



University of California  
San Francisco

# CALIFORNIA HEALTH MAPS

Moving beyond county statistics to  
more meaningful geographies

Debby Oh, MSc, PhD  
NAACCR 2020 Conference  
June 25, 2020



# California Health Maps



# Background



# Cancer registry data are a public resource

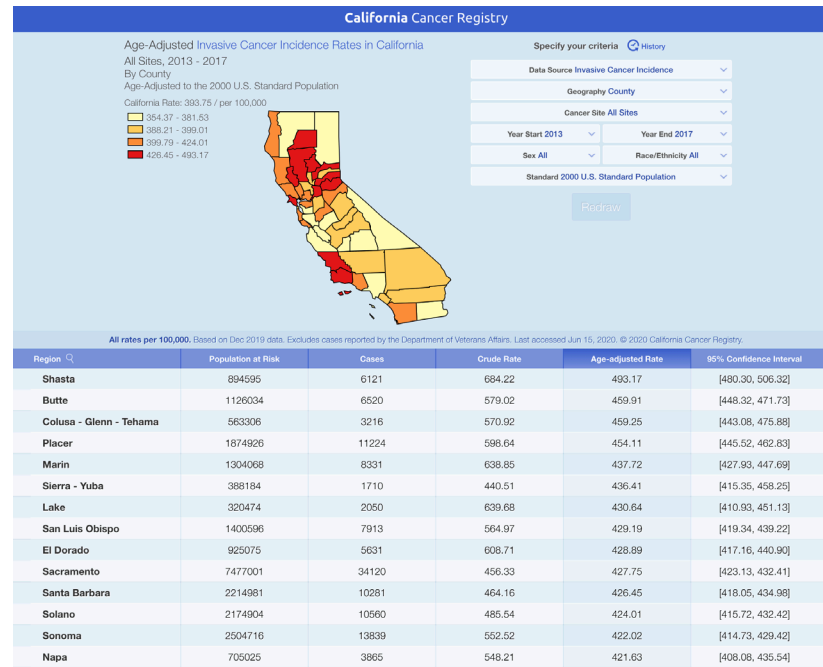
Currently available statistics are presented in a style and language familiar to epidemiologists and cancer researchers, but may not be accessible to policy makers and the general public.



California Cancer Registry annual report

# Increased demand for sub-county data

- Cancer surveillance data are publicly available at the county-level as the smallest level of geography.
- Stakeholders are increasing interested in getting data for other geographies which are more meaningful for informing and directing public health and policy efforts.



[Cancer-rates.info/ca/](https://cancer-rates.info/ca/)

# Overall goal of California Health Maps



Develop an interactive mapping tool of health data for geographies beyond the county levels in California.

- Map of cancer incidence rates beyond the county level
- Additional data (demographics, health outcomes, etc.) relevant to cancer
- Downloadable data and maps

# California Zones



# Census Tract Aggregation Zones

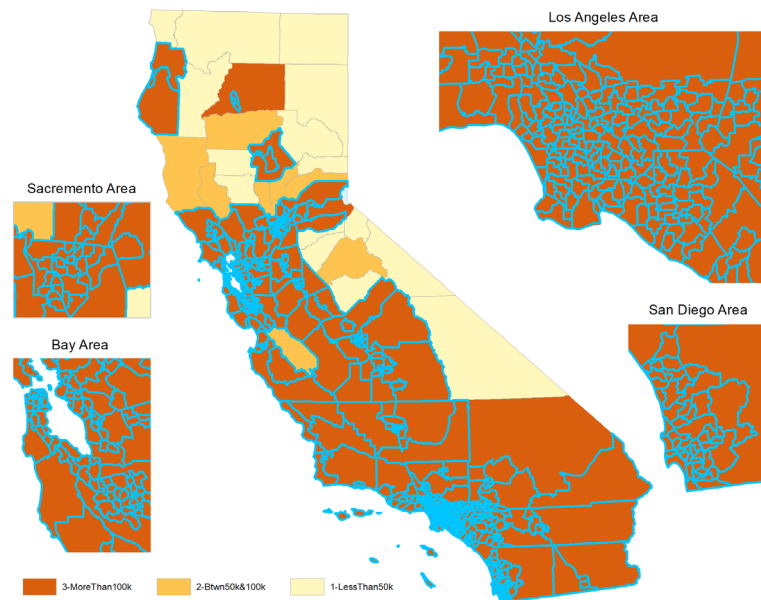
- The census tract aggregation zones were developed in partnership with Westat and the National Cancer Institute
- Part of a collaborative effort to provide cancer data at small area levels (generally smaller than county)
- Stakeholder input was gathered and incorporated in the development process for California



