## Alameda County Public Health Department

## Alameda County Health Status Report 2006



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Cover mural from Santa Fe Elementary School, Oakland California

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May, 2006

## Dear Alameda County Residents,

Welcome to the Alameda County Public Health Department's 2006 County Health Status Report. As you delve into this comprehensive report, you will see that the trends in the data are simultaneously reassuring and alarming. By and large, Alameda County residents are living longer, healthier lives. Rates of death and illness from most all of the major diseases, including heart disease, stroke, and cancer, are on the decline. Rates of most infectious diseases also continue to fall. Life expectancy in Alameda County has increased by about four years during the past decade alone. Life expectancy increases were seen in every race/ethnic group: 4 years for Asian/Pacific Islanders, and roughly 3 years for Whites, African Americans, and Latinos.

Despite these encouraging improvements, we continue to observe large and persistent disparities in health based on race, income, neighborhood, education, and other so-called social determinants. There is even some evidence that these health disparities are worsening. The gaps between Alameda County's haves and the have-nots increased during the decade of the nineties. We have an increasing concentration of wealth, decreasing affordability of housing, increasing school segregation, and a disproportionate growth in non-living wage jobs. These worsening social inequities have direct and profound consequences on our residents' health. While significant health disparities can be found that afflict almost every racial and ethnic group, the magnitude of racial health disparities in Alameda County is most profound for AfricanAmericans, Latinos, Pacific Islanders, and Native Americans. It is clear that new strategies and solutions are desperately needed.

The root causes of health disparities are complex and closely tied to similar persistent racial and class disparities in education, employment, income, and housing that so thoroughly characterize our society and continue to challenge our deeply held commitment to social justice. It is this relatedness to other social inequities and our recognition of their inherent injustice that leads us to regard them as health inequities, rather than health disparities. Eliminating health inequities will require sophisticated and sustained multi-disciplinary interventions. These must simultaneously address both the conditions in our low-income neighborhoods and the inequitable policies that
continue to systematically deprive the residents of these neighborhoods of access to critical social goods such as good schools, better jobs, safe recreational space, clean air, and less crime. We have begun to create such interventions on a small scale and believe that they will soon begin to reap health benefits. We invite your input and guidance.

I am very proud of the hard-working and talented people who labored long hours to put this report together and ensure that it is accurate and relevant to the needs of our community partners. Particular credit must be given to Dr. Sandra Witt, the Director of our Community Assessment, Planning, Education and Evaluation (CAPE) Unit and her dedicated team. Her commitment to high epidemiologic standards and clarity in presentation make this report an extremely valuable tool for our community partners. The enduring vision for this report derives from our Agency Director, Dave Kears, and our Public Health Director, Arnold Perkins. Their commitment to putting the public back in public health has driven our efforts to make these reports useable and pertinent to the needs of the residents, community-based organizations, and other stakeholders that make up this wonderful and diverse county.

Sincerely,


Tony Iton, M.D., J.D., MPH
Alameda County Health Officer

## Acknowledgments

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The Alameda County Public Health Department, Office of the Director Community Assessment, Planning, and Education (CAPE) Unit

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## Dedication

This book is dedicated to Arnold Perkins, Director of Alameda County Public Health Department, who will retire this year. It is through Mr. Perkins' vision of monitoring the health status of county residents and examining health inequities that the County Health Status Report has been produced, now for the third time since 1999. His vision, dedication, perseverance, and compassion have compelled the Public Health Department to work in close partnership with our diverse communities to improve health for all. Mr. Perkins is a beloved colleague and mentor to all who work in the Public Health Department, the Health Care Services Agen$c y$, and the community.


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## EXECUTIVE SUMMARY

## Introduction

The 2006 Alameda County Health Status Report shows sustained improvements in the county population for many health indicators over the past decade. This is good news. And yet while overall health has improved, serious health inequities persist.

The mission of the Alameda County Public Health Department (ACPHD) is to work in partnership with the community to ensure optimal health and well-being of all people. Improving health and well-being calls for active participation from many. We believe that informed public health agencies and their constituencies must be committed to a broad array of activities to change the social, economic, and environmental conditions that will lead to the improved health and well-being of our residents and the elimination of health inequities.

Health inequities are defined as "differences in health that are unnecessary, avoidable, unfair and unjust." ${ }^{1}$ Another definition describes health inequities as "material, social, gender, racial, income, and other social and economic inequalities that are beyond the control of individuals and are therefore considered unfair and unjust." ${ }^{2}$ Health status and health inequities are shaped by a wide range of factors in the social, economic, natural, built, and political environments. ${ }^{3}$ Many studies have linked race/ethnicity, income and education with health. Poor people and people of color are more likely to be burdened by substandard housing, poor schools, pollution and public policy decisions that contribute to health risks. ${ }^{4-7}$

This report describes the health status of county residents by examining a wide range of social, demographic and health indicators including leading causes of death and chronic diseases, maternal and child health, injury and violence, and communicable diseases. Data sources include birth, mortality, hospitalization, cancer and communicable disease incidence, in addition to the census. All health indicators are examined by gender, race/ethnicity, and age. Trends over time and the geographic distribution of selected indicators are also examined. Current health status is compared to California rates and to Healthy People 2010 national objectives ${ }^{8}$ where possible. The report then describes the Department's current programs and future plans to improve community health.

Two tables detailing the status of Alameda County residents by each health indicator are presented at the end of the executive summary. These are followed by written description of key findings. The first table shows that the county as a whole has met the Healthy People 2010 objectives for three health indicators-coronary heart disease mortality, motor vehicle crash mortality, and early prenatal care. This is up from just one indicator three years ago. However, the majority of Healthy People 2010 objectives have not been met, either at the county level or at the level of individual race/ethnic or gender groups. The second table summarizes trends from 1990 onward for each health indicator. It shows trends for the county overall and for each race/ethnic group. It also shows, in general, whether health
inequities are growing or diminishing.

