ALAMEDA COUNTY HEALTH DATA PROFILE, 2014

COMMUNITY HEALTH STATUS ASSESSMENT FOR PUBLIC HEALTH ACCREDITATION

Acknowledgments

This report was produced by:
The Alameda County Public Health Department
Community Assessment, Planning, and Education (CAPE) Unit
and
Division of Communicable Disease Control and Prevention

Reviewers

Sandra Huang
Kristen Light
Liz Maker
Chuck McKetney
Erica Pan

Authors

Elaine Bautista
Samantha Bell
Matt Beyers
Janet Brown
Sangsook Cho
Roxanna Guide
Tammy Lee
Richard Lechtenberg
Jane Martin
Nicholas Moss
Neena Murgai

Comments and questions can be directed to:
Community Assessment, Planning, and Education (CAPE) Unit
Alameda County Public Health Department
Health Care Services Agency
1000 Broadway, Suite 500
Oakland, California 94607
(510) 267-8020
http://www.acphd.org/

Chuck McKetney
Director, CAPE

Muntu Davis, MD, MPH
Health Officer, Director, Alameda County Public Health Department

Alex Briscoe
Director, Health Care Services Agency

CONTENTS

INTRODUCTION

Welcome to the Alameda County Health Data Profile, 2014. This document was completed as part of the larger Community Health Assessment (CHA), one of the key deliverables required to achieve Public Health Accreditation. The purpose of the data profile is to provide health statistics on the Alameda County population and identify subpopulations or geographic areas where the disease burden is highest. These populations bear a disproportionate burden of poor health outcomes, also referred to as health inequities. This data profile is designed to stand alone as a document; however, the information contained in it is intended to be used in conjunction with the other elements of the CHA aimed at elucidating community assets and strengths through a community engagement process. Thus this data profile is best considered in the context of the larger CHA. A second key deliverable needed for Public Health Accreditation, the Community Health Improvement Plan (CHIP), will draw on both the gaps and the strengths identified in the CHA to create and implement a plan for better community health.

Chapters one and two of the data profile present a demographic and socioeconomic picture of Alameda County followed by a description of how the social determinants of health—including income, education, and employment—shape opportunities for health and wellbeing. Special attention is paid in this section to the historical roots of racial residential segregation, as they have led to persistent poverty, lower income, and lower life expectancy. Neighborhood poverty is the lens through which health outcomes and social determinants of health are examined in this chapter. We refer to this lens as the social gradient, comparing high-poverty neighborhoods with low poverty neighborhoods on a variety of measures.

Chapter three of the data profile examines trends in leading causes of death in Alameda County as well as other summary measures of mortality, including life expectancy and premature death. These measures are presented through the lens of place and race, with graphics showing age-adjusted rates by race/ethnicity, gender, and city/place.

Chapter four focuses on maternal and child health, with emphasis on trends in low birth weight, infant mortality, and teen birth. Rates are also presented by race/ethnicity and city/place.

Chapter five covers chronic disease, beginning with the prevalence of behavioral risk factors and common chronic conditions at the county level, and ending with data on key indicators of morbidity by race and place. These include hospitalization for diabetes, coronary heart disease, severe mental illness, stroke, congestive heart failure, and asthma.

Chapter six covers safety and violence in Alameda County with a focus on unintentional injury, homicide, and assault by race/ethnicity and city.

Chapter seven covers access to primary medical care, first focusing on usual source of care and then examining in more detail proxy measures of access, including overall avoidable emergency department (ED) visits and ED visits for asthma and severe mental illness. It concludes with some key indicators of preventable hospitalizations for acute and chronic

illnesses. These will be important measures to track over time to monitor improvement in access to care with the implementation of the Affordable Care Act.

Finally, chapter eight covers communicable diseases in Alameda County, including tuberculosis, HIV/AIDS, and the most common sexually transmitted diseases, gonorrhea, Chlamydia, and syphilis.

Using the Report

Notes on Alameda County Geographies

Twenty urban areas are covered in this report. These urban areas are 14 incorporated cities (Alameda, Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark, Oakland, Piedmont, Pleasanton, San Leandro, and Union City) and six unincorporated census designated places as defined by the Census Bureau (Ashland, Castro Valley, Cherryland, Fairview, San Lorenzo, and Sunol). These urban areas are frequently referred to as cities in this report, even though not all are formally incorporated. Different data sources vary in terms of the geographic level of detail available; some are available at the census tract level and some only at the zip code level.

It is important to note that for some indicators, such as those based on births and deaths, the city charts and tables show data for places (e.g., in the unincorporated areas) such as Ashland, Cherryland, and Fairview. And they also show data for Piedmont if there are sufficient numbers. This is possible because Alameda County Public Health Department has address-level information on record and these can be geocoded and aggregated to census tract or smaller geographic areas. For other indicators, such as those based on hospital or ED records, data are only available at the zip code level, and so zip codes are aggregated to approximate cities. In these cases we cannot achieve the same geographic resolution so the smaller places cannot be shown separately.

Notes on Race and Ethnicity

This report restricts descriptions of race and ethnicity to short words and phrases. It is recognized that individual preference varies and that classification is not trivial. Considering the report's many text references, tables, and figures that make comparisons between races, readability and space require consistent and abbreviated usage. Thus, the report refers to African American or African American/Black, rather than Black or African. In tables and figures, African American/Black may be shortened to AfAm/Black. Other standard terms are White; American Indian/Alaskan Native (sometimes shortened to American Indian or AmerInd); Pacific Islander (sometimes shortened to PacIsl); Asian (sometimes combined with Pacific Islanders and sometimes shortened to API); and Hispanic or Hispanic/Latino (sometimes shortened to Hisp/Lat).

Hispanic includes all those of Spanish-speaking descent in the Americas, including people from Spain. Hispanic or Latino is considered by most data collectors such as the Census Bureau to be an ethnicity rather than a race. Thus, an Hispanic may be White or Asian or African American. In most of our health data, we are able to make Hispanic a mutually exclusive category. In the American Community Survey, African Americans include those Hispanics who are African American, for example; only the White category is split into non-Hispanic Whites and Whites including Hispanics. In addition, some data systems are allowing people to choose multiple races or simply a Multirace or Other category, so the report uses those designations when needed. In this report, we present mortality and birth data on the multirace group when there are sufficient numbers, but caution should be used when interpreting the data. Finally, race is often unreported, mis-reported, or unclassifiable in many data systems.

CHAPTER ONE

DEMOGRAPHICS

Changing Demographics

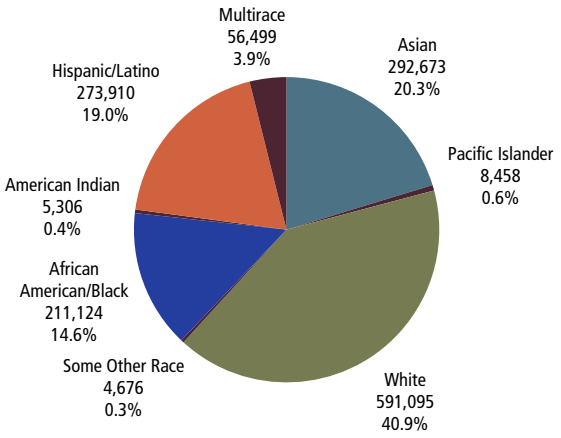
Alameda County is one of the most diverse counties in the country. This statement masks an ever-churning population with a changing racial/ethnic structure. For example, while the county grew by only 4.6% between 2000 and 2010, each racial/ethnic group changed much more than that (Table 1). The Pacific Islander, Asian, and Hispanic populations grew the most, but the White, African American, and American Indian populations shrank considerably (Figures 1 and 2).

Table 1: Alameda County Population by Race/Ethnicity, 2000 and 2010

	2000	2010	Change	% Change
Total	1,443,741	1,510,271	66,530	4.6%
African American/Black	211,124	184,126	-26,998	-12.8%
American Indian/Alaskan Native	5,306	4,189	-1,117	-21.1%
Asian	292,673	390,524	97,851	33.4%
Hispanic/Latino	273,910	339,889	65,979	24.1%
Multirace	56,499	60,862	4,363	7.7%
Pacific Islander	8,458	11,931	3,473	41.1%
Some Other Race	4,676	4,191	-485	-10.4%
White	591,095	514,559	-76,536	-12.9%

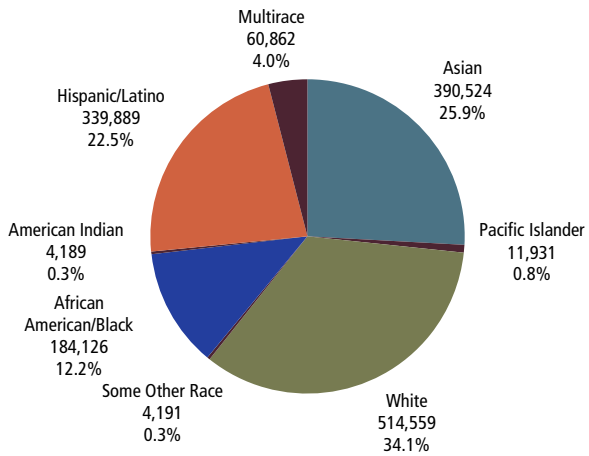
Source: Census 2000 and 2010.

Figure 1: Alameda County Race/Ethnicity, 2000



Source: Census 2000.

Figure 2: Alameda County Race/Ethnicity, 2010



Source: Census 2010.

Within Alameda County, there was considerable change between 2000 and 2010 (Table 2). The cities/places that grew the most were in the eastern portion of the county—Dublin, Livermore, and Pleasanton together grew 18.2%. In north county, Albany and Emeryville grew the most, while Oakland and Piedmont each shrank slightly. Castro Valley, San Leandro, and San Lorenzo grew the most in central Alameda County, which also includes Ashland, Cherryland, Fairview, and Hayward. In south county—Newark, Fremont, and Union City—there was slight growth. While in the sparsely populated unincorporated area of Sunol, the population declined 31.5%, it should be noted that some of the housing

was incorporated into Pleasanton; a similar phenomenon occurred in what we call the remainder of the county, which is outside all the cities and outside the unincorporated places.

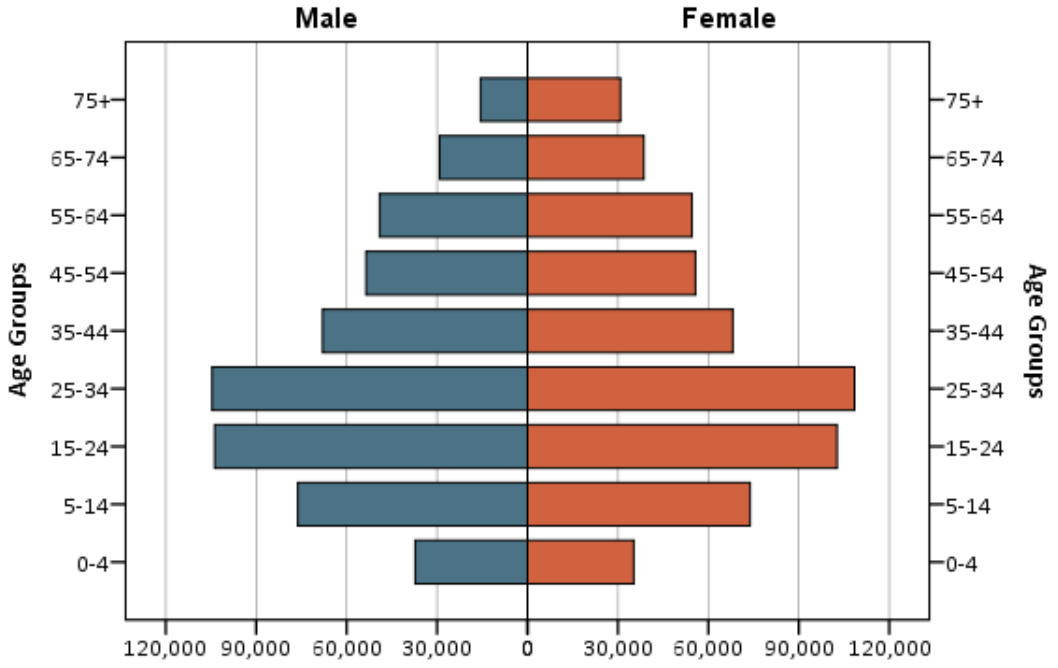
Table 2: Population by City and Place, 2000 and 2010

	Geography	Census 2000	Census 2010	Change	% Change
Total	Alameda County	1,443,741	1,510,271	66,530	4.6%
Cities	Alameda	72,259	73,812	1,553	2.1%
	Albany	16,444	18,539	2,095	12.7%
	Berkeley	102,743	112,580	9,837	9.6%
	Dublin	29,973	46,036	16,063	53.6%
	Emeryville	6,882	10,080	3,198	46.5%
	Fremont	203,413	214,089	10,676	5.2%
	Hayward	140,030	144,186	4,156	3.0%
	Livermore	73,345	80,968	7,623	10.4%
	Newark	42,471	42,573	102	0.2%
	Oakland	399,484	390,724	-8,760	-2.2%
	Piedmont	10,952	10,667	-285	-2.6%
	Pleasanton	63,654	70,285	6,631	10.4%
	San Leandro	79,452	84,950	5,498	6.9%
	Union City	66,869	69,516	2,647	4.0%
Unincorporated Places	Ashland	20,793	21,925	1,132	5.4%
	Castro Valley	57,292	61,388	4,096	7.1%
	Cherryland	13,837	14,728	891	6.4%
	Fairview	9,470	10,003	533	5.6%
	San Lorenzo	21,898	23,452	1,554	7.1%
	Sunol	1,332	913	-419	-31.5%
Remainder	Remainder of County	11,148	8,857	-2,291	-20.6%

Source: Census 2000 and 2010.

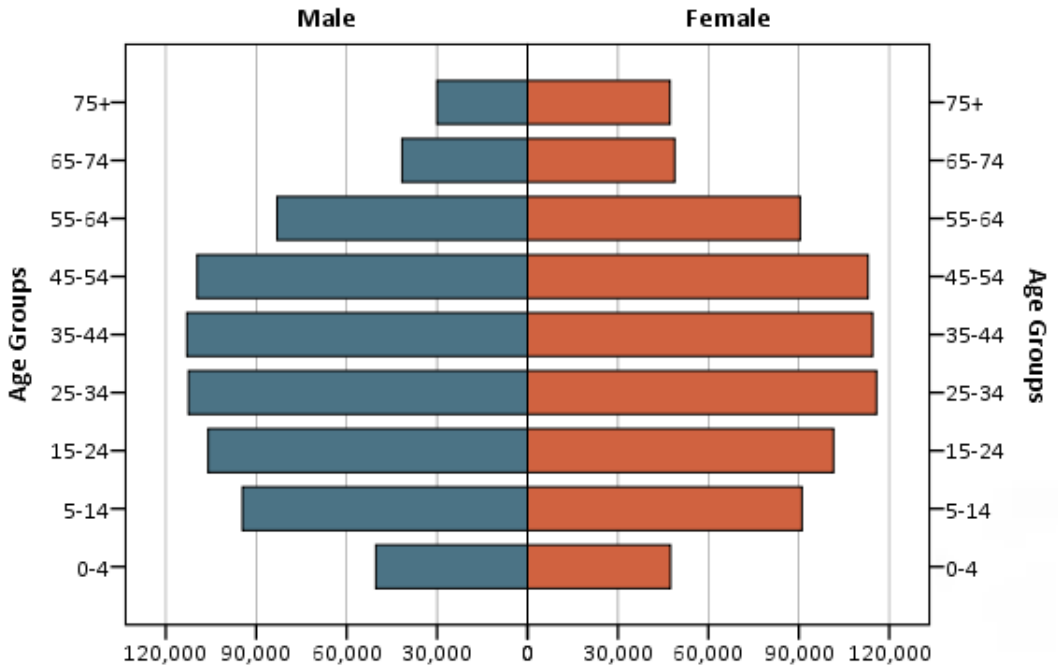
While the total population increased in the county, most of the increase was in particular age groups (Figures 3 and 4). Between 1980 and 2010, the number of people between 15 and 24 years and the number between 25 and 34 years changed little. In contrast, the remaining age groups, especially those 35 to 54 years, increased substantially. The increase in the older age groups is due to the overall aging population.

Figure 3: Alameda County Age Pyramid, 1980



Source: Census 1980.

Figure 4: Alameda County Age Pyramid, 2010

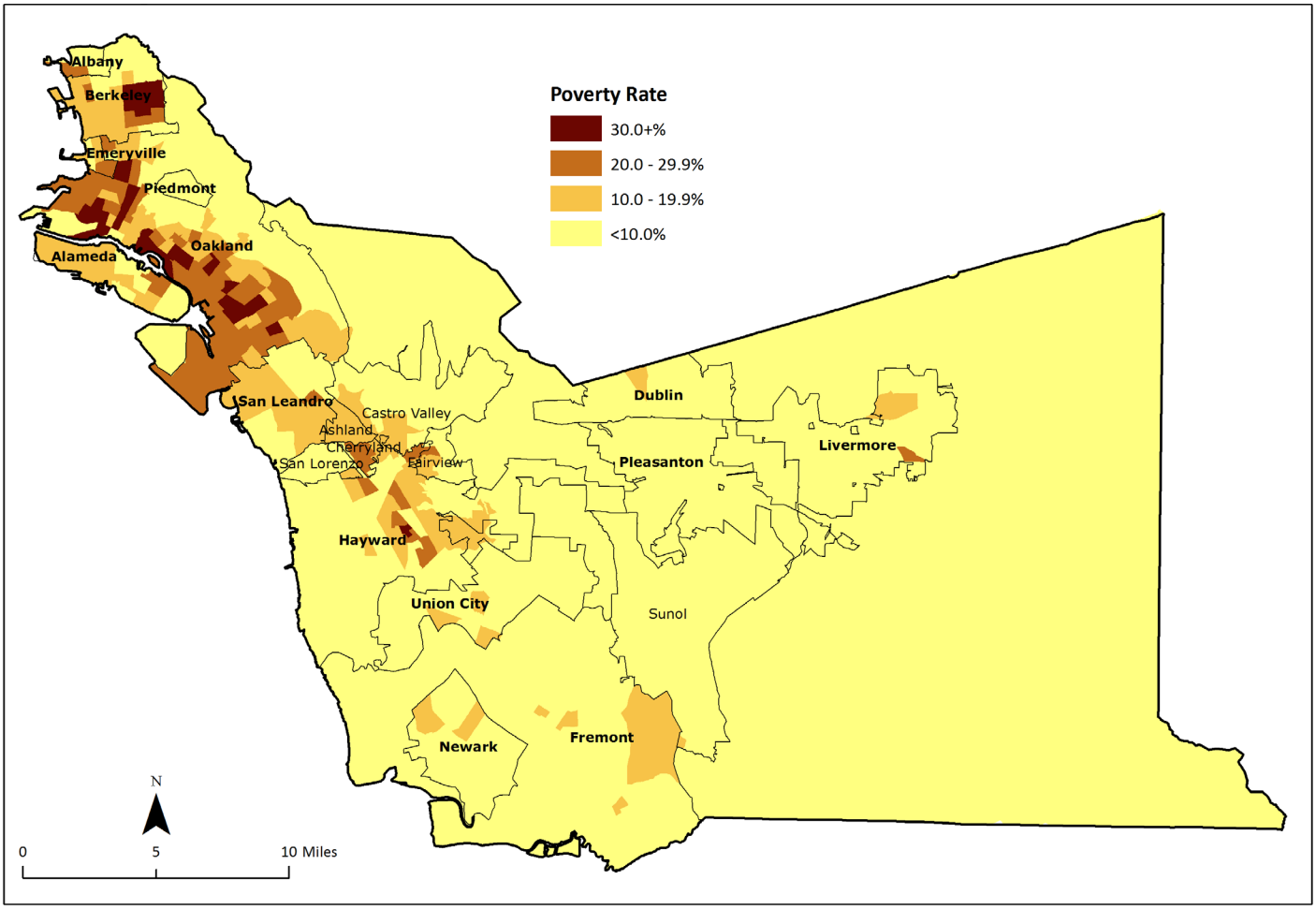


Source: Census 2010.

Socioeconomics

The poverty rate by neighborhood is a good indicator of overall deprivation. In Alameda County, the highest poverty areas are in Berkeley near the UC-Berkeley campus (Figure 5). This area is mostly student housing and, while the students are not well off themselves, they have sources of support other than income and so they are not what we normally think of as 'the poor.' In contrast, there are some high-poverty (greater than 20% of the individuals are living in poverty) neighborhoods in East and West Oakland and parts of central county.

Figure 5: Alameda County Poverty Rate, 2007-2011



Source: American Community Survey, 2007-2011.

In addition to poverty, the level of education attained is a good social indicator (Table 3). In Alameda County, Non-Hispanic Whites and African Americans have the highest rates of high school or equivalent education among those 25 years or more. In contrast, African Americans have one of the lower rates of getting a bachelor degree; non-Hispanic Whites and Asians have a much higher rate. Hispanics have among the lowest educational attainments measured by both high school or bachelor degree status.

Table 3: Educational Attainment by Race/Ethnicity

	% HS or More	% Bachelor or More
Total	86.8%	42.4%
African American/Black	89.0%	25.4%
American Indian	82.0%	21.4%
Asian	86.9%	53.8%
Multirace	92.2%	40.6%
Pacific Islander	83.3%	17.8%
Some Other Race	63.1%	12.9%
White	89.1%	44.9%
Hispanic/Latino	66.3%	17.5%
White (Non-Hispanic/Latino)	95.8%	52.0%

Source: American Community Survey, 2012.
Note: Top seven entries are regardless of Hispanic ethnicity.

Similar to poverty, median household income is a good overall measure of economic well-being. In Alameda County, non-Hispanic Whites have the highest incomes followed by Asians. African American households have the lowest incomes, at only 51.6% of the income of White households (Table 4).

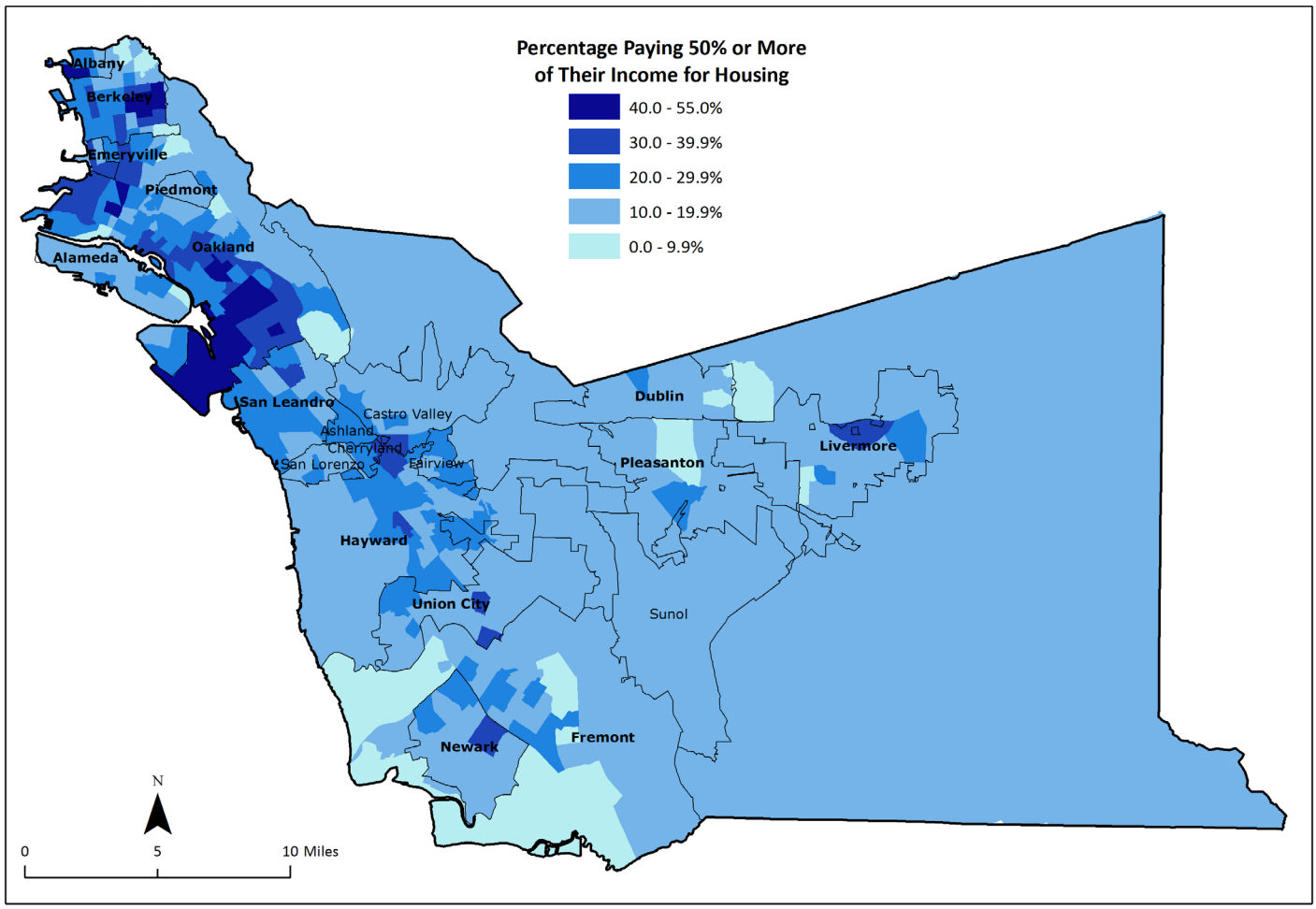
Low incomes are also reflected in the burden that housing costs can place on a household. In Figure 6, housing burden is presented as spending 50% or more of income on housing (renters and owners); this is very high, as the national standard is to pay no more than 30%. As the burden is measured against income, again a pattern of high burden near the UC-Berkeley campus can be seen, as in the poverty map (Figure 5). Similarly, an area in Albany that is student housing has a high rate of high housing burden. Other larger areas of high housing burden are in East and West Oakland, while smaller areas are scattered throughout the county.

Table 4: Median Household Income by Race/Ethnicity

	Median Household Income ($2011)
Total	$67,558
African American/Black	$42,124
American Indian	$51,750
Asian	$80,124
Multirace	$60,646
Pacific Islander	$76,494
Some Other Race	$52,932
White	$74,401
Hispanic/Latino	$54,189
White (Non-Hispanic/Latino)	$81,710

Source: American Community Survey, 2011, except American Indian from American Community Survey, 2009-2011.
Note: Top seven entries are regardless of Hispanic ethnicity.

Figure 6: Alameda County Housing Burden, 2007-2011



Source: American Community Survey, 2007-2011.

Immigration and Language

Alameda County's diversity is enhanced by its large immigrant and non-English speaking populations. In the county, 30.8% of the population are immigrants and over half of these (240,080) are naturalized (Table 5). The immigrant population tends to be adults—only 6.4% of those of less than 18 years are immigrants.

Table 5: Immigration and Naturalization

	Under 18 Years		18 Years and Over		Total	
	Count	Percent	Count	Percent	Count	Percent
Total	341,229	100.0%	1,188,646	100.0%	1,529,875	100.0%
Native	319,435	93.6%	738,543	62.1%	1,057,978	69.2%
Foreign Born; Naturalized U.S. Citizen	4,261	1.2%	235,819	19.8%	240,080	15.7%
Foreign Born; Not a U.S. Citizen	17,533	5.1%	214,284	18.0%	231,817	15.2%

Source: American Community Survey, 2011.
Note: Percentages do not add to 100.0% because of rounding.

Of all those five years or more in the county, 43.3% do not speak English at home (Table 6). They speak dozens of languages, with Spanish being the most popular. Other languages that have high counts are Chinese, Tagalog, Hindi, and Vietnamese. It should be noted that even those who speak another language at home may speak English very well, as do 54.9% of those in Alameda County households where English is not normally spoken.

Table 6: Language Spoken at Home

Language Spoken at Home	Count	Percent
Total	1,431,724	100.0%
Speak only English	811,228	56.7%
Speak other language*	620,496	43.3%
Spanish	242,831	17.0%
Chinese	122,828	8.6%
Tagalog	50,737	3.5%
Hindi	27,350	1.9%
Vietnamese	26,281	1.8%
Korean	15,075	1.1%
Persian	13,907	1.0%
Other languages	121,487	8.5%

Source: American Community Survey, 2011.
Notes: *54.9% of these speak English very well;
percentages do not add to 100.0% because of rounding.

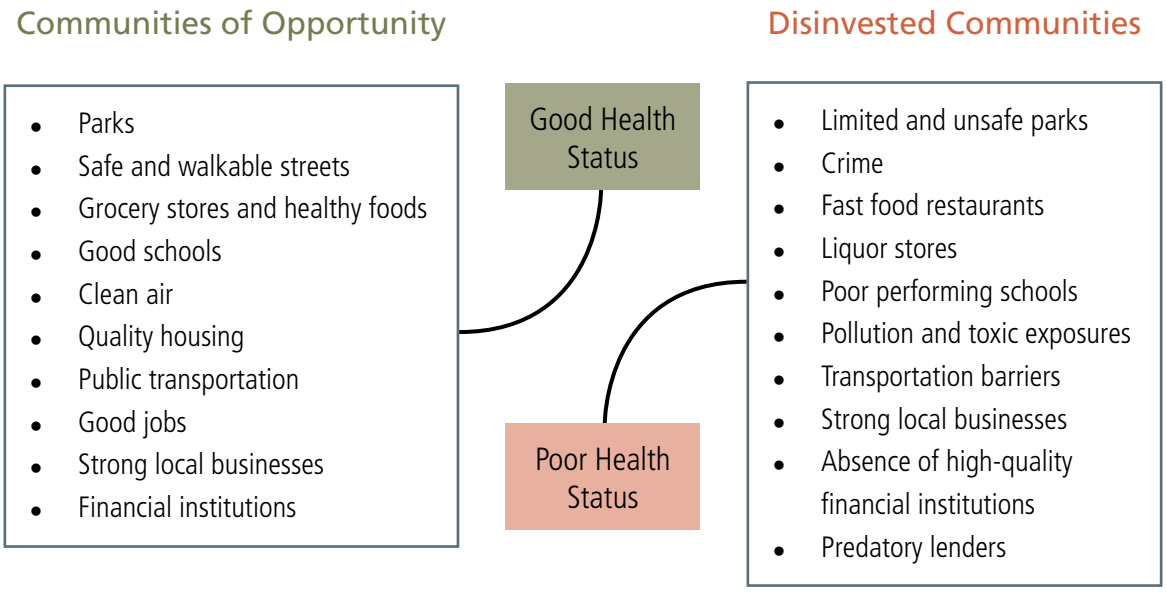
CHAPTER TWO

MAJOR DETERMINANTS OF HEALTH AND HEALTH EQUITY

Why Place Matters

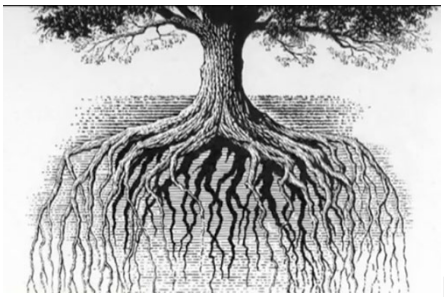
Place—where you live, work, learn, and play—matters greatly for health outcomes in Alameda County. Where you live determines your level of access to resources and opportunities that produce good health—like safe streets, excellent schools, and good jobs. Where you live can also influence your level of exposure to factors that harm health—like crime and violence, air pollution, and inadequate public transportation. Health outcomes and life chances are greatly shaped by whether you have the opportunity to live in a community that has ample resources and amenities to support good health, or if you live in a disinvested neighborhood that lacks resources and infrastructure necessary to enable people to be healthy (Figure 7).

Figure 7: Levels of Resources and Opportunities for Health Depend on Where You Live



In the United States, we have an ongoing history of discriminatory policies and practices tied to race, ethnicity, and socioeconomic status that have produced differences in access to resources and opportunities for health across neighborhoods. Intentional public policies and private practices have led to high concentrations of people of color and poverty in certain places.[1] Below are some examples of how racial residential segregation and persistent poverty have been historically legislated in direct and indirect ways (Figure 8).

Figure 8: Historical Roots of Racial Residential Segregation and Persistent Poverty



- Beginning in the 1930s and 1940s, the Federal Housing Administration and Veteran's Administration extended government-backed, low-cost loans to millions of White Americans so they could purchase new homes in the suburbs, while denying access to home mortgages and home ownership opportunities for people of color. Between 1934 and 1962, the federal government backed $120 billion in home loans, 98% of which went to Whites.

- In the 1930s, the Federal Home Owners Loan Corporation (HOLC) facilitated racial redlining—or denial of home loans in certain areas based on racial composition—by creating color-coded maps that used racial criteria to appraise how "secure" neighborhoods were for real estate investment.[2] Racially homogenous neighborhoods (often majority White) were colored in green and deemed to be the least risky, while integrated neighborhoods (often majority African American) were lined in red and deemed to be least desirable for investment. Banks and insurers adopted HOLC's maps to guide their lending and underwriting decisions.

- Real estate agents also adopted practices in the first half of the 20th century that fostered racial residential segregation, including steering people of color away from White neighborhoods and block busting. This practice involved warning White homeowners that African Americans were going to move into the neighborhood, prompting them to sell their homes to third parties who then resold the homes to African Americans for a profit.[3]

- In the 1950s and 1960s, the federal government funded urban renewal projects to clear out and "revitalize" blighted inner cities.[4] This included the construction of a national interstate highway system, which was built through urban centers demolishing low-income housing and displacing many local residents, businesses, and community institutions—all of which had devastating and lasting effects on the economic and social fabric of inner-city communities.

- Post World War II, with new suburban housing development, government-subsidized mortgage and tax benefits, and highway links to the suburbs, white and middle class residents relocated from the inner city to the suburbs in massive numbers. Urban residents—mostly people of color—were left behind with a declining tax base, diminishing job opportunities, gutted economic and social infrastructure, and shortage of affordable housing. While the federal government invested in suburban growth, it facilitated disinvestment and concentrated poverty in urban centers—conditions which persist today and serve as barriers to health and health equity.[5,6]

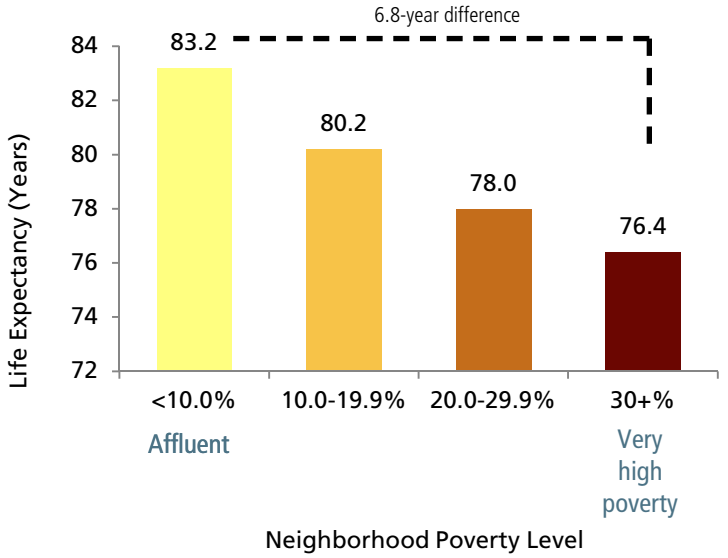
Neighborhood Poverty

According to 2013 federal poverty guidelines, a single person earning an annual household income of less than $11,490 and a family of four earning less than $23,550 are living in poverty. Neighborhood poverty is defined by the percentage of residents in a neighborhood who are living in poverty based on these income thresholds. When 20% or more residents are living in poverty, the neighborhood is considered to be *high poverty*. We define neighborhoods with 30% or more living in poverty as *very high-poverty* neighborhoods, and those with less than 10% living in poverty as *affluent* neighborhoods. Graphs in this report that show poverty levels depicting the social gradient in health outcomes correspond to the yellow-to-dark red colors depicted in the poverty map (Figure 5).

In Alameda County, neighborhood poverty and health outcomes are very closely related, showing a clear social gradient in health. This means with each increase in neighborhood poverty, there is a decline in life expectancy (Figure 9). We see a nearly seven-year difference in life expectancy between the affluent neighborhoods and those with very high poverty in the county.

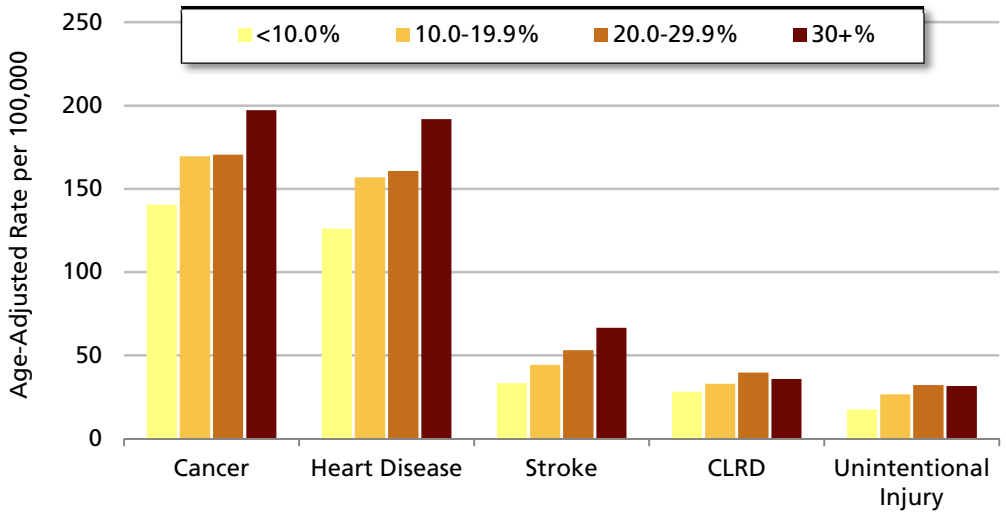
As Figure 10 illustrates, rates of leading causes of death tend to rise with increasing levels of neighborhood poverty. For example, the rate of death due to stroke is two times higher in very high-poverty neighborhoods compared to affluent neighborhoods. In terms of morbidity levels, rates of visits to the emergency department (ED) for diabetes, asthma, obesity, and assault are two to four times higher in very high-poverty neighborhoods than in affluent neighborhoods (Figure 11).

Figure 9: Life Expectancy by Neighborhood Poverty Level—A Social Gradient in Health



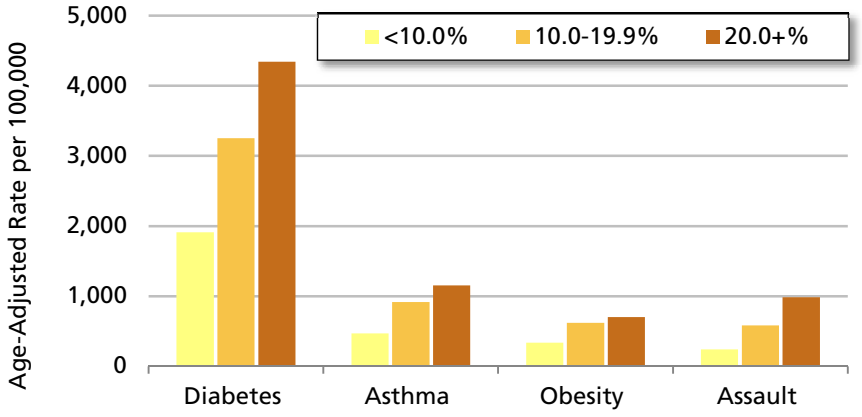
Source: Alameda County Vital Statistics Files, 2008-2010.

Figure 10: Rates of Death from Top Five Leading Causes of Death by Neighborhood Poverty Level



Source: Alameda County Vital Statistics Files, 2008-2010.

Figure 11: Rates of Visits to the Emergency Department for Select Conditions by Zip Code Poverty Level

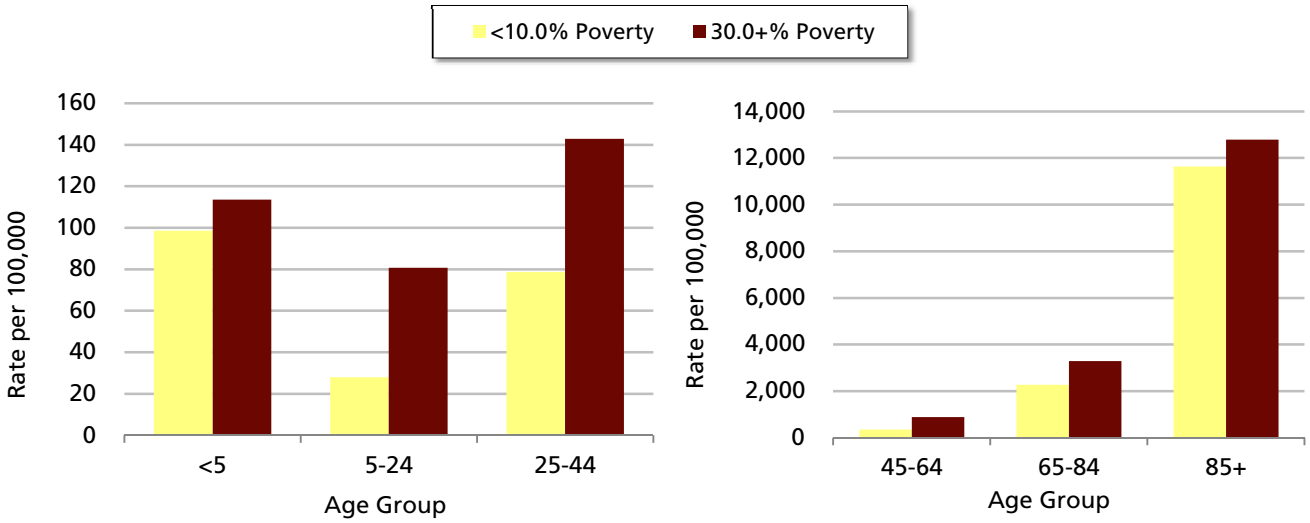


Source: OSHPD Files, 2008-2010.

Neighborhood poverty takes a toll on one's health over the entire life course. Figure 12 shows that across all age groups the all-cause mortality rate is higher in very high-poverty neighborhoods compared to affluent neighborhoods of the county. The profound effect of neighborhood poverty on premature death before 65 years is particularly noteworthy.

- School-age children and teens living in very high-poverty neighborhoods are dying at rates almost three times those of their peers in affluent neighborhoods.
- Young and middle-aged adults—who are at a stage in their lives when they can productively contribute to communities—are dying at rates that are two to two and a half times higher in very high-poverty neighborhoods.

Figure 12: All-Cause Mortality Rate by Neighborhood Poverty Level



Source: Alameda County Vital Statistics Files, 2006-2010.

Table 7 lists the main conditions that are contributing to premature death in very high-poverty neighborhoods. These causes of death will be explored in later chapters of this report.

Table 7: Leading Causes of Death by Age Group in Very High-Poverty Neighborhoods

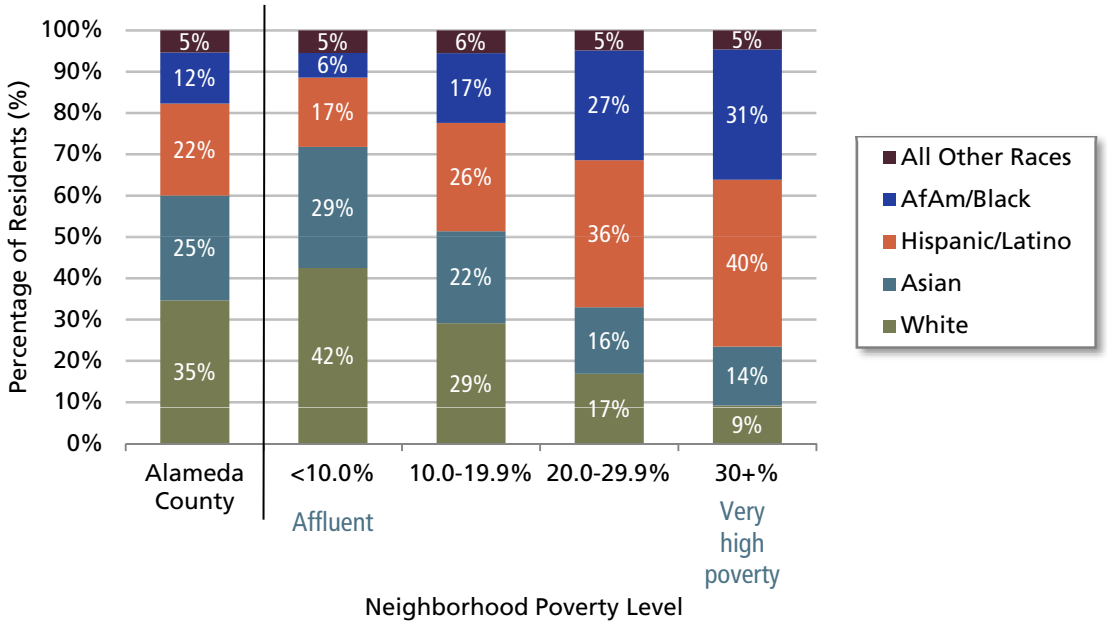
Age Group	Cause of Death	% of Deaths	
5-24 Years	Homicide	59.3%	81.5% of deaths
	Unintentional Injuries	22.2%	
25-44 Years	Homicide	25.4%	64.9% of deaths
	Unintentional Injuries	15.7%	
	Cancers	13.5%	
	Heart Disease	10.3%	
45-64 Years	Cancers	23.8%	60.3% of deaths
	Heart Disease	23.1%	
	Unintentional Injuries	7.0%	
	Stroke	6.4%	

Source: Alameda County Vital Statistics Files, 2006-2010.

Racial Residential Segregation

Racial residential segregation affects where certain racial/ethnic groups can live and in the quality of the environment, so it is a major determinant of health opportunities and outcomes. Figure 13 is a closer look at what racial residential segregation looks like in Alameda County.

Figure 13: Who Lives in Neighborhoods of Varying Poverty Levels by Race/Ethnicity



Source: American Community Survey, 2006-2010, and Census 2010.

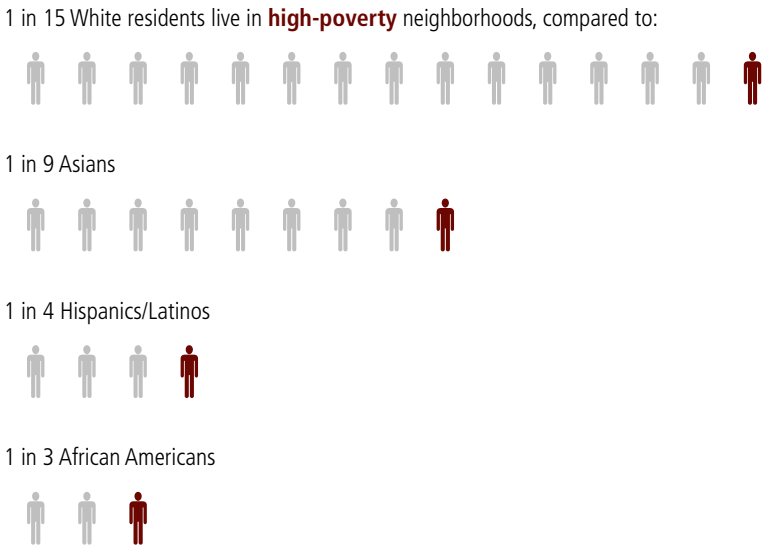
In Alameda County, about 35% of the population is White, 25% is Asian, 22% is Hispanic, 12% is African American, and 5% are other racial/ethnic groups. When compared to the racial/ethnic distribution of neighborhoods of varying poverty levels (Figure 13), it is apparent that affluent neighborhoods in the county are largely and disproportionately comprised of Whites and Asians (who represent 60% of the county population and 71% of residents in affluent neighborhoods).

In addition, high-poverty neighborhoods are largely and disproportionately comprised of Hispanics and African Americans (who represent 34% of the county population, 63% of residents in high-poverty neighborhoods, and 71% of residents in very high-poverty neighborhoods). Ninety-one percent of residents in very high-poverty neighborhoods of the county are people of color. As acknowledged earlier, these racial residential patterns have been shaped by a long-standing system of structural racism within this country—where public policies are made, institutional practices are adopted, and cultural norms are enforced and reinforced in ways that perpetuate racial inequities.

This data can be analyzed slightly differently to look at where people of different racial/ethnic groups live by neighborhood poverty level. In Alameda County, African Americans and Hispanics are more likely to live in high-poverty neighborhoods compared to Whites and Asians (Figure 14).

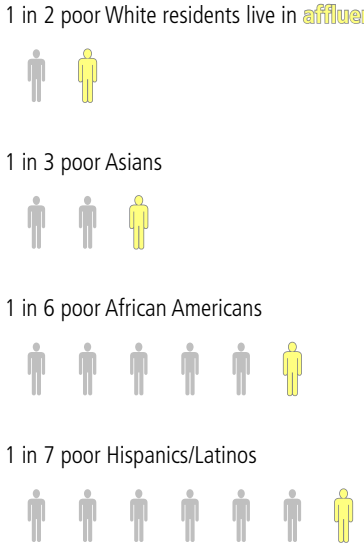
These racial residential patterns cannot be explained by differences in access to income. Among poor people—all of whom have low access to income—poor Whites are more likely to live in affluent neighborhoods than poor African Americans and poor Hispanics (Figure 15). So beyond how much money one makes, racism is at work in shaping unequal opportunities to live in well-resourced neighborhoods that promote good health.

Figure 14: Proportion Living in High-Poverty Neighborhoods by Race/Ethnicity



Source: American Community Survey, 2006-2010, and Census 2010.

Figure 15: Proportion of Poor People Living in an Affluent Neighborhood by Race/Ethnicity



Source: American Community Survey, 2006-2010, and Census 2010.

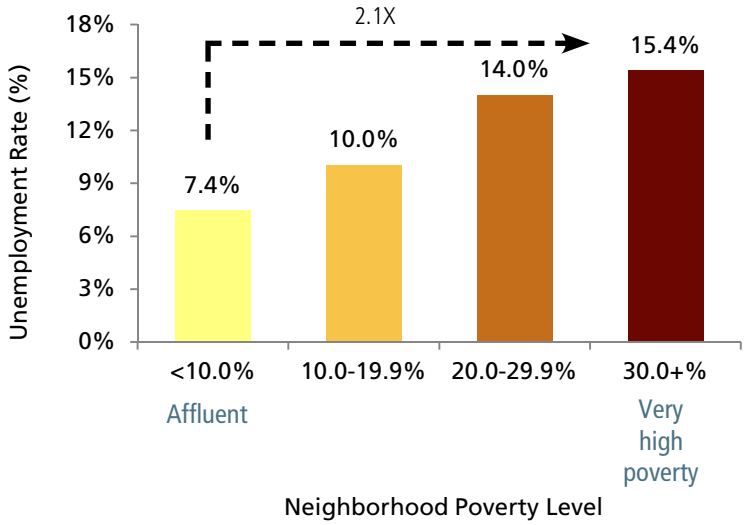
Inequitable Neighborhood Conditions

High-poverty neighborhoods have fewer resources and weaker infrastructure to support good health. In addition, they can have higher levels of exposure to factors that harm health. These inequitable neighborhood conditions heavily shape health outcomes and cumulatively affect life chances. They can include conditions in the economic, social, psychological, and built environments.

Inequitable Economic Conditions

There is greater access to employment if you live in affluent neighborhoods within Alameda County. The unemployment rate in very high-poverty neighborhoods is 2.1 times that of affluent neighborhoods (Figure 16). This could reflect limited job availability, transportation barriers, or lack of quality education and training opportunities.

