



# Map Set 2018

Community Assessment, Planning, and Evaluation (CAPE) Unit

Alameda County Public Health Department

April 2018

This slide set was produced by the Alameda County Public Health Department (ACPHD) Community Assessment, Planning, and Evaluation (CAPE) Unit. One way that we work to achieve the ACPHD mission is to monitor the latest data about social and health issues affecting our county. The slide set is intended for anyone interested in several top socioeconomic and health indicators affecting the residents of Alameda County. We hope that this information is useful to policy makers, non-profit organizations, community educators, city planners, local service providers, and students.

Maps may be referenced and/or reproduced in reports, presentations, and publications with the Alameda County Public Health logo and the citation: Alameda County Public Health Department, *Map Set 2018*, April 2018.

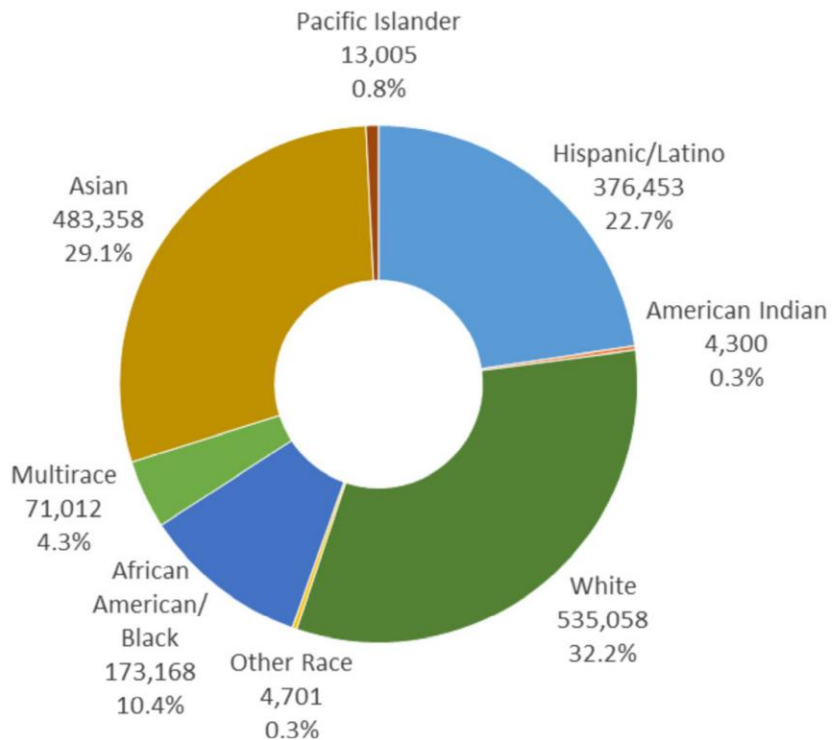


# **Demographic Characteristics**

The following three slides provide a brief overview of the demographics characteristics of residents of Alameda County. For additional demographic information, please visit the demographics page of <http://www.healthyalamedacounty.org/>.



## Alameda County by Race/Ethnicity, 2017

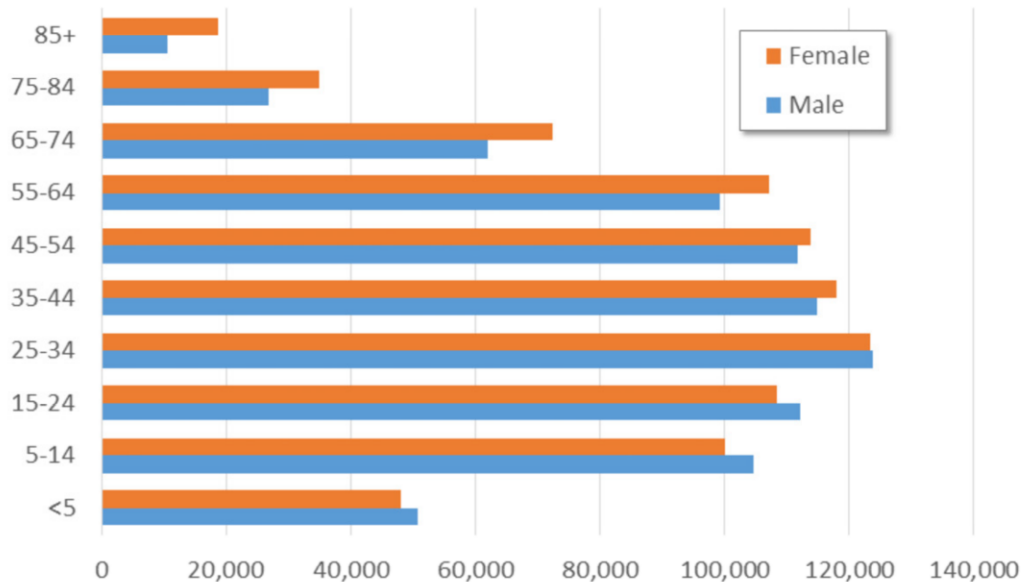


### Race/Ethnicity

Alameda County is one of the most diverse counties in the country. The figure above displays the distribution by race/ethnicity for 2017. Whites are the largest group in Alameda County, followed by Asians, Hispanic/Latinos, and African Americans/Blacks.

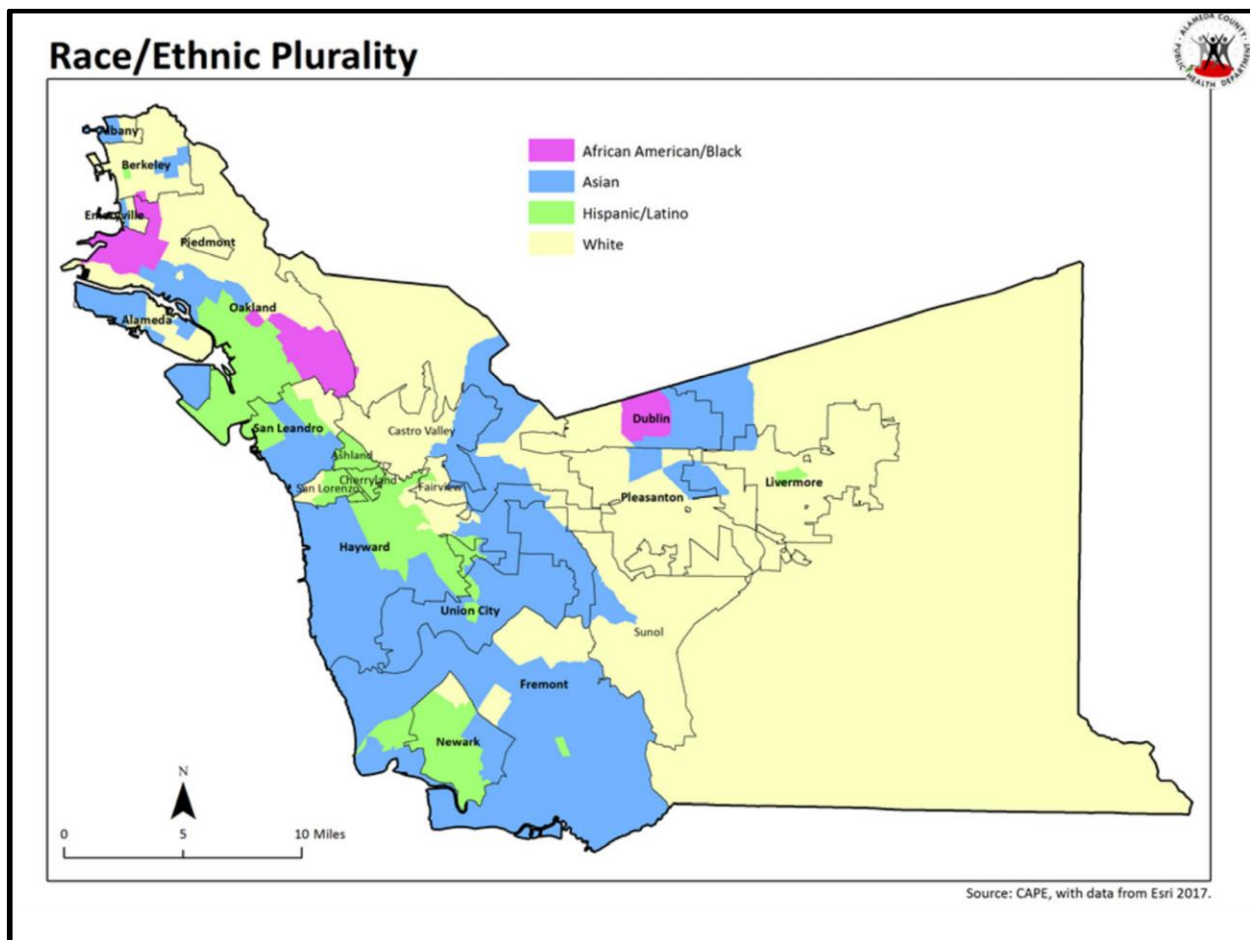


## Alameda County by Age and Sex, 2017



### Age and Sex

The population of Alameda County in 2017 was 1,661,055. The figure above shows the population of Alameda County by sex and age group. Alameda County residents are almost evenly split by gender—50.9% are female—but males make up the majority in younger age groups and females in older. Most Alameda County residents are between 25 and 64 years.



## Race/Ethnic Plurality

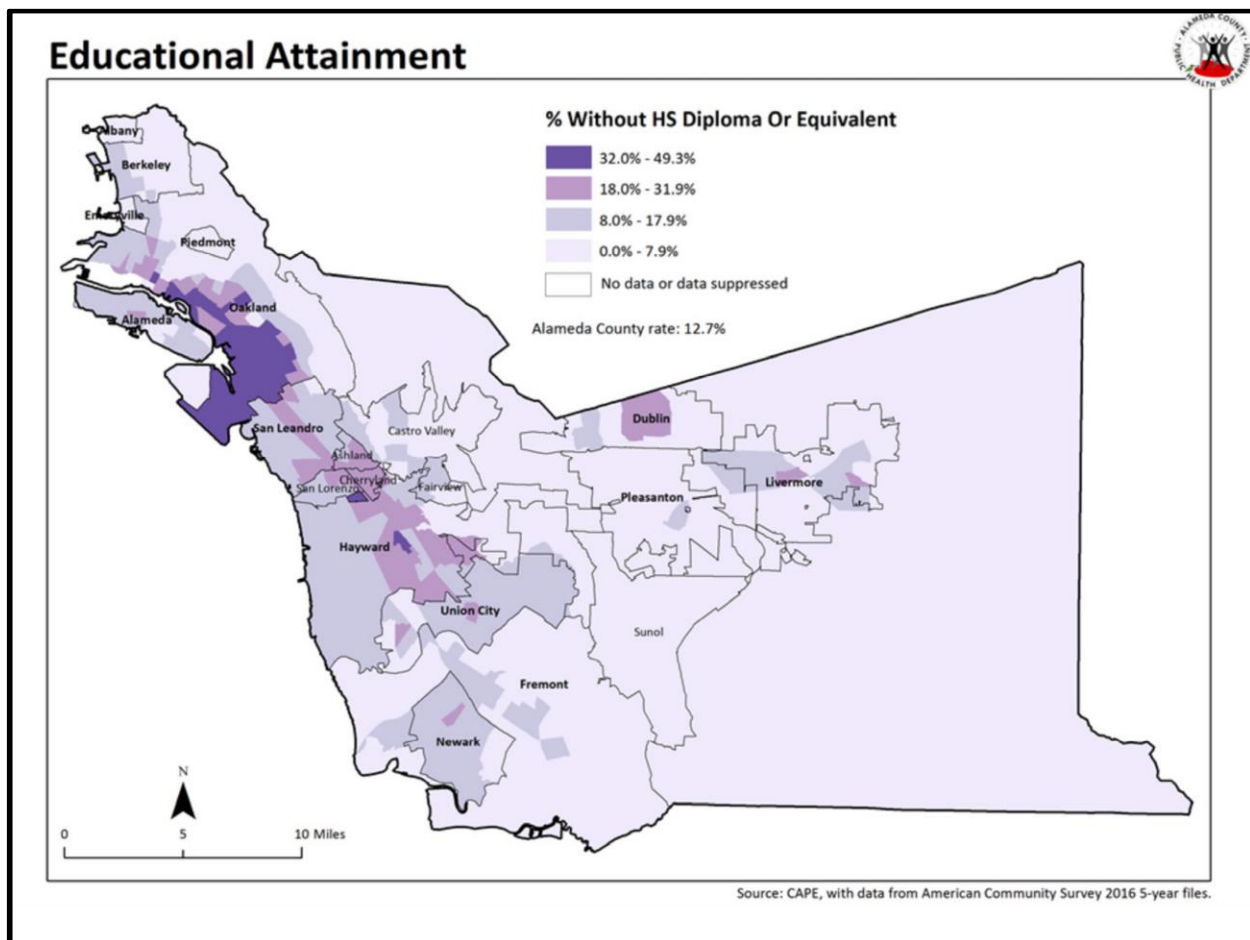
The race/ethnic plurality is defined as that race/ethnicity that has the highest population in a census tract, which may or may not be the majority. For example, a census tract might be composed of 40% African American, 27% Latino, 18% White, and 15% Asian, the plurality would be African American. This map represents the race/ethnic plurality at the census tract level for Alameda County from Esri data from 2017. The blue areas on the map correspond to Asians, pink to African American/Black, green to Hispanic/Latino, and yellow to White.

Asians are the plurality in many parts of the county, particularly in central Oakland and south county. African American/Blacks are the plurality in parts of north, west, and east Oakland. Hispanic/Latino plurality census tracts also span the county, but are particularly concentrated in east Oakland, central county – including unincorporated areas and Hayward – and Newark. Whites are the plurality in many areas of the county, including Berkeley, the Oakland hills, Castro Valley, and much of east county.



# Socioeconomic Characteristics

The opportunity to live a long, healthy, and productive life is not evenly distributed throughout Alameda County. The following five slides provide a socioeconomic snapshot of the county as a whole. Neighborhood poverty greatly affects health outcomes and is a good indicator of overall deprivation. Educational attainment, employment, and levels of health insurance coverage impact health outcomes as well. Opportunities for health are greater if you have a household income above the federal poverty level, a high school diploma or equivalent, employment, and health insurance.



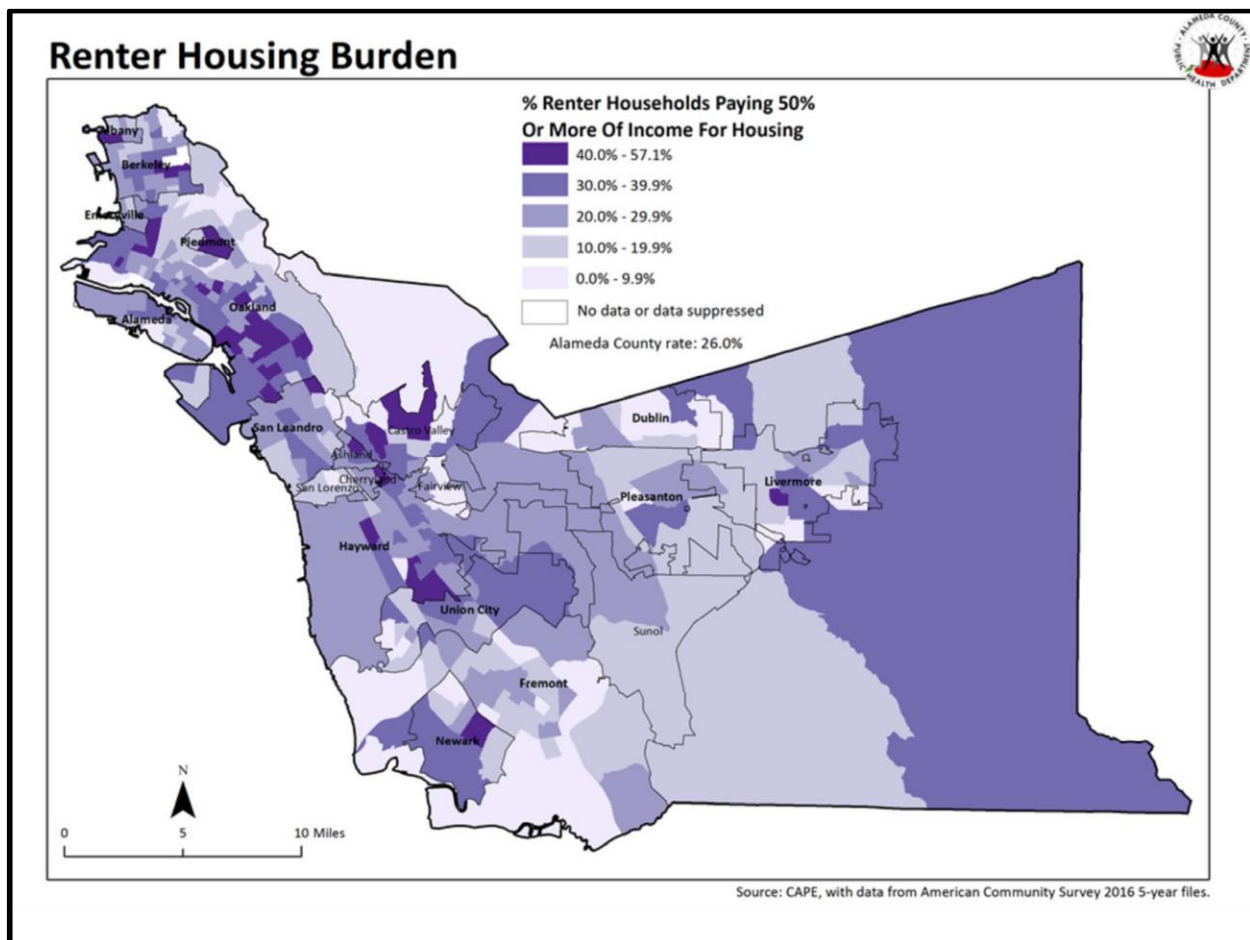
### Educational Attainment

This map shows the percentage of residents age 25 years or older in a census tract without a high school diploma or its equivalent or greater, called educational attainment. Educational attainment is different from high school graduation rates; high school graduation rates are school based and show the percentage of students who graduate. Educational attainment takes into account high school equivalency exams, and is measured for individuals 25 years or older. This map represents high school or more educational attainment rate at the census tract level for Alameda County, with data from American Community Survey 2016 5-year files.

The darker colors on the map correspond to higher rates of individuals without a high school diploma or equivalent, the lighter colors to lower rates of individuals without a high school diploma or equivalent, and thus higher educational attainment.

High school graduation or equivalent rates were lowest in parts of east Oakland, Hayward, and unincorporated Hayward.

There were about 141,000 people age 25 years or older (12.7%) who did not complete a high school education in Alameda County. Some census tracts reported that no residents over age 25 had not finished high school or its equivalent, while others reported that as much as 49% of residents lacked a high school diploma or its equivalent.



