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**NAPA COUNTY CANCER REPORT
SUPPLEMENT A:**

CANCER INCIDENCE RATES MAPS

January 2018



A Tradition of Stewardship
A Commitment to Service

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NAPA COUNTY CANCER REPORT SUPPLEMENT A: CANCER INCIDENCE MAPS

This supplemental report includes a series of maps that display site specific cancer incidence rates at the census tract level. The site specific cancers selected for this report include (ordered from highest to lowest incidence rates for entire 2009 - 2015 time period):

- Breast Cancer (169.9 per 100,000 women)
- Prostate Cancer (143.5 per 100,000 men)
- Lung Cancer (66.3 per 100,000 residents)
- Colorectal Cancer (49.5 per 100,000 residents)
- Leukemia (18.2 per 100,000 residents)
- Pancreatic Cancer (16.7 per 100,000 residents)

The following criteria were used for the selection of site-specific cancers. The specific cancer must: 1) have high mortality rates and largely modifiable risk behaviors and/or 2) be of considerable interest to Napa County residents. Please note, all other site specific cancers, such as liver, ovary, and brain cancers, individually account for less than 4% of cancer mortality in Napa County.

Technical Notes:

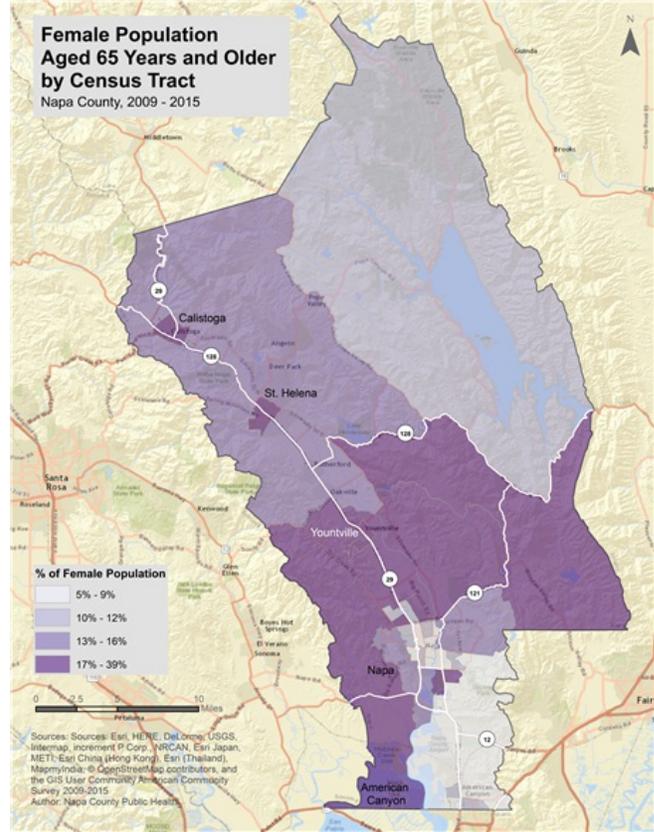
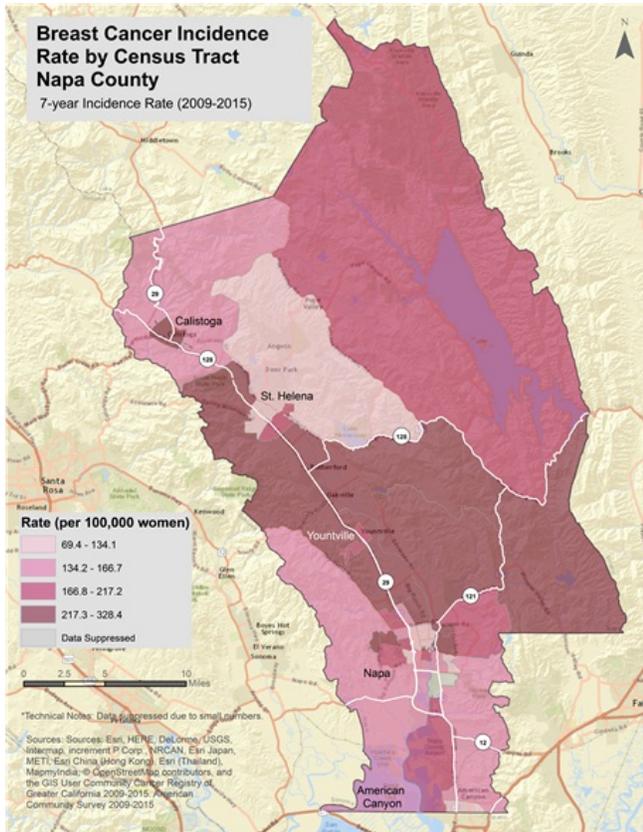
Due to small population sizes, only crude incidence rates were calculated. The rates are not adjusted by age. Age-adjusting rates are a way to make fairer comparisons between census tracts with different age distributions. A census tract having a higher percentage of people aged 65 years and older may have a higher rate of death than a census tract with a younger population, merely because the risk of death from many cancers increases with age.