Figure 16: Unemployment Rate by Neighborhood Poverty Level



Source: American Community Survey, 2007-2011.

There are also differences in the quality of jobs that people have access to in more affluent areas compared with less affluent areas. Table 8 shows the top five occupations by neighborhood poverty level and the median income earned in each occupational area. In affluent neighborhoods (shown in yellow), 52% of the working population over 16 years is employed in the five occupation areas listed. In very high-poverty neighborhoods (shown in dark red), 49% are employed in the five occupational areas listed. In Alameda County, a single adult must earn at least $27,456 per year to cover basic living expenses. While the top five occupations in affluent neighborhoods tend to earn above this basic standard, the top five occupations in very high-poverty neighborhoods earn around or below the amount required to make ends meet.

Table 8: Top 5 Occupations by Neighborhood Poverty Level

<10.0% Poverty (Affluent)					
Occupation Category	1. Management (14% of civilian employed population 16+ years)	2. Office and Admin Support (13%)	3. Sales and Related (11%)	4. Computer and Math (7%)	5. Business and Financial (7%)
Median Income	$91,324	$39,497	$44,887	$94,361	$70,869

Alameda County Self-Sufficiency Standard for One Adult in 2011 = $27,456

30.0+% Poverty (Very High Poverty)					
Occupation Category	1. Office and Admin Support (11%)	2. Food Preparation and Serving (11%)	3. Construction and Extraction (10%)	4. Sales (9%)	5. Building and Maintenance (8%)
Median Income	$28,920	$16,135	$29,495	$23,877	$20,967

Source: American Community Survey, 2007-2011.

The average annual household income of residents of affluent neighborhoods is 2.4 times that of very high-poverty neighborhoods (Figure 17). Fewer income resources mean greater likelihood of having to make trade-offs that matter for health—like paying for food versus housing or health care. At the community level, lower income earnings mean a smaller tax base and greater risk of political disinvestment—both of which harm community health.

Since owning a home has been one of the key ways to build and pass on wealth in this country, home foreclosure rates offer one way of assessing wealth. The foreclosure rate is over two times higher in very high-poverty neighborhoods compared to affluent neighborhoods (Figure 18).

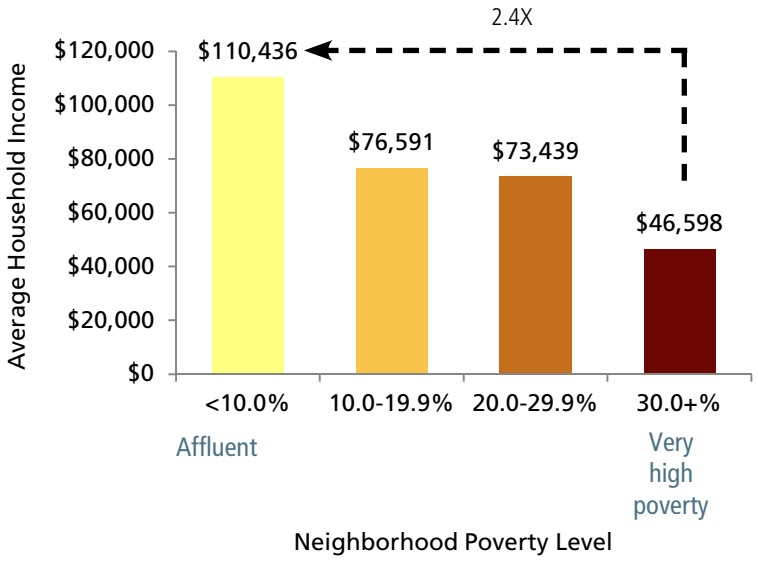
Inequitable Psycho-Social Conditions

There are differences in social conditions, such as education and crime/violence, and psychological factors, like stress and mental health, in high-poverty versus affluent neighborhoods.

Residents of very high-poverty neighborhoods are almost four times more likely to have less than a high school degree than residents of affluent neighborhoods (Figure 19), which reflects level of resources and opportunities to achieve school success and higher education. Raising education levels improves the health of individuals and whole communities.[7]

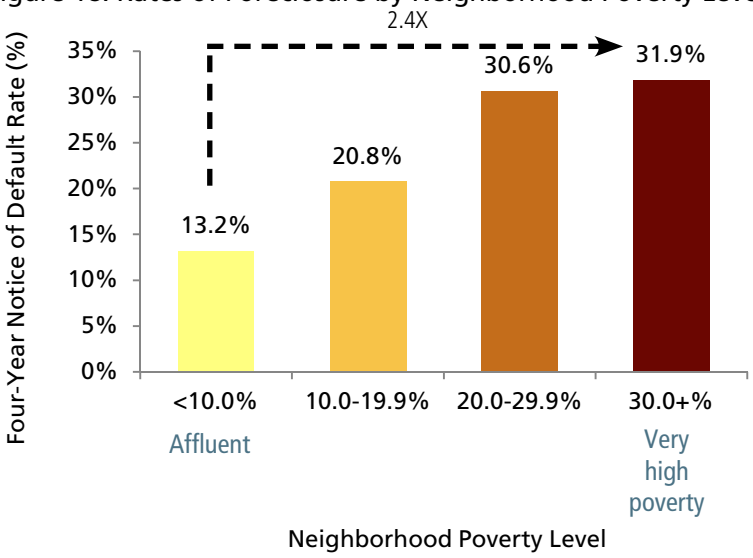
There are large differences in academic performance between affluent and high-poverty neighborhoods. Figure 20 illustrates that there is a 2.4-fold difference in third grade reading proficiency levels, which is an early predictor of high school graduation rates. Children in high-poverty neighborhoods face many barriers to academic success, ranging from schools with fewer resources to address students'

Figure 17: Household Income by Neighborhood Poverty Level



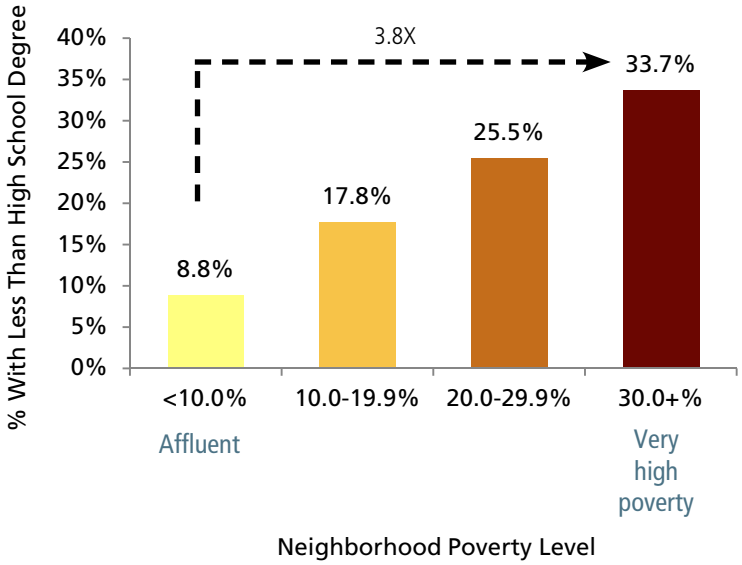
Source: American Community Survey, 2007-2011.

Figure 18: Rates of Foreclosure by Neighborhood Poverty Level



Source: CAPE, with data from HUD and from Urban Strategies Council, 2006-2009.

Figure 19: Educational Attainment by Neighborhood Poverty Level



Source: American Community Survey, 2007-2011.

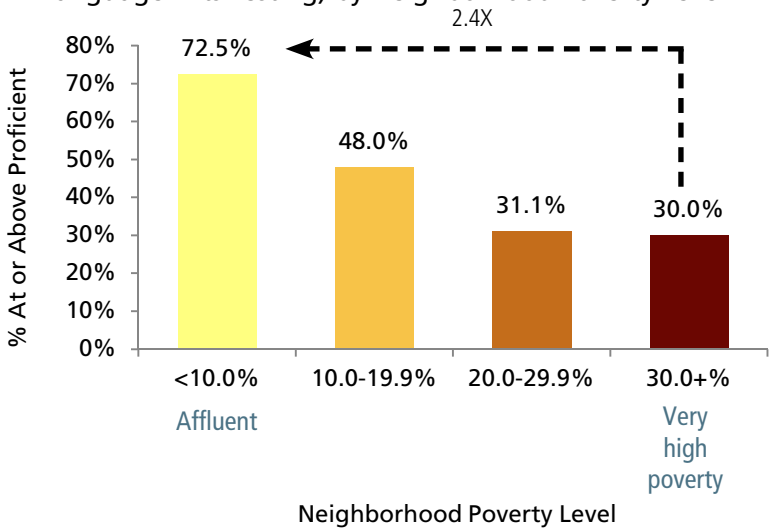
needs, to greater exposure to violence and air pollution, to lack of access to health care to manage chronic health problems.

School attendance affects academic performance and likelihood of graduation.[8,9] As shown by data from Oakland Unified School District, in high-poverty neighborhoods one out of six students (about 17%) are chronically absent from school for 10% or more days of the school year—a rate that is over twice that of affluent neighborhoods (Figure 21).

Crime and violence are social and environmental conditions that directly and indirectly affect health through pathways such as anxiety and stress, physical activity levels, and school performance. Neighborhood poverty clearly affects levels of crime and violence—the homicide rate is eight times higher in very high-poverty neighborhoods compared to affluent ones (Figure 22). Homicides are largely taking the lives of young people in high-poverty neighborhoods. Almost half of homicide deaths in high-poverty neighborhoods are among youth 15 to 24 years and two-thirds are among people under 35 years.

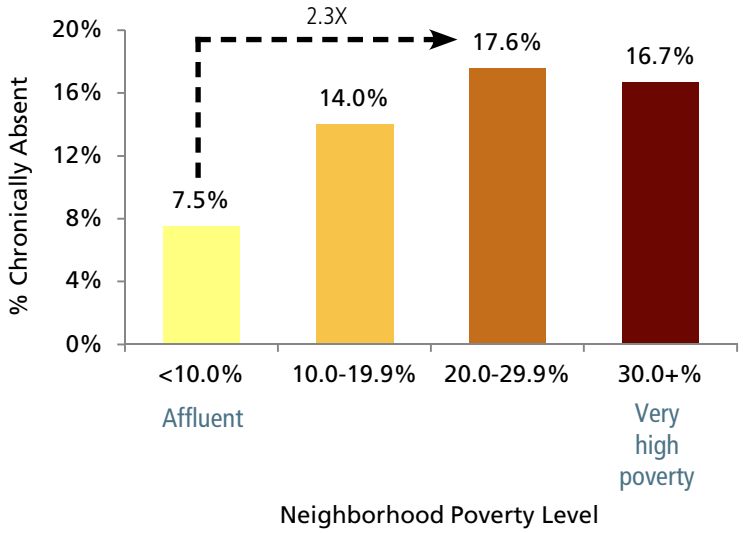
People living in high-poverty neighborhoods often face multiple serious stressors, like unemployment, violence, and racism at multiple levels. When neighborhoods lack essential resources, such as health care and affordable housing, stress levels rise. Social isolation and lack of social support reduce ability to cope with everyday stress.[10,11]

Figure 20: OUSD Third Grade Reading Proficiency (English-Language Arts Testing) by Neighborhood Poverty Level



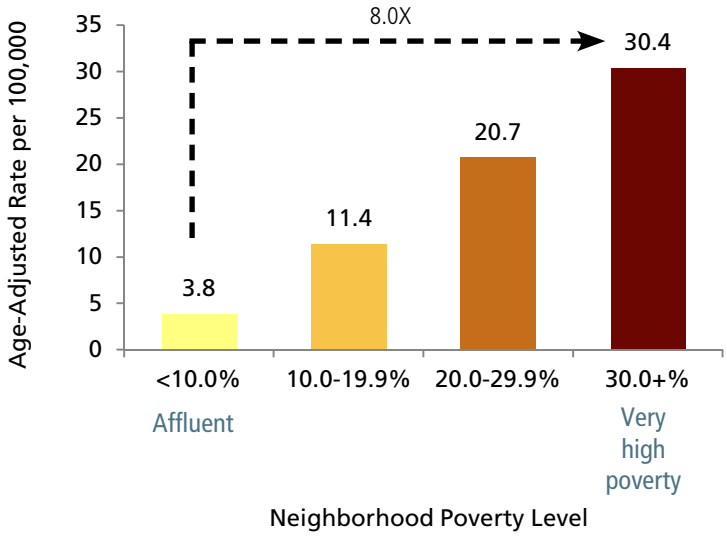
Source: OUSD, 2011-12.

Figure 21: OUSD Chronic Absenteeism Rate (% of Students Absent for 10% or More of Enrolled School Days) by Neighborhood Poverty Level



Source: OUSD, 2011-12.

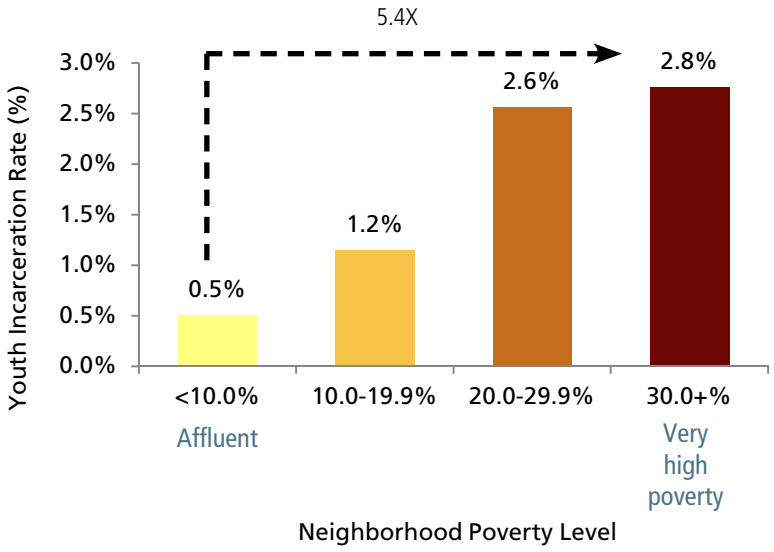
Figure 22: Homicide Death Rate by Neighborhood Poverty Level



Source: Alameda County Vital Statistics Files, 2008-2010.

In Alameda County (as in much of the nation), low-income neighborhoods and communities of color bear a disproportionate burden of mass incarceration. Figure 23 shows that one in 40 youth (10 to 17 years) in very high-poverty neighborhoods are incarcerated for mostly non-violent offenses, compared to one in 200 youth in affluent neighborhoods—an over five-fold difference in youth incarceration rates. This inequity is largely due to complex social factors such as institutional racism, a legacy of segregation and discrimination, inequitable education systems, and limited economic opportunity, and is not merely a consequence of individual behavior. Incarceration affects health directly through higher incidence and prevalence of disease, and indirectly through stigmatization, unemployment, strained social networks, and long-term effects on economic opportunity.[12]

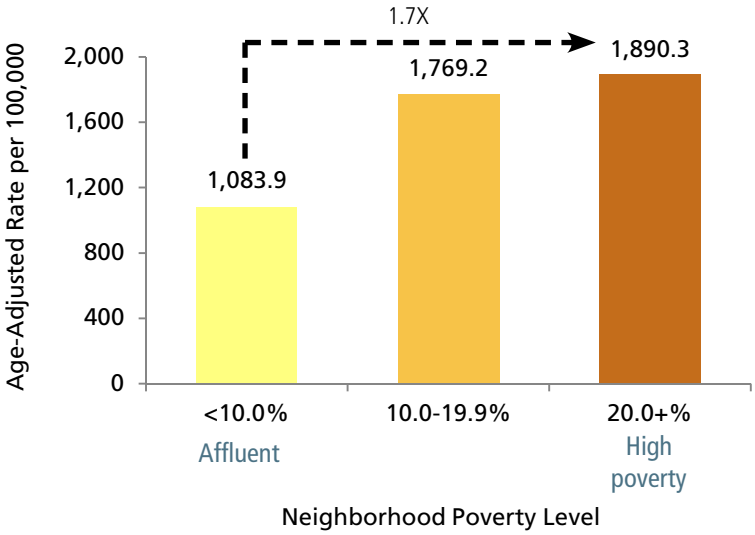
Figure 23: Youth Incarceration Rate by Neighborhood Poverty Level



Source: CAPE, with data from Urban Strategies Council and Alameda County Probation Department, Aug 2010–Jun 2011.

People living in high-poverty neighborhoods often face multiple serious stressors, like poverty, unemployment, and violence. When neighborhoods lack essential resources, like health care and affordable housing, stress levels rise. Social isolation and lack of social support reduce ability to cope with everyday stress. Constant pressures and lack of control trigger a chronic stress response (or allostatic load), which over time, actually wears down body systems and increases risk of ill conditions like hypertension or diabetes.[13] As shown in figure 24, the rate of hospitalization for hypertension in high-poverty neighborhoods is almost twice that in affluent ones.

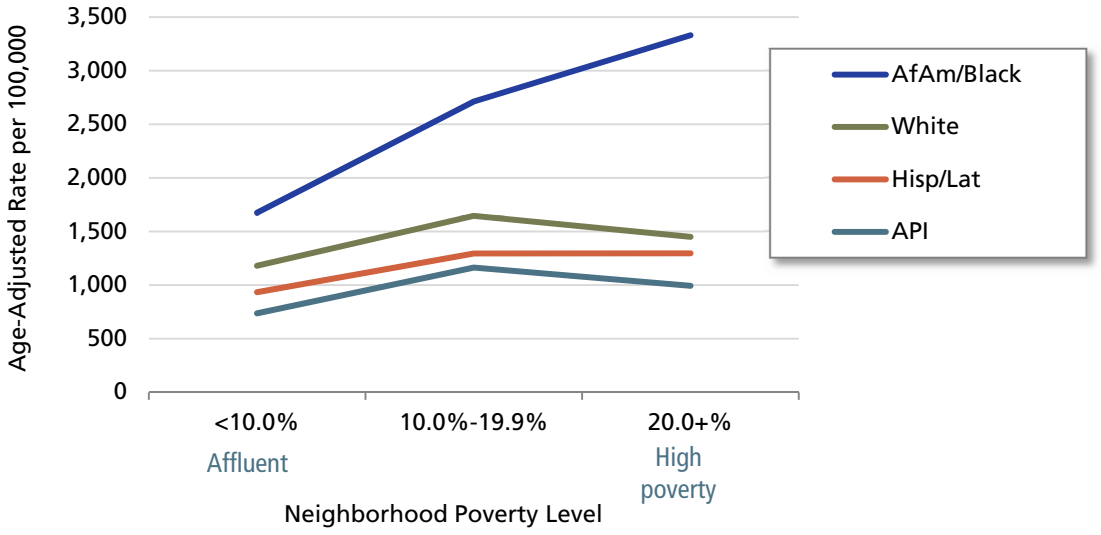
Figure 24: Hypertension Hospitalization Rate by Neighborhood Poverty Level



Source: OSHPD Files, 2009-2011.
Notes: Includes hospitalizations with hypertension as a primary or top four associated diagnosis. Hospitalization rates and neighborhood poverty are at the zip code level.

Experiences of racism at multiple levels—including institutional, interpersonal, and internalized racism—can serve as a chronic stressor that contributes to increased risk of hypertension among African Americans in particular. Across neighborhood poverty levels, African Americans have the highest rates of hospitalization for hypertension (Figure 25). While the reasons for greater hypertension risk are not fully understood, racism and associated chronic stress are likely contributing factors.

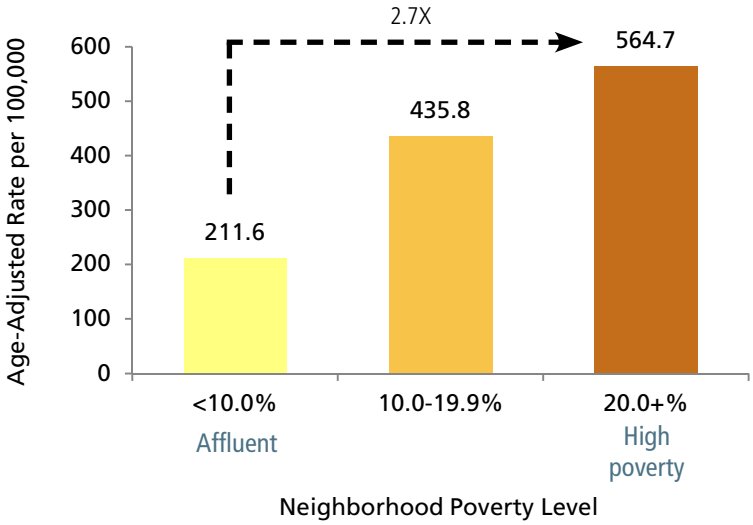
Figure 25: Hypertension Hospitalization Rates by Race/Ethnicity by Neighborhood Poverty Level



Source: OSHPD Files, 2009-2011.
Notes: Includes hospitalizations with hypertension as a primary or top four associated diagnosis. Hospitalization rates and neighborhood poverty are at the zip code level.

Chronic stress increases risk of depression, anxiety, and other mental health disorders. Severe mental illnesses substantially impair people's ability to carry out major life activities and can include conditions like major depression, anxiety, or schizophrenia. The rate of visits to the emergency department for severe mental disorders in areas with high poverty is nearly three times that of affluent neighborhoods (Figure 26).

Figure 26: Rate of Visits to the Emergency Department for Severe Mental Illness by Neighborhood Poverty Level



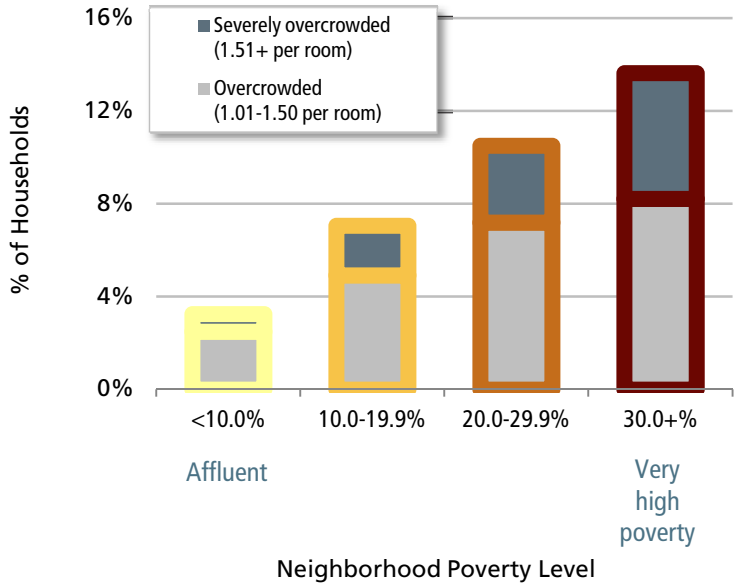
Source: OSHPD Files, 2009-2011, with input from Behavioral Health Care Services.
Notes: Includes ED visits with severe mental disorders as a primary or top four associated diagnosis. ED rates and neighborhood poverty are at the zip code level.

Inequitable Built Environment Conditions

The built environment includes housing, transportation, land use, and other aspects of the physical environment that affect communities on a daily basis, like water and air quality.

From infectious disease risks to stress levels and sleep patterns, household crowding can affect health in multiple ways.[14] The rate of overcrowded households in very high-poverty neighborhoods is over four times that of affluent neighborhoods (Figure 27). Overcrowding often results from a lack of affordable housing options.

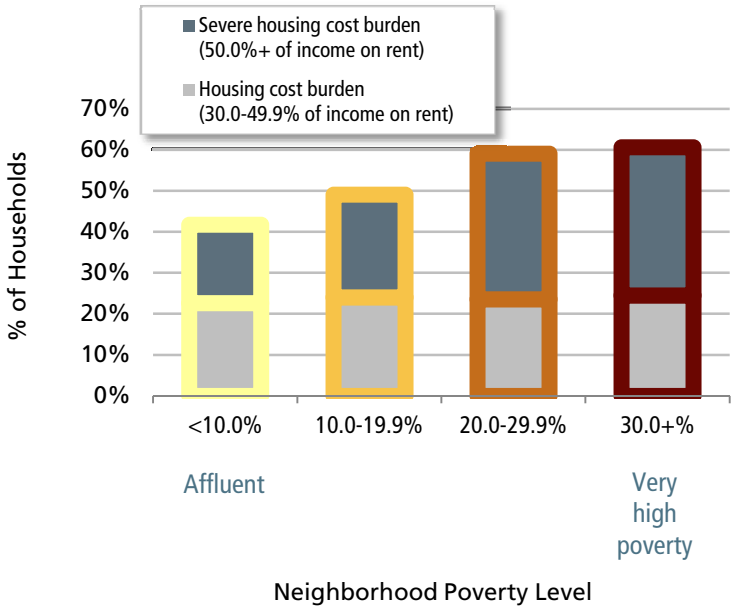
Figure 27: Household Overcrowding by Neighborhood Poverty Level



Source: American Community Survey, 2007-2011.

For renters, housing cost burden means spending 30% or more of one's income on rent. *Severe* housing cost burden means spending 50% or more. This leaves limited money for covering other basic needs like food, transportation, and health care—all of which affect health. The rate of *severe* housing cost burden among renters in high-poverty neighborhoods is nearly twice that of affluent neighborhoods (Figure 28).

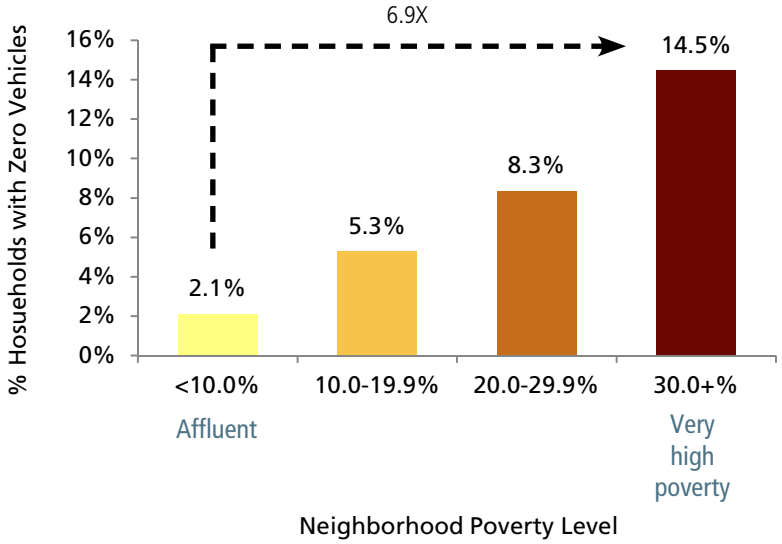
Figure 28: Rental Housing Cost Burden by Neighborhood Poverty Level



Source: American Community Survey, 2007-2011.

Transportation affects people's ability to get to places that are essential for good health, like schools, jobs, and healthcare facilities. The percentage of households without a vehicle in very high-poverty neighborhoods is seven times that of affluent ones (Figure 29). The availability of affordable and reliable public transportation is especially important for these transit-dependent households.

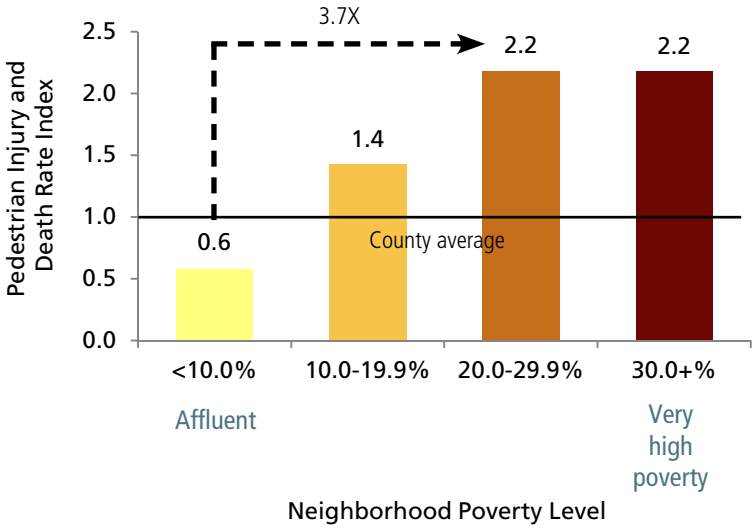
Figure 29: Zero-Vehicle Households by Neighborhood Poverty Level



Source: American Community Survey, 2007-2011.

The design and safety of streets and walkability of neighborhoods affect health in multiple ways, including physical activity levels and pedestrian injuries and fatalities.[15] As in Figure 30, the rate of pedestrian injuries and deaths is nearly four times higher in high-poverty neighborhoods compared to affluent ones (indexed to the county rate adjusting for street length, population, and number of jobs—a proxy for daytime population).

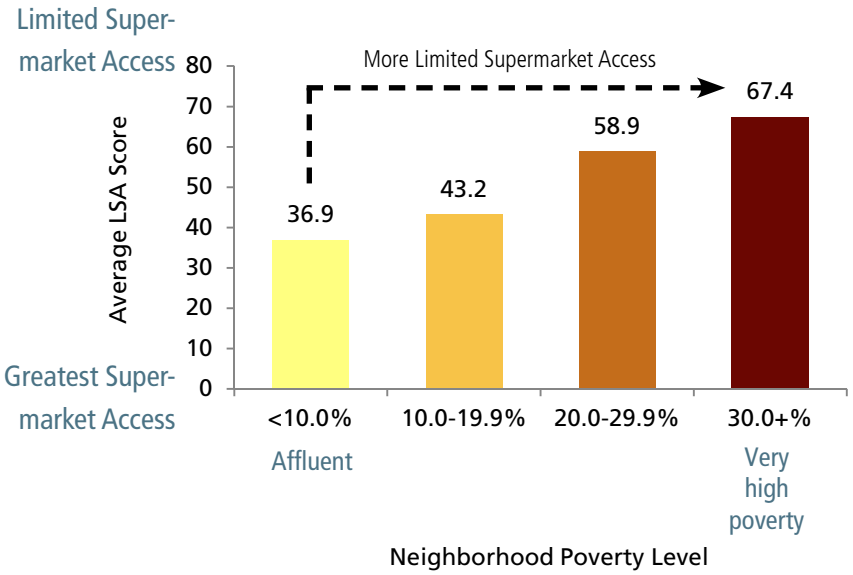
Figure 30: Zero-Vehicle Households by Neighborhood Poverty Level



Source: CAPE, with data from SWITRS, 2006-2010.

The availability of healthy versus unhealthy food outlets in neighborhoods affects people's ability to eat healthy and nutritious diets.[16] In high-poverty neighborhoods of Alameda County (as in many low-income communities of color nationwide), there is more limited supermarket access than in affluent neighborhoods (Figure 31).

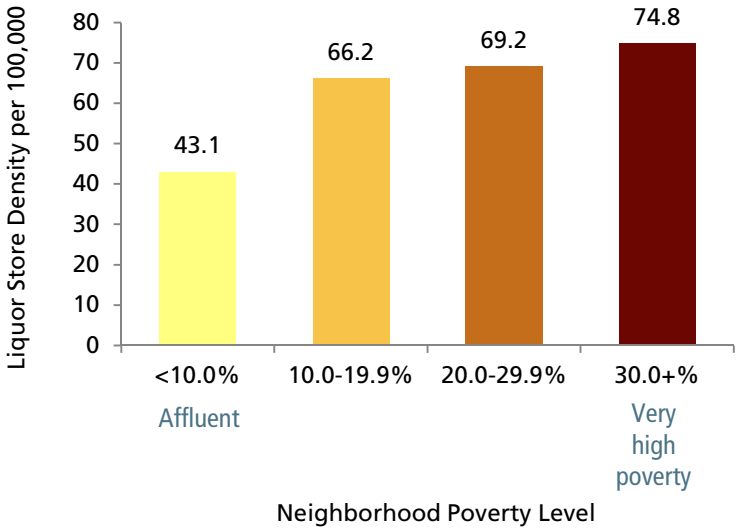
Figure 31: Limited Supermarket Access (LSA) Score by Neighborhood Poverty Level



Source: CAPE, with data from the Reinvestment Fund, 2011.

Lack of healthy food outlets and an overabundance of liquor stores are part of the legacy left behind by decades of systematic disinvestment in low-income communities of color. The density of off-sale liquor outlets (places where alcohol is purchased for off-site consumption) in very high-poverty neighborhoods is almost twice than in affluent ones (Figure 32). Liquor stores have potential to directly and indirectly harm health by influencing levels of alcohol use, crime, violence, and drug activity in neighborhoods.

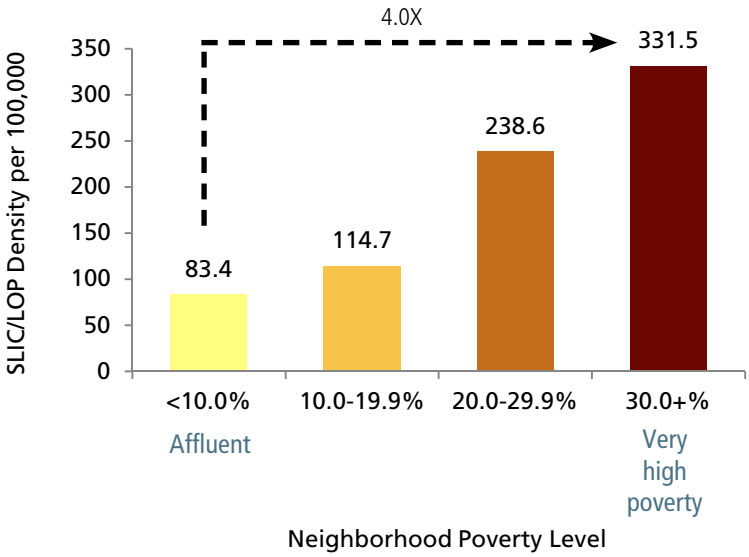
Figure 32: Off-Sale Liquor Outlet Density by Neighborhood Poverty Level



Source: CAPE, with data from CA Alcoholic Beverage Control, 2013.

Air pollution sources, including factories, freeways, and goods movement corridors, are more likely to be located in or near high-poverty neighborhoods. For example, surrounded by highways and adjacent to the Port of Oakland, West Oakland is exposed to three times more diesel particles than the rest of the Bay Area. West Oakland also suffers from the highest asthma hospitalization rates in the county and 2.5 times greater lifetime risk of cancer compared to the overall Bay Area.[17] High-poverty neighborhoods are also often disproportionately exposed to toxic facilities that pollute the ground water and soil. In Alameda County, the density of industrial chemical and fuel release sites in very high-poverty neighborhoods is four times higher than in affluent neighborhoods (Figure 33).

Figure 33: Density of Industrial Chemical (SLIC) and Fuel (LOP) Release Sites by Neighborhood Poverty Level

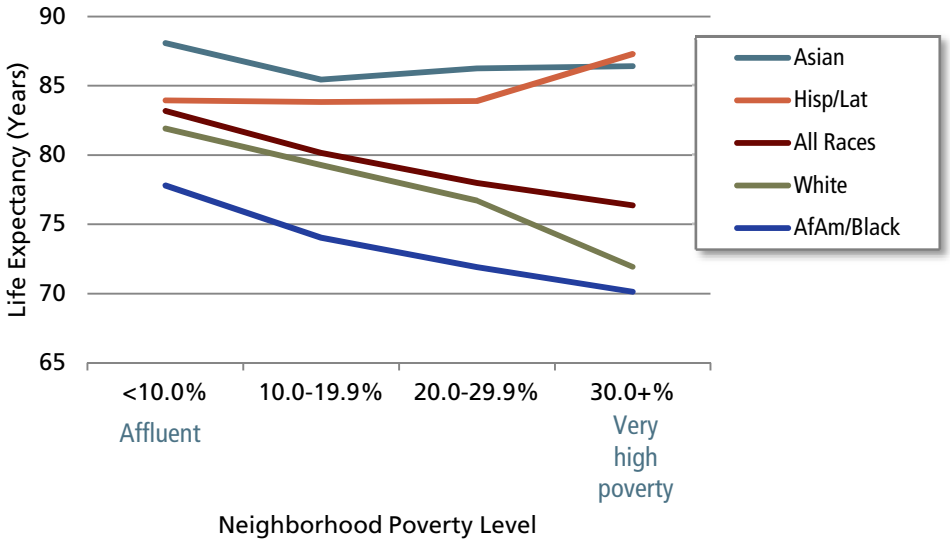


Source: CAPE, with data from Alameda County Environmental Health, 2005-Jul 2013.

Interactions between Place, Race, and Neighborhood Poverty

Place, race, and neighborhood poverty interact in complex ways in Alameda County. Within the overall population, life expectancy tends to decline with increasing levels of neighborhood poverty (as shown by the *All Races* line in Figure 34). As discussed before, this is because higher poverty neighborhoods tend to have fewer resources and weaker infrastructure to support good health.

Figure 34: Life Expectancy by Race/Ethnicity by Neighborhood Poverty Level



Source: Alameda County Vital Statistics Files, 2006-2010.

If the data is disaggregated by race/ethnicity, this pattern of a social gradient in health is observed only among Blacks and Whites. The impacts of racism on Blacks are apparent. Within each neighborhood poverty level, Blacks have the poorest health outcomes in spite of what should be similar access to neighborhood resources (Figure 29). With 72% of Whites living in affluent neighborhoods compared to 28% of African Americans (data not shown), Whites overall have greater opportunities for good health than Blacks.

Among Hispanics and Asians, a different pattern is observed. Both groups seem to have resilience factors that bolster their health in the face of high-poverty neighborhood conditions (Figure 29). The health pattern observed among Hispanics is particularly striking for a few reasons. Across neighborhood poverty levels, Hispanics have better health outcomes than their lower socioeconomic profile would predict. Surprisingly, Hispanic health appears to improve with increasing levels of neighborhood poverty. In fact, in very high-poverty neighborhoods, Hispanics fare better than all other racial/ethnic groups. The resilience factors at work are ill understood, but social support and cultural protective factors have been proposed as possible explanations. More extensive research and data analysis is needed to verify these different racial/ethnic patterns and understand the complex ways in which place, race, and poverty interact to influence health in Alameda County.

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CHAPTER THREE

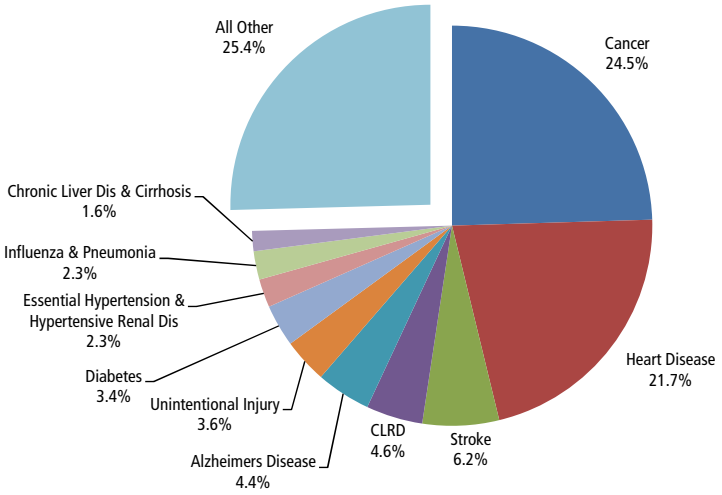
SUMMARY MEASURES OF MORTALITY

Leading Causes of Death

Alameda County has seen improvement in overall population health for the past several decades. Life expectancy has increased for every racial and ethnic group and all-cause mortality has declined. Yet, as described in Chapter 2, low-income people and people of color experience a burden of disease and injury that is disproportionately high relative to more privileged populations. This chapter will focus on the leading causes of death in Alameda County, as well as life expectancy and leading causes of premature death, and highlight those populations and places where the disease burden is highest.

Figure 35 shows the ten leading causes of death in Alameda County. The great majority of these (92%) are chronic diseases: cancer, heart disease, stroke, chronic lower respiratory disease (CLRD) (chronic bronchitis, emphysema, etc), Alzheimer's disease, diabetes, hypertension, and liver disease. The remainder are due to either injury or infectious disease (influenza and pneumonia). Deaths due to chronic disease and influenza and pneumonia tend to occur among the elderly population. Deaths due to unintentional injury and homicide, are more common among younger populations, are considered premature, and are measured by years of potential life lost, or YPLL (page 44).

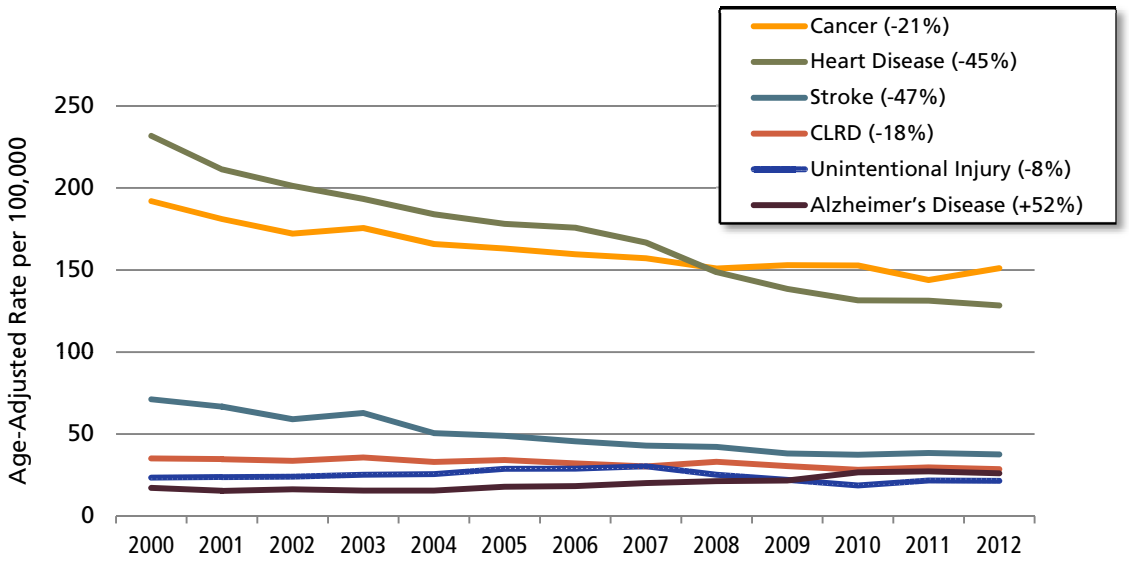
Figure 35: Ten Leading Causes of Death
N=27,299



Source: Alameda County Vital Statistics Files, 2010-2012.

Figure 36 shows trends in rates of mortality for the six leading causes of death in Alameda County from 2000 to 2012. The greatest improvement was for stroke mortality, which dropped 47% from 71.2 per 100,000 to 37.6 over the 13 year period. Heart disease death rates dropped 45% from 231.8 per 100,000 to 128.4, a decline that, in 2008, made it for the first time the second leading cause of death behind cancer. The cancer death rate dropped 21% over the period from 191.9 per 100,000 to 151.1. Chronic lower respiratory disease mortality declined 18% from 35.1 per 100,000 to 28.6, while unintentional injury mortality dropped 8% from 23.4 per 100,000 to 21.5. Alzheimer's disease increased 52%, from 17.2 per 100,000 to 26.0, replacing unintentional injury in 2009 as the fifth leading cause of death.

Figure 36: Trend in the Six Leading Causes of Death



Source: Alameda County Vital Statistics Files, 2000-2012.

Table 9 shows five leading causes of death for each racial/ethnic group. Again, chronic diseases drive the majority of mortality across all groups. Cancer is the leading cause of death, followed by heart disease, among African Americans, Asians, Hispanics, and Whites. Among American Indians and Pacific Islanders, heart disease is the leading cause of death, followed by cancer and, notably, diabetes as the third leading cause. A few other notable between-group differences emerge: homicide is the fourth leading cause of death for African Americans; unintentional injury is the third leading cause for Hispanics; Whites and Asians are the only groups with Alzheimer's disease among the top five.

Table 9: Leading Causes of Death by Race/Ethnicity

Race/Ethnicity	Cause of Death	3-Yr Total Number	% of Deaths
African American/Black	Total	5,262	100.0%
	Cancer	1,179	22.4%
	Heart Disease	1,153	21.9%
	Stroke	341	6.5%
	Homicide	245	4.7%
	Diabetes	231	4.4%
American Indian/Alaskan Native	Total	77	100.0%
	Heart Disease	18	23.4%
	Cancer	14	18.2%
	Diabetes	9	11.7%
	Unintentional Injuries	6	7.8%
	Stroke	5	6.5%
Asian	Total	4,291	100.0%
	Cancer	1,248	29.1%
	Heart Disease	870	20.3%
	Stroke	373	8.7%
	Diabetes	173	4.0%
	Chronic Lower Respiratory Diseases	141	3.3%
	Alzheimer's Disease	141	3.3%
Hispanic/Latino	Total	2,703	100.0%
	Cancer	603	22.3%
	Heart Disease	479	17.7%
	Unintentional Injuries	162	6.0%
	Stroke	152	5.6%
	Diabetes	133	4.9%
Pacific Islander	Total	195	100.0%
	Heart Disease	51	26.2%
	Cancer	37	19.0%
	Diabetes	16	8.2%
	Stroke	15	7.7%
	Chronic Lower Respiratory Diseases	11	5.6%
White	Total	14,415	100.0%
	Cancer	3,540	24.6%
	Heart Disease	3,291	22.8%
	Alzheimer's Disease	786	5.5%
	Chronic Lower Respiratory Diseases	784	5.4%
	Stroke	784	5.4%

Source: Alameda County Vital Statistics Files, 2010-2012.

Table 10 shows the five leading causes of death in Alameda County by age group. Roughly speaking, these groups represent children, youth, adults, middle age, and elderly. Note that leading causes of infant death are presented in the Maternal, Child, and Adolescent chapter of the data profile (Chapter 4).

The leading causes of death among children one to 14 years are cancer, unintentional injuries (largely motor vehicle crashes), and birth defects. About three per year die from homicide, and one or two from suicide.

It is important to note that homicide, by a wide margin, is the leading cause of death among youth 15 to 24 years, accounting for 43.2% of all deaths. Deaths due to unintentional injury and suicide account for most of the remainder. In the 25-44 year age group, unintentional injuries and cancer are the leading causes of death, each accounting for about 18% of deaths, followed by homicide, heart disease, and suicide.

Cancer is the leading cause of death among those 45 to 64 years, accounting for one-third of all deaths, while heart disease, as second leading cause, accounts for about half that percentage. Among those 65 years or more, heart disease and cancer, in roughly equal parts, account for about half of all deaths.

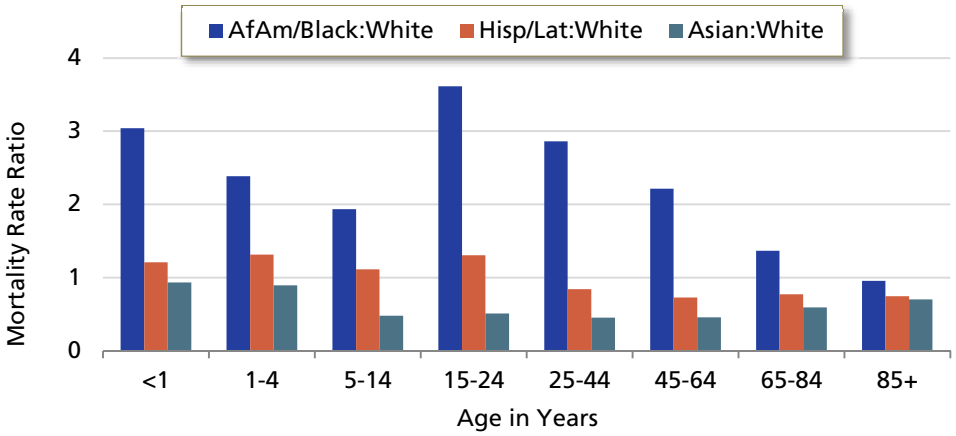
Table 10: Leading Causes of Death by Age Group

Age Group	Cause of Death	3-Yr Total Number	% of Deaths
1-14	Total	89	100.0%
	Cancer	19	21.3%
	Unintentional Injuries	14	15.7%
	Birth Defects	11	12.4%
	Homicide	7	7.9%
	Suicide	4	4.5%
15-24	Total	347	100.0%
	Homicide	150	43.2%
	Unintentional Injuries	76	21.9%
	Suicide	39	11.2%
	Cancer	20	5.8%
	Heart Disease	16	4.6%
25-44	Total	1,220	100.0%
	Unintentional Injuries	222	18.2%
	Cancer	221	18.1%
	Homicide	164	13.4%
	Heart Disease	149	12.2%
	Suicide	116	9.5%
45-64	Total	5,671	100.0%
	Cancer	1,922	33.9%
	Heart Disease	1,056	18.6%
	Unintentional Injuries	368	6.5%
	Chronic Liver Disease & Cirrhosis	262	4.6%
	Stroke	237	4.2%
65+	Total	19,724	100.0%
	Heart Disease	4,690	23.8%
	Cancer	4,511	22.9%
	Stroke	1,413	7.2%
	Alzheimer's Disease	1,185	6.0%
	Chronic Lower Respiratory Diseases	1,071	5.4%

Source: Alameda County Vital Statistics Files, 2010-2012.

Figure 37 provides another way to think about health inequities and their impact over the life span. It shows ratios of death from all causes for African Americans, Hispanics, and Asians compared to Whites in each age group. The height of the bars reflects the size of the difference in rates for each group, with Whites as the reference group. For example, the blue bars represent the ratio of African American death rates relative to White death rates, and show that, from infancy through 64 years, African Americans die at rates at least two times greater than Whites. The largest gaps occur among infants (three-fold risk) and youth 15 to 24 years (3.5-fold risk). Any bar that measures at or below 1.0 means that the group has a risk of death equal to or less than that for Whites.

Figure 37: Mortality Rate Ratio



Source: Alameda County Vital Statistics Files, 2006-2010.

Table 11 (next page) shows life expectancy and all-cause mortality in Alameda County, as well as the six leading causes of death, together with the rates for the major racial and ethnic groups. Detailed data from this table will be illustrated in charts that follow. In addition to life expectancy, the table provides the number of deaths over the three year period 2010-2012, as well as the age-adjusted rate per 100,000, which reflects the relative impact these deaths have in the population.

For each indicator, the highest rates are shown in red. This number divided by the lowest rate is expressed as a ratio, labeled the *inequity ratio,* and reflects the magnitude of the difference between highest and lowest rates. For example, the African American all-cause mortality rate of 923.5 per 100,000 is 2.3 times higher than the Asian rate. For death rates (Table 11), the inequity ratios range from 1.9 for cancer to 4.2 for chronic lower respiratory disease (CLRD).

Alameda County's life expectancy overall compares favorably with the national life expectancy (81.9 vs. 78.7 years) and it's all-cause mortality rate is lower than either the national or California rate (604.9 vs. 747.0 and 654.9, respectively).

As noted earlier, cancer became the leading cause of death in Alameda County in 2008. Overall, the County has met the HP2020 objective of 160.6 or fewer cancer deaths per 100,000 population (county rate: 149.4). However, African American cancer death rates remain well above the HP2020 objective (204.0). Alameda County's rate of all-cancer deaths is less than either the national (172.8) or the California rate (156.4). The rate of heart disease death is lower in Alameda County than nationally (130.5 vs. 179.1). The highest rate, found among Pacific Islanders, is 215.4, more than twice the Asian rate of 82.6.