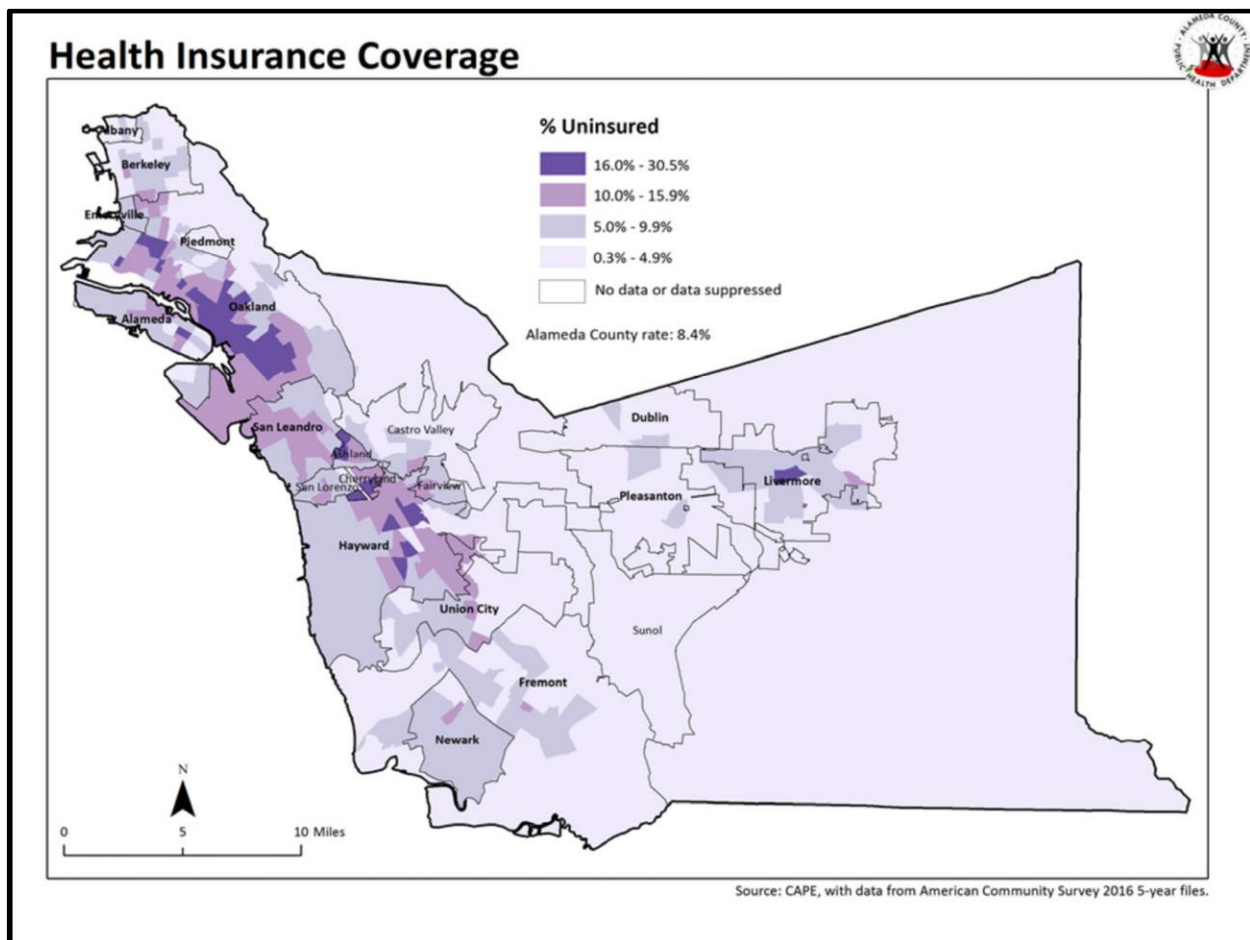
## Renter Housing Burden

This map represents the renter housing cost burden at the census tract level for Alameda County with data from American Community Survey 2016 5-year files. The darker colors on the map correspond to higher percentages of renter households spending at least half of their income on housing.

Housing cost burden is highest in parts of west Oakland, scattered parts of east Oakland, a part of Berkeley, Albany, Castro Valley, Ashland, Cherryland, Castro Valley, Hayward, Union City, and Newark.

In 2016 5-year files, there were about 67,000 renter households that spent 50% or more of their income on housing in Alameda County for an overall rate of 26.0%. The percentage of households paying 50% or more for housing in census tracts with at least 50 households ranged from 0% to a high of 57.1%.





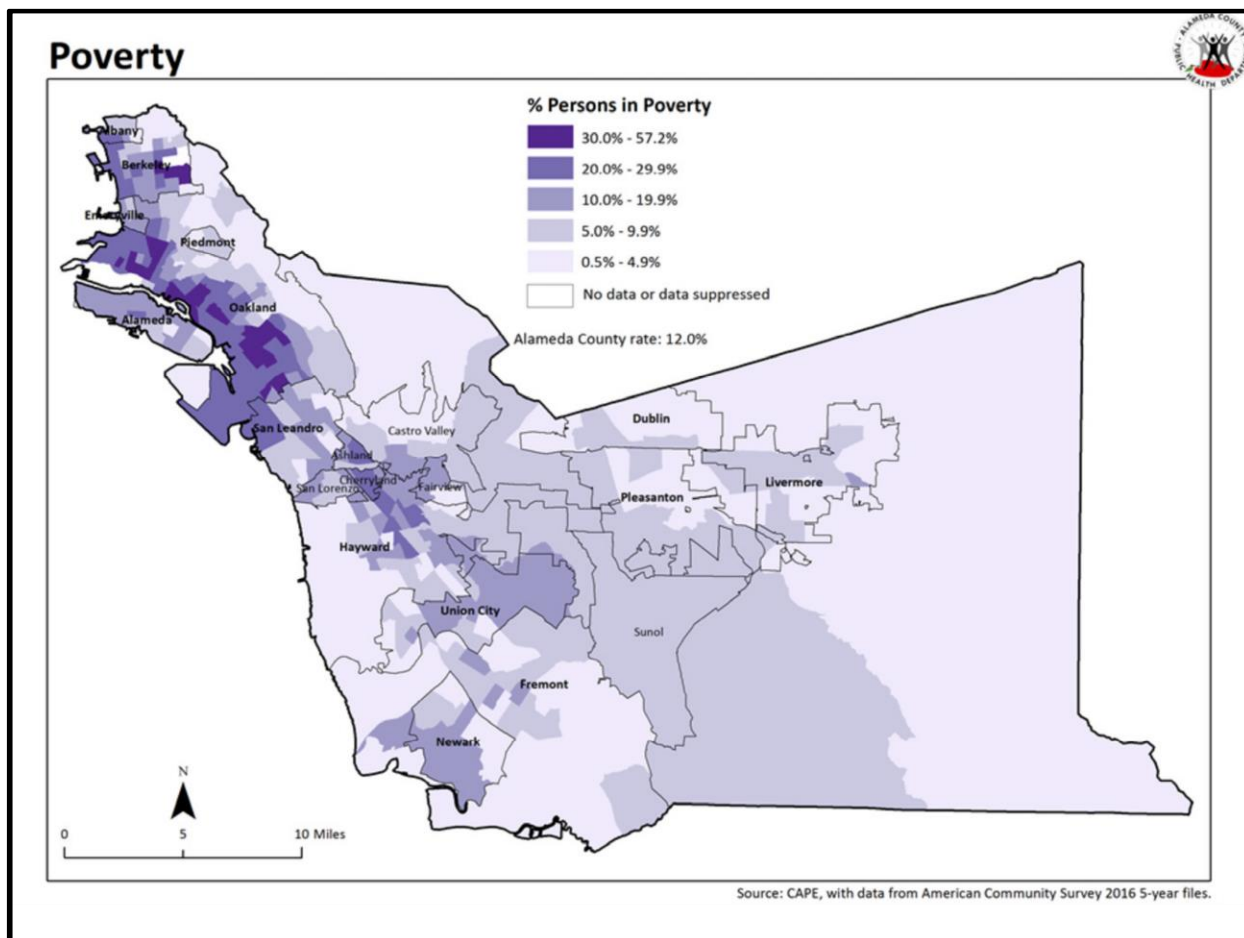
## Health Insurance Coverage

Health insurance status is determined for individuals. If the individual has one or more sources of insurance coverage, either public or private, they are considered insured.

This map represents a lack of health insurance coverage at the census tract level for Alameda County with data from American Community Survey 2016 5-year files. The darker colors on the map correspond to higher percentages of the population without any type of health insurance.

Lack of health insurance coverage is highest in parts of east and west Oakland, Ashland, Cherryland, and parts of Hayward and Livermore.

In the 2016 5-year files, there were about 133,000 people without health insurance in Alameda County, for an overall uninsured rate of 8.4%. The percentage of uninsured residents across census tracts ranged from a low of 0.3% to a high of 30.5%.



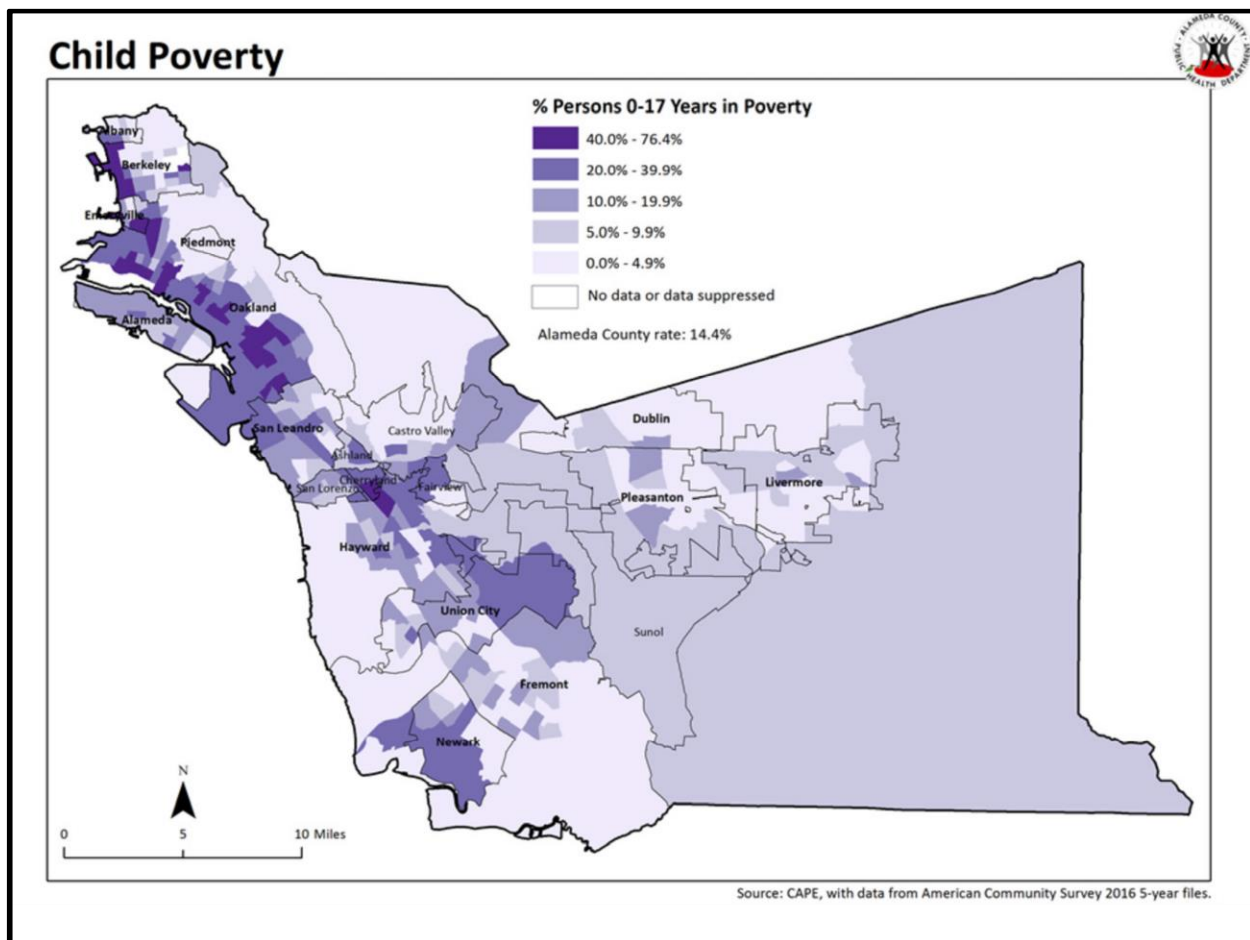
## Poverty

The poverty rate is defined the federal Office of Management and Budget (OMB) by the income and size of the household. For example, the rate in 2016 for a family of four was \$24,300 for the 48 contiguous states and DC. If the household is in poverty, then every person in that household is considered to be in poverty. Neighborhoods that contain many households in poverty may have scarcer resources and weaker infrastructure to support good health.

This map represents poverty at the census tract level for Alameda County from American Community Survey 2016 5-year files. The darker colors on the map correspond to higher poverty rates, and the lighter colors to lower rates.

Poverty rates are highest in east and west Oakland, as well as near the UC-Berkeley campus.

In the 2016 5-year files, there were about 190,000 people in poverty in Alameda County, for an overall rate of 12.0%. The household poverty rates among census tracts ranged from 0.5% to a high of 57.2%.



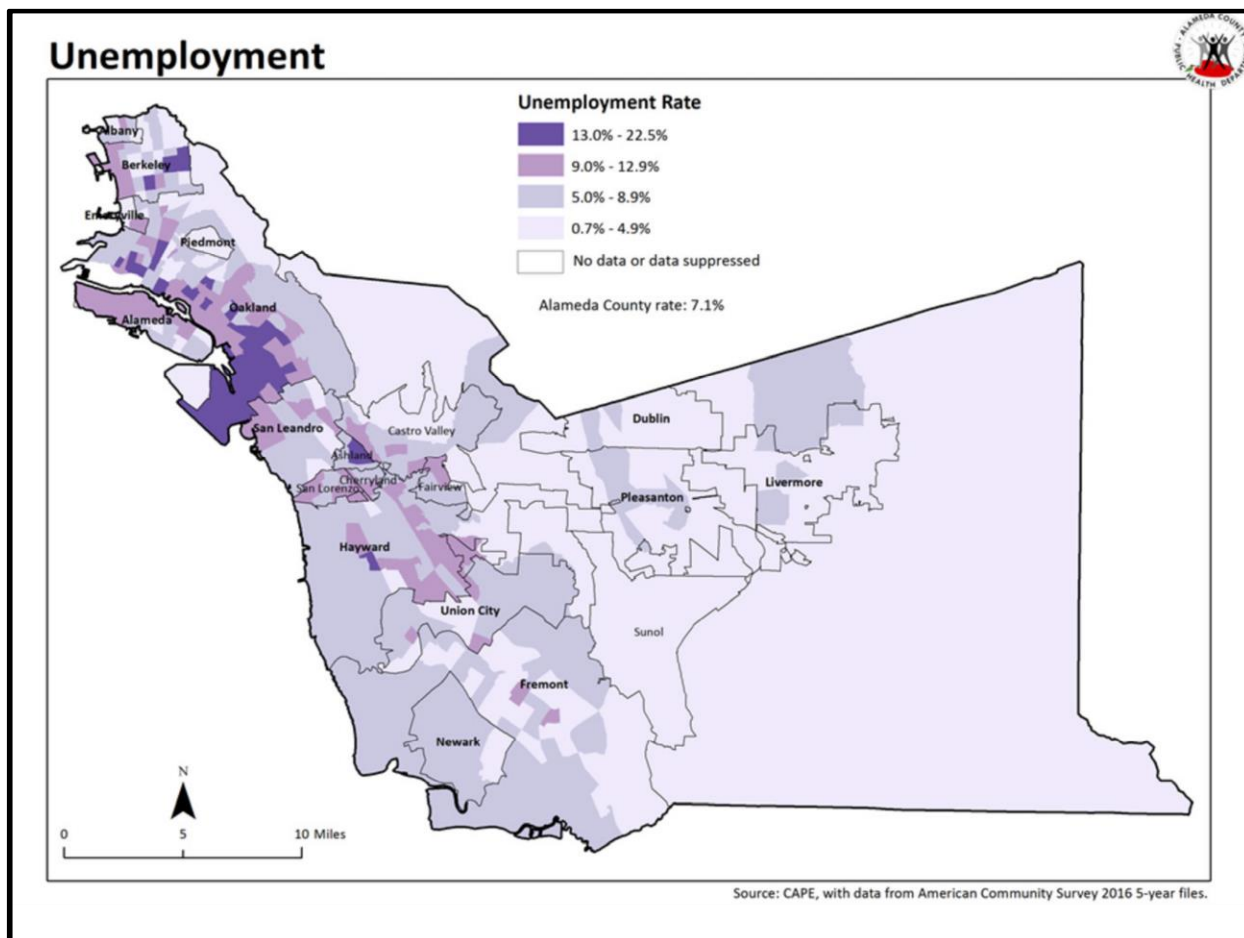
## Child Poverty

The poverty rate is defined by the federal Office of Management and Budget (OMB) by the income and size of the household. For example, the rate in 2016 for a family of four was \$24,300 for the 48 contiguous states and DC. If the household is in poverty, then every person in that household is considered to be in poverty.

This map represents child poverty – percentage of children in households below the poverty level – at the census tract level for Alameda County, with data from American Community Survey 2014 5-year files. The darker colors on the map correspond to higher child poverty rates, and the lighter colors correspond to lower rates.

Child poverty rates are highest in east, west, and north Oakland, as well as west Berkeley, Cherryland, and parts of Hayward.

In the 2016 5-year files, there were about 49,000 children in poverty in Alameda County, for an overall rate of 14.4%. Child poverty by census tracts ranged from 0% to a high of 62.9%.



## Unemployment

Employment is defined as any employment at the time of the survey, and “unemployed” describes people who do not have work and who are looking for work. A person who does not have a job and is not looking for work is not considered part of the labor force, and is not included in the employment rate. Examples of people not counted in the employment rate are students, homemakers, or retired individuals.

This map represents the unemployment rate at the census tract level for Alameda County from American Community Survey 2016 5-year files. The darker colors on the map correspond to higher unemployment rates, and the lighter colors to lower rates.

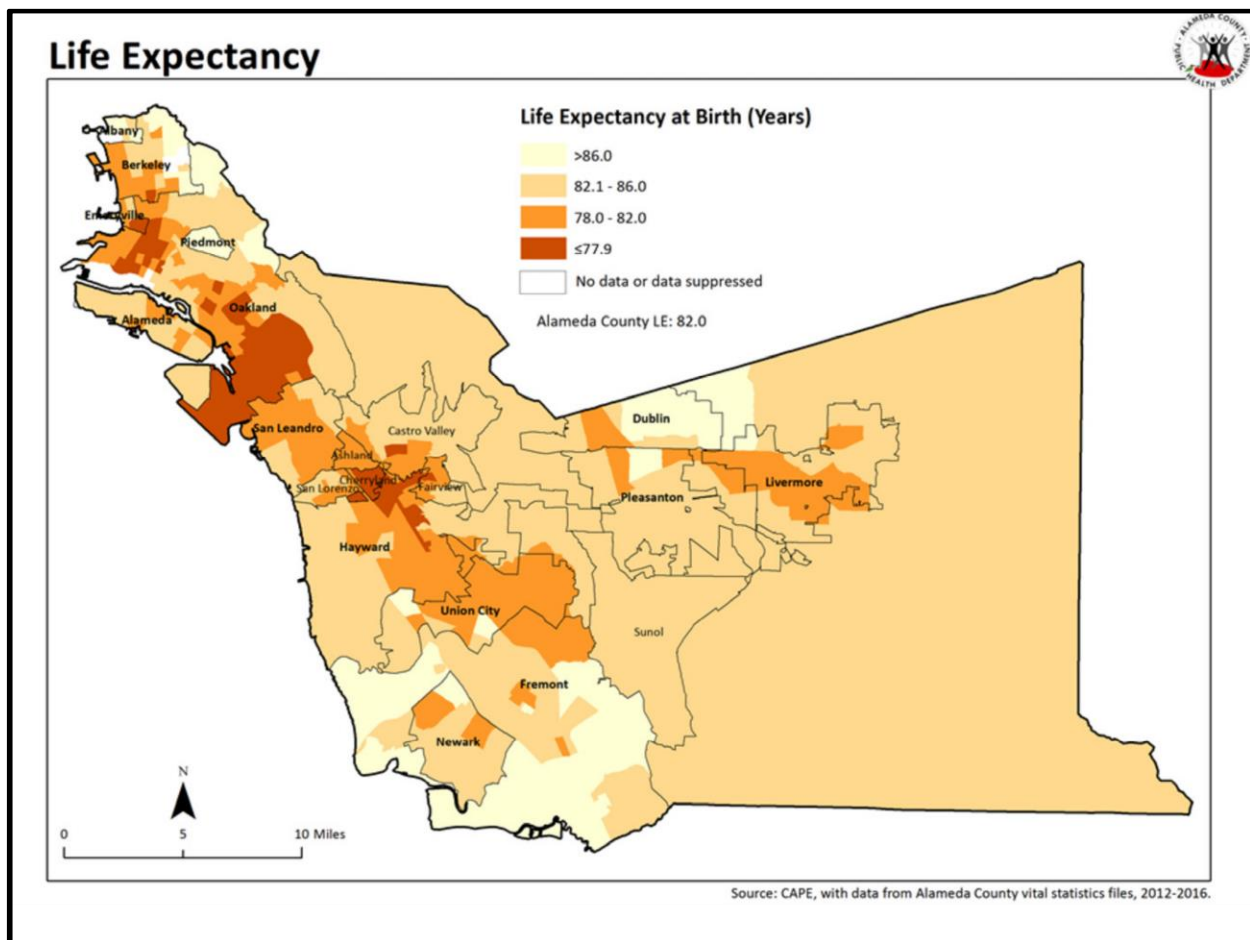
Unemployment is highest in parts of east and west Oakland, near and on the UC-Berkeley campus, and in parts of Hayward and Ashland.

