 | 91.3 | 89.7 |
| Stage II | 100 | 93.0 | 86.6 | 82.9 | 79.6 | 78.7 |
| Stage III | 100 | 89.9 | 80.2 | 75.7 | 72.0 | 69.5 |
| Stage IV | 100 | 80.2 | 67.7 | 61.6 | 57.9 | 55.8 |
| Unknown | 100 | 82.0 | 73.1 | 67.1 | 64.6 | 60.9 |

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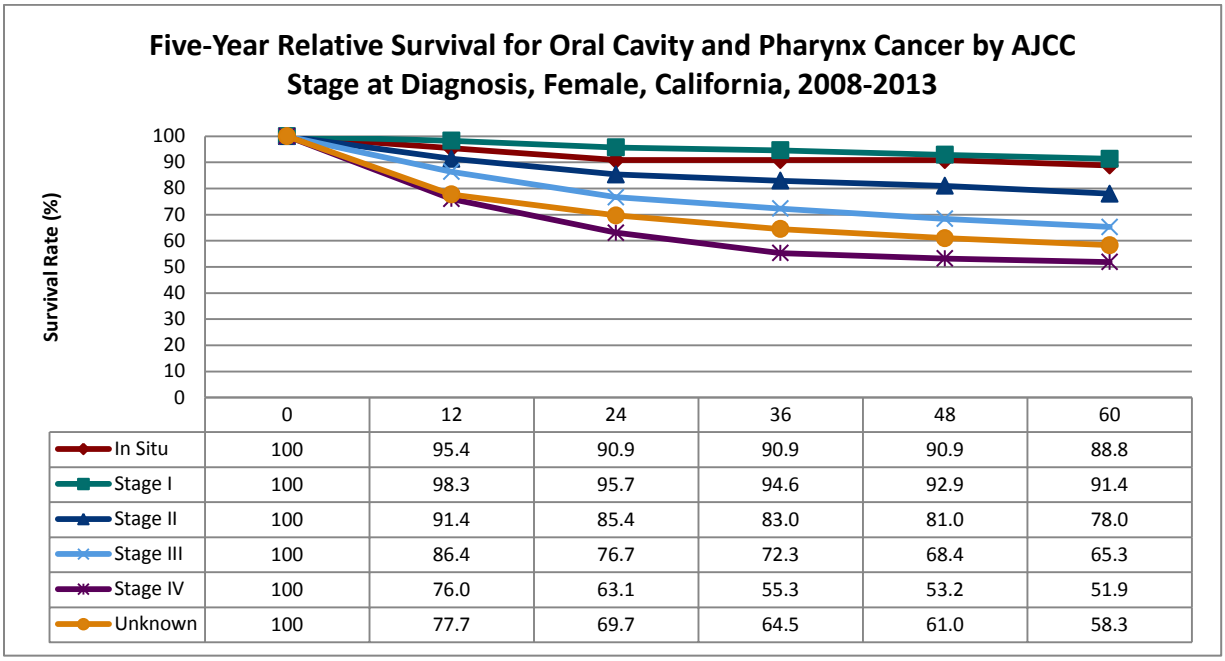


| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 95.4 | 90.9 | 90.9 | 90.9 | 88.8 |
| Stage I | 100 | 98.3 | 95.7 | 94.6 | 92.9 | 91.4 |
| Stage II | 100 | 91.4 | 85.4 | 83.0 | 81.0 | 78.0 |
| Stage III | 100 | 86.4 | 76.7 | 72.3 | 68.4 | 65.3 |
| Stage IV | 100 | 76.0 | 63.1 | 55.3 | 53.2 | 51.9 |
| Unknown | 100 | 77.7 | 69.7 | 64.5 | 61.0 | 58.3 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
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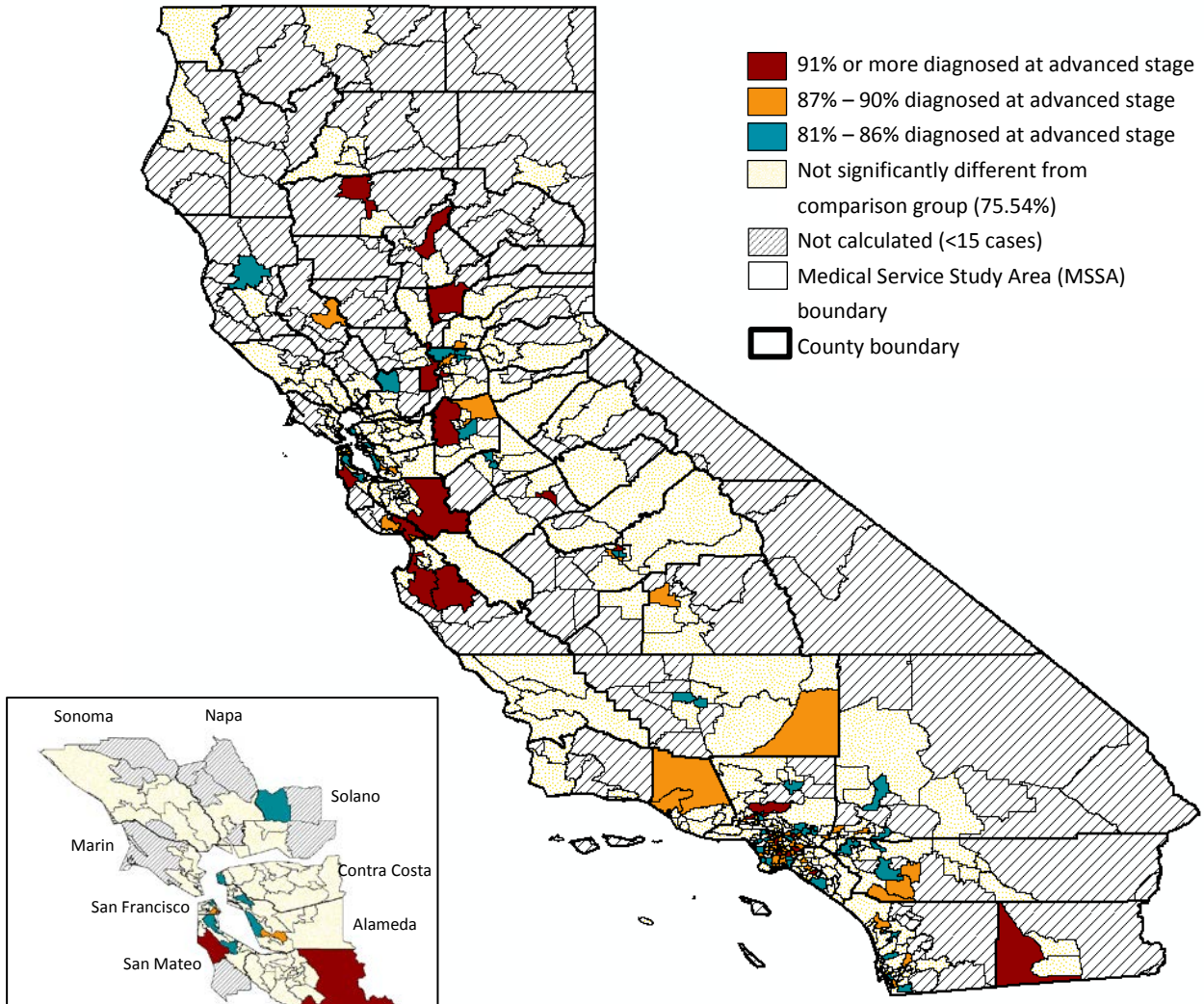
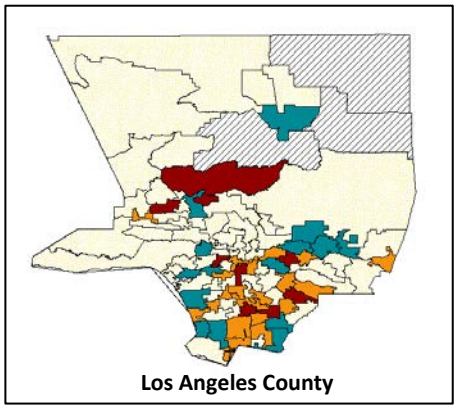
## Percent of Oral Cavity and Pharynx Cancer Cases Diagnosed at Advanced Stage in California Communities among Men and Women Aged 20 and Older, 2009-2013









# OVARY CANCER

Ovarian cancer is the most deadly of all gynecologic cancers. In 2013, there were 2,833 new cases of ovary cancer diagnosed in California, and 1,556 deaths attributable to the disease. At the present time, there are no effective screening tests for ovarian cancer (the Pap test does not check for ovarian cancer). Thus, the disease tends to be diagnosed late, when the prognosis for cure is poor.

The main factor considered when determining the stage of ovarian cancer at the time of diagnosis is the extent of disease, regardless of the size of the tumor. Ovarian cancers are classified as follows:

**Stage I:**
Tumor limited to one or both ovaries.

**Stage II:**
Tumor involves one or both ovaries and extends to the pelvis.

**Stage III:**
Tumor involves one or both ovaries and spreads to the peritoneum beyond the pelvis and/or to lymph nodes.

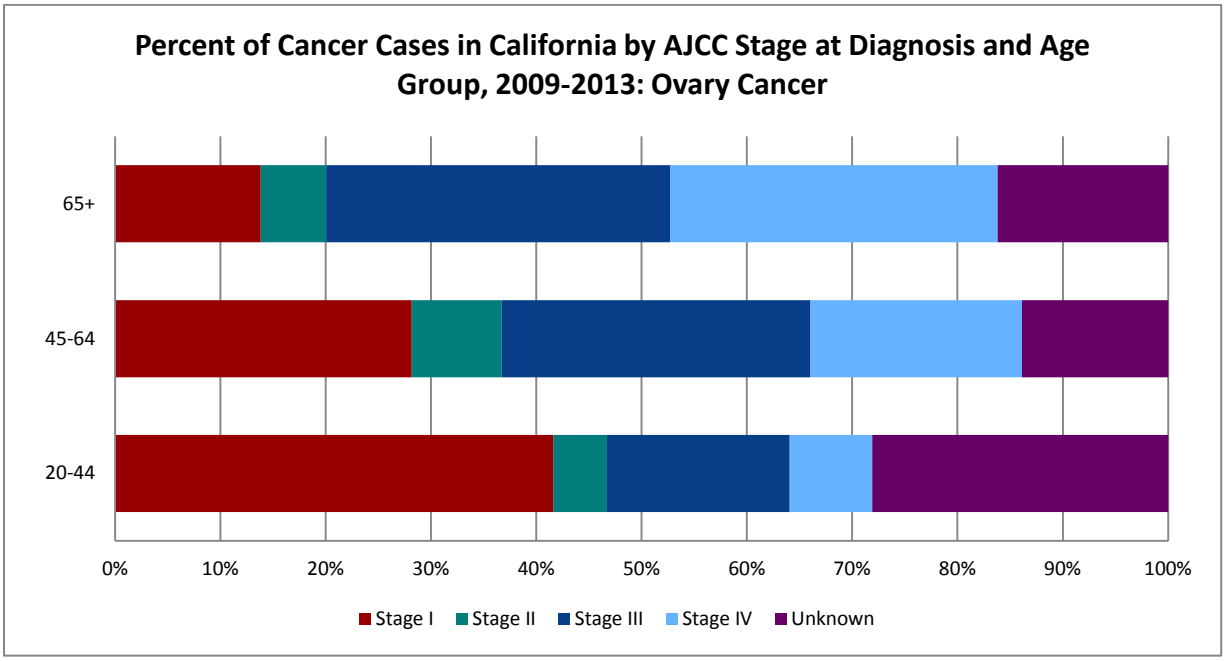
**Stage IV:**
Tumor spreads to distant organs.

Stages I, II, and III ovarian cancers are currently subdivided into stages IA, IB, IC, IIA, IIB, IIC, IIIA, IIIB, and IIIC; data about these more detailed stages are not included in this report. Additional information on these more detailed stage groups can be found in the AJCC Cancer Staging Manual, 6th (2002) and 7th edition (2010), (Springer Science & Business Media Inc., New York, NY).

**Number and Percentage of California Women Age 20 and Older Diagnosed With Ovary Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013**

| | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Race/Ethnicity** | | | | | | | | | | | | |
| Non-Hispanic White | 1,818 | 21.9 | 594 | 7.1 | 2,591 | 31.2 | 1,949 | 23.5 | 1,358 | 16.3 | 8,310 | 100.0 |
| African American | 150 | 21.2 | 32 | 4.5 | 191 | 27.0 | 203 | 28.7 | 132 | 18.6 | 708 | 100.0 |
| Hispanic | 961 | 28.8 | 220 | 6.6 | 835 | 25.0 | 676 | 20.3 | 646 | 19.4 | 3,338 | 100.0 |
| Asian/Pacific Islander | 581 | 32.9 | 154 | 8.7 | 439 | 24.9 | 329 | 18.6 | 262 | 14.8 | 1,765 | 100.0 |
| All Race/Ethnicities | 3,542 | 24.8 | 1,009 | 7.1 | 4,082 | 28.6 | 3,186 | 22.3 | 2,447 | 17.2 | 14,266 | 100.0 |
| **Age** | | | | | | | | | | | | |
| 20-44 | 995 | 41.6 | 122 | 5.1 | 415 | 17.4 | 187 | 7.8 | 672 | 28.1 | 2,391 | 100.0 |
| 45-64 | 1,779 | 28.2 | 540 | 8.5 | 1,852 | 29.3 | 1,269 | 20.1 | 876 | 13.9 | 6,316 | 100.0 |
| 65+ | 768 | 13.8 | 347 | 6.2 | 1,815 | 32.6 | 1,730 | 31.1 | 899 | 16.2 | 5,559 | 100.0 |
| Total | 3,542 | 24.8 | 1,009 | 7.1 | 4,082 | 28.6 | 3,186 | 22.3 | 2,447 | 17.2 | 14,266 | 100.0 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

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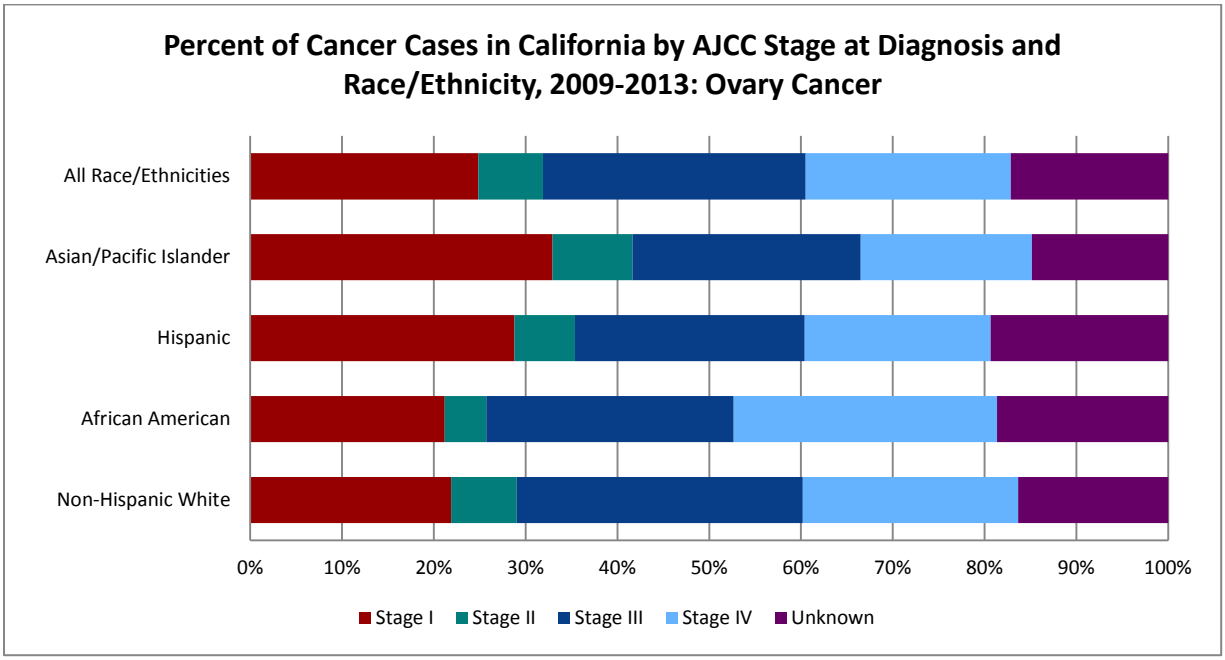