Table 11: Life Expectancy and Mortality Rate for the Leading Causes of Death

	Life Expectancy	All Causes		All Cancers		Diseases of the Heart	
	Years	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000
Total	81.9	27,299	604.9	6,694	149.4	5,922	130.5
African American/Black	74.7	5,262	923.5	1,179	204.0	1,153	201.3
American Indian/Alaskan Native	79.3	77	728.7	14	116.2	18	183.1
Asian	87.4	4,291	398.7	1,248	110.0	870	82.6
Hispanic/Latino	84.2	2,703	510.7	603	113.3	479	99.3
Pacific Islander	77.2	195	812.2	37	128.6	51	215.4
White	81.2	14,413	659.1	3,540	167.6	3,291	143.5
National Comparison	78.7		747.0		172.8		179.1
CA Comparison 2009-2011			654.9		156.4		
HP2020 Objective	na		na		160.6		na
Inequity Ratio			2.3		1.9		2.2

	Stroke		Chronic Lower Respiratory Diseases		Alzheimer's Disease		Unintentional Injuries	
	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000
Total	1,687	37.9	1,248	28.9	1,203	26.7	982	20.6
African American/Black	341	61.0	207	37.3	175	31.8	213	35.2
American Indian/Alaskan Native	5	na	<5	na	<5	na	6	na
Asian	373	35.4	141	13.9	141	14.2	108	9.5
Hispanic/Latino	152	33.6	84	18.5	84	20.5	162	19.6
Pacific Islander	15	75.2	11	58.3	<5	na	<5	na
White	784	34.2	782	36.9	786	32.6	474	25.0
National Comparison		39.1		42.2		24.6		38.0
CA Comparison 2009-2011		38.1		37.5		30.5		27.6
HP2020 Objective		33.8		na		na		36.0
Inequity Ratio		2.2		4.2		2.3		3.7

Source: Alameda County Vital Statistics Files, 2010-2012.

The rate of stroke mortality in the county (37.9 per 100,000) is just below the national and state rates, and just above the HP2020 target of 33.8 or fewer per 100,000. Stroke mortality is highest among Pacific Islanders (75.2), over twice the Hispanic rate of 33.6. Hispanics are the only racial/ethnic group to have met the HP2020 objective of 33.8 or fewer stroke deaths per 100,000 population.

Alameda County's CLRD death rate of 28.9 per 100,000 is well below either the national or California rate. However, the rate among Pacific Islanders is very high (58.3 per 100,000), four times higher than the Hispanic rate of 18.5. The county rate of death due to Alzheimer's disease is 26.7 per 100,000, above the national rate of 24.6 and below the California rate of 30.5. The Alzheimer's death rate is highest among Whites (32.6 per 100,000), 2.3 times higher than the Asian rate of 14.2.

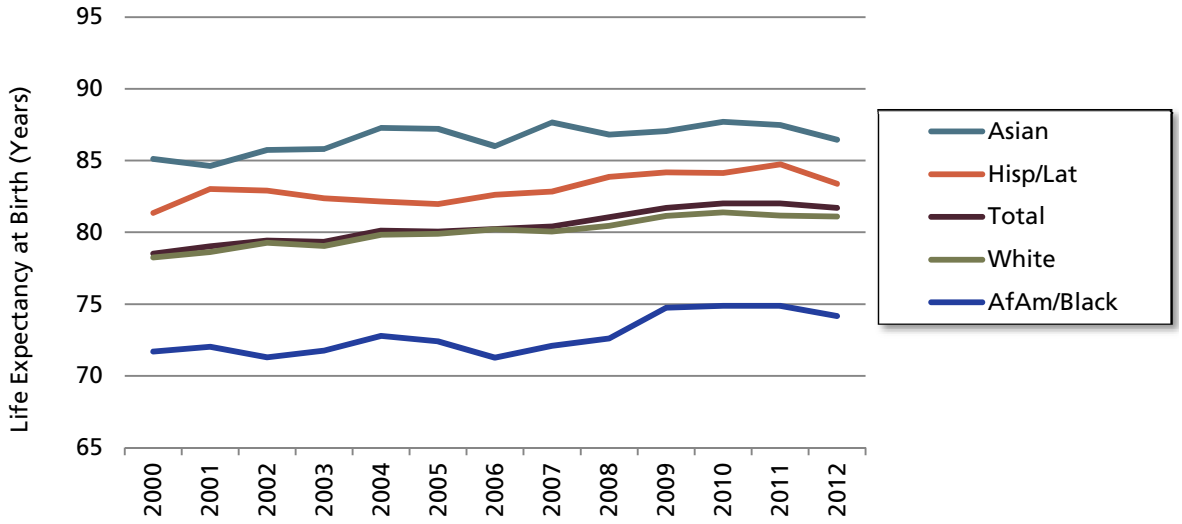
Finally, Alameda County rate of death due to unintentional injury is 20.6 per 100,000. This rate is below the state and national rates and well below the HP2020 target of 36 or fewer unintentional injury deaths per 100,000. The rate was highest among African Americans (35.2 per 100,000); while this rate was 3.7 times the Asian rate of 9.5, it was below the HP2020 target.

Table 12 provides a quick reference to the number of deaths for each city/place, as well as an inequity ratio reflecting the magnitude of the difference between the city/place with the highest rate and that with the lowest rate. As with the prior table, the inequity ratios by city/place range from 1.7 for all cancer deaths to 3.4 for unintentional injury deaths. Further data are presented in charts that follow.

Life Expectancy

Since 2000, life expectancy in Alameda County has increased among every racial/ethnic group by about three years (Figure 38). However, African Americans currently have a life expectancy of 74.7 years, living on average about 12 to 15 years less than Asians, the group with the highest life expectancy.

Figure 38: Life Expectancy Trend by Race/Ethnicity



Source: Alameda County Vital Statistics Files, 2000-2012.

Table 12: Life Expectancy and Mortality Rate for the Leading Causes of Death by City/Place

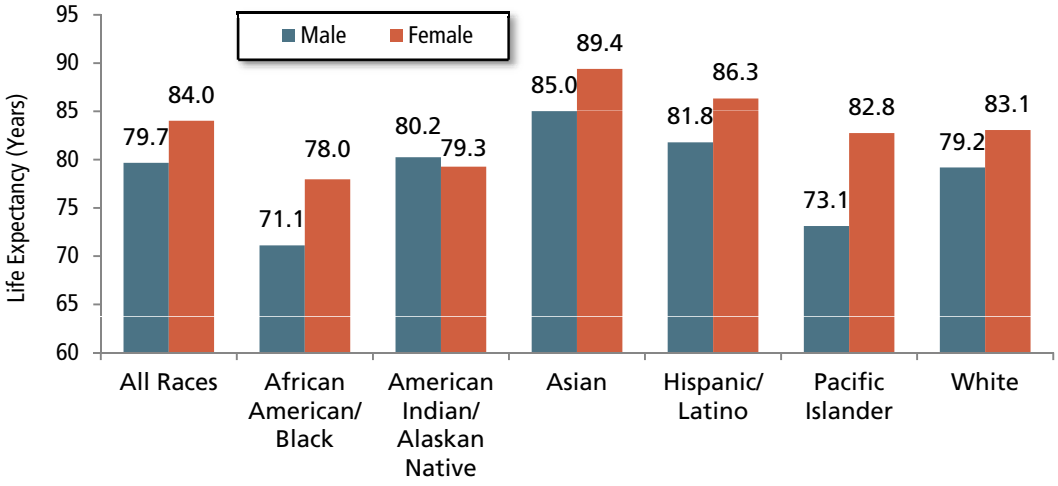
	Life Expectancy (Years)	All Causes		All Cancers		Heart Disease	
		3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000
Alameda County	81.9	27,299	604.9	6,694	149.4	5,922	130.5
Alameda	82.5	1,577	579.5	372	141.2	349	125.7
Albany	85.9	232	463.1	55	112.3	58	113.1
Ashland	79.3	345	727.2	67	145.5	74	154.8
Berkeley	84.5	1,710	503.6	455	136.5	372	108.2
Castro Valley	82.0	1,386	608.5	366	167.6	307	129.4
Cherryland	77.1	304	846.2	52	143.2	70	189.4
Dublin	84.1	404	517.2	123	134.5	78	116.6
Emeryville	81.0	158	668.9	43	173.5	37	159.1
Fairview	80.5	235	692.4	50	143.8	60	174.5
Fremont	83.9	3,040	527.2	779	132.2	687	119.9
Hayward	80.0	2,746	692.5	587	148.3	631	159.7
Livermore	82.4	1,302	585.7	326	145.4	283	126.7
Newark	82.7	626	576.6	167	146.5	127	119.8
Oakland	79.9	8,123	679.7	1,921	162.8	1,718	142.9
Piedmont	86.9	170	417.5	44	110.1	35	79.4
Pleasanton	84.1	988	517.8	287	142.8	220	116.3
San Leandro	81.8	1,970	610.7	500	166.1	404	118.6
San Lorenzo	81.9	527	625.2	144	182.8	107	124.0
Sunol	78.6	25	840.3	9	na	8	na
Union City	83.2	1,117	561.1	271	135.3	242	123.8
Remainder of County	75.9	290	863.5	74	219.4	49	139.2
Inequity Ratio	na		2.0		1.7		2.4

	Stroke		Chronic Lower Respiratory Diseases		Alzheimer's Disease		Unintentional Injury	
	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000
Alameda County	1,687	37.9	1,248	28.9	1,203	26.7	982	20.6
Alameda	107	39.4	73	27.2	86	29.6	47	18.1
Albany	15	33.6	10	20.3	8	15.3	10	19.8
Ashland	29	67.1	23	53.8	7	16.3	19	35.2
Berkeley	114	33.3	61	18.7	98	27.8	53	14.3
Castro Valley	80	33.6	55	25.2	71	28.4	32	15.6
Cherryland	16	47.7	16	44.8	11	33.1	12	30.7
Dublin	24	28.9	13	19.8	15	25.7	16	10.3
Emeryville	10	45.7	10	44.1	5	na	4	na
Fairview	12	36.9	13	37.4	14	44.3	9	na
Fremont	148	26.3	131	24.3	116	21.5	96	14.6
Hayward	179	47.2	135	35.7	138	35.2	97	22.2
Livermore	68	32.3	95	46.0	90	42.5	35	13.5
Newark	41	38.4	35	34.8	13	15.2	22	16.8
Oakland	531	44.5	329	28.7	295	24.4	355	28.5
Piedmont	16	38.3	10	25.2	9	na	4	na
Pleasanton	49	26.1	59	33.0	45	25.9	25	13.0
San Leandro	126	35.9	83	27.6	108	28.4	69	23.4
San Lorenzo	38	42.4	31	34.4	25	26.0	21	27.5
Sunol	0	na	1	na	1	na	2	na
Union City	68	35.6	48	24.3	35	18.0	38	18.6
Remainder of County	14	38.8	16	46.9	13	35.6	14	41.9
Inequity Ratio		2.6		2.9		2.9		3.4

Source: Alameda County Vital Statistics Files, 2010-2012.

Females of all racial/ethnic groups live longer than their male counterparts, over four years on average (Figure 39). It has been demonstrated throughout this report that the average African American life expectancy is foreshortened. However, when both gender and race/ethnicity are taken into account, the gap widens to 18 years, with the average African American male living 71.1 years compared to the average Asian female who lives 89.4 years.

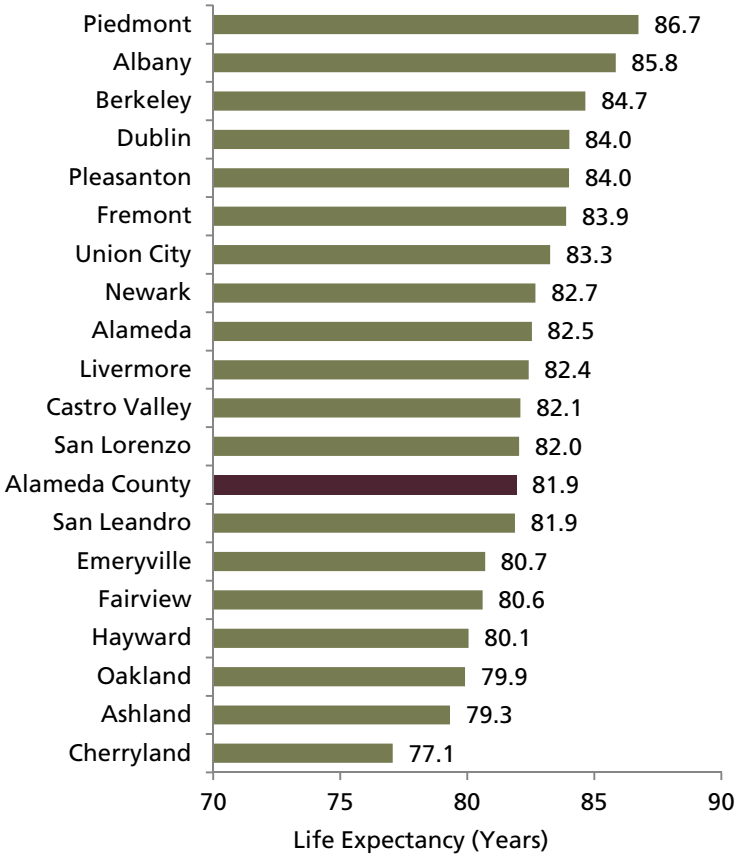
Figure 39: Life Expectancy by Gender and Race/Ethnicity



Source: Alameda County Vital Statistics Files, 2010-2012.

Overall, life expectancy in Alameda County is 81.9 years; it varies across Alameda County cities and places by 9.6 years (Figure 40). The lowest life expectancy is seen in Cherryland (77.1) and the highest is seen in Piedmont (86.7).

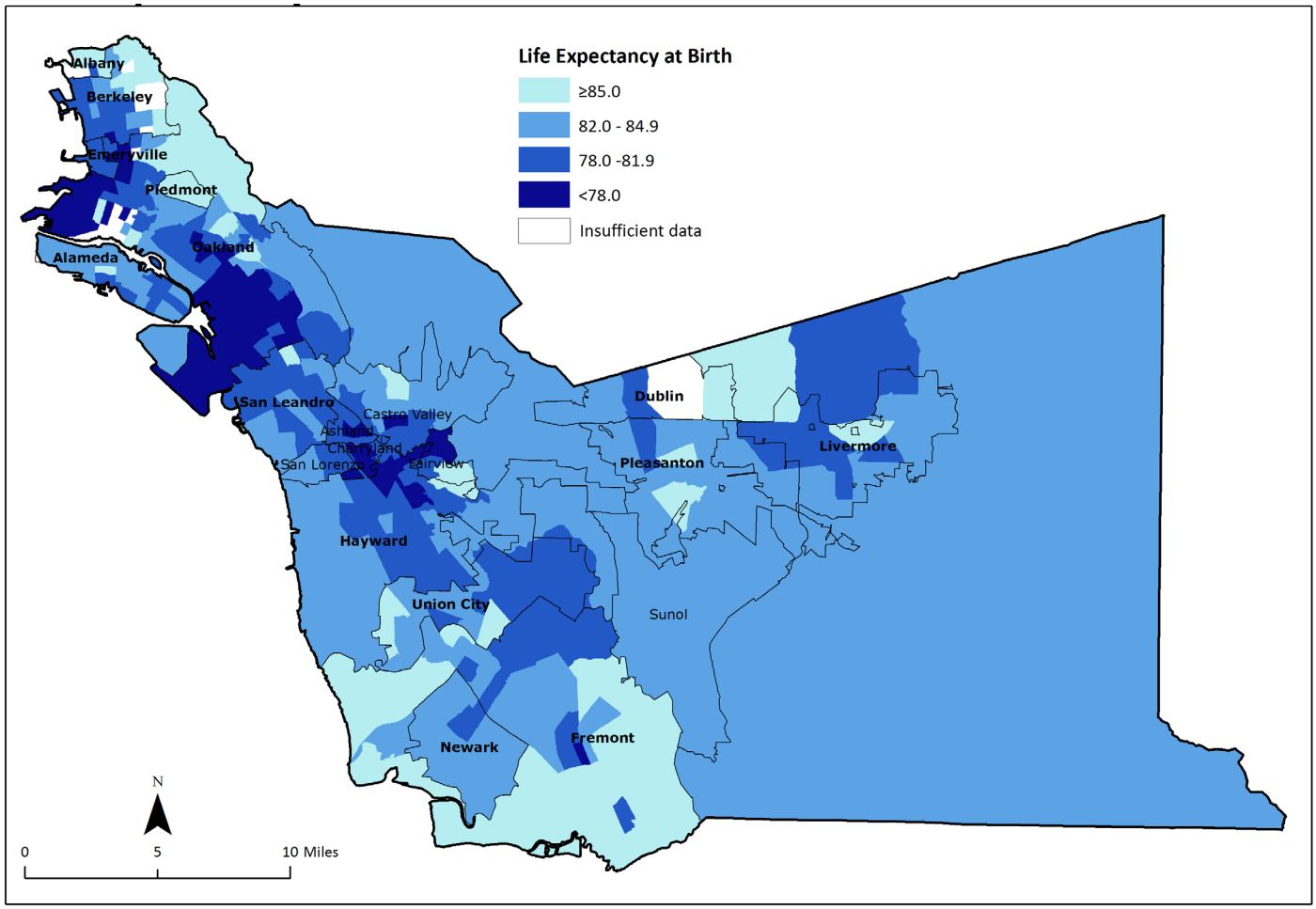
Figure 40: Life Expectancy by City/Place



Source: Alameda County Vital Statistics Files, 2010-2012.

A map showing life expectancy by census tract provides a more detailed view of the uneven geographical distribution of life expectancy among Alameda County residents (Figure 41). The shortest life expectancies are concentrated in parts of North, West, and East Oakland, unincorporated Alameda County (Ashland/Cherryland, Castro Valley, Fairview) and Hayward.

Figure 41: Life Expectancy by Census Tract



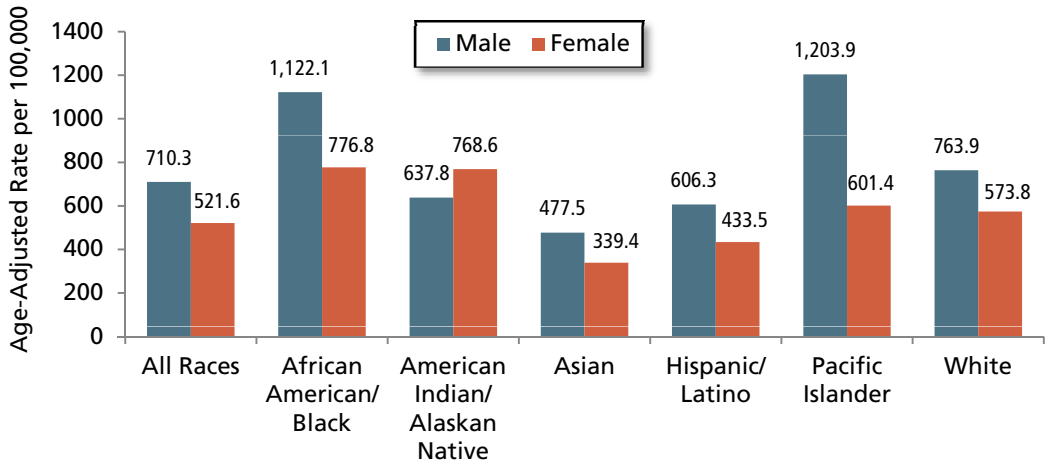
Source: Alameda County Vital Statistics Files, 2010-2012.

Mortality Rates by Cause

All-Cause Mortality

The shorter life expectancy of males, in particular African American and Pacific Islander males, is reflected in the higher mortality rates seen for these groups (1,122.1 and 1,203.9 per 100,000, respectively) (Figure 42). Male Pacific Islanders die at rates twice that of females, while among other racial/ethnic groups male mortality is thirty to fifty percent higher than female mortality. All-cause mortality is an important indicator of Pacific Islander health—data on Pacific Islanders tend to be sparse due to the relatively small size of the group.

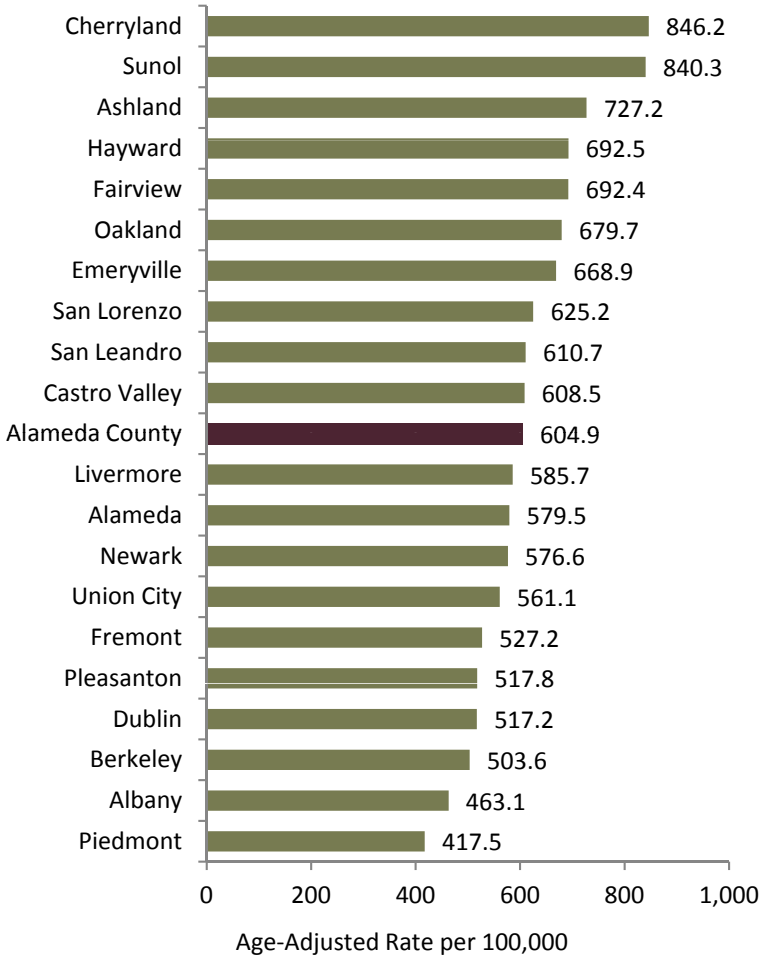
Figure 42: All-Cause Mortality by Gender and Race/Ethnicity



Source: Alameda County Vital Statistics Files, 2010-2012.

There is a two-fold difference in all-cause mortality across Alameda County cities and places (Figure 43). The rate ranges from a high of 846.2 per 100,000 in Cherryland to a low of 417.5 in Piedmont. The county rate is 604.9 per 100,000.

Figure 43: All-Cause Mortality by City/Place

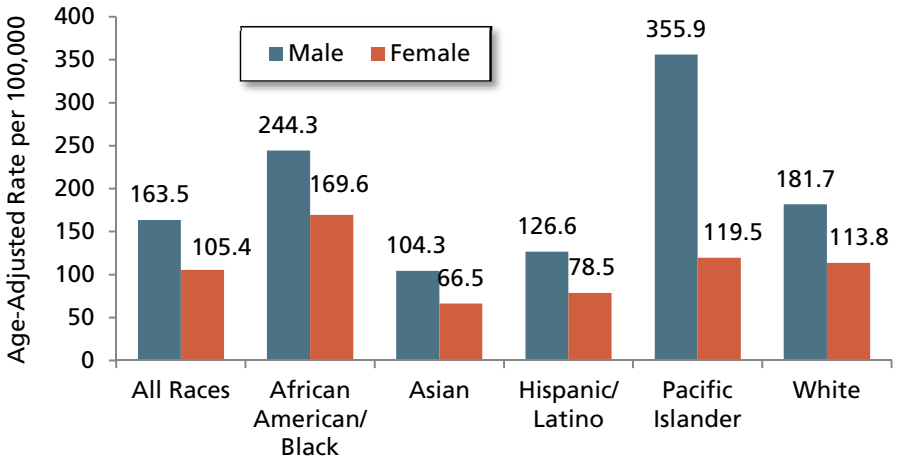


Source: Alameda County Vital Statistics Files, 2010-2012.

Heart Disease Mortality

Male Pacific Islanders experience an extraordinarily high rate of death from heart disease (355.9 per 100,000) (figure 44). This rate is 2.7 times the female Pacific Islander rate; however, the difference between that and the African American male rate of 244.3 per 100,000 is not statistically significant.

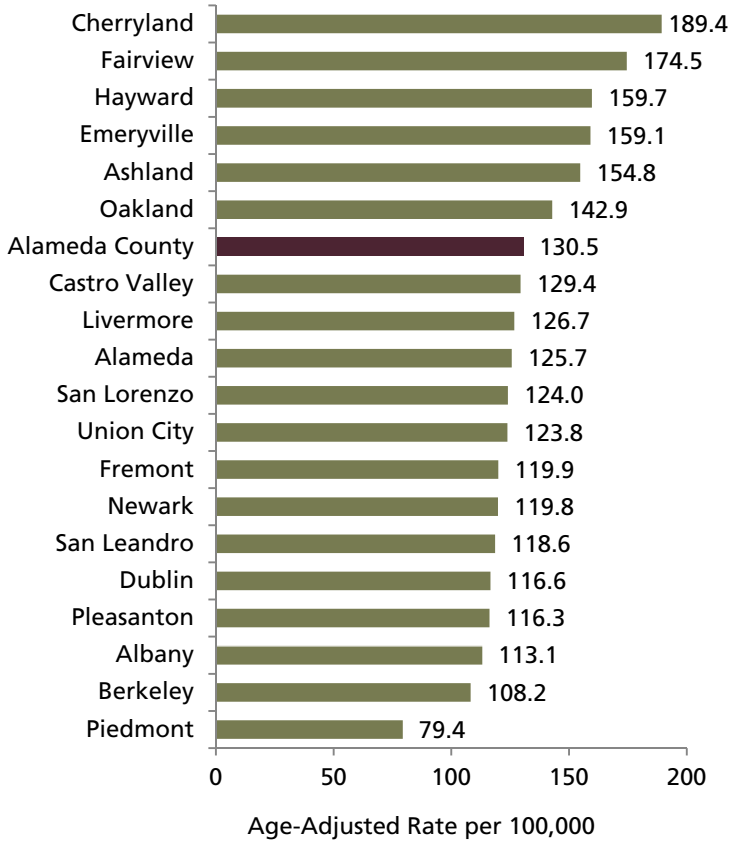
Figure 44: Heart Disease by Gender and Race/Ethnicity



Source: Alameda County Vital Statistics Files, 2010-2012.

There is a 2.4-fold difference in heart disease mortality across Alameda County cities and places (Figure 45). The rate ranges from a high of 189.4 per 100,000 in Cherryland to a low of 79.4 in Piedmont. The county rate is 130.5 per 100,000.

Figure 45: Heart Disease Mortality by City/Place

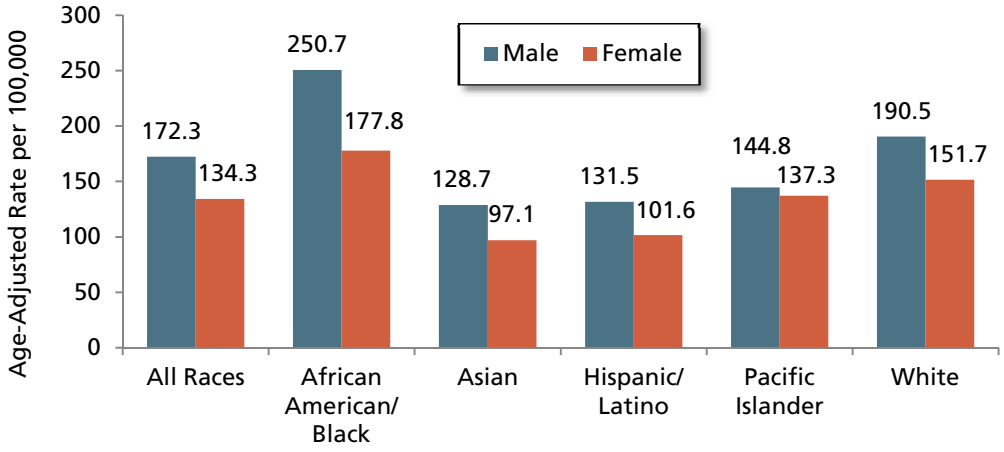


Source: Alameda County Vital Statistics Files, 2010-2012.

Cancer Mortality

Mortality from all cancers combined is higher among males than females of all racial/ethnic groups (Figure 46). The highest rate by a substantial margin is seen among African American males (250.7 per 100,000), a pattern that is consistent with those for the main drivers of male cancer mortality: lung, colorectal, and prostate cancer (data not shown). White males have the second highest rate of cancer mortality (190.5) followed by African American females (177.8).

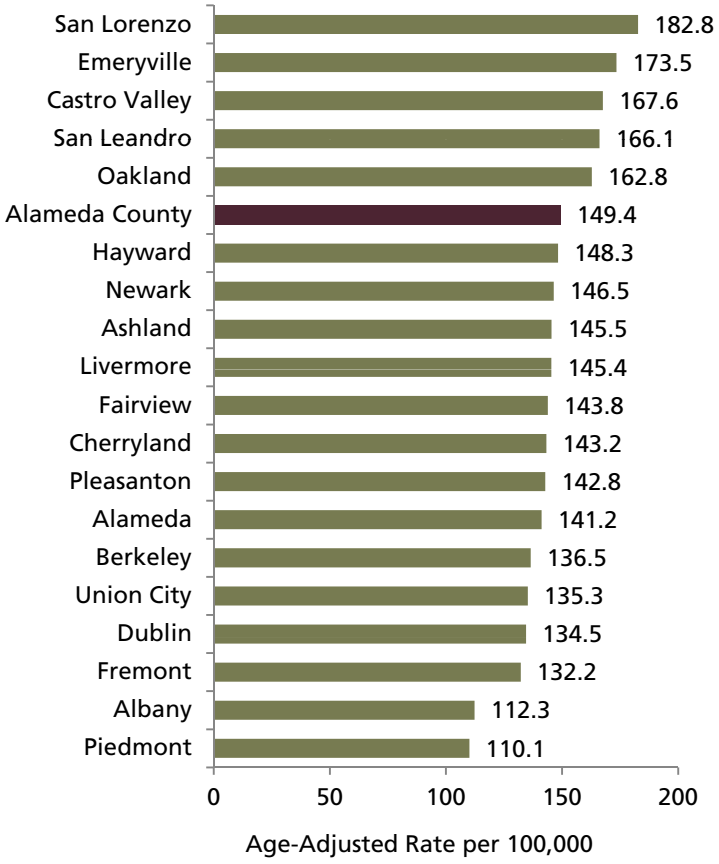
Figure 46: Cancer Mortality by Gender and Race/Ethnicity



Source: Alameda County Vital Statistics Files, 2010-2012.

The highest rate of all-cancer mortality is found in San Lorenzo, an unincorporated place in Alameda County (Figure 47). The San Lorenzo rate is 182.8 per 100,000, 66% higher than the rate of 110.1 found in Piedmont. It should be noted that, due to small numbers and random variation, cause-specific mortality rates vary substantially from year to year. Thus a city that ranks highest during one three-year period may not rank as high in a subsequent period.

Figure 47: Cancer Mortality by City/Place

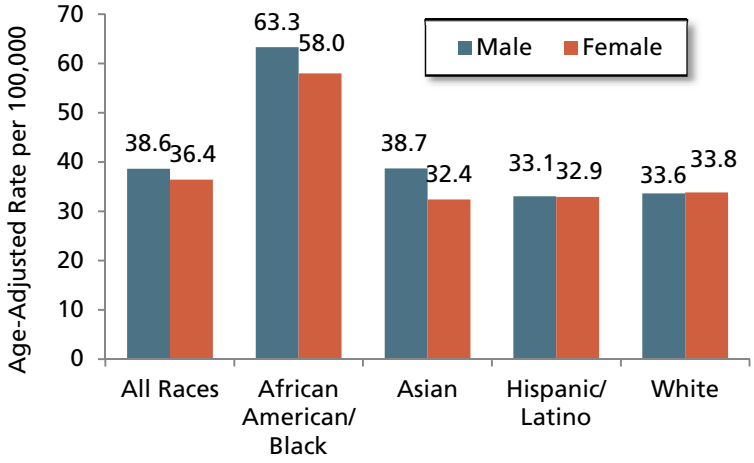


Source: Alameda County Vital Statistics Files, 2010-2012.

Stroke Mortality

Stroke mortality is highest among African American males and females (63.3 and 58.0 per 100,000, respectively). These rates are statistically significantly higher than those among Asians, Hispanics, and Whites of the same sex. Only very small differences in stroke mortality are seen by sex across all racial/ethnic groups.

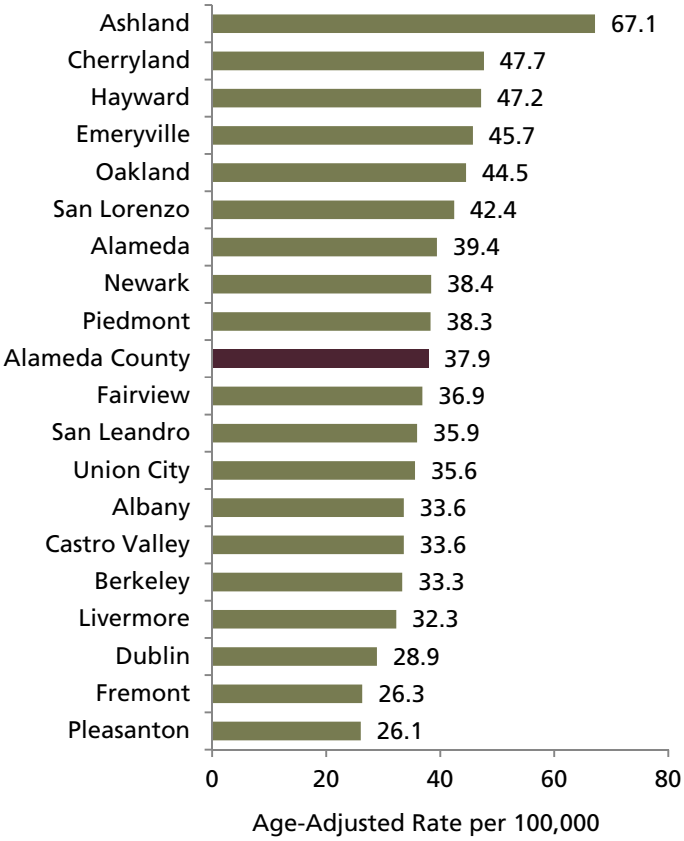
Figure 48: Stroke Mortality by Gender and Race/Ethnicity



Source: Alameda County Vital Statistics Files, 2010-2012.

The rate of stroke mortality is highest in Ashland (Figure 49). However, this rate is based on a small number of deaths (approximately ten per year), and may be unreliable. The Ashland rate is 67.1 per 100,000, 2.5 times higher than the Pleasanton rate of 26.1. The Alameda County rate is 37.9 per 100,000.

Figure 49: Stroke Mortality by City/Place

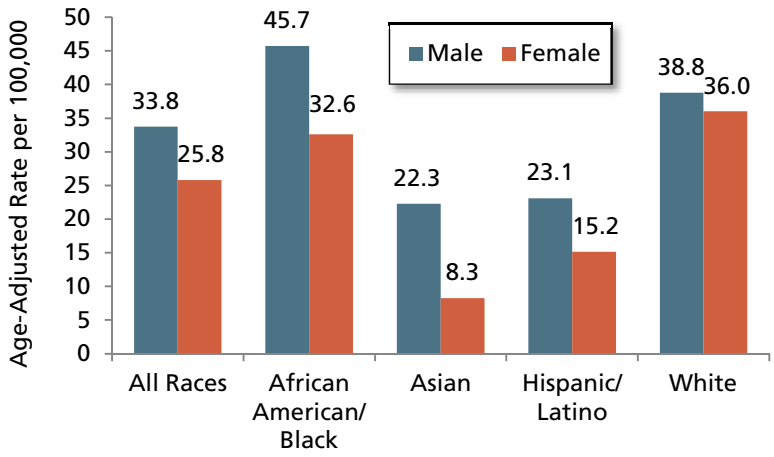


Source: Alameda County Vital Statistics Files, 2010-2012.

Chronic Lower Respiratory Disease Mortality

Rates of chronic lower respiratory disease (CLRD) mortality are higher among males than females of every racial/ethnic group (Figure 50). Most notable, however, is the difference between Asian males and females; the Asian male rate is 2.7 times the Asian female rate (22.3 and 8.3 per 100,000, respectively). The highest rates overall are found among African American and White males and females; these rates are statistically significantly higher than those for Asians and Hispanics of the same sex.

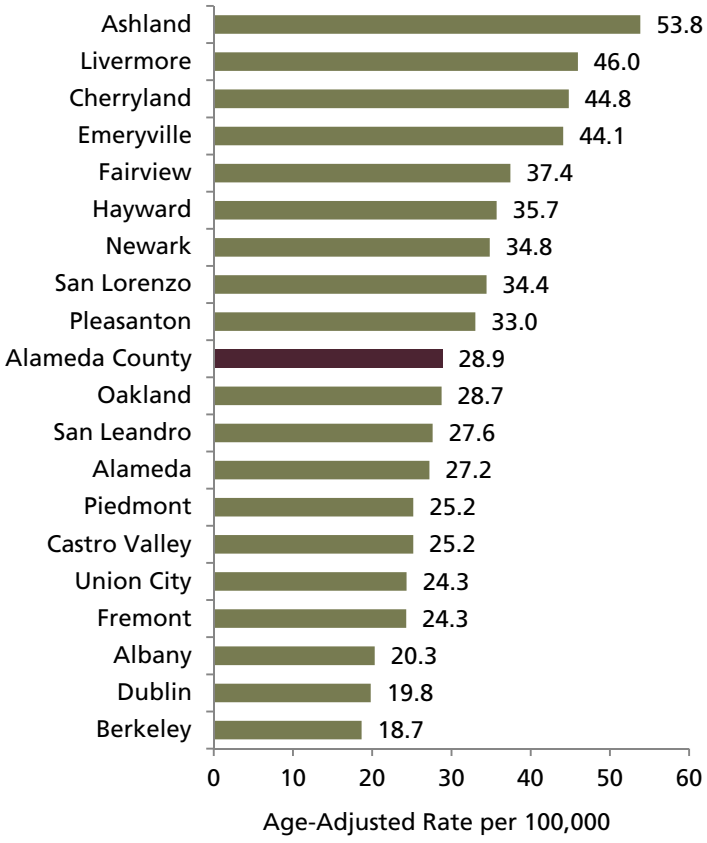
Figure 50: CLRD Mortality by Gender and Race/Ethnicity



Source: Alameda County Vital Statistics Files, 2010-2012.

CLRD mortality varies from a low of 18.7 per 100,000 in Berkeley to a high of 53.8 in Ashland, a nearly 3-fold difference (Figure 51). Again, the Ashland rate is based on a small number of deaths and may be unreliable. The Alameda County rate is 28.9 per 100,000.

Figure 51: CLRD Mortality by City/Place

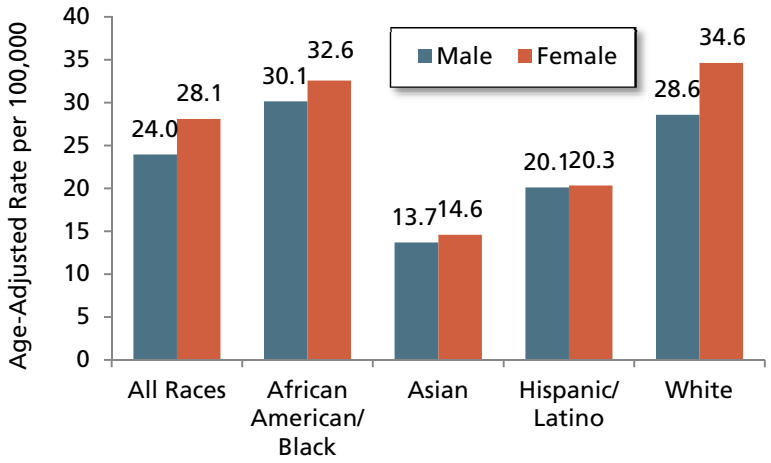


Source: Alameda County Vital Statistics Files, 2010-2012.

Alzheimer's Disease Mortality

Alzheimer's disease mortality is slightly higher among females than males, though most of this difference is due to both high numbers and rates among Whites, for whom the largest sex differences are observed. Rates among Whites and African Americans of both sexes are statistically significantly higher than among Asians of either sex.

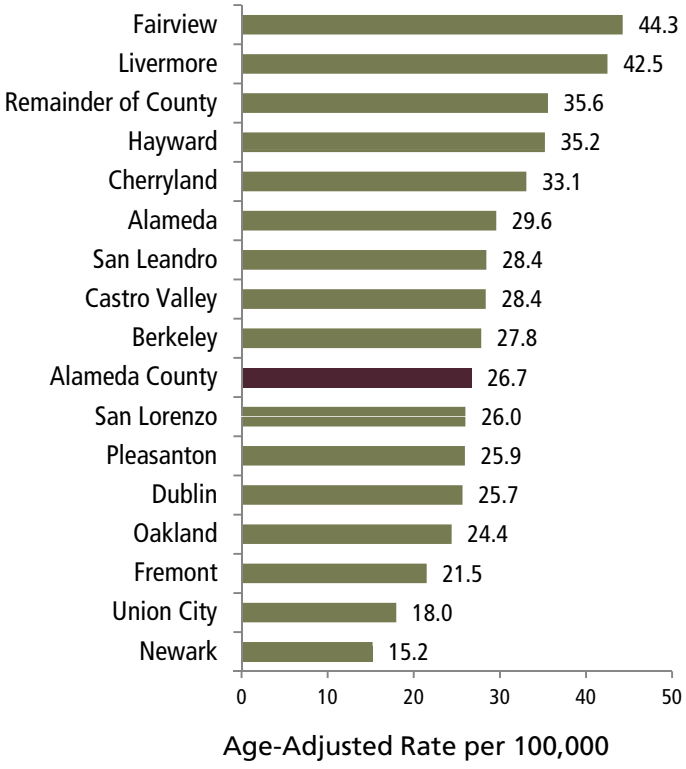
Figure 52: Alzheimer's Disease Mortality by Gender and Race/Ethnicity



Source: Alameda County Vital Statistics Files, 2010-2012.

Like CLRD mortality, Alzheimer's disease mortality also varies across cities by a factor of almost three times (Figure 53). The geographic patterns, however, are different from those seen for other chronic diseases. The highest rate is found in Fairview (44.3 per 100,000) while the lowest is found in Newark (15.2 per 100,000). The Alameda County rate is 26.7 per 100,000.

Figure 53: Alzheimer's Disease Mortality by City/Place

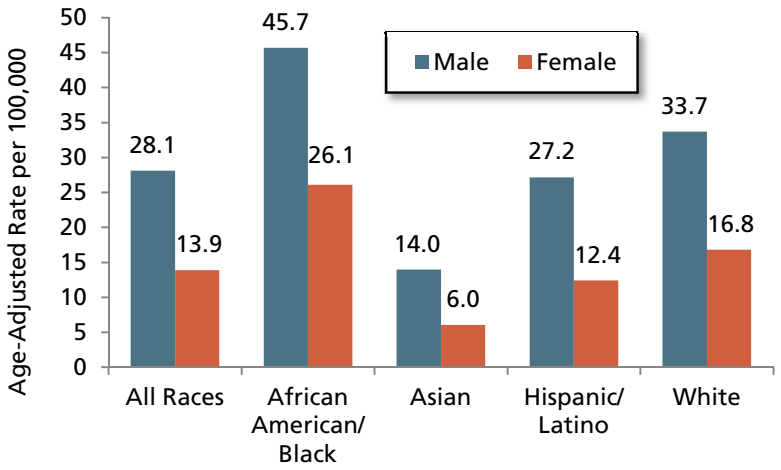


Source: Alameda County Vital Statistics Files, 2010-2012.

Unintentional Injury Mortality

Overall, unintentional injury mortality is about two times higher among males than females. These differences are particularly pronounced between the ages of five and 34 years, where the rate of unintentional injury mortality is three to five times higher (data not shown). The rate is highest among African American males (45.7 per 100,000) followed by White males (33.7). Among females, African American rates are significantly higher than those among Asians, Hispanics, and Whites.

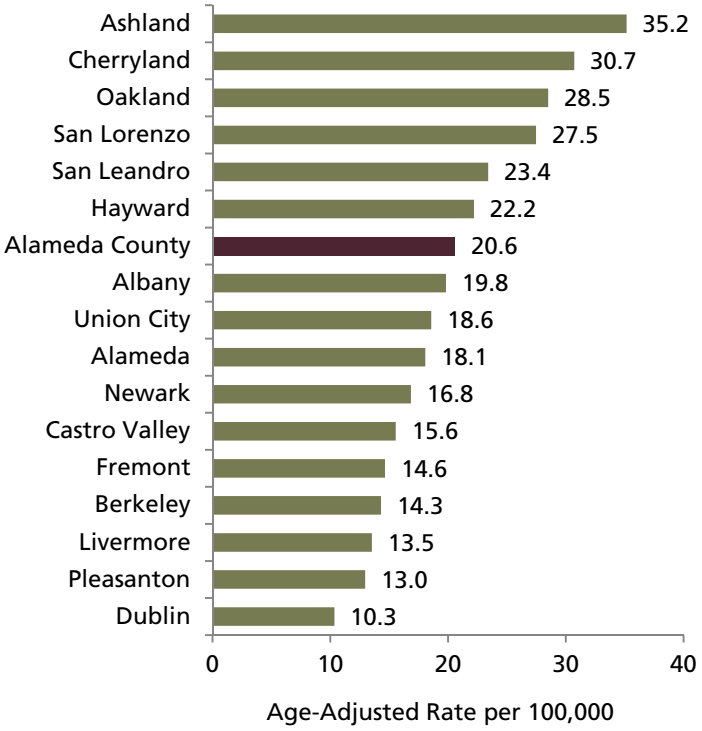
Figure 54: Unintentional Injury Mortality by Gender and Race/Ethnicity



Source: Alameda County Vital Statistics Files, 2010-2012.

The rate of unintentional injury mortality is over three times higher in Ashland (35.2 per 100,000) than in Dublin (10.3 per 100,000) (Figure 55). The Alameda County rate is 20.6 per 100,000.

Figure 55: Unintentional Injury Mortality by City/Place



Source: Alameda County Vital Statistics Files, 2010-2012.

Years of Potential Life Lost

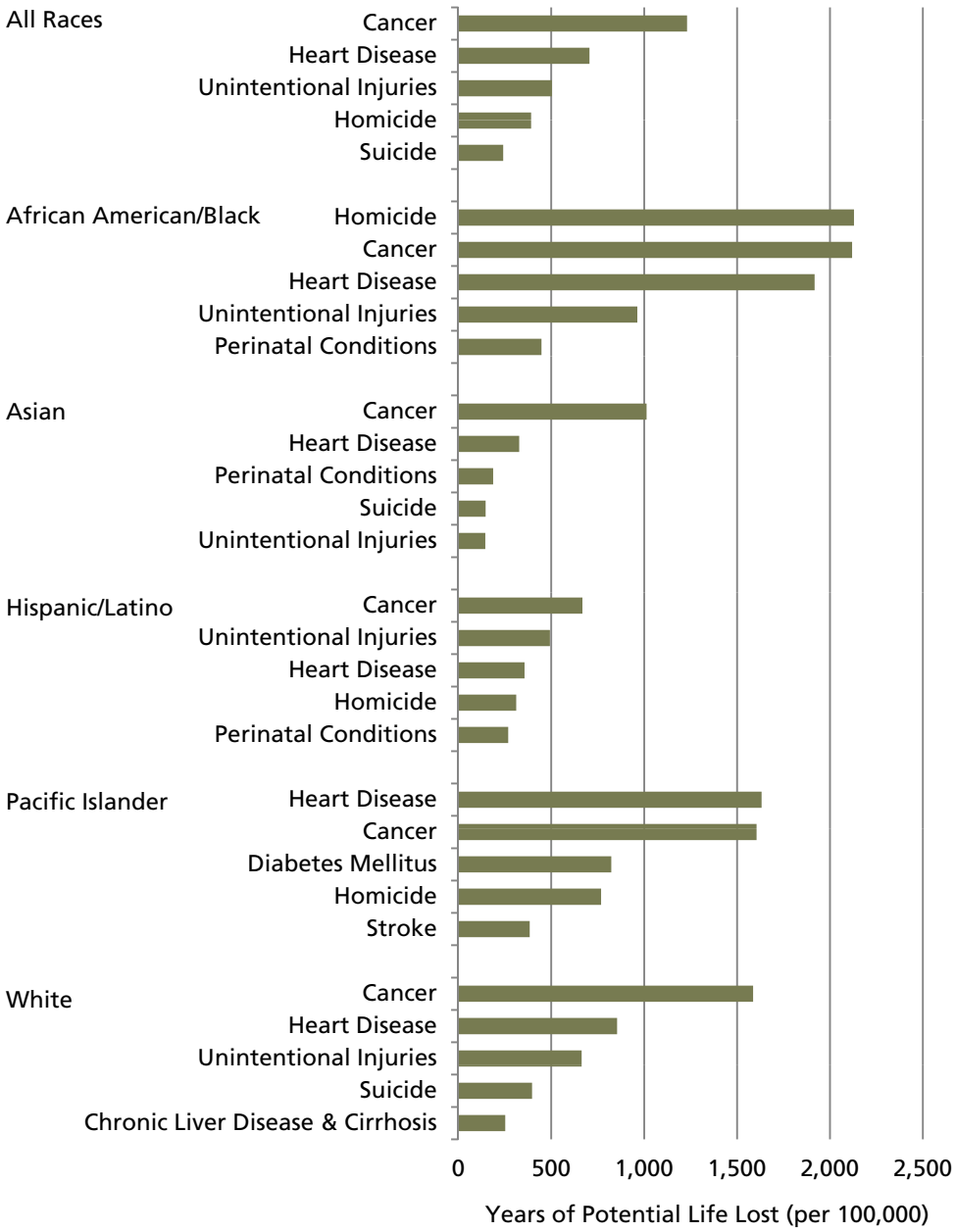
Most deaths occur among elderly people, thus death rates are dominated by the causes of death most common to the elderly. One way to measure the impact of death prior to old age is to sum up the years of life lost, or years that would have remained had early death not occurred. This measure, called years of potential life lost, or YPLL, suggests opportunities for prevention efforts targeted at younger populations. This summary measure weights deaths occurring at younger ages more heavily than those occurring at older ages. The measure of YPLL used in this report represents the number of years of life lost due to death before 75 years, summed over all age groups, divided by the population in that group less than 75 years.

The largest contributors to YPLL overall are cancer and heart disease (Figure 56). These are followed by major causes of injury death: unintentional injuries, homicide, and suicide. These deaths, though smaller in number, occur at all ages and therefore have large YPLL.

Figure 56 shows YPLL per 100,000 for each race/ethnicity to make the measure comparable across groups. African Americans experience the greatest burden of premature death, with homicide as the leading cause followed closely by cancer and heart disease.

Cancer is the leading cause of premature death among Asians, Hispanics, and Whites. Among Pacific Islanders, heart disease and cancer essentially tie for leading cause, and diabetes is third (note that diabetes does not appear among the five leading causes of premature death for the other racial/ethnic groups). Unintentional injury is second among Hispanics.

Figure 56: Leading Causes of Premature Death by Race/Ethnicity



Source: Alameda County Vital Statistics Files, 2010-2012.