## The Findings

Inequities in income and education level persist in Alameda County. Poverty has changed little since 1990. Approximately $14 \%$ of Alameda County children under 18 live in poverty. The income distribution is becoming more skewed than in the past, with the rich having much more income than the poor. While we know that safe, affordable housing is linked to good health, $31 \%$ of owner-occupied households in Alameda County spend more than $30 \%$ of their income on housing, and $21 \%$ of renters spent $50 \%$ or more of their income on rent. Crime rates are down since the mid-1990s. Most of the projected growth in jobs will be in those that do not pay a living wage.

African Americans bear the burden of the greatest health inequities. Among Alameda County's race/ ethnic groups, African Americans fair the poorest on most key measures of morbidity and mortality examined in this report. They have the highest rate of death from all causes, as well as the highest rates of both death and illness from coronary heart disease, stroke, lung cancer, prostate cancer, asthma, motor vehicle crashes, and homicide/assault. African Americans also have the highest rates of new AIDS cases, diabetes hospitalizations, and deaths from unintentional injury, all cancer, breast cancer, and colorectal cancer. Infant mortality, low birth weight, and low childhood immunization rates also take their greatest toll on African Americans.

Inequities exist for other race/ethnic groups as well. Native Hawaiian/Pacific Islanders have the highest rate of diabetes mortality and the lowest rate of early prenatal care. Latinas have the highest rate of births to teenagers. Asian/Pacific Islanders have the highest rate of tuberculosis. Whites have the highest rates of suicide, all-cancer, breast and colorectal cancer incidence, and hospitalization for both self-inflicted and unintentional injury.

Gender inequities also exist in Alameda County. Males die at an earlier age and have significantly higher rates of illness and death than do females for almost all the indicators examined, most notably coronary heart disease, all cancer, lung cancer, colorectal cancer, childhood asthma and most forms of injury. Females have higher rates of hospitalization due to suicide attempts, as well as higher rates of chlamydia.

African Americans not only have the highest rates on most indicators, but for several of these, the size of the gap has grown over the past decade. In other words, even though rates of morbidity and mortality are improving, they are improving faster for other race/ethnic groups than for African Americans. African American health inequities are growing for overall mortality and for mortality from heart disease, stroke, all cancer, lung cancer, breast cancer, and new AIDS cases. Heart disease, cancer and stroke are the leading causes of death. These diseases kill the largest numbers of people regardless of race, and in Alameda County they kill greater proportions of African Americans than other race/ ethnic groups.

An inequity also exists for teen births; the Latina rate has not declined while those in other race/ ethnic groups have, leading to an increase in the gap between Latinas and the county overall. For Whites, too, inequities in breast cancer incidence and self-inflicted injury hospitalization have grown.

Mortality and life expectancy have improved more for Whites than for African Americans. In the
mid-1960s African Americans and Whites in Alameda County had roughly the same rates of death from all causes. White death rates have declined more steeply than African American rates, and in 2000 the African American rate of death from all causes was $40 \%$ higher than Whites.

It is clear that wealthier people living in the Oakland Hills live longer than poorer people living in the flatlands. It is also clear that the poorer the neighborhood in general, the higher the chances of dying; mortality increases with increasing neighborhood poverty level. This phenomenon is uniformly true for African Americans and Whites for the health outcomes we examined but not always true for Latinos or Asians.

Rates of all-cause mortality and coronary heart disease mortality among both African Americans and Whites increase with each increase in poverty level. However, while African American rates are highest at the lowest poverty level, at the highest poverty level White rates surpass African American rates. Latino mortality rates are constant across poverty levels, a phenomenon seen in state and national data and often referred to as "the Latino paradox."" A similar pattern is seen for Asians, with one exception; all-cause mortality among Asians increases at the highest poverty level. Patterns of lung cancer incidence reflect a similar social gradient for the different race/ethnic groups except that African American rates remain substantially higher than White rates at all poverty levels.

A clear social gradient is seen for every race/ethnic group when teen birth rates are examined; they increase with every increase in neighborhood poverty level. Most notably, Latina rates jump twofold between the lowest and highest poverty levels, and White rates jump over ten-fold. The increase among Whites between the two highest poverty levels alone was three-fold, suggesting that teenage Whites living in the poorest neighborhoods are at particularly high risk of early pregnancy.

## What Do We Need To Do?

That the poor and people of color fair so much worse on a variety of health measures than those who are White and not poor suggests that Alameda County has not done enough to address the root causes of health inequities. While we continue to provide important services and interventions to address health and disease, we need to do more to affect key policy issues around educational and income inequities to improve health for the poor and people of color. In addition, we must employ community capacity building efforts to support changing those broad health conditions beyond individual behavior or control.

The Alameda County Public Health Department is currently working on several groundbreaking strategies, including community capacity-building, collaboration across agencies, and neighborhood demonstration projects. Community capacity-building involves viewing communities and residents as potential resources for change, rather than as passive recipients of services. Residents possess many skills and strengths that they can use to improve the quality of life in their neighborhoods. ${ }^{10}$

In addition, the ACPHD is working internally, and with a variety of outside partners, to incorporate additional community capacity building approaches in their work. Through innovation and sustained active partnerships with residents, we can reduce the health and social inequities in Alameda County and continue health improvements for all.