In the 2016 5-year files, there were about 61,000 people unemployed in Alameda County, for an overall unemployment rate of 7.1%. Unemployment rates by census tracts ranged from 0.7% to a high of 22.5%.



# **Life Expectancy & Leading Causes of Death**

Life expectancy in Alameda County has increased for every racial and ethnic group and all-cause mortality has declined since at least 1985. The following nine slides show life expectancy across the county and the seven leading causes of death based on the neighborhoods where the disease burden is greatest. The data for these maps came from the vital statistic files for Alameda County.

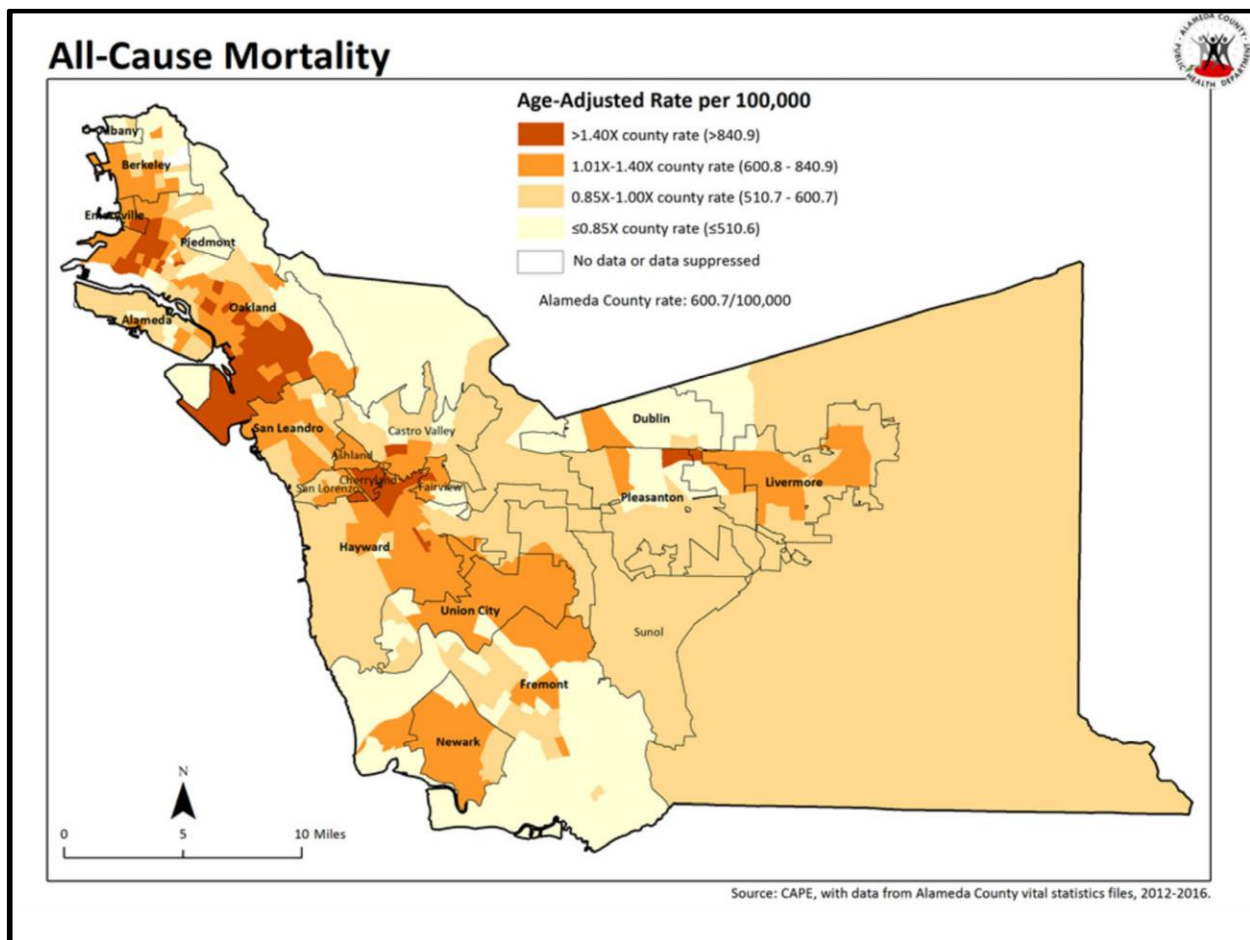


## Life Expectancy

This map shows life expectancy at birth for census tracts in Alameda County in 2012-2016. The darker map colors correspond to lower life expectancy; the lighter colors to higher life expectancy.

Life expectancy was lowest in north, west, and east Oakland, as well as parts of Cherryland, Fairview, Hayward, and other unincorporated areas. Neighborhood poverty greatly impacts health outcomes in Alameda County. What we observe is a clear social gradient in health—a decline in life expectancy with each increasing level of neighborhood poverty—and that those in the most impoverished areas of Alameda County have a lower life expectancy.

In 2012-2016 in Alameda County there were 47,711 deaths, for an overall life expectancy at birth of 82.0 years. For census tracts with large enough populations for stable estimates, the life expectancy at birth ranged from 68.4 years to a high of 90.0 years.



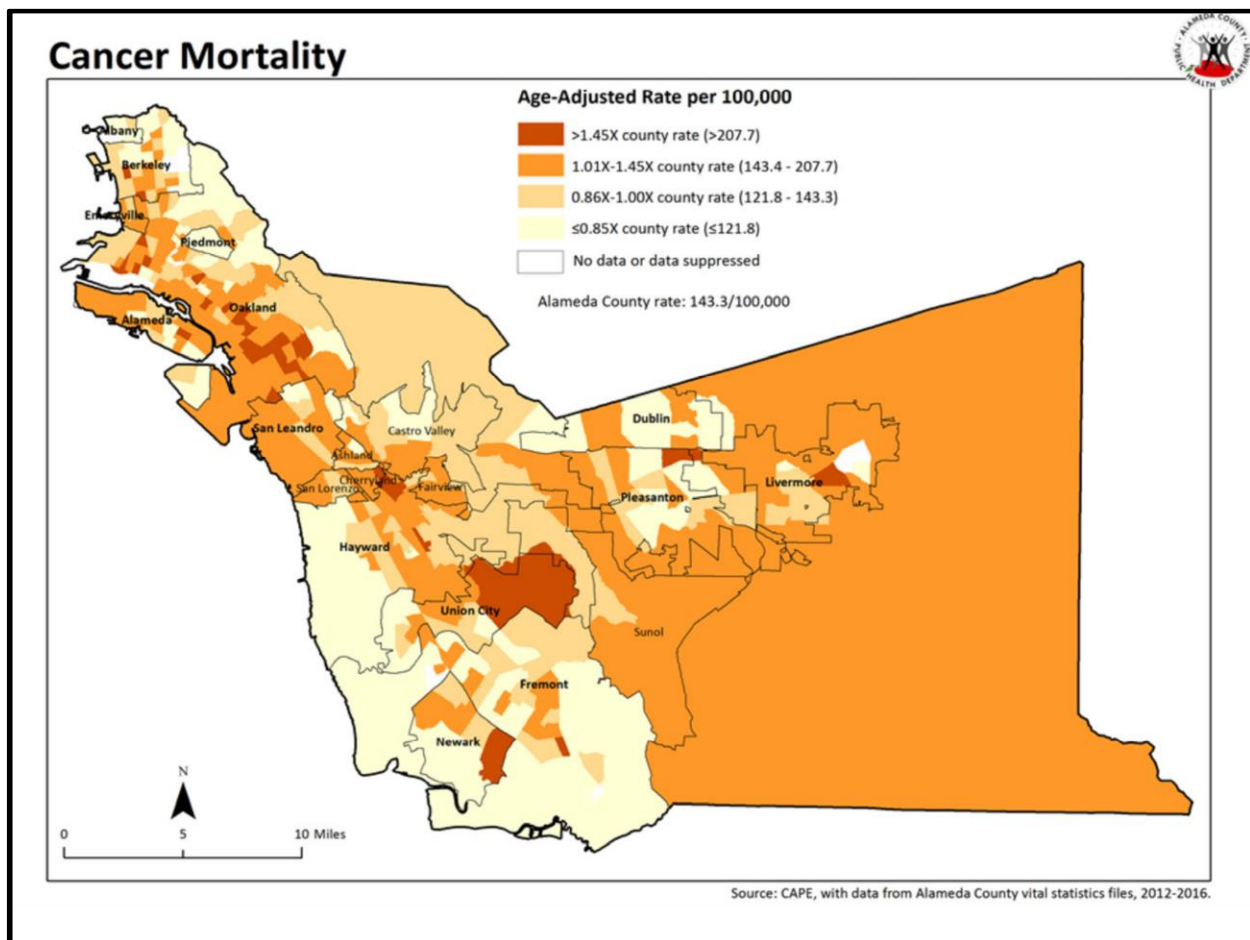
#### All-Cause Mortality

This map shows all-cause mortality – deaths due to any cause – for census tracts in Alameda County for 2012-2016. The darker map colors correspond to higher mortality rates, and the lighter colors to lower mortality rates.

All-cause mortality was highest in Oakland, in pockets of Cherryland, Castro Valley, Hayward, and in some other unincorporated areas. Neighborhood poverty greatly impacts health outcomes in Alameda County. What we observe is a clear social gradient in health – that those in the most impoverished areas of Alameda County have a higher mortality rate.

In 2012-2016 in Alameda County, there were 47,711 deaths, for an overall age-adjusted all-cause mortality rate of 600.0 deaths per 100,000 people. For census tracts with ten or more deaths, the rate ranged from 300.8 per 100,000 to a high of 1,567.7.





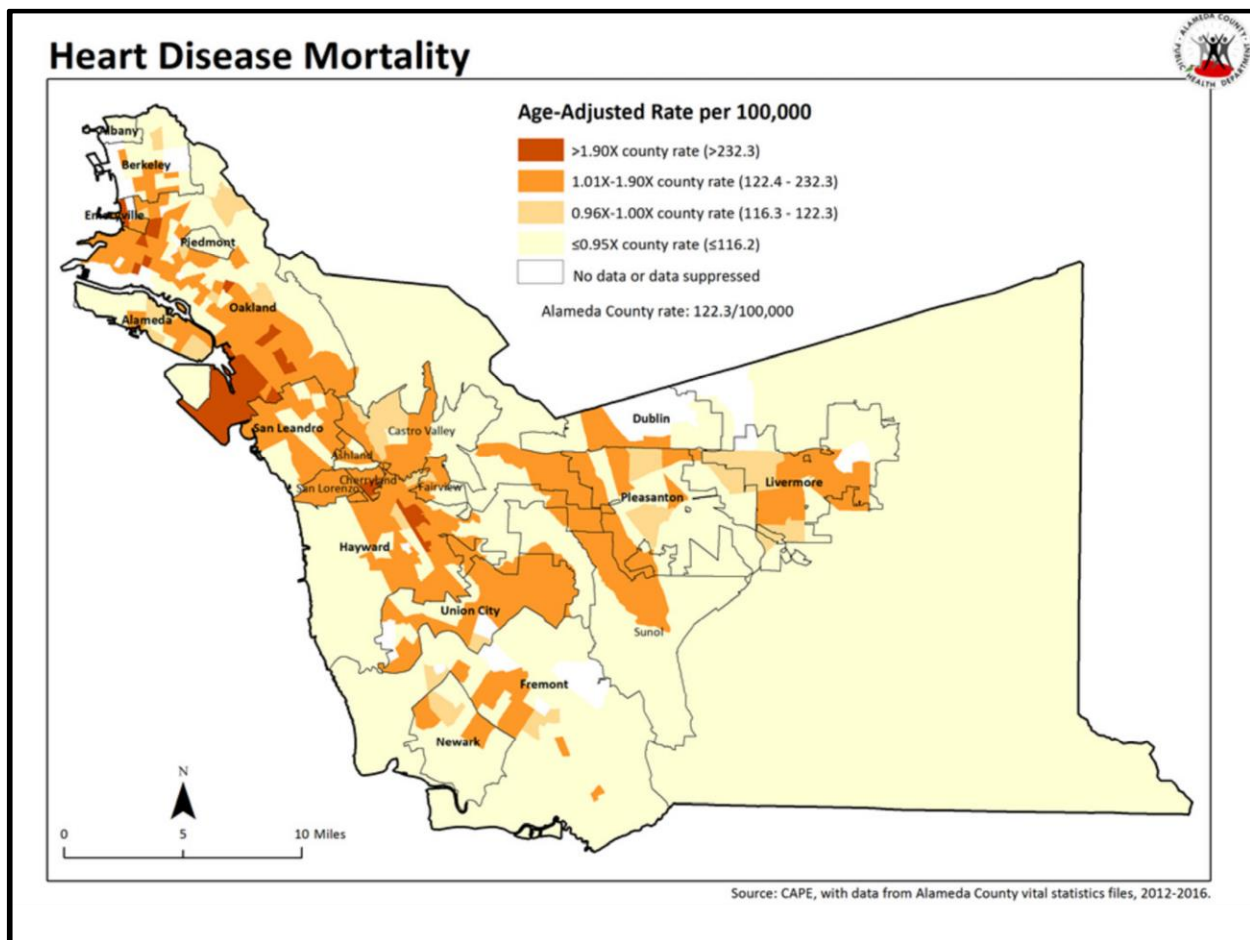
## Cancer Mortality

Cancer is now the leading cause of death among residents in Alameda County, exceeding deaths from heart disease. Lung, breast, prostate, and colon cancer make up the majority of cancer deaths. This map shows cancer mortality for census tracts in Alameda County in 2012-2016. The darker map colors correspond to higher cancer mortality rates, and the lighter colors to lower rates.

Cancer mortality rates were highest among residents of east, west, and north Oakland, as well as areas of Cherryland and Livermore.

In 2012-2016 in Alameda County, there were 11,472 deaths due to cancer, for an overall age-adjusted rate of 143.3 cancer deaths per 100,000 people. For those census tracts with ten or more deaths, the rate ranged from 68.9 per 100,000 to a high of 297.4 per 100,000.



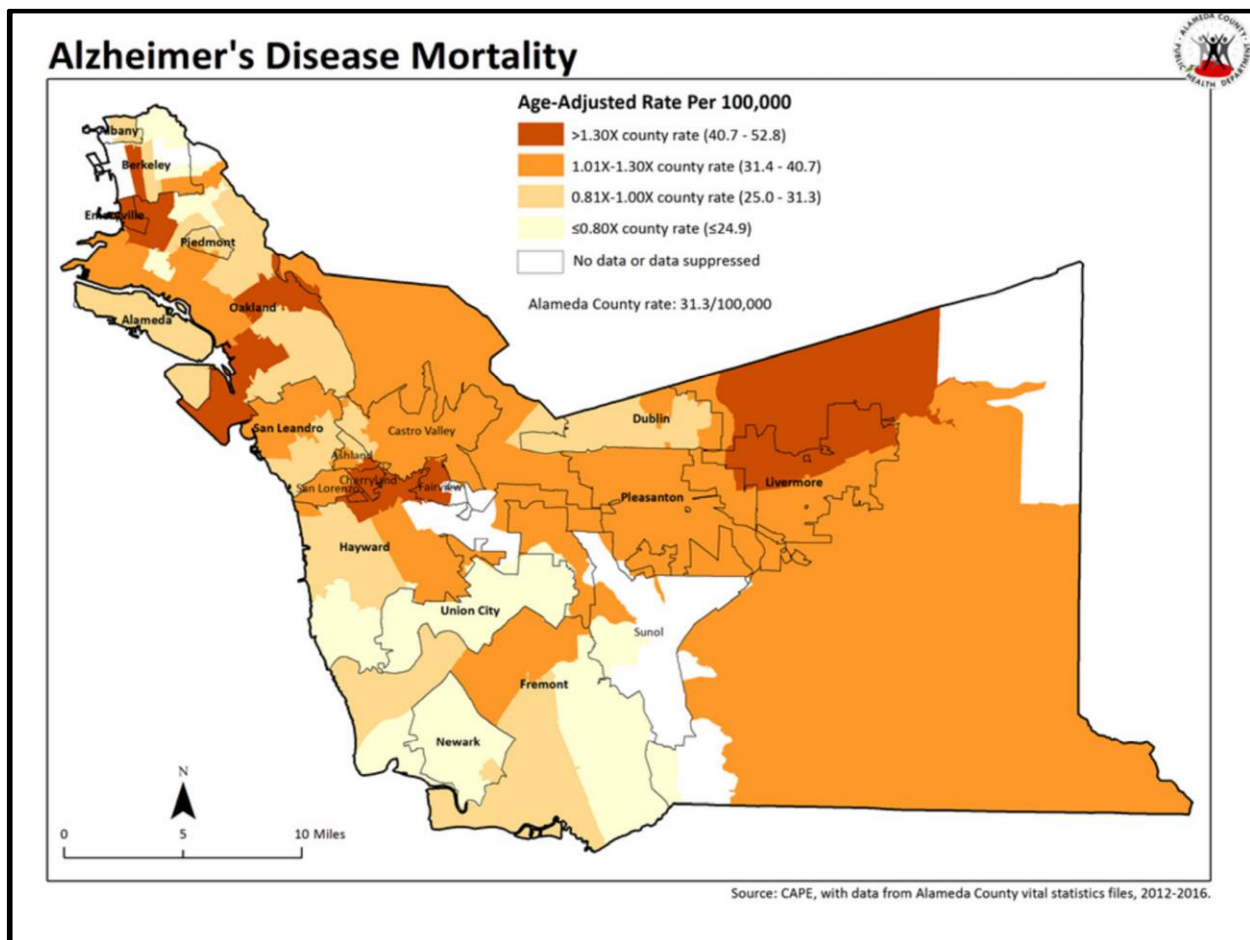


## Heart Disease Mortality

This map shows heart disease mortality for census tracts in Alameda County in 2012-2014. The darker map colors correspond to higher heart disease mortality rates, and the lighter colors to lower rates.

Heart disease mortality rates were highest in areas of east and west Oakland, and parts of Emeryville, Cherryland, and Hayward.

In 2012-2016 in Alameda County, there were 9,715 deaths due to heart disease, for an overall age-adjusted rate of 122.3 heart disease deaths per 100,000 people. For those census tracts with ten or more deaths, the rate ranged from 55.7 per 100,000 to a high of 488.3 per 100,000.