CHAPTER FOUR

MATERNAL, CHILD, AND ADOLESCENT HEALTH

The Importance of Maternal, Child, and Adolescent Health

A woman's health and well-being is the result of the cumulative impact of her experiences and circumstances throughout her life. While larger societal factors influence the health of mothers, there are effective times to intervene, such as before or during pregnancy. The core maternal, child, and adolescent health (MCAH) indicators covered in this chapter are infant mortality, low birth weight, early prenatal care, and teen births. The larger effects of social inequities as a result of race, place or class on the overall health and well-being of mothers is covered in the second chapter of this report.

Summary

Alameda County performs well in most of the MCAH core indicators (Table 13). Infant mortality rates are lower than the state rates and lower than the HP2020 objective. Early prenatal care, with 88% of women obtaining prenatal care in the first trimester of pregnancy, is higher than the state average and meets the HP2020 objective for all racial groups except for Pacific Islanders. The teen birth rate in Alameda County is much lower than the state. Rates of low birth weight are not as favorable in Alameda County. While the county does meet the HP2020 objective, the county has a higher percentage of LBW than the state. The main area of concern is the high inequity ratios for the indicators. African Americans have infant mortality rates that are 2.3 times and LBW rates that are 1.9 times those of Asians. Furthermore, teen birth rates for African Americans and for Latinos are more than ten times the teen birth rates than for Asians.

Table 13: Maternal, Child, and Adolescent Health Indicators

	Infant Mortality		Low Birth Weight		Early Prenatal Care		Teen Birth	
	3-Yr Total Number	Rate per 1,000	3-Yr Total Number	Percentage	3-Yr Total Number	Percentage	3-Yr Total Number	Rate per 1,000 Females 15-19 Yrs
Total	252	4.3	4,211	7.2	50,654	87.9	3,179	21.6
African American/Black	51	7.6	752	11.2	5,507	84.5	821	39.8
American Indian	na	na	na	na	99	86.8	na	na
Asian	51	3.2	1,241	7.9	14,321	91.3	135	3.8
Hispanic/Latino	82	4.7	1,015	5.8	14,536	84.6	1,722	40.4
Pacific Islander	na	na	47	7.4	447	73.9	29	19.0
White	36	3.3	838	6.0	12,594	90.7	245	6.6
CA Comparison 2009-2011		4.8		6.8		83.3		31.6
HP2020 Objective		6.0		7.8		77.9		na
Inequity Ratio		2.3		1.9		1.2		10.7

Source: Alameda County Vital Statistics Files, 2009-2011.

Infant Mortality

The infant mortality rate is the number of babies who die before their first birthday per 1,000 live births. This measure is often used as a benchmark of how healthy a community is, partly due to the great loss to society and partly due to the complex interplay of factors that cause infant mortality.

The top five causes of death account for 54% of all infant deaths (Table 14). Most of these babies die because they are: born with a serious birth defect, born too early or too soon, or become victims of sudden infant death syndrome (SIDS).

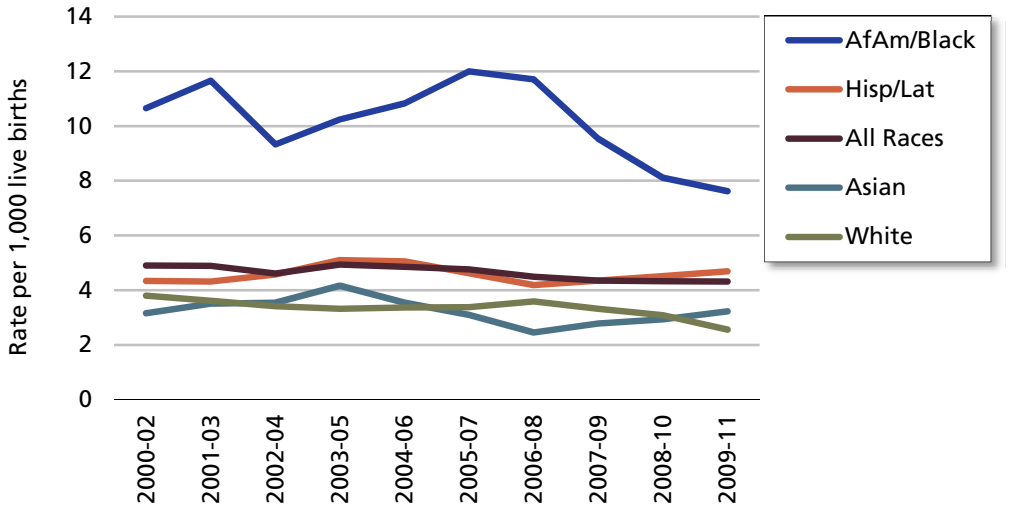
Table 14: Leading Causes of Infant Death

Cause	3-Yr Total Number	%
Total	252	100%
Congenital Malformations & Chromosomal Abnormalities	49	19%
Disorders Related to Short Gestation & Low Birth Weight	36	14%
Sudden Infant Death Syndrome	23	9%
Newborn Affected by Maternal Complications of Pregnancy	15	6%
Respiratory Distress of Newborn	13	5%
All Other Causes	116	46%

Source: Alameda County Vital Statistic Files, 2009-2011.

In Alameda County, as is the case elsewhere, infant mortality rates have gone down over the last few decades and have leveled off in recent years. In Alameda County, only African Americans continue to have declining infant mortality rates; however, their rates continue to be considerably higher than all other racial/ethnic groups.

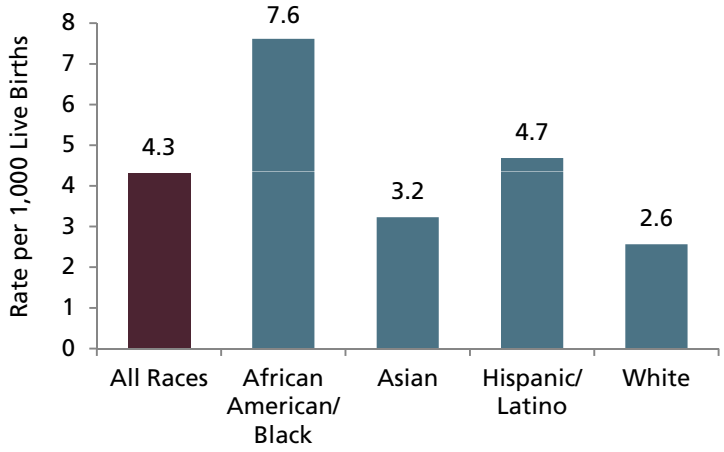
Figure 57: Infant Mortality Trend



Source: Alameda County Vital Statistic Files.

While Alameda County has relatively low infant mortality rates, African Americans have rates almost twice as high as the county average and much higher than any other racial/ethnic group. African Americans are the only racial/ethnic group with a rate higher than the HP2020 objective of six or fewer infant deaths per 1,000 births.

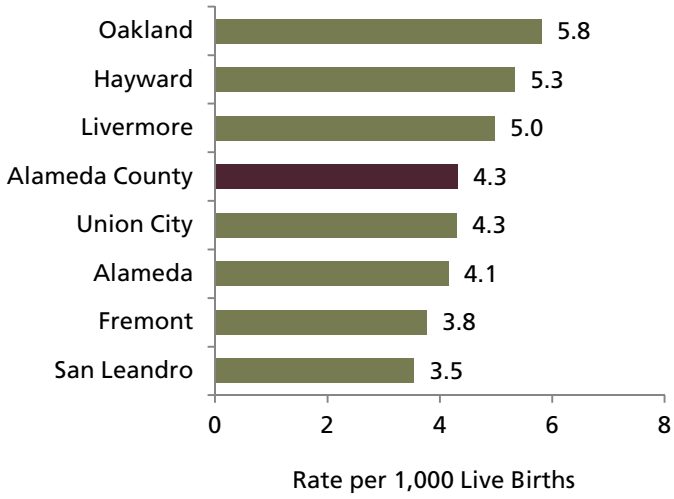
Figure 58: Infant Mortality by Race/Ethnicity



Source: Alameda County Vital Statistic Files, 2009-2011.

Because of relatively few infant deaths (on average 84 per year), only seven of the cities or places have sufficient numbers to produce stable enough rates to display. Oakland has the highest infant mortality rate (5.8). High poverty and a high population of African Americans, both associated with high infant mortality rate, contribute to Oakland's high rate.

Figure 59: Infant Mortality by City/Place



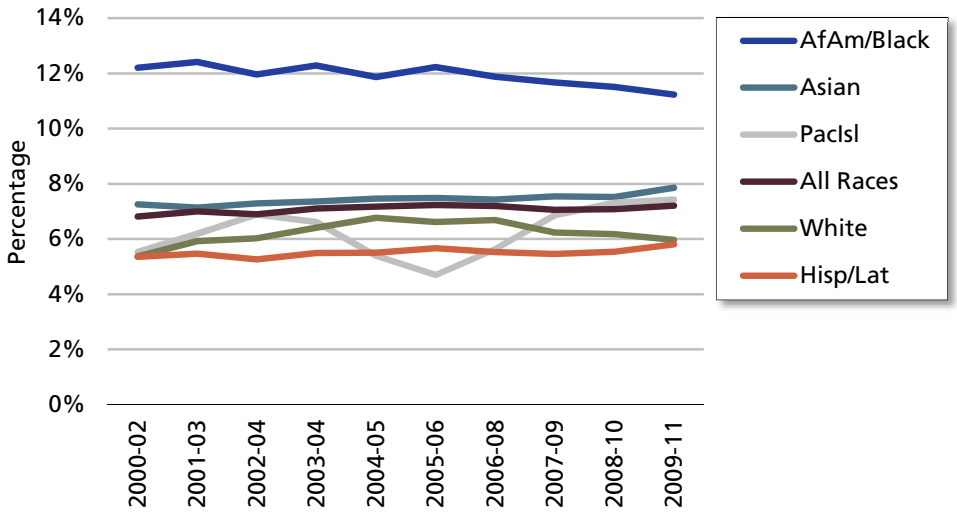
Source: Alameda County Vital Statistic Files, 2009-2011.

Low Birth Weight Babies

A baby who is born at 2,500 grams or less is considered to be low birth weight (LBW), also known as being born too small. LBW is associated with a host of lifetime health concerns and LBW babies tend to have high infant mortality rates.

The LBW rate among African Americans is considerably higher than any other racial or ethnic group; however, the rate declined significantly between 2000 and 2011. Rates for other racial/ethnic groups remained relatively stable with the exception of Asians, for whom the rate significantly increased. The Pacific Islander rate fluctuates due to small numbers.

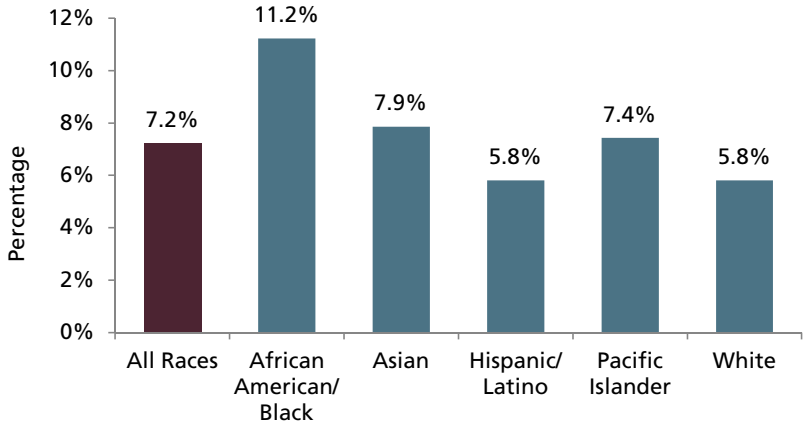
Figure 60: Low Birth Weight Trend



Source: Alameda County Vital Statistic Files.

African Americans have by far the highest percentage of LBW babies (11.2%). Rates among Asians and Pacific Islanders are also higher than the county average. Because more babies are born LBW than the number who die before their first birthdays, stable percentages could be computed for Pacific Islanders as well as Asians.

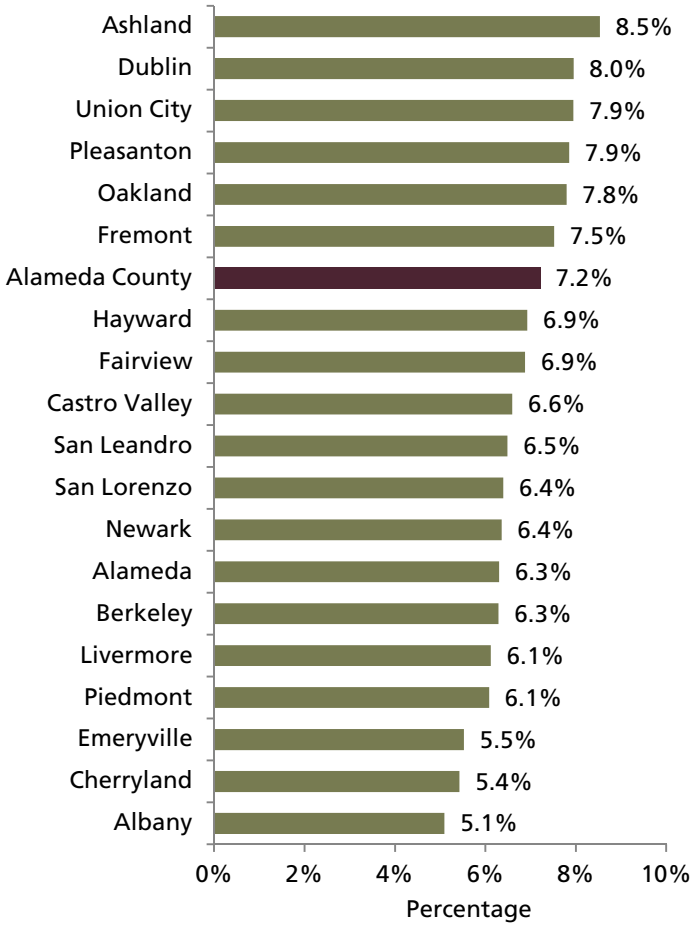
Figure 61: Low Birth Weight by Race/Ethnicity



Source: Alameda County Vital Statistic Files, 2009-2011.

The percentage of LBW by city and place range from a low of 5.1% in Albany to a high of 8.5% in Ashland. The county average is 7.2%, which is below the HP2020 objective of 7.8%. Due to the instability of percentages based on small numbers, Piedmont and Sunol are not displayed.

Figure 62: Low Birth Weight by City/Place



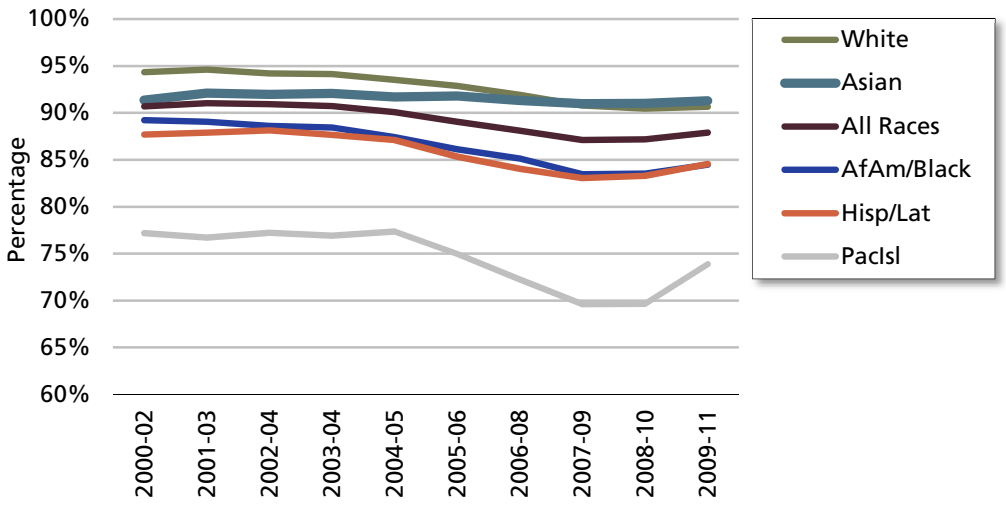
Source: Alameda County Vital Statistic Files, 2009-2011.

First Trimester Prenatal Care

Access to medical care is an important measure of health. Early prenatal care, that is care in the first trimester of pregnancy, can reduce the risk of poor birth outcomes and increase the health and wellbeing of the mother.

All racial/ethnic groups in Alameda County experienced declines in the percentage receiving prenatal care between 2000 and 2009; in recent years rates have stabilized or increased. Whites and Asians consistently have rates over 90%. For the last decade, Alameda County has achieved the HP2020 objective of at least 77.9% of women receiving prenatal care in the first trimester.

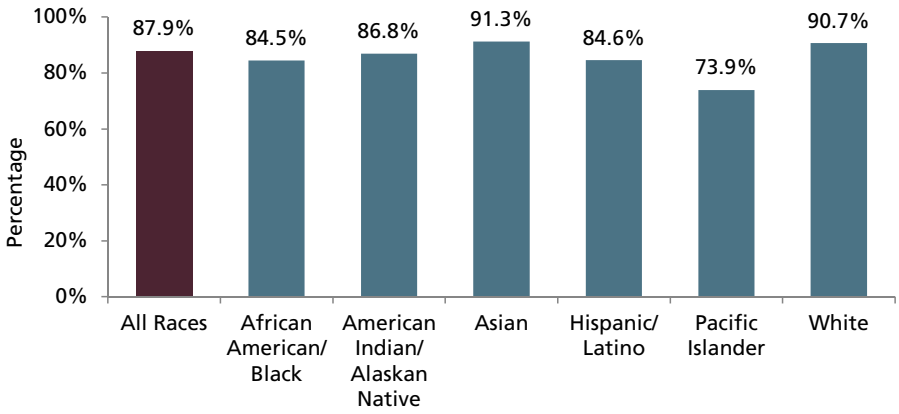
Figure 63: First Trimester Prenatal Care Trend



Source: Alameda County Vital Statistic Files.

All racial/ethnic groups have early prenatal care rates of 84% or higher, except for Pacific Islanders who have the lowest rate at 73.9%, lower than the HP2020 objective of 77.9% or greater.

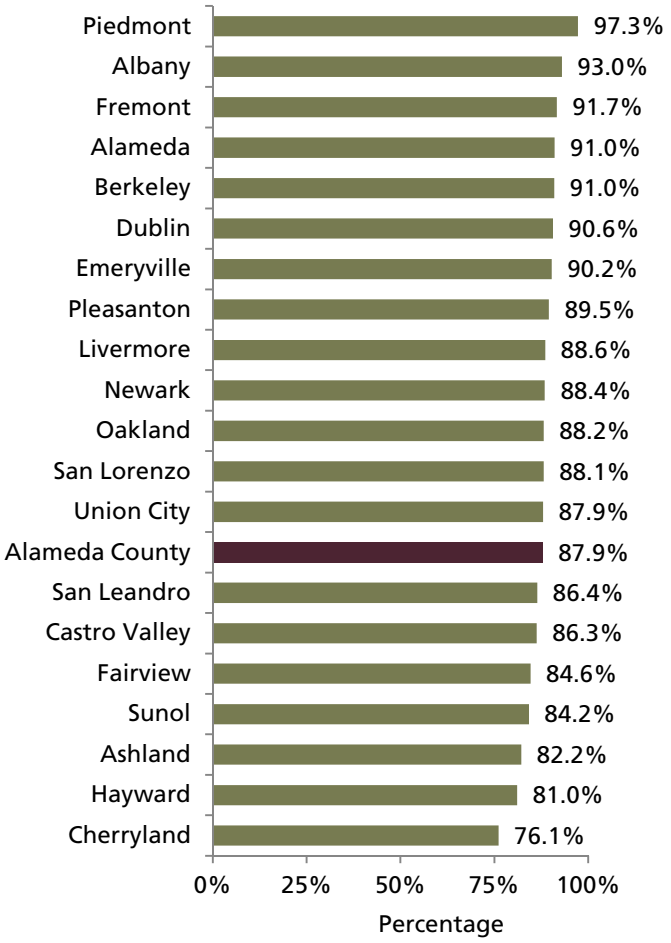
Figure 64: First Trimester Prenatal Care by Race/Ethnicity



Source: Alameda County Vital Statistic Files, 2009-2011.

The percentage of early prenatal care by city and place range from a low of 76.1% in Cherryland to a high of 97.3% in Piedmont. Cherryland is the only city/place that does not meet the HP2020 objective of at least 77.9%. The county average is 87.9%.

Figure 65: First Trimester Prenatal Care by City/Place



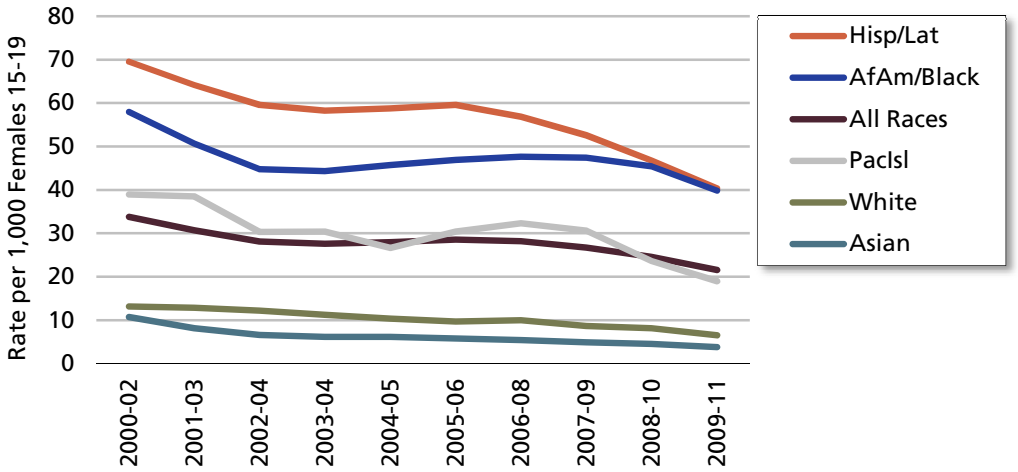
Source: Alameda County Vital Statistic Files, 2009-2011.

Teen Birth Rate

The teen birth rate is the number of births to mothers 15-19 years per 1,000 population of females 15-19 years. Teens are much more likely to have an unplanned pregnancy than older mothers and becoming a teenage parent brings other challenges, such as completing high school and having sufficient income to raise a child.

The teen birth rate in Alameda County has been decreasing over time, as it has in California and in the United States. The greatest decrease is among Latinos. However, both Hispanics and African Americans have much higher rates than the county average.

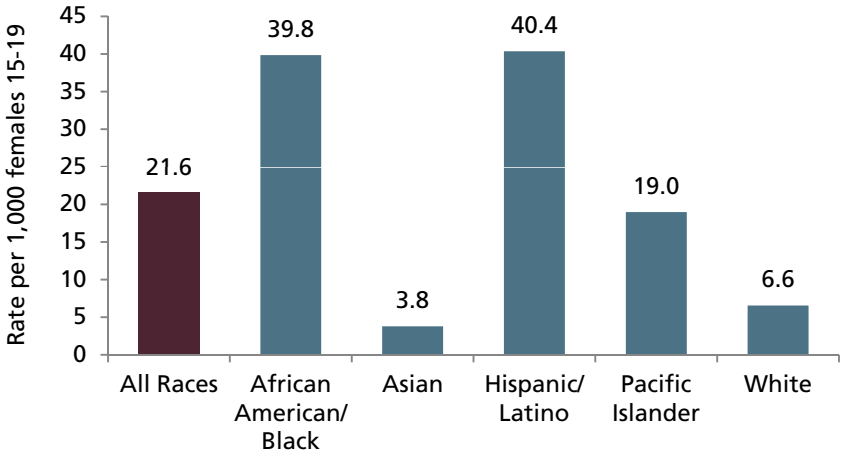
Figure 66: Teen Birth Rate Trend



Source: Alameda County Vital Statistic Files.

The teen birth rate in Alameda County is 21.6 per 1,000 females 15 to 19 years. Hispanics and African Americans have the highest rates (40.4 and 39.8, respectively). These rates are two to ten times those of other racial/ethnic groups.

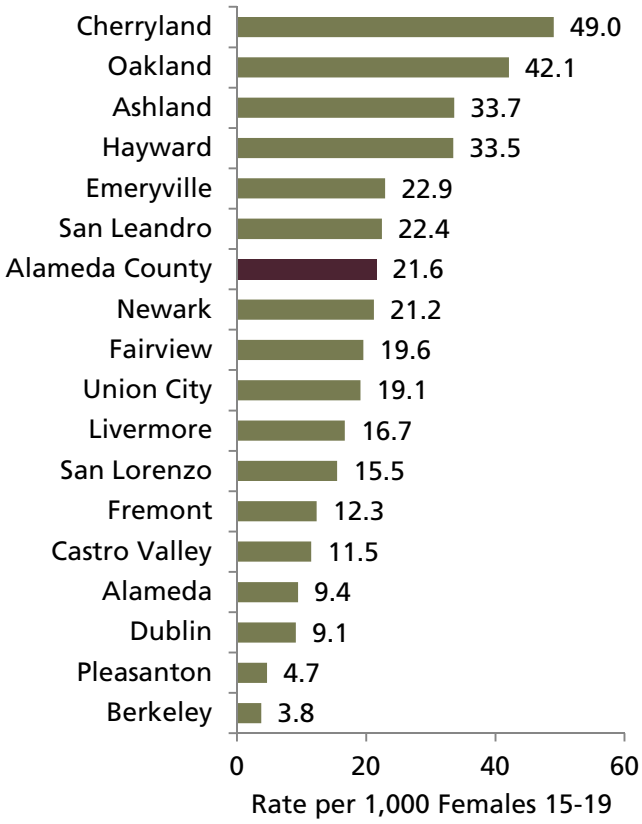
Figure 67: Teen Birth Rate by Race/Ethnicity



Source: Alameda County Vital Statistic Files, 2009-2011.

The rates of teen births by city and place range from a low of 3.8 per 1,000 females ages 15-19 in Berkeley to a high of 49.0 in Cherryland. The county average is 21.6. There is no set HP2020 objective for the teen birth rate. Due to the instability of rates based on small numbers, Albany, Piedmont, and Sunol are not displayed.

Figure 68: Teen Birth Rate by City/Place



Source: Alameda County Vital Statistic Files, 2009-2011.

CHAPTER FIVE

CHRONIC DISEASE

Chronic diseases are defined as "non-communicable illnesses that are prolonged in duration, do not resolve spontaneously, and are rarely cured completely." Some of the major chronic diseases include cancer, heart disease, stroke, and chronic lower respiratory diseases.[1]

Chronic diseases cause the vast majority of death and disability in Alameda County and nationwide, causing 7 out of 10 deaths, and accounting for more than 75% of health care costs.[1] Chronic diseases are more common in older adults, but affect people of all ages. Nearly half of adults live with at least one chronic illness, and of these, about one-fourth experience significant limitations in daily activities. As demonstrated in Chapter 2, there are major inequities in chronic disease burden by race/ethnicity, socioeconomic status, and place of residence. Prevalence of hypertension, overweight and obesity, and diabetes are among the indicators represented in this chapter, as well as hospitalizations for diabetes, coronary heart disease, severe mental illness, stroke, congestive heart failure, and asthma.

While chronic diseases are among the most prevalent and costly health problems, they are also among the most preventable. Four common, health-damaging, but modifiable behaviors—excessive alcohol use, tobacco use, poor eating habits, and insufficient physical activity—are responsible for much of the illness, disability, and premature death related to chronic diseases.[1,2,3]

Binge alcohol drinking (consuming four or more drinks for women or five or more drinks for men in a short time period) is linked to multiple health problems, including unintentional injuries (car crashes, falls, burns, drowning), intentional injuries (firearm injuries, sexual assault, domestic violence), alcohol poisoning, and sexually transmitted diseases.[4] Cigarette smoking is the single most preventable cause of disease, disability and death in the US, and leads to an increased risk of cancer, heart disease, and adverse pregnancy outcomes.[5] Poor diet increases the risk of many chronic diseases including heart disease, stroke, some cancers, diabetes, and osteoporosis.[6] Finally, physical inactivity is linked with increased risk of coronary heart disease, colon cancer, and diabetes, whereas physical activity protects against depression and osteoporosis, and is especially important in delaying the onset of cognitive decline, disability, functional limitations, and subsequent loss of independence in those 65 years of age and above.[7]

It is important to note that while individual behaviors may contribute to the development of chronic disease, the physical, social, and economic environment we live in shape our opportunities for healthful behavior to a large degree. See Chapter 2 for a more comprehensive discussion of the factors at play.

Adult Risk Factors

Alcohol

According to the California Health Interview Survey (CHIS), about 329,000 adults in Alameda County (or 28.4%) report binge drinking in the past year, compared to 31.2% in California. Forty percent of Hispanics report binge drinking, 34.4% of Whites, 29.3% of African Americans, and 9.6% of Asians (Figure 69). Note that the rate for African Americans is unstable due to the small sample size (Table 15). Among those at higher income levels (at or above 200% FPL) the percentage reporting binge drinking is 30% higher than those below 200% FPL (30.2% vs. 24.1%, respectively) (Figure 70).

Diet

In Alameda County, approximately 192,000 adults (16.6%) report eating fast food three or more times per week, compared to 19.8% of adults in California. Higher percentages of African Americans and Hispanics report eating fast food three or more times per week compared to Asians and Whites (Figure 69). Among those with incomes less than 200% FPL the percentage is 80% higher than those with incomes greater than or equal to 200% FPL (Figure 70).

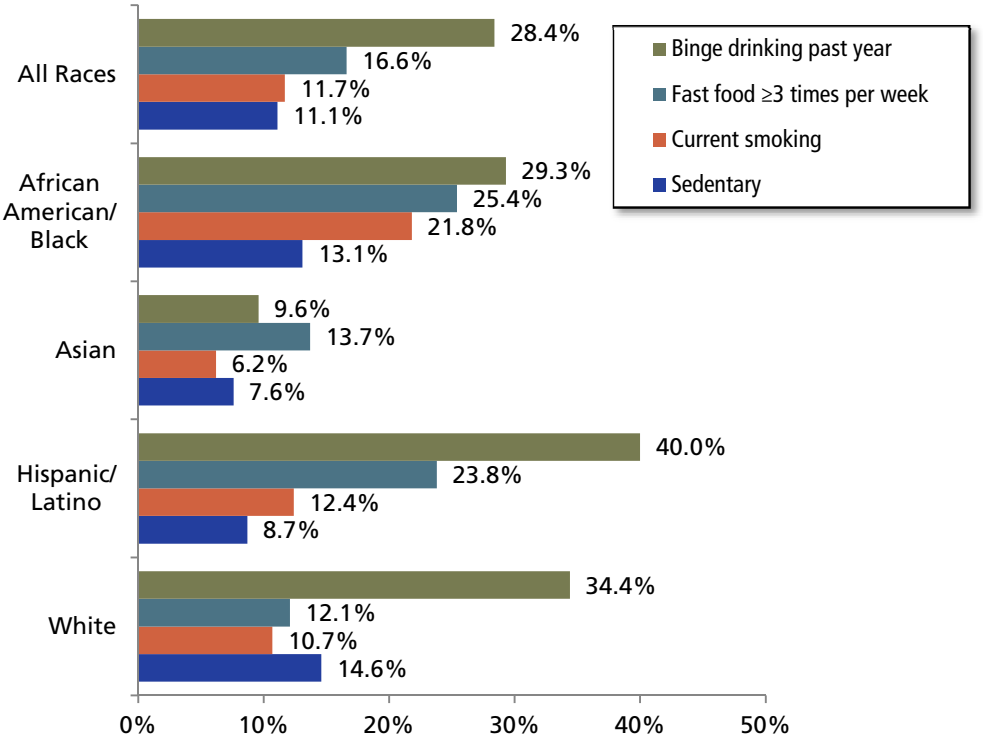
Tobacco

Current smoking is defined by CHIS as having smoked at least 100 cigarettes during one's lifetime and reporting currently smoking every day or some days. About 11.7% of Alameda County adult residents report being a current smoker (135,000), a percentage slightly lower than in California (13.7%). Among major racial/ethnic groups, African Americans report highest levels of current smoking (21.8%), compared to 6.2% among Asians, 12.4% among Hispanics, and 10.7% among Whites (Figure 69 and Table 15). Smoking is slightly more common among those with incomes below 200% FPL compared to those with incomes at or above 200% FPL (13.8% vs. 10.9%, respectively) (Figure 70).

Physical Activity

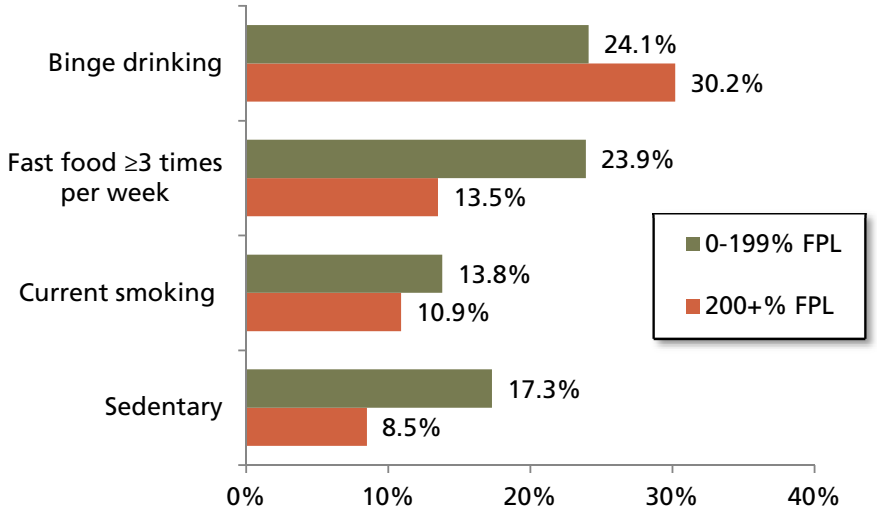
Sedentary behavior is defined by CHIS as engaging in less than ten minutes of moderate or vigorous physical activity and walking less than ten minutes in a week. In Alameda County, approximately 129,000 or 11.1% of adults are sedentary, similar to the percentage in California (11.7%). In Alameda County, 47.9% of adults report getting some physical activity, and only 41.0% report getting regular physical activity, all similar to California rates. In Alameda County, a higher percentage of Whites and African Americans report being sedentary, by a margin of about 50% to 90%, when compared to Hispanics and Asians (Figure 69) Those with incomes less than 200% FPL have are twice as likely to report being sedentary compared to those with incomes greater than or equal to 200% FPL (17.3% vs. 8.5%) (Figure 70).

Figure 69: Adult Behavioral Risk Factors by Race/Ethnicity



Source: CHIS 2009 and 2011-12 pooled data except for sedentary, CHIS 2009.

Figure 70: Adult Behavioral Risk Factors by Income



Source: CHIS 2009 and 2011-12 pooled data except for sedentary, CHIS 2009.

Table 15: Adult Behavioral Risk Factors by Race/Ethnicity and Income

			%	LCL (95%)	UCL (95%)
Binge drinking past year	Total		28.4%	23.3%	33.5%
	Race/Ethnicity	African American/Black	* 29.3%	8.4%	50.3%
		American Indian/Alaskan Native	na	na	na
		Asian	9.6%	4.8%	14.4%
		Hispanic/Latino	40.0%	28.1%	51.9%
		White	34.4%	28.2%	40.7%
		California Comparison	31.2%	30.2%	32.2%
		Inequity Ratio	4.2		
	Income	0-199% FPL	24.1%	13.0%	33.5%
		200+% FPL	30.2%	24.7%	35.6%
Fast food eaten 3 or more times per week	Total		16.6%	11.3%	21.8%
	Race/Ethnicity	African American/Black	* 25.4%	4.6%	46.2%
		American Indian/Alaskan Native	na	na	na
		Asian	* 13.7%	0.0%	27.5%
		Hispanic/Latino	23.8%	12.7%	34.9%
		White	12.1%	7.8%	16.4%
		California Comparison	19.8%	19.0%	20.5%
		Inequity Ratio	2.1		
	Income	0-199% FPL	23.9%	7.0%	37.1%
		200+% FPL	13.5%	9.9%	17.0%
Current smoking	Total		11.7%	8.4%	15.0%
	Race/Ethnicity	African American/Black	21.8%	10.4%	33.2%
		American Indian/Alaskan Native	na	na	na
		Asian	* 6.2%	1.7%	10.7%
		Hispanic/Latino	12.4%	5.4%	19.4%
		White	10.7%	5.5%	16.0%
		California Comparison	13.7%	12.9%	14.4%
		Inequity Ratio	3.5		
	Income	0-199% FPL	13.8%	7.6%	20.0%
		200+% FPL	10.9%	6.9%	14.8%
Sedentary	Total		11.1%	7.3%	14.9%
	Race/Ethnicity	African American/Black	* 13.1%	4.2%	22.0%
		American Indian/Alaskan Native	na	na	na
		Asian	* 7.6%	2.4%	12.8%
		Hispanic/Latino	* 8.7%	2.8%	14.6%
		White	14.6%	6.9%	22.2%
		California Comparison	11.7%	11.0%	12.4%
		Inequity Ratio	1.7		
	Income	0-199% FPL	17.3%	6.3%	28.2%
		200+% FPL	8.5%	5.7%	11.4%

Source: CHIS 2009 and 2011-12 pooled data except for sedentary, CHIS 2009.
Note: * = unstable estimate.

Adolescent Risk Factors

Diet

According to the California Health Interview Survey, 75.2% of adolescents (12-17 years) in Alameda County consume less than the recommended amount of 5 servings of fruits and vegetables per day (5-a-day), a percentage similar to California (77.2%). In Alameda County, Hispanics and African Americans are more likely than Asians and Whites to report consuming less than 5-a-day, by a margin of 20% to 50% (Figure 71). Those residing in low income households (less than 200% FPL) are 30% more likely to report consuming less than 5-a-day compared to others (Figure 72).

The percentage of Alameda County adolescents reporting soda or sugar sweetened beverage consumption of one or more drinks per day is over twice that reported by children and adults. Approximately 167,000 or 52.6% of adolescents report drinking one or more soda or sugar sweetened beverage per day, similar to the California percentage of 59.6% (Table 15). In Alameda County, Hispanics and African Americans are more likely to report of soda/sugar sweetened beverage consumption (63.5% and 57.9%, respectively) compared to Asians and Whites (47.0% and 51.0%, respectively) (Figure 71). The percentage reporting soda/sugar sweetened beverage consumption is about 40% higher among those with incomes less than 200% FPL compared to those with incomes greater than or equal to 200% FPL (67.4% vs. 48.8% respectively) (Figure 72).

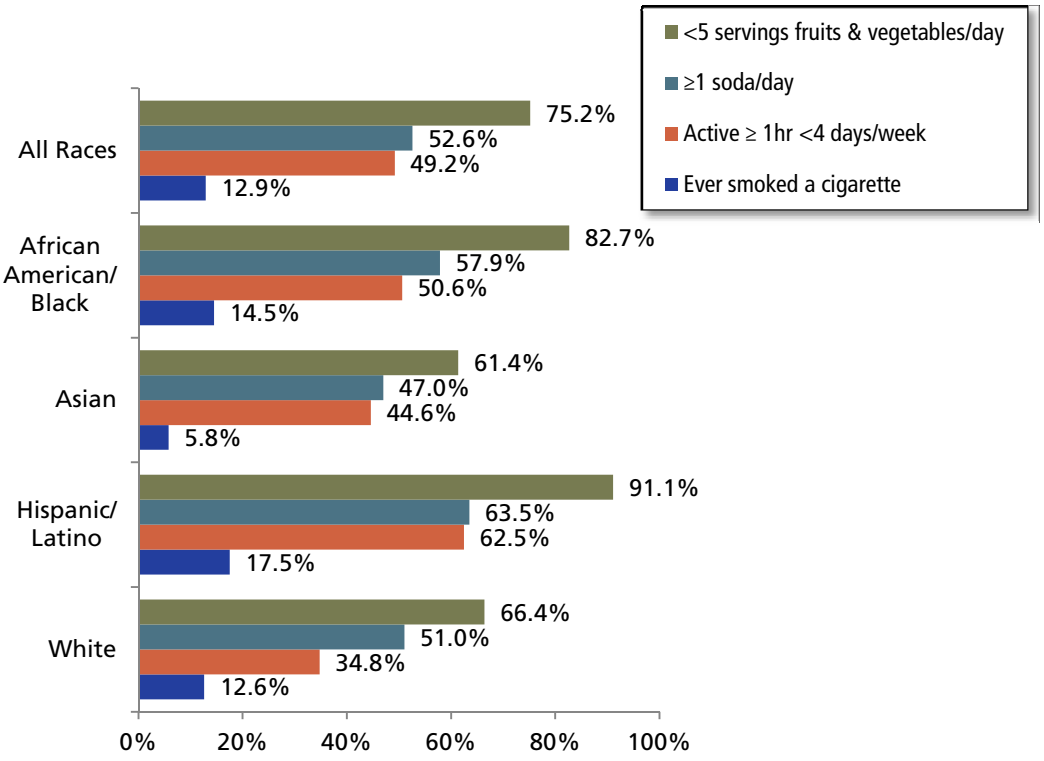
Physical Activity

Almost half (49.2%) of Alameda County adolescents report not engaging in at least one hour of physical activity four or more days a week, a percentage nearly the same as that for California (49.7%). Hispanics and African Americans are more likely to report not engaging in physical activity (62.5% and 50.6%, respectively) compared to Whites and Asians (Figure 71). The percentages are similar for those below the 200% FPL and those at or above the 200% FPL (Figure 72).

Tobacco

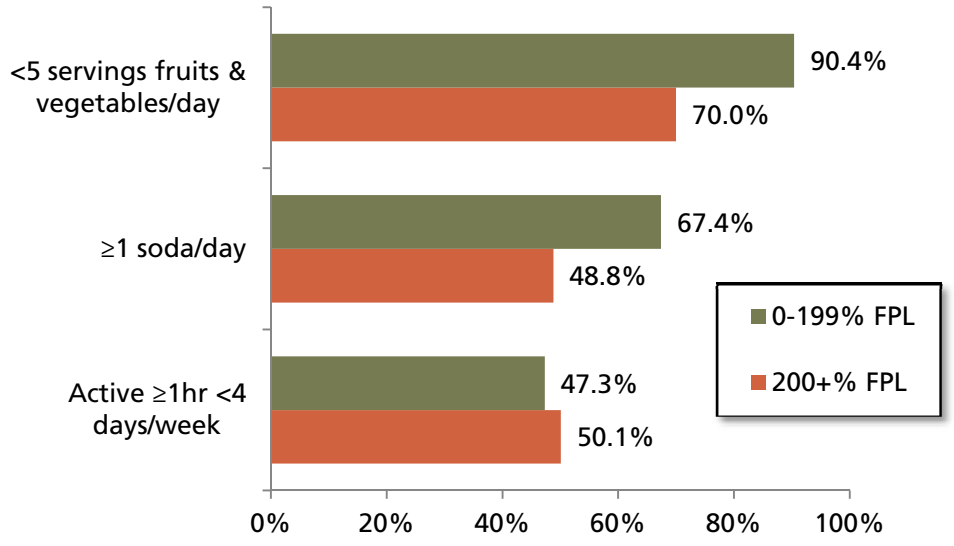
Among 7th, 9th, and 11th graders in Alameda County, 12.9% report ever having smoked a whole cigarette in their lifetime. Racial/ethnic groups reporting the highest levels of smoking are Hispanics and Pacific Islanders (17.5% and 17.0%, respectively) (See Table 16 for all groups, as American Indians and Pacific Islanders are not shown in Figure 71). Asians report the lowest level of lifetime smoking (5.8%).

Figure 71: Adolescent Behavioral Risk Factors by Race/Ethnicity



Source: CHIS 2009 and 2011-12 pooled data except for smoking, CHKS 2011-12.

Figure 72: Adolescent Behavioral Risk Factors by Income



Source: CHIS 2009 and 2011-12 pooled data.

Table 16: Adolescent Behavioral Risk Factors by Race/Ethnicity and Income

			%	LCL (95%)	UCL (95%)
<5 servings fruits & vegetables/day	Total		75.2%	62.3%	88.1%
	Race/Ethnicity	African American/Black	* 82.7%	50.0%	100.0%
		American Indian/Alaskan Native	na	na	na
		Asian	* 61.4%	30.5%	92.2%
		Hispanic/Latino	* 91.1%	77.2%	100.0%
		White	66.4%	46.8%	86.0%
		California Comparison	77.2%	74.7%	79.6%
		Inequity Ratio	1.5		
	Income	0-199% FPL	*90.4%	76.2%	100.0%
		200+% FPL	70.0%	54.3%	85.8%
≥1 soda/day	Total	All Races	52.6%	44.9%	61.3%
	Race/Ethnicity	African American/Black	* 57.9%	18.4%	97.3%
		American Indian/Alaskan Native	na	na	na
		Asian	47.0%	25.7%	68.4%
		Hispanic/Latino	* 63.5%	31.7%	95.3%
		White	51.0%	38.1%	63.9%
		California Comparison	59.6%	57.9%	61.3%
		Inequity Ratio	1.4		
	Income	0-199% FPL	67.4%	41.1%	93.6%
		200+% FPL	48.8%	39.2%	58.3%
Active ≥1 hr <4 days/week	Total	All Races	49.2%	32.9%	65.5%
	Race/Ethnicity	African American/Black	* 50.6%	0.5%	100.0%
		American Indian/Alaskan Native	na	na	na
		Asian	* 44.6%	13.2%	75.9%
		Hispanic/Latino	* 62.5%	33.1%	91.8%
		White	34.8%	16.2%	53.4%
		California Comparison	49.7%	46.8%	52.6%
		Inequity Ratio	1.8		
	Income	0-199% FPL	* 47.3%	14.2%	80.5%
		200+% FPL	50.1%	32.0%	68.3%
Ever smoked a cigarette	Total	All Races	12.9%		
	Race/Ethnicity	African American/Black	14.5%		
		American Indian/Alaskan Native	12.2%		
		Asian	5.8%		
		Hispanic/Latino	17.5%		
		Pacific Islander	17.0%		
		White	12.6%		
		California Comparison	na		
		Inequity Ratio	3.7		
	Income	0-199% FPL	na	na	na
		200+% FPL	na	na	na

Source: CHIS 2009 and 2011-12 pooled data except for smoking, CHKS 2011-12.
Note: *= unstable estimate.

Prevalence of Chronic Diseases and Conditions

Hypertension

More than 67 million Americans have high blood pressure, also known as hypertension. Less than half of these individuals have their hypertension under control. Hypertension is a major risk factor for heart disease and stroke, two of the leading causes of death in the United States, and is also a risk factor for kidney disease.[10]

According to the California Health Interview Survey, one in four Alameda County adults (24.9%) report having been diagnosed with high blood pressure. The prevalence is 72.2% among American Indians and 40.1% among African Americans. At 26.0%, Whites have a prevalence slightly higher than the county average, while fewer Asians and Hispanics, approximately 20%, have hypertension (Table 17). The prevalence of hypertension is similar among those living below 200% FPL and those at or above 200% FPL (Figure 74).

Obesity

Obesity is defined as excessive fat accumulation that may impair health, and is commonly classified using the body mass index (BMI). The Centers for Disease Control and Prevention defines obesity as a BMI equal to or greater than 30 (whereas overweight is defined as a BMI of between 25 and 29.9). More than one-third of U.S. adults and approximately 17% of children are obese.[8] Obesity increases the risks for a number of health conditions including hypertension, coronary heart disease, type-2 diabetes, and certain types of cancer.

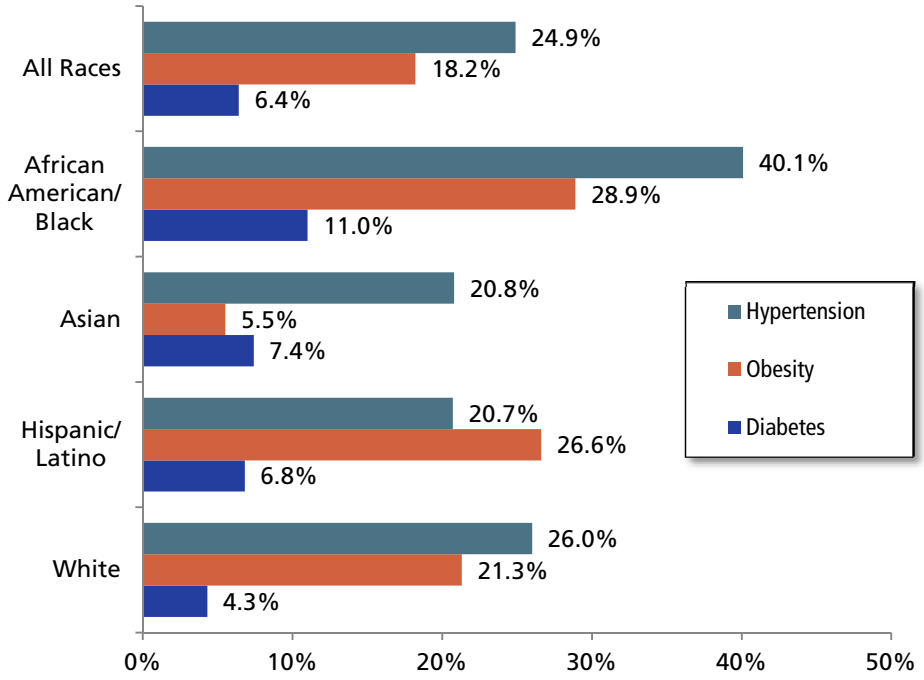
Approximately 211,000 or 18.2% of Alameda County adults are estimated to be obese, compared to 23.8% of California adults. African Americans have the highest prevalence of obesity (28.9%), over five times the Asian prevalence of 5.5% (Figure 73). Over one-fourth of Hispanics (26.6%) are obese, and 21.3% of Whites. Alameda County residents with incomes below 200% the FPL have a slightly higher prevalence of obesity (20.5%) compared to those living at or above 200% FPL (17.2%) (Table 17).

Diabetes

Diabetes mellitus is a chronic disease in which the body does not produce or properly use insulin, which can lead to blood glucose (sugar) levels that are too high. Diabetes is a major cause of heart disease and stroke, kidney failure, non-traumatic lower-limb amputations, and new cases of blindness. Diabetes is the seventh leading cause of death in the United States, affecting 25.8 billion people, or over 8% of the population nationally.[9]

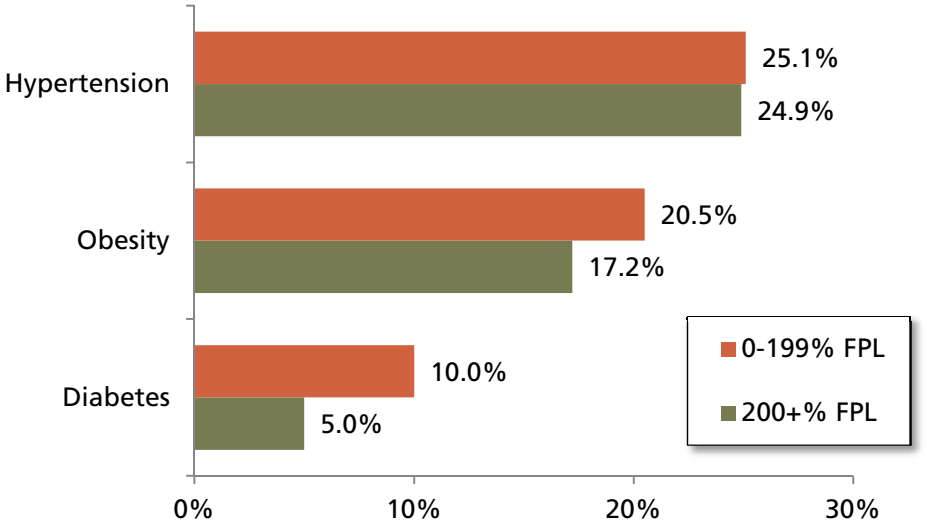
In Alameda County, 6.4% of adults report having been diagnosed with diabetes, a prevalence lower than the 8.4% reported in California. The prevalence of diabetes is 36.1% among American Indians, a percentage eight times higher than among Whites (4.3%). African Americans have the second highest diabetes prevalence (11.0%), followed by Asians (7.4%) and Hispanics (6.8%) (Table 17). Those with income levels less than 200% FPL in Alameda County have twice the prevalence of diabetes when compared with those living at or above 200% FPL (10.0% versus 5.0% respectively) (Figure 74).