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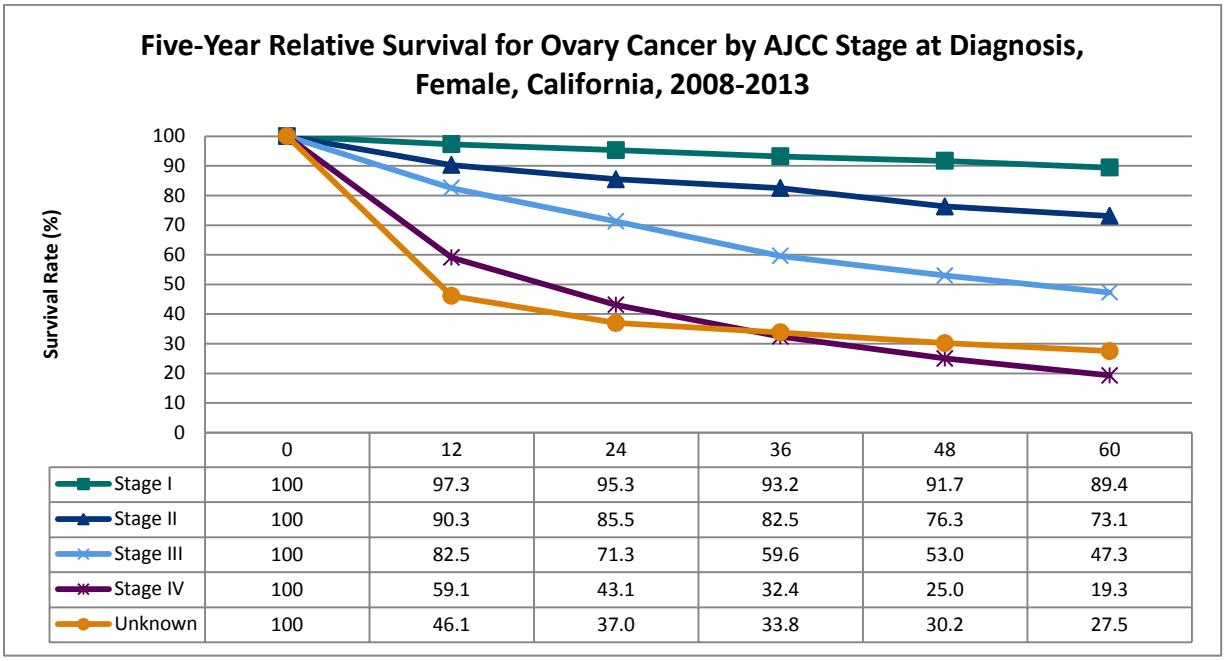



| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| Stage I | 100 | 97.3 | 95.3 | 93.2 | 91.7 | 89.4 |
| Stage II | 100 | 90.3 | 85.5 | 82.5 | 76.3 | 73.1 |
| Stage III | 100 | 82.5 | 71.3 | 59.6 | 53.0 | 47.3 |
| Stage IV | 100 | 59.1 | 43.1 | 32.4 | 25.0 | 19.3 |
| Unknown | 100 | 46.1 | 37.0 | 33.8 | 30.2 | 27.5 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

# PANCREAS CANCER

Pancreatic cancer is a highly lethal cancer because patients do not experience symptoms of the disease until it is at an advanced and typically incurable stage. In 2013, there were 4,545 new cases of cancer of the pancreas diagnosed in California, and 4,096 deaths caused by the disease. Currently, there are no effective screening tests for pancreatic cancer.

Staging of pancreatic cancers is based on the size and extent of the primary tumor, as well as on clinical relevance. Stage III disease refers to tumors that cannot be surgically removed, while Stage IV is reserved for metastatic disease. Based on these characteristics, prostate cancer is staged as follows:

**Stage 0:**
Carcinoma *in situ*.

**Stage I:**
Tumor is limited to the pancreas, without spread to lymph nodes.

**Stage II:**
Tumor may be localized or extend beyond the pancreas, with spread to lymph nodes.

**Stage III:**
Tumor involves the celiac axis or the superior mesenteric artery (unresectable tumor), with or without spread to lymph nodes.

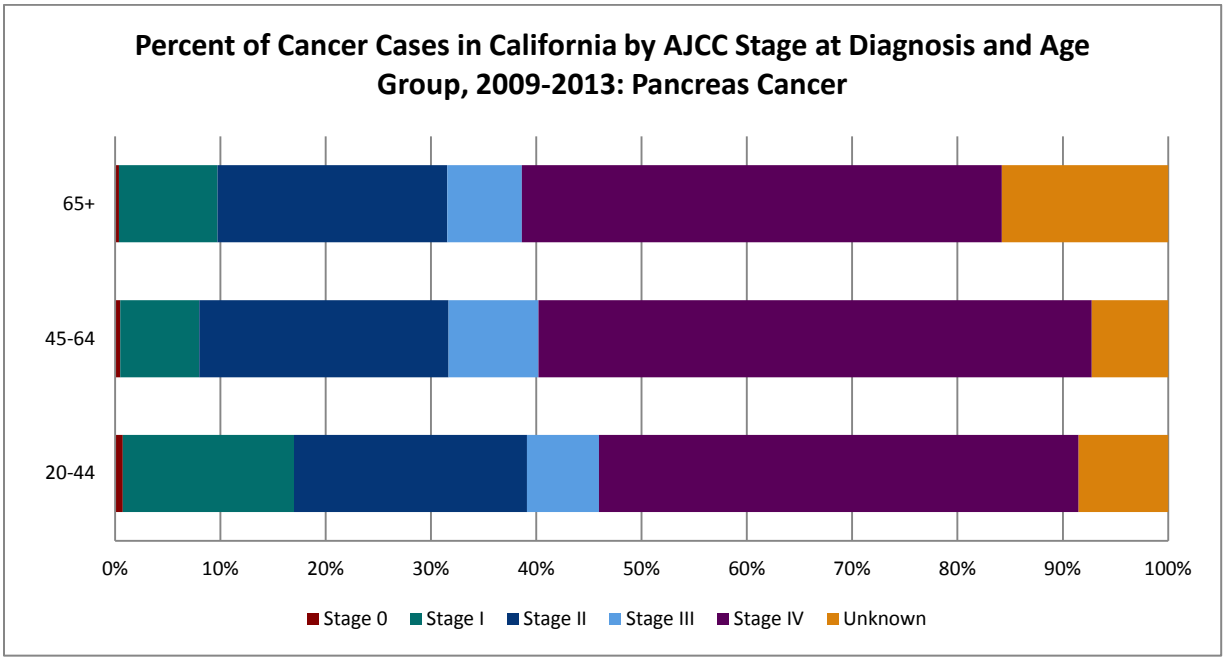
**Stage IV:**
Presence of distant metastasis.

Stages I and II pancreatic cancers are currently subdivided into stages IA, IB, IIA, and IIB; data about these more detailed stages are not included in this report. Additional information on these more detailed stage groups can be found in the AJCC Cancer Staging Manual, 6th (2002) and 7th edition (2010), (Springer Science & Business Media Inc., New York, NY).

**Number and Percentage of California Adults Age 20 and Older Diagnosed With Pancreas Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013**

| | Stage 0 | | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Sex** | | | | | | | | | | | | | | |
| Male | 52 | 0.5 | 915 | 8.3 | 2,514 | 22.7 | 865 | 7.8 | 5,467 | 49.3 | 1,270 | 11.5 | 11,083 | 100.0 |
| Female | 37 | 0.3 | 1,039 | 9.7 | 2,359 | 22.1 | 772 | 7.2 | 4,912 | 46.0 | 1,570 | 14.7 | 10,689 | 100.0 |
| Total | 89 | 0.4 | 1,954 | 9.0 | 4,873 | 22.4 | 1,637 | 7.5 | 10,379 | 47.7 | 2,840 | 13.0 | 21,772 | 100.0 |
| **Race/Ethnicity** | | | | | | | | | | | | | | |
| Non-Hispanic White | 45 | 0.3 | 1,246 | 9.3 | 3,058 | 22.9 | 975 | 7.3 | 6,260 | 46.8 | 1,792 | 13.4 | 13,376 | 100.0 |
| African American | 3 | 0.2 | 111 | 6.7 | 330 | 20.1 | 125 | 7.6 | 863 | 52.5 | 213 | 12.9 | 1,645 | 100.0 |
| Hispanic | 14 | 0.3 | 323 | 8.1 | 858 | 21.4 | 313 | 7.8 | 1,986 | 49.6 | 509 | 12.7 | 4,003 | 100.0 |
| Asian/Pacific Islander | 26 | 1.0 | 259 | 10.0 | 601 | 23.2 | 211 | 8.2 | 1,190 | 46.0 | 299 | 11.6 | 2,586 | 100.0 |
| All Race/Ethnicities | 89 | 0.4 | 1,954 | 9.0 | 4,873 | 22.4 | 1,637 | 7.5 | 10,379 | 47.7 | 2,840 | 13.0 | 21,772 | 100.0 |
| **Age** | | | | | | | | | | | | | | |
| 20-44 | 4 | 0.7 | 88 | 16.2 | 120 | 22.1 | 37 | 6.8 | 247 | 45.6 | 46 | 8.5 | 542 | 100.0 |
| 45-64 | 31 | 0.5 | 492 | 7.5 | 1,548 | 23.7 | 557 | 8.5 | 3,435 | 52.5 | 474 | 7.3 | 6,537 | 100.0 |
| 65+ | 54 | 0.4 | 1,374 | 9.4 | 3,205 | 21.8 | 1,043 | 7.1 | 6,697 | 45.6 | 2,320 | 15.8 | 14,693 | 100.0 |
| Total | 89 | 0.4 | 1,954 | 9.0 | 4,873 | 22.4 | 1,637 | 7.5 | 10,379 | 47.7 | 2,840 | 13.0 | 21,772 | 100.0 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

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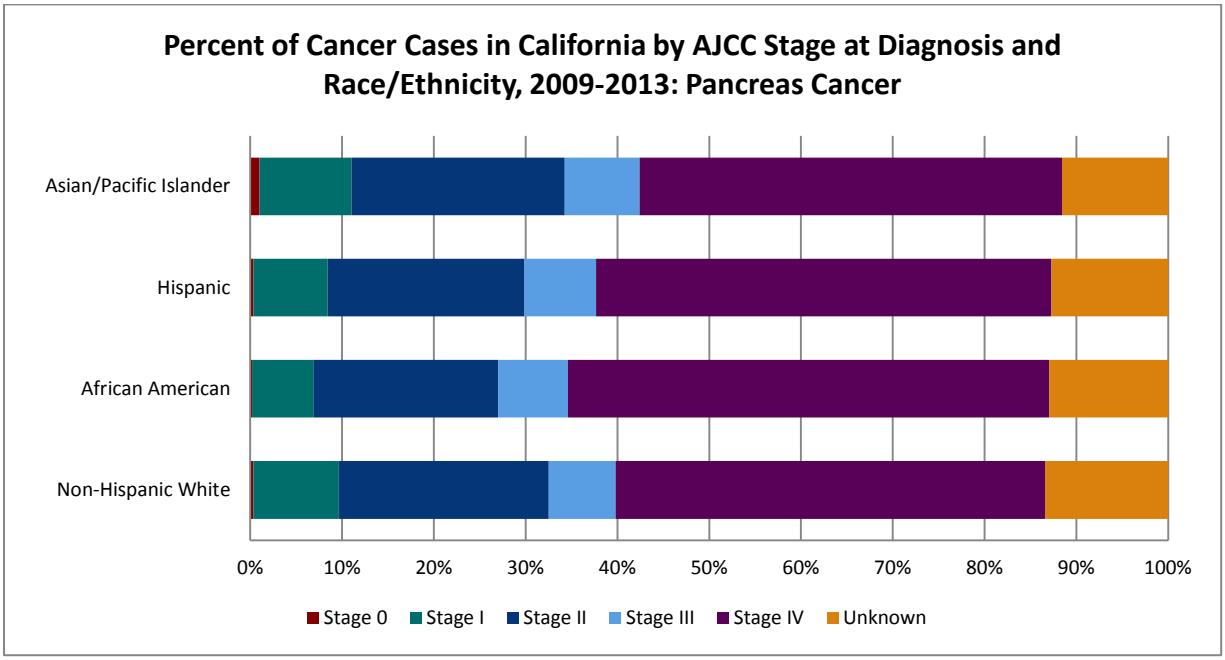


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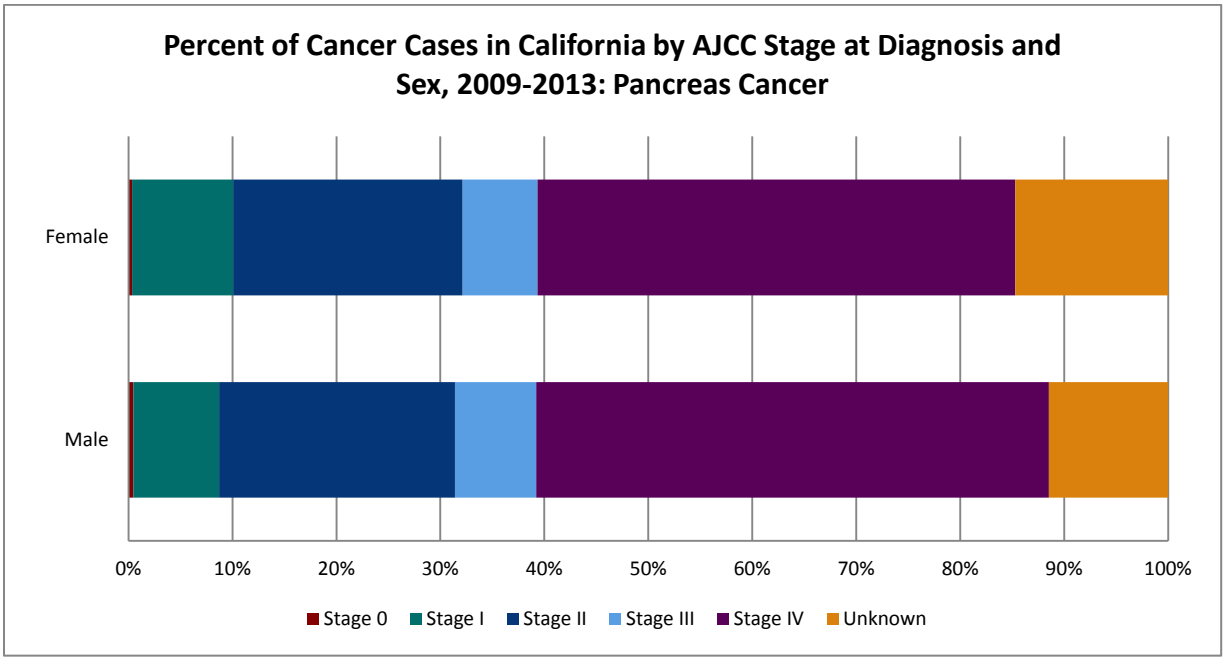