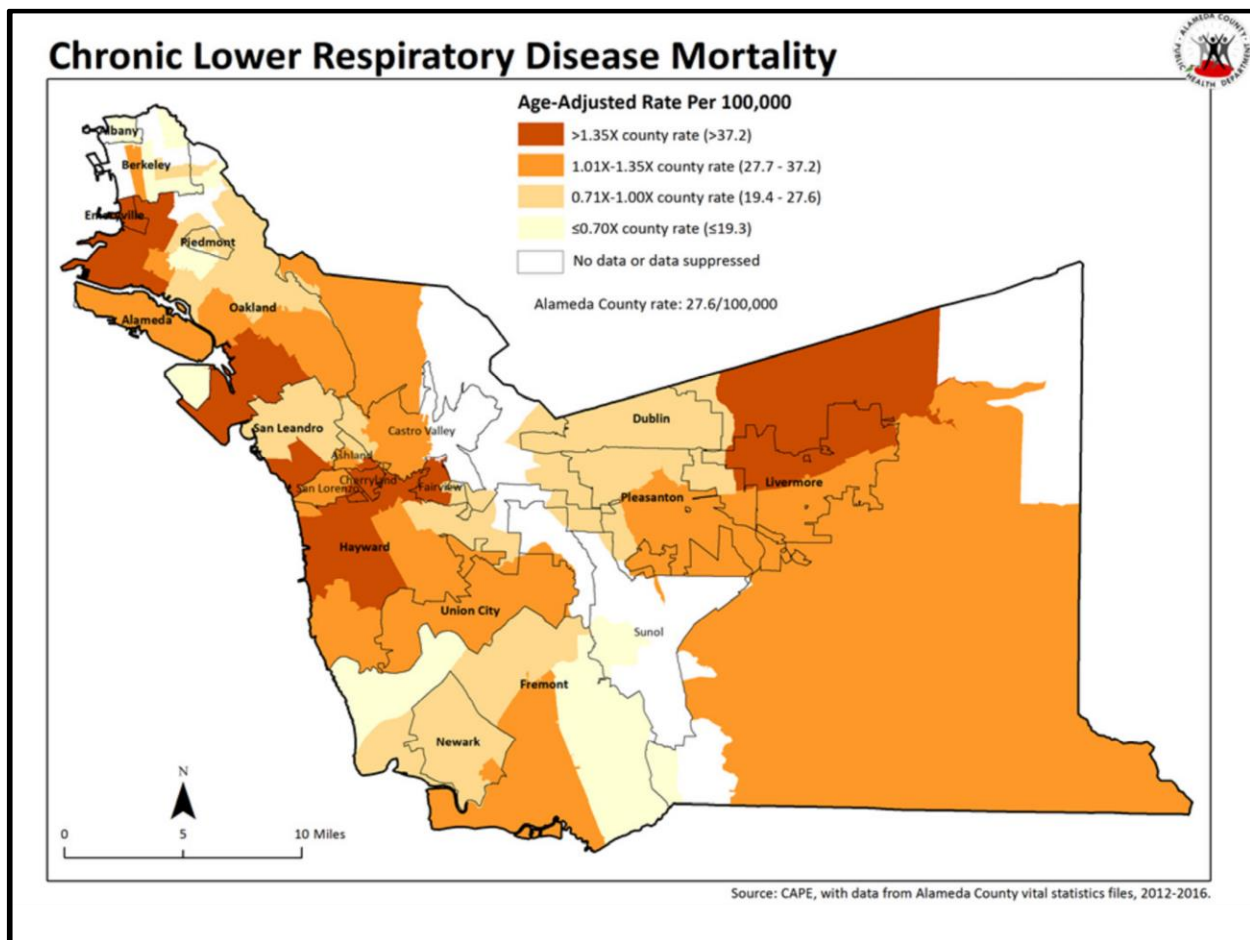


#### Alzheimer's Disease Mortality

This map shows mortality due to Alzheimer's disease for zip codes in Alameda County in 2012-2016. The darker map colors correspond to higher Alzheimer's disease mortality rates, and the lighter colors to lower rates.

Alzheimer's disease mortality rates were highest among residents of north and east Oakland and the Oakland hills, west Berkeley and Emeryville, Cherryland and other unincorporated areas in central county, Hayward, and the north part of Livermore.

In 2012-2016 in Alameda County, there were 2,455 deaths due to Alzheimer's disease, for an overall age-adjusted rate of 31.3 deaths due to Alzheimer's disease per 100,000 people. For zip codes with ten or more deaths, the rate ranged from 16.6 per 100,000 to a high of 52.8 per 100,000.

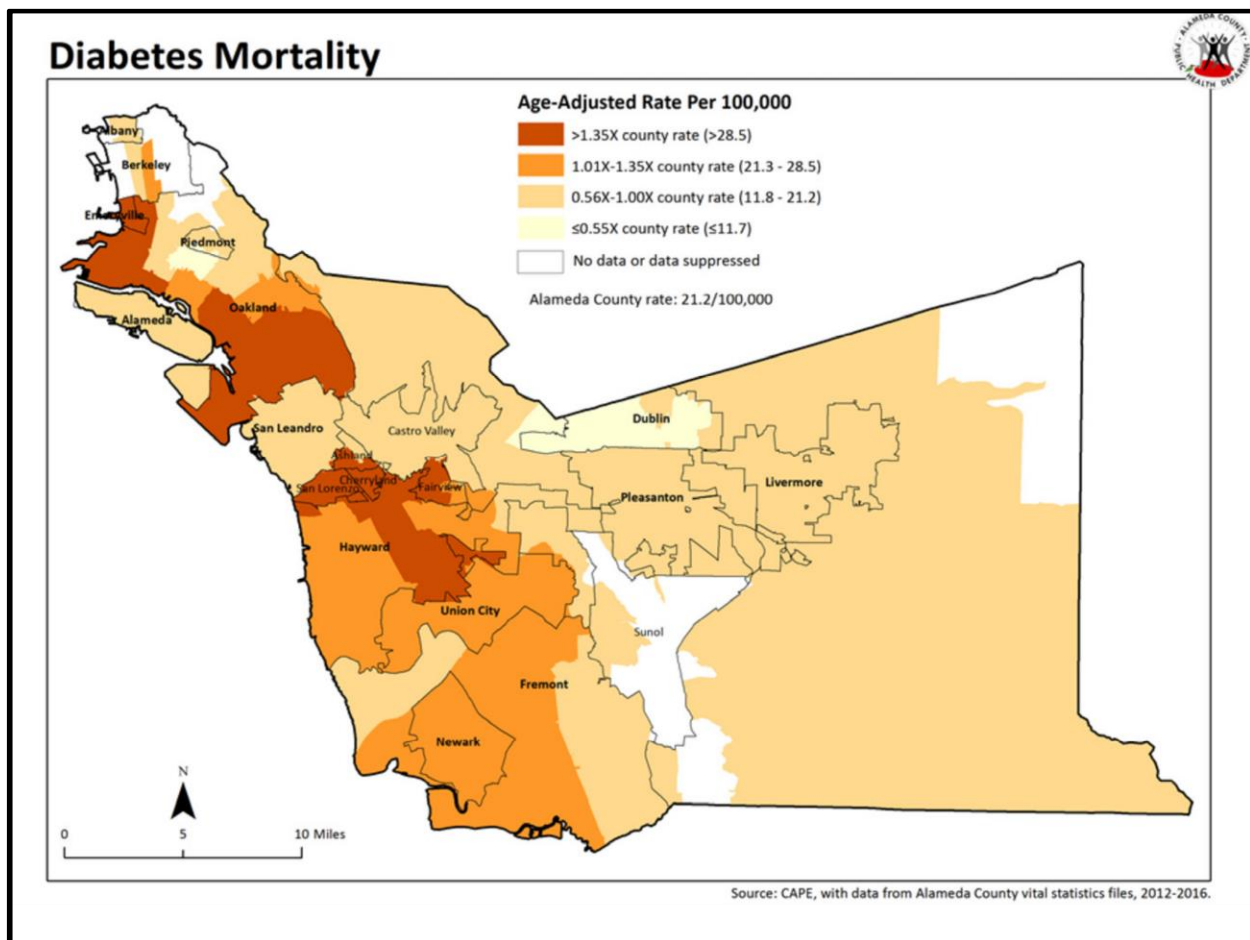


#### Chronic Lower Respiratory Disease Mortality

This map shows chronic lower respiratory disease (CLRD; which includes persistent diseases of the bronchial tubes and lungs, such as asthma) mortality for zip codes in Alameda County in 2012-2016. The darker map colors correspond to higher CLRD mortality rates, and the lighter colors to lower rates.

CLRD mortality rates were highest in zip codes in Emeryville and adjacent parts of Oakland, east Oakland, part of San Leandro, Cherryland and other unincorporated areas in central county, Hayward, and part of Livermore.

In 2012-2016 in Alameda County, there were 2,151 deaths due to CLRD, for an overall age-adjusted rate of 27.6 per 100,000 people. For zip codes with ten or more deaths, the rate ranged from 10.4 per 100,000 to 52.8 per 100,000.

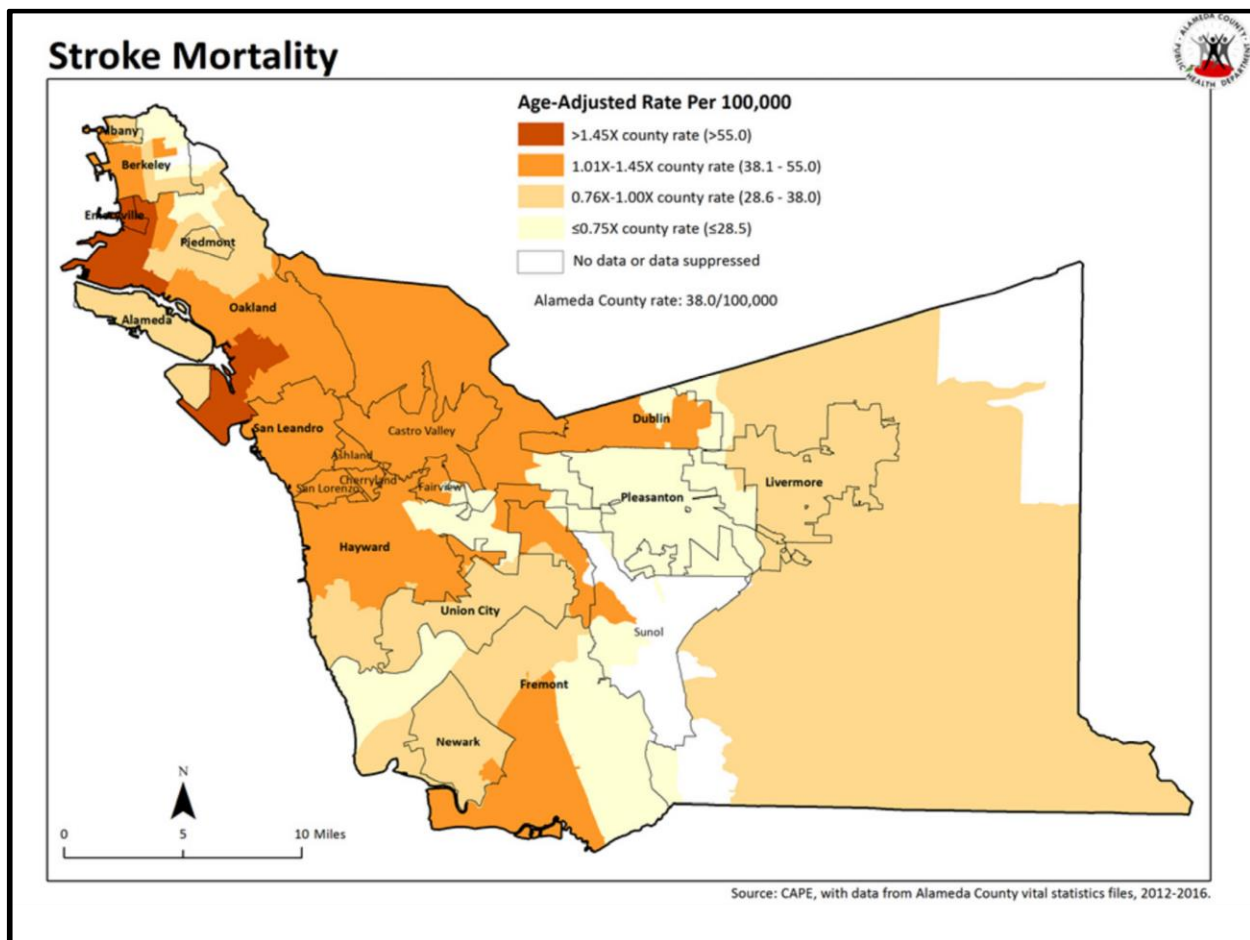


## Diabetes Mortality

This map shows diabetes mortality for zip codes in Alameda County in 2012-2016. The darker map colors correspond to higher diabetes mortality rates, and the lighter colors to lower rates.

Diabetes mortality rates were highest in zip codes in Emeryville, west and east Oakland, San Lorenzo, Ashland, Cherryland, Fairview, and portions of Hayward.

In 2012-2016 in Alameda County, there were 1,686 deaths due to diabetes, for an overall age-adjusted rate of 21.2 diabetes deaths per 100,000 people. For zip codes with ten or more deaths, the rate ranged from 11.1 per 100,000 to 58.1 per 100,000.

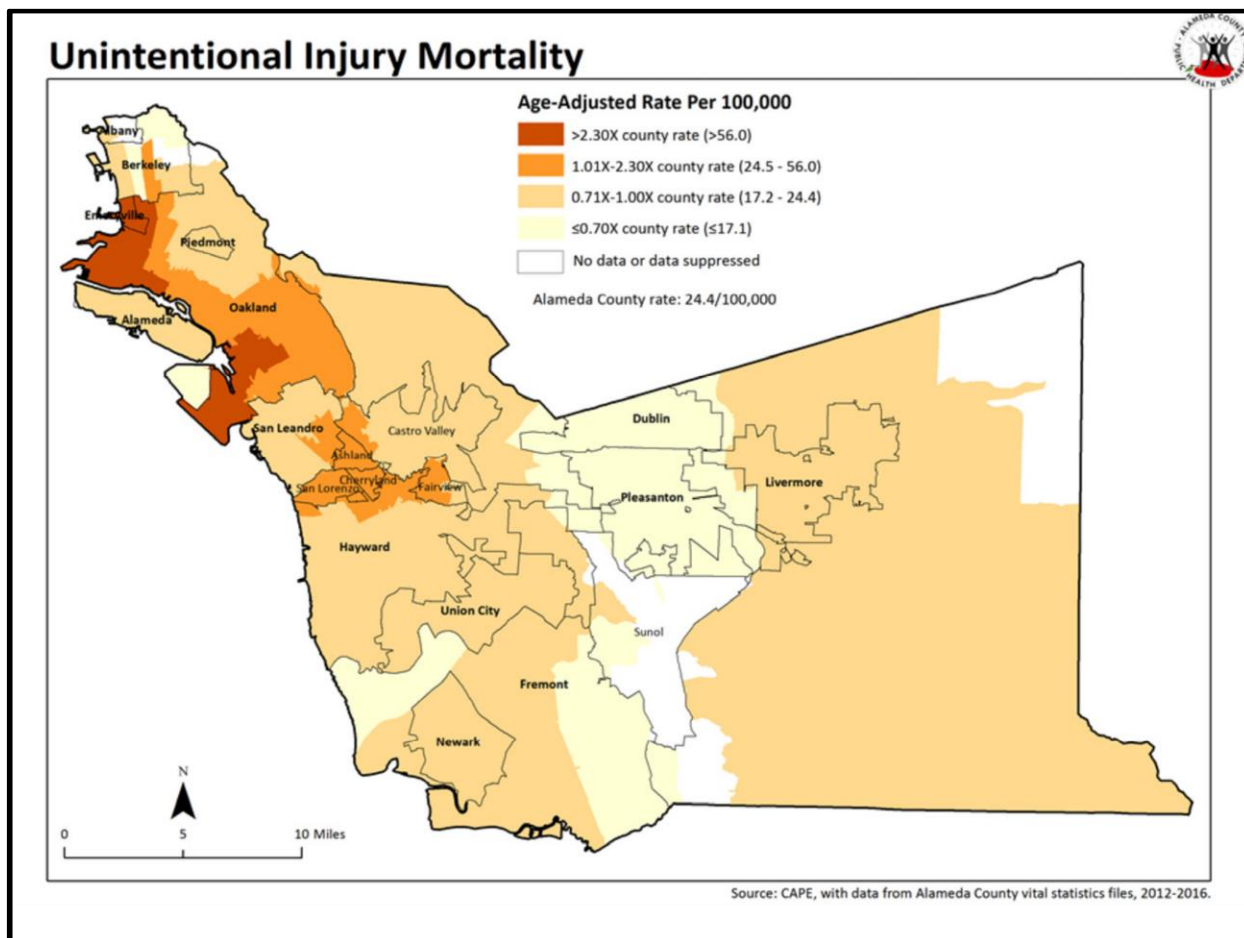


## Stroke Mortality

This map shows mortality due to stroke for zip codes in Alameda County in 2012-2016. The darker map colors correspond to higher unintentional injury mortality rates, and the lighter colors to lower rates.

Stroke mortality rates were highest in zip codes in Emeryville, and in some pockets of east and west Oakland.

In 2012-2016 in Alameda County, there were 2,981 deaths due to stroke, for an overall age-adjusted rate of 38.0 stroke deaths per 100,000 people. For zip codes with ten or more deaths, the rate ranged from 15.9 per 100,000 to 93.1 per 100,000.



### Unintentional Injury Mortality

This map shows mortality due to unintentional injuries for zip codes in Alameda County in 2012-2016. The darker map colors correspond to higher unintentional injury mortality rates, and the lighter colors to lower rates.

Unintentional injury mortality rates are highest among residents of Emeryville, west Oakland, and part of east Oakland.

In 2012-2016 in Alameda County, there were 1,993 deaths due to unintentional injury, for an overall age-adjusted rate of 24.4 unintentional injury deaths per 100,000 people. For zip codes with ten or more deaths, the rate ranged from 9.0 per 100,000 to 163.6 per 100,000.

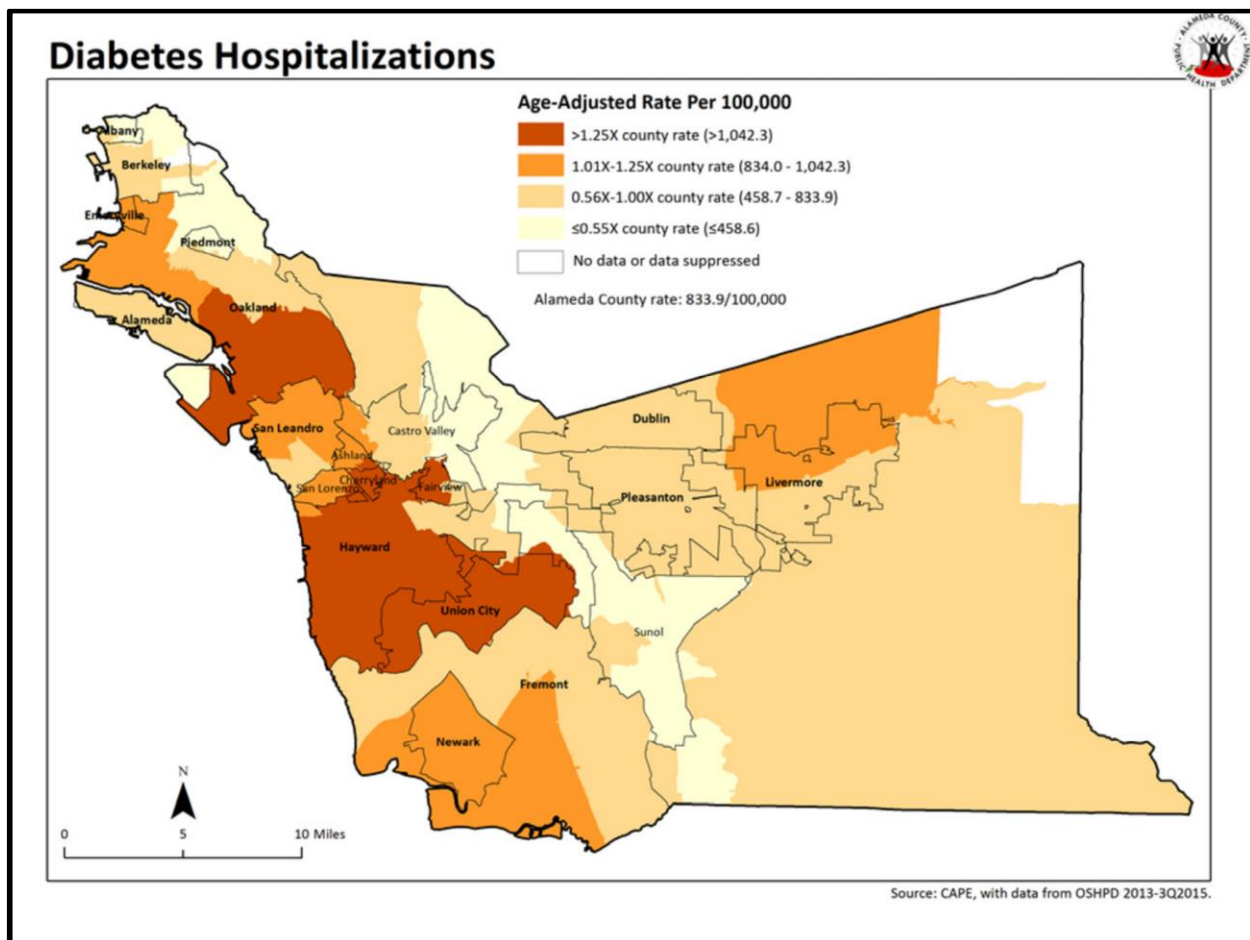




# **Rates of Illness: Emergency Department Visits & Hospitalizations**

Data for illness among residents of Alameda County comes from the California Office of Statewide Planning and Development (OSHPD), which collects emergency care data from hospital emergency departments and ambulatory surgery data from general acute care hospitals and licensed freestanding ambulatory surgery clinics in California.