Figure 73: Chronic Disease Prevalence by Race/Ethnicity



Source: CHIS 2009 and 2011-12 pooled data.

Figure 74: Chronic Disease Prevalence by Income



Source: CHIS 2009 and 2011-12 pooled data.

Table 17: Chronic Disease Prevalence by Race/Ethnicity and Income

			%	LCL (95%)	UCL (95%)
Hypertension	Total		24.9%	21.2%	28.6%
	Race/Ethnicity	African American/Black	40.1%	25.4%	54.8%
		American Indian/Alaskan Native	72.2%	26.9%	100.0%
		Asian	20.8%	13.0%	28.6%
		Hispanic/Latino	20.7%	12.2%	29.3%
		White	26.0%	21.3%	30.6%
		California Comparison	26.7%	25.9%	27.5%
		Inequity Ratio	5.5		
	Income	0 -199% FPL	25.1%	17.3%	33.0%
		200+% FPL	24.9%	20.8%	28.9%
Obesity	Total		18.2%	14.5%	21.9%
	Race/Ethnicity	African American/Black	28.9%	18.1%	39.6%
		American Indian/Alaskan Native	na	na	na
		Asian	5.5%	1.5%	9.5%
		Hispanic/Latino	22.9%	13.4%	32.5%
		White	21.3%	15.3%	27.3%
		California Comparison	23.8%	22.9%	24.6%
		Inequity Ratio	5.3		
	Income	0 -199% FPL	20.5%	11.0%	30.0%
		200+% FPL	17.2%	13.8%	20.7%
Diabetes	Total		6.4%	4.5%	8.3%
	Race/Ethnicity	African American/Black	11.0%	3.9%	18.0%
		American Indian/Alaskan Native	36.1%	0.0%	72.5%
		Asian	7.4%	2.4%	12.3%
		Hispanic/Latino	6.8%	2.2%	11.3%
		White	4.3%	2.7%	5.9%
		California Comparison	8.4%	7.9%	9.0%
		Inequity Ratio	8.4		
	Income	0 -199% FPL	10.0%	5.1%	15.0%
		200+% FPL	5.0%	3.2%	6.8%

Source: CHIS 2009 and 2011-12 pooled data.

Asthma

Asthma is a chronic lung condition that causes swelling, excess mucus, and narrowing of the airways. An asthma attack occurs when the airways become so swollen and clogged that the person has trouble getting enough air to breathe. There is no cure for asthma, so effective management is essential.

In Alameda County, almost one in five, or 18.6% of children and adolescents ages 0-17 years are estimated to have ever been diagnosed with asthma, compared with 14.8% of children and adolescents in California. Fourteen percent of adults in Alameda County report ever being diagnosed with asthma, compared to 13.6% of adults statewide. Among those ages 0-17, the prevalence of asthma is highest for Hispanics (29.5%) and for African Americans (29.0%), at rates three times higher than the Asian prevalence of 9.7%. Among adults, Whites have the highest prevalence (18.9%), followed by African Americans (15.7%) and Hispanics (11.5%). The lowest prevalence is for Asians (8.2%). Alameda County residents in households with incomes below 200% the FPL versus at or above 200% the FPL have a higher prevelence of asthma in both age groups, at 23.2% for children and adolescents (versus 15.8%), and 15.9% for adults (versus 13.4%)

Table 18: Ever Diagnosed With Asthma by Race/Ethnicity and Income

		0-17 years			18+ years		
		%	LCL (95%)	UCL (95%)	%	LCL (95%)	UCL (95%)
Total		18.6%	11.1%	26.1%	14.1%	10.8%	17.4%
Race/Ethnicity	African American/Black	*29.0%	3.8%	54.3%	15.7%	6.9%	24.5%
	Asian	* 9.7%	0.0%	19.8%	* 8.2%	3.1%	13.2%
	Hispanic/Latino	*29.5%	11.6%	47.4%	*11.5%	4.5%	18.5%
	White	*12.0%	4.0%	19.9%	18.9%	13.2%	24.5%
	California Comparison	14.8%	13.5%	16.0%	13.6%	12.9%	14.3%
	Inequity Ratio	3.0			2.3		
Income	0 -199% FPL	*23.2%	7.6%	38.8%	15.9%	8.8%	23.0%
	200+% FPL	15.8%	8.6%	22.9%	13.4%	9.8%	17.1%

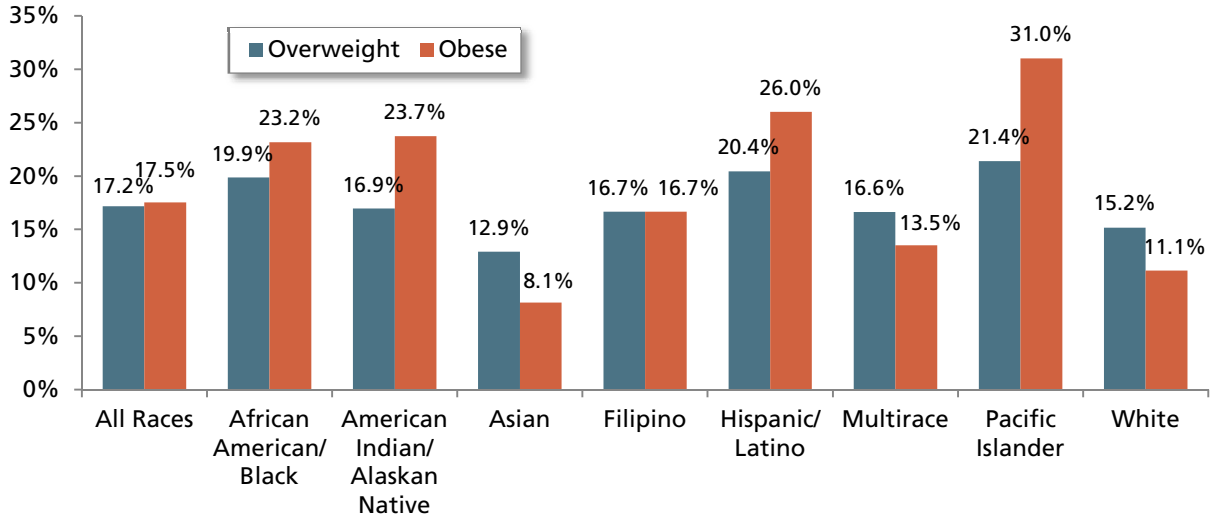
Note: * = Unstable estimate
Source: CHIS 2009 and 2011-12 data.

Child and Adolescent Overweight and Obesity

Overweight children are four times as likely as normal weight and underweight children to become obese as adults, and obesity has many adverse health consequences as noted earlier. In Alameda County, 17.2% of 5th, 7th, and 9th graders are overweight and nearly the same number, 17.5%, are obese. The highest levels of obesity are found among Pacific Islanders (31.0%), Hispanics (26.0%), American Indians (23.7%), and African Americans (23.2%). Among all these groups, the percentage of obese students exceeds the percentage of overweight students. Levels of obesity are lowest among Asians (8.1%) and Whites (11.1%), and among both of these groups the percentages of obese students are lower than the percentages of overweight students.

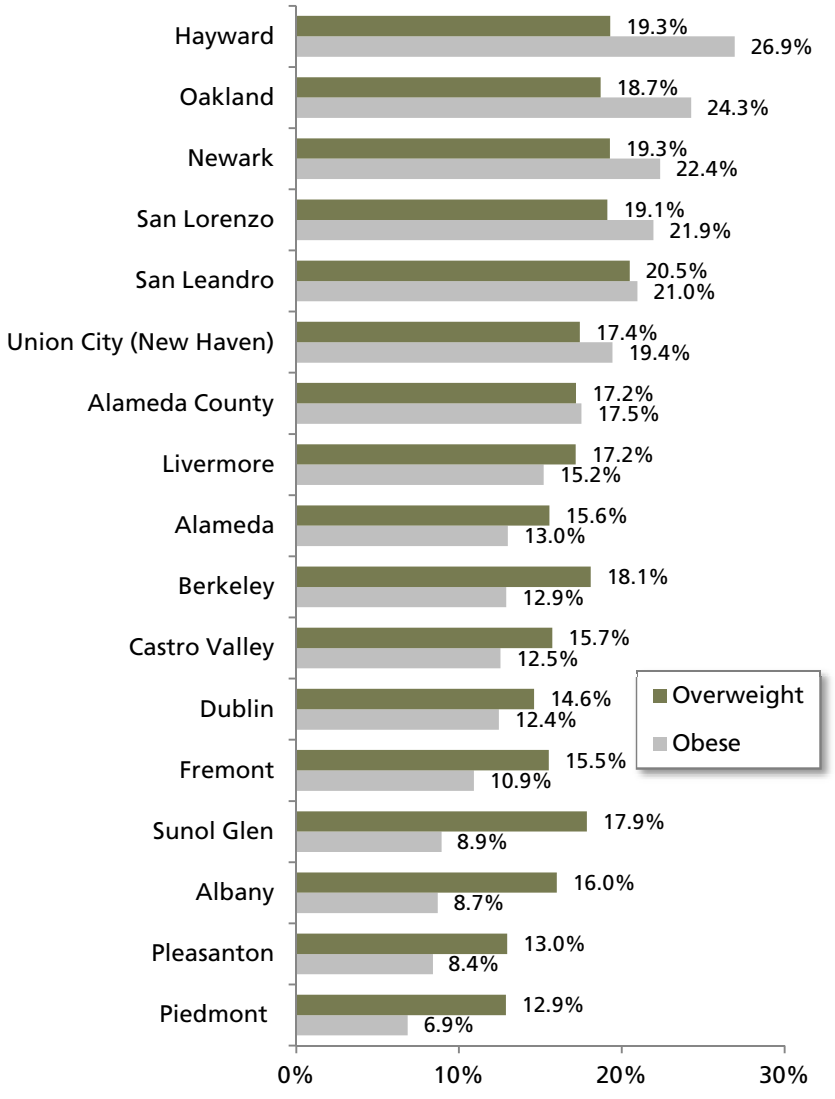
The rate of overweight by school district ranges from a low of 12.9% in Piedmont Unified School District to a high of 20.5% in San Leandro Unified School District, and the rate of obesity ranges from a low of 6.9% in Piedmont Unified School District to a high of 26.9% in Hayward Unified School District.

Figure 75: Overweight and Obesity by Race/Ethnicity, 5th, 7th, and 9th Graders



Source: California CDE, Physical Fitness Test 2011-12.

Figure 76: Overweight and Obesity by School District, 5th, 7th, and 9th Graders



Source: California CDE, Physical Fitness Test 2011-12.

Chronic Disease Hospitalizations

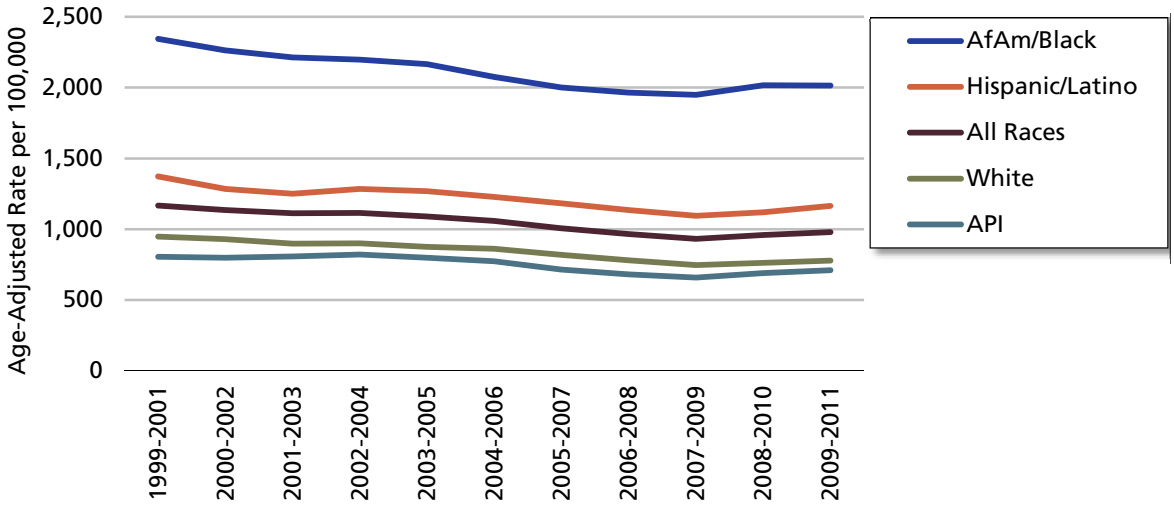
Diabetes

In Alameda County, diabetes-related hospitalizations decreased slightly from 1999 to 2008 and have been largely steady since then (Figure 77). There were 44,505 diabetes-related hospitalizations from 2009 through 2011, and the age-adjusted rate was 978.5 per 100,000 population (Table 18).

Inequities in diabetes hospitalizations are seen by race/ethnicity. The highest diabetes hospitalization rates by far are seen in African American females (2,082.9 per 100,000 population) and African American males (1,946.3 hospitalizations per 100,000 population). The next highest rates are seen in Hispanic males (1,170.6 hospitalizations per 100,000 population) and Hispanic females (1,165.1 hospitalizations per 100,000 population) (Figure 78). Both African American and Hispanic rates are statistically significantly higher than rates of all other racial/ethnic groups (data not shown). African Americans males and females have two times higher diabetes hospitalization rates than Hispanic males and females, and three times higher rates than Asian/Pacific Islander males, Asian/Pacific Islander females, and White females, the three groups with the lowest rates (Figure 78).

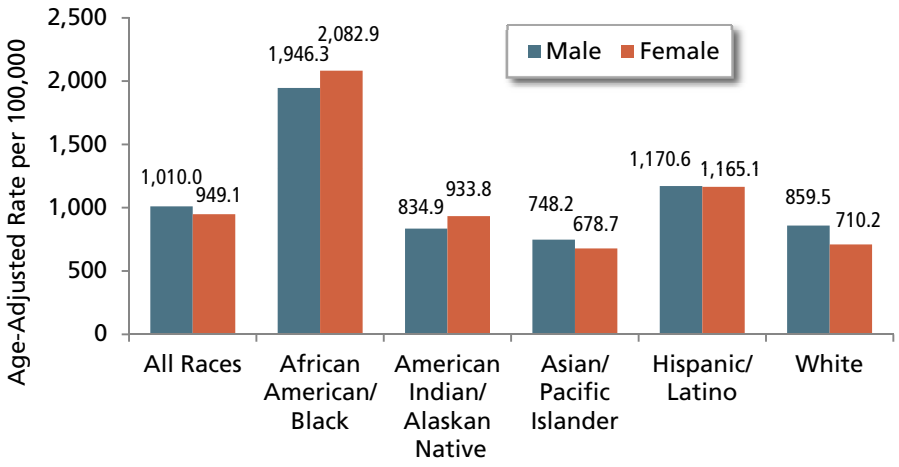
The diabetes-related hospitalization rate varies greatly by city/place in Alameda County, ranging from a high of 1,505.4 per 100,000 population in Hayward to a low of 385.7 per 100,000 in Albany, representing a four-fold difference. Rates are highest in Hayward, Union City and Oakland, and lowest in Albany, Berkeley, and Pleasanton (Figure 79).

Figure 77: Diabetes Hospitalization Trend



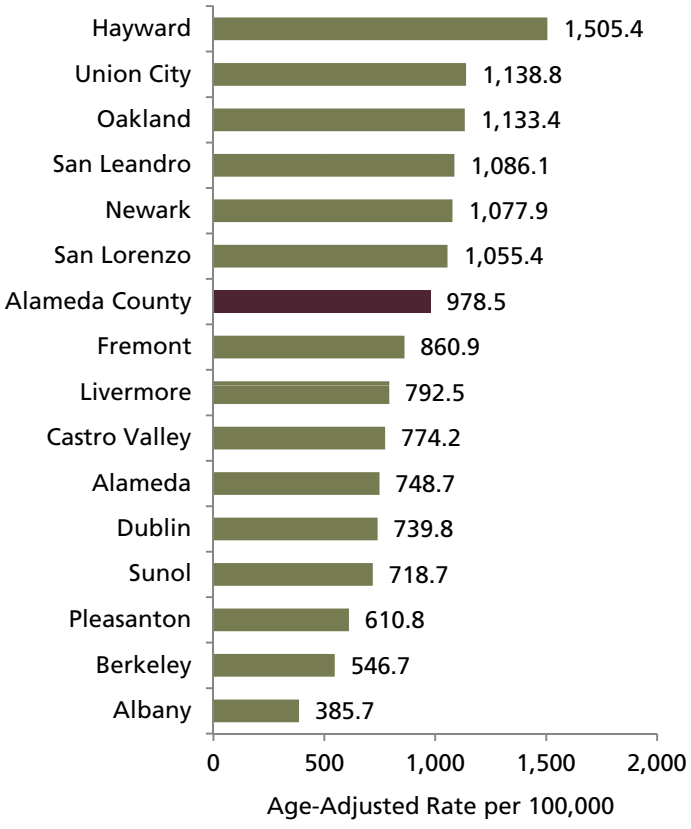
Source: OSHPD PDD, 1999-2011.

Figure 78: Diabetes Hospitalization Rates by Race/Ethnicity



Source: OSHPD PDD, 2009-2011.

Figure 79: Diabetes Hospitalization Rates by City/Place



Source: OSHPD PDD, 2009-2011.

Table 19: Chronic Disease Hospitalizations by Race/Ethnicity

	Diabetes		Coronary Heart Disease		Severe Mental Illness		Stroke		Congestive Heart Failure		Asthma		Asthma <5 Yrs. Old	
	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000
Total	44,505	978.5	14,294	314.1	11,347	236.3	10,269	230.9	9,815	219.9	6,139	139.0	1,269	431.4
African American/Black	11,700	2,014.6	2,236	379.4	3,244	552.6	2,480	430.2	2,779	472.1	2,191	404.5	344	1,127.7
American Indian	116	882.3	45	343.8	19	147.8	21	165.7	26	204.9	11	80.2	<5	na
Asian/Pacific Islander	8,029	709.9	2,877	249.0	1,003	78.4	1,816	166.0	1,557	147.8	856	79.2	181	245.5
Hispanic/Latino	6,932	1,163.9	1,403	256.6	1,001	109.6	1,000	187.5	940	193.4	1,050	113.8	378	378.0
White	15,841	777.8	6,561	306.7	5,578	329.8	4,560	214.5	4,161	189.9	1,565	94.6	160	255.1
Inequity Ratio		2.8		1.5		7.0		2.6		3.2		5.1		4.6

Source: OSHPD PDD, 2009-2011.

Table 20: Chronic Disease Hospitalizations by City/Place

	Diabetes		Coronary Heart Disease		Severe Mental Illness		Stroke		Congestive Heart Failure		Asthma		Asthma <5 Yrs. Old	
	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000
Alameda County	44,505	978.5	14,294	314.1	11,347	236.3	10,269	230.9	9,815	219.9	6,139	139.0	1,269	431.4
Alameda	1,916	748.7	700	266.8	466	200.6	541	209.3	593	222.3	193	92.5	42	335.4
Albany	210	385.7	106	198.5	96	182.5	78	144.8	54	101.3	43	77.6	10	226.6
Berkeley	1,895	546.7	686	192.5	1,235	335.5	698	195.4	533	148.9	296	110.6	67	505.0
Castro Valley	1,527	774.2	588	289.7	383	216.9	499	246.5	323	152.7	151	92.8	15	165.9
Dublin	766	739.8	252	242.4	191	141.9	170	187.0	152	187.9	82	69.6	21	197.7
Fremont	5,077	860.9	1,887	319.0	860	134.2	1,054	185.4	1,024	185.3	507	84.6	104	227.5
Hayward	7,468	1,505.4	2,425	492.0	1,530	280.4	1,259	263.6	1,455	300.3	1,043	205.4	155	390.5
Livermore	1,947	792.5	759	305.0	494	195.7	483	207.2	457	197.6	192	79.7	34	204.2
Newark	1,256	1,077.9	422	348.0	224	165.5	236	211.5	268	261.3	155	129.1	40	422.5
Oakland	14,035	1,133.4	3,261	264.7	4,186	323.9	3,290	270.2	3,138	254.9	2,528	215.4	589	731.9
Pleasanton	1,283	610.8	504	235.3	398	197.6	352	177.9	290	155.3	122	56.9	18	151.0
San Leandro	3,663	1,086.1	1,210	348.2	810	245.8	898	255.6	852	239.8	410	128.7	99	473.6
San Lorenzo	909	1,055.4	312	359.0	148	166.9	200	227.6	179	201.4	120	142.8	24	469.4
Sunol	24	718.7	16	408.8	7	na	5	na	<5	na	<5	na	<5	na
Union City	2,334	1,138.8	823	391.6	319	147.3	425	208.5	466	241.7	276	140.2	42	293.9
Inequity Ratio		3.9		2.6		2.5		1.9		3.0		3.8		4.8

Source: OSHPD PDD, 2009-2011.

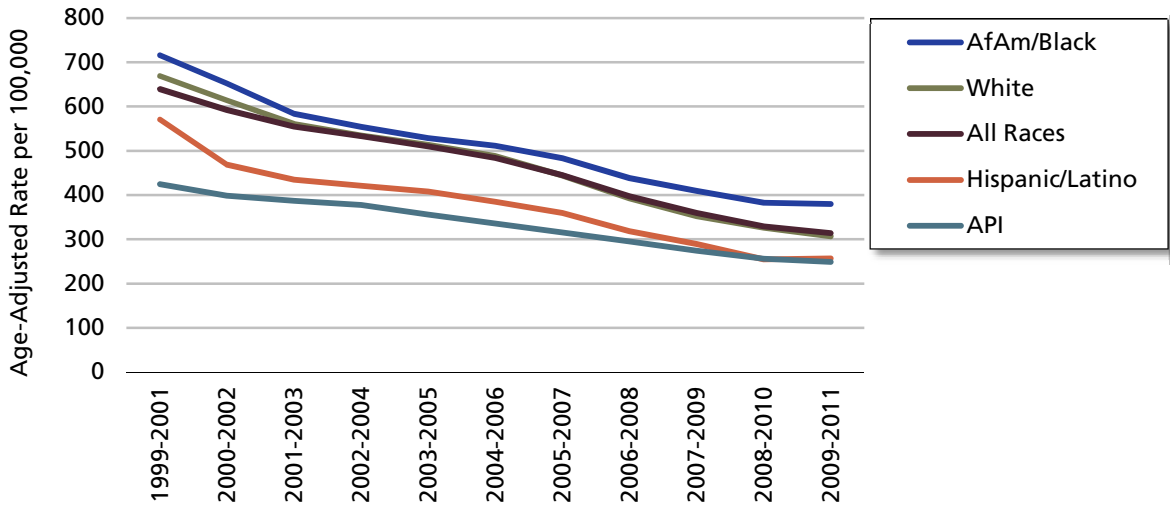
Coronary Heart Disease

Coronary heart disease (CHD) is the most common cause of death in the United States, accounting for more than one in six deaths.[11,12] In Alameda County, the rate of CHD hospitalizations has decreased in the last decade (Figure 80). From 2009 to 2011, there were 14,294 CHD hospitalizations, at an age-adjusted rate of 314.1 per 100,000 population (Table 19).

Inequities in CHD hospitalizations are seen by gender and race/ethnicity. Males have twice the CHD hospitalization rate of females, and African American males, followed by White males, have the highest rates overall (Figure 81). Among males, the rates of CHD hospitalizations are significantly higher for African Americans (438.5 per 100,000 population) and for Whites (429.0 per 100,000) than for Asian/Pacific Islanders (371.5 per 100,000) and Hispanics (338.3 per 100,000). African American males have 1.5 times higher CHD hospitalization rates than American Indian males, the group of males with the lowest rate (Figure 81). Among females, American Indians have the highest CHD hospitalization rate, at 389.8 per 100,000 population, a rate 2.6 times that of Asian/Pacific Islanders, the group with the lowest rate. Note that this difference is not statistically significant, possibly due to small numbers of American Indians contributing to the rate (Table 19). African American females have the second highest rate, at 334.6 per 100,000, significantly higher than the rates of Hispanic, White, and Asian/Pacific Islander females on the order of two-fold (Figure 81).

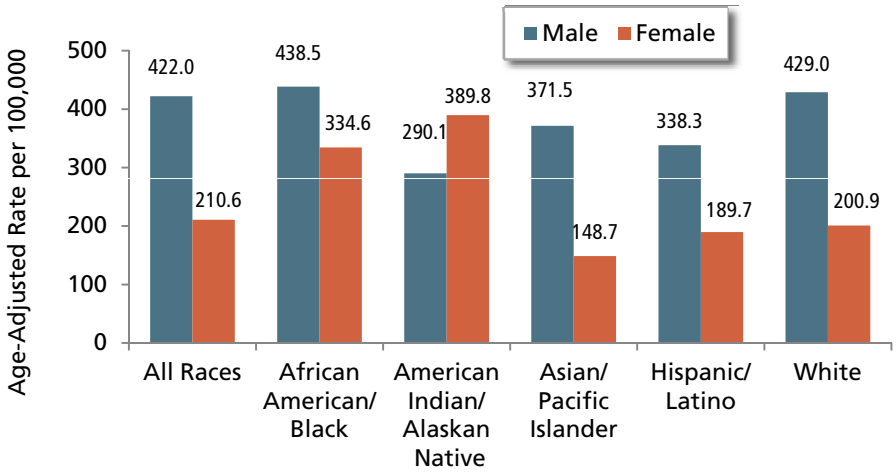
The CHD hospitalization rate varies greatly by city/place in Alameda County, ranging from a high of 492.0 per 100,000 in Hayward to a low of 192.5 per 100,000 in Berkeley, representing a three-fold difference. CHD hospitalization rates are highest in Hayward, Sunol and Union City, and lowest in Berkeley, Albany, and Pleasanton (Figure 82). Note that Sunol's rate is constituted by a small number of hospitalizations, and thus is less stable than the rate of other cities/places.

Figure 80: Coronary Heart Disease Hospitalization Trend



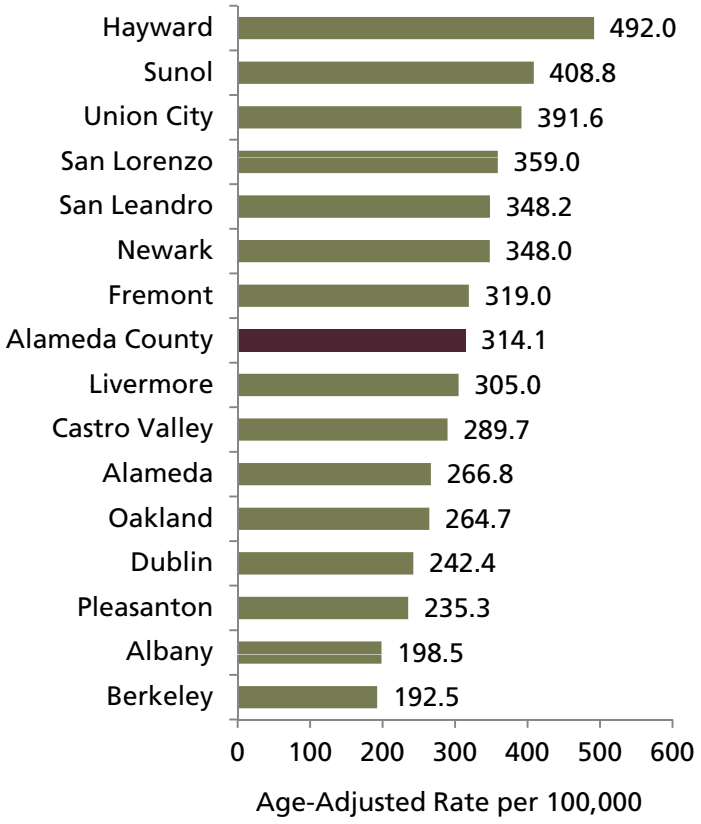
Source: OSHPD PDD, 1999-2011.

Figure 81: Coronary Heart Disease Hospitalization Rates by Race/Ethnicity



Source: OSHPD PDD, 2009-2011.

Figure 82: Coronary Heart Disease Hospitalization Rates by City/Place



Source: OSHPD PDD, 2009-2011.

Severe Mental Illness Related Hospitalizations

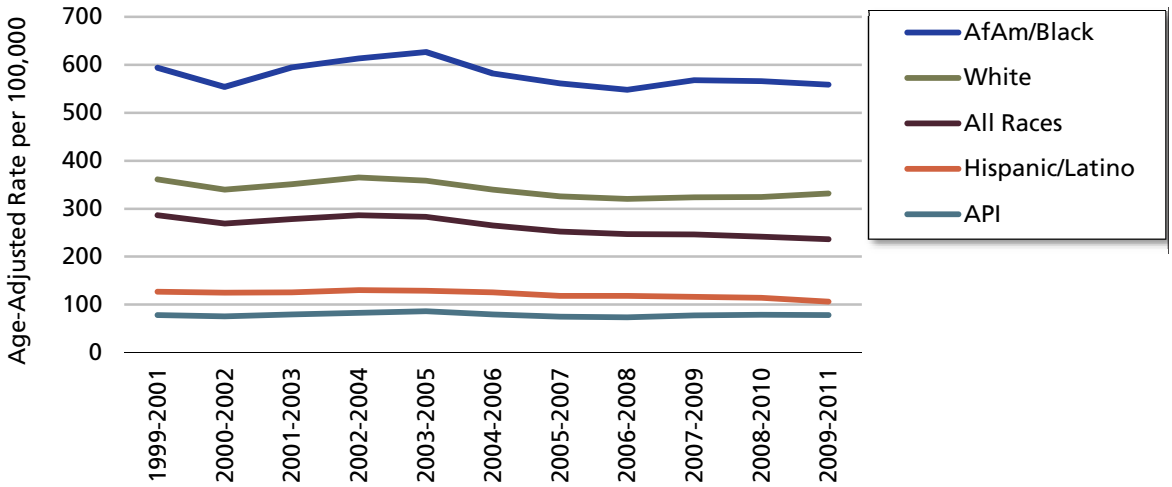
Severe mental illness hospitalizations are hospitalizations linked to mental disorders that are chronic and severe. Hospitalization rates for racial/ethnic minorities may be disproportionately high due to barriers in obtaining proper diagnosis, treatment, and management of mental illness. Barriers may include stigma, limited English proficiency, cultural understanding of health care services, lack of transportation, fragmented services, cost, co-morbidity of mental illness and other chronic diseases, and incarceration.[14] These barriers may lead to exacerbations of mental illnesses and their symptoms, which may result in more hospitalizations. Self-harm, depression, and psychotic episodes are among some of the events and conditions that could lead to hospitalizations.

In Alameda County, the overall rate of severe mental illness hospitalizations has been steady from 1999 to 2011 (Figure 83). There were 11,347 mental health hospitalizations in Alameda County from 2009 through 2011, at the age-adjusted rate of 236.3 per 100,000 population (Table 20).

Stark inequities in severe mental illness hospitalizations are seen by race/ethnicity, by which African American males and females have the highest rates, at 608.1 per 100,000 population and 515.3 per 100,000 population, respectively. African American males and females have between seven and eight times higher severe mental illness hospitalization rates than Asian/Pacific Islander males and females (the groups with the lowest rates), and between 1.4 and two times higher rates than White males and females (the groups with the next highest rates after African Americans) (Figure 84). Note that the small numbers of severe mental illness hospitalizations for American Indian males and females make their rates less stable than other rates presented (data not shown).

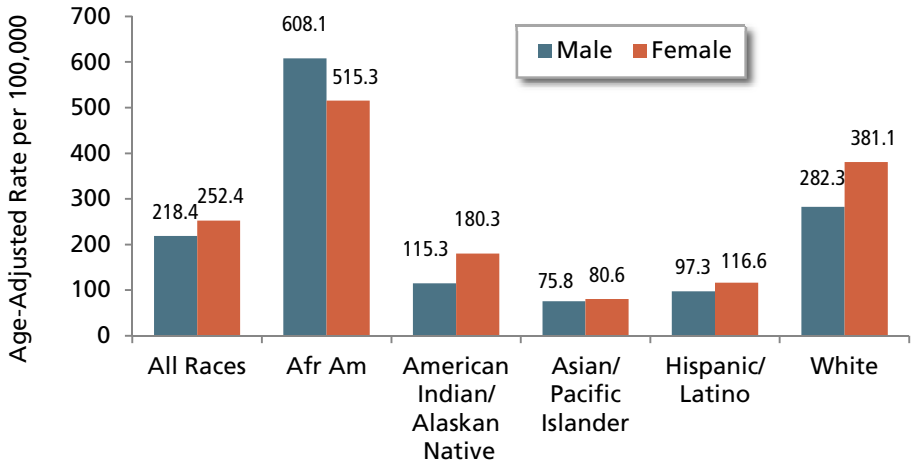
The severe mental illness hospitalization rate varies greatly by city/place in Alameda County. For those cities/places with ten or more hospitalizations during 2009-2011, hospitalization rates range from a high of 333.5 per 100,000 in Hayward to a low of 134.2 per 100,000 in Fremont, representing a two-fold difference. Rates are highest in Berkeley, Oakland, and Hayward, and lowest in Fremont, Dublin, and Union City (Figure 85).

Figure 83: Severe Mental Illness Related Hospitalization Trend



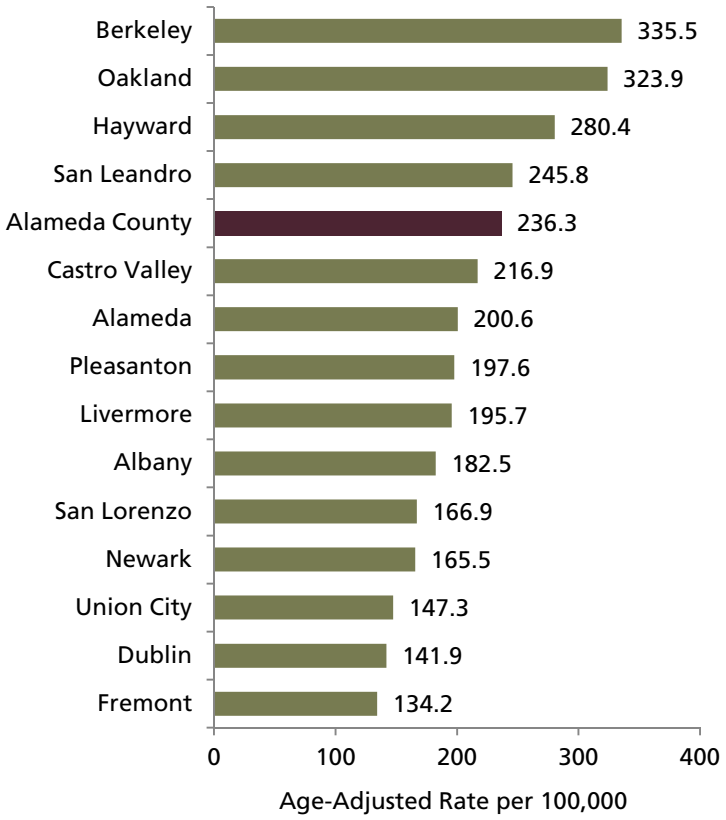
Source: OSHPD PDD, 1999-2011.

Figure 84: Severe Mental Illness Related Hospitalization Rates by Race/Ethnicity



Source: OSHPD PDD, 2009-2011.

Figure 85: Severe Mental Illness Related Hospitalization Rates by City/Place



Source: OSHPD PDD, 2009-2011.

Stroke

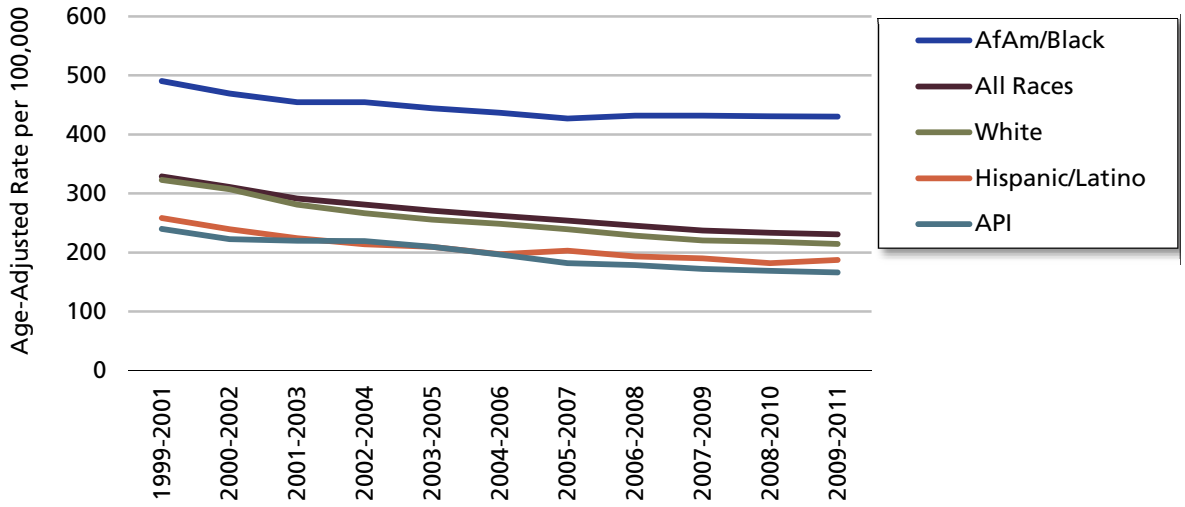
About one in every 19 deaths in the United States is due to stroke. Stroke is also a leading cause of serious long-term disability.[15]

In Alameda County, the rate of stroke hospitalizations has decreased steadily since 1999 (Figure 86). There were 10,269 stroke hospitalizations between 2009 and 2011, at a rate of 230.9 hospitalizations per 100,000 population (Table 20).

Inequities in stroke hospitalization rates are seen by race/ethnicity. African American males and females have two to three times higher stroke hospitalization rates than any other racial/ethnic group, at 241.8 per 100,000 population and 217.6 per 100,000 population, respectively (Figure 87). Note that the small numbers associated with stroke hospitalization rates for American Indian males and females make their rates less stable than other rates presented (data not shown).

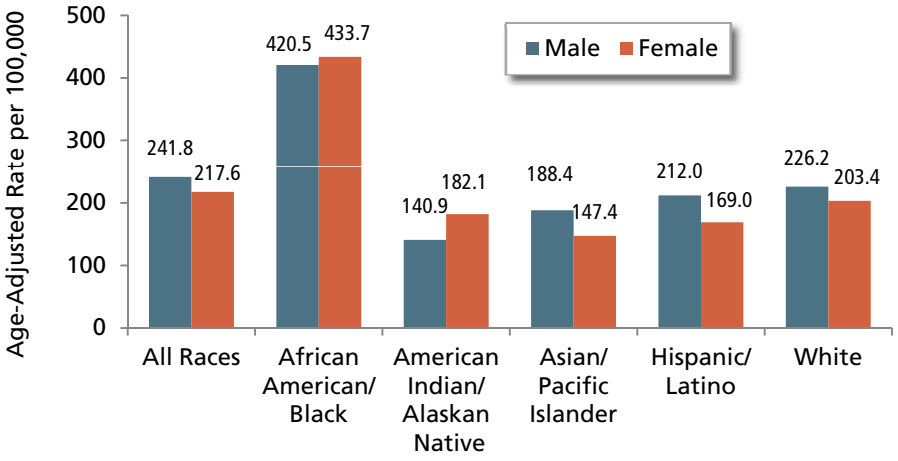
The stroke hospitalization rate varies greatly by city/place in Alameda County. For those cities/places with ten or more hospitalizations during 2009-2011, hospitalization rates range from a high of 270.2 per 100,000 population in Oakland to a low of 144.8 per 100,000 in Albany, representing a two-fold difference. Rates are highest in Oakland, Hayward, and San Leandro, and lowest in Albany, Pleasanton, and Dublin (Figure 88). Note that the rate for Sunol is not included in Figure 88 due to small numbers (Table 20).

Figure 86: Stroke Hospitalization Trend



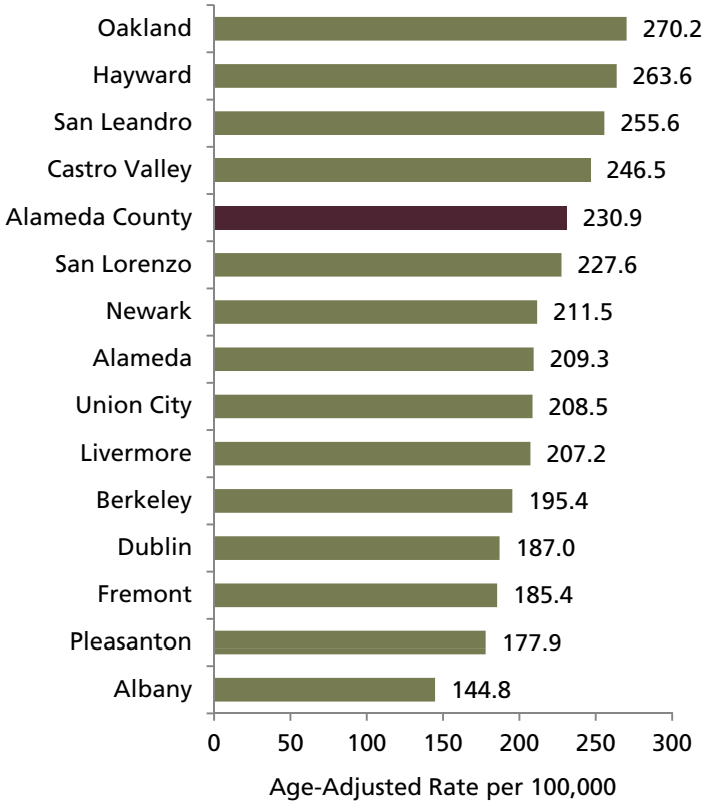
Source: OSHPD PDD, 1999-2011.

Figure 87: Stroke Hospitalization Rates by Race/Ethnicity



Source: OSHPD PDD, 2009-2011.

Figure 88: Stroke Hospitalization Rates by City/Place



Source: OSHPD PDD, 2009-2011.

Congestive Heart Failure

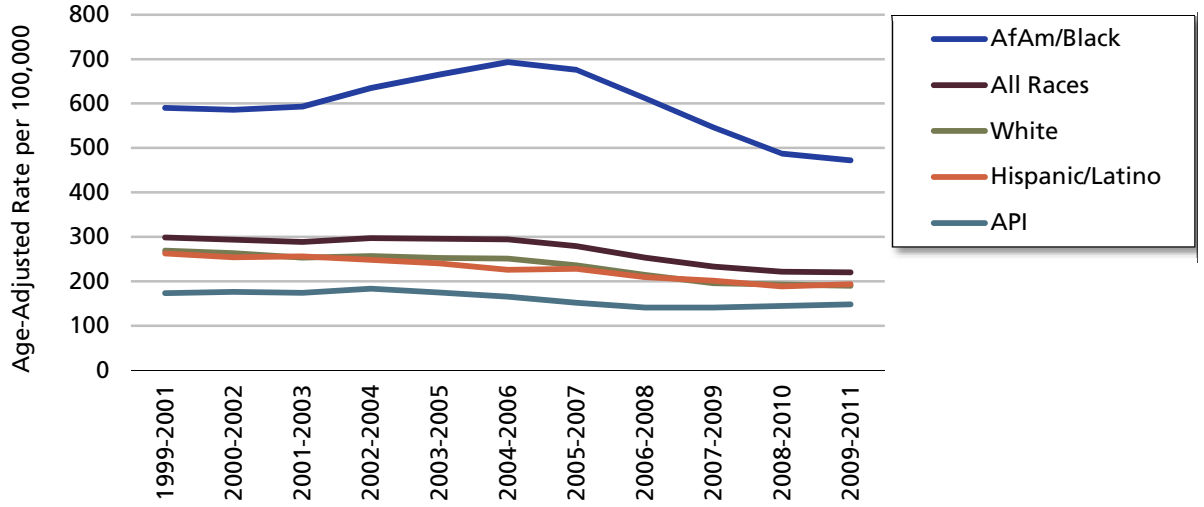
Congestive heart failure (CHF) is often caused by hypertension, diabetes, or coronary heart disease. It is estimated that 5.8 million people in the United States have CHF, and CHF is one of the most common reasons those 65 years or more are hospitalized.[11]

In Alameda County, the overall rate of CHF hospitalizations decreased slightly from 1999 to 2011 (Figure 89). There were 9,815 CHF hospitalizations from 2009 through 2011, at an age-adjusted rate of 219.9 per 100,000 population (Table 20).

Inequities in CHF hospitalizations are seen by gender, whereby males have 1.4 times higher CHF hospitalization rates than females. Inequities are also seen by race/ethnicity. African American males have the highest CHF hospitalization rate, at 545.8 per 100,000 population, and African American females have the next highest rate, at 416.4 hospitalizations per 100,000 population (Figure 90). Both among males and females, African Americans have three times higher CHF rates than Asian/Pacific Islanders, the group with the lowest rates (Figure 90). After African Americans, the next highest rate is among American Indian males, at 302.8 per 100,000 population. It should be noted that due to small numbers, this rate is less stable than those from other racial/ethnic groups (data not shown).

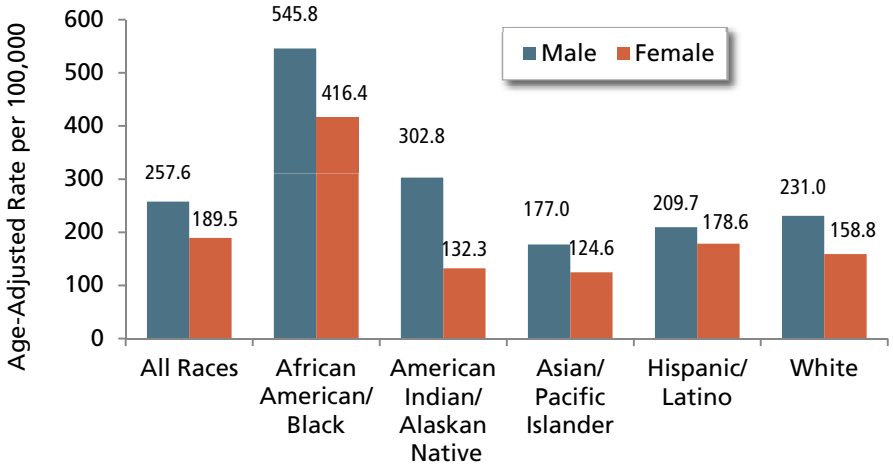
The CHF hospitalization rate varies greatly by city/place in Alameda County. For those cities/places with ten or more hospitalizations during 2009-2011, CHF hospitalization rates range from a high of 300.3 per 100,000 population in Hayward to a low of 101.3 per 100,000 in Albany, representing a three-fold difference. Rates are highest in Hayward, Newark, and Oakland, and lowest in Albany, Berkeley, and Castro Valley.

Figure 89: Congestive Heart Failure Hospitalization Trend



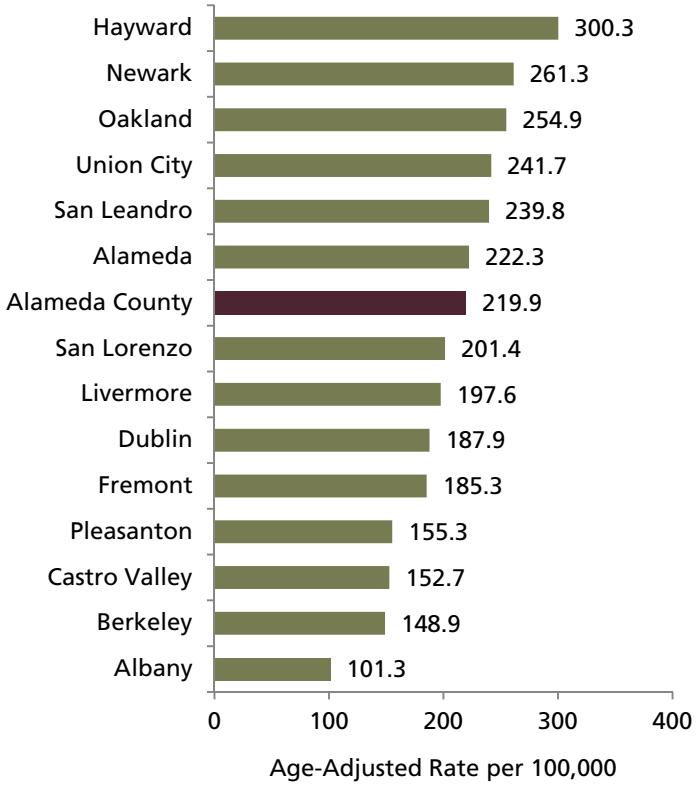
Source: OSHPD PDD, 1999-2011.

Figure 90: Congestive Heart Failure Hospitalization Rates by Race/Ethnicity



Source: OSHPD PDD, 2009-2011.

Figure 91: Congestive Heart Failure Hospitalization Rates by City/Place



Source: OSHPD PDD, 2009-2011.

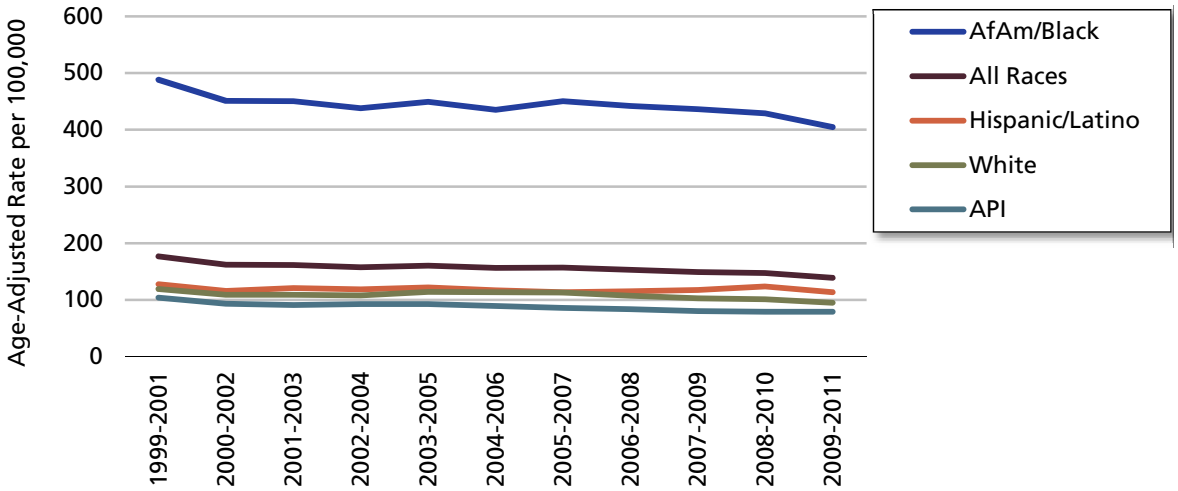
Asthma

In Alameda County from 1999 through 2011, asthma hospitalization rates were somewhat steady (Figure 92). In most recent years (2009-2011), there were 6,139 asthma hospitalizations, at an age-adjusted rate of 139.0 per 100,000 population (Table 20).