|  | Indicator |  | Healthy <br> People <br> 2010 <br> Objective | Year(s) | County Rate |  |  | $\frac{\frac{5}{4}}{\frac{10}{4}}$ |  |  | $\begin{aligned} & \pm \\ & \hline \end{aligned}$ |  |  | ${ }_{ \pm}^{\frac{0}{10}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | All-cause Mortality |  | X | 2001-03 | 742.2 | 1,125.4 | 444.5 | 451.8 | 818.2 | 597.2 | 790.6 | 180.9 | 633.6 | 884.1 |
|  | Coronary Heart Disease | Mortality | 166.0 or less | 2001-03 | 160.3 | - 235.5 | * | 97.4 | - 187.2 | 119.2 | - 172.0 | 40.1 | 131.4 | - 198.2 |
|  |  | Hospitalization | X | 2001-03 | 1,304.7 | 1,486.2 | 164.5 | 786.2 |  | 1,076.0 | 1,392.0 | X | 1,017.1 | 1,674.0 |
|  | Stroke | Mortality | 48.0 or less | 2001-03 | - 63.1 | - 95.2 | * | - 51.4 | - 75.0 | - 54.4 | - 60.6 | 19.7 | - 61.5 | -64.1 |
|  |  | Hospitalization | $x$ | 2001-03 | 495.5 | 842.9 | 68.6 | 342.7 |  | 381.4 | 464.1 | X | 464.9 | 534.7 |
|  | Diabetes | Mortality | X | 2001-03 | 22.7 | 45.9 | * | 16.9 | 55.6 | 32.4 | 17.9 | * | 20.5 | 25.9 |
|  |  | Hospitalization | $x$ | 2001-03 | 1,129.2 | 2,164.0 | 207.4 | 735.3 |  | 1,271.6 | 938.4 | X | 1,110.8 | 1,154.2 |
|  |  | Mortality | 159.9 or less | 2001-03 | - 178.2 | - 258.1 | 100.1 | 110.7 | - 170.6 | 126.7 | - 199.2 | 34.5 | 151.8 | - 216.8 |
|  |  | Incidence | X | 2000-02 | 478.2 | 504.1 | * | 308.1 |  | 428.0 | 547.7 | X | 436.4 | 543.0 |
| $\begin{aligned} & \stackrel{y}{0} \\ & \stackrel{y y}{*} \end{aligned}$ |  | Mortality | 44.9 or less | 2001-03 | - 47.4 | - 76.1 | * | 28.3 | * | 22.9 | - 53.8 | * | 37.3 | - 60.9 |
| oun |  | Incidence | X | 2000-02 | 60.0 | 85.4 | * | 37.3 |  | 43.6 | 65.6 | X | 48.5 | 75.8 |
| 은 |  | Mortality | 22.3 or less | 2001-03 | - 24.5 | - 35.1 | * | 12.2 | * | 16.2 | - 29.0 | * | - 24.5 | x |
|  |  | Incidence | $x$ | 2000-02 | 161.3 | 146.6 | * | 105.1 |  | 133.7 | 194.2 | X | 161.3 | $x$ |
|  | Prostate Cancer | Mortality | 28.8 or less | 2001-03 | - 30.2 | -66.9 | * | 11.1 | * | 21.5 | - 30.9 | * | X | - 30.2 |
|  |  | Incidence | X | 2000-02 | 167.3 | 220.3 | * | 92.9 |  | 146.9 | 178.2 | X | x | 167.3 |
|  | Colorectal Cancer | Mortality | 13.9 or less | 2001-03 | -17.9 | - 25.8 | * | 13.8 | * | 11.2 | - 19.2 | * | - 15.8 | - 20.3 |
|  |  | Incidence | $x$ | 2000-02 | 50.6 | 51.3 | * | 45.4 |  | 51.0 | 51.9 | X | 42.2 | 61.4 |
|  | Asthma (All ages) | Mortality | $x$ | 2001-03 | 1.9 | 3.3 | * | 2.5 |  | * | 1.4 | * | 1.7 | 2.3 |
|  |  | Hospitalization | X | 2001-03 | 161.4 | 417.2 | 26.5 | 79.0 |  | 120.9 | 112.3 | X | 168.4 | 150.8 |
|  | Asthma (<5 years) | Hospitalization | 250.0 or less | 2001-03 | - 683.2 | - 1,573.2 | * | -304.3 |  | - 565.4 | - 424.1 | X | -477.7 | - 880.8 |


| Indicator |  |  | Healthy <br> People 2010 <br> Objective | Year(s) | County Rate |  |  | $\frac{\frac{1}{5}}{4}$ |  | $$ | N | $\begin{aligned} & \stackrel{y}{0} \\ & \frac{0}{ \pm} \\ & \frac{1}{\Sigma} \\ & \sum \end{aligned}$ | $\frac{0}{10}$ $\stackrel{1}{\Xi}$ $\vdots$ | ${ }_{2}^{\frac{0}{10}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Infant Mortality |  | 4.5 or less/ 1,000 live births | 2001-03 | - 4.9 | -11.7 | 4.2 | 3.5 | * | 4.3 | 3.6 | * | X | X |
|  | Low Birth Weight |  | 5.0\% or less of live births | 2001-03 | $\bigcirc 7.0$ | - 12.4 | -6.7 | $\bigcirc 7.1$ | - 6.0 | - 5.5 | - 5.9 | - 9.1 | X | X |
|  | First Trimester Prenatal Care |  | 90\% or more of live births | 2001-03 | 90.7 | - 88.6 | - 85.2 | 92.0 | - 76.8 | - 87.5 | 94.2 | - 89.9 | X | X |
|  | Teenage Births (Age 15-19) $\dagger$ |  | X | 2001-03 | 31.0 | 48.8 | 22.2 | 8.1 | 39.1 | 65.8 | 12.9 | 12.4 | X | X |
|  | Childhood Immunization |  | 90\% of all children by age 2 | $\begin{gathered} 2003 \\ \text { survey } \end{gathered}$ | 78.5 | - 59.5 | * | - 79.3 | * | - 70.5 | - 78.7 | * | * | * |
| $\frac{\text { 를 }}{3}$ | Unintentional Injury | Mortality | 17.5 or less | 2001-03 | - 24.2 | - 39.6 | * | 17.0 | * | - 23.0 | - 24.7 | * | 14.9 | - 34.8 |
|  |  | Hospitalization | X | 2001-03 | 396.6 | 423.2 | 61.9 | 17 |  | 313.6 | 477.6 | X | 361.9 | 414.1 |
|  | Motor Vehicle Crash | Mortality | 9.2 or less | 2001-03 | 7.6 | - 10.9 | * | 7.9 | * | 8.8 | 6.5 | * | 4.0 | - 11.4 |
|  |  | Hospitalization | X | 2001-03 | 77.7 | 100.0 | 20.7 | 32 |  | 66.5 | 85.6 | X | 54.1 | 101.6 |
|  | Homicide/ Assault | Mortality | 3.0 or less | 2001-03 | 8.2 | - 40.0 | * | 2.5 | * | - 5.4 | 2.1 | * | 2.7 | - 13.6 |
|  |  | Hospitalization | X | 2001-03 | 37.0 | 116.6 | * | 8 |  | 34.7 | 20.7 | X | 9.5 | 64.5 |
|  | Suicide/SelfInflicted Injury | Mortality | 5.0 or less | 2001-03 | 8.2 | - 5.7 | * | 3.8 | * | 4.9 | - 12.5 | * | 3.5 | - 14.0 |
|  |  | Hospitalization | X | 2001-03 | 26.8 | 28.9 | * | 10 |  | 15.4 | 40.4 | X | 33.5 | 20.5 |
|  | AIDS |  | 1.0 or less | 2002-04 | - 13.0 | - 49.0 | * | - |  | - 11.9 | - 8.4 | X | - 6.1 | - 20.1 |
|  | Gonorrhea |  | X | 2002-04 | 116.9 | X | X | X | X | X | X | X | 115.9 | 116.0 |
|  | Chlamydia |  | X | 2002-04 | 324.5 | X | X | X | X | X | X | X | 492.1 | 150.1 |
|  | TB |  | 1.0 or less | 2002-04 | - 12.4 | - 12.8 | * | - 32.2 |  | - 10.3 | - 1.9 | X | - 10.8 | - 14.1 |
| HP2010 objective not met; X Data not available or applicable; * Rate cannot be calculated due to small numbers; $\dagger$ Rates are per 1,000 females aged 15 Note: Unless otherwise stated, rates are per 100,000 population and are annual averages. Rates for chronic disease and injury are age-adjusted by the direct population. Healthy People 2010 Objectives are not available for many indicators. Also, rates for death and birth data show Asians and Native Hawaiian/other Rates for all other indicators combine the two groups as Asian/Pacific Islander. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Trends for Key Health Indicators, Alameda County