Emergency department (ED) data include encounters from hospitals licensed to provide emergency medical services.



### Diabetes Hospitalizations

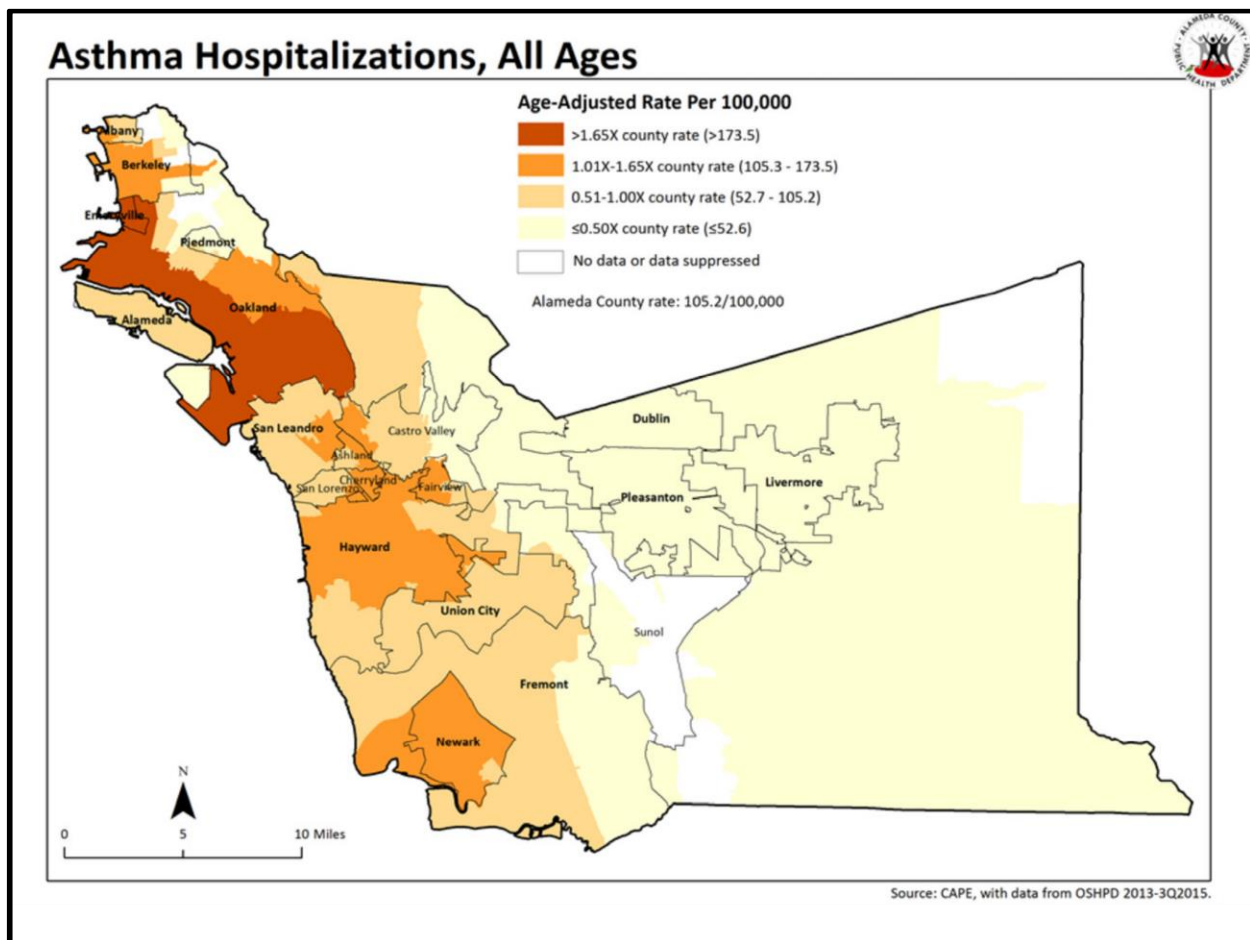
Diabetes hospitalizations are defined as hospitalizations for which diabetes is coded as the primary through fifth diagnosis, using ICD-9 codes 250.00 through 250.99.

This map represents diabetes hospitalizations by zip code for Alameda County residents from 2013 through the end of the 3rd quarter 2015. The darker colors on the map correspond to higher diabetes hospitalization rates, and the lighter colors correspond to lower rates.

Diabetes hospitalization rates are highest among residents of east Oakland, Cherryland, and parts of Hayward, Fairview, Ashland, and Union City.

From 2013 to the end of 3rd quarter 2015, there were 37,338 diabetes hospitalizations among Alameda County residents, at an age-adjusted rate of 833.9 diabetes hospitalizations per 100,000 people. For zip codes with ten or more hospitalizations from 2013 through the end of 3rd quarter 2015, the diabetes hospitalization rate ranged from 247.2 hospitalizations per 100,000 to 1,887.4 per 100,000.





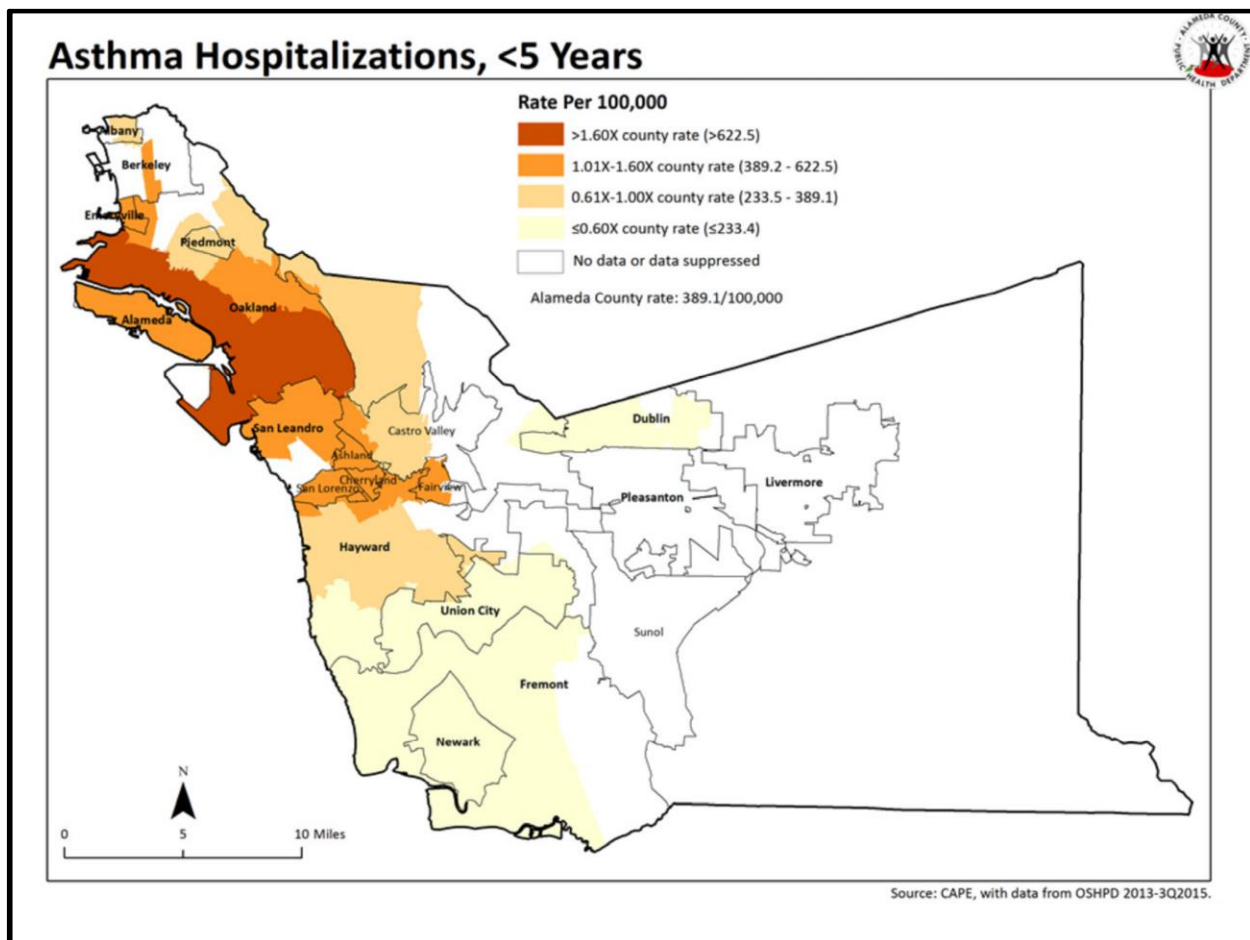
## Asthma Hospitalizations

Asthma hospitalizations are defined as hospitalizations for which asthma is coded as the primary diagnosis, using ICD-9 codes 493.00 through 493.99.

This map represents asthma hospitalizations by zip code for Alameda County residents from 2013 through the end of the 3rd quarter 2015. The darker colors on the map correspond to higher asthma hospitalization rates, and the lighter colors correspond to lower rates.

Asthma hospitalization rates are highest among residents of east Oakland, west Oakland, and Emeryville. Both east and west Oakland are situated along parts of the I-880 corridor, and west Oakland is adjacent to Oakland's maritime port. Both the highway and the port expose residents to higher levels of diesel particles in the air. These areas also have higher poverty rates than much of the county. Unhealthy housing conditions such as mold, dust, and allergens can also contribute to asthma.

From 2013 through the end of 3rd quarter 2015 in Alameda County, there were 4,399 asthma hospitalizations, at an age-adjusted rate of 105.2 asthma hospitalizations per 100,000 people. For zip codes with ten or more hospitalizations during this time period, the asthma hospitalization rate ranged from 25.4 per 100,000 to 335.8 per 100,000.



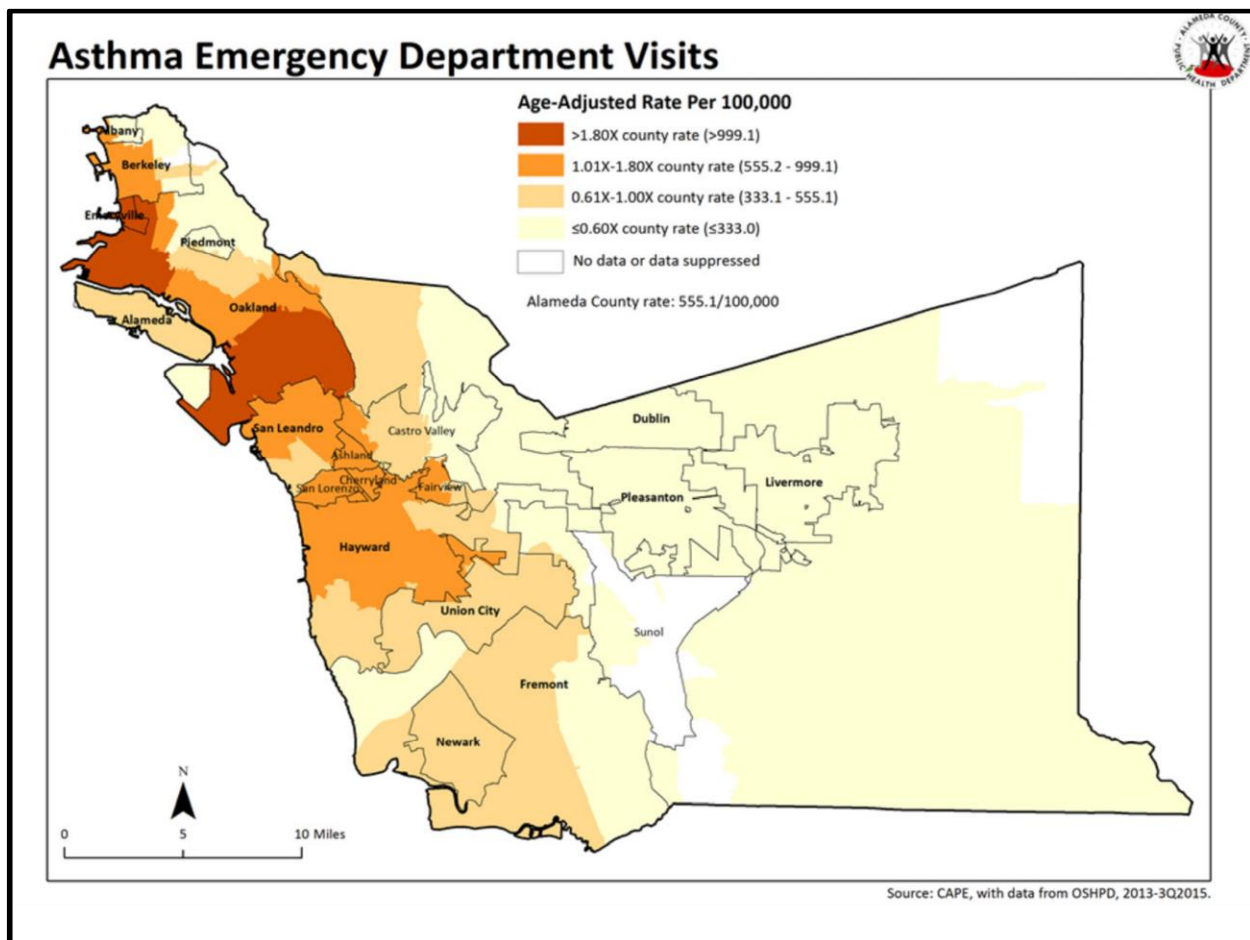
### Asthma Hospitalizations Among Children <5 Years

Asthma hospitalizations are defined as hospitalizations for which asthma is coded as the primary diagnosis, using ICD-9 codes 493.00 through 493.99.

This map represents asthma hospitalizations by zip code for Alameda County residents aged less than five years, from 2013 through the end of the 3rd quarter, 2015. The darker colors on the map correspond to higher asthma hospitalization rates, and the lighter colors correspond to lower rates. Zip codes that do not have sufficient numbers for a stable estimate are shown in white.

Asthma hospitalization rates are highest among residents of east Oakland and west Oakland. These areas are situated along parts of the I-880 corridor, and west Oakland is adjacent to Oakland's maritime port. Both the highway and the port expose residents to higher levels of diesel particles. Some of these areas, particularly in east and west Oakland, also have higher poverty rates than much of the county. Unhealthy housing conditions such as mold and allergens can also contribute to asthma.

From 2013 through the end of 3rd quarter 2015 in Alameda County, there were 1,035 asthma hospitalizations among children 0-4 years, at an age-specific rate of 389.1 asthma hospitalizations per 100,000 children under five years. For zip codes with ten or more hospitalizations in this period, the asthma hospitalization rate ranged from 184.6 per 100,000 to 1,166.1 per 100,000.

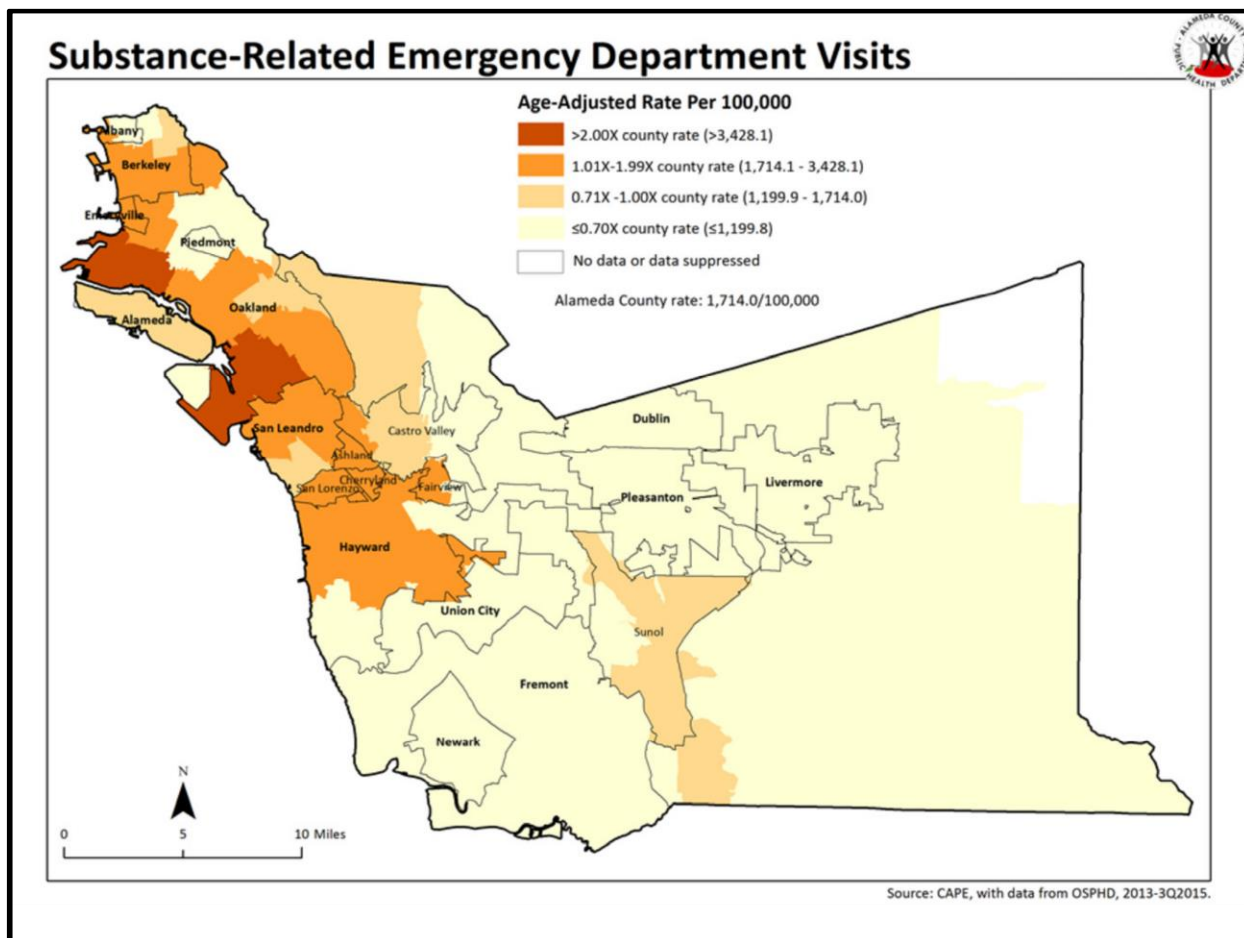


### Asthma Emergency Department Visits

Asthma emergency department (ED) visits are defined as ED visits for which asthma is coded as the primary diagnosis, using ICD-9 codes 493.00 through 493.99. This map represents asthma ED visits for zip codes in Alameda County in January 2013 through September 2015. The transition of ICD-9CM coding to ICD-10CM coding was adopted as of October 2015. Analysis of data with ICD-10 has not yet been implemented; rather, the data for 2015 has been annualized for the period.

The darker colors on the map correspond to higher asthma ED visit rates, and the lighter colors correspond to lower rates. Asthma ED visit rates are highest among residents of Emeryville, east Oakland, and west Oakland. Many of these communities are situated along parts of the I-880 corridor. Additionally, West Oakland is adjacent to the Port of Oakland, exposing the residents to higher levels of diesel particles from both the highway and the port. These areas also have inequitable economic, educational, and social conditions such as higher poverty and unemployment rates than much of the county. Unhealthy housing conditions like mold, dust, and allergens can also contribute to asthma.

From 2013 through the end of 3rd quarter 2015 in Alameda County, there were 23,585 asthma ED visits, at an age-adjusted rate of 555.1 ED visits per 100,000 people. Among zip codes with ten or more ED visits during this time period, the asthma ED visit rate ranged from 87.5 per 100,000 to 1,527.0 per 100,000.