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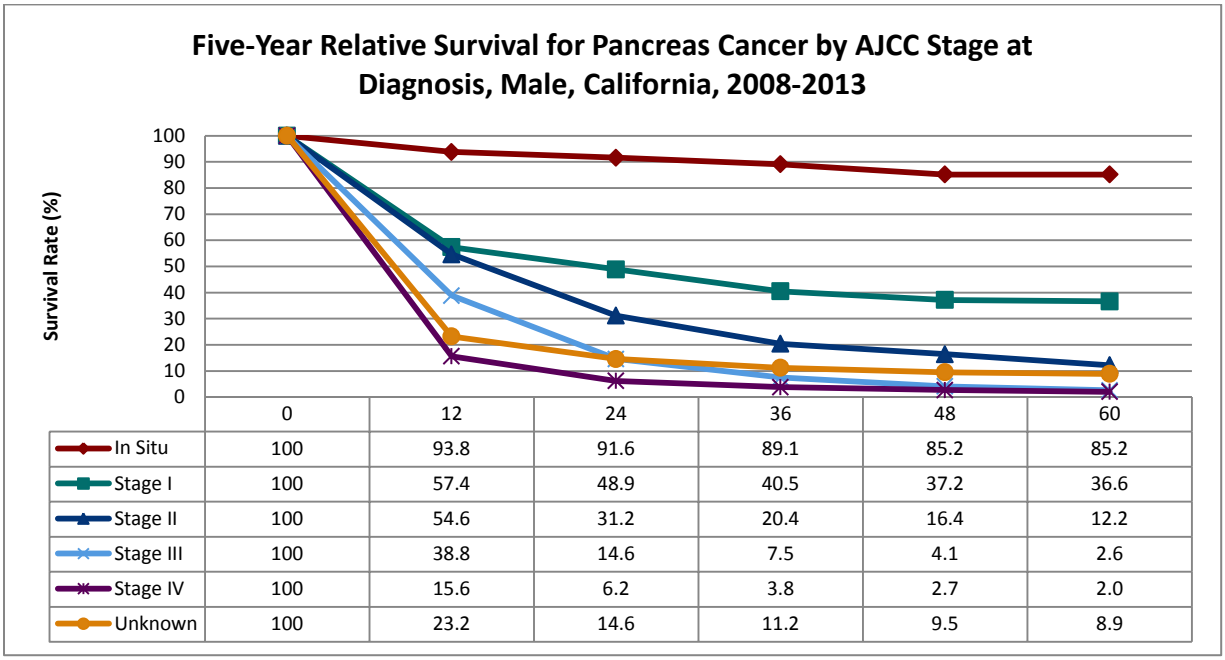


| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 93.8 | 91.6 | 89.1 | 85.2 | 85.2 |
| Stage I | 100 | 57.4 | 48.9 | 40.5 | 37.2 | 36.6 |
| Stage II | 100 | 54.6 | 31.2 | 20.4 | 16.4 | 12.2 |
| Stage III | 100 | 38.8 | 14.6 | 7.5 | 4.1 | 2.6 |
| Stage IV | 100 | 15.6 | 6.2 | 3.8 | 2.7 | 2.0 |
| Unknown | 100 | 23.2 | 14.6 | 11.2 | 9.5 | 8.9 |

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Source: California Cancer Registry, California Department of Public Health
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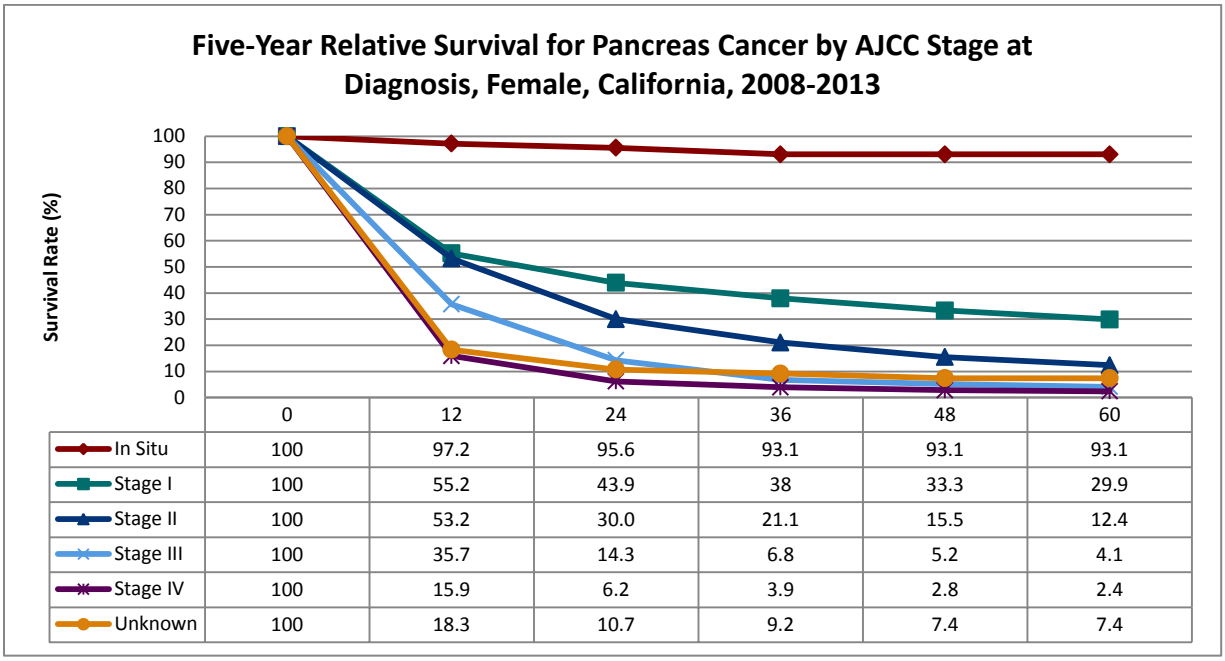


| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 97.2 | 95.6 | 93.1 | 93.1 | 93.1 |
| Stage I | 100 | 55.2 | 43.9 | 38 | 33.3 | 29.9 |
| Stage II | 100 | 53.2 | 30.0 | 21.1 | 15.5 | 12.4 |
| Stage III | 100 | 35.7 | 14.3 | 6.8 | 5.2 | 4.1 |
| Stage IV | 100 | 15.9 | 6.2 | 3.9 | 2.8 | 2.4 |
| Unknown | 100 | 18.3 | 10.7 | 9.2 | 7.4 | 7.4 |

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Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

# PROSTATE CANCER

Prostate cancer is the most commonly occurring cancer among men, and is the overall second most common cancer in California. In 2013, there were 18,653 new cases of prostate cancer and 3,111 deaths from prostate cancer in California.

The prostate-specific antigen (PSA) blood test is helpful in detecting the disease at an early stage; however, the PSA test also detects tumors that would not cause harm if they were not treated. Aggressive treatment for such tumors may cause considerably more harm than the tumor itself.

There is no easy way to determine which tumors, if left untreated, would progress and which would not. Given the substantial harm caused by aggressive treatment, the US Preventative Services Task Force currently recommends against PSA-based screening for prostate cancer.

Staging of prostate cancer is based primarily on tumor spread, but characteristics (or grade) of the tumor cells are also considered and assigned a Gleason score. Spread to lymph nodes means the disease is considered Stage IV or metastatic. The following characteristics are used to determine the stage at diagnosis for prostate cancer:

**Stage I:**
Tumor is found incidentally in five percent or less of the tissue resected, with a Gleason score between two and four.

**Stage II:**
Tumor as above but with Gleason score between five and ten or tumor confined within the prostate (palpable or not) with any Gleason score.

**Stage III:**
Tumor extends through the prostate capsule and may invade the seminal vesicle, regardless of Gleason score.

**Stage IV:**
Tumor that either (a) is fixed or invades adjacent structures, (b) has spread to lymph nodes, or (c) has spread to the bones or other distant organs.

Stage II prostate cancer is currently subdivided into stages IIA and IIB; data about these more detailed stages are not included in this report. Additional information on these more detailed stage groups can be found in the AJCC Cancer Staging Manual, 6th (2002) and 7th edition (2010), (Springer Science & Business Media Inc., New York, NY).

**Number and Percentage of California Men Age 20 and Older Diagnosed With Prostate Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013**

| | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Race/Ethnicity** | | | | | | | | | | | | |
| Non-Hispanic White | 12,610 | 19.9 | 35,463 | 55.9 | 5,792 | 9.1 | 4,809 | 7.6 | 4,822 | 7.6 | 63,496 | 100.0 |
| African American | 1,711 | 17.1 | 5,827 | 58.4 | 754 | 7.6 | 916 | 9.2 | 772 | 7.7 | 9,980 | 100.0 |
| Hispanic | 3,352 | 18.7 | 9,443 | 52.6 | 1,450 | 8.1 | 1,526 | 8.5 | 2,168 | 12.1 | 17,939 | 100.0 |
| Asian/Pacific Islander | 1,452 | 17.9 | 4,621 | 56.9 | 697 | 8.6 | 634 | 7.8 | 718 | 8.8 | 8,122 | 100.0 |
| All Race/Ethnicities | 20,523 | 19.4 | 2,265 | 2.1 | 8,813 | 8.3 | 8,008 | 7.6 | 10,825 | 10.2 | 105,788 | 100.0 |
| **Age** | | | | | | | | | | | | |
| 20-44 | 138 | 25.7 | 296 | 55.1 | 31 | 5.8 | 47 | 8.8 | 25 | 4.7 | 537 | 100.0 |
| 45-64 | 9,337 | 21.7 | 24,302 | 56.4 | 4,349 | 10.1 | 2,557 | 5.9 | 2,528 | 5.9 | 43,073 | 100.0 |
| 65+ | 11,048 | 17.8 | 33,021 | 53.1 | 4,433 | 7.1 | 5,404 | 8.7 | 8,272 | 13.3 | 62,178 | 100.0 |
| Total | 20,523 | 19.4 | 57,619 | 54.5 | 8,813 | 8.3 | 8,008 | 7.6 | 10,825 | 10.2 | 105,788 | 100.0 |

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Source: California Cancer Registry, California Department of Public Health
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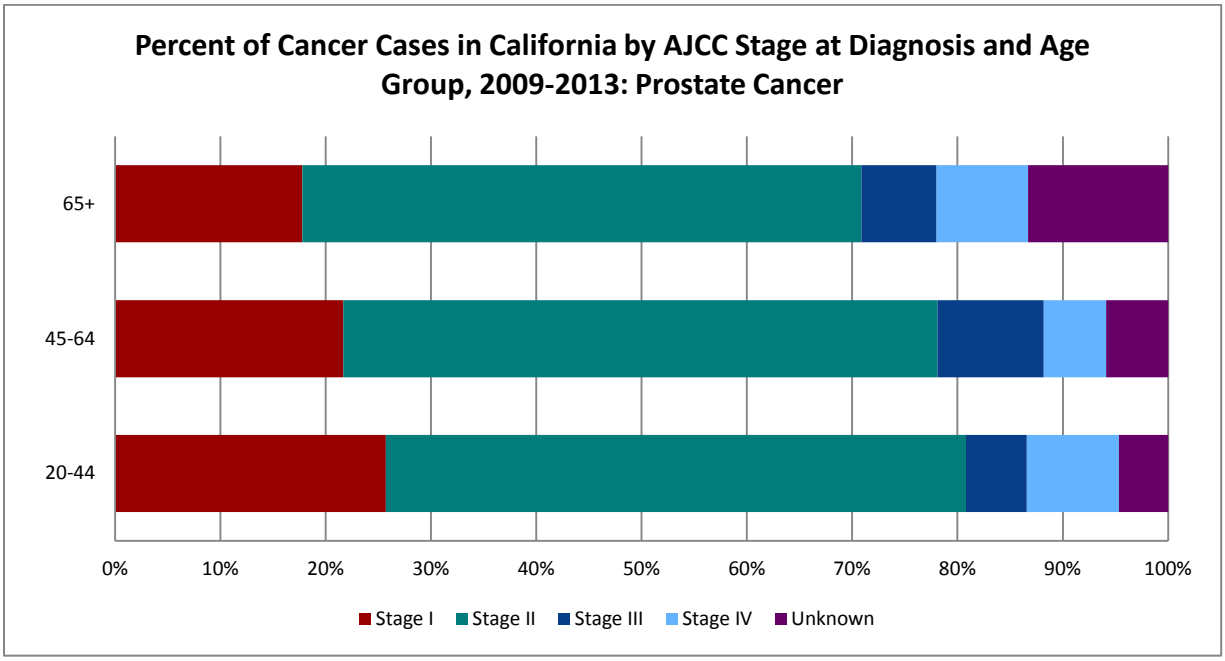


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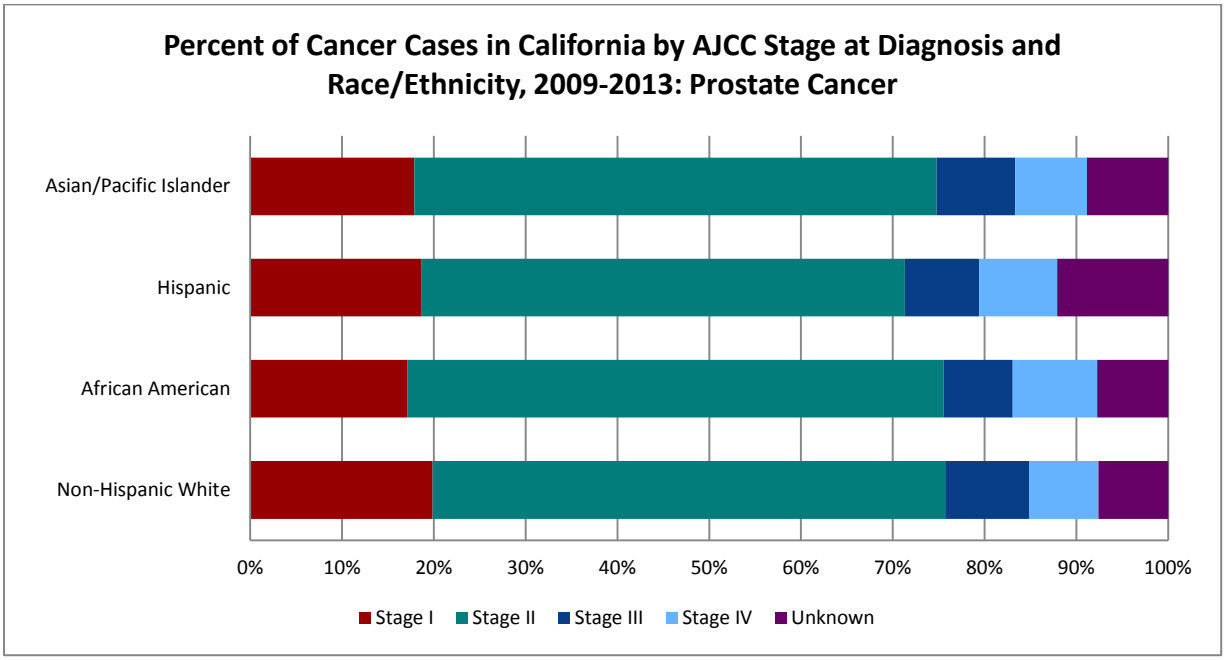