In order to identify the spatial patterns of cancer incidence rates, the Global Moran's I test statistic, the standard for determining spatial autocorrelation, was conducted. This test indicates the spatial autocorrelation or absence of spatial randomness of attributes across the entire county. In other words, the test determines if there a pattern to the cancer incidence rates levels among all the census tracts across the county. Second, the Getis-Ord G_i^* test statistic was used to determine clusters/hot spots of high (or low) incidence rates among neighboring census tracts. A census tract is considered a hot spot if a census tract and its neighboring census tracts all had high rates that is more pronounced than one would expect in a random distribution of incidence rates. The tests were considered significant if the p-value less than or equal to 0.05.

For more information on cancer risks and prevention strategies please review the Napa County Cancer Report online.

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BREAST CANCER INCIDENCE RATES BY CENSUS TRACT

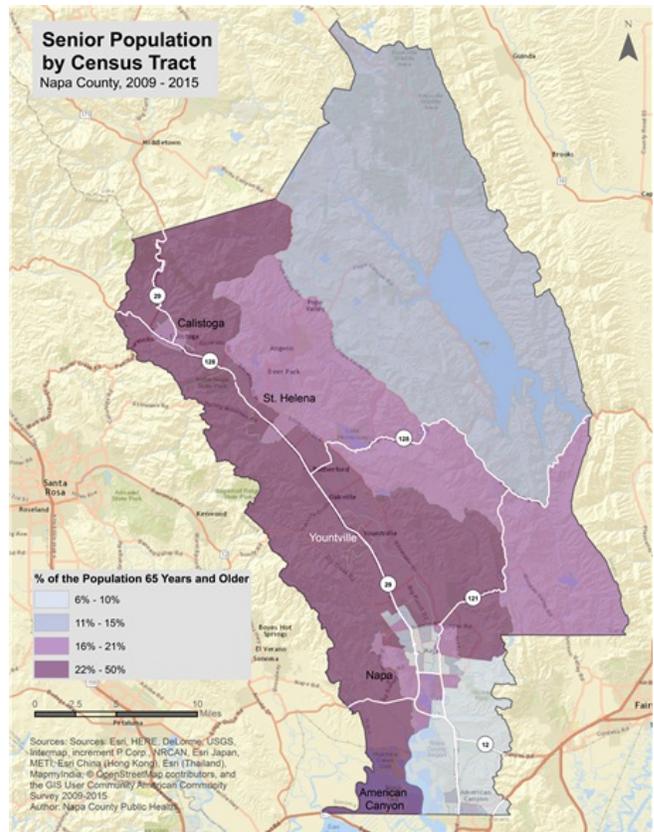
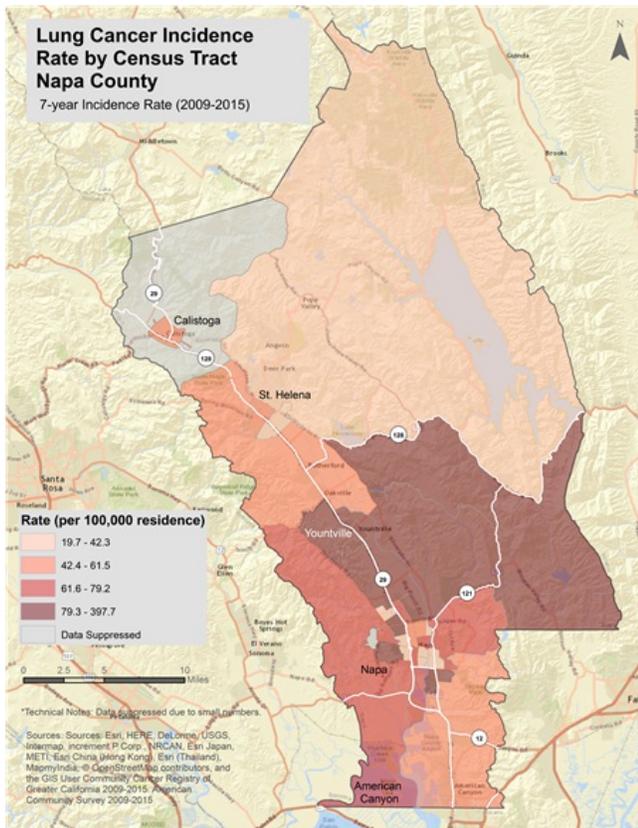