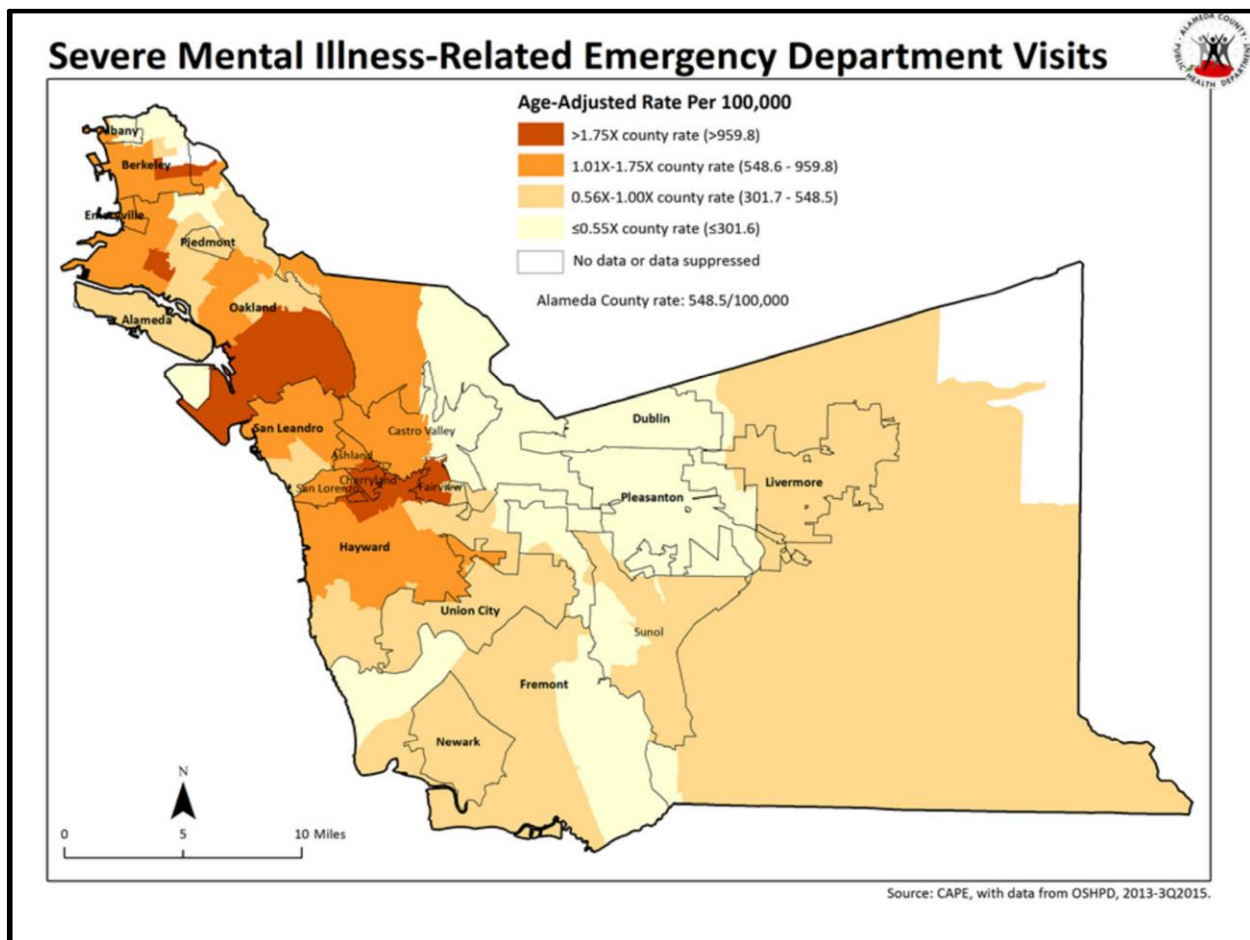


#### Substance-Related Emergency Department Visits

Substance-related emergency department (ED) visits are defined as emergency room visits for which individuals are treated for alcohol or drug use and released. These visits are coded as alcohol or drug use as any of the first five diagnosis codes in Jan, 2013 – Sep, 2015. The transition of ICD-9CM coding to ICD-10CM coding was adopted as of October 2015. Analysis of data with ICD-10 has not yet been implemented; rather, the data for 2015 has been annualized for the period.

The darker colors on the map correspond to higher substance-related ED visit rates, and the lighter colors correspond to lower rates. Substance-related ED rates are highest among residents in portions of east and west Oakland.

From 2013 through the end of 3rd quarter 2015 in Alameda County, there were 77,589 substance-related ED visits, at an age-adjusted rate of 1,714.0 ED visits per 100,000 people. For zip codes with ten or more substance use ED visits in the period, the substance use ED visit rate ranged from 444.5 per 100,000 to 5,258.2 per 100,000.



## Severe Mental Illness-Related Emergency Department Visits

Severe mental illness-related emergency department (ED) visits are defined as emergency room visits for which an individual is treated for a severe mental illness and released. Severe mental illnesses include personality, schizophrenia, anxiety, or mood disorders in any of the first five diagnosis codes. This map represents severe mental illness-related ED visits at the zip code level for Alameda County residents from January 2013 through September 2015. The transition of ICD-9CM coding to ICD-10CM coding was adopted as of October 2015. Analysis of data with ICD-10 has not yet been implemented; rather, the data for 2015 has been annualized for the period.

The darker colors on the map correspond to higher severe mental illness-related ED visit rates, and the lighter colors correspond to lower rates. Severe mental illness-related ED rates are highest among residents in portions of Berkeley, east Oakland and a portion near downtown Oakland, as well as portions of Hayward, Cherryland, and Fairview. Some of these areas have higher poverty rates than much of the county.

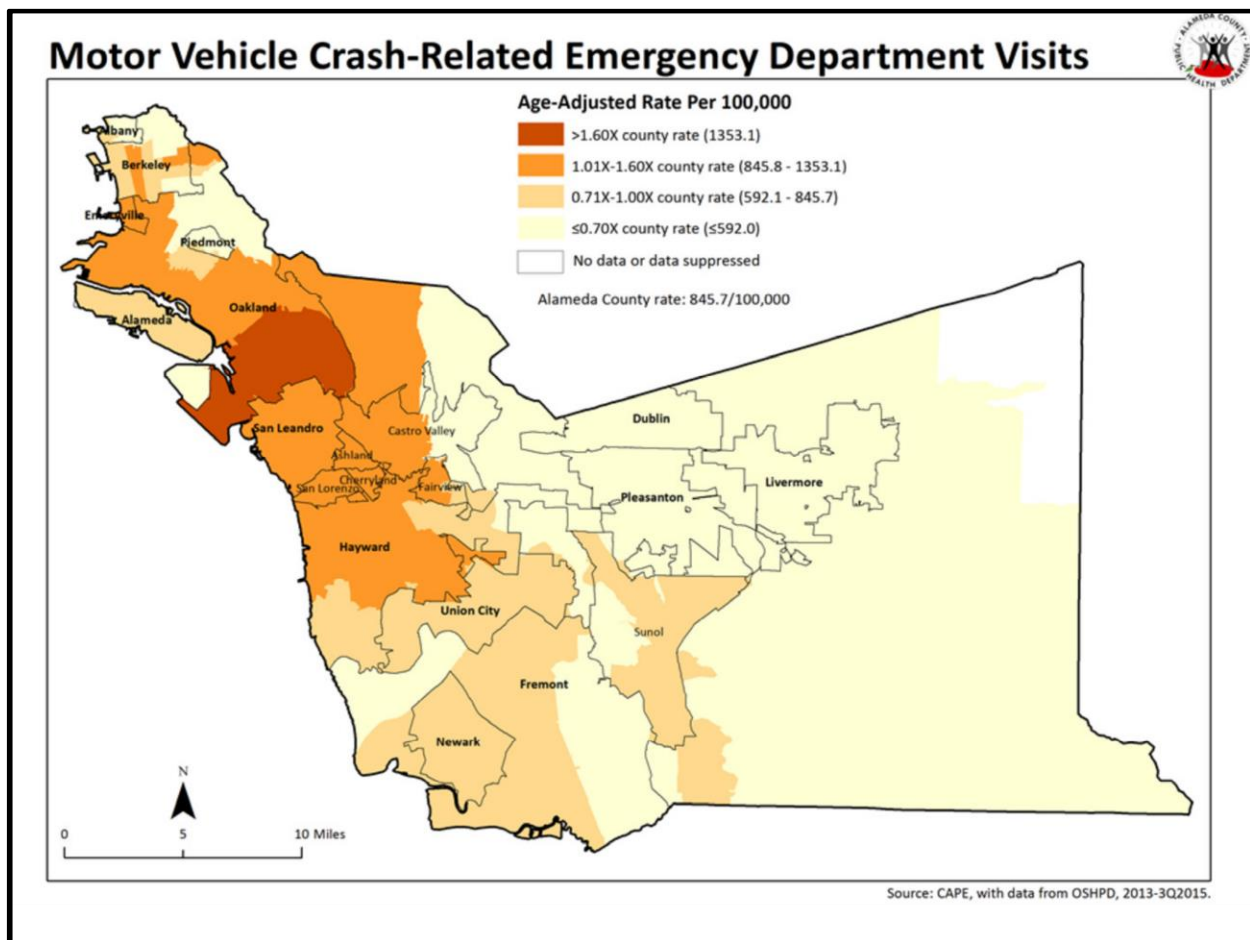
From 2013 through the end of 3rd quarter 2015 in Alameda County, there were 24,566 severe mental illness-related ED visits, at an age-adjusted rate of 548.5 severe mental illness-related ED visits per 100,000 people. For zip codes with ten or more severe mental illness-related ED visits in the period, the severe mental illness-related ED visit rate ranged from 194.3 per 100,000 to 1,638.6 per 100,000.



# **Emergency Department Visits Due to Injury**

The following maps depict the rates of emergency department (ED) visits due to injury for four injury indicators: motor vehicle crashes, unintentional injury, self-inflicted injury, and assault. The rates include those who were treated and released from the emergency department as well as those admitted as inpatient stays through the ED.

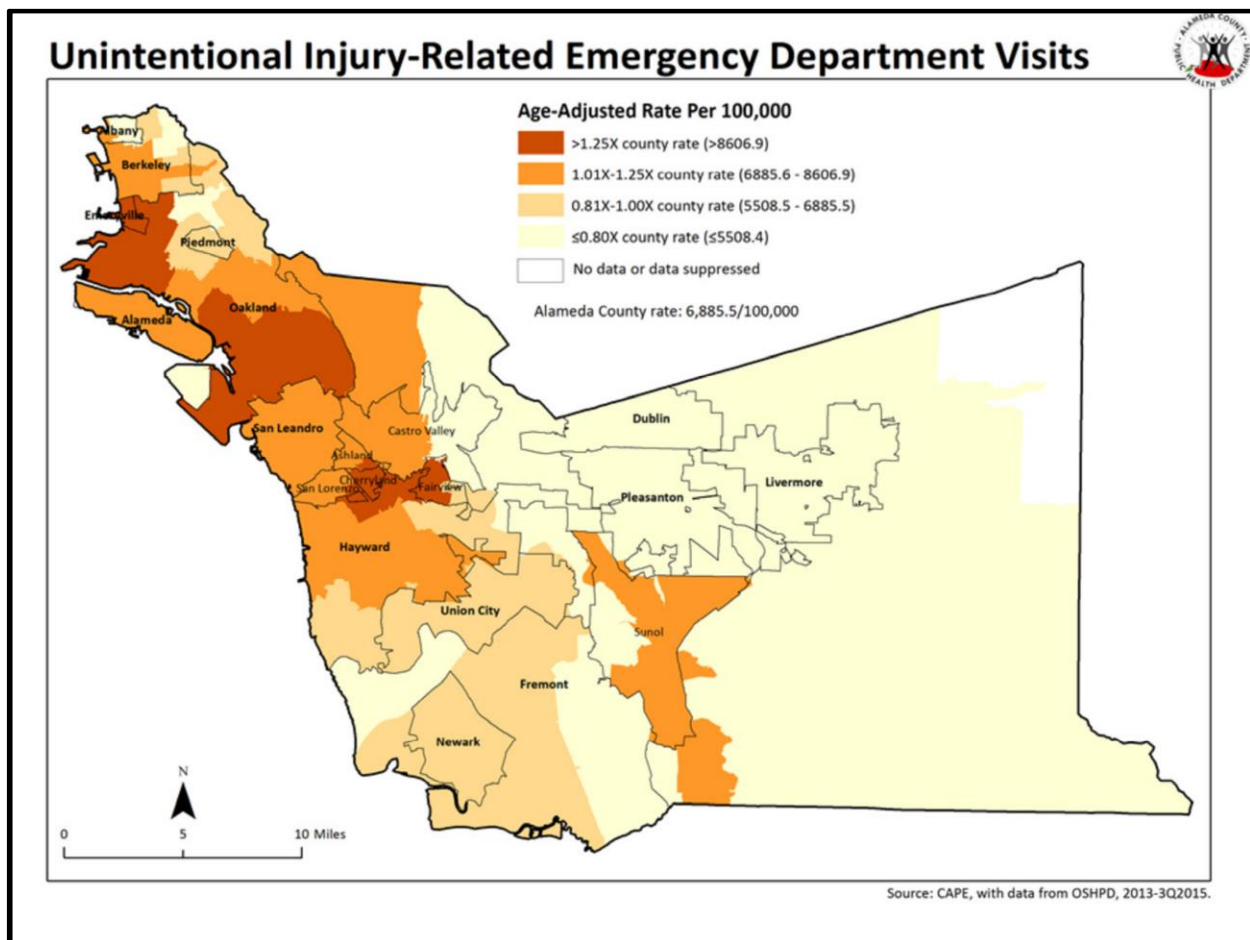




### Motor Vehicle Crash-Related Emergency Department Visits

Motor vehicle crash-related emergency department (ED) visits are defined as emergency room visits for which motor vehicle crashes are coded using ICD-9 codes 810.0 through 825.9. This map represents motor vehicle crash-related ED visits of those who were treated and released, as well as those individuals admitted through the ED at the facility. The data is presented at the zip code level for Alameda County residents from January 2013 through September 2015. The transition of ICD-9CM coding to ICD-10CM coding was adopted as of October 2015. Analysis of data with ICD-10 has not yet been implemented; rather, the data for 2015 has been annualized for the period.

The darker colors on the map correspond to higher ED visit rates, while the lighter colors correspond to lower rates. Motor vehicle crash-related rates are highest among residents in portions of East Oakland. There were 37,108 motor vehicle crash-related ED visits from 2013 through the end of 3rd quarter 2015 in Alameda County, at an age-adjusted rate of 845.7 motor vehicle crash-related ED visits per 100,000 people. For zip codes with ten or more motor vehicle crash-related ED visits during the period, the motor vehicle crash-related ED visit rate ranged from 328.9 per 100,000 to 1,902.0.



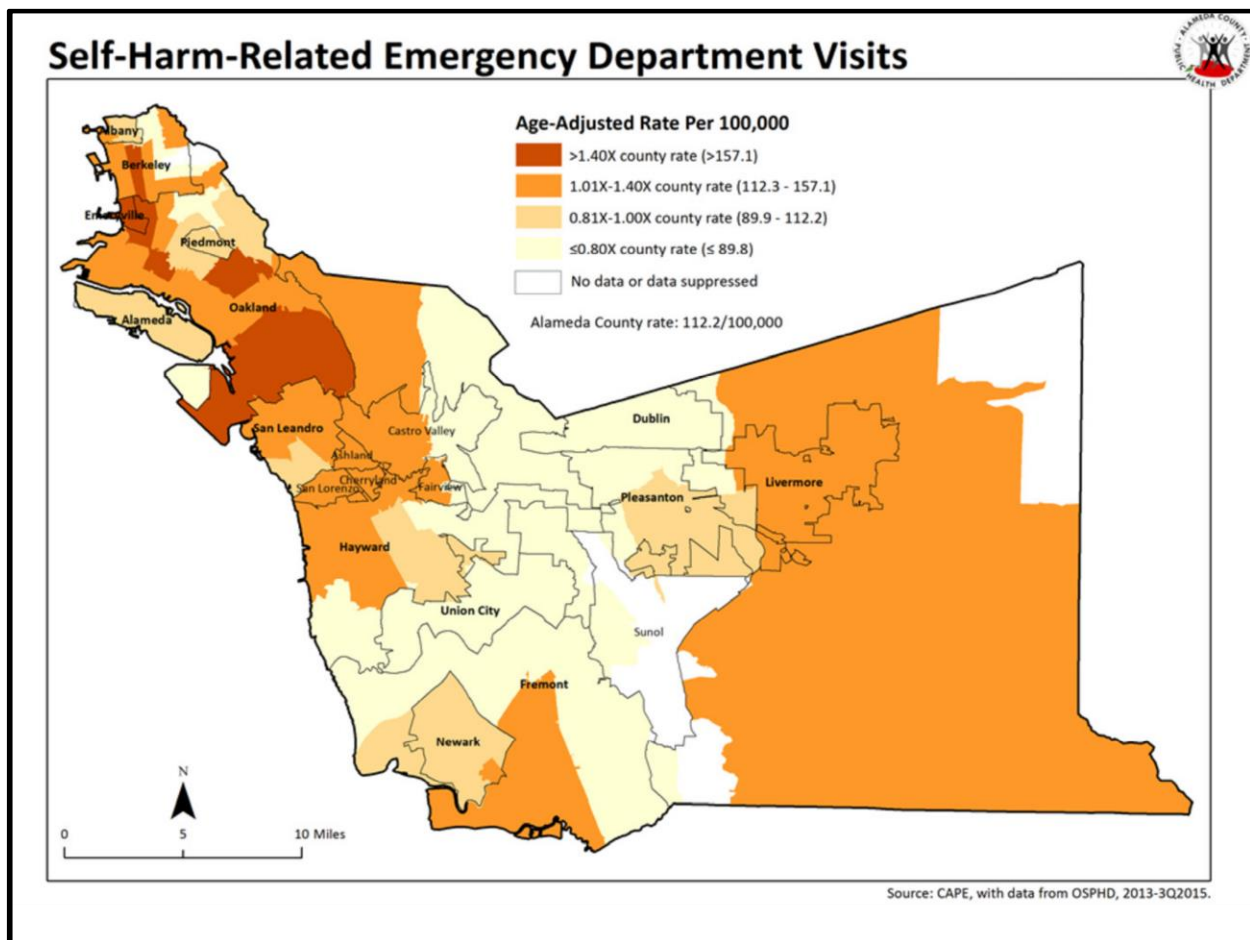
### Unintentional Injury Emergency Department Visits

Unintentional injury-related emergency department (ED) visits are defined as emergency room visits for which unintentional injuries – physical injury that is not purposely inflicted, such as falls, drownings, and poisonings – are coded in the first five diagnosis codes using ICD-9 codes 960.0 through 969.9 or 979.0 through 979.9.

This map represents unintentional injury-related ED visits of those who were treated and released as well as those individuals admitted through the ED at the facility from January 2013 through September 2015. The transition of ICD-9CM coding to ICD-10CM coding was adopted as of October 2015. Analysis of data with ICD-10 has not yet been implemented; rather, the data for 2015 has been annualized for the period. The darker colors on the map correspond to higher unintentional injury-related ED visit rates, while the lighter colors correspond to lower rates.

Unintentional injury-related ED rates were highest among residents in Emeryville, East and West Oakland, Cherryland and Fairview. Several of these areas also have higher poverty rates than much of the county. From 2013 through the end of 3rd quarter 2015 in Alameda County, there were 295,789 unintentional injury-related ED visits, at an age-adjusted rate of 6,885.5 unintentional injury-related ED visits per 100,000 people. Rates for unintentional injury-related ED visits ranged from 3,425.6 per 100,000 to 11,377.9 per 100,000.