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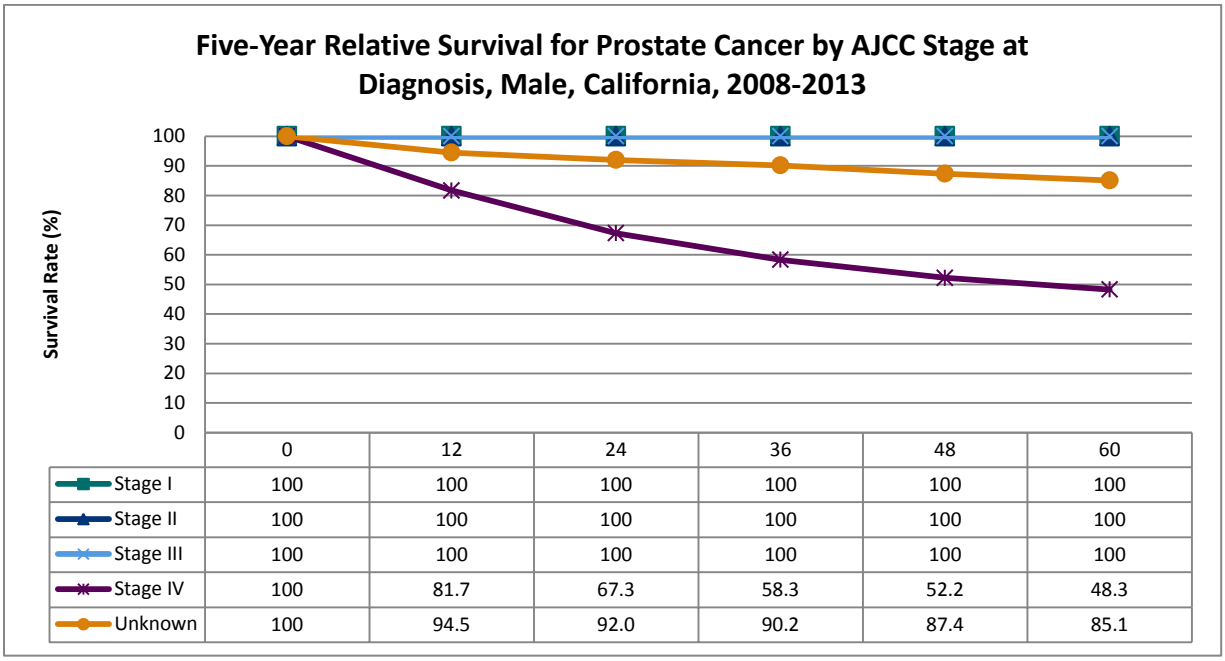
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| Stage I | 100 | 100 | 100 | 100 | 100 | 100 |
| Stage II | 100 | 100 | 100 | 100 | 100 | 100 |
| Stage III | 100 | 100 | 100 | 100 | 100 | 100 |
| Stage IV | 100 | 81.7 | 67.3 | 58.3 | 52.2 | 48.3 |
| Unknown | 100 | 94.5 | 92.0 | 90.2 | 87.4 | 85.1 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

# STOMACH CANCER

In 2013, there were 2,936 new cases of stomach cancer in California, and 1,544 persons died from the disease. Stomach cancer is more often diagnosed in the elderly and is more common in men than women. The incidence of stomach cancer in California has declined substantially since 1988, although most patients are still diagnosed at a late stage and face a poor prognosis.

Anatomically, the stomach wall is comprised of five layers: mucosa (internal layer), submucosa, muscularis propria, subserosa, and serosa (visceral peritoneum). Staging of stomach cancer is based on the depth of tumor invasion into the stomach layers and spread to lymph nodes. The following characteristics are used to determine the stage at diagnosis for stomach cancer:

**Stage 0:**
Carcinoma *in situ*.

**Stage I:**
Tumor may either (a) invade the subserosa without spread to lymph nodes or (b) invade no deeper than the submucosa but with spread to 1 – 6 regional lymph nodes.

**Stage II:**
Tumor (a) penetrates only the submucosa but has spread to 7 – 15 lymph nodes, (b) penetrates the subserosa and has spreas to 1 – 6 lymph nodes, or (c) invades all the stomach layers but has not spread to lymph nodes.

**Stage III:**
Tumor invades all stomach layers and has spread to up to 15 lymph nodes, or invades adjacent structures without spread to lymph nodes.

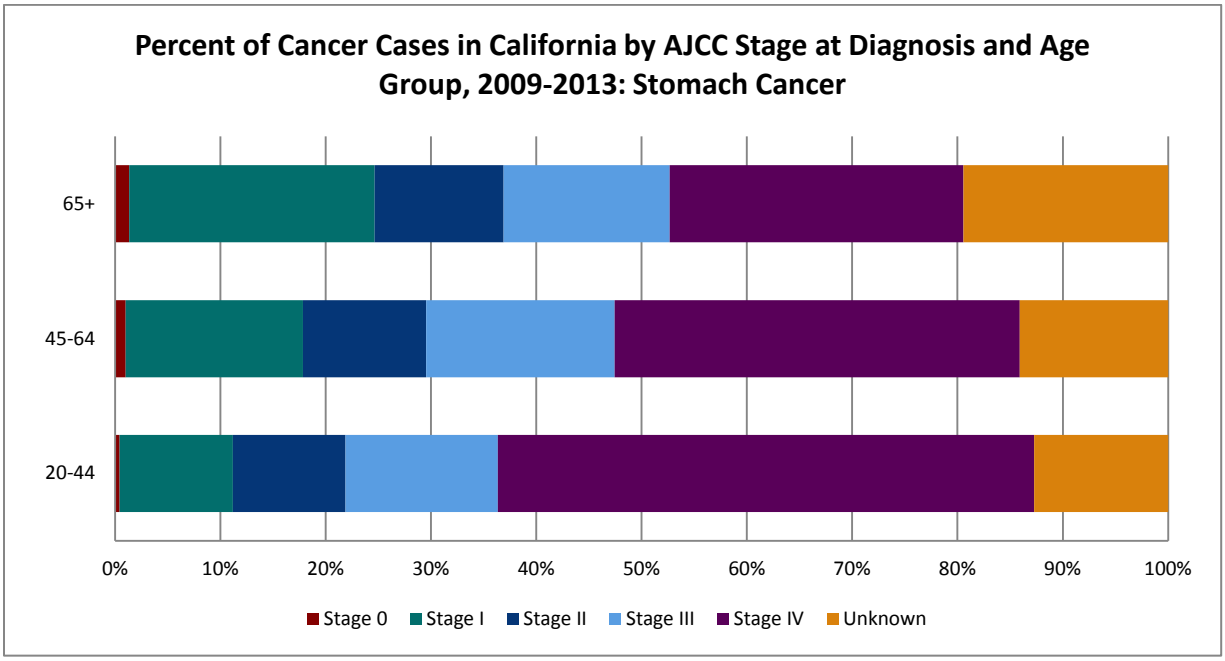
**Stage IV:**
Tumor has spread to other organs or to more than 15 regional lymph nodes.

Stages I through III stomach cancers are currently subdivided into stages IA, IB, IIA, IIB, IIIA, IIIB, and IIIC; data about these more detailed stages are not included in this report. Additional information on these more detailed stage groups can be found in the AJCC Cancer Staging Manual, 6th (2002) and 7th edition (2010), (Springer Science & Business Media Inc., New York, NY).

**Number and Percentage of California Adults Age 20 and Older Diagnosed With Stomach Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013**

| | Stage 0 | | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Sex** | | | | | | | | | | | | | | |
| Male | 90 | 1.0 | 1,713 | 19.5 | 1,114 | 12.7 | 1,571 | 17.9 | 2,935 | 33.5 | 1,341 | 15.3 | 8,764 | 100.0 |
| Female | 81 | 1.4 | 1,268 | 21.6 | 638 | 10.9 | 824 | 14.0 | 1,877 | 32.0 | 1,185 | 20.2 | 5,873 | 100.0 |
| Total | 171 | 1.2 | 2,981 | 20.4 | 1,752 | 12.0 | 2,395 | 16.4 | 4,812 | 32.9 | 2,526 | 17.3 | 14,637 | 100.0 |
| **Race/Ethnicity** | | | | | | | | | | | | | | |
| Non-Hispanic White | 61 | 1.0 | 1,234 | 20.2 | 737 | 12.1 | 1,015 | 16.6 | 1,989 | 32.5 | 1,075 | 17.6 | 6,111 | 100.0 |
| African American | 14 | 1.3 | 216 | 20.2 | 115 | 10.8 | 167 | 15.6 | 348 | 32.6 | 209 | 19.6 | 1,069 | 100.0 |
| Hispanic | 48 | 1.1 | 740 | 17.2 | 486 | 11.3 | 678 | 15.7 | 1,598 | 37.1 | 758 | 17.6 | 4,308 | 100.0 |
| Asian/Pacific Islander | 46 | 1.5 | 761 | 25.3 | 398 | 13.2 | 523 | 17.4 | 852 | 28.3 | 431 | 14.3 | 3,011 | 100.0 |
| All Race/Ethnicities | 171 | 1.2 | 2,981 | 20.4 | 1,752 | 12.0 | 2,395 | 16.4 | 4,812 | 32.9 | 2,526 | 17.3 | 14,637 | 100.0 |
| **Age** | | | | | | | | | | | | | | |
| 20-44 | 4 | 0.4 | 105 | 10.8 | 104 | 10.7 | 141 | 14.5 | 496 | 50.9 | 124 | 12.7 | 974 | 100.0 |
| 45-64 | 48 | 1.0 | 801 | 16.8 | 557 | 11.7 | 851 | 17.9 | 1,831 | 38.5 | 671 | 14.1 | 4,759 | 100.0 |
| 65+ | 119 | 1.3 | 2,075 | 23.3 | 1,091 | 12.3 | 1,403 | 15.8 | 2,485 | 27.9 | 1,731 | 19.4 | 8,904 | 100.0 |
| Total | 171 | 1.2 | 2,981 | 20.4 | 1,752 | 12.0 | 2,395 | 16.4 | 4,812 | 32.9 | 2,526 | 17.3 | 14,637 | 100.0 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

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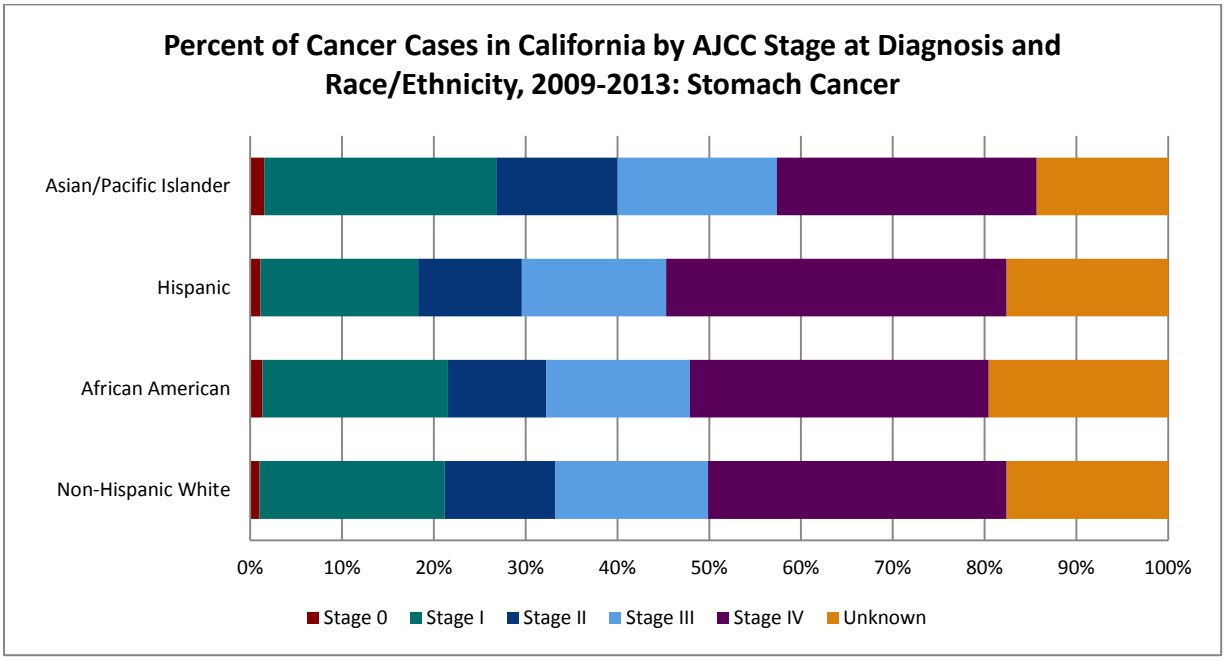


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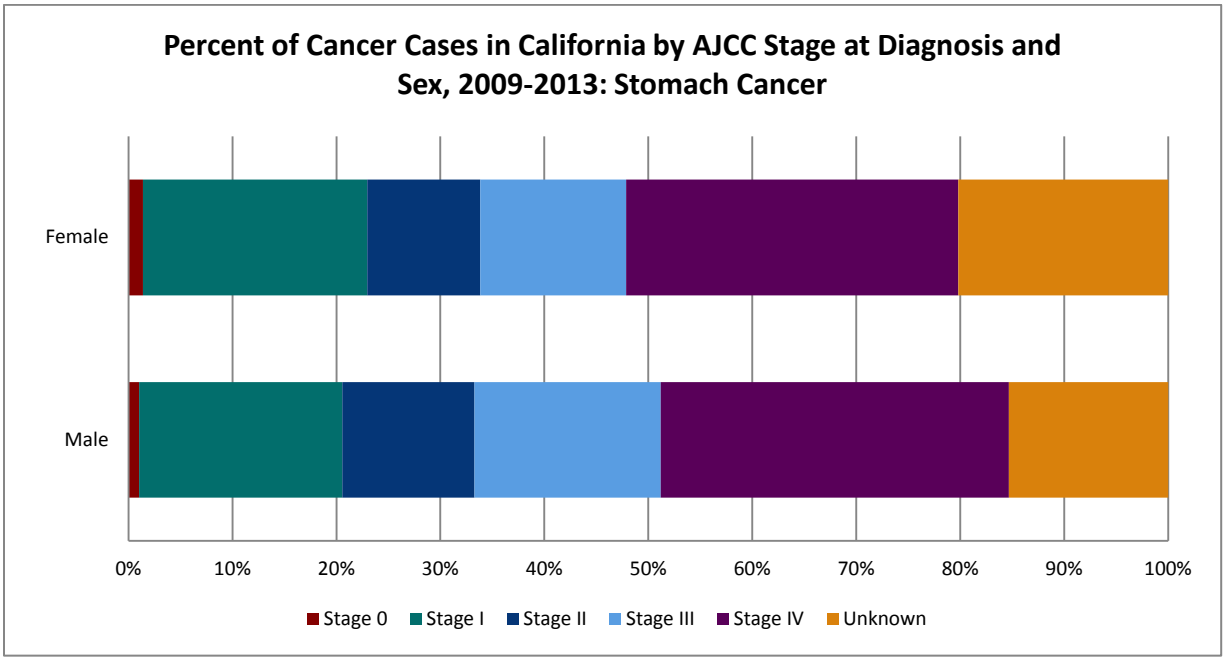