The map on the left displays breast cancer incidence rates by census tract. Because older age is a significant risk factor for cancer, a map of the proportion of the female population age 65 and older by census tract is displayed on the right. There are no statistically significant clusters or hot spots of high breast cancer rates. The census tracts with the highest incidence rates, over 295 cases per 100,000 women, are located near Yountville, especially to the east, and in the Browns Valley area. These areas also have a high percentage of seniors. Aside from age, other risk factors for breast cancer include an unhealthy diet and physical inactivity. For more information on breast cancer, see the section on modifiable risks in the Napa County Cancer Report online.

NAPA COUNTY CANCER REPORT: SUPPLEMENT A - CANCER INCIDENCE MAPS

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LUNG CANCER INCIDENCE RATES BY CENSUS TRACT

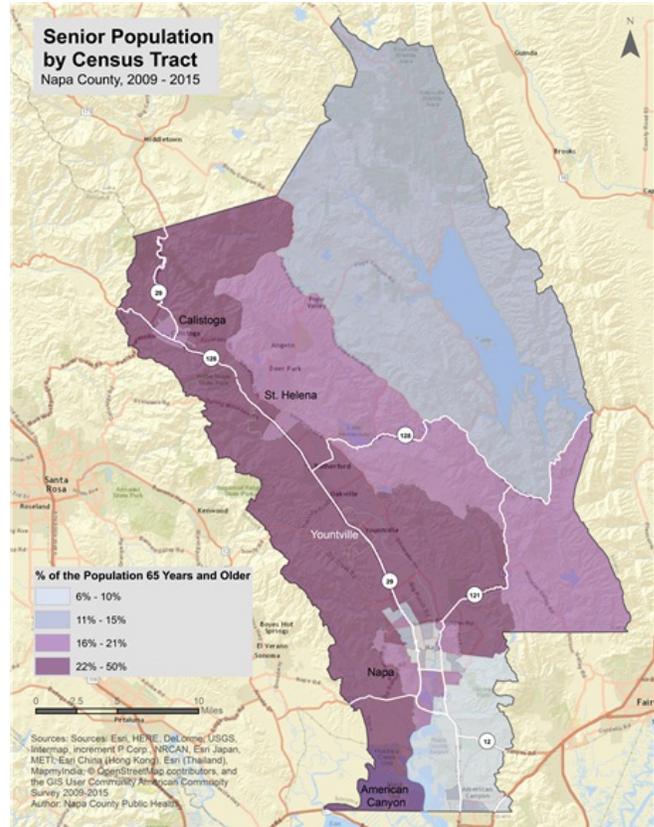
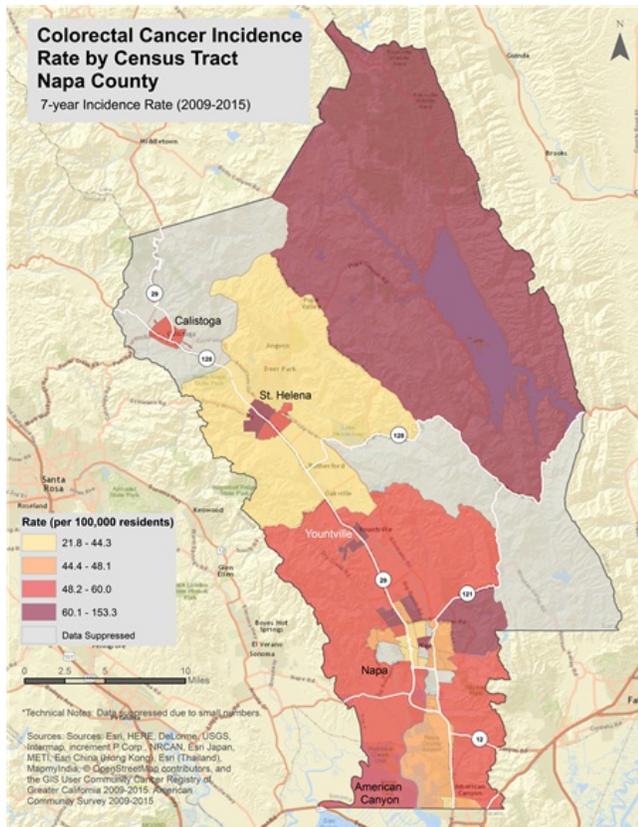


The map on the left displays lung cancer incidence rates by census tract. Because older age is a significant risk factor for cancer, a map of the proportion of the population age 65 and older by census tract is displayed on the right. There is a statistically significant cluster, across two census tracts, of high lung cancer rates in the Yountville area. This cluster is likely due to the sizable older adult and veteran population in the Yountville area. The Veterans Home of California, with over 1,000 residents, is located in Yountville, and research has shown that veterans have a higher smoking prevalence rate than