Notes: American Indians are not presented because of small numbers. 1. Health inequity is measured by the gap between the group with the highest rate and the Alameda County rate. Unless otherwise stated, African Americans were the group with the highest rates; 2 . NHOPIs had the highest rate; however, since the group is not shown here, health inequity measurement is based on the group with the second highest rate; 3. Rates highest among Whites; 4. Rate highest among Latinas; 5 . Recent increases since 2000, despite downward trends.

## Summary of Key Findings

## Demographics

- The number of Whites has declined since 1970 and is predicted to continue declining. Latinos and APIs will continue to increase.
- While $11 \%$ of all persons in Alameda County lived in poverty in 1999, 21.2\% of African Americans lived in poverty. Only $5.9 \%$ of Whites lived in poverty.
- In the county, $82.4 \%$ of all persons 25 years and over had a high school degree or equivalent. The figure decreases to only $55.9 \%$ for Latinos.


## Health Inequities

- While mortality rates overall have declined in the past 40 years, the inequity in mortality between Whites and African Americans has grown larger.
- In the early 1960s, African Americans in Alameda County had a mortality rate similar to Whites. By 2000, the African American rate was $42 \%$ higher than the White rate.
- Except for Latinos, the mortality rate for each race/ethnicity increases with neighborhood poverty level.
- In the lowest poverty neighborhoods, African Americans have a far higher mortality rate than other groups. In the highest poverty neighborhoods, Whites are the highest.


## Death From All Causes

- About 9,600 residents die each year in Alameda County. Nearly $60 \%$ of these die from three causes: heart disease, cancer, and stroke. These three leading causes of death were the same for both males and females.
- Heart disease, cancer, and stroke are the three leading causes of death for all race/ethnic groups except American Indians and Asians. For American Indians, the leading causes of death are cancer, heart disease, liver cirrhosis, diabetes, and chronic lower respiratory diseases. For Asians, they are cancer, heart disease, and stroke.
- Unintentional injury is the leading cause of death among young people 1-14 years of age and among adults 25-44 years of age. Among 15-24 year-olds, homicide is the leading cause of death followed by unintentional injury.
- Cancer is the leading cause of death among 45-64 year-olds and accounts for over one-third of all deaths. Among those over age 65 the leading cause of death is heart disease, which accounts for $31 \%$ of all deaths.
- The leading causes of premature death include cancer, heart disease, unintentional injuries and homicide.
- Life expectancy in Alameda County continues to increase, by about four years during the past decade alone. The improvement in life expectancy at birth was seen in every race/ethnic group: 4.2 years for Asian/Pacific Islanders, 3.3 years for Whites, 3.1 years for African Americans, and 3.0
years for Latinos.


## Coronary Heart Disease

- Alameda County, as well as its neighboring counties, has met the HP2010 national objective of 166 or fewer CHD deaths per 100,000 people.
- Both African American males and females experienced higher coronary heart disease (CHD) mortality than any other race/ethnic group. Among African Americans, both male and female rates were more than twice the corresponding rates for Asians and Latinos.
- Rates of death from CHD have declined significantly during the last decade for every race/ethnic group except Latinos. Declines were greatest among Whites and APIs.
- Disparities in rates between African Americans and other race/ethnic groups have increased over the past decade. In 1990-91 the African American rate was 16\% higher than the county rate; in 2002-03 it was $50 \%$ higher.


## Stroke

- African American males experienced about 70-90\% higher stroke mortality than any other race/ ethnic group.
- Neither males nor females of any race/ethnic group has met the HP2010 objective; however, rates for Asian and Latino females were close to approaching the HP2010 objective of no more than 48 deaths per 100,000 people.
- Stroke mortality has declined over the past decade, mostly due to declines among Whites and APIs. The rates for African Americans have been consistently higher than any other race/ethnic group throughout the past decade.
- Disparities in rates between African Americans and other race/ethnic groups have increased over the decade. In 1990-91 the African American rate was 27\% higher than the county rate; in 2002-03 it was $58 \%$ higher. Relative to Latinos, the gap increased from $57 \%$ in 1990-91 to $100 \%$ in 2002-03.


## Diabetes

- For both males and females, the highest diabetes death rate was observed among African Americans, followed by Latinos. Although the rates for Asian males and females were lower than those for any other race/ethnic groups, the male death rate among Asians was $60 \%$ higher than the female rate. No gender difference in diabetes mortality was observed for Latinos.
- Mortality rate from diabetes increased sharply until 1996. The mortality rate from diabetes among African Americans has been consistently higher than any other race/ethnic group throughout the decade. The disparity in rates between African Americans and other race/ethnic group except Latinos has remained steady. Due to increasing rates, Latinos are the only group to be closing the gap with African Americans.