Inequities in asthma hospitalization rates are seen by race/ethnicity. African American females and males have the highest rates, at 428.5 per 100,000 population and 367.3 per 100,000 population, respectively. Asthma hospitalization rates are four to six times higher for African Americans than for any other racial/ethnic group (Figure 93). Note that the small numbers associated with asthma hospitalization rates for American Indian males and females make their rates less stable than other rates presented (data not shown).

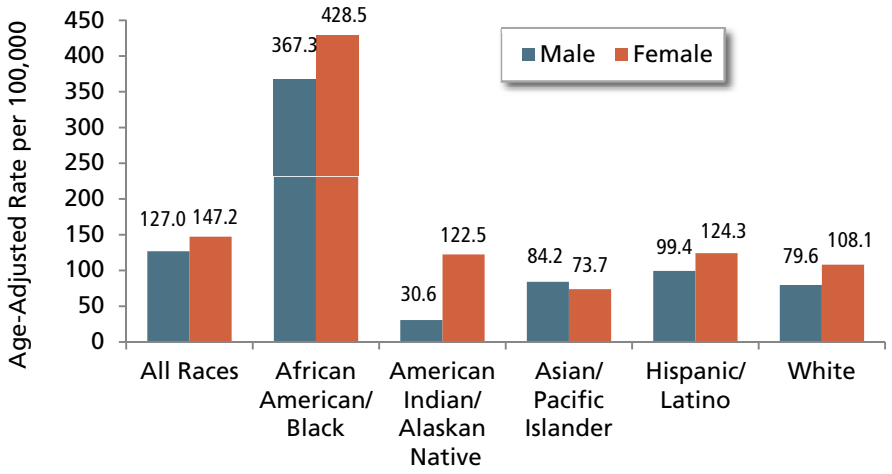
For those cities/places with ten or more hospitalizations during 2009-2011, the asthma hospitalization rate ranges from a high of 215.4 per 100,000 hospitalizations in Oakland to a low of 56.9 per 100,000 in Pleasanton, representing a four-fold difference. Rates are highest in Oakland and Hayward, and lowest in Pleasanton, Dublin, and Albany (Figure 94).

Figure 92: Asthma Hospitalization Trend



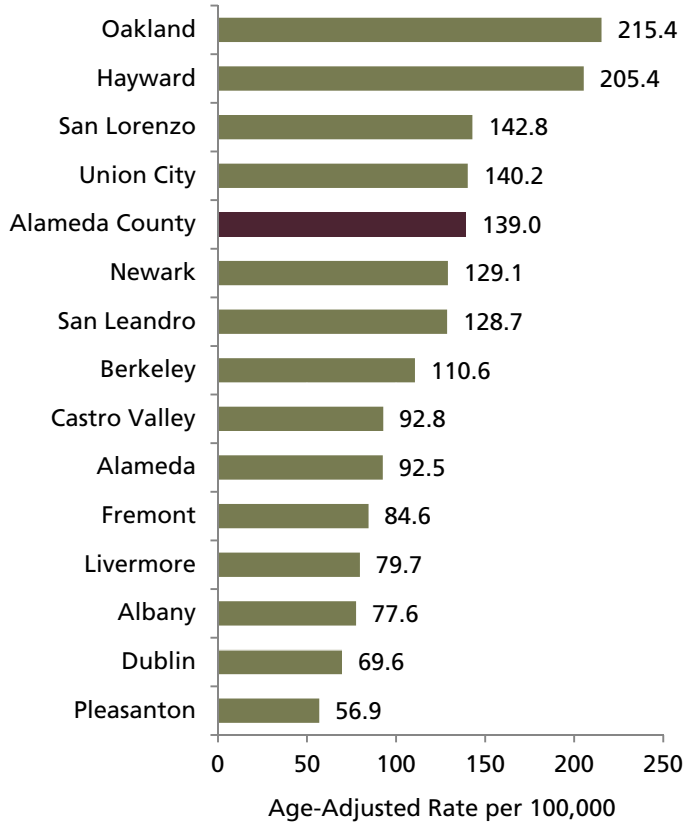
Source: OSHPD PDD, 1999-2011.

Figure 93: Asthma Hospitalization Rates by Race/Ethnicity



Source: OSHPD PDD, 2009-2011.

Figure 94: Asthma Hospitalization Rates by City/Place



Source: OSHPD PDD, 2009-2011.

Child Asthma

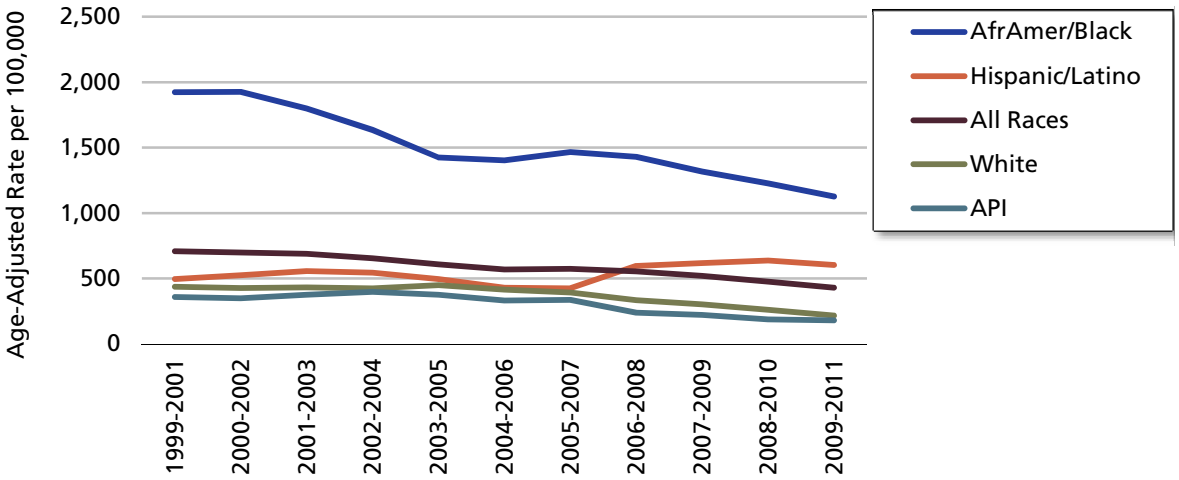
About one in ten children (9.5%) had asthma in the United States in 2011. Almost half (4%) of children with asthma had an asthma attack, and more than half (59%) of children who had an asthma attack missed school or work because of asthma. On average, children with asthma missed four days of school because of their asthma.[16]

There were 1,261 asthma hospitalizations in Alameda County among children less than five years from 2009 to 2011, and the age-adjusted rate was 431.4 per 100,000 children under five. This was over 3.1 times the Alameda County rate for all ages combined (Table 20). Asthma rates peaked in the late 1990s and early 2000s and declined steadily until 2006, after which they leveled off. While rates for African Americans, Asian/Pacific Islanders, and Whites decreased substantially, rates for Hispanics remained steady or increased (Figure 95).

The peak rate for asthma hospitalizations is observed for males less than five years, for which the rate (1,454.8 per 100,000) is 10.5 times the average rate for Alameda County residents of all ages (Figure 96 and Table 20). Among both males and females, African Americans have three to five times higher asthma hospitalization rates than any other racial/ethnic group with more than ten hospitalizations in 2009-2011(Figure 96).

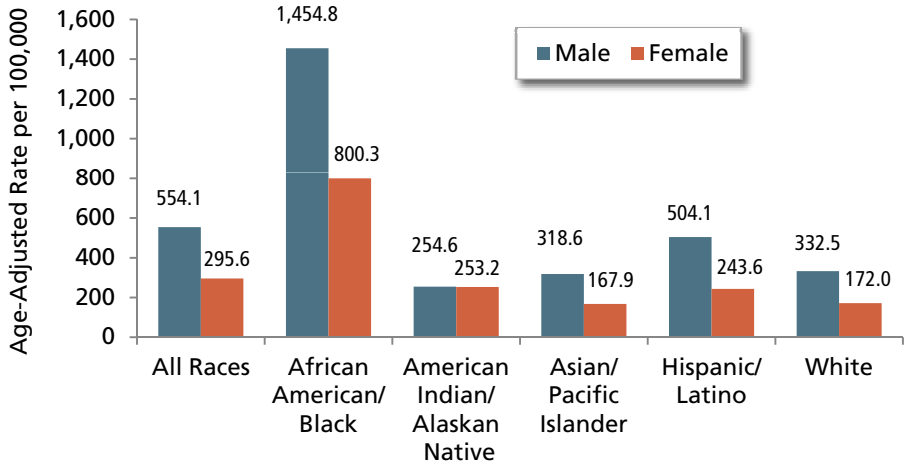
The asthma hospitalization rate varies greatly by city/place in Alameda County. Among cities/places with at least ten hospitalizations from 2009 to 2011, hospitalization rates range from a high of 731.9 per 100,000 population in Oakland to a low of 151.0 per 100,000 in Pleasanton, representing a five-fold difference (Figure 97).

Figure 95: Child Asthma Hospitalization Trend



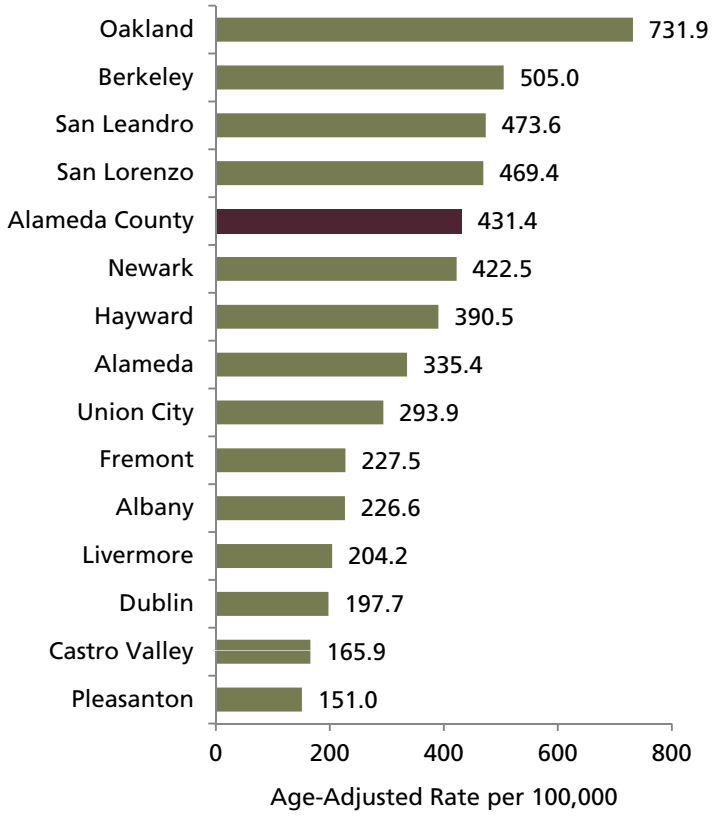
Source: OSHPD PDD, 1999-2011.

Figure 96: Child Asthma Hospitalization Rates by Race/Ethnicity



Source: OSHPD PDD, 2009-2011.

Figure 97: Child Asthma Hospitalization Rates by City/Place



Source: OSHPD PDD, 2009-2011.

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CHAPTER SIX

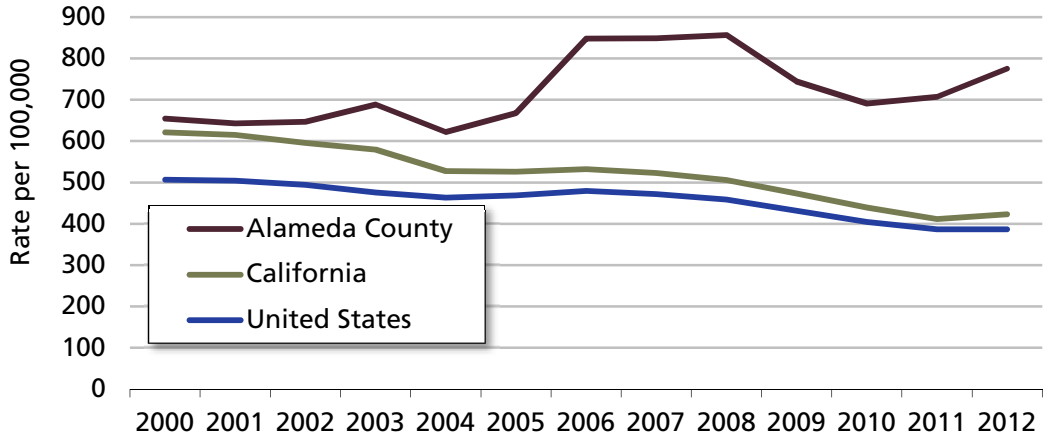
SAFETY AND VIOLENT CRIME

This chapter presents data on five key injury indicators: the violent crime rate, deaths due to homicide, and emergency department (ED) visits for assault, unintentional injury, and self-inflicted harm. Homicide and assault ED visits are presented together as they both represent injury intentionally inflicted on another person. ED visits for self-inflicted injury is presented as a proxy for attempted suicide (as suicides are small in number).

Trends in Violent Crime

The violent crime rate—including murder and non-negligent manslaughter, forcible rape, robbery, and aggravated assault—in Alameda County has been consistently higher than the California and national rates over the past decade. While rates have declined in California and the United States, the Alameda County rate has fluctuated, increasing slightly overall.

Figure 98: Violent Crime Trend



Source: Uniform Crime Reports, 2000-2012.

Homicide and Assault

Homicide is an intentionally inflicted fatal injury to another person. Assault is intentionally inflicted injury to another person that may or may not involve intent to kill. Overall, there were 394 homicides from 2010 to 2012 of residents of Alameda County for a rate of 8.4 per 100,000. There were 19,957 ED visits for assault for residents of the county between 2009 and 2011, for a rate of 426.8 per 100,000.

Table 21: Safety and Violent Crime by Race/Ethnicity

	Homicide		Assault-Related ED		Unintentional Injury ED		Self-Inflicted Injury ED	
	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000
Total	394	8.4	19,956	426.7	287,478	6,360.0	4,761	102.7
African American/Black	245	43.7	8,816	1,556.9	64,479	11,721.4	937	165.6
American Indian/Alaskan Native	0	na	69	521.6	773	6,364.4	13	105.3
Asian	24	1.9						
Hispanic/Latino	71	6.2	3,969	348.3	51,842	5,116.3	727	64.0
Pacific Islander	0	na						
Asian/Pacific Islander			1,284	102.0	31,379	2,683.9	406	32.5
White	38	2.4	4,370	297.3	112,405	7,433.9	2,285	157.9
National Comparison (2010)		5.3						
California (2009-2011)		5.3						
HP2020 Objective		5.5						
Inequity Ratio		23.0		15.3		4.4		5.1

Sources: OSHPD Modified ED 2009-2011; Alameda County Vital Statistics Files 2010-2012; CDC FastStats 2013; California County Health Status Profiles 2013.
Note: Alameda County totals in Table 20 and Table 21 due not match due to missing data.

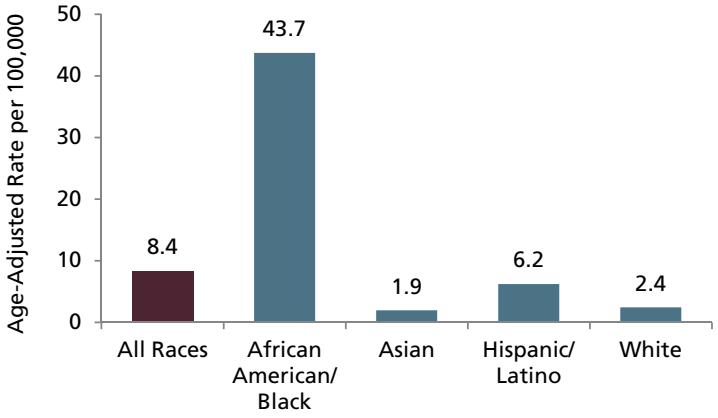
Table 22: Safety and Violent Crime by City/Place

	Homicide		Assault-Related ED		Unintentional Injury ED		Self-Inflicted Injury ED	
	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000
Alameda County	394	8.4	19,957	426.8	287,491	6,360.3	4,761	102.7
Alameda	9	na	635	305.5	13,861	6,321.0	168	79.9
Albany	0	na	69	131.4	2,604	4,614.9	43	79.0
Ashland	8	na	na	na	na	na	na	na
Berkeley	13	3.7	1,039	274.0	18,488	5,639.4	312	76.2
Castro Valley	7	na	462	306.5	11,168	6,752.9	216	137.5
Cherryland	<5	na	na	na	na	na	na	na
Dublin	<5	na	214	147.0	6,398	4,923.8	107	73.8
Emeryville	<5	na	na	na	na	na	na	na
Fairview	<5	na	na	na	na	na	na	na
Fremont	17	2.7	1,147	187.5	31,319	5,064.2	507	84.0
Hayward	50	10.5	2,562	461.0	42,318	7,949.9	727	133.4
Livermore	<5	na	492	205.1	12,857	5,212.7	252	104.4
Newark	10	8.0	373	293.2	7,451	5,957.8	119	93.5
Oakland	226	18.7	10,389	831.0	90,390	7,423.3	1,474	119.0
Piedmont	0	na	na	na	na	na	na	na
Pleasanton	<5	na	267	143.0	11,445	5,589.9	205	103.3
San Leandro	24	10.1	1,393	447.0	21,298	6,699.5	378	122.9
San Lorenzo	<5	na	308	363.4	5,585	6,704.4	87	103.6
Sunol	0	na	6	298.1	256	9,540.4	<5	na
Union City	10	4.5	601	285.8	12,053	5,847.2	165	78.2
Remainder of County	<5	na	na	na	na	na	na	na
Inequity Ratio		6.9		6.3		2.1		1.9

Sources: OSHPD Modified ED 2009-2011; Alameda County Vital Statistics Files 2010-2012.

The African American homicide rate (43.7 per 100,000) was significantly higher than the rates for Asians, Hispanics, or Whites by a wide margin (seven to 20 times), and it was five times the Alameda County rate of 8.4 per 100,000 (Figure 99). An alternative way of looking at this disproportionate burden of violence is that 62% of all homicides in the county occurred among African Americans, whereas African Americans make up just 12% of the population. Overall, the African American homicide rate was 23 times the Asian homicide rate (Table 21). Homicide rates are shown here for both sexes together due to small numbers; however, the vast majority, 86.5%, of homicide victims were male.

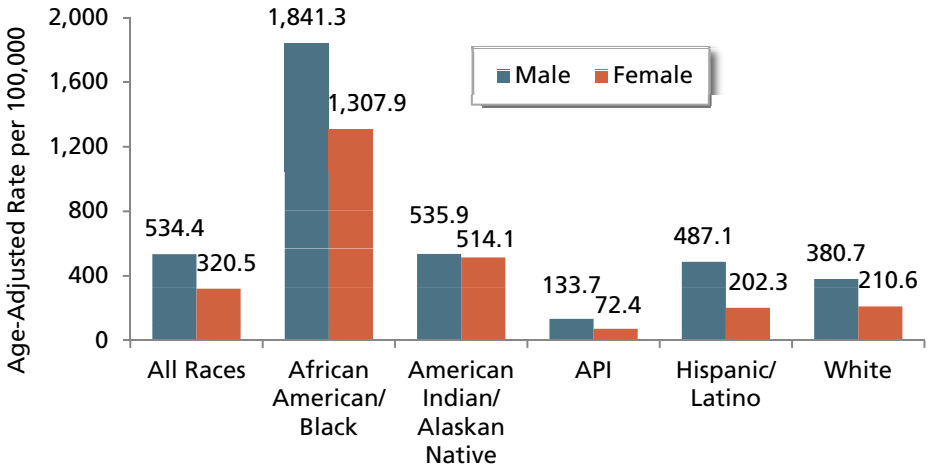
Figure 99: Homicide Rate by Race/Ethnicity



Source: Alameda County Vital Statistics Files, 2010-2012.

The African American assault ED visit rates were highest among African American males and females (1,841.3 and 1,307.9 per 100,000, respectively), three or more times the rates of other racial/ethnic groups and the county average. Rates were lowest among Asian/Pacific Islander males and females (133.7 and 72.4 per 100,000, respectively). Overall, the African American assault ED visit rate was 15 times that of API. Also noteworthy is that the male-female differential seen in other racial/ethnic groups did not exist for American Indians. The largest gender difference occurred among Hispanics, where the rate among males (487.1) was more than double that of females (202.3).

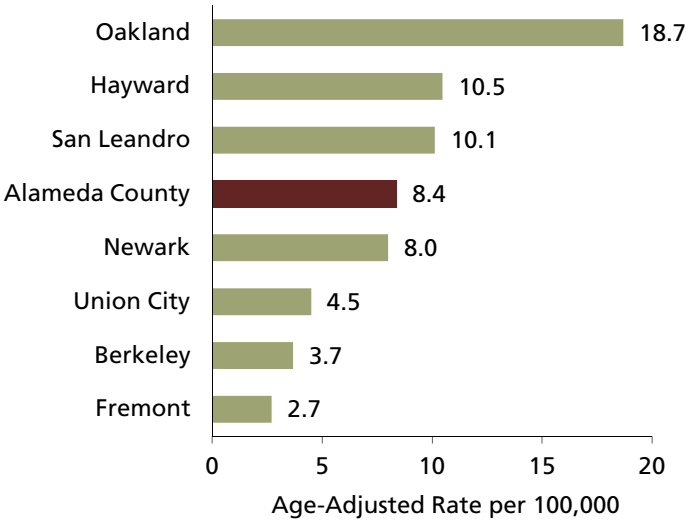
Figure 100: Assault-Related ED Visit Rate by Race/Ethnicity



Sources: OSHPD Modified ED 2009-2011.

Homicide and assault emergency department visit rates differ widely by city and place in Alameda County. Homicide rates ranged from a high of 18.7 per 100,000 in Oakland to 2.7 per 100,000 in Fremont, a seven-fold difference (Figure 101). The Oakland rate was 2.1 times that of the Alameda County rate (8.9 per 100,000). Berkeley and Fremont had the lowest rates among Alameda County cities with ten or more homicides in 2010-2012.

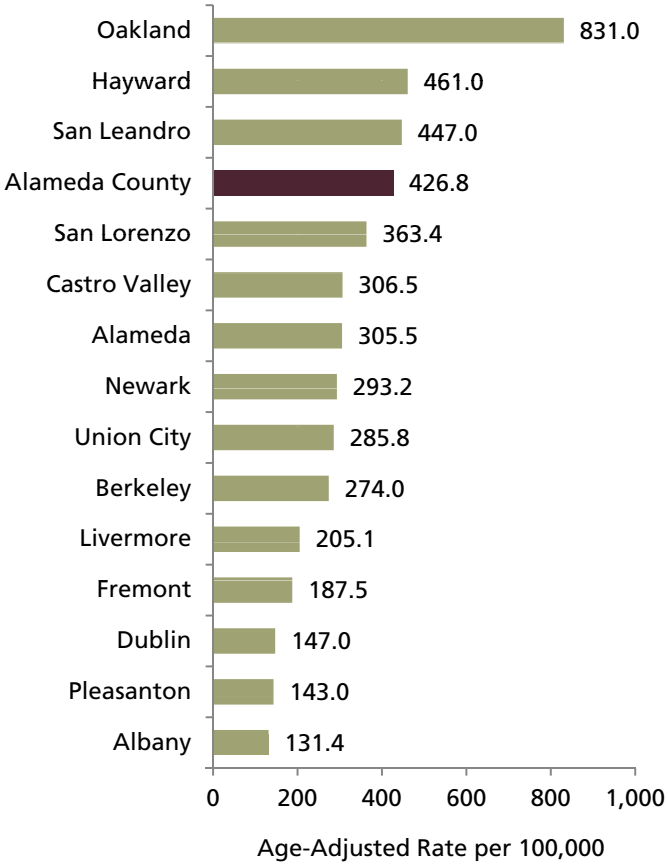
Figure 101: Homicide Rate by City/Place



Source: Alameda County Vital Statistics Files, 2010-2012.

The Alameda County rate of ED visits for assault was 426.8 per 100,000 (Figure 102). City rates ranged from a high of 831.0 per 100,000 in Oakland to a low of 131.4 in Albany, reflecting a six-fold difference. The disproportionate level of violence experienced by Oakland residents was reflected in the fact that they made up 52% of all assault ED visitors, while they comprised only 26% of the Alameda County population.

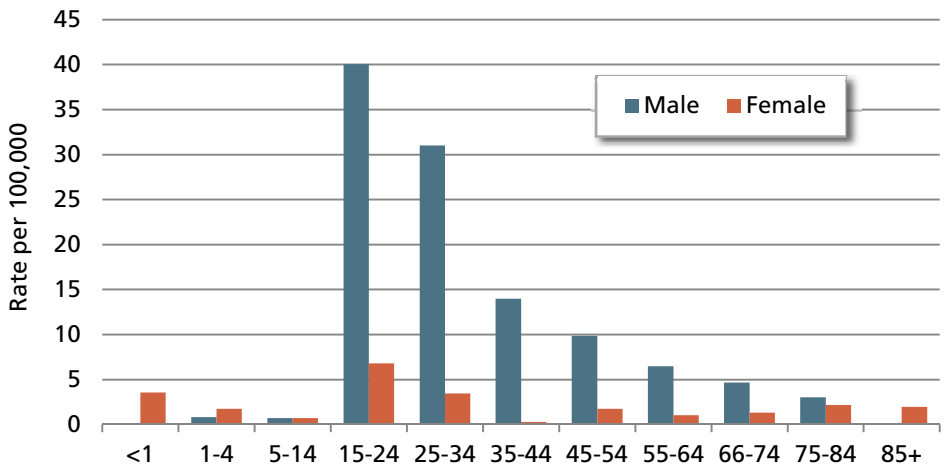
Figure 102: Assault-Related ED Visit Rate by City/Place



Sources: OSHPD Modified ED 2009-2011.

Males 15 to 24 years have the highest homicide rate (40.0 per 100,000), followed by males 25 to 34 years (31.0) (Figure 103). These rates are six times those of their female counterparts.

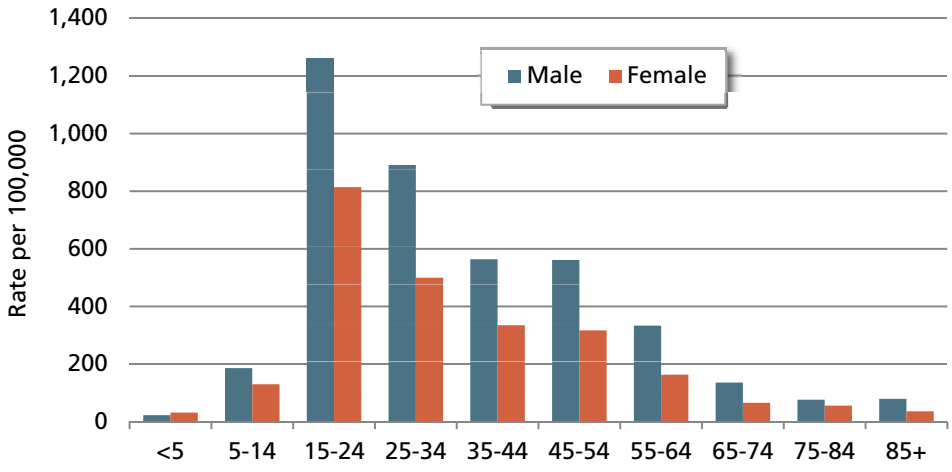
Figure 103: Homicide Rate by Age and Gender



Source: Alameda County Vital Statistics Files, 2010-2012.

The rate of ED visits for assault was, again, highest among males 15 to 24 years (1,262.0 per 100,000) and males 25 to 34 years (890.9) (Figure 104). Over one-third of assault ED visitors were female (37.5%) compared to only 13.5% of homicide victims.

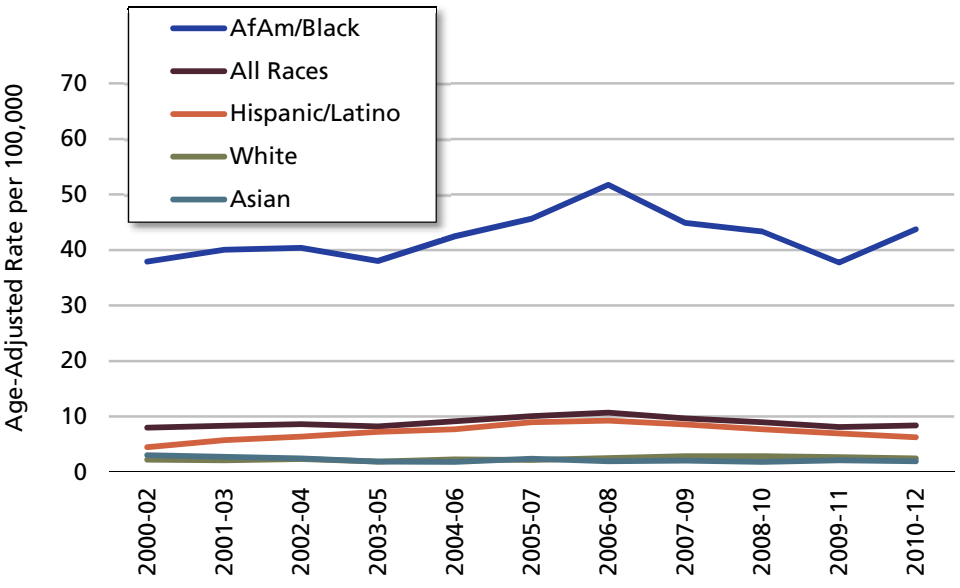
Figure 104: Assault-Related ED Visit Rate by Age and Gender



Sources: OSHPD Modified ED 2009-2011.

Overall, for all racial/ethnic groups combined, the homicide rate in Alameda County has changed little in the past decade. While the rate has remained stable for Asians, Hispanics, and Whites, it has increased slightly over the same period among African Americans (Figure 105).

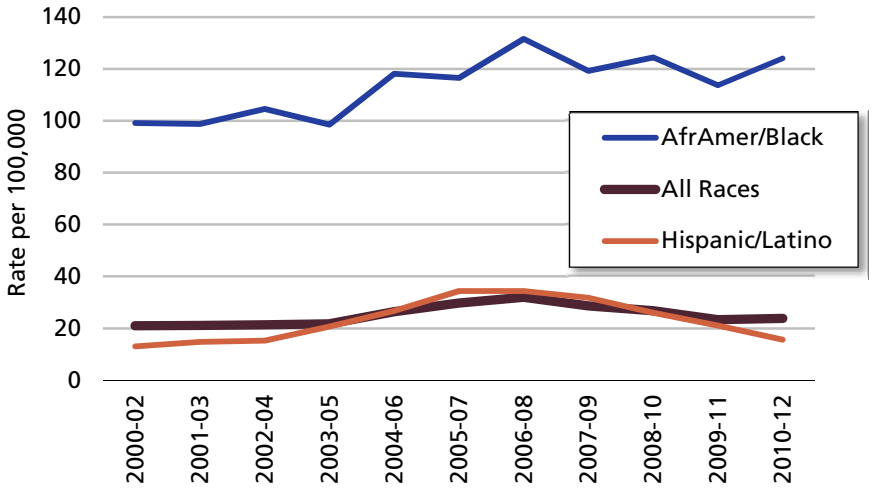
Figure 105: Homicide Rate Trend by Race/Ethnicity



Source: Alameda County Vital Statistics Files, 2000-2012.

Homicide is the leading cause of death among youth 15-24 years. Homicides among these youth make up 38% of all homicides from 2010 to 2012. For African Americans, there was a significant increase the rate between 2000-02 and 2006-08 and then no significant change through 2010-12. For Hispanics, there was a statistically significant increase between 2000-02 and 2006-08, and a significant decrease in the remaining years.

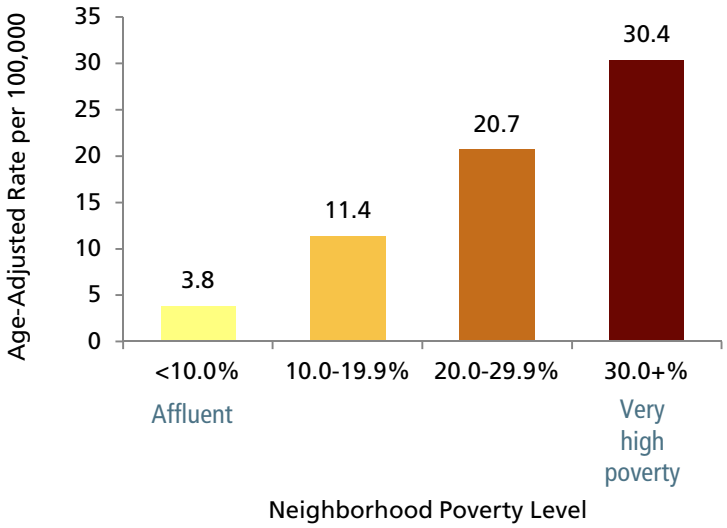
Figure 106: Homicide Rate Trend by Race/Ethnicity, Youth 15-24 Years



Source: Alameda County Vital Statistics Files, 2000-2012.

When the homicide rate is broken down by neighborhood poverty level (see Chapter 2), there is a nearly eight-fold difference between very high-poverty neighborhoods (30%+) and affluent neighborhoods (<10%).

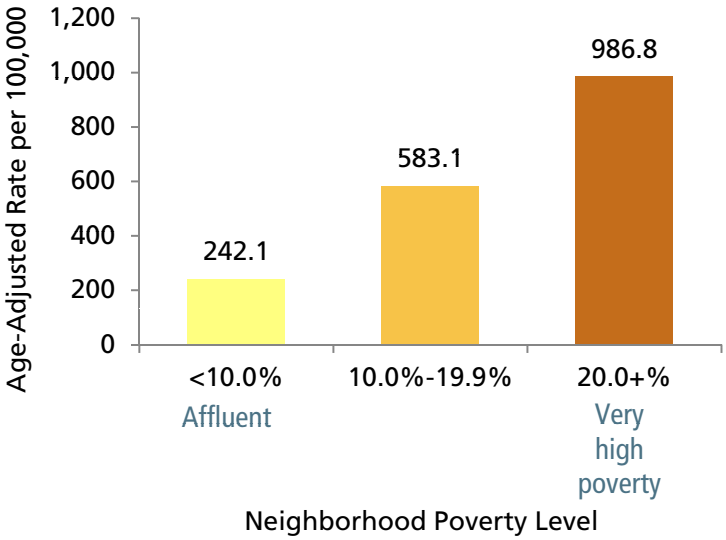
Figure 107: Homicide Rate by Neighborhood Poverty Level



Source: Alameda County Vital Statistics Files, 2010-2012.

Similarly, when assault ED visit rates are broken down by neighborhood poverty level, the rate in high-poverty neighborhoods (20%+) is four times that in affluent neighborhoods (<10%).

Figure 108: Assault-Related ED Visit Rate by Neighborhood Poverty Level



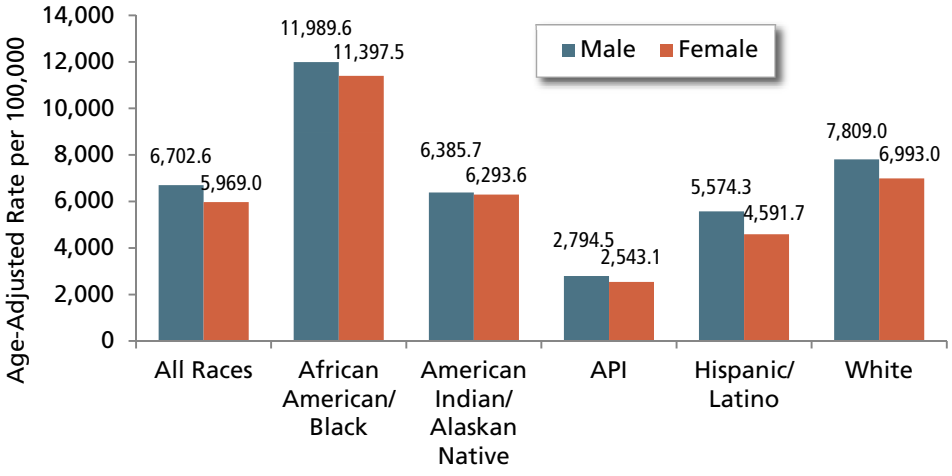
Sources: OSHPD Modified ED 2009-2011.

Unintentional Injury

Unintentional injury is physical injury that is not purposely inflicted. Unintentional injuries are largely preventable – the greatest number of unintentional injuries are due to motor vehicle crashes followed by poisonings, firearms, and falls. These mechanisms vary by age group, with motor vehicle crashes being more common among young people and falls being more common among the elderly.

The rate of unintentional injury ED visits was highest among African American males and females (11,989.6 and 11,397.5 per 100,000, respectively), followed by White and American Indian males and females (Figure 109). Relatively small differences by sex were observed. The lowest rate was found among Asian/Pacific Islander males and females (2,794.5 and 2,543.1 per 100,000, respectively). The African American unintentional injury ED visit rate was four times that of API (Table 20).

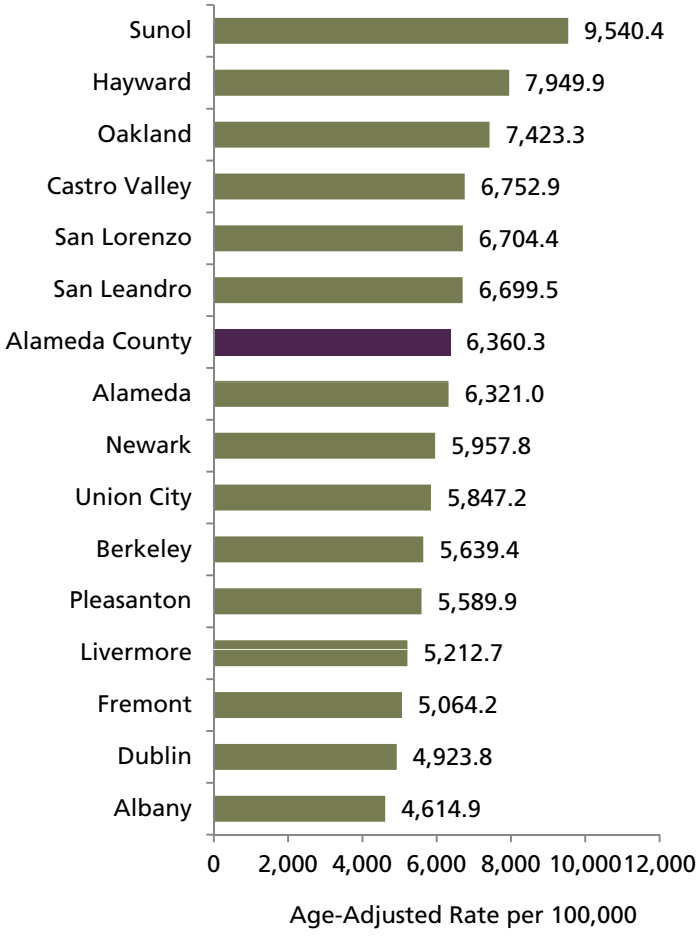
Figure 109: Unintentional Injury ED Visit Rate by Race/Ethnicity



Sources: OSHPD Modified ED 2009-2011.

From 2009 to 2011, there were 287,491 ED visits for unintentional injury among Alameda County residents. The age-adjusted rate was 6,360.3 per 100,000 population (Table 22). The rate of unintentional injury ED visits ranged from a low of 4,614.9 per 100,000 in Albany to a high of 9,540.4 per 100,000 in Sunol, over two times that of Albany (Figure 110). Rates among Hayward, Oakland, Castro Valley, San Lorenzo, and San Leandro residents were all above the county average.

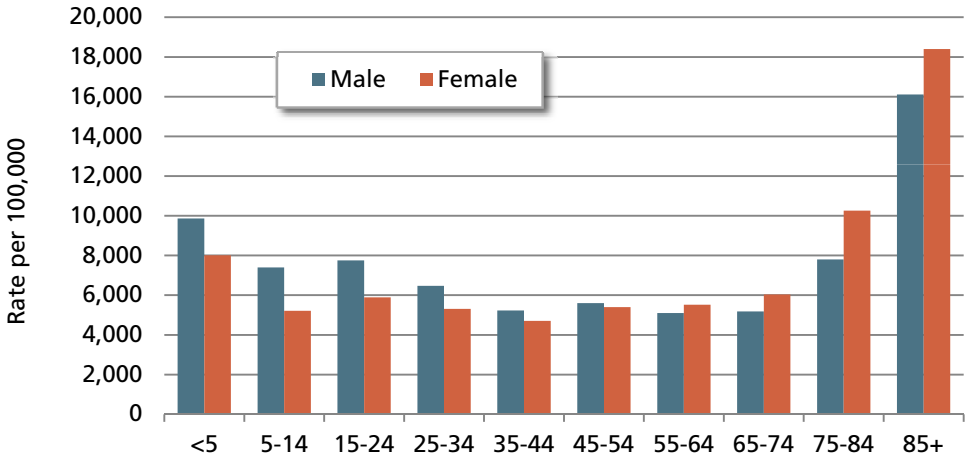
Figure 110: Unintentional Injury ED Visit Rate by City-Place



Sources: OSHPD Modified ED 2009-2011.

The age group most affected by unintentional injury ED visits are those 85 years or more at a rate of 16,110.7 per 100,000 among males and 18,397.1 per 100,000 among females. The disproportionately high rates among the elderly can be attributed to falls occurring at an older age. It is noteworthy that among those 55 years or more, rates of unintentional injury among females exceed those among males. In contrast, among those under 55 years, male rates exceed female rates.

Figure 111: Unintentional Injury ED Visit Rate by Age and Gender



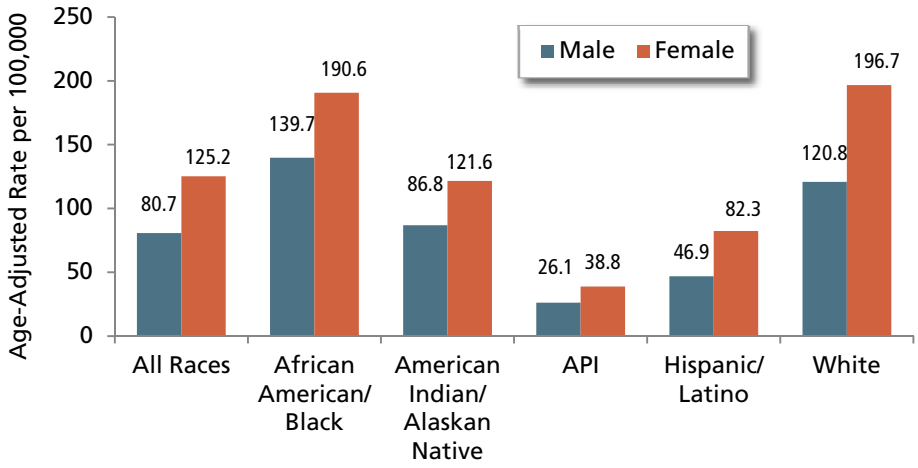
Sources: OSHPD Modified ED 2009-2011.

Self-Inflicted Injury

Self-inflicted injury is injury which is purposely inflicted upon oneself. From 2009 to 2011 there were 4,761 emergency department visits due to self-inflicted injuries among Alameda County residents. The Alameda County rate was 102.7 per 100,000 (Table 22).

The highest rates of self-inflicted injury were found among White and African American females (196.7 and 190.6 per 100,000, respectively), followed by African American and White males (139.7 and 120.8 per 100,000, respectively). The lowest rate of self-inflicted injury was among Asian/Pacific Islander males and females (26.1 and 38.8, per 100,000, respectively). The African American self-inflicted injury ED visit rate was five times that of API.

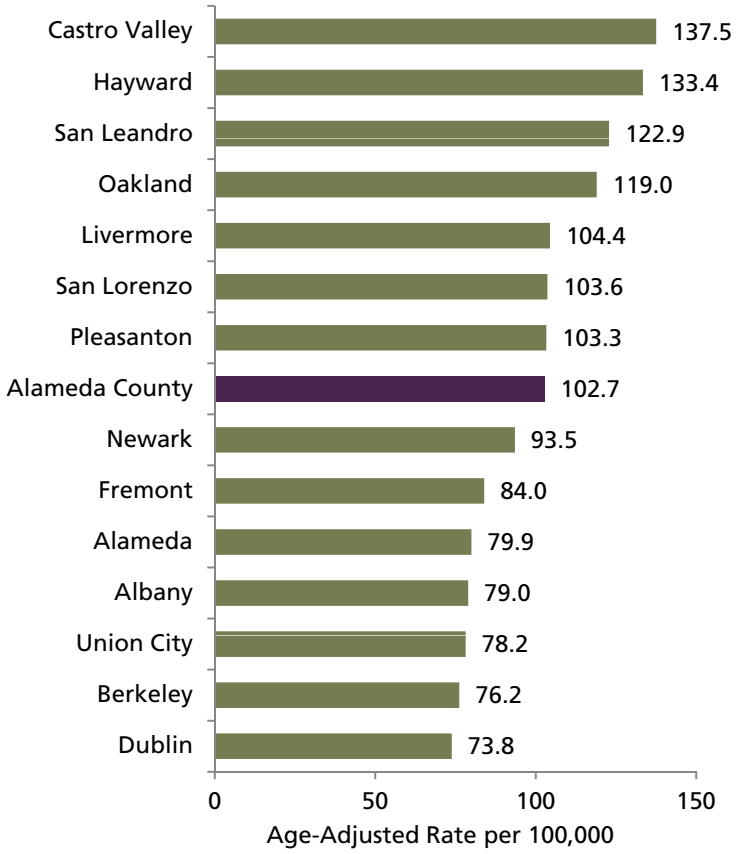
Figure 112: Self-Inflicted Injury ED Visit Rate by Race/Ethnicity



Sources: OSHPD Modified ED 2009-2011.

The rate of self-inflicted injury ranged from a low of 73.8 per 100,000 in Dublin to a high of 137.5 in Castro Valley, a rate nearly twice that of Dublin (Figure 113). The rates in Hayward, San Leandro, and Oakland also were substantially above the county rate

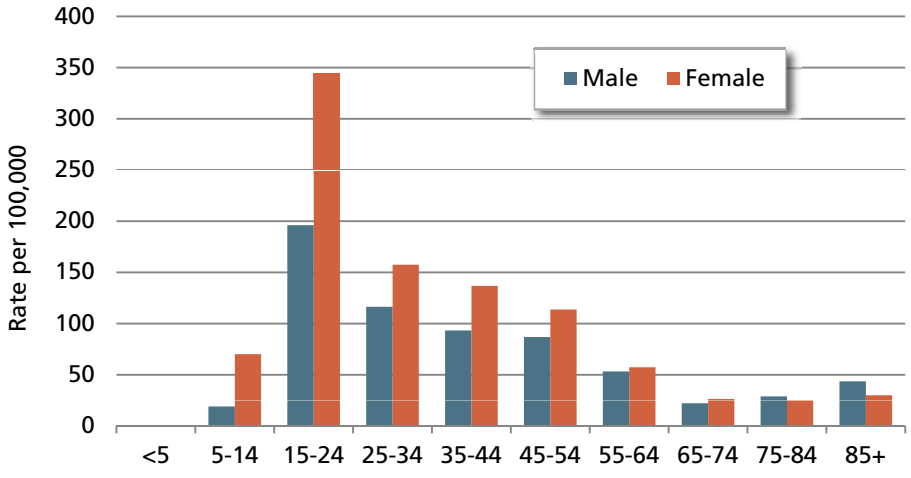
Figure 113: Self-Inflicted Injury ED Visit Rate by City/Place



Sources: OSHPD Modified ED 2009-2011.

The rate of ED visits for self-inflicted injury is exceedingly high among females 15 to 24 years (344.3 per 100,000). In general, females under 55 years are more likely than males to harm themselves. From 55 to 84 years, male and female rates are about the same, while among those 85 years or more, males are more likely to harm themselves. The commonly occurring diagnosis among people with these injuries is depression for all ages.

Figure 114: Self-Inflicted Injury ED Visit Rate by Age and Gender



Sources: OSHPD Modified ED 2009-2011.

CHAPTER SEVEN

ACCESS TO PRIMARY CARE

There are several commonly used measures of access to health care, including health insurance coverage, access to a usual source of health care, preventable hospitalization rates, avoidable emergency department (ED) rates, delays in care, and barriers to health care.[1] This chapter will focus on having a usual source of care, avoidable visits to the ED, and preventable hospitalizations as measures of access.

Access to Usual Source of Care

Having a usual source of health care is defined by having a place that one usually goes to when sick or in need of health-related advice. People with a usual source of care are more likely to have access to and utilize medical care, get timely and continuous care, receive preventative care, have lower rates of hospitalization, and have lower health care costs.[2] They often have better control of chronic medical conditions such as hypertension and diabetes. Studies have shown that younger adults, men, Hispanics, and African Americans are less likely than older adults, women, and Whites to have a usual source of care. Additionally, those reporting excellent health and those without health insurance are less likely to have a usual source of care. The combination of being uninsured and not having a usual source of care can severely limit healthcare access and delay needed care, which is linked to adverse health outcomes.[3]

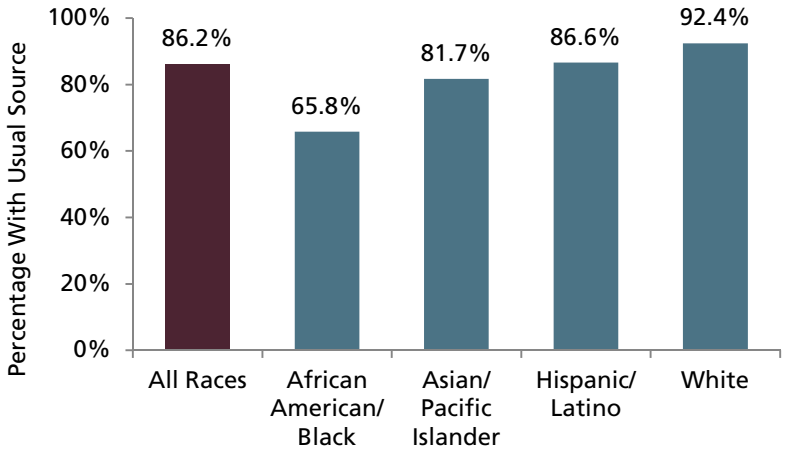
Alameda County has a similar rate of persons reporting a usual source of health care (86.2%) compared to California (85.8%) (Table 23). At the county level, it appears that fewer African Americans have a usual source of care relative to other racial/ethnic groups (at 65.8%), although the estimate is unstable due to small sample size (Figure 115).

Table 23: Access to Usual Source of Health Care

	Has Usual Source of Care					
	Alameda County			California		
	%	LCL (95%)	UCL (95%)	%	LCL (95%)	UCL (95%)
Total	86.2%	81.6%	90.8%	85.8%	85.1%	86.4%
African American/Black	* 65.8%	40.4%	91.2%	86.2%	82.8%	89.7%
American Indian	na	na	na	92.4%*	87.7%	97.1%
Asian/Pacific Islander	* 81.7%	69.5%	93.9%	85.0%	82.8%	87.1%
Hispanic/Latino	86.6%	80.5%	92.7%	80.8%	79.5%	82.1%
Multirace	* 75.4%	58.7%	92.1%	87.0%	83.5%	90.6%
White	92.4%	89.3%	95.4%	90.3%	89.5%	91.0%
Inequity Ratio	1.4			1.1		
HP2020 Objective	83.9%					

Source: CHIS 2009 and 2011-12 pooled data.