# Zone Methodology

Used a software zone design program called [AZTool](#)

- A. Counties with populations >100,000 people were divided into multiple geographies
- B. For the rest of the state, adjacent counties and parts of counties were combined to form zones

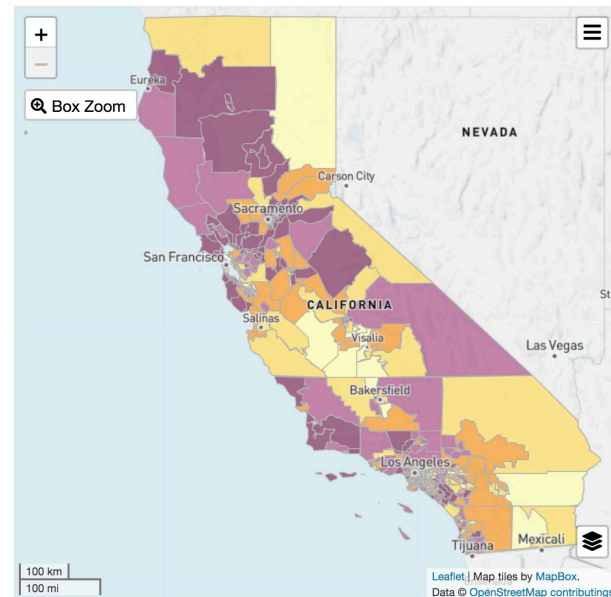


# Zone Methodology

- Demographic and socioeconomic characteristics were used to determine similarity:
  - % non-White
  - % poverty
  - % urban/rural
- Population data from Census 2010 and Census 2010 tract geographies
- Poverty data from the American Community Survey 2012-2016 5-year data

# California Zones

- 578 census tract aggregation zones
  - Minimum population of 50,000 people
  - Similar demographic and socioeconomic characteristics
  - Geographically compact
- Zones variation
  - Population size from 51,229 to 98,764
  - Number of census tracts from 5 to 25



# California Health Maps





- Interactive maps for geographies beyond the county levels in California
  - Zones
  - Medical Service Study Area (MSSAs)
  - Congressional Districts

# CaliforniaHealthMaps.org

## Features



- Cancer incidence for 12 of the most common invasive cancer sites
- Filter by sex and race/ethnicity
- Includes data on 20 factors relevant to cancer outcomes (demographics, cancer screening rates, behavioral factors)
- Downloadable data and maps

California Health Maps is an interactive mapping tool of health data for geographies beyond the county levels in California. You can map cancer incidence for 12 of the most common invasive cancer sites and filter by sex and race/ethnicity. [Visit Learn](#) to review methodology, data sources, and more.

## Cancer Incidence ?

Select Area Type

Zone ▼

Location Search

Search by address or city Q

Date Range

5-Year: 2013-2017 ▼

Cancer Site/Type ?

All Cancer Sites ▼

Sex ?