## Asthma

- Asthma hospitalization rates in Alameda County exceed California rates as well as the HP2010 national objectives in all three age groups, most notably among children under five years of age.

The rate for the under five group is 2.7 times the HP2010 objective and the rate for those over age 65 is 2 times the objective.

- Rates were very high among African American males under five years of age: five times higher than for APIs and three to four times higher than for Whites and Latinos. A similar pattern was observed for females.
- Over the decade the African American rate has been consistently 2.2 to 2.5 times the county rate.
- Children under five years of age, especially boys, are vulnerable to asthma attacks serious enough to warrant hospitalization.


## All Cancer

- The highest rate of cancer mortality was seen among African American males, followed by White males.
- Asians of both genders, Latinas, and Pacific Islander males were the only race/ethnic groups that met the HP2010 objective of no more than 159.9 cancer deaths per 100,000.
- Mortality from all cancers has declined significantly during the last decade for every race/ethnic group. African American cancer mortality has been consistently higher than that for any other race/ethnic group throughout the decade. The disparity in rates between African Americans and the county widened during this time from $30 \%$ in 1990-91 to $49 \%$ in 2002-03.
- The incidence of new cancer cases was higher among males than females in all race/ethnic groups. Males were also more likely to die of cancer than females in all race/ethnic groups with the exception of Pacific Islanders.
- There was a significant decline in cancer incidence and mortality in the past decade. The decline in incidence was the greatest among African Americans and APIs, and decline in mortality was the steepest among APIs.


## Lung Cancer

- Males had substantially higher lung cancer incidence and mortality than females in all race/ethnic groups. African Americans were two to three times more likely to die of lung cancer than Asians or Latinos.
- Asians and Latinos of both genders were the only race/ethnic groups that met the HP2010 objective of 44.9 or fewer lung cancer deaths per 100,000.
- Both incidence of new cases and mortality from lung cancer declined significantly in the last decade for the population as a whole.
- Mortality declined significantly among Whites and incidence declined significantly among Latinos and APIs in the past decade.
- African Americans consistently had higher incidence and mortality than the county and the race/ ethnic inequity in lung cancer mortality widened over time.


## Colorectal Cancer

- Colorectal cancer death rates among African Americans, both males and females, were higher than any other race/ethnic group. Asian females and Latinas were the only groups that met the HP2010 objective of no more than 13.9 colorectal cancer deaths per 100,000 people.
- There was a significant decline in colorectal cancer incidence and mortality in the county over the last decade. African Americans and Whites had the steepest declines in incidence.
- African Americans had consistently higher mortality than the county. There was a narrowing of race/ethnic disparities in colorectal cancer incidence.


## Breast Cancer

- Breast cancer mortality among African Americans was higher than other race/ethnic groups, about three times that of Asians and two times that of Latinas. Asians and Latinas were the only groups that met the HP2010 objective of no more than 22.3 breast cancer deaths per 100,000 women.
- Breast cancer mortality declined significantly in the past decade, overall, and among Whites and APIs. An increasing proportion of women are diagnosed at early stages of the disease.
- The African American breast cancer mortality rate was $53 \%$ higher than the county rate in 200203, up from 11\% in 1990-91. The rate of new breast cancer cases in Alameda County changed very little between 1990 and 2002. However, the rate among White women increased significantly by about 1\% per year.
- While White women consistently had the highest rates of new breast cancer cases in the county, African American women had higher rates of death from breast cancer. The disparity in breast cancer incidence between White women and the county increased over the decade.


## Prostate Cancer

- Prostate cancer mortality among African Americans was higher than other race/ethnic groups, about six times that of Asians, three times that of Latinos, and two times that of Whites. Asians and Latinos were the only groups that met the HP2010 objective of no more than 28.8 prostate cancer deaths per 100,000 men.
- Prostate cancer mortality in Alameda County declined significantly over the past decade, most notably for Whites and APIs.
- Prostate cancer incidence decreased steadily among African American men in the past decade. Over this time, an increasing proportion of men were diagnosed at an early stage of disease.


## Unintentional Injury

- Male unintentional injury death rates were about two to three times higher than those for females in every race/ethnic group.
- The rate for African American males was almost three times the rate of Asians and more than 1.5 times the rates of Latinos and Whites.
- Over the past decade, unintentional injury deaths in Alameda County have declined. Hospitaliza-
tions for unintentional injury have declined among every race/ethnic group except Latinos.


## Motor Vehicle Crashes

- Deaths due to motor vehicle crashes were highest among males, especially, teens, young adults, and 65 and older age groups.
- African American motor vehicle crash death rates have been higher than any other race/ethnic group throughout the past decade. The gap between African Americans and the county as a whole increased from $20 \%$ in 1990-91 to $69 \%$ in 1998-99. Recent trends suggest the gap may be closing.


## Homicide

- For both African American men and women, homicide rates were significantly higher than any other race/ethnic group. The male rate for African Americans was more than twenty times the rates for Asians and Whites, and eight times the rate of Latinos. The female rate for African Americans was five to eight times the rates for Asians and Whites.
- Rates were highest among teen and young adult males, approximately six times higher than among females of the same ages.
- Homicide rates declined for every race/ethnic group in Alameda County until 2000 when they began to climb again among African Americans and Latinos.


## Suicide

- The highest suicide rates were among the oldest males, especially among White males.
- Over the past decade, the White suicide rate has been $30 \%-50 \%$ higher than the county rate.
- The county suicide rate declined over the past decade, largely due to a decline among Whites. However, increases were seen for all but APIs in the most recent 2002-2003 period.
- Rates of self-inflicted injury hospitalization declined over the past decade for every race/ethnic group except Whites, who showed a slight increase.