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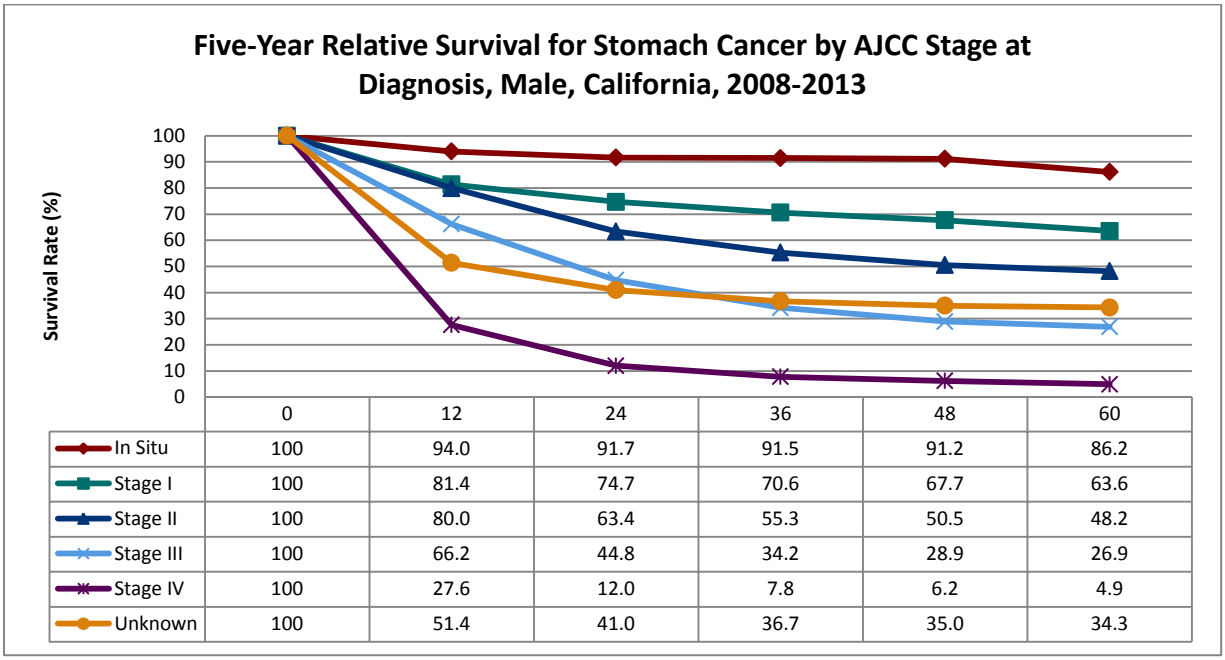


| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 94.0 | 91.7 | 91.5 | 91.2 | 86.2 |
| Stage I | 100 | 81.4 | 74.7 | 70.6 | 67.7 | 63.6 |
| Stage II | 100 | 80.0 | 63.4 | 55.3 | 50.5 | 48.2 |
| Stage III | 100 | 66.2 | 44.8 | 34.2 | 28.9 | 26.9 |
| Stage IV | 100 | 27.6 | 12.0 | 7.8 | 6.2 | 4.9 |
| Unknown | 100 | 51.4 | 41.0 | 36.7 | 35.0 | 34.3 |

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Source: California Cancer Registry, California Department of Public Health
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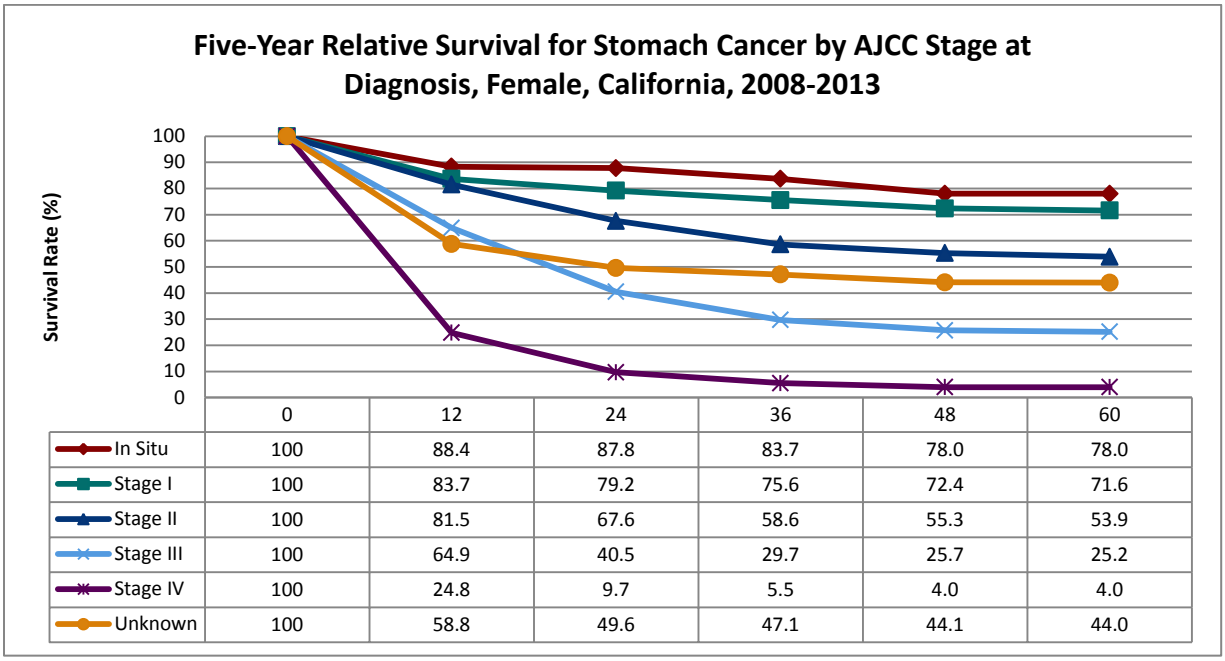


| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 88.4 | 87.8 | 83.7 | 78.0 | 78.0 |
| Stage I | 100 | 83.7 | 79.2 | 75.6 | 72.4 | 71.6 |
| Stage II | 100 | 81.5 | 67.6 | 58.6 | 55.3 | 53.9 |
| Stage III | 100 | 64.9 | 40.5 | 29.7 | 25.7 | 25.2 |
| Stage IV | 100 | 24.8 | 9.7 | 5.5 | 4.0 | 4.0 |
| Unknown | 100 | 58.8 | 49.6 | 47.1 | 44.1 | 44.0 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

# TESTIS CANCER

Cancer of the testes is most commonly found in young men and generally has an excellent prognosis. In 2013, there were 1,096 new cases of testicular cancer diagnosed in California, and 54 deaths caused by the disease. Early detection of testicular tumors is conducted by clinical or self-examination; the tumor is often detected by the patient himself.

Staging of testicular cancer is based on the extent of the tumor, spread to lymph nodes or distant organs, and serum levels of the tumor markers alpha-fetoprotein (AFP), human chorionic gonadotropin (hCG), and lactate dehydrogenase (LDH). Testicular cancer is classified into the following stages at diagnosis:

**Stage 0:**
Intratubular germ cell carcinoma *in situ*.

**Stage I:**
Tumor is either (a) limited to the testis or invades the scrotum with no spread to lymph nodes, or (b) cannot be detected but serum markers are elevated.

**Stage II:**
Presence of metastasis with lymph node mass of any size; serum tumor markers may be somewhat elevated.

**Stage III:**
Tumor has either spread to distant organs and/or lymph nodes, or serum markers are substantially elevated.

Stages I, II, and III testicular cancers are currently subdivided stages IA, IB, IS, IIA, IIB, IIC, IIIA, IIIB, and IIIC; data about these more detailed stages are not included in this report. Additional information on these more detailed stage groups can be found in the AJCC Cancer Staging Manual, 6th (2002) and 7th edition (2010), (Springer Science & Business Media Inc., New York, NY).

**Number and Percentage of California Men Age 20 and Older Diagnosed With Testis Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013**

| | Stage 0 | | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Race/Ethnicity** | | | | | | | | | | | | | | |
| Non-Hispanic White | 1 | 0.0 | 1,910 | 69.9 | 338 | 12.4 | 338 | 12.4 | 0 | 0.0 | 146 | 5.3 | 2,733 | 100.0 |
| African American | 0 | 0.0 | 71 | 70.3 | 11 | 10.9 | 13 | 12.9 | 0 | 0.0 | 6 | 5.9 | 101 | 100.0 |
| Hispanic | 0 | 0.0 | 1,153 | 61.7 | 244 | 13.1 | 338 | 18.1 | 0 | 0.0 | 133 | 7.1 | 1,868 | 100.0 |
| Asian/Pacific Islander | 0 | 0.0 | 177 | 65.8 | 32 | 11.9 | 39 | 14.5 | 0 | 0.0 | 21 | 7.8 | 269 | 100.0 |
| All Race/Ethnicities | 1 | 0.0 | 3,432 | 66.9 | 632 | 12.3 | 734 | 14.3 | 0 | 0.0 | 331 | 6.5 | 5,130 | 100.0 |
| **Age** | | | | | | | | | | | | | | |
| 20-44 | 1 | 0.0 | 2,758 | 67.6 | 504 | 12.4 | 595 | 14.6 | 0 | 0.0 | 222 | 5.4 | 4,080 | 100.0 |
| 45-64 | 0 | 0.0 | 611 | 64.9 | 120 | 12.8 | 126 | 13.4 | 0 | 0.0 | 84 | 8.9 | 941 | 100.0 |
| 65+ | 0 | 0.0 | 63 | 57.8 | 8 | 7.3 | 13 | 11.9 | 0 | 0.0 | 25 | 22.9 | 109 | 100.0 |
| Total | 1 | 0.0 | 3,432 | 66.9 | 632 | 12.3 | 734 | 14.3 | 0 | 0.0 | 331 | 6.5 | 5,130 | 100.0 |

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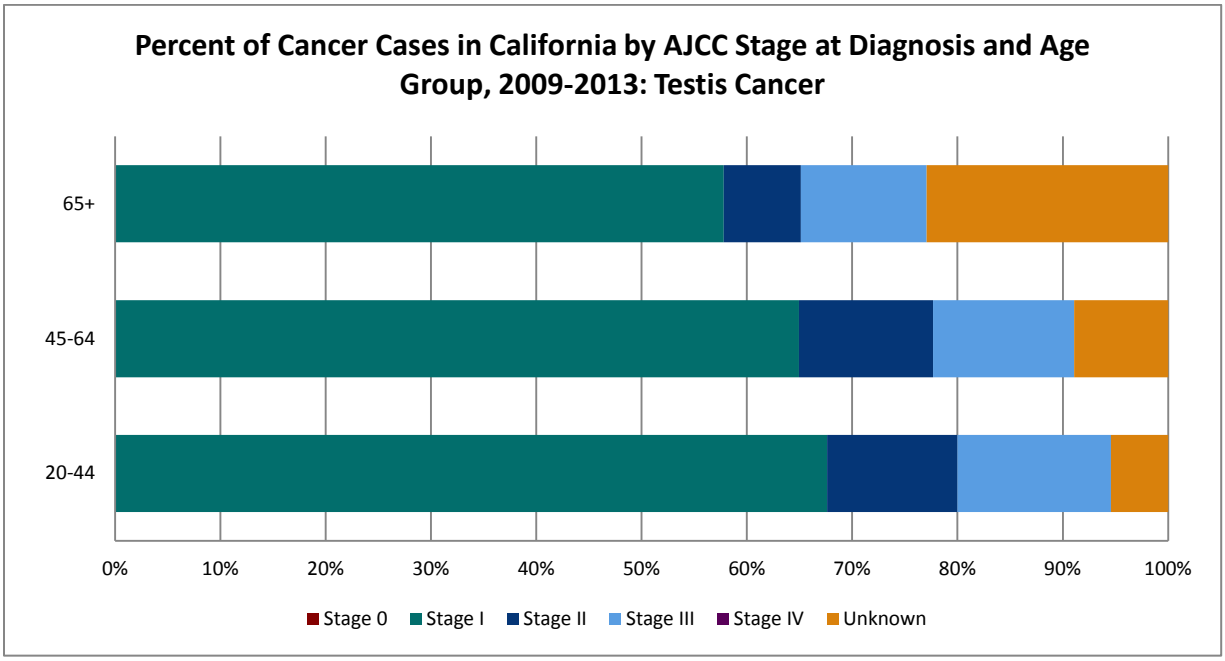
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

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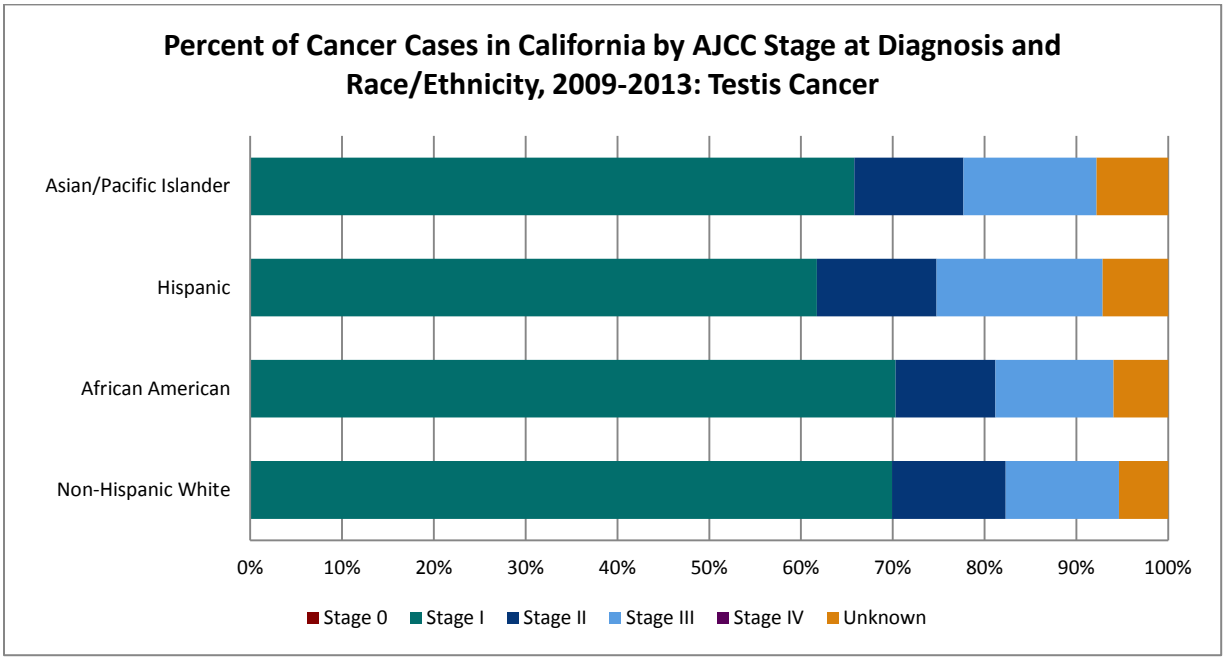


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Source: California Cancer Registry, California Department of Public Health
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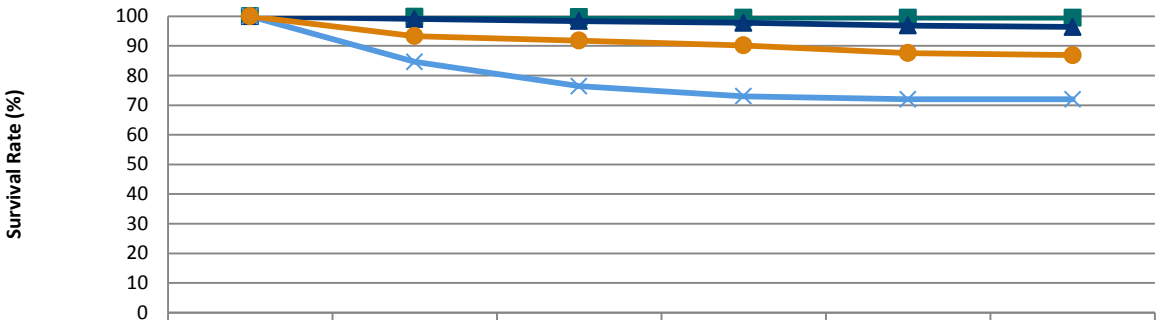
**Five-Year Relative Survival for Testis Cancer by Stage at Diagnosis, Male, California, 2008-2013**




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| Stage I | 100 | 99.8 | 99.7 | 99.5 | 99.5 | 99.5 |
| Stage II | 100 | 99.1 | 98.4 | 97.8 | 96.9 | 96.4 |
| Stage III | 100 | 84.6 | 76.4 | 73.0 | 72.0 | 72.0 |
| Stage IV | | | | | | |
| Unknown | 100 | 93.3 | 91.8 | 90.2 | 87.6 | 86.9 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

# THYROID CANCER

The incidence of thyroid cancer has increased sharply in California since 1988. In 2013, there were 4,953 new cases of thyroid cancer were diagnosed, and 248 deaths were caused by the disease. With early diagnosis, most thyroid cancers can be successfully treated. The majority of cases are diagnosed at Stage I. Younger patients have a much better prognosis than elderly persons.