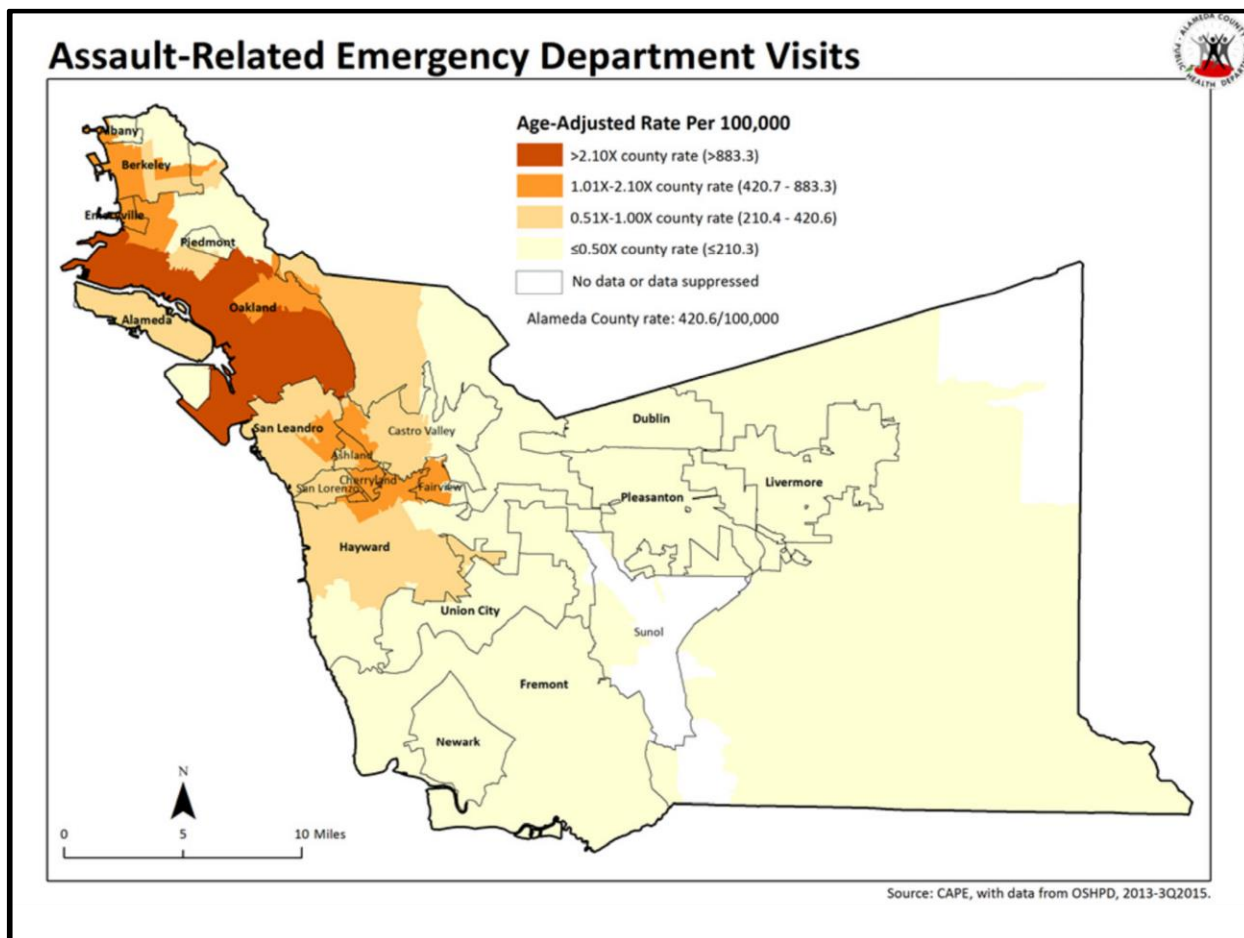


#### Self-Harm-Related Emergency Department Visits

Self-harm-related emergency department (ED) visits are defined as emergency room visits where injury is purposely inflicted upon oneself, such as attempted suicide or trauma, and coded using ICD-9 codes 950.0 through 959.9 in any of the first five diagnosis codes.

This map represents zip code level for Alameda County residents who were treated and released from the ED for self-harm-related injuries as well as those admitted as inpatients through the Emergency Department. The data is presented is for January 2013 through September 2015. The transition of ICD-9CM coding to ICD-10CM coding was adopted as of October 2015. Analysis of data with ICD-10 has not yet been implemented; rather, the data for 2015 has been annualized for the period.

The darker colors on the map correspond to higher self-harm-related ED visit rates, while the lighter colors correspond to lower rates. Self-harm-related ED rates were highest in Emeryville, portions of west Berkeley, north Oakland, east Oakland, and small portions near downtown Oakland. From 2013 through the end of 3rd quarter 2015 in Alameda County, there were 4,831 self-harm-related ED visits, and an age-adjusted rate of 112.2 self-harm-related ED visits per 100,000 people. For zip codes with ten or more self-harm-related ED visits in the period, the rate ranged from 41.9 per 100,000 to 189.8 per 100,000.



### Assault-Related Injury Emergency Department Visits

Assault-related emergency department (ED) visits are defined as emergency room visits for intentionally inflicted injury to another person that may or may not involve intent to kill using ICD-9 codes 960.0 through 969.9 and 979.0 through 979.9.

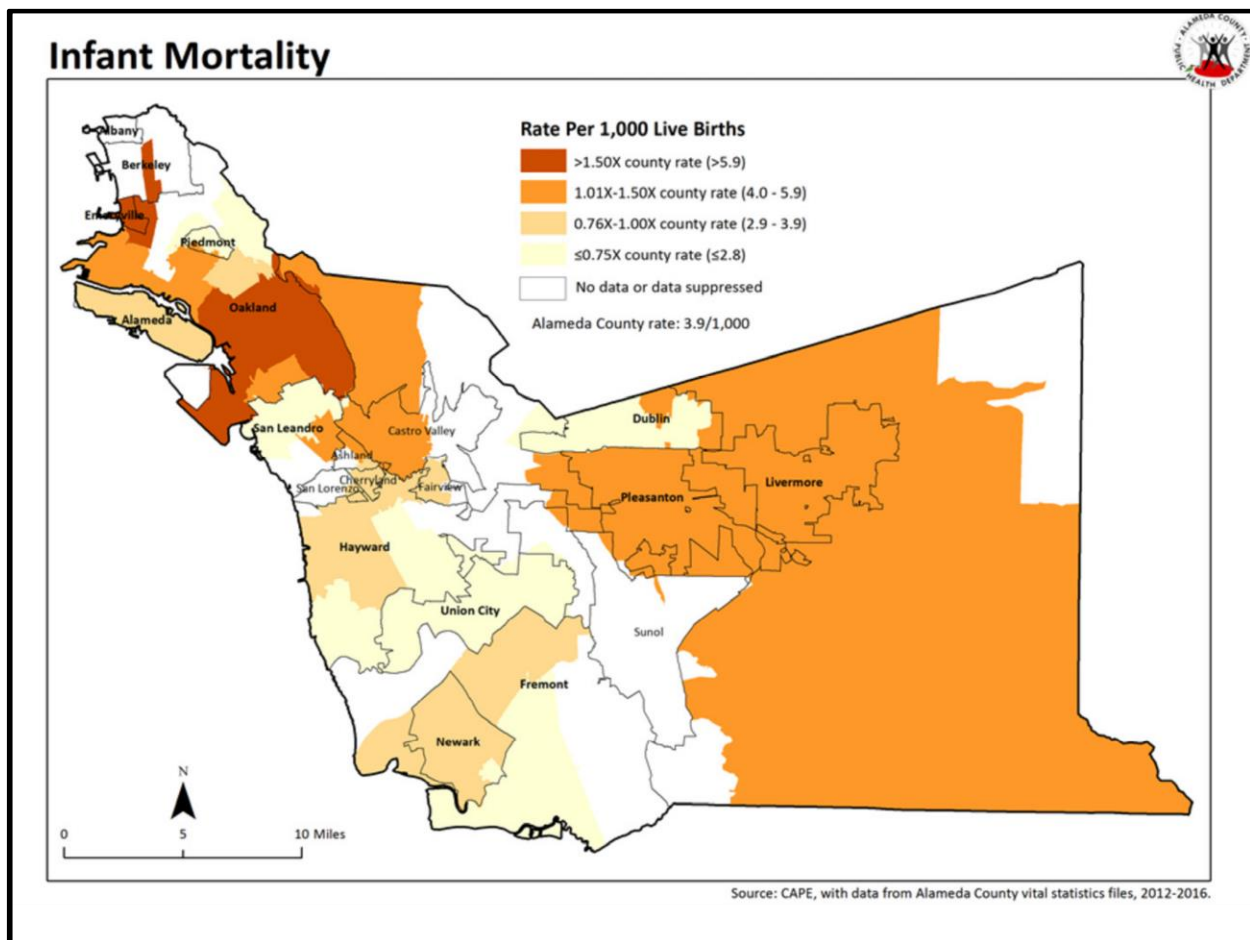
This map represents assault-related injury emergency department (ED) visits of those who were treated and released, in addition to those admitted as inpatients through the ED. The data is presented at the zip code level for Alameda County residents from January 2013 through September 2015. The transition of ICD-9CM coding to ICD-10CM coding was adopted as of October 2015. Analysis of data with ICD-10 has not yet been implemented; rather, the data for 2015 has been annualized for the period.

The darker colors on the map correspond to higher assault-related injury ED visit rates, while the lighter colors correspond to lower rates. Assault-related ED rates were highest among residents of East and West Oakland. From 2013 through the end of 3rd quarter 2015 in Alameda County, there were 18,483 assault-related injury ED visits, at an age-adjusted rate of 420.6 assault-related injury ED visits per 100,000 people. For zip codes with ten or more assault-related injury ED visits, the rate ranged from 59.6 per 100,000 to 1,441.7 per 100,000.



# **Maternal, Child, and Adolescent Health**

The core maternal, child, and adolescent health (MCAH) indicators are covered in the following four maps.



## Infant Mortality

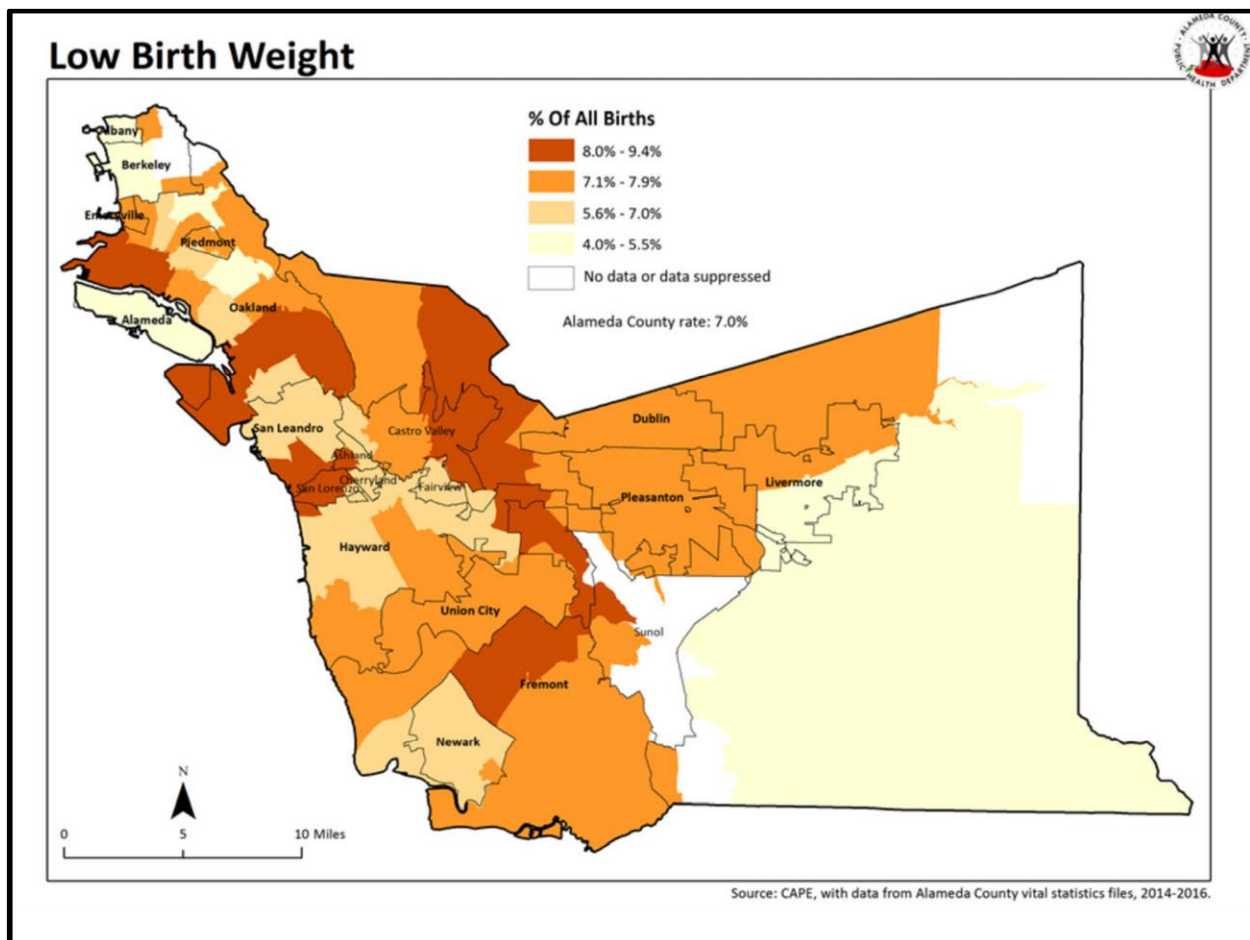
Infant mortality is defined as the number of babies who die before their first birthday per 1,000 live births.

This map represents infant deaths at the zip code level for Alameda County residents for 2012-2016. The darker colors on the map correspond to higher infant mortality rates, and the lighter colors correspond to lower rates.

Five years of data are shown instead of three years in order to increase the stability of the rates. Despite using five years of data, many rates by zip codes are too unstable to present. 28 out of 48 zip codes (58%) in Alameda County had five or more infant deaths for 2012-2016 and are included in the map.

Infant mortality rates are the highest in east Oakland, Emeryville and a portion of Berkeley. Compared to other indicators, infant mortality is relatively rare. Overall, infant mortality is in neighborhoods with high poverty rates.

In 2012-2016 in Alameda County, there was an average of 75 infant deaths per year, at a rate of 3.9 infant deaths per 1,000 live births. For zip codes with five or more infant deaths in 2012-2016, the lowest infant mortality rate was 2.2 infant deaths per 1,000 live births and the highest was 10.7 per 1,000.



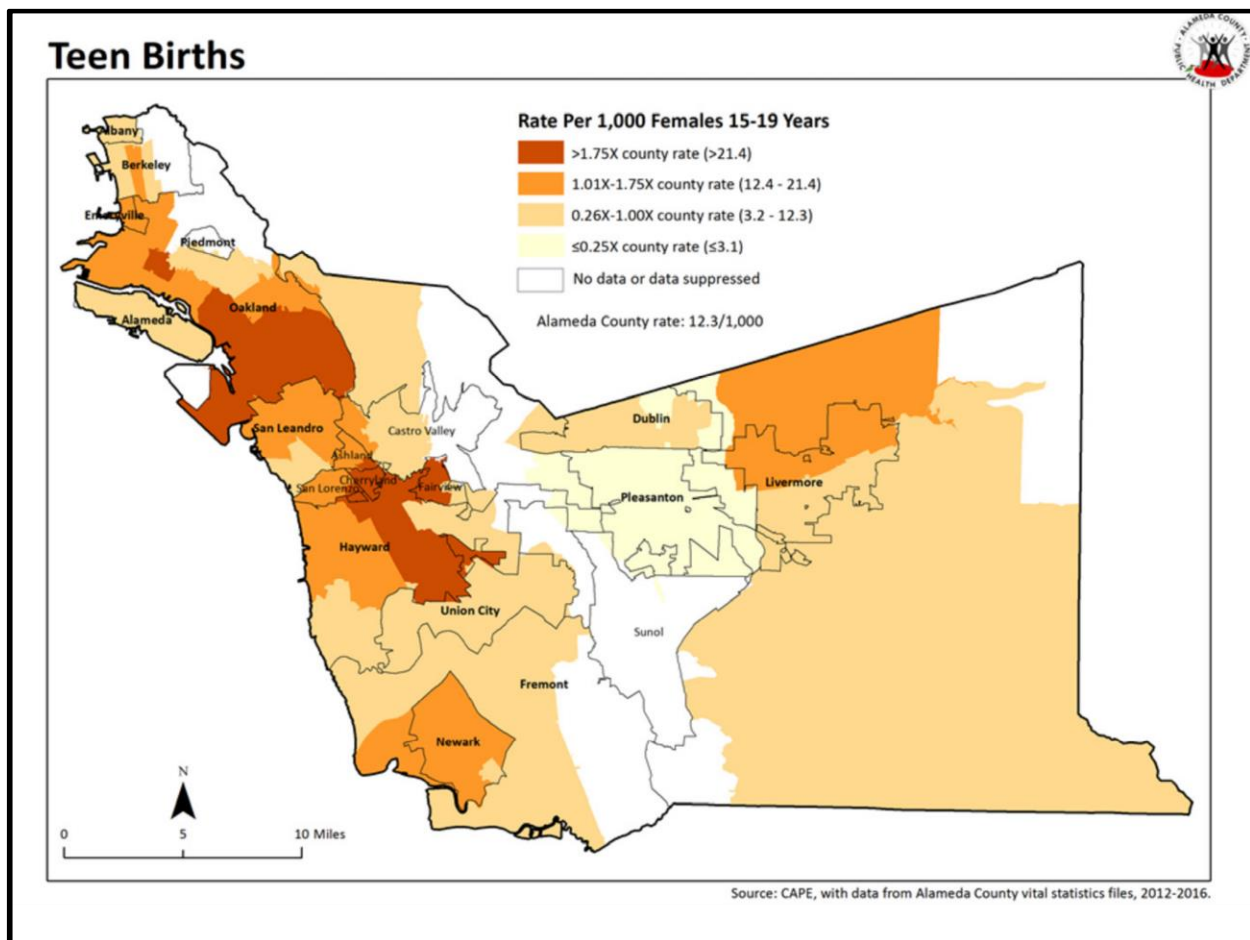
## Low Birth Weight

Low birth weight is defined as a baby born alive at a weight of less than 2,500 grams (5.5 lbs).

This map represents the distribution of low birth weight babies at the zip code level for Alameda County residents in 2014-2016. The darker colors on the map correspond to higher percentages of low birth weight babies, and the lighter colors correspond to lower percentages.

Percentages of low birth weight babies are highest among residents of East and West Oakland, Bay Farm, as well as portions of San Leandro, Ashland, Cherryland, and San Lorenzo. In addition, central Fremont and Castro Valley also had higher percentages of low birth weight babies. There are many reasons for low birth weight, and low birth weight does not track as closely to poverty rates as do most of the other indicators.

From 2014 to 2016, Alameda County averaged about 1,375 low birth weight babies per year (7.5% of all babies born in Alameda County in this time period). For zip codes with ten or more low birth weight babies in 2014-2016, the low birth weight percentage ranged from 5.0% to 9.4%.