## Injury Deaths by Mechanism and Intent

- More than half of injury deaths from 2001 to 2003 were unintentional ( $57.2 \%$ ); $21.2 \%$ were from homicide and $19.6 \%$ from suicide.
- The five leading mechanisms of injury death accounted for $81 \%$ of all injury deaths in Alameda County: Firearm (25.1\%), transport-related (19.7\%), poisoning (19.4\%), falls (10.4\%), and suffocation (7.7\%).


## Live Births

- The birth rate has decreased from 18.3 per 1000 people in 1990 to 14.4 in 2003.
- Native Hawaiians/Other Pacific Islanders (NHOPI) had the highest birth rate (22.4 per 1,000 people) followed closely by Latinos (21.1).
- In 2003, over half ( $52 \%$ ) of the births were to foreign-born mothers. Ninety percent of Asian mothers were foreign born, $71 \%$ of Latina mothers, $57 \%$ of NHOPI mothers, $18 \%$ of White mothers and $9 \%$ of African American mothers.


## Infant Mortality

- The infant mortality rate has declined over the last decade in Alameda County as it has in California.
- The infant mortality rate among African Americans remains two to three times higher than among other race/ethnic groups and the county as a whole.


## Low Birth Weight

- During the last decade, the percentage of low birth weight babies in Alameda County has remained approximately 7\%, higher than the HP2010 objective of 5\% of less
- African Americans in Alameda County had the highest rate of LBW (12.4\%), almost two times the county average.


## Prenatal Care

- During the past decade, the percentage of women seeking early prenatal care has increased among every race/ethnic group in Alameda County.
- Ninety-one percent of pregnant women in Alameda County began prenatal care during their first trimester of pregnancy meeting the HP2010 objective of at least $90 \%$.
- NHOPIs still have notably low rates of early prenatal care (77\%).


## Teenage births

- The teen birth rate in Alameda County was 31 per 1,000 females aged $15-19$ years. This rate was higher than those in neighboring counties but substantially lower than California's rate of 41.1.
- The teen birth rate in Alameda County has declined steadily since 1990. The decline among African Americans has been dramatic, while for Latinas it was minimal.
- The current Latina teen birth rate is eight times higher than the Asian rate and five times higher than rates among Whites.


## Childhood Immunization

- Seventy three percent of Alameda County children were fully up-to-date on their immunizations by two years of age which is well below the HP2010 objective of at least $90 \%$.
- The percentage of fully immunized children varied across racial/ethnic groups. While only $60 \%$ of African American children were immunized, almost $80 \%$ of Asian children were.


## Dental Health

- Overall, $69 \%$ of Alameda County third graders have had dental disease, either treated or untreated. This figure is $64 \%$ higher than the HP2010 objective of $42 \%$ or lower.
- Only $34 \%$ of third graders had dental sealants on at least one molar while the HP2010 objective is $50 \%$ or more.
- As school poverty level goes up so does the proportion of children with untreated tooth decay. Conversely, the proportion of Alameda County third graders with protective dental sealants decreases as school poverty level increases.


## Tuberculosis

- Although TB cases and case rates have decreased over the past five years in Alameda County, with an average annual rate of 12.4 per 100,000 population for 2002-2004, the rate is 1.5 times greater than the state rate.
- $77 \%$ of TB cases occurred among persons born outside of the U.S., particularly from countries with higher rates of TB. Persons of Asian/Pacific Islander descent made up the majority of for-eign-born cases, while African Americans comprise the greatest portion of cases born in the U.S.


## HIV/AIDS

- Alameda County's AIDS case rate of 13.0 per 100,000 exceeds the state rate and is second highest in the Bay Area, following San Francisco.
- AIDS cases, case rates, and deaths have declined for all racial/ethnic groups. However, African Americans of both genders continue to have rates several times greater than other race/ethnic groups.
- Although men-who-have-sex-with-men (MSM) continues to be the predominant exposure mode, cases attributed to heterosexual exposure have increased substantially over the past decade.


## Sexually Transmitted Diseases

- Chlamydia and Gonorrhea rates in Alameda County were higher than the state and other Bay Area counties, with the exception of San Francisco.
- Chlamydia cases and case rates were greater for females than males for all race/ethnic groups.
- Gonorrhea rates overall were the same for males and females; however, the rate among females aged 15-19 years was nearly three times the male rate.


## Overview of Report

The Alameda County Health Status Report 2006 presents the health status of the residents of Alameda County. It includes six chapters:

1. Demographic and Social Profile
2. Health Inequities
3. Death from All Causes
4. Chronic Disease
5. Injury
6. Maternal, Child, and Adolescent Health
7. Communicable Disease

Each section contains several health indicators. For each indicator, we address:

| What is it? | Indicator definition |
| :--- | :--- |
| Why is it important? | A brief background |
| What is Alameda County's status? | Health data |
| What are we doing? | Program activities |
| What else do we need to do? | Recommendations for future action |

## Using the Report

Age-adjusted rates are used to report data on death and illness from chronic disease and injury. Crude, or unadjusted, rates are used to report communicable diseases. For reporting maternal and child health indicators, age-specific rates, as well as rates based on number of live births, are used.

Most sections open with a bar chart showing the Alameda County rate compared to rates in neighboring counties and the state, in addition to a Healthy People 2010 objective where one exists. ${ }^{11}$ For the most part, rates for neighboring counties and the state are taken from the California Department of Health Services publication, County Health Status Profiles, 2005. ${ }^{12}$ Where our own Alameda County rates differ from those published in the state report (due to small differences in counts and choice of population denominator) we report the rate we have calculated in order to maintain consistency with the remainder of the report. Any differences between the Alameda County rates published here and those published by the State are very small and do not affect the conclusions drawn from the data.

Mortality trends presented in this report reflect cause of death based on the ICD-9 classification system from 1990 to 1998 and based on ICD-10 from 1999 to 2003. The change in coding cause of death has meant that trends for pre-1999 data are not directly comparable to those for post-1999 data. However, for the major causes of death covered in this report, data from the two periods, pre- and post-1999, are reasonably comparable (that is, within one or two percent). ${ }^{13}$

Throughout the report, the term Latino is used to describe people of Hispanic or Latino origin. In the classification of race/ethnicity, Hispanic origin was determined first, regardless of race, and the race categories for remaining non-Hispanics were determined second. Also in this report, the term American Indian is used inclusively to refer to Native Americans and Alaska Natives and the term African American is used to refer to those who are black or African American.