Staging of thyroid cancers is based on the age of the patient, the anatomic extent of the disease, and the histologic type of the tumor: follicular, papillary, medullary, or anaplastic carcinoma (the most aggressive type of thyroid malignancy). For example, spread to lymph node(s) is of lesser importance for papillary and follicular tumors than for medullary thyroid cancers. Also, for patients under 45 years old, the presence or absence of distant metastasis determines whether the tumor is Stage I or II. All anaplastic thyroid cancers are considered Stage IV. According to these characteristics, thyroid cancers for patients 45 years and older are staged as follows:

**Stage I:**
Tumor up to 2 cm limited to the thyroid, no metastases.

**Stage II:**
Papillary or follicular tumor larger than 2 cm but no greater than 4 cm; no lymph node metastasis.

**Stage III:**
Papillary and follicular tumor larger than 4 cm with no metastasis to lymph nodes, or tumor of any size and type but with regional lymph node metastasis.

**Stage IV:**
Tumor extending beyond the thyroid, or tumor of any size with either extensive lymph node metastasis or spread to distant organs.

Stage IV thyroid cancers are further subdivided into stages IVA, IVB, and IVC; data about these more detailed stages are not included in this report. Additional information on these more detailed stage groups can be found in the AJCC Cancer Staging Manual, 6th (2002) and 7th edition (2010), (Springer Science & Business Media Inc., New York, NY).

**Number and Percentage of California Adults Age 20 and Older Diagnosed With Thyroid Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013**

| | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Sex** | | | | | | | | | | | | |
| Male | 2,814 | 51.5 | 473 | 8.7 | 955 | 17.5 | 940 | 17.2 | 281 | 5.1 | 5,463 | 100.0 |
| Female | 12,157 | 69.2 | 1,240 | 7.1 | 2,145 | 12.2 | 1,356 | 7.7 | 666 | 3.8 | 17,564 | 100.0 |
| Total | 14,971 | 65.0 | 1,713 | 7.4 | 3,100 | 13.5 | 2,296 | 10.0 | 947 | 4.1 | 23,027 | 100.0 |
| **Race/Ethnicity** | | | | | | | | | | | | |
| Non-Hispanic White | 7,756 | 64.8 | 1,015 | 8.5 | 1,596 | 13.3 | 1,133 | 9.5 | 466 | 3.9 | 11,966 | 100.0 |
| African American | 610 | 64.4 | 87 | 9.2 | 122 | 12.9 | 81 | 8.6 | 47 | 5.0 | 947 | 100.0 |
| Hispanic | 3,996 | 66.9 | 344 | 5.8 | 796 | 13.3 | 621 | 10.4 | 218 | 3.6 | 5,975 | 100.0 |
| Asian/Pacific Islander | 2,364 | 62.7 | 250 | 6.6 | 545 | 14.5 | 446 | 11.8 | 165 | 4.4 | 3,770 | 100.0 |
| All Race/Ethnicities | 14,971 | 65.0 | 1,713 | 7.4 | 3,100 | 13.5 | 2,296 | 10.0 | 947 | 4.1 | 23,027 | 100.0 |
| **Age** | | | | | | | | | | | | |
| 20-44 | 7,974 | 98.0 | 73 | 0.9 | 12 | 0.1 | 36 | 0.4 | 45 | 0.6 | 8,140 | 100.0 |
| 45-64 | 5,060 | 49.6 | 1,140 | 11.2 | 2,218 | 21.7 | 1,212 | 11.9 | 570 | 5.6 | 10,200 | 100.0 |
| 65+ | 1,937 | 41.3 | 500 | 10.7 | 870 | 18.6 | 1,048 | 22.4 | 332 | 7.1 | 4,687 | 100.0 |
| Total | 14,971 | 65.0 | 1,713 | 7.4 | 3,100 | 13.5 | 2,296 | 10.0 | 947 | 4.1 | 23,027 | 100.0 |

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Source: California Cancer Registry, California Department of Public Health
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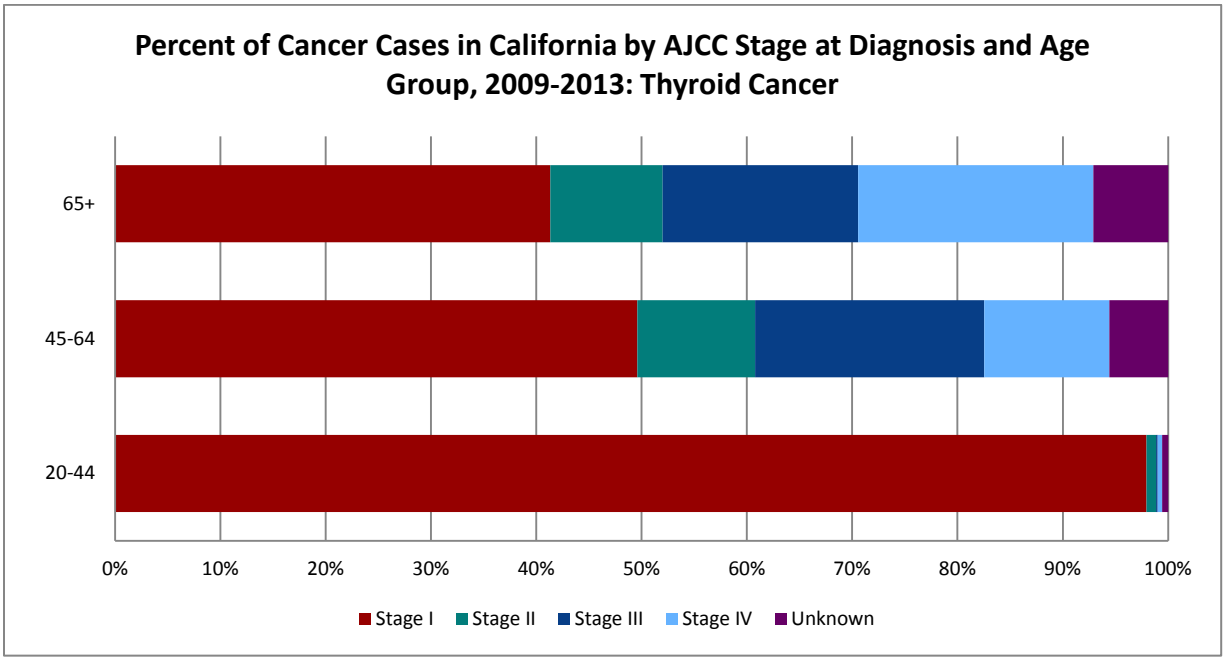


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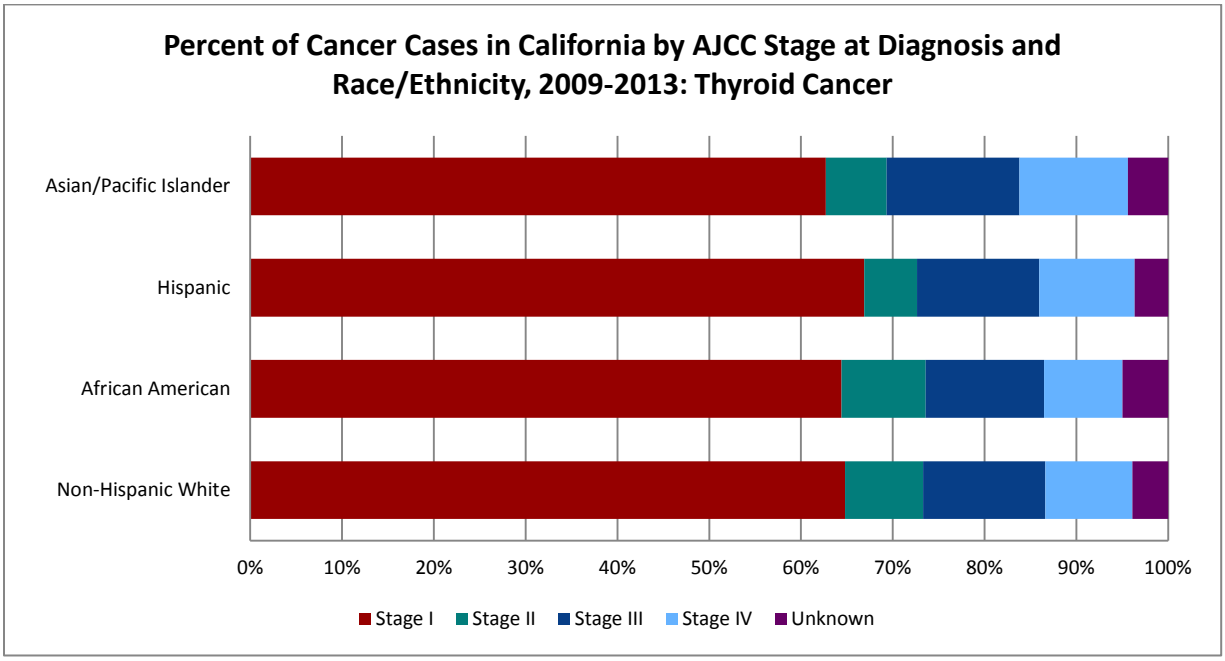


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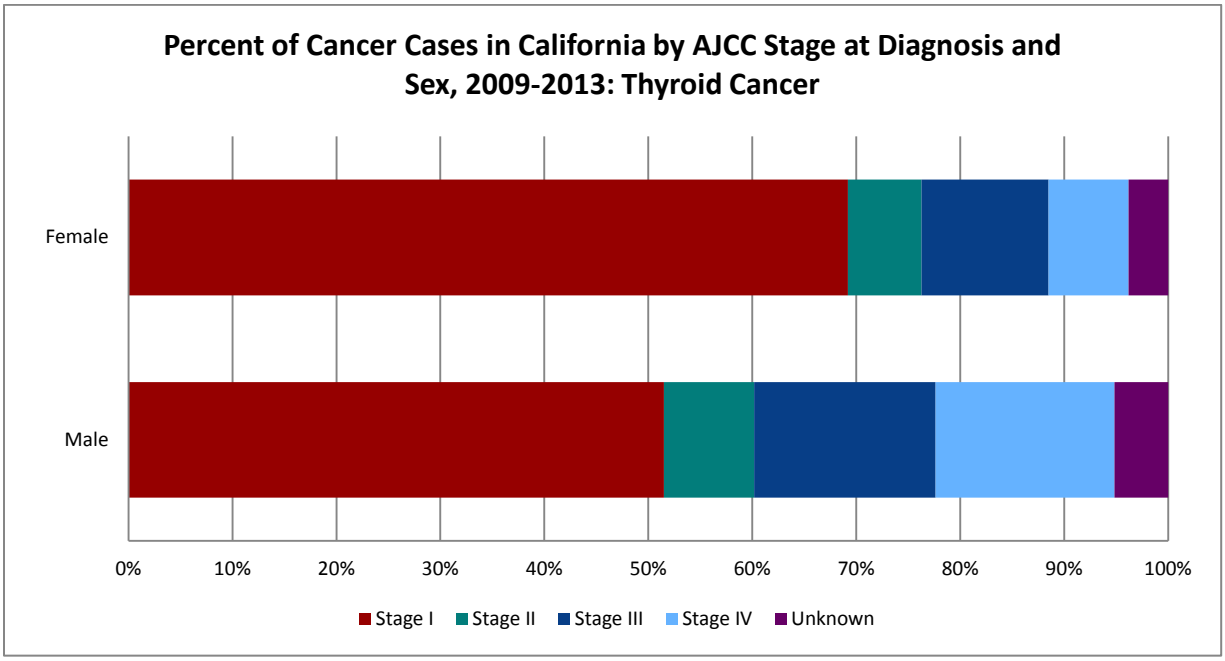


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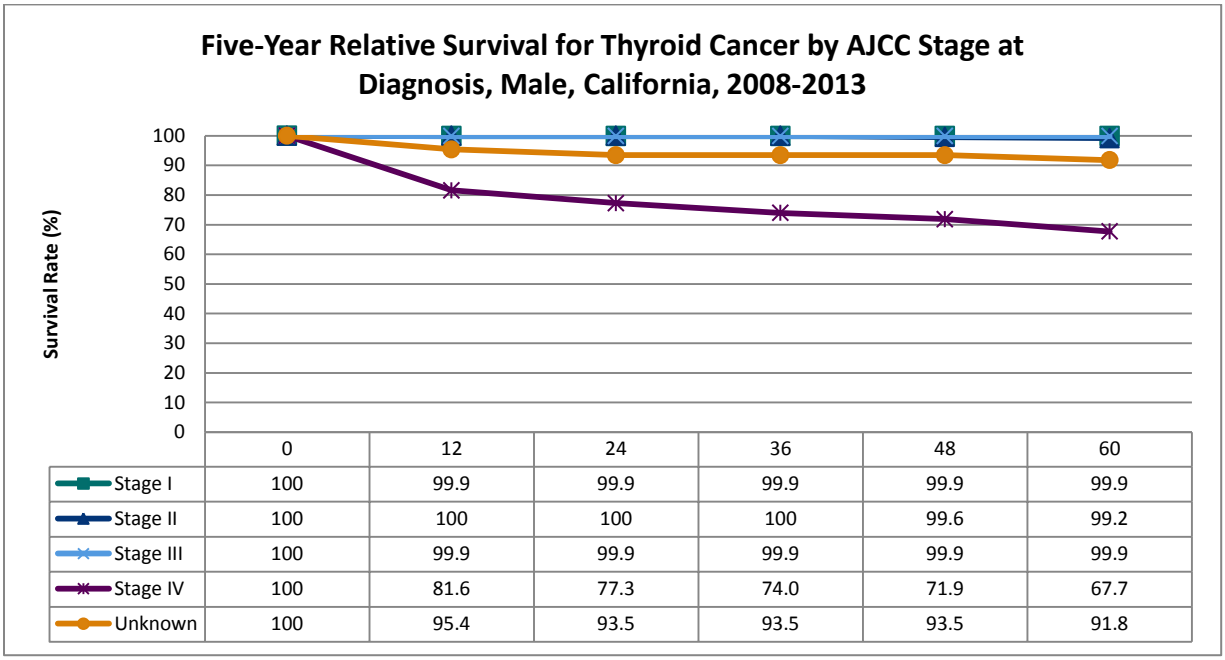
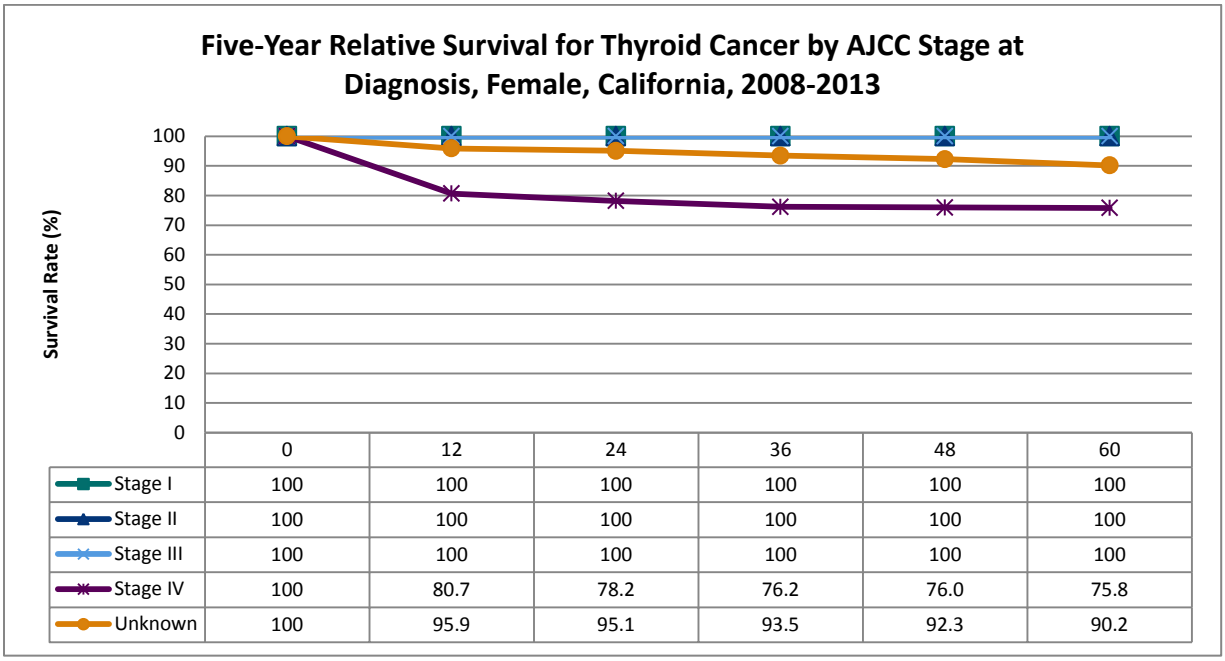



| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| Stage I | 100 | 99.9 | 99.9 | 99.9 | 99.9 | 99.9 |
| Stage II | 100 | 100 | 100 | 100 | 99.6 | 99.2 |
| Stage III | 100 | 99.9 | 99.9 | 99.9 | 99.9 | 99.9 |
| Stage IV | 100 | 81.6 | 77.3 | 74.0 | 71.9 | 67.7 |
| Unknown | 100 | 95.4 | 93.5 | 93.5 | 93.5 | 91.8 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| Stage I | 100 | 100 | 100 | 100 | 100 | 100 |
| Stage II | 100 | 100 | 100 | 100 | 100 | 100 |
| Stage III | 100 | 100 | 100 | 100 | 100 | 100 |
| Stage IV | 100 | 80.7 | 78.2 | 76.2 | 76.0 | 75.8 |
| Unknown | 100 | 95.9 | 95.1 | 93.5 | 92.3 | 90.2 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

# URINARY BLADDER CANCER

There were 6,650 new cases of urinary bladder cancer diagnosed in California in 2013, and 1,558 deaths due to the disease. Three-fourths of urinary bladder cancers occur in males.

There are no screening tests for urinary bladder cancer, but urinalysis findings (abnormal appearing cells) may prompt suspicion of bladder cancer, which may explain why over 70 percent of bladder cancer cases in California were diagnosed at an early stage(Stage 0 or Stage I).

The urinary bladder is formed by three layers: the epithelium and subepithelial connective tissue, the muscularis (muscular layer), and the perivesical fat tissue. Stage at diagnosis for bladder cancer is based on the depth of penetration of the tumor into the bladder wall. Spread to lymph nodes or other organs categorize the cancer as Stage IV. The following characteristics define stage at diagnosis for bladder cancer:

**Stage 0:**
Non-invasive papillary carcinoma or carcinoma *in situ*.

**Stage I:**
Tumor invades subepithelial connective tissue.

**Stage II:**
Tumor invades the muscularis.

**Stage III:**
Tumor invades the perivesical tissue, the prostate, the uterus, or the vagina.

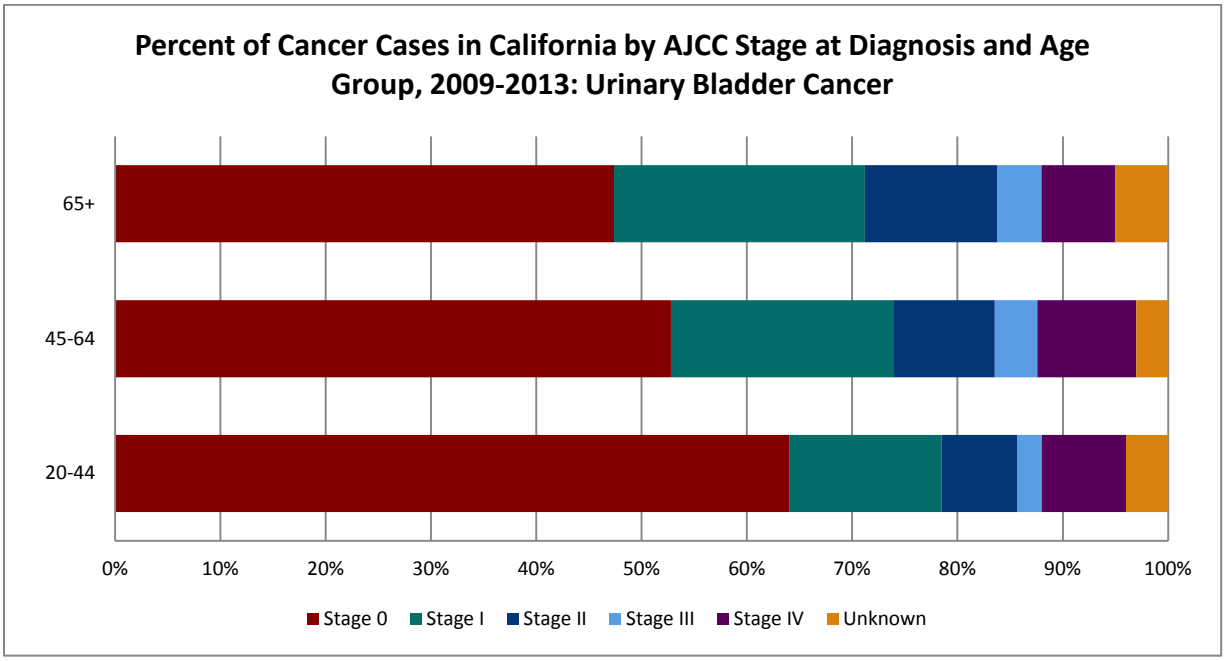
**Stage IV:**
Tumor may either (a) invade the pelvic or abdominal wall, or (b) spread to regional lymph nodes, or (c) spread to distant organs.

Additional information on the stage groups can be found inthe AJCC Cancer Staging Manual, 6th (2002) and 7th edition (2010), (Springer Science & Business Media Inc., New York, NY).

**Number and Percentage of California Adults Age 20 and Older Diagnosed With Urinary Bladder Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013**

| | Stage 0 | | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Sex** | | | | | | | | | | | | | | |
| Male | 12,658 | 49.5 | 6,088 | 23.8 | 2,900 | 11.3 | 1,054 | 4.1 | 1,809 | 7.1 | 1,076 | 4.2 | 25,585 | 100.0 |
| Female | 3,703 | 47.3 | 1,600 | 20.4 | 1,028 | 13.1 | 330 | 4.2 | 732 | 9.4 | 432 | 5.5 | 7,825 | 100.0 |
| Total | 16,361 | 49.0 | 7,688 | 23.0 | 3,928 | 11.8 | 1,384 | 4.1 | 2,541 | 7.6 | 1,508 | 4.5 | 33,410 | 100.0 |
| **Race/Ethnicity** | | | | | | | | | | | | | | |
| Non-Hispanic White | 12,509 | 49.3 | 5,841 | 23.0 | 3,032 | 12.0 | 1,056 | 4.2 | 1,861 | 7.3 | 1,049 | 4.1 | 25,348 | 100.0 |
| African American | 566 | 40.4 | 317 | 22.6 | 215 | 15.4 | 73 | 5.2 | 164 | 11.7 | 65 | 4.6 | 1,400 | 100.0 |
| Hispanic | 1,714 | 47.1 | 834 | 22.9 | 410 | 11.3 | 139 | 3.8 | 332 | 9.1 | 209 | 5.7 | 3,638 | 100.0 |
| Asian/Pacific Islander | 1,068 | 47.1 | 564 | 24.9 | 243 | 10.7 | 106 | 4.7 | 159 | 7.0 | 126 | 5.6 | 2,266 | 100.0 |
| All Race/Ethnicities | 16,361 | 49.0 | 7,688 | 23.0 | 3,928 | 11.8 | 1,384 | 4.1 | 2,541 | 7.6 | 1,508 | 4.5 | 33,410 | 100.0 |
| **Age** | | | | | | | | | | | | | | |
| 20-44 | 417 | 64.1 | 94 | 14.4 | 47 | 7.2 | 15 | 2.3 | 52 | 8.0 | 26 | 4.0 | 651 | 100.0 |
| 45-64 | 4,111 | 52.8 | 1,651 | 21.2 | 745 | 9.6 | 316 | 4.1 | 730 | 9.4 | 236 | 3.0 | 7,789 | 100.0 |
| 65+ | 11,833 | 47.4 | 5,943 | 23.8 | 3,136 | 12.6 | 1,053 | 4.2 | 1,759 | 7.0 | 1,246 | 5.0 | 24,970 | 100.0 |
| Total | 16,361 | 49.0 | 7,688 | 23.0 | 3,928 | 11.8 | 1,384 | 4.1 | 2,541 | 7.6 | 1,508 | 4.5 | 33,410 | 100.0 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

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Source: California Cancer Registry, California Department of Public Health
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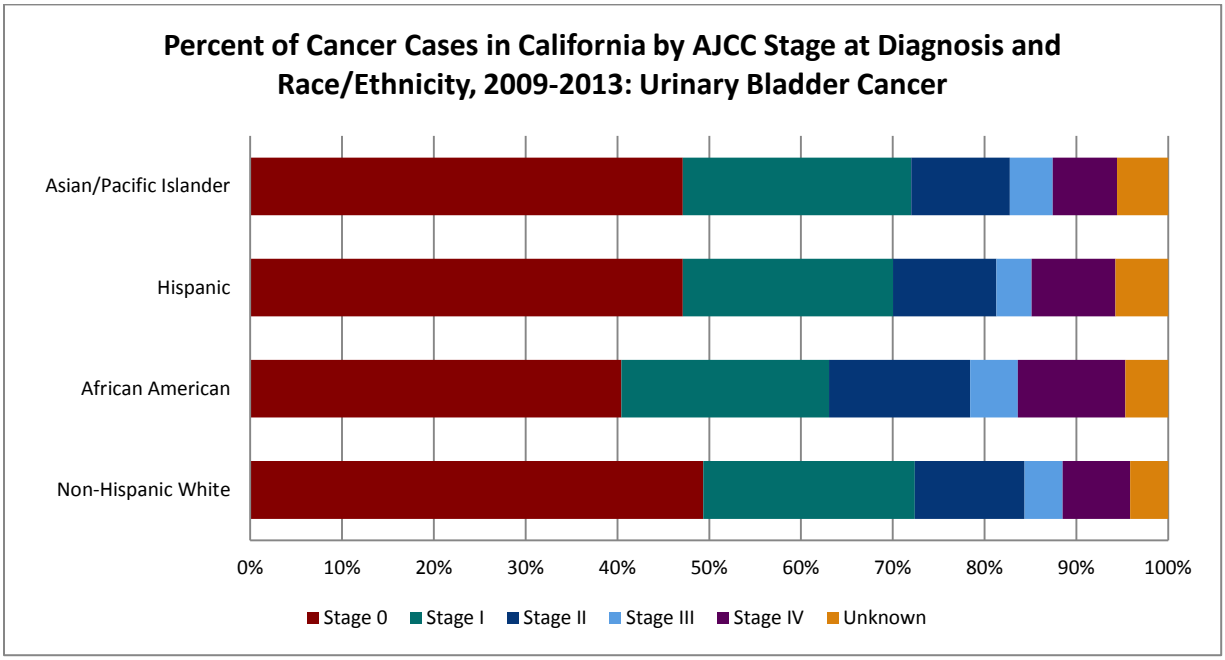


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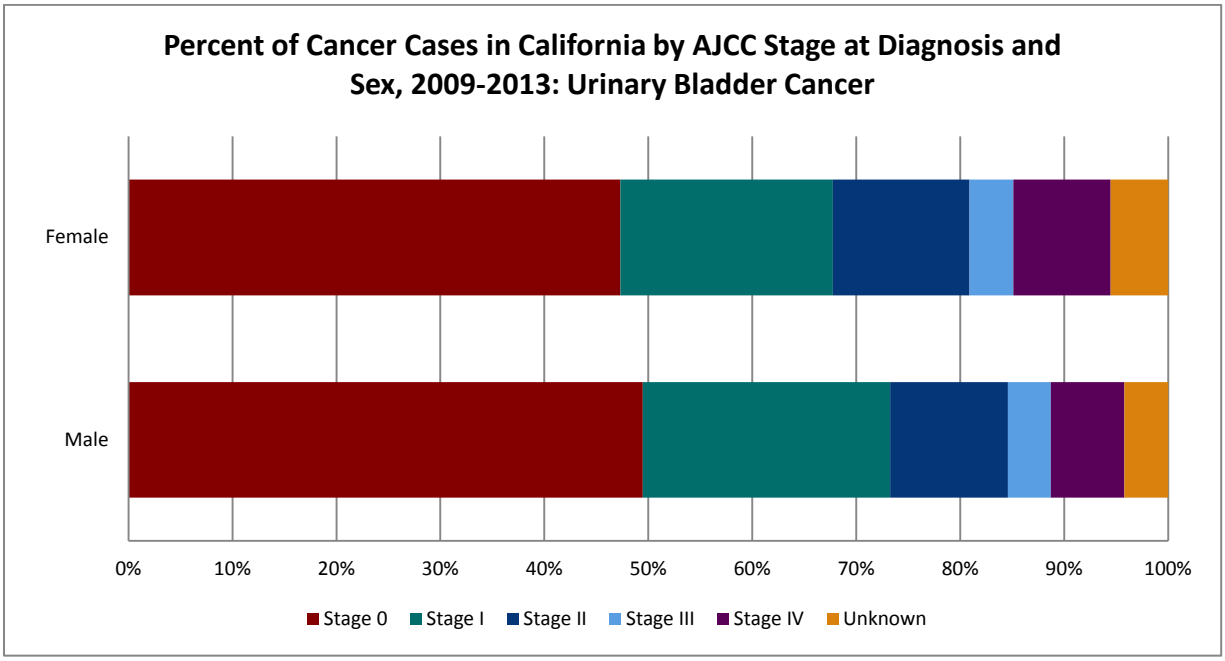