nonveterans(1-3). Additionally, the census tract with the highest incidence rate, 397.7 per 100,000 residents, is located in Yountville, which also has the largest percentage of seniors (50%). Approximately 85% of lung cancers are caused by cigarette smoking. For more information on lung cancer, see the section on modifiable risks in the Napa County Cancer Report online.

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COLORECTAL CANCER INCIDENCE RATES BY CENSUS TRACT



The map on the left displays colorectal cancer incidence rates by census tract. Because older age is a significant risk factor for cancer, a map of the proportion of the population age 65 and older by census tract is displayed on the right. There are no statistically significant clusters or hot spots of high colorectal cancer rates. The census tract with the highest incidence rate, 153.3 per 100,000 residents, is located in Yountville, which also has the largest percentage of seniors (50%). The census tract in the northeast section of Napa County with a high incidence rate, 81.4 per 100,000 residents, may be due to the small population size. The census tract had on average 1.4 cases per year. For more information on colorectal cancer, see the Napa County Cancer Report online.

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REFERENCES

1. Feigelman W. (1994) Cigarette smoking among former military service personnel: a neglected social issue. *Prev Med.* 23(2):235-41. Retrieved from [http://linkinghub.elsevier.com/retrieve/pii/S0091-7435\(84\)71032-2](http://linkinghub.elsevier.com/retrieve/pii/S0091-7435(84)71032-2)
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