Finally, birth and death figures showing a three-year average rate for the period 2001-2003 present Asians and Native Hawaiians/other Pacific Islanders (abbreviated as NHOPI or PacIsl in this report) separately. For many health indicators, NHOPI figures are not shown due to small numbers. Figures showing trends, 1990-2003, in this report group Asians with NHOPI. This combined group is shown as API, for Asian/Pacific Islander. The combined group is shown in order to be consistent with racial classifications used prior to Census 2000 when NHOPI was first offered as a separate racial group. Other data sources, such as hospitalization, cancer incidence, and communicable diseases present the combined API group in all figures.

Included at the end of the report are two appendices, the Technical Appendix and the Tabular Appendix. The Technical Appendix documents data sources, limitations, definitions, and some statistical terms and methods. The Tabular Appendix includes a set of tables for most of the data shown graphically in the report. The tables include counts (as a three-year total number of events), three-year average rates, and $95 \%$ confidence intervals. Tables showing annual counts and rates are also presented for 1990 to 2003 for most indicators. Tables are not included for State-level data or for Census data.

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## C h a p t e r 1 DEMOGRAPHIC AND SOCIAL PROFILE

In this chapter, basic characteristics of Alameda County's population such as its age, race/ethnicity, and gender composition are examined, along with how these characteristics have changed over time. In addition, social and economic conditions of the population are described, especially as they relate to the precursors of poverty: income, educational achievement, employment opportunity, and cost of living. Other important demographic factors examined include primary language and health insurance status. All of these factors, and more, contribute to the social and economic health of the population, which in turn is critical in determining both the individual and collective health status of the population.

Alameda County is the most racially and ethnically diverse county in the San Francisco Bay Area. Compared to six other Bay Area counties, Alameda County has the largest percentage of non-White residents. The majority of Alameda County's communities rank high on measures of racial/ethnic diversity as well. ${ }^{1}$ Nearly $15 \%$ of Alameda County residents are of mixed racial or ethnic heritage; the largest groups being Latino/White and Asian/White. Over 20\% of the Bay Area youth population under age 18 is of mixed heritage, well above the adult population. In fact, Alameda County's youth population is more diverse than any other Bay Area county. ${ }^{1}$

## Age

The age structure of Alameda County's population shifted between 1990 and 2000. As a percentage of the total population, the age group 25 to 34 years decreased, while the age group 45 to 54 years increased. This is consistent with national patterns and the aging of the baby boom generation.

Figure 1.1: Age Distribution, Alameda County, 1990 and 2000


[^0]Since 1970, the county population has been aging. The median age went from 28.0 years in 1970 to 34.5 years in 2000. The percentage of persons 65 years and older increased slightly from $8.6 \%$ in 1950 to $10.2 \%$ in 2000. The percentage of persons under 18 years of age dropped from a high of $33.1 \%$ in 1960 to a low of $23.7 \%$ in 1990 and increased only slightly in 2000.

There are more males than females in the age groups up to 25 to 34 years. In the older age groups, 45 years and above, the number of females exceeds the number of males.

## Race and Ethnicity

In Census 2000, respondents were able to check more than one race for the first time. This resulted in $3.9 \%$ of the population of Alameda County being two or more races. Whites are the majority with $40.9 \%$. Asians, Latinos, and African Americans are $20.3 \%, 19.0 \%$, and $14.6 \%$, respectively. Finally, American Indians, Pacific Islanders, and those of some other race are less than one percent each.

Taking into account Latinos of mixed heritage, the percentage of mixed race/ethnicity increases to nearly $15 \%$.

Figure 1.2: Median Age, Percentage Under 18 Years, Percentage 65 Years or More, Alameda County, 1950-2000


Source: CAPE; Census 1950-2000.

Figure 1.3: Population (in Thousands) by Age and Gender, Alameda County, 2000


Source: CAPE; Census 2000.

Figure 1.4: Race and Ethnicity, Alameda County, 2000


Source: CAPE; Census 2000.

Between 1970 and 2000, the Asian and Latino populations have increased in number, and the White population has decreased. These trends are predicted to continue at least through 2010. African American population numbers are predicted to remain stable.

Figure 1.5: Race and Ethnicity, Alameda County, 1970-2010


Source: CAPE; CA DOF.

## Language

English is the primary language spoken in almost two-thirds of Alameda County households. Asian and Pacific Island languages are the next most frequent, spoken in $14.5 \%$ of households. Spanish is spoken in $12.8 \%$ of households, and other Indo-European languages are spoken in 7.7\% of households. Other languages are spoken in the remainder.

## Unemployment

Unemployment has increased substantially from historic lows in 2000. In Alameda County, the percent of workers unemployed increased from $3.6 \%$ in 2000 to $6.9 \%$ in 2003. The rate decreased again in 2004 to $6.0 \%$. This trend mirrors that of California.

Figure 1.6: Language Spoken at Home, Alameda County, 2000


Source: CAPE; Census 2000.

Figure 1.7: Unemployment Rate, Alameda County and California, 2000-2004


[^1]
## Income and Poverty

Whites and Asians have the greatest percentages in the upper income category of $\$ 75,000$ or more, while African Americans have the lowest percentage in that category. African Americans have a substantially higher percentage in the lower income category of less than $\$ 35,000$ relative to other race/ethnic groups.

In 1989, 10.6\% of Alameda County residents lived under the federal poverty level. This increased slightly to $11.0 \%$ in 1999.

Over 20\% of African Americans in Alameda County lived in poverty in 1999. This is almost four times the poverty rate of Whites. Poverty rates among American Indians, Latinos and those of other or multiple races also exceeded the White rate by two or more times.

In 1989 the poverty level for a family of four was annual income less than $\$ 12,674$; in 1999, adjusting for inflation, it was $\$ 16,895$. More women than men live in poverty, as do more children than adults.

Table 1.1 shows that income inequality in Alameda County, as measured by the gini coefficient, has been increasing, as it has in the Bay Area, California, and the United States. The gini is one measure of income distribution, where a value of zero means all income is perfectly distributed and a value of one means all the income belongs to one household.