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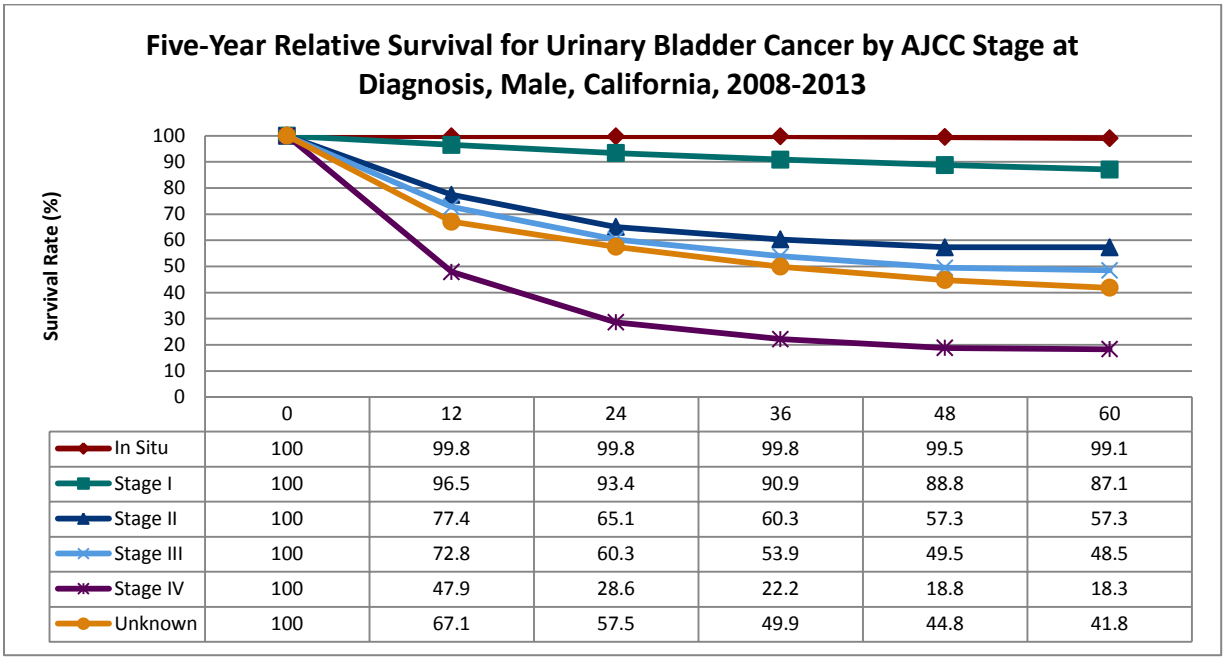
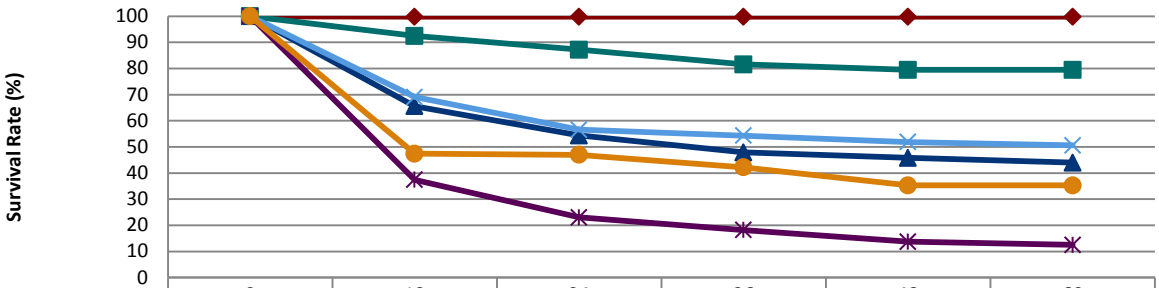



| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 99.8 | 99.8 | 99.8 | 99.5 | 99.1 |
| Stage I | 100 | 96.5 | 93.4 | 90.9 | 88.8 | 87.1 |
| Stage II | 100 | 77.4 | 65.1 | 60.3 | 57.3 | 57.3 |
| Stage III | 100 | 72.8 | 60.3 | 53.9 | 49.5 | 48.5 |
| Stage IV | 100 | 47.9 | 28.6 | 22.2 | 18.8 | 18.3 |
| Unknown | 100 | 67.1 | 57.5 | 49.9 | 44.8 | 41.8 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

## Five-Year Relative Survival for Urinary Bladder Cancer by AJCC Stage at Diagnosis, Female, California, 2008-2013




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 99.8 | 99.8 | 99.8 | 99.8 | 99.8 |
| Stage I | 100 | 92.5 | 87.2 | 81.6 | 79.5 | 79.5 |
| Stage II | 100 | 65.6 | 54.4 | 47.9 | 45.8 | 44.0 |
| Stage III | 100 | 69.1 | 56.6 | 54.3 | 51.9 | 50.6 |
| Stage IV | 100 | 37.4 | 23.0 | 18.2 | 13.7 | 12.5 |
| Unknown | 100 | 47.4 | 47.0 | 42.2 | 35.3 | 35.3 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

# UTERINE CORPUS CANCER

Uterine corpus cancer is the most common type of gynecologic malignancy. In 2013, there were 5,159 new cases of uterine corpus cancer in California, and 992 deaths caused by the disease. Since the majority of uterine cancers are now diagnosed while the tumor is localized, the disease has a high cure rate.

Anatomically, the uterine corpus is the upper two-thirds of the uterus, and the cervix is the lower third. Cancers originating in the uterine corpus (or corpus uteri) are staged based on the extension of the tumor and involvement of lymph nodes or distant organs. The stage categories for uterine corpus caner are summarized as follows:

**Stage 0:**
Carcinoma *in situ*.

**Stage I:**
Tumor confined to the endometrium (internal layer), or myometrium (the muscular layer of the uterus).

**Stage II:**
Tumor invades the cervix but does not extend beyond the uterus.

**Stage III:**
Tumor extends to the vagina, presence of cancer cells in the peritoneum, or tumor has spread to regional lymph node(s).

**Stage IV:**
Tumor extends to the bladder, bowel, or has spread to other distant sites.

Stages I through IV uterine corpus cancers are currently subdivided into stages IA, IB, IIA, IIB, IIIA, IIIB, $IIIC_1$, $IIIC_2$, IVA, and IVB; data about these more detailed stages are not included in this report. Additional information on these more detailed stage groups can be found inthe AJCC Cancer Staging Manual, 6th (2002) and 7th edition (2010), (Springer Science & Business Media Inc., New York, NY).

**Number and Percentage of California Women Age 20 and Older Diagnosed With Uterine Corpus Cancer, by Age, Race/Ethnicity, and AJCC Stage at Diagnosis, 2009-2013**

| | Stage 0 | | Stage I | | Stage II | | Stage III | | Stage IV | | Unknown | | All Stages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Race/Ethnicity** | | | | | | | | | | | | | | |
| Non-Hispanic White | 120 | 0.8 | 10,383 | 71.2 | 702 | 4.8 | 1,803 | 12.4 | 954 | 6.5 | 623 | 4.3 | 14,585 | 100.0 |
| African American | 13 | 0.9 | 899 | 58.8 | 83 | 5.4 | 220 | 14.4 | 203 | 13.3 | 110 | 7.2 | 1,528 | 100.0 |
| Hispanic | 41 | 0.8 | 3,483 | 68.1 | 302 | 5.9 | 576 | 11.3 | 431 | 8.4 | 280 | 5.5 | 5,113 | 100.0 |
| Asian/Pacific Islander | 17 | 0.5 | 2,229 | 69.7 | 140 | 4.4 | 422 | 13.2 | 254 | 7.9 | 135 | 4.2 | 3,197 | 100.0 |
| All Race/Ethnicities | 200 | 0.8 | 17,238 | 69.5 | 1,236 | 5.0 | 3,049 | 12.3 | 1,861 | 7.5 | 1,224 | 4.9 | 24,808 | 100.0 |
| **Age** | | | | | | | | | | | | | | |
| 20-44 | 27 | 1.4 | 1,390 | 72.7 | 104 | 5.4 | 148 | 7.7 | 99 | 5.2 | 145 | 7.6 | 1,913 | 100.0 |
| 45-64 | 100 | 0.8 | 9,434 | 72.2 | 594 | 4.5 | 1,561 | 11.9 | 858 | 6.6 | 517 | 4.0 | 13,064 | 100.0 |
| 65+ | 73 | 0.7 | 6,414 | 65.2 | 538 | 5.5 | 1,340 | 13.6 | 904 | 9.2 | 562 | 5.7 | 9,831 | 100.0 |
| Total | 200 | 0.8 | 17,238 | 69.5 | 1,236 | 5.0 | 3,049 | 12.3 | 1,861 | 7.5 | 1,224 | 4.9 | 24,808 | 100.0 |

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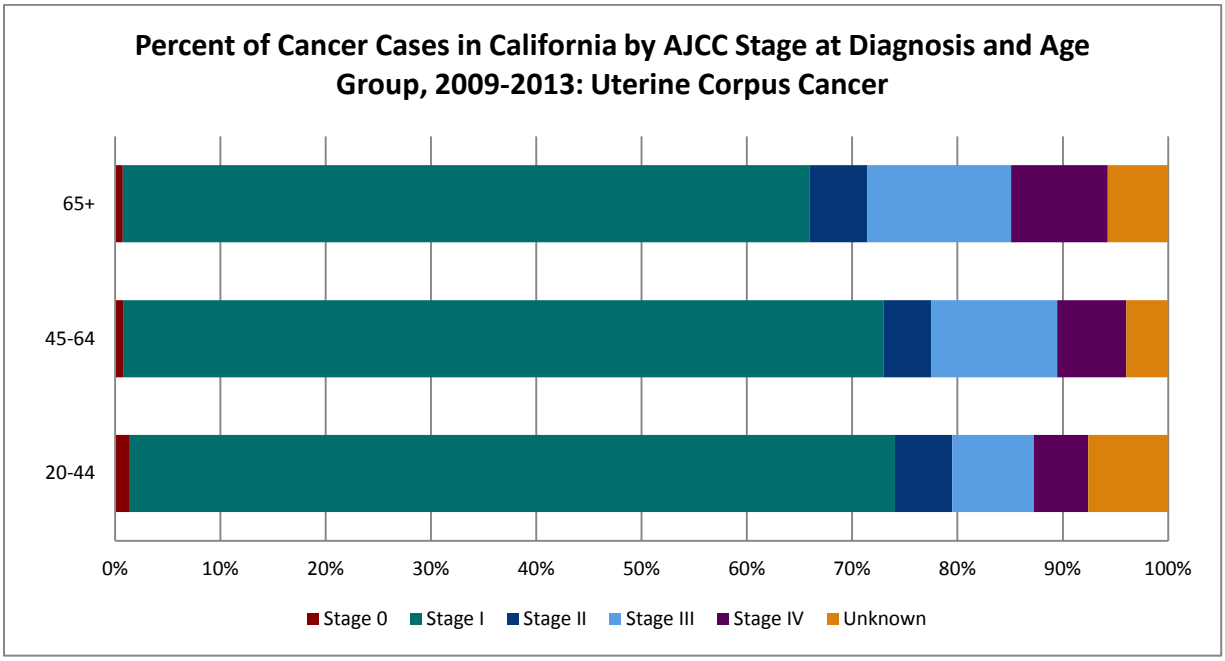
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

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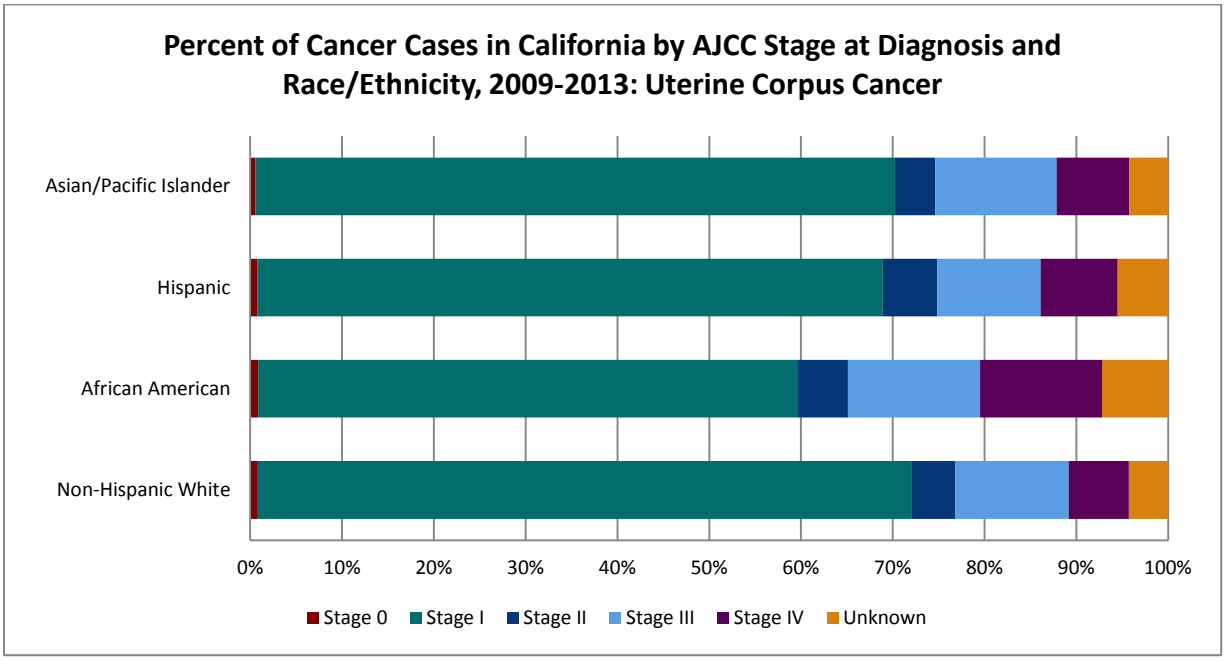


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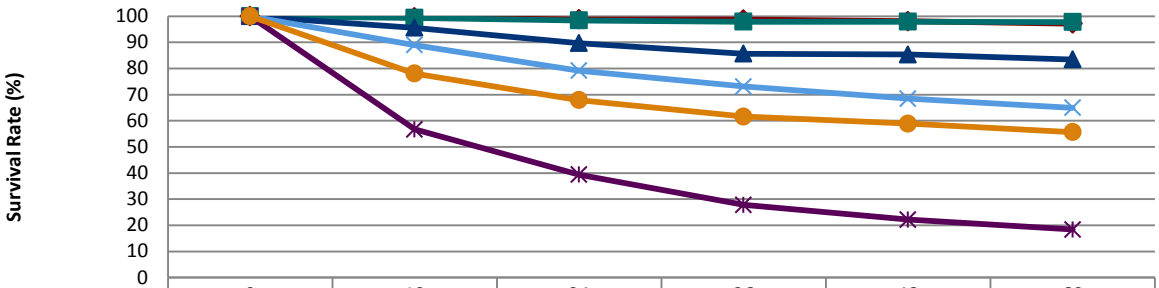
**Five-Year Relative Survival for Uterine Corpus Cancer by AJCC Stage at Diagnosis, Female, California, 2008-2013**




| | 0 | 12 | 24 | 36 | 48 | 60 |
|---|---|---|---|---|---|---|
| In Situ | 100 | 99.6 | 98.8 | 98.7 | 98.1 | 97.2 |
| Stage I | 100 | 99.4 | 98.4 | 97.9 | 97.9 | 97.8 |
| Stage II | 100 | 95.6 | 89.7 | 85.7 | 85.4 | 83.5 |
| Stage III | 100 | 89.0 | 79.2 | 73.1 | 68.5 | 65.0 |
| Stage IV | 100 | 56.7 | 39.4 | 27.8 | 22.2 | 18.4 |
| Unknown | 100 | 78.1 | 67.9 | 61.6 | 58.9 | 55.7 |

AJCC: American Joint Committee on Cancer
Source: California Cancer Registry, California Department of Public Health
Prepared by the California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, UC Davis Health System

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