Figure 115: Access to Usual Source of Health Care by Race/Ethnicity, Alameda County



Source: CHIS 2009 and 2011-12 pooled data.
Note: African American and Asian/Pacific Islander rates are unstable due to small sample sizes.

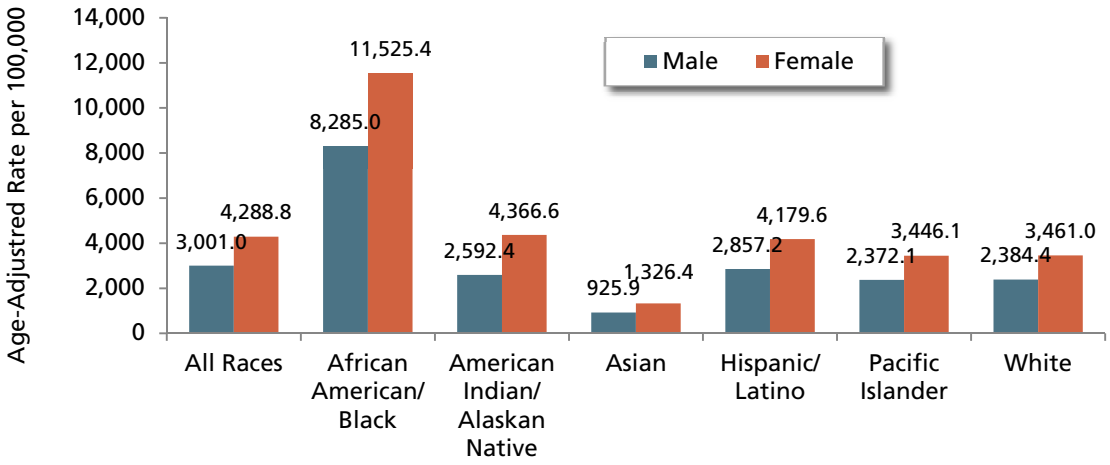
Avoidable Emergency Department Visits

Avoidable Emergency Department (ED) visits are defined by the MediCal 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 clinic setting.[4] This measure is a good indicator of lack of access to primary health care or a medical home.

In Alameda County there were 167,107 avoidable ED visits from 2009 to 2011 at a rate of 3,653.0 per 100,000 population (Table 24). At nearly nine times the Asian rate, the African American avoidable ED visit rate (9,978.9 per 100,000) was significantly higher than all other racial/ethnic groups.

Across every racial/ethnic group, the female rate of avoidable ED visits was higher than the male rate (Figure 116). The rate was highest among African American females (11,525 per 100,000) followed by African American males (8,285.0).

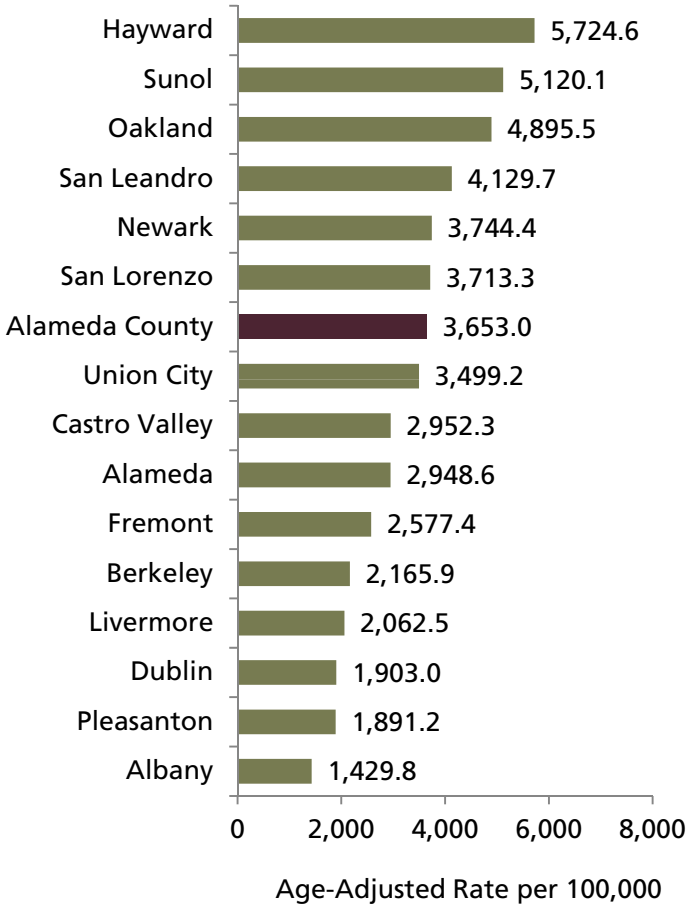
Figure 116: Avoidable ED Visits by Race/Ethnicity



Source: OSHPD ED Files, 2009-2011.

Avoidable ED visit rates ranged from a low of 1,429.8 per 100,000 in Albany to a high of 5,724.6 in Hayward, reflecting a four-fold difference across Alameda County's cities and places (Figure 117). High rates were also found in Sunol, Oakland, and San Leandro. The county rate is 3,653.0 per 100,000.

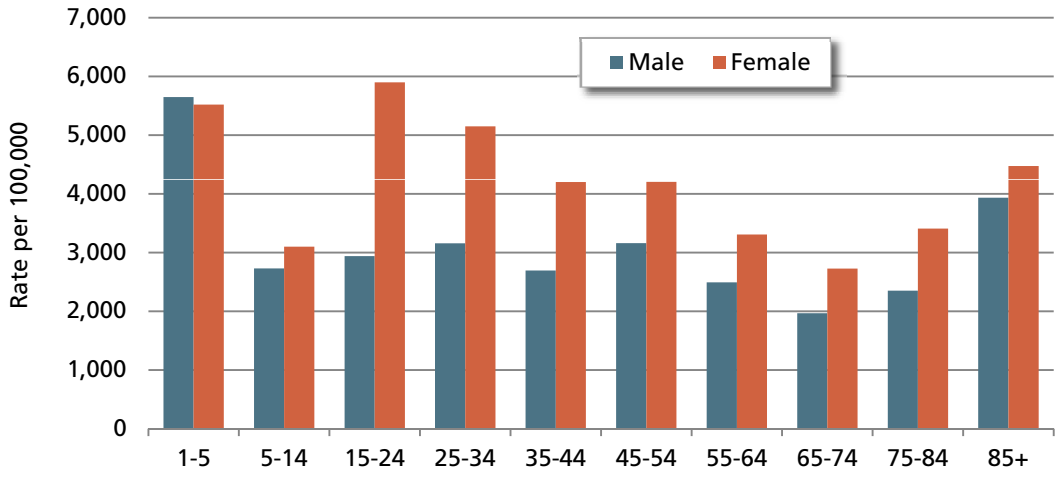
Figure 117: Avoidable ED Visits by City/Place



Source: OSHPD ED Files, 2009-2011.

Across age groups, the avoidable ED visit rate is highest among children one to five years of age and females 15 to 24 years (Figure 118). While male-female differences are most pronounced in the 15-24 age group, the female rate is consistently higher after the age of five.

Figure 118: Avoidable ED Visits by Age



Source: OSHPD ED Files, 2009-2011.

Table 24: Avoidable ED Visits by Race/Ethnicity

	Avoidable ED		Asthma ED		Mental Disorders ED	
	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000
Total	167,107	3,653.0	24,490	542.5	50,182	1,064.1
African American/Black	55,743	9,978.9	10,412	1,899.1	13,868	2,396.4
American Indian/Alaskan Native	444	3,540.2	40	352.6	144	1,125.9
Asian	13,297	1,138.8	1,930	170.6	3,124	255.3
Hispanic/Latino	37,268	3,511.9	4,370	404.4	8,491	856.7
Pacific Islander	1,011	2,917.8	169	487.2	158	426.9
White	43,620	2,919.8	5,526	386.0	20,408	1,270.9
Inequity Ratio		8.8		11.1		9.4

Source: OSHPD ED Files, 2009-2011.

Table 25: Avoidable ED Visits by City/Place

	Avoidable ED		Asthma ED		Mental Disorders ED	
	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000	3-Yr Total Number	Rate per 100,000
Alameda County	167,107	3,653.0	24,490	542.5	50,182	1,064.1
Alameda	6,456	2,948.6	817	390.7	1,951	849.3
Albany	798	1,429.8	135	227.0	310	574.1
Berkeley	7,512	2,165.9	1,175	383.8	3,726	1,010.8
Castro Valley	4,718	2,952.3	687	445.7	1,716	1,036.7
Dublin	2,568	1,903.0	346	251.1	777	555.1
Fremont	16,273	2,577.4	2,603	411.7	5,621	888.6
Hayward	30,877	5,724.6	4,042	759.4	6,929	1,282.1
Livermore	5,106	2,062.5	661	265.9	2,016	811.4
Newark	4,756	3,744.4	642	501.4	1,573	1,230.9
Oakland	60,844	4,895.5	9,478	777.6	17,555	1,374.6
Pleasanton	3,763	1,891.2	462	220.2	1,411	691.7
San Leandro	12,997	4,129.7	1,787	576.7	3,707	1,156.4
San Lorenzo	3,071	3,713.3	489	574.2	853	982.5
Sunol	128	5,120.1	17	732.5	27	971.2
Union City	7,240	3,499.2	1,149	560.9	2,010	953.5
Inequity Ratio		4.0		3.5		2.5

Source: OSHPD ED Files, 2009-2011.

Asthma Emergency Department Visits

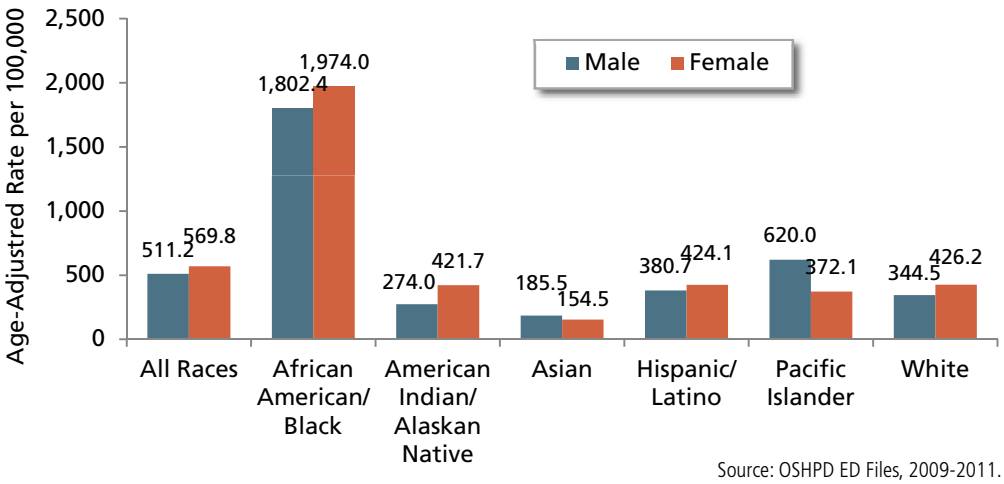
Asthma is a chronic lung condition that causes swelling, excess mucus, and narrowing of the airways. An asthma attack occurs when the airways become so swollen and clogged that the person has trouble getting enough air to breathe. Chronic conditions such as asthma can affect the physical, cognitive, social, and emotional development of young children. Although the exact cause of asthma is not known, the development of asthma is determined by the interaction between genetics and environmental exposures.[5] This indicator reflects uncontrolled asthma that necessitates ED care. It may also which populations lack of high quality, accessible primary care. Asthma ED visits are defined here as a visit for which asthma was coded as the primary diagnosis.

There were 24,490 asthma ED visits from 2009 to 2011 at a rate of 542.5 per 100,000 population in Alameda County (Table 24).

The rate of asthma ED visits was highest among African American males and females (1,802.4 and 1,974.0 per 100,000, respectively) (Figure 119). Relatively small differences by sex were observed. The African American asthma ED visit rate among males and females was significantly higher than any other racial/ethnic group.

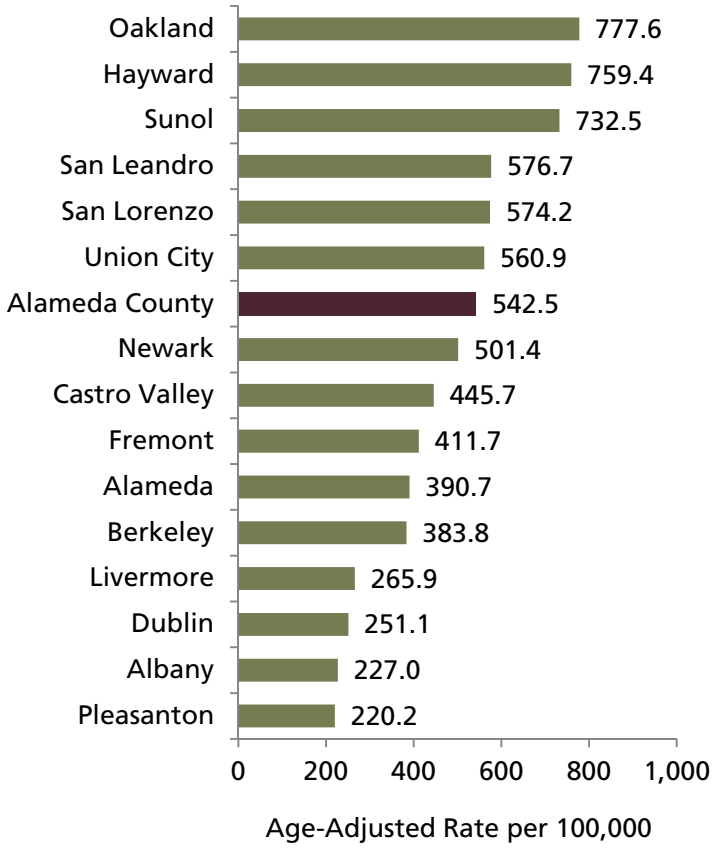
The asthma ED visit rate in Oakland was 777.6 per 100,000, a rate 3.5 times the Pleasanton rate of 220.2 per 100,000. The Alameda County rate was 542.5 per 100,000. Rates were also considerably higher in Hayward (759.4) and Sunol (532.5).

Figure 119: Asthma ED Visits by Race/Ethnicity



Source: OSHPD ED Files, 2009-2011.

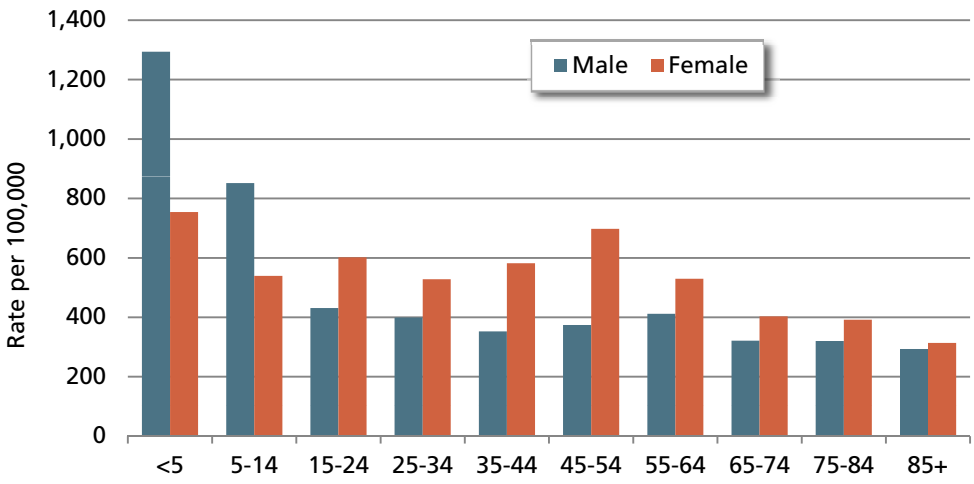
Figure 120: Asthma ED Visits by City/Place



Source: OSHPD ED Files, 2009-2011.

The asthma ED rate among males less than five years is the highest rate of all age groups (1,293.8 per 100,000), and is 70% higher than females less than five years (Figure 121). starting at age 15, female rates exceed male rates in every age group.

Figure 121: Asthma ED Visits by Age



Source: OSHPD ED Files, 2009-2011.

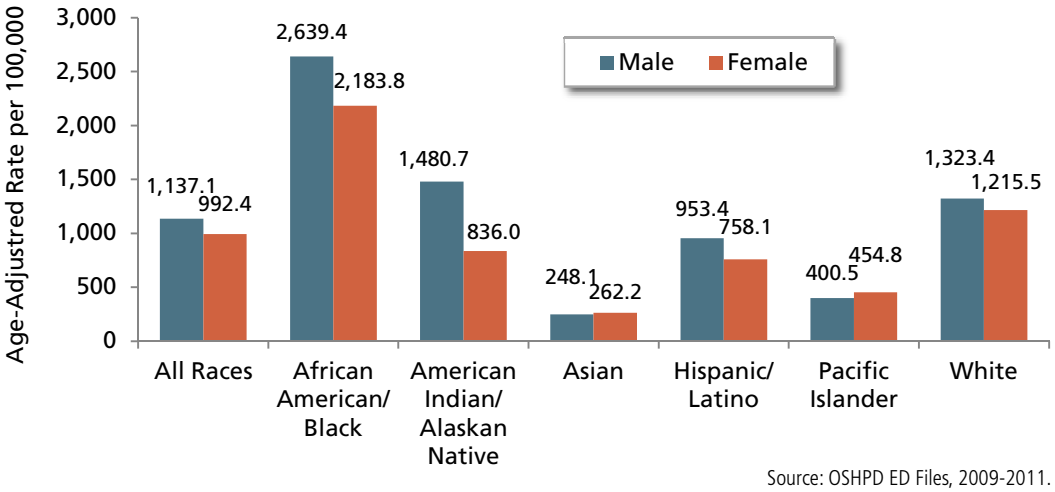
Mental Disorders Emergency Department Visits

Mental disorders are characterized by "alterations in thinking, mood, or behavior (or some combination thereof) associated with distress and/or impaired functioning" and are one of the leading causes of disability in the United States.[6] Mental disorder ED visits are defined here as a visit for which a mental disorder was coded as the primary diagnosis.

From 2009 to 2011, there were 50,182 ED visits for mental disorders among Alameda County residents. The age-adjusted rate was 1,064.1 per 100,000 population (Table 24). African Americans had a rate of 1,899.1 per 100,000, a rate eleven times the Asian rate of 170.6 per 100,000.

For most racial/ethnic groups the male rate of ED visits for mental disorders was higher than the female rate; for Asians and Pacific Islanders, however, the rates were nearly the same. The highest rates were found among African American males and females (2,639.4 and 2,183.8 per 100,000, respectively), followed by American Indian and White males.

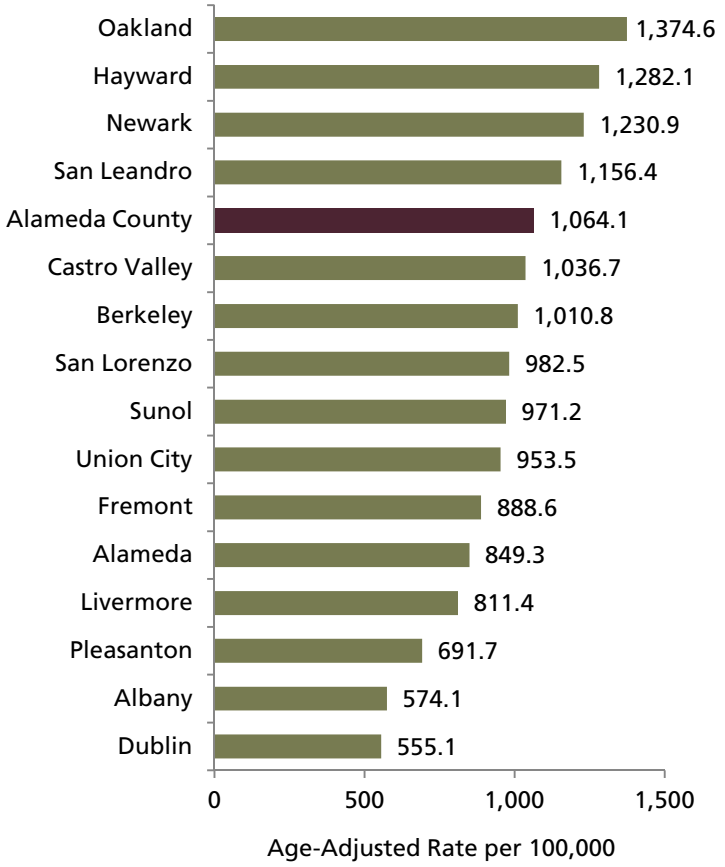
Figure 122: Mental Disorder ED Visits by Race/Ethnicity



Source: OSHPD ED Files, 2009-2011.

Mental disorder ED visit rates ranged from a low of 555.1 per 100,000 in Dublin to a high of 1,374.6 per 100,000 in Oakland, a difference of 2.5 times (Figure 123). The Oakland rate was 1.3 times the Alameda County rate (1,064.1 per 100,000).

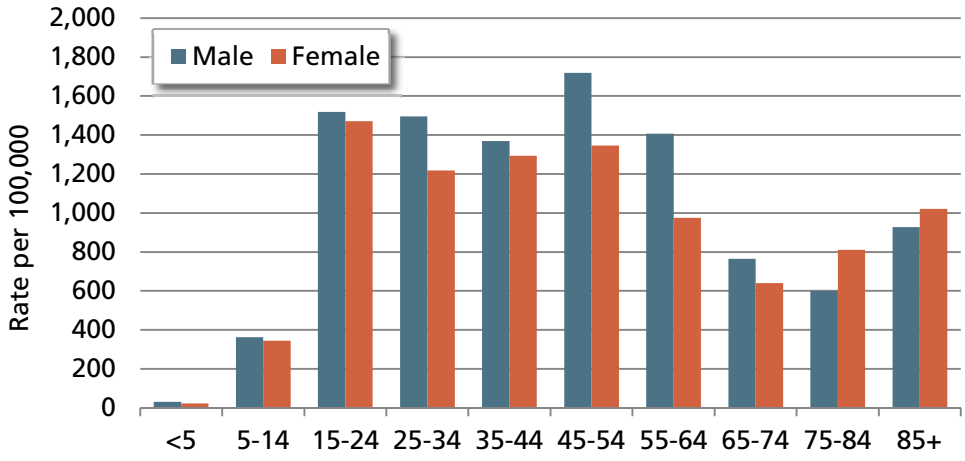
Figure 123: Mental Disorder ED Visits by City/Place



Source: OSHPD ED Files, 2009-2011.

The mental disorder ED visit rate was highest among males 45 to 54 years (1,718.4 per 100,000) and males 15 to 24 years (1,518.2 per 100,000). The rates across the life course were higher among males, except in the oldest age groups of 75 or more years.

Figure 124: Mental Disorder ED Visits by Age



Source: OSHPD ED Files, 2009-2011.

Preventable Hospitalizations

Preventable hospitalizations are defined by the Agency for Healthcare Research and Quality (AHRQ) as inpatient hospital stays that *could have been avoided* with improved access to and quality of outpatient care and disease management.[7] Thus, they serve as useful indicators of possible unmet community health needs. Preventable hospitalization indicators exist for diabetes-related complications (e.g. uncontrolled diabetes, lower extremity amputation), circulatory disease (e.g. heart disease, hypertension, angina), respiratory disease (e.g. asthma/chronic obstructive pulmonary disease), and a variety of diseases which AHRQ classifies as acute (e.g. bacterial pneumonia, urinary tract infection, dehydration, gastroenteritis, perforated appendix). There are also chronic composite, acute composite, and overall composite indicators.

In Alameda County, adult preventable hospitalizations account for 8% of all hospitalizations. Chronic disease preventable hospitalizations make up almost two-thirds of all preventable hospitalizations (65%), whereas acute disease preventable hospitalizations make up the remaining (35%) (data not shown). In Alameda County, there were 13,363 acute disease preventable hospitalizations and 24,156 chronic disease preventable hospitalizations from 2009 to 2011, at rates of 447.7 and 787.5 hospitalizations per 100,000 population, respectively (Table 25).

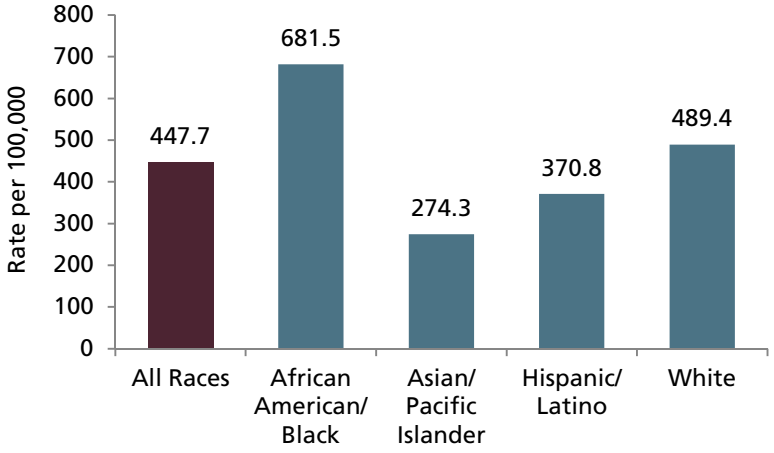
The rate of acute disease preventable hospitalizations for African Americans (681.5 per 100,000) is significantly higher than the rate for all other racial/ethnic groups. It is almost 2.3 times the Asian/Pacific Islander rate (274.3 per 100,000) and 1.5 times that of the county (447.7 per 100,000) (Figure 125).

Table 25: Preventable Inpatient Hospitalizations by Race/Ethnicity

	Acute Composite				Chronic Composite			
	3-Yr Total Number	Rate per 100,000	LCL (95%)	UCL (95%)	3-Yr Total Number	Rate per 100,000	LCL (95%)	UCL (95%)
Total	13,363	447.7	438.0	457.4	24,156	787.5	775.7	799.2
African American/Black	2,561	681.5	654.1	708.9	7,943	2,055.1	2,022.1	2,088.1
American Indian/Alaskan Native	22	299.0	102.4	495.5	55	684.6	455.0	914.1
Asian/Pacific Islander	2,080	274.3	255.0	293.6	3,367	425.2	402.1	448.3
Hispanic/Latino	1,464	370.8	343.9	397.6	2,642	632.2	600.4	664.1
White	6,754	489.4	475.1	503.7	9,376	673.8	656.4	691.2
Inequity Ratio		2.3				4.8		
HP2020 Objective	na							

Source: OSHPD Patient Discharge Data, 2009-2011.

Figure 125: Acute Disease Preventable Hospitalizations by Race/Ethnicity



Source: OSHPD Patient Discharge Data, 2009-2011.

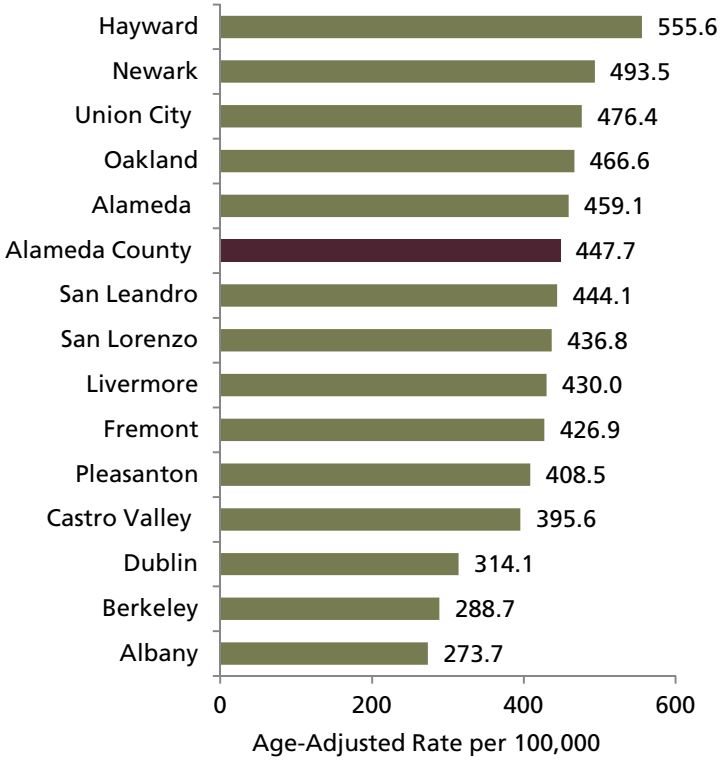
Adult acute disease preventable hospitalization rates range from a high of 555.6 per 100,000 population in Hayward to a low of 273.7 per 100,000 in Albany, representing a two-fold difference. The Hayward rate is (statistically) significantly higher than the Alameda County rate, whereas Albany, Berkeley, Dublin, and Fremont rates are significantly lower than the county rate (Table 26 and Figure 126).

Table 26: Preventable Inpatient Hospitalizations by City/Place

	Acute Composite				Chronic Composite			
	3-Yr Total Number	Rate per 100,000	LCL (95%)	UCL (95%)	3-Yr Total Number	Rate per 100,000	LCL (95%)	UCL (95%)
Alameda County	13,363	447.7	438.0	457.4	24,156	787.5	775.7	799.2
Albany	102	273.7	186.6	360.8	113	293.4	188.7	398.0
Berkeley	724	288.7	255.1	322.3	1,186	474.6	433.5	515.6
Castro Valley	537	395.6	350.1	441.2	771	568.9	513.2	624.6
Dublin	218	314.1	250.0	378.1	346	449.7	375.5	524.0
Fremont	1,687	426.9	400.2	453.7	2,323	561.0	529.1	592.9
Hayward	1,836	555.6	526.4	584.9	4,024	1,195.3	1,159.9	1,230.7
Livermore	697	430.0	388.2	471.8	1,029	600.6	551.0	650.2
Newark	378	493.5	432.6	554.3	602	740.1	668.0	812.1
Oakland	3,848	466.6	448.0	485.1	8,573	1,021.7	999.3	1,044.1
Pleasanton	573	408.5	363.6	453.5	628	418.3	365.2	471.3
San Leandro	1,043	444.1	409.5	478.8	1,970	844.0	801.6	886.5
San Lorenzo	260	436.8	367.9	505.6	428	718.2	634.1	802.2
Sunol	na	na	na	na	na	na	na	na
Union City	646	476.4	430.7	522.0	1,039	737.8	683.1	792.5
Inequity Ratio		2.0				4.1		

Source: OSHPD Patient Discharge Data, 2009-2011.

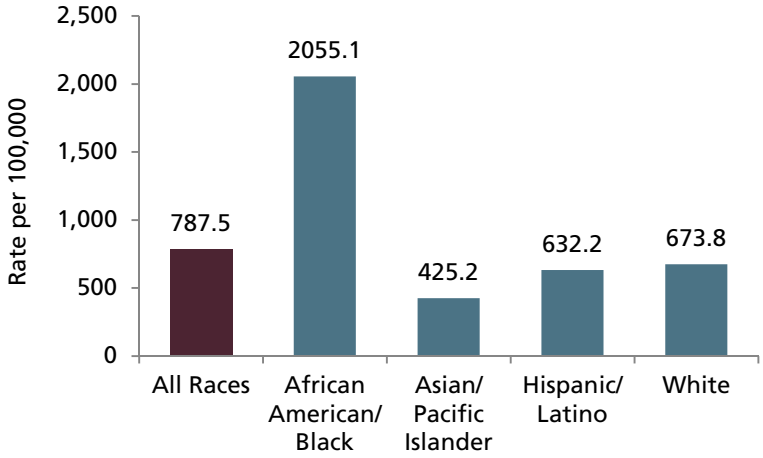
Figure 126: Acute Disease Preventable Hospitalizations by City/Place



Source: OSHPD Patient Discharge Data, 2009-2011.

For adult chronic disease preventable hospitalizations, the African American rate (2,055.1 per 100,000) is significantly higher than those of all other racial/ethnic groups and that of the county overall. The rate is almost five times that of Asian/Pacific Islanders (425.2 per 100,000) and 2.6 times that of the overall county (787.5 per 100,000) (Figure 127).

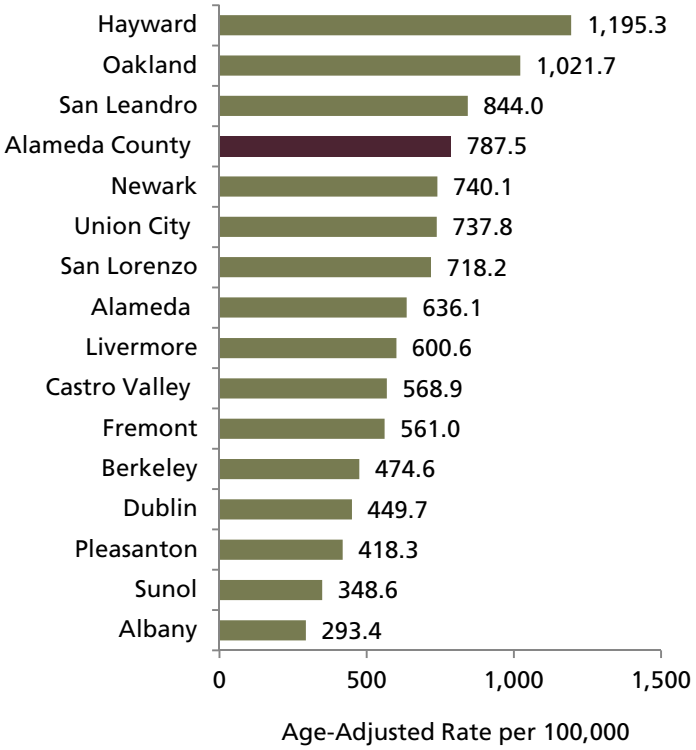
Figure 127: Chronic Disease Preventable Hospitalizations by Race/Ethnicity



Source: OSHPD Patient Discharge Data, 2009-2011.

For adult chronic disease preventable hospitalizations, rates range from a high of 1,195.3 per 100,000 population in Hayward to a low of 293.4 per 100,000 in Albany, representing a four-fold difference. The Hayward and San Leandro rates are significantly higher than that of Alameda County, whereas rates in Albany, Berkeley, Castro Valley, Dublin, Fremont, Livermore, and Pleasanton are significantly lower than the county rate (Figure 128).

Figure 128: Chronic Disease Preventable Hospitalizations by City/Place



Source: OSHPD Patient Discharge Data, 2009-2011.

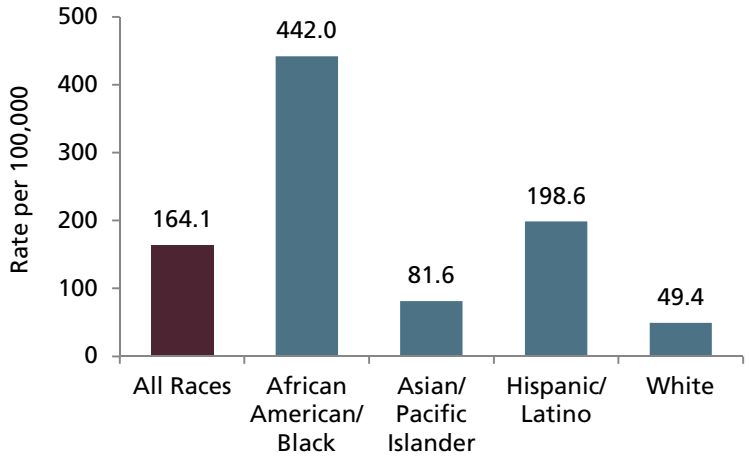
For children and adolescents, an important indicator and one that represents the largest inequity by race/ethnicity, is asthma preventable hospitalizations. The African American rate (442.0 per 100,000) is significantly higher than that of all other racial/ethnic groups. The rate is nine times that of Whites (49.4 per 100,000) and three times that of the overall county (164.1 per 100,000) (Table 27 and Figure 129).

Table 27: Asthma Preventable Hospitalizations, 2-17 Years by Race/Ethnicity

	Number	Rate per 100,000	LCL (95%)	UCL (95%)
Total	491	164.1	150.9	177.2
African American/Black	154	442.0	403.3	480.6
Asian/Pacific Islander	68	81.6	56.6	106.6
Hispanic/Latino	138	198.6	343.9	397.6
White	49	49.4	26.5	72.3
Inequity Ratio		8.9		
HP2020 Objective	na			

Source: OSHPD Patient Discharge Data, 2009-2011.

Figure 129: Asthma Preventable Hospitalizations, 2-17 Years by Race/Ethnicity



Source: OSHPD Patient Discharge Data, 2009-2011.

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CHAPTER EIGHT

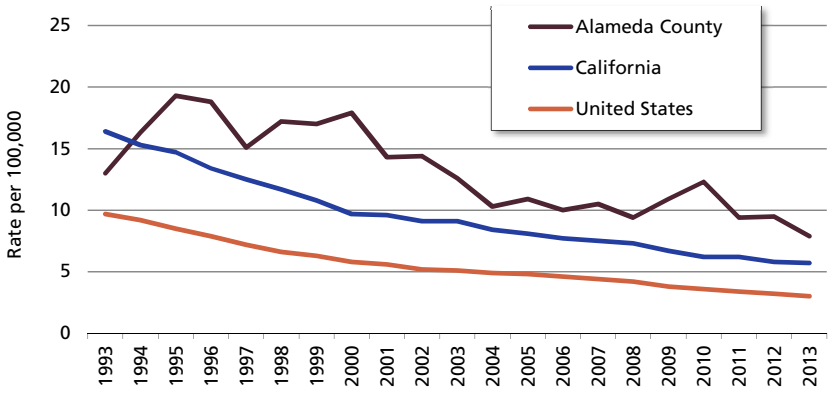
COMMUNICABLE DISEASE

Tuberculosis

Tuberculosis (TB) is a communicable disease caused by Mycobacterium tuberculosis, and is transmitted through the air from person to person. Transmission typically occurs when someone breathes in the bacteria while in close and prolonged contact with a person with infectious TB. Someone with latent TB infection (LTBI) has become infected with TB, where the bacteria stays in the body without making the individual sick. Although not everyone with LTBI will develop TB disease, for approximately 5% to 10%, TB infection can progress to TB disease when the body's immune system cannot fight off the TB bacteria. Approximately one-third of the world's populations is infected with Mycobacterium tuberculosis, with an estimated 8.6 million new cases of TB and 1.3 million deaths in 2012.[1]

Tuberculosis rates in Alameda County have continued to decline since the early 1990s (Figure 130). However rates in Alameda County remain substantially higher than statewide and national rates.

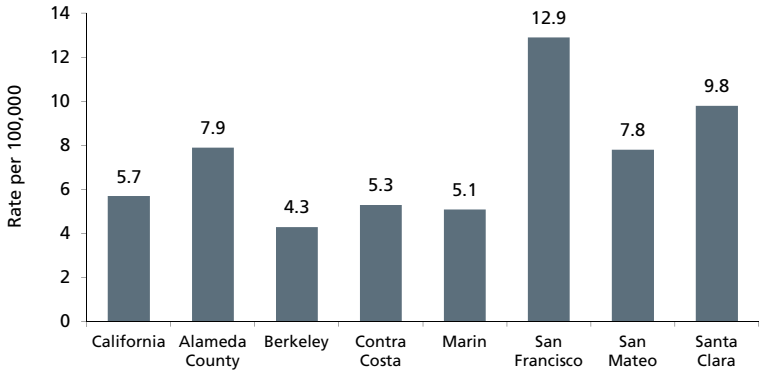
Figure 130: TB Case Rate Trend



Source: CDPH 1993-2013.

In 2013, the Alameda County TB rate of 7.9 per 100,000 exceeds the California rate of 5.7 and is one of the highest rates among all jurisdictions in the state, particularly in the San Francisco Bay Area (Figure 131).

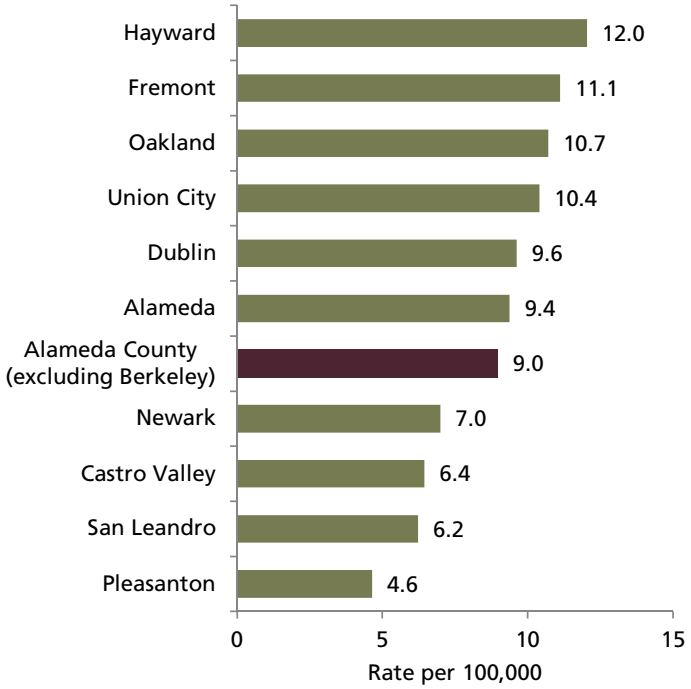
Figure 131: TB Case Rates for California and Selected jurisdictions



Source: CDPH 2011-2013.

Average annual tuberculosis rates for 2011-2013 ranged from a high of 12.0 per 100,000 population in Hayward to a low of 4.6 per 100,000 in Pleasanton, with many cities having too few cases to calculate a rate. Fremont, Oakland, Union City, Dublin, and Alameda also had rates higher than the Alameda County rate (9.0 per 100,000), whereas Castro Valley, Newark, San Leandro and Pleasanton rates were lower than the county rate.

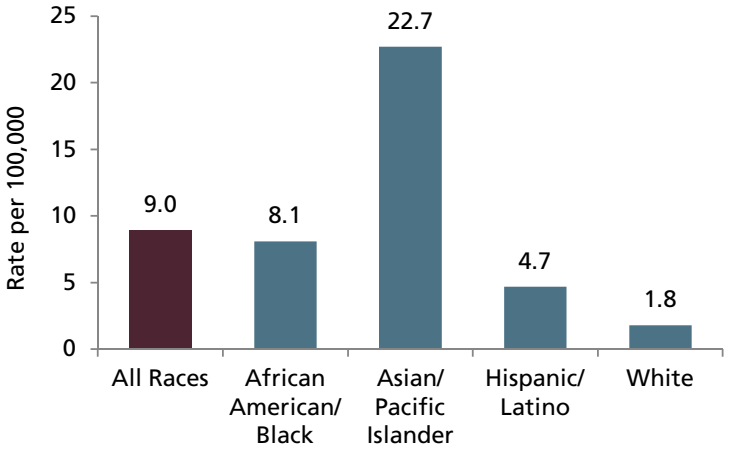
Figure 132: TB Case Rates by City/Place



Source: CDPH 2011-2013.

TB continues to affect many populations disproportionately, particularly among racial/ethnic minorities and foreign-born persons. The highest average annual rate in Alameda County is among Asians and Pacific Islanders (22.7), whose rate is more than two times higher than the county average, and nearly 13 times the rate among Whites (1.8) who had the lowest rate in the county. TB remains one of several health conditions with significant disparities and inequalities by race/ethnicity, income, and other sociodemographic characteristics.

Figure 133: TB Case Rates by Race/Ethnicity



Source: CDPH 2011-2013.

HIV/AIDS

The human immunodeficiency virus (HIV) is a life-threatening infection that has affected 75 million people worldwide since the onset of the epidemic more than 30 years ago.[2] HIV attacks the immune system, weakening the body's ability to protect itself from other infections and diseases. HIV infection typically has few symptoms at first, but, if untreated, it will eventually progress to the Acquired Immune Deficiency Syndrome (AIDS) and then death. In the United States, over 1.1 million people are infected with HIV and nearly one in five cases is undiagnosed.[3] Between 46,000 and 50,500 new HIV infections were diagnosed each year between 2008 and 2011.[4] In 2010, there were more than 15,000 deaths among persons with AIDS, and the total number of AIDS deaths since the start of the epidemic exceeds 630,000.[4]

HIV is spread from person to person through the exchange of bodily fluids, including blood, semen, vaginal secretions, and breast milk. While HIV transmission most commonly occurs through sexual contact or the sharing of contaminated needles or syringes, the virus can also be transmitted from HIV-infected women to their babies during pregnancy, birth, or breast-feeding. Transmission by blood transfusion and organ donation has become very rare in the United States. HIV cannot be spread through casual contact such as shaking hands, kissing, or sharing a living space.

There are over 5,000 people living with HIV infection in Alameda County, including those with an AIDS diagnosis, and there are 14.5 new HIV diagnoses per 100,000 people per year, compared with 15.8 per 100,000 people across California.[4] In Alameda County and throughout the United States, most new HIV infections occur during sexual contact between men who have sex with men (MSM), and this group continues to account for the greatest number of people infected with HIV.[4] However, 18.5% of HIV infected people in Alameda County are women, a greater proportion than is found in many other large West Coast jurisdictions.

The HIV epidemic in Alameda County has changed over time, with implications for care and prevention. As medical treatments have improved, people with HIV infection are living far longer and deaths due to AIDS have plummeted. Also, the annual number of reported HIV diagnoses has decreased from its peak, probably due to a combination of behavioral changes and increases in the number of people with HIV infection on medical treatment. However, people living with HIV infection in the county require ongoing medical care and other support. Furthermore, the rate of new infections and the number of people diagnosed late in infection remain unacceptably high. These data demonstrate the continued need for HIV care and prevention services in Alameda County.

Table 28: HIV Case Rates

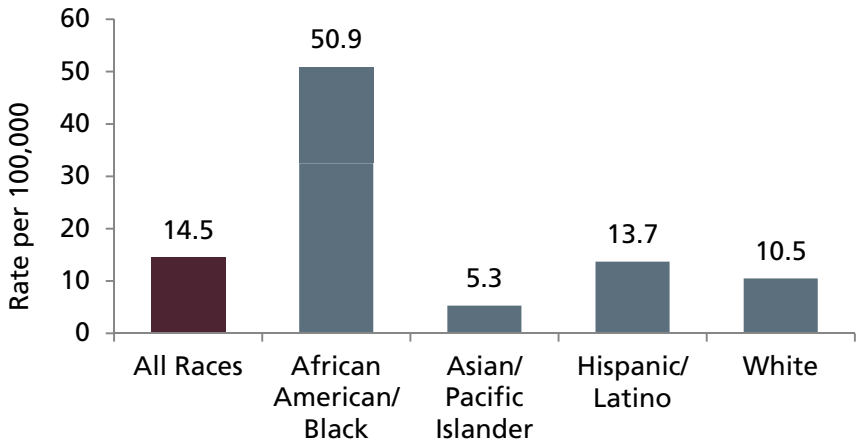
		3-Yr Total	Rate per 100,000	LCL	UCL
Total		665	14.5	12.6	16.4
Sex	Female	92	3.9	3.1	4.8
	Male	573	25.5	21.9	29.1
Race/Ethnicity	African American/Black	277	50.9	40.5	61.3
	Asian/Pacific Islander	67	5.3	4.1	6.7
	Hispanic/Latino	144	13.7	9.8	17.6
	White	159	10.5	7.7	13.3
	Other/Unknown	18	na	na	na
Age	0-12	<5	na	na	na
	13-19	34	8.2	5.7	11.5
	20-29	186	27.9	21.0	34.8
	30-39	161	23.5	17.2	29.8
	40-49	172	25.2	18.7	31.7
	50-59	89	14.1	11.3	17.4
	60+	22	2.9	1.8	4.4
Cities	Alameda	25	11.2	7.2	16.5
	Albany	<5	na	na	na
	Ashland	5	na	na	na
	Berkeley	42	12.2	8.8	16.5
	Castro Valley	23	12.7	8.1	19.1
	Cherryland	7	na	na	na
	Dublin	7	na	na	na
	Emeryville	12	39.4	20.4	68.8
	Fairview	<5	na	na	na
	Fremont	44	6.8	4.9	9.1
	Hayward	47	10.7	7.9	14.2
	Livermore	13	5.3	2.8	9.1
	Newark	8	na	na	na
	Oakland	352	29.8	24.4	35.2
	Piedmont	<5	na	na	na
	Pleasanton	<5	na	na	na
	San Leandro	41	15.9	11.4	21.6
	San Lorenzo	9	na	na	na
	Sunol	0	na	na	na
	Union City	18	8.5	5.0	13.4

Source: eHARS, 2010-2012.

Newly diagnosed HIV cases must be reported to the local health jurisdiction according to California law. This table shows the total number of HIV case reports as well as the average annual case rate per 100,000 people by sex, race/ethnicity and age in Alameda County for the years 2010-2012. Newly reported cases during this time period are nearly all in men. The table also shows overall cases and rates by city. The highest rate in each category is shown in red. LCL and UCL are the lower and upper 95% confidence limits, respectively, for each calculated case rate.

African Americans are diagnosed with HIV at a far higher annual rate than any other racial/ethnic group in Alameda County. Asians and Pacific Islanders (API), combined, are diagnosed at the lowest rate. The rates presented here are averaged across the years 2010 to 2012.

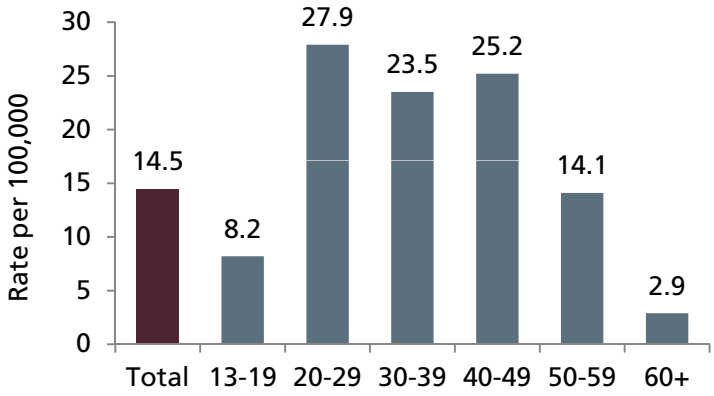
Figure 134: HIV Case Rate by Race/Ethnicity



Source: eHARS 2010-2012.

The highest reported HIV case rates in Alameda County are seen among those 20 to 49 years of age at diagnosis. The lowest rates are seen among those 60 years of age and older as well as among those 13 to 19 years of age.

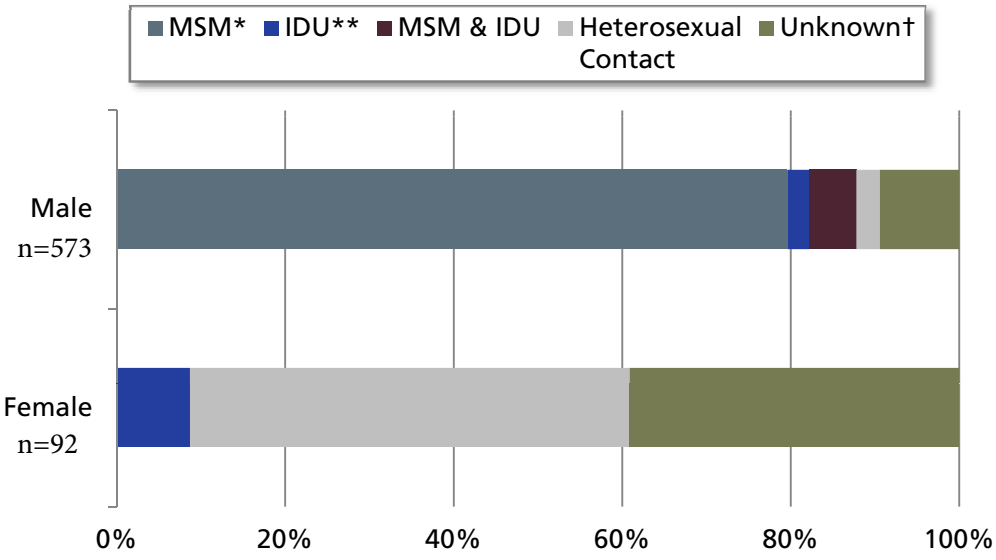
Figure 135: HIV Case Rate by Age at Diagnosis



Source: eHARS 2010-2012.