Figure 1.8: Household Income by Race/Ethnicity, Alameda County, 1999


Source: CAPE; Census 2000.

Figure 1.9: Percentage Living in Poverty, Alameda County, 1999


Source: CAPE; Census 2000.

Table 1.1: Income Inequality, 1980-2000

|  | 1980 | 1990 | 2000 |
| :--- | :---: | :---: | :---: |
| Alameda County | 0.396 | 0.427 | 0.448 |
| Bay Area | NA | 0.428 | 0.456 |
| California | 0.409 | 0.444 | 0.472 |
| United States | NA | 0.449 | 0.462 |

Source: CAPE; Census 1980-2000.

In Alameda County, the Gini increased from 0.396 in 1980 to 0.427 in 1990, and to 0.448 in 2000. Thus income in the county is being consolidated among fewer individuals in the last two decades.

The Lorenz curve illustrates this increasing inequality. The curve is gradually moving away from equal income as shown by the distance of the 1980, 1990 and 2000 curves from the straight line. For example, in 2000 the richest $20 \%$ of Alameda County residents received $50 \%$ of the total income, and the poorest $50 \%$ received $20 \%$ of total income.

The top ten job categories with the greatest growth in numbers of jobs available through 2007 are listed in Figure 1.11. The wages associated with these jobs vary widely from $\$ 8$ per hour to $\$ 51$ per hour.

The living wage standard is that wage at which a family can meet basic needs such as housing, food, transportation, and health. In 2003, for example, the living wage for Alameda County for a family of one adult and two school-age children was $\$ 19.83$ per hour. For a three-member family, only four of the top ten jobs with the greatest projected growth would meet their economic needs.

Figure 1.10: Income Inequality, Alameda County, 1980-2000


Source: CAPE; Census 1980-2000.
Figure 1.11: Average Hourly Wage for Job Categories with Greatest Projected Growth, Alameda County, 2003


Source: CAPE; CA EDD.
Table 1.2: Living Wage and Living Wage Jobs, Alameda County, 2003

| Living wage standard for Alameda County <br> One adult, two school-age children | $\$ 19.83$ |
| :--- | :---: |
| Number of jobs with greatest projected growth <br> that meet living wage standard | 4 |

Source: CAPE; NEDLC Self-Sufficiency Standard for California.

## Education

Figure 1.12: Eighth Grade CST Score 2004-2005 and Free and Reduced Price Lunch, 2003-2004, by School Districts


Source: CAPE; Dataquest and Ed-Data.

The percentage of students enrolled in the Free and Reduced Price Lunch Program (FRPL) is used here as a measure of poverty. In general, schools with a high percentage of kids on the FRPL Program tend to have lower English language test scores, suggesting an association between poverty and school performance. Exceptions to this pattern are the Newark and Emery Unified School Districts.

In 2000, $82 \%$ of Alameda County adults had graduated from high school. This figure is up from 63\% in 1970 and $76 \%$ in 1980, but it was nearly the same as the 1990 figure (81\%).

Figure 1.13: Educational Attainment, Adults Aged 25 and Older, Alameda County, 2000


Source: CAPE; Census 2000.

The percentage of adults aged 25 and older with a high school diploma varies widely by race/ethnicity. While $82 \%$ of all adults in Alameda County have completed high school, the percentage with a diploma ranges from a high of $92 \%$ for Whites to a low of $56 \%$ for Latinos.

Figure 1.14: High School Diplomas, Adults Aged 25 and Older, Alameda County, 2000


Source: CAPE; Census 2000.

## Housing

The percentage of owner-occupied homes in Alameda County has risen slightly over the past 30 years, increasing from $51.9 \%$ in 1970 to $54.7 \%$ in 2000.

Whites and Asians have higher home ownership rates than the county as a whole; $63.3 \%$ of White households and $57 \%$ of Asian households are owner occupied. For all other race/ ethnic groups, between one-third and one-half are homeowners.

Table 1.3: Home Ownership, Alameda County, 1970-2000

|  | 1970 | 1980 | 1990 | 2000 |
| :--- | :---: | :---: | :---: | :---: |
| Households - <br> Owner occupied | $51.9 \%$ | $53.1 \%$ | $53.3 \%$ | $54.7 \%$ |

Source: CAPE; Census 1970-2000.

Figure 1.15: Home Ownership by Race/Ethnicity, Alameda County, 2000


Source: CAPE; Census 2000.

The percentage of persons who were in the same house five years previous to the Census increased from 44.9\% in 1970 to $50.8 \%$ in 2000 , showing that housing mobility has decreased. Similarly, the percentage of households where the residents had stayed for more than ten years increased from $24.7 \%$ in 1970 to $32.5 \%$ in 2000.

Mobility is highest for Asians, Native Hawaiian/Pacific Islanders, multiracial individuals, and Latinos. About $22 \%$ to $24 \%$ of these groups lived in the same home in 1990 as in 2000. This is compared to $39.4 \%$ of Whites.

The housing opportunity index measures the percentage of the homes sold that are affordable to people with the median income. The index increased in the early 1990s and remained stable until 1999 when it declined to a low of $20 \%$ in 2002.

The national standard for housing affordability is that owner costs need to be lower than $30 \%$ of household income. According to Census 2000, 22\% of households in the nation and 31.5\% of households in California pay more than $30 \%$ of their income for housing. In Alameda County the figure is $30.9 \%$. Among those who rent, 20.6\% of Alameda County residents spent more than $50 \%$ of their income on rent in 1999.

Table 1.4: Housing Mobility, Alameda County, 1970-2000

|  | 1970 | 1980 | 1990 | 2000 |
| :--- | :---: | :---: | :---: | :---: |
| Persons - Same house as five <br> years earlier | $44.9 \%$ | $47.7 \%$ | $47.2 \%$ | $50.8 \%$ |
| Households - Moved in more <br> than ten years prior | $24.7 \%$ | $27.6 \%$ | $32.7 \%$ | $32.5 \%$ |

Source: CAPE; Census 1970-2000.

Figure 1.16: Housing Mobility by Race/Ethnicity