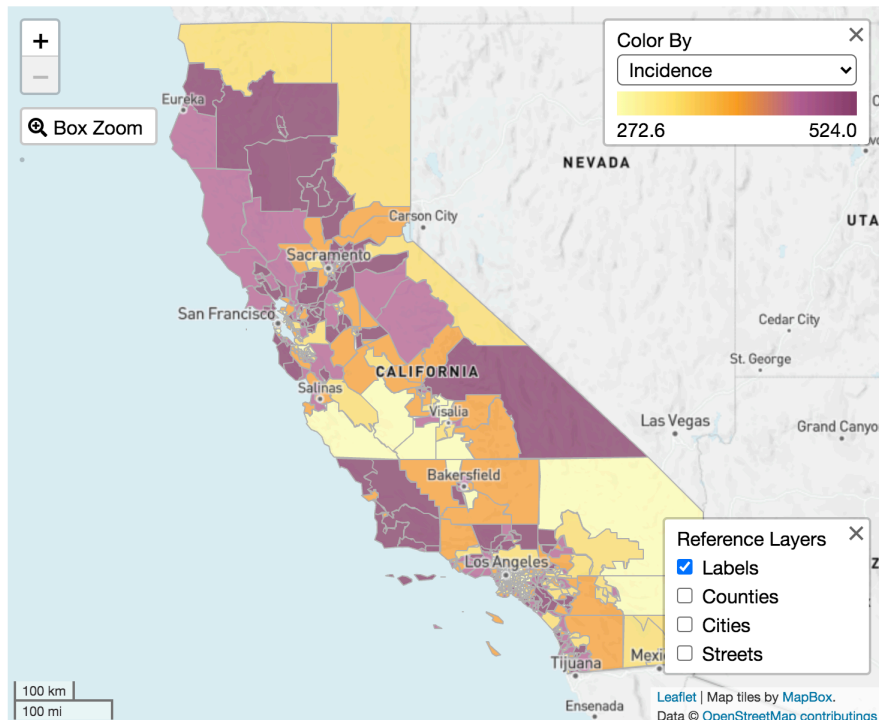
All Sexes ▼

Race/Ethnicity ?