## Teen Births

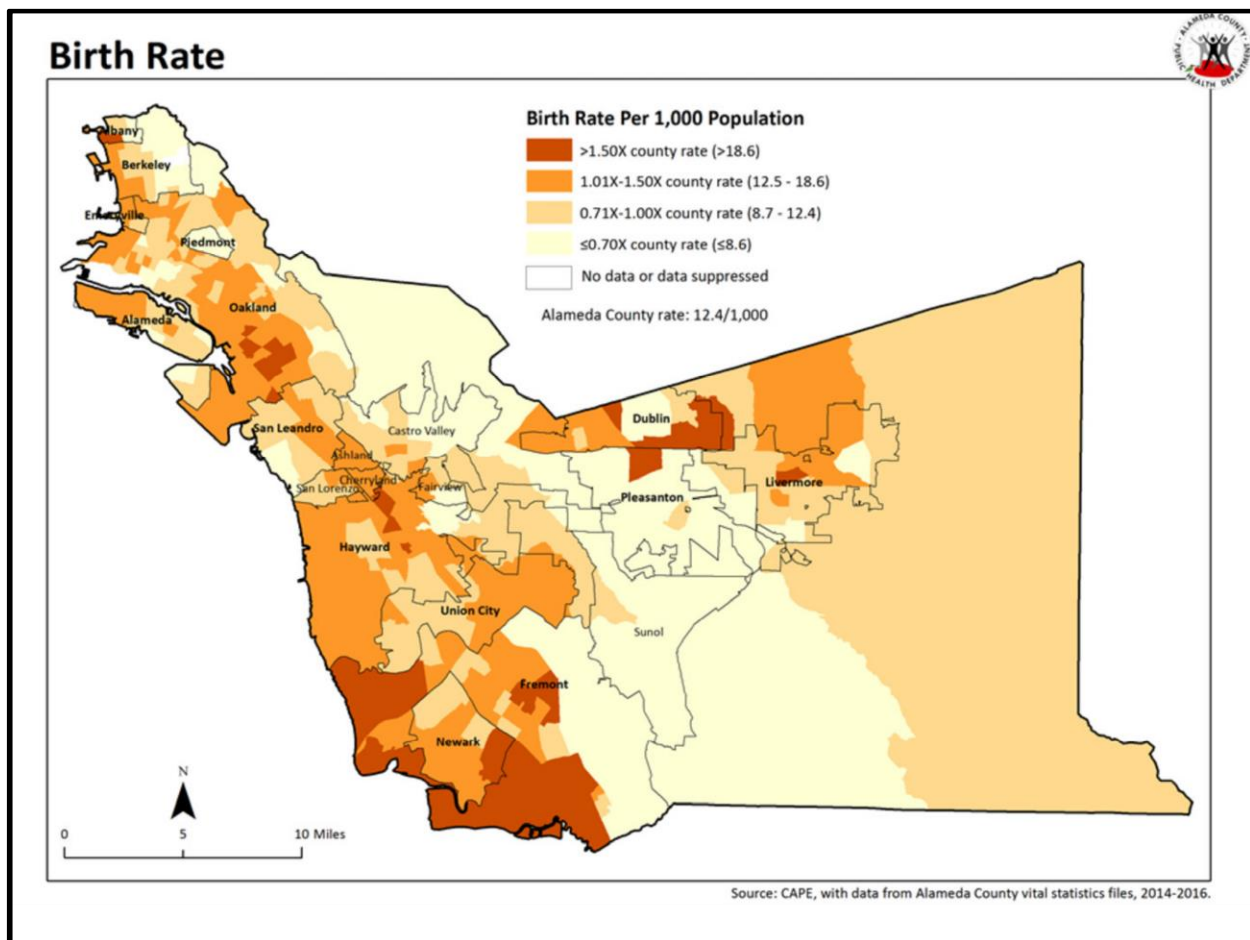
The teen birth rate is defined as the number of births by teens (aged 15-19 years) per 1,000 females 15-19 years in the population.

This map represents teen births at the zip code level for Alameda County residents in 2012-2016. The darker colors on the map correspond to higher teen birth rates, and the lighter colors correspond to lower rates. Five years of data are shown instead of three years to increase the stability of the rates.

Teen birth rates are highest among residents of east Oakland and west Oakland as well as Ashland, Cherryland, San Lorenzo, and portions of Hayward. Teen births track very closely to high poverty areas.

In 2012-2016 in Alameda County, there was an average of 595 teen births per year, at a rate of 12.3 teen births per 1,000 females aged 15-19. For zip codes with ten or more teen births in 2012-2016, the teen birth rate ranged from 5.8 to 44.3.





## Birth Rate

The birth rate is defined as the number of births per 1,000 population.

This map represents the birth rate at the census tract level for Alameda County residents in 2014-2016. The darker colors on the map correspond to higher birth rates, the lighter colors correspond to lower rates.

Birth rates are highest among residents in some neighborhoods in East Oakland, Hayward, Fremont, Newark, Union City, and Dublin.

In 2014-2016 in Alameda County, there was an average of 19,517 births per year, at a rate of 37.1 births per 1,000 population. In 2014-2016, the birth rate ranged from 8.4 per 1,000 to 100.7 per 1,000.



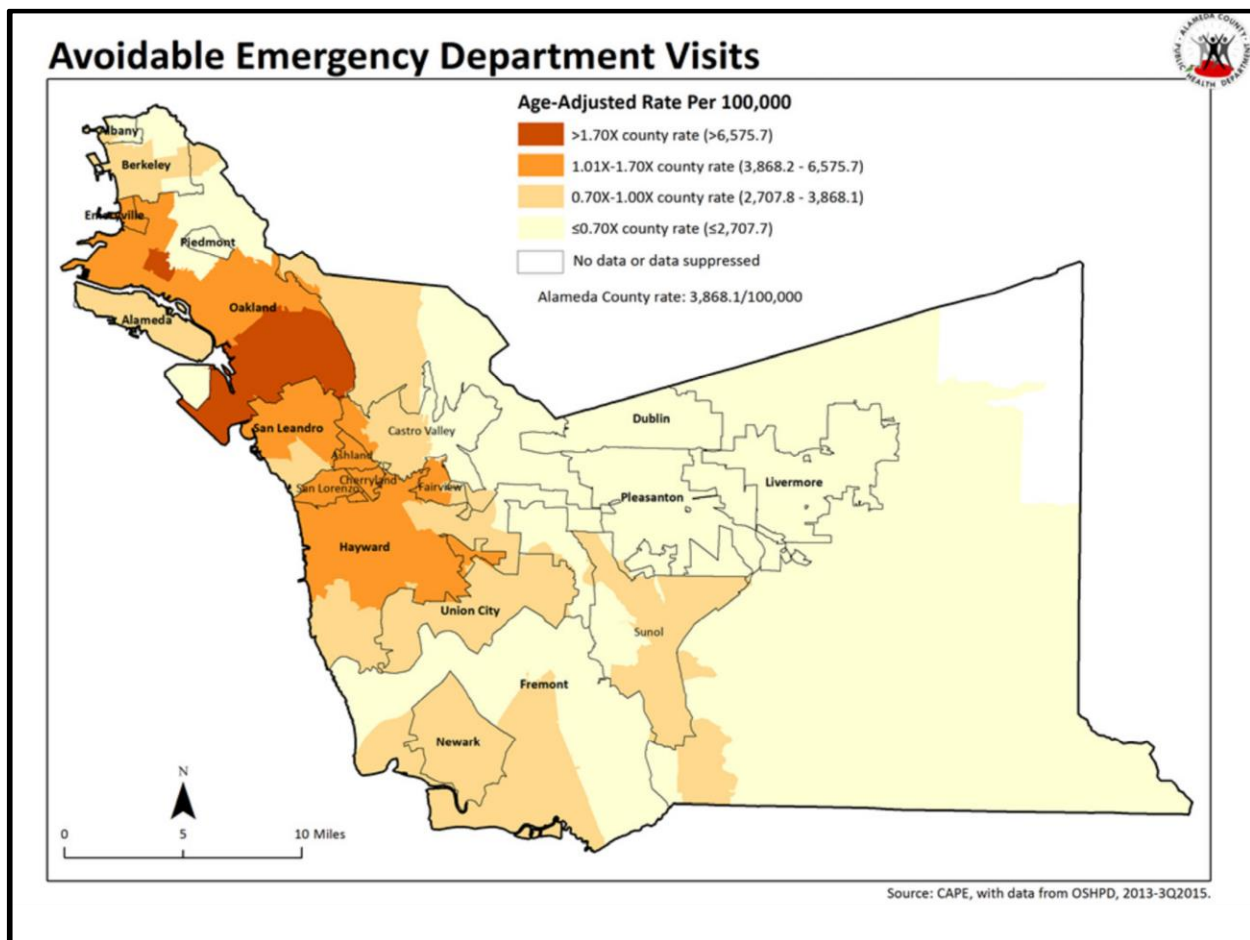
# Health Care Access and Quality of Care

The following three slides show the impact of emergency department (ED) visits and hospitalizations that could have been avoided had high-quality primary and preventive outpatient care been received earlier. Preventable hospitalizations and avoidable ED visits are good measures of lack of access to primary health care. Preventable hospitalizations are measured by prevention quality indicators (PQIs), which are a standardized set of measures developed to evaluate preventable hospitalizations at the local level.

To find additional information on prevention quality indicators in Alameda County, please go to

<http://www.acphd.org/media/367609/pqi.pdf>.



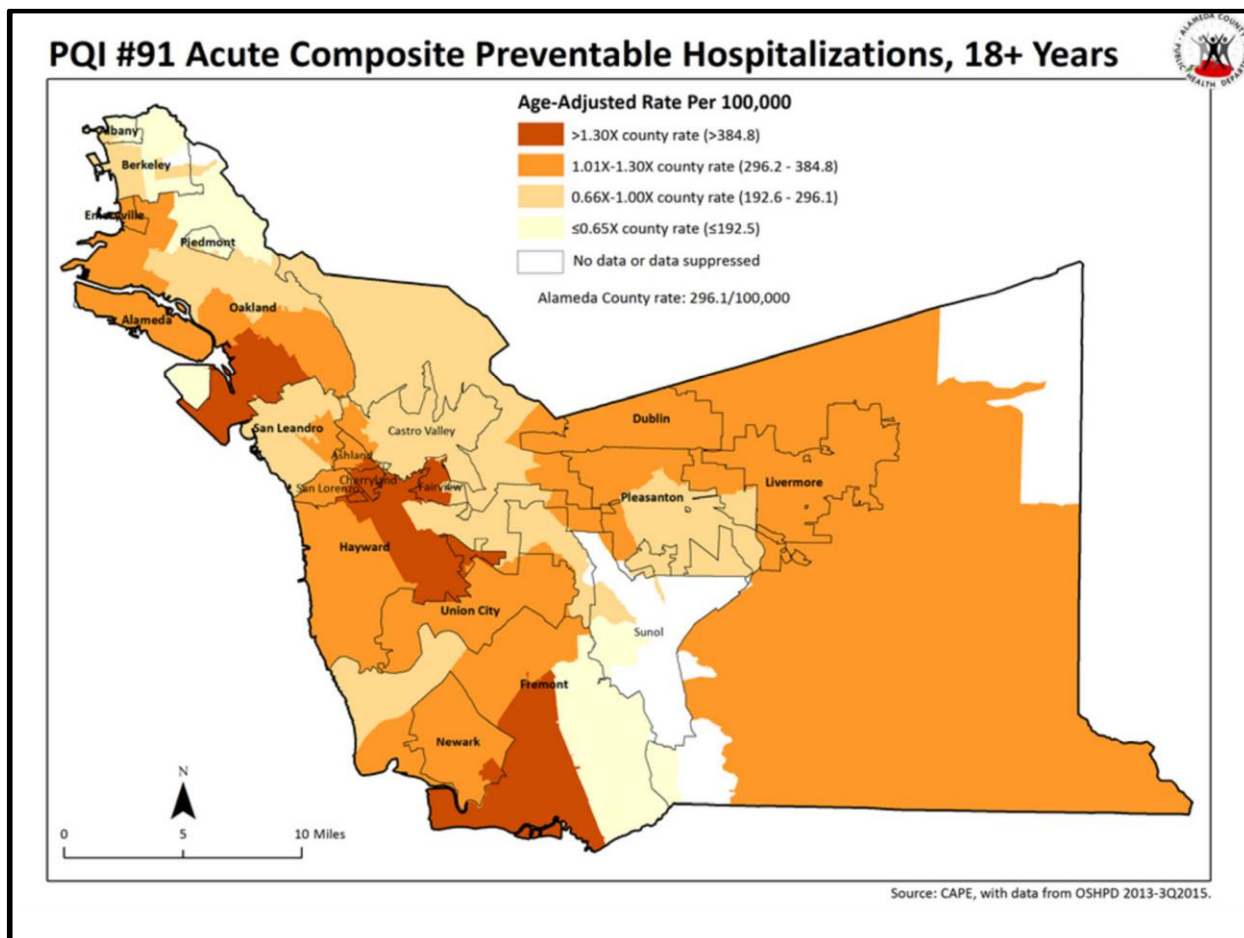


## Avoidable Emergency Department Visits

Avoidable emergency department (ED) visits are defined by the Medi-Cal Managed Care Division of the California Department of Health Care Services as ED visits that could have been more appropriately managed by or referred to a primary care physician in an office or clinical setting. Avoidable ED visits excludes ED visits among residents less than one year of age. Avoidable ED visits are a good measure of lack of access to primary health care or a medical home.

This map represents avoidable ED visits at the zip code level for Alameda County residents from January 2013 through September 2015. The transition of ICD-9CM coding to ICD-10CM coding was adopted as of October 2015. Analysis of data with ICD-10 has not yet been implemented; rather, the data for 2015 has been annualized for the period. The darker colors on the map correspond to higher avoidable ED visit rates, while the lighter colors correspond to lower rates. Avoidable ED rates are highest among residents in west Oakland and a small portion of east Oakland.

From 2013 through the end of 3rd quarter 2015 in Alameda County, there were 167,746 avoidable ED visits, at an age-adjusted rate of 3,868.1 visits per 100,000 people. For zip codes with ten or more avoidable ED visits during the period, the avoidable ED visit rate ranged from 815.1 per 100,000 to 9,364.6 per 100,000.



#### Prevention Quality Indicator (PQR) #91: Acute Composite Preventable Hospitalizations, 18+ Years

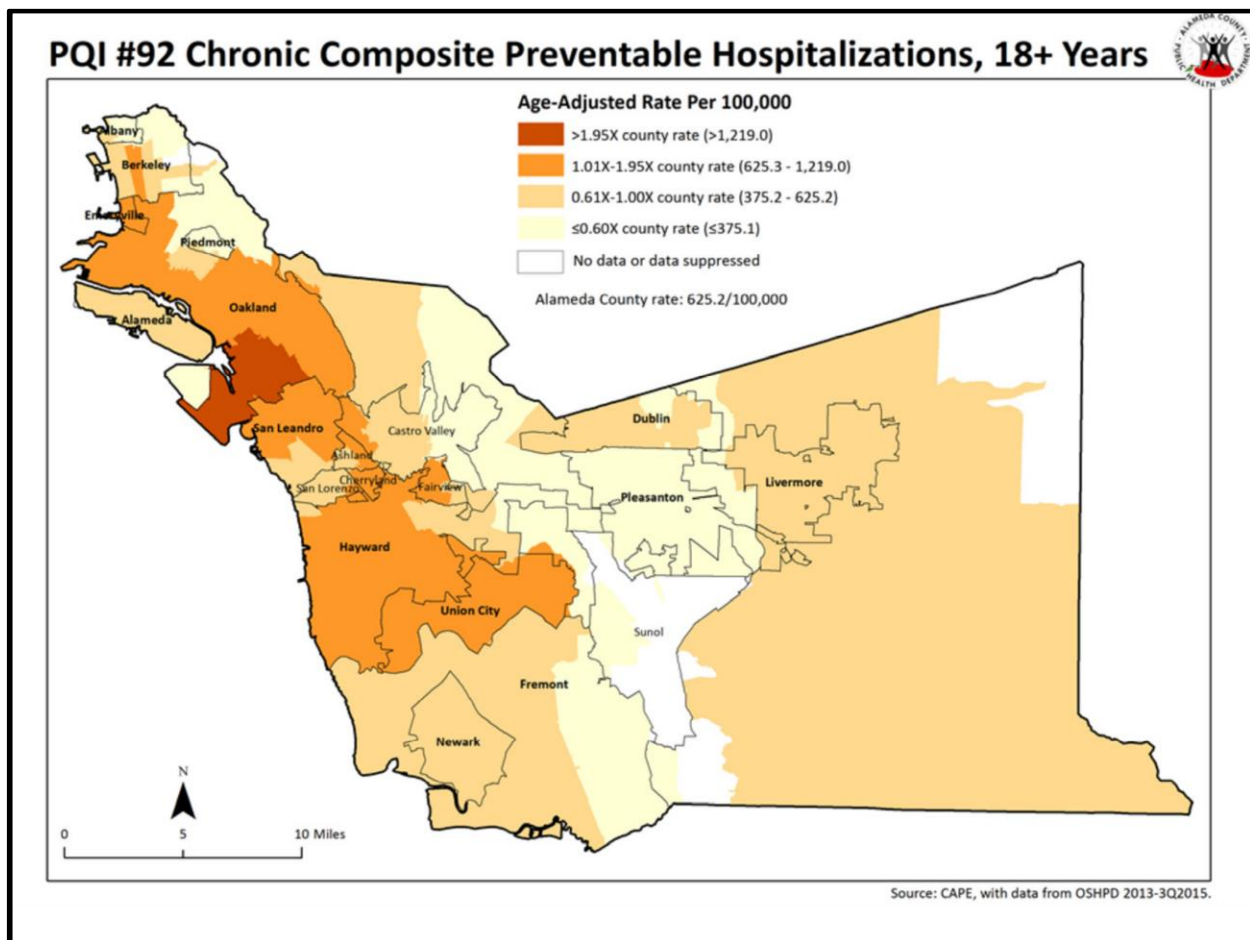
The acute composite is a summary measure for acute disease preventable hospitalizations, that includes dehydration-related, bacterial pneumonia-related, and urinary tract infection-related preventable hospitalizations. A patient with an acute composite preventable hospitalization (PQR #91) has one or more hospitalizations indicated by one or more of the following prevention quality indicators (PQRs): dehydration hospitalizations (PQR #10), bacterial pneumonia hospitalizations (PQR #11), and urinary tract infection hospitalizations (PQR #12).

This map represents PQR #91, or acute composite preventable hospitalizations at the zip code level for Alameda County residents 18 years or older in 2013 through the end of the 3rd quarter 2015. The darker colors on the map correspond to higher chronic composite preventable hospitalization rates, and the lighter colors correspond to lower rates.

Acute composite preventable hospitalization rates are highest among residents of East Oakland, Cherryland, and parts of Hayward, Fremont, Fairview, and San Lorenzo. Other parts of Oakland (west Oakland, the southeast hills, and north Oakland), Emeryville, Newark, Dublin, and parts of Livermore, Union City, Ashland, San Lorenzo, San Leandro, Fremont, Castro Valley, Hayward, and unincorporated Alameda County also have high rates.

From 2013 through the end of 3rd quarter 2015 in Alameda County, there were 9,655 acute composite preventable hospitalizations, at an age-adjusted rate of 296.1 acute composite preventable hospitalizations per 100,000 people. For zip codes with ten or more hospitalizations, the acute composite preventable hospitalization rate ranged from 104.0 per 100,000 to 570.8 per 100,000.

For technical specifications about the ICD-9 codes used for each of these as well as inclusion and exclusion criteria, please go to *Technical Specifications* in <http://www.qualityindicators.ahrq.gov/Archive/default.aspx#pqj>. For more information about acute composite preventable hospitalizations (PQR #91), please see <http://www.acphd.org/media/367609/pqi.pdf> and [http://www.qualityindicators.ahrq.gov/Modules/pqi\\_resources.aspx](http://www.qualityindicators.ahrq.gov/Modules/pqi_resources.aspx).



#### Prevention Quality Indicator (PQI) #92: Chronic Composite Preventable Hospitalizations, 18+ Years

The chronic composite is a summary measure for chronic disease preventable hospitalizations that includes diabetes-related, respiratory-related, and circulatory-related preventable hospitalizations. Specifically, a patient with a chronic composite preventable hospitalization (PQI #92) has one or more hospitalizations indicated by one or more of the following PQIs: diabetes short-term complications, diabetes long-term complications, chronic obstructive pulmonary disease (COPD) or asthma in older adults, hypertension, congestive heart failure (CHF), angina without procedure, uncontrolled diabetes, asthma in younger adults, and lower-extremity amputation among patients with diabetes.

This map represents PQI #92 for zip codes in Alameda County for residents aged 18 years or more from 2013 through the end of 3rd quarter 2015. The darker colors on the map correspond to higher chronic composite preventable hospitalization rates, and the lighter colors correspond to lower rates. Chronic composite preventable hospitalization rates are highest among residents of east Oakland. Other parts of Oakland, Emeryville, Cherryland, and parts of Hayward, Union City, Fairview, Ashland, San Lorenzo, and Berkeley also have high rates.

From 2013 through the end of 3rd quarter 2015 in Alameda County, there were 20,917 chronic composite preventable hospitalizations, at an age-adjusted rate of 625.2 chronic composite preventable hospitalizations per 100,000 people. For zip codes with ten or more hospitalizations, the hospitalization rate ranged from 115.4 per 100,000 to 1,720.4 per 100,000.

For technical specifications about the ICD-9 codes used for each of these as well as inclusion and exclusion criteria, please go to *Technical Specifications* at <http://www.qualityindicators.ahrq.gov/Archive/default.aspx#pgi>. For more information about chronic composite preventable hospitalizations (PQI #92), please see <http://www.acphd.org/media/367609/pgi.pdf> and [http://www.qualityindicators.ahrq.gov/Modules/pgi\\_resources.aspx](http://www.qualityindicators.ahrq.gov/Modules/pgi_resources.aspx).