Among newly reported HIV cases in men, sexual contact with other men is the most common mode of transmission. Men who have sex with men (MSM) account for four in every five HIV cases. Among new cases in women, heterosexual contact is the most commonly identified mode of transmission, followed by injection drug use (IDU). However, from 2010 to 2012, almost 40% of HIV case reports for women lacked information on mode of transmission.

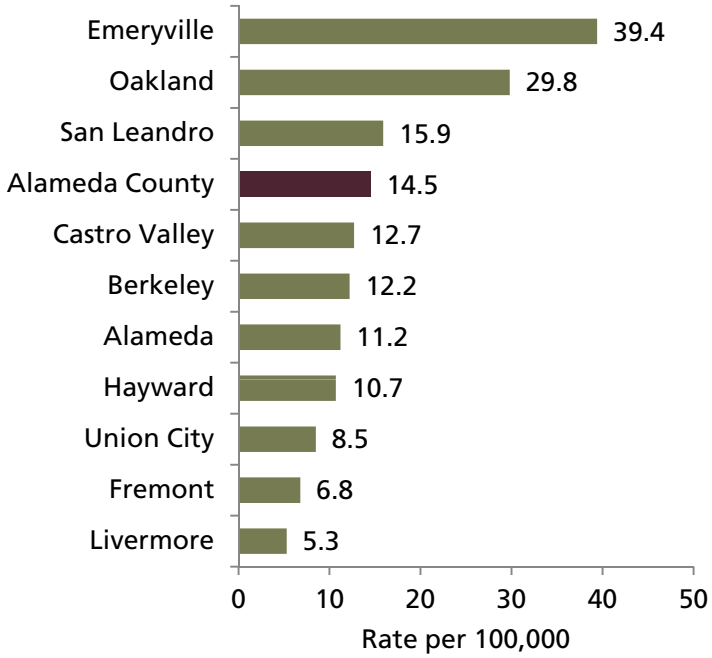
Figure 136: New HIV Diagnoses by Sex and Mode of Transmission



Source: eHARS 2010-2012.
Notes: * MSM=Men who have sex with men; ** IDU=Injection drug use. † Unknown represents predominantly cases classified as "No Reported Risk (NRR)" or "No Identified Risk (NIR)".

For Alameda County from 2010 through 2012, the highest HIV case rate was in Emeryville followed by Oakland. The highest number of cases was in Oakland, by a wide margin (see Table 27). The lowest rates were seen in Livermore and Fremont.

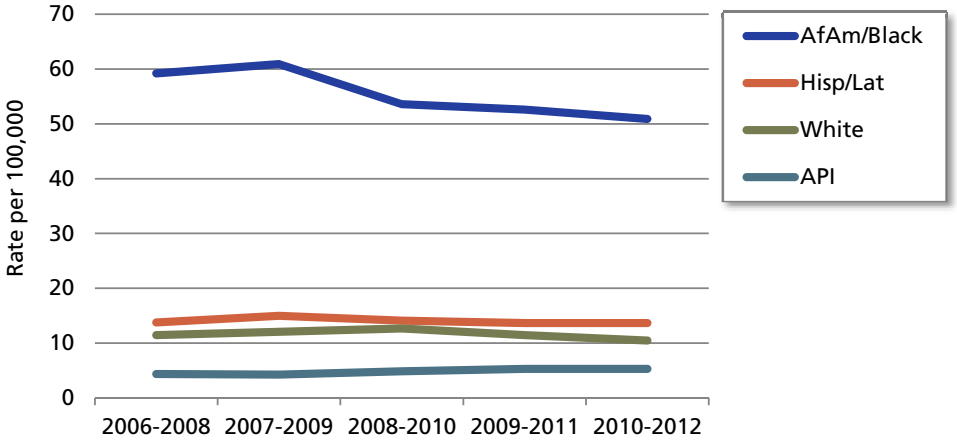
Figure 137: HIV Case Rate by City/Place



Source: eHARS 2010-2012.

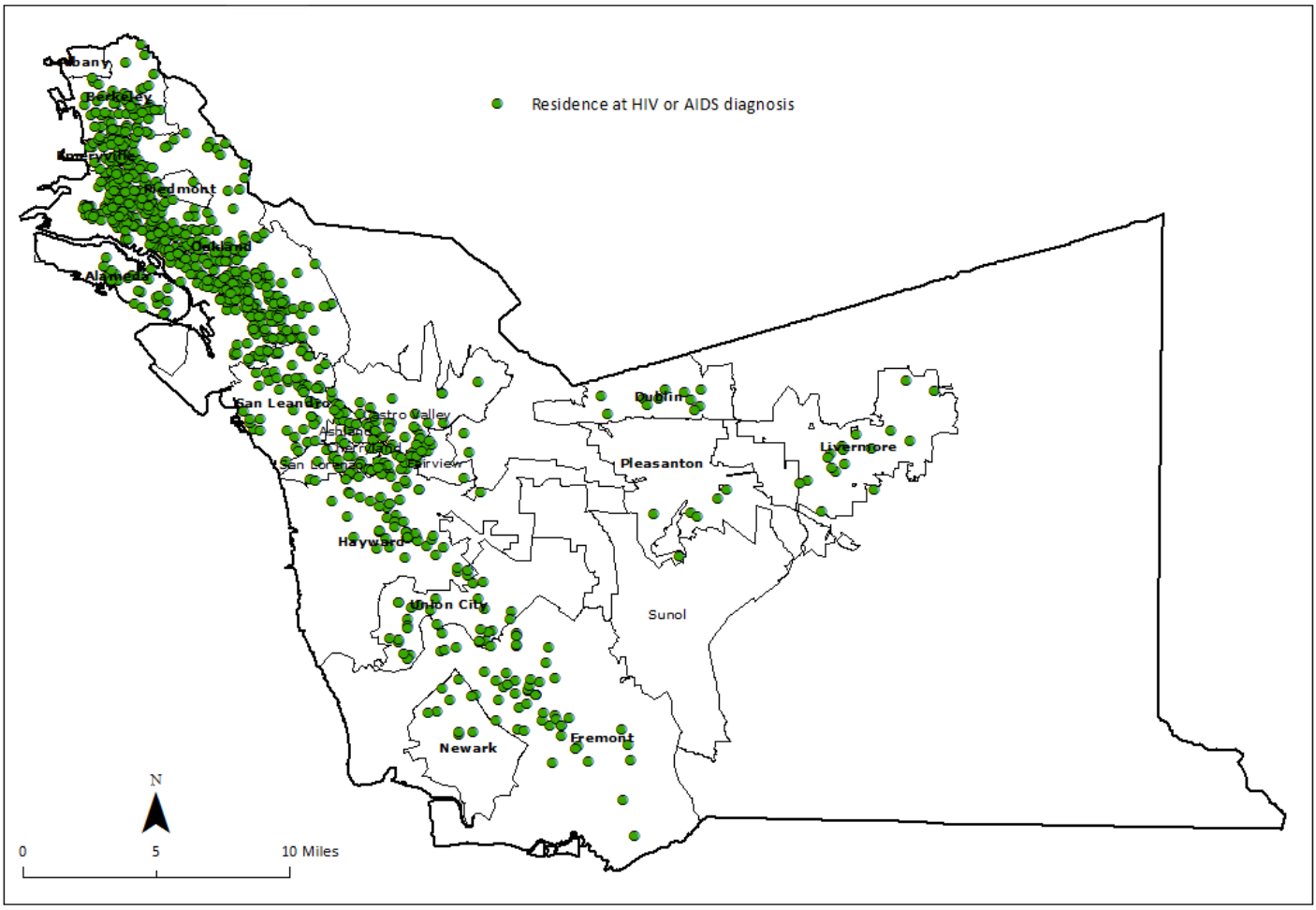
Between 2006 and 2012, the rate of reported HIV cases remained stable among Hispanics, Whites, and API. The rate has decreased somewhat among African Americans during this time period, but it remains far higher than observed in other racial/ethnic groups.

Figure 138: HIV Case Rate Trend by Race/Ethnicity



Source: eHARS 2006-2012.

Figure 139: Newly Diagnosed Cases of HIV in Alameda County, 2008-2012

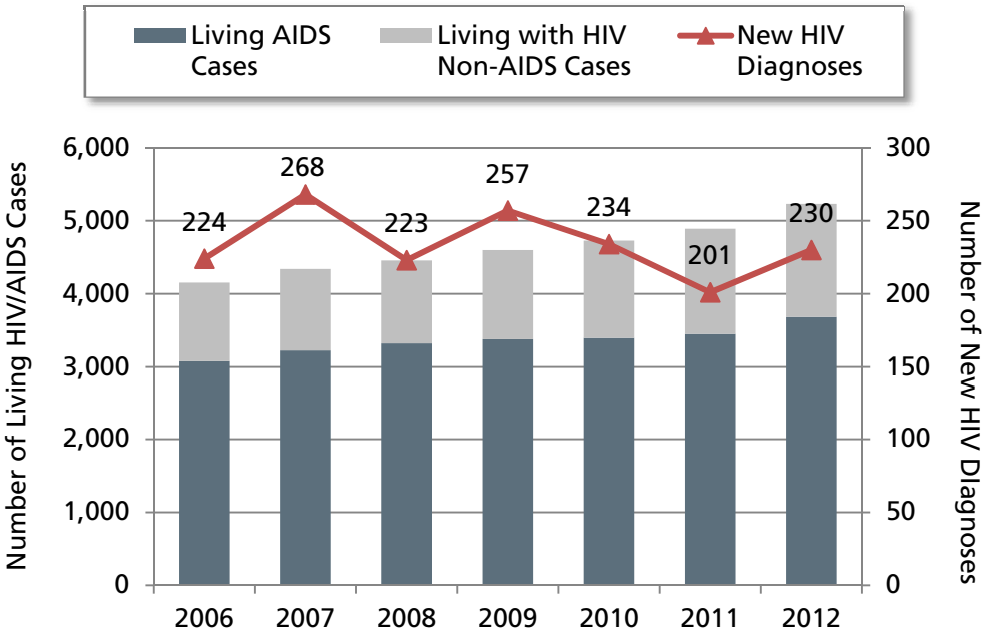


Source: eHARS 2008-2012.

New diagnoses of HIV are clustered in the cities of Oakland, Berkeley, Emeryville, San Leandro, and Hayward.

The number of new HIV cases reported each year between 2006 and 2012 ranged from 201 to 268. However, the number of persons living with HIV, including those also diagnosed with AIDS, increased steadily during that time period. This increase reflects the addition of new cases coupled with a decline in deaths due to improved care.

Figure 140: HIV/AIDS Cases and New HIV Diagnoses, 2006-2012



Source: eHARS 2006-2012.

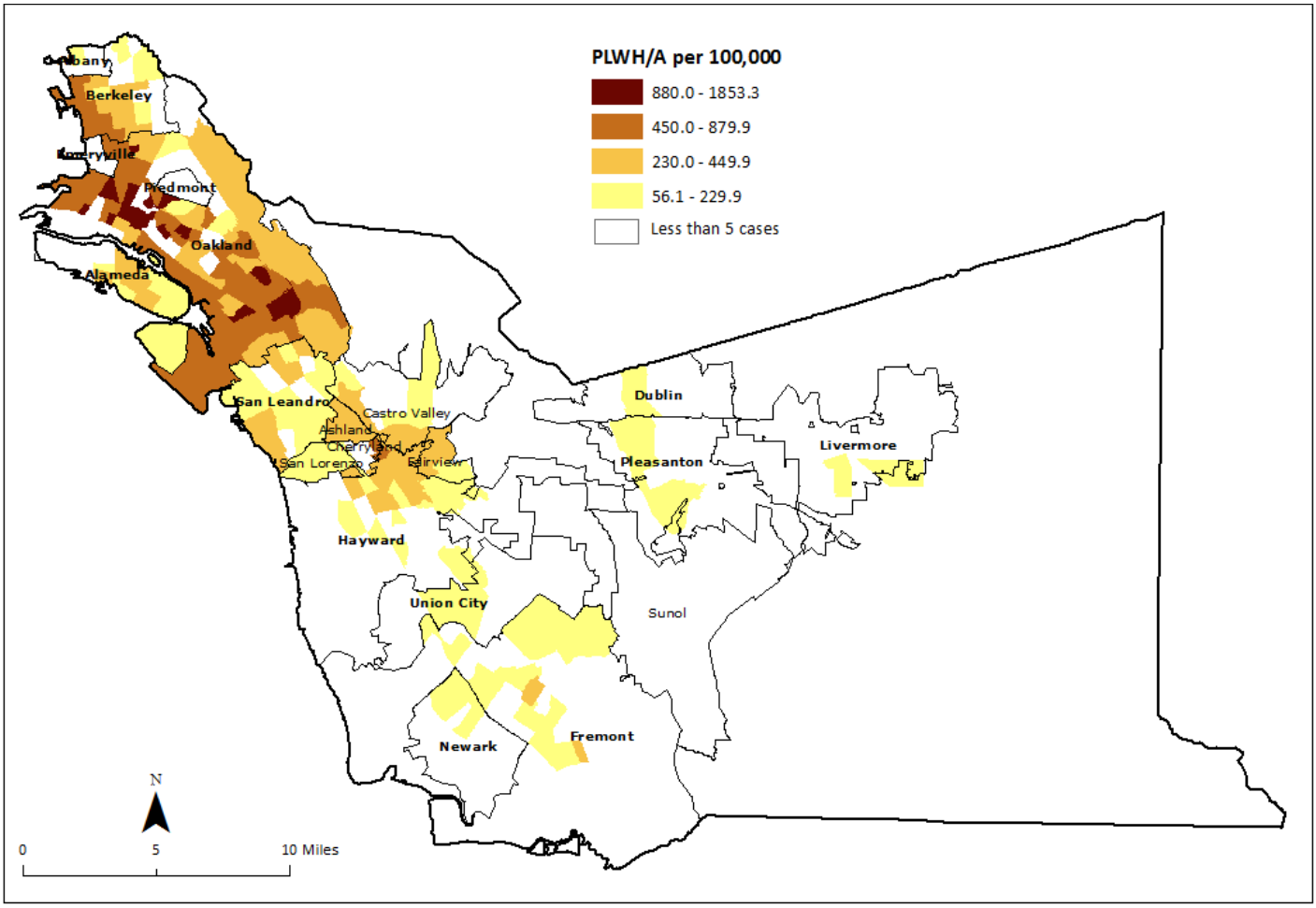
Table 29: People Living with HIV in Alameda County, 2012

			Total	%
Total			5,232	100.0%
Sex		Male	4,265	81.5%
		Female	967	18.5%
Race/Ethnicity		African American/Black	2,301	44.0%
		Asian/Pacific Islander	218	4.2%
		Hispanic/Latino	878	16.8%
		White	1,682	32.2%
		Other/Unknown	153	2.9%
Current Age		0-12	12	0.2%
		13-19	27	0.5%
		20-29	381	7.3%
		30-39	753	14.4%
		40-49	1,572	30.1%
		50-59	1,625	31.1%
		60+	862	16.5%
Mode of Transmission	Males	MSM*	3,095	72.6%
		MSM & IDU	300	7.0%
		IDU**	274	6.4%
		Heterosexual contact	384	9.0%
		Other/Unknown†	212	5.0%
	Females	IDU**	207	21.4%
		Heterosexual contact	602	62.3%
		Other/Unknown†	158	16.3%

Source: eHARS 2012, representing those living with HIV or AIDS as of December 31, 2012.
Notes: * MSM= Men who have sex with men; ** IDU=Injection drug use.; † Unknown represents predominantly cases classified as "No Reported Risk (NRR)" or "No Identified Risk (NIR)".

In Alameda County there were 5,232 people living with HIV in 2012, including those with AIDS. Of these, 4,265 were men and 967 were women. At this time, data quality issues limit the ability to categorize transgendered persons separately. Of the men, 79.6% were MSM (including those with IDU history). For women, heterosexual sex was the reported mode of transmission in 62.3%. People between the ages of 40 and 59 years comprised 61.2% of the total. Nearly half of all living cases (44%) were in African Americans.

Figure 141: Prevalence per 100,000 People by Census Tract in Alameda County, 2012



Source: eHARS 2012.

The greatest concentrations of people living with HIV, including those with AIDS (PLWH/A), are in northern Alameda County, especially Oakland and Berkeley.

Sexually Transmitted Diseases

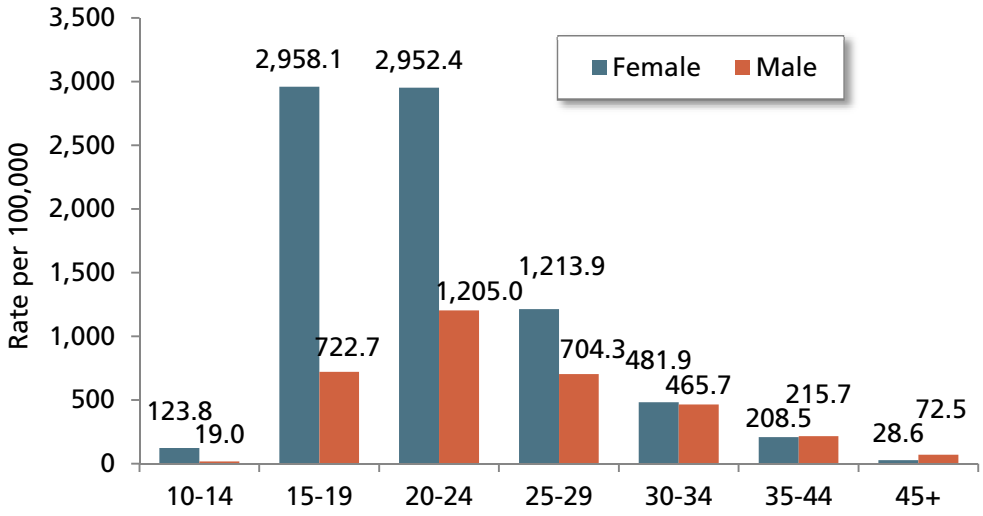
This section covers three reportable bacterial sexually transmitted diseases (STDs): Chlamydia, gonorrhea, and syphilis. STDs are the most commonly reported infectious diseases in the United States. In 2012, 1.8 million new infections were reported, although many more are estimated to have occurred.[5] Over half of these infections occurred among people between 15 and 24 years.[5] Chlamydia, gonorrhea, and syphilis commonly infect the genitals, but can also cause rectal and oropharyngeal (mouth/throat) infections. Untreated Chlamydia and gonorrhea can lead to serious health problems such as pelvic inflammatory disease (PID) and damage to the female reproductive tract, which in turn increases the risk of infertility and ectopic pregnancy. Syphilis can cause a wide range of serious health problems if untreated. Additionally, STDs can increase susceptibility to and transmission of HIV infection, the virus that causes AIDS. Fortunately, treatments for these infections are simple and effective. In the United States, African Americans, in particular young African American women, and men who have sex with men (MSM) bear the greatest burden of disease.[5] Despite strong national screening guidelines, many individuals infected with STDs will show no symptoms of disease so they can often go undiagnosed, untreated, and unreported. Thus, the true incidence and prevalence of these infections is difficult to monitor. Reporting bacterial STDs, like many infectious diseases, is required of both laboratories and health care providers under Title 17 of the California Code of Regulations.

Chlamydia

Chlamydia is a STD caused by the bacterium *Chlamydia trachomatis*. It is the single most commonly reported infectious disease in the United States, and the reported number of cases is thought to be less than half the actual number of new cases.[5] Estimates vary, but the majority of men and women infected with Chlamydia will experience no symptoms.[6] While Chlamydia affects both males and females, females are at a higher risk of serious consequences due to untreated infection. There were over 1.4 million Chlamydia cases reported to the Centers for Disease Control in the United States in 2012, for a rate of 456.7 per 100,000 people per year.[5] In California, the rate of reported Chlamydia infections has been increasing over the past decade.[7]

In 2012, Chlamydia cases were reported at a substantially higher rate among females than males and appeared to be highly concentrated among those 15 to 24 years, with case rates dropping off quickly in older age groups

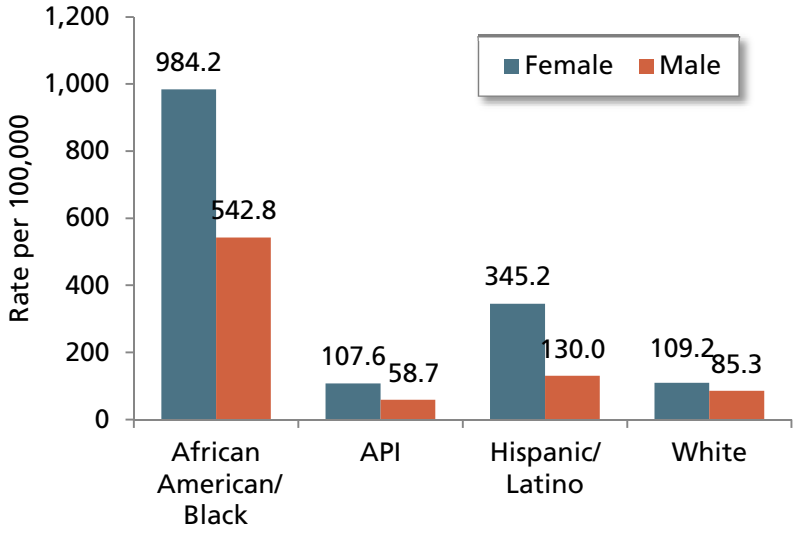
Figure 142: Chlamydia Case Rates by Age and Sex



Source: California Department of Public Health STD Branch, 2012.

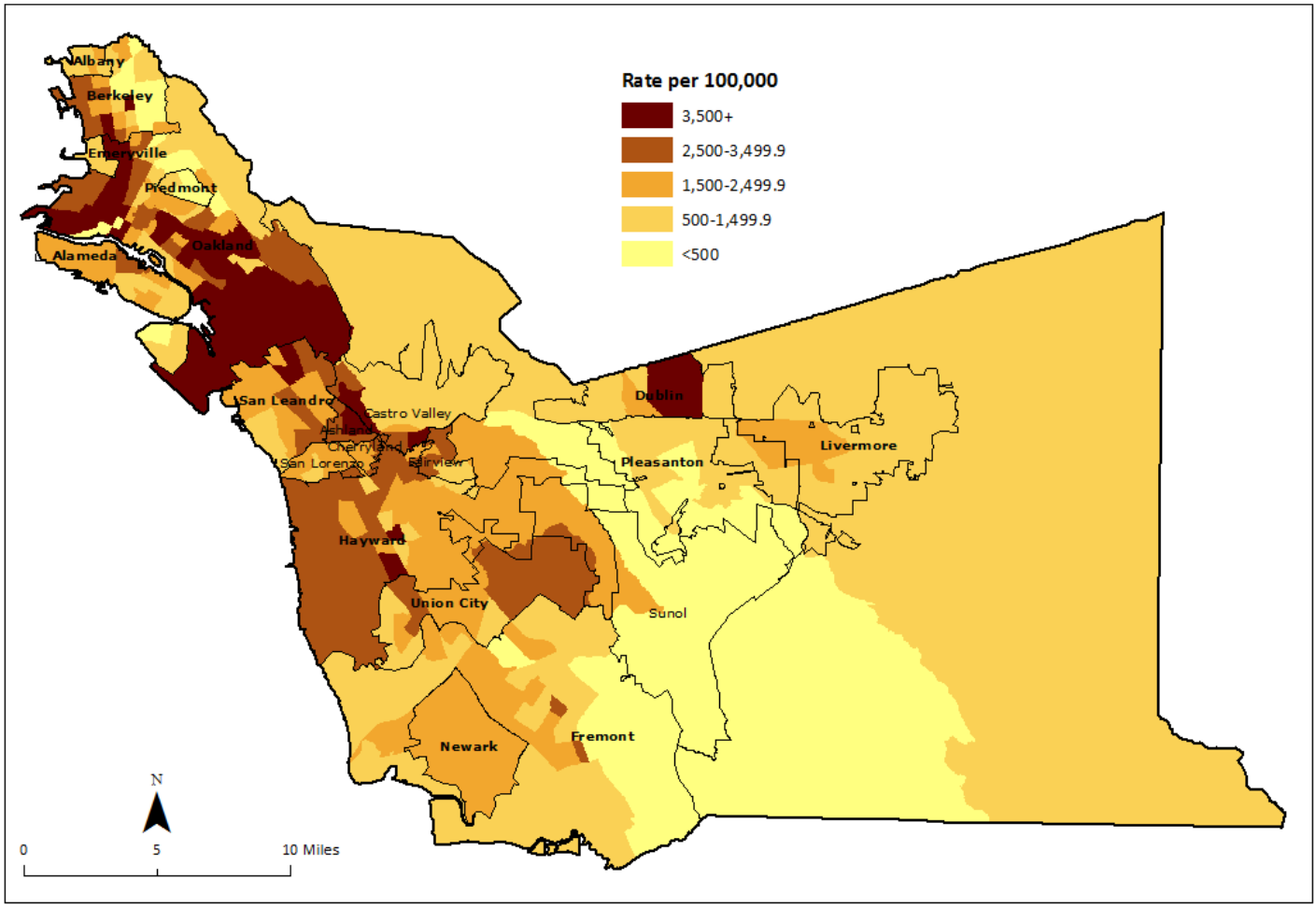
African Americans experience the highest rates of reported Chlamydia cases relative to other racial/ethnic groups. Among African Americans and Latinos, there are also striking gender disparities in Chlamydia rates.

Figure 143: Chlamydia Case Rates by Race/Ethnicity and Sex



Source: California Department of Public Health STD Branch, 2012.

Figure 144: Chlamydia Case Rate, Females 15-24 Years



Source: California Department of Public Health STD Branch, 2010-2012.

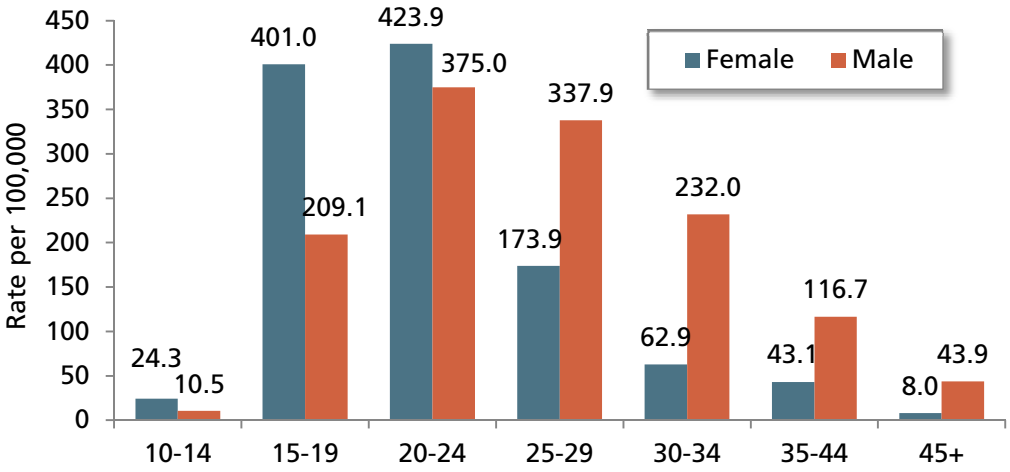
Chlamydia cases among females 15 to 24 years are most frequently reported from East and West Oakland, parts of Hayward, Castro Valley, San Leandro, and Union City. High case rates in Dublin are due to reporting from screening programs in Santa Rita Jail.

Gonorrhea

Gonorrhea is a STD caused by the bacterium *Neisseria gonorrhoeae*. It is the second most commonly reported infectious disease in the United States after Chlamydia.[5] A total of 334,826 infections were reported in the United States in 2012, for a rate of 107.5 per 100,000 people per year.[5] In California the rate in 2012 was 89.3 per 100,000.[8] Like Chlamydia, gonorrhea infections are underreported. Increasing antibiotic resistance has been observed in gonorrhea infections. Currently the injectable antibiotic ceftriaxone is recommended as the first choice of therapy for gonorrhea.[9]

In 2012, the highest reported rates of gonorrhea cases were seen among females 15 to 24 years of age. Among males, case rates were highest among slightly older age groups, particularly those 20 to 29 years of age.

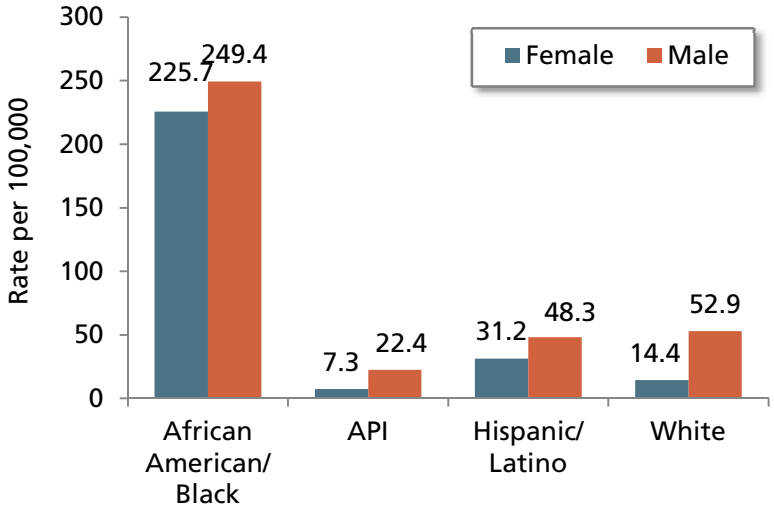
Figure 145: Gonorrhea Case Rates by Age and Sex



Source: California Department of Public Health STD Branch, 2012.

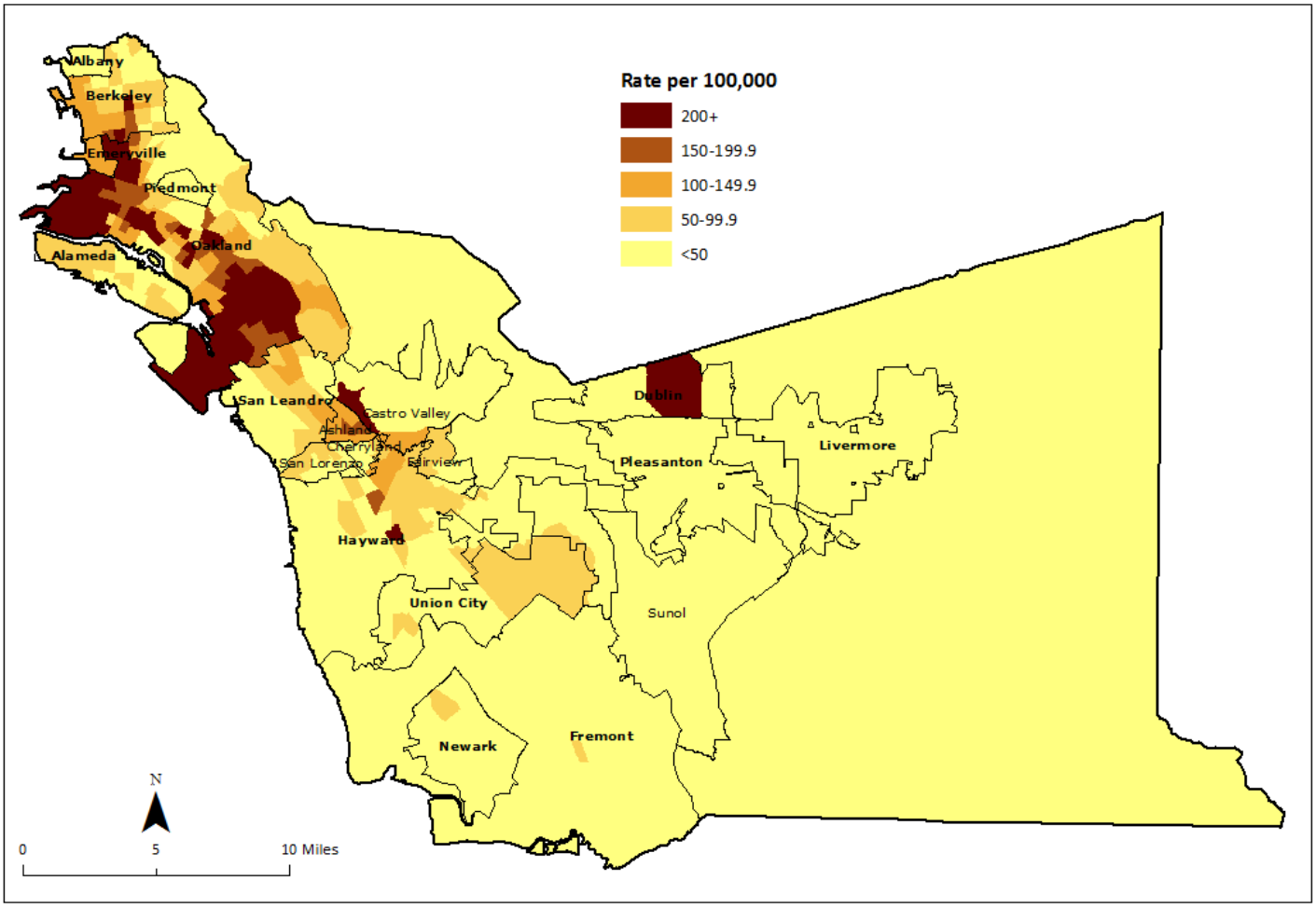
Gonorrhea rates were higher in men than women in 2012 for all races/ethnicities, particularly Whites. African Americans had the highest overall rates of gonorrhea, by a wide margin.

Figure 146: Gonorrhea Case Rates by Race/Ethnicity and Sex



Source: California Department of Public Health STD Branch, 2012.

Figure 147: Gonorrhea Case Rates, Alameda County



Source: California Department of Public Health STD Branch, 2010-2012.

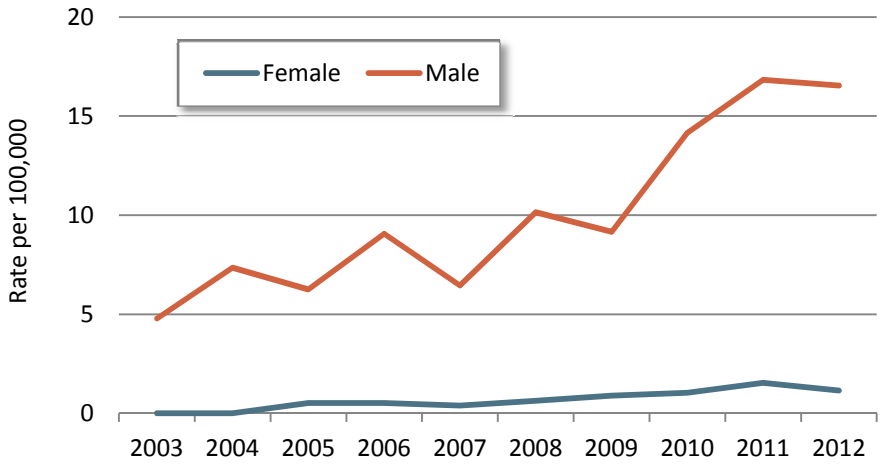
Gonorrhea cases are most frequently reported from East and West Oakland. High case rates in Dublin are due to reporting from screening programs in Santa Rita Jail.

Syphilis

Syphilis is caused by infection with *Treponema pallidum*, a spirochete bacterium. Left untreated, syphilis can lead to serious health problems that include neurologic, heart and other organ damage, and even death. In some cases, it can take years for these to develop. Syphilis can also spread from an infected mother during pregnancy or delivery, resulting in congenital syphilis of the fetus or newborn. Congenital syphilis can be very severe, resulting in physical deformity, neurologic damage or even death. Rates of primary and secondary (P&S) syphilis infection are tracked closely because these are the stages when the disease is most infectious. Nationally, the rate of P&S syphilis infection began climbing in 2001 after declining throughout the 1990s.[5] In the United States there were 15,667 reported cases in 2012, for a rate of 5.0 per 100,000.[5] The California rate began climbing in 1999—the rate was 5.9 per 100,000 people per year in 2008, and had reached 7.8 per 100,000 in 2012.[7,10] Most of the increase in cases has been among males, particularly MSM.[7]

Rates of reported primary and secondary syphilis cases show a striking gender disparity, with far more cases reported in men than women. The case rate for syphilis has more than tripled in men since 2003, while cases in women have barely increased.

Figure 147: Primary and Secondary Syphilis Case Rates by Sex, 2003-2012



Source: California Department of Public Health STD Branch, 2003-2012.

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TECHNICAL APPENDIX

Methods

Calculating and Interpreting Rates

Age Adjustment All age-adjusted rates in this report are adjusted by the direct method to the 2000 U.S. Standard Population. In general, the number of deaths or disease for specific causes of mortality or morbidity in a community is affected by the size and age composition of the population. Because the risk of death or disease is primarily a function of age, simply calculating a crude rate (the number of events/population) can lead to misleading conclusions when comparing different subpopulations. This is because populations with a large component of elderly people tend to have higher death and disease rates simply because the risk is determined mostly by age. To nullify the effect of differences in the age composition of populations, death and disease rates are age-adjusted. Age-adjusted death and disease rates form a better basis for making comparisons across populations.

Variability of Rates All vital statistics, including death and disease rates, are subject to random variation. The smaller the number of events, the greater the degree of random variation. In order to protect against providing misleading information based on statistically unreliable rates, the National Center for Health Statistics (NCHS) recommends presenting only rates based on 20 or more events.[1] For select indicators in this report, this standard has been relaxed to a requisite ten or more events for most rates, a standard recently adopted by the Family Health Outcomes Project of the University of California, San Francisco.[2]

Confidence Interval A good measure of the reliability of a rate is the confidence interval (CI) around the rate estimate. A confidence interval defines the range of rates that would be determined by repeated sampling of the same phenomenon. By statistical convention, a 95% confidence interval is considered a useful measure of the range of accuracy of an estimate. This means that with repeated sampling, one would obtain a rate within the confidence interval 95% of the time. These calculations normally use the binomial distribution. Based on recommendations of the National Center for Health Statistics (NCHS) regarding the calculation of rates and confidence intervals, the standard error of any rate based on fewer than 100 events is based on the Poisson distribution.[1] The Poisson distribution is similar to the binomial distribution but is characterized by very small numbers of events occurring in a large number of trials.[3]

Life Expectancy

Life expectancy at birth is calculated using abridged life tables with five-year or ten-year age intervals. The abridged method is used because it is a shortcut method, and because preparing a complete life table would not be suitable because data are sparsely distributed by single years of age.

Analysis of Trends

For this report, three-year rolling averages were used to examine time trends. This method involves grouping three years of data sequentially (for example, 2000-02, 2001-03, 2002-04), creating overlapping time periods. The effect of this method is to smooth out yearly fluctuations in the data and detect longer-term patterns of increase or decline.

Using Prevalence Estimates and Confidence Intervals

In this report, data from the California Health Interview Survey (CHIS) provides information on behavioral risk factors; chronic disease; and access to and utilization of health care.

CHIS findings are presented in tables as percentage of the population with a given condition (shown in the column marked "%") and confidence intervals (shown as "95% CI"). CHIS estimates are based on a random sample of the population, and have a certain level of error. One way of describing this error is by variance of estimates. Coefficient of variation (CV)—the standard error of an estimate divided by the mean—is one measure of variance. If the CV of an estimate is equal to or greater than 30% it is considered unreliable (i.e., unstable). Confidence intervals are derived from the variance of an estimate. The width of the confidence interval—i.e., the difference between the lower and upper limits—varies with the sample size and variance. In general, the smaller the sample size, the higher the variance, and the wider the confidence interval of an estimate. In this report, unstable estimates are indicated by "*" in tables. This occurs most often with smaller subgroups that do not have sufficient numbers for a stable estimate.

The confidence interval uses the margin of error (related to variance as discussed above) to describe an upper and lower limit of an estimate. In this report 95% confidence intervals are presented. This means that there is a 95% chance that the true value of an estimate is within this interval. Confidence intervals provide an easy way to determine if differences among groups are statistically significant. If the confidence intervals of two different estimates (i.e., the percentages) do not overlap, it can be concluded that the difference is statistically significant and not due to chance. However, if the intervals overlap or share a boundary, the difference between the two estimates (percents) is assumed not to be statistically significant. This is a conservative approach used to describe the significance of difference between groups and has been applied to other analyses of CHIS data.[4]

Data Sources

Demographic and Socioeconomic U.S. Bureau of the Census, 2000 Census, 2010 Census, American Community Survey; California Department of Education, Dataquest and Ed-Data; California Department of Finance; California Employment Development Department; California Department of Justice.

Population Estimates The population estimates for Alameda County are from California Department of Finance (DOF) estimates and the decennial Censuses. For July 1 estimates from each year from 2000 to 2011, the age and sex distributions are assumed to change linearly with given values from Census 2000 to Census 2010, with the total number of persons taken from DOF estimates. Since most data are for 2010 to 2012, they have a midpoint of July 1, 2011.[5] For some indicators, 2012 and 2013 population estimates were from Esri.

American Community Survey (ACS) A nationwide survey designed to provide communities a fresh look at how they are changing. It is a critical element in the Census Bureau's reengineered decennial census program. It regularly gathers information previously contained only in the long form of the decennial census. The ACS collects and produces population and housing information every year instead of every ten years.

Births Alameda County Public Health Department vital statistics files obtained from the Alameda County Department of Public Health Automated Vital Statistics System (AVSS).

Deaths Electronic Death Reporting System (EDRS), California Department of Public Health. Prior to 2005: Alameda County Public Health Department Vital Statistics Files from the Automated Vital Statistics System (AVSS) and the State of California Statistical Master Death file.

Emergency Department (ED) Data Hospital emergency department data collected by the California Office of Statewide Health Planning and Development (OSHPD). Data on emergency department visits reflect patients who were treated and released or transferred to another facility. Those who were admitted to the same hospital as an inpatient are not reflected here; they are reflected in the patient discharge data.

Patient Discharge Data Hospital inpatient discharge data collected by the California Office of Statewide Health Planning and Development (OSHPD).

California Health Interview Survey (CHIS) A biennial statewide survey conducted by the UCLA Center for Health Policy Research in collaboration with the California Department of Public Health, the California Department of Health Care Services, and the Public Health Institute. It is a key source of information on chronic disease prevalence, health-related behaviors, preventive health services, access to health care (including health insurance coverage).

Tuberculosis Alameda County Public Health Department Tuberculosis Information Management System (TIMS).

HIV/AIDS Alameda County Public Health Department HIV/AIDS Reporting System (eHARS).

Sexually Transmitted Diseases (STDs) Chlamydia, gonorrhea, and syphilis data from Alameda County STD surveillance system through STD Control Branch, California Department of Public Health.

Limitations of Data and Other Data Issues

Patient Discharge Data (PDD) and Emergency Department (ED) Data Because persons with multiple hospitalizations or ED visits during the year can be counted more than once, rates reflect the number of visits, not the number of individuals making the visits. Changes in rates of hospitalization may reflect changes in hospital admission practices or the diagnostic coding of illnesses, or be reflective of true changes in the patterns of disease. The data capture those illnesses or injuries serious enough to get people to the ED or admitted to the hospital and do not represent the prevalence of a given disease or condition in the population. Race and ethnicity data are missing for approximately 1% of records in both PDD and ED. Within the ED data, a disproportionate number of patients are coded as "Other" for race. Consequently, there are a large number of cases of 'unknown' and 'other' race which are not included in rate calculations, resulting in an overestimation of rates for some racial groups and an underestimation for others.

Births Information on the newborn is taken from the birth certificate. The race/ethnicity on the birth certificate is reported by self-identification according to the race and ethnicity of the mother.

Deaths The race and ethnicity of the decedent is from the death certificate as reported by family members to the funeral director. However, birth and census population data use the self-reported race of the respondent. Because of the combined effect of numerator and denominator biases, it has been estimated that mortality rates are overestimated by

about 1% among Whites and 5% among African Americans. They are underestimated by approximately 21% for American Indian/Alaska Natives, 11% for Asian/Pacific Islanders, and 2% for Latinos.[6]

Change of International Classification of Disease Mortality data for specific causes of death in this report are classified and coded according to the World Health Organization's (WHO) tenth revision of the International Classification of Diseases (ICD-10) implemented in the United States in 1999.[7] However, hospital discharge and Emergency Department data are based on the ninth revision of the International Classification of Diseases (ICD-9). Since the beginning of the century, the International Classification of Disease for mortality has been modified about once every ten years, except for the 20-year interval between the last two revisions. ICD-10 differs from ICD-9 in many respects: 1) ICD-10 is far more detailed than ICD-9, about 8,000 categories compared with 4,000 categories, mainly to provide more clinical detail for morbidity applications; 2) ICD-10 uses four-digit alphanumeric codes compared with four-digit numeric codes in ICD-9; 3) three additional chapters have been added, some chapters rearranged, cause of death titles have been changed, and conditions have been regrouped; 4) some coding rules have been changed.[8] Introducing this tenth revision of International Classification of Disease creates discontinuities in time series and trends for mortality data.

Multiple Race Coding The data on race in Census 2000 are not directly comparable to those collected in previous censuses. The October 1997 revised standards issued by the U.S. Office of Management and Budget (OMB) led to changes in the question on race for Census 2000. In the decennial censuses for 2000 and 2010, respondents were allowed to select more than one category for race. Also, the "Asian and Pacific Islander" category was separated into two categories, "Asian" and "Native Hawaiian and Other Pacific Islander."

Leading Causes of Death Causes are ranked according to the number of deaths because it most accurately reflects the frequency of cause-specific mortality. In this report, leading causes of death were derived from the recommended list of 50 rankable causes from the 113 selected causes of death developed for use with ICD-10.[9] Leading causes of infant mortality were derived from a separate ranking procedure using the recommended list of 71 rankable causes from the 130 selected causes of infant death developed in accordance with ICD-10. Ranking leading causes of death is a tool for illustrating the relative burden of cause-specific mortality. However, the rankings do not necessarily indicate those causes of death of greatest public health importance. Some causes of death of public health importance, such as lung cancer and motor vehicle crashes are excluded from the ranking procedure and included in broader rankable categories, namely, all cancer and unintentional injuries, respectively. If they were included separately, both causes would rank among the ten leading causes of death.[9]

Preventable Hospitalizations The PQI indicators measure the outcomes of preventive care for both acute illness and chronic conditions, reflecting two important components of the quality of preventive care—effectiveness and timeliness.[10] However, there are several factors beyond access to and quality of outpatient care that affect PQI rates. Those factors may include air quality or other environmental conditions, baseline prevalence rates of diseases, patient adherence to treatment recommendations, and social factors such as income and language proficiency. In potentially underserved populations, the complexity of the relationship between socioeconomic status and PQI rates makes it difficult to delineate how much of the observed relationships are due to true access to care difficulties, or due to other patient characteristics, unrelated to quality of care, that vary systematically by socioeconomic status.[10]

Sexually Transmitted Diseases (STDs) The incidence of STDs depends on levels of screening. Since testing for STDs is not comprehensive or uniform throughout the jurisdiction, and since many STD infections are asymptomatic, the actual incidence of STDs is greater than that which is reported. In addition, STD data derive largely from laboratory reports which do not contain information on the race/ethnicity of the individual. Hence, the data is incomplete and conclusions about the distribution of STDs by race/ethnicity cannot be firmly drawn. Based on research done by California

Department of Public Health STD Control Branch staff, it is believed that STD cases with unknown race/ethnicity have a similar racial and ethnic distribution as those with known race/ethnicity.

Case Definitions

Maternal and Child Health

Infant Mortality Number of deaths to children less than one year old per 1,000 live births.

Low Birth Weight The percentage of live births weighing less than 2,500 grams.

Early Prenatal Care Care received during the first trimester (before 12 weeks) of pregnancy.

Teen Birth Births to teenage mothers (15 to 19 years).

Mortality

Cause of Death	ICD-10 Code
All Causes	A00-Y89
All Cancer	C00-C97
Alzheimer's Disease	G30
Certain Conditions Originating in the Perinatal Period	P00-P96
Chronic Liver Disease and Cirrhosis	K70, K73-K74
Chronic Lower Respiratory Diseases	J40-J47
Congenital Malformations, Deformations, and Chromosomal Abnormalities	Q00-Q99
Diabetes	E10-E14
Diseases of the Heart	I00-I09, I11, I13, I20-I51
Disorders Related to Short Gestation and Low Birth Weight, Not Elsewhere Classified	P07
Homicide	X85-Y09, Y87.1
Newborn Affected by Maternal Complications of Pregnancy	P01
Respiratory Distress of Newborn	P22
Stroke	I60-I69
Sudden Infant Death Syndrome (SIDS)	R95
Suicide	X60-X84, Y87.0
Unintentional Injury	V01-X59, Y85-Y86

Hospitalization and ED

Cause	ICD-9 Code
Asthma	493
Congestive Heart Failure	428.00, 428.20-428.40
Coronary Heart Disease	402, 410-414, 429.2
Diabetes	250
Homicide/Assault	E960-E969
Stroke	430-438
Suicide/Self-Inflicted Injury	E950-E959
Unintentional Injury	E800-E949
Severe Mental Illness	295.30, 295.10, 295.20, 295.90, 296.32, 296.33, 296.34, 296.40, 296.42, 296.43, 296.44, 296.62, 296.63, 296.64, 296.52, 296.53, 296.54, 296.7, 296.89, 300.01, 300.02, 300.21, 300.22, 300.23, 300.3, 309.81, 301.0, 301.20, 301.22, 301.7, 301.83, 301.50, 301.81, 301.82, 301.6, 301.4, 301.9
PQI	From http://www.qualityindicators.ahrq.gov/Modules/PQI_TechSpec.aspx
Avoidable ED Visit	From http://www.dhcs.ca.gov/dataandstats/reports/Documents/MMCD_Qual_Rpts/EQRO_QIPs/CA2011-12_QIP_Coll_ER_Remeasure_Report.pdf

Communicable Disease

AIDS The Centers for Disease Control and Prevention expanded the AIDS surveillance case definition in 1993 to include all HIV-infected persons with a CD4+ T-lymphocyte count of less than 200 cells/uL or with one of the AIDS-defining clinical conditions.

Chlamydia A case that is laboratory confirmed by isolation of *Chlamydia trachomatis* by culture.

Gonorrhea A case that is laboratory confirmed by isolation of *Neisseria gonorrhea* by culture.

Primary and Secondary Syphilis Primary syphilis is either a demonstration of *Treponema pallidum* in clinical specimen by darkfield, fluorescent antibody or equivalent microscopic methods, or a reactive serologic test for syphilis. Secondary is an identification of *T. pallidum* from a lesion compatible with secondary syphilis, or a compatible clinical picture with laboratory confirmation by either: 1) Reactive non-treponemal test (>1:4) with no prior diagnosis of syphilis; or 2) Four-fold or greater increase in non-treponemal test titer compared with most recent test for individuals with prior history of syphilis.

Tuberculosis (TB) Positive cultures for *M. tuberculosis* confirm the diagnosis of TB. However, TB may also be diagnosed by the medical provider on the basis of clinical signs and symptoms in the absence of positive cultures.

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