All Ethnicities ▼

 Download ▼

 Print Page



# Cancer incidence summary

California

5-Year: 2013-2017

All Cancer Sites

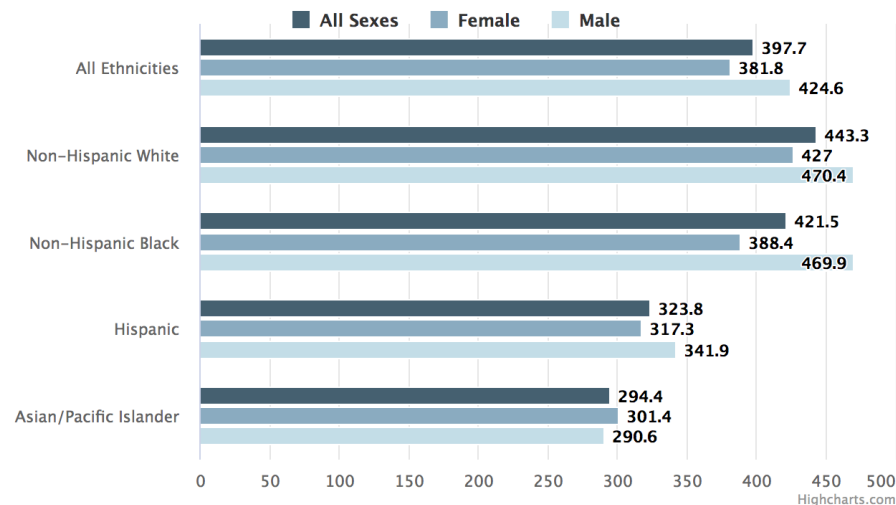
All Sexes

All Ethnicities

## Cancer Statistics

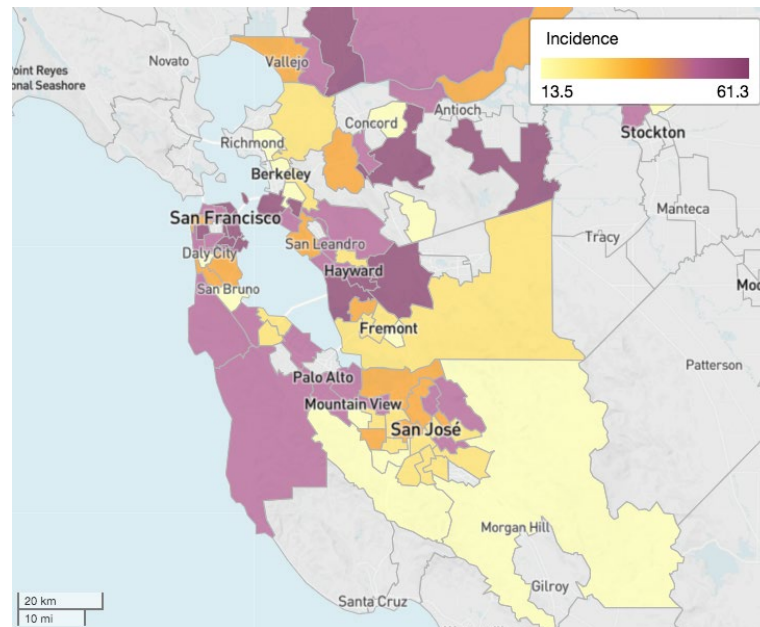
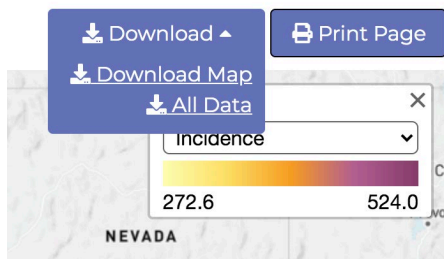
Cases	Statewide 831,382
Age Adjusted Incidence Rate <sup>i</sup> (95% LCI, 95% UCI) <sup>i</sup>	397.7 (396.8, 398.6)

## Age Adjusted Incidence Rate All Cancer Sites - California

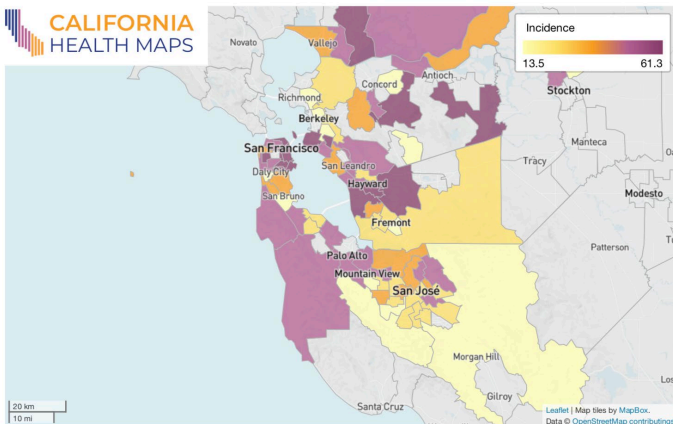


According to California Department of Public Health guidelines, cancer incidence rates cannot be reported if based on <15 cancer cases and/or a population of <10,000 to ensure confidentiality and stable statistical rates.

# Download maps & data



# Print page



## California

10-Year, 2008-2017

Lung Cancer

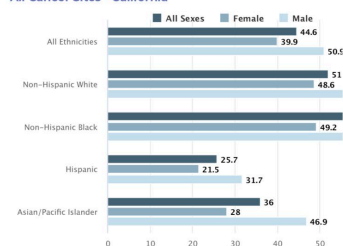
Female

Asian/Pacific Islander

### Cancer Statistics

Cases	Statewide 9,140
Age Adjusted Incidence Rate (95% LCI, 95% UCI)	28.0 (27.4, 28.5)

### Age Adjusted Incidence Rate All Cancer Sites - California



According to California Department of Public Health guidelines, cancer incidence rates cannot be reported if based on <15 cancer cases and/or a population of <10,000 to ensure confidentiality and stable statistical rates.

## CALIFORNIA HEALTH MAPS

### California

#### Demographics

	Statewide
Population	29,390,200
% Non-Hispanic White	40.1 %
% Non-Hispanic Black	5.8 %
% Hispanic	37.6 %
% Asian/Pacific Islander	13.4 %
% Foreign-Born	27.1 %
% Rural	6.3 %

#### Socioeconomic Status

#### Healthcare Access and Use

	Statewide
% Uninsured	17.8 %
% Routine Checkups	82.5 %
% Delayed Care	19.3 %
% Colorectal Cancer Screening	62.9 %
% Mammograms	78.9 %
% Pap Smears	63.7 %
% Preventive Care (Men, 65+ years)	29.5 %
% Preventive Care (Women, 65+ years)	30.4 %

#### Health and Well-Being

	Statewide
% Obesity	28.0 %
% Food Insecure	7.0 %
% Physical Activity	38.9 %
% Smoking	12.4 %

#### Data Sources

- California Cancer Registry, 2012-2016
- 500 Cities/Behavioral Risk Factor Surveillance System, 2018.
- American Community Survey, 2008-2012.
- California Health Interview Survey, 2015-2016.
- US Census, 2010.

# Additional data

## Alameda 4 (A1118)

Demographics	Zone	Statewide
Population	60,897	29,390,200
% Non-Hispanic White ⓘ	21.1 %	40.1 %
% Non-Hispanic Black ⓘ	35.4 %	5.8 %
% Hispanic ⓘ	13.5 %	37.6 %
% Asian/Pacific Islander ⓘ	25.2 %	13.4 %
% Foreign-Born ⓘ	29.2 %	27.1 %
% Rural ⓘ	0.0 %	6.3 %
Socioeconomic Status ⓘ	3	

Healthcare Access and Use	Zone	Statewide
% Uninsured ⓘ	18.6 %	17.8 %
% Routine Checkups ⓘ	67.3 %	82.5 %
% Delayed Care ⓘ	18.6 %	19.3 %
% Colorectal Cancer Screening ⓘ	64.0 %	62.9 %
% Mammograms ⓘ	79.7 %	78.9 %
% Pap Smears ⓘ	82.5 %	63.7 %
% Preventive Care (Men, 65+ years) ⓘ	26.7 %	29.5 %
% Preventive Care (Women, 65+ years) ⓘ	27.1 %	30.4 %

Health and Well-Being	Zone	Statewide
% Obesity ⓘ	24.8 %	28.0 %
% Food Insecure ⓘ	3.9 %	7.0 %
% Physical Activity ⓘ	43.9 %	38.9 %
% Smoking ⓘ	16.6 %	12.4 %

# Additional information

## Learn

About This Project

Methodology

FAQs

Definitions

The California Health Maps project aims to provide data for geographies beyond county-level statistics to better serve cancer control, public health, and policy efforts.

California Health Maps allows users to interactively map health data for California at different geographic levels: census tract aggregation zones, medical service study areas (MSSAs), and congressional districts.

California Health Maps include 5-year cancer incidence rates based on the most current data for 12 of the most common invasive cancer sites by sex and race/ethnicity (non-Hispanic White, non-Hispanic Black, Hispanic, and non-Hispanic Asian/Pacific Islander). It also includes selected population sociodemographic data based on 2010 Census and 2008-2012 American Community Survey data, and health and well-being, and health care access and use data from 500 Cities/CDC BRFSS and the 2015-2016 California Health Interview Survey.

## Project Team

[Greater Bay Area Cancer Registry \(University of California, San Francisco\)](#)

[Los Angeles Cancer Surveillance Program \(University of Southern California\)](#)

[National Cancer Institute](#)

[Westat, Inc.](#)

[California Health Interview Survey](#)

## Funding

[California Department of Public Health](#)

[National Cancer Institute](#)

University of California, Davis, Comprehensive Cancer Center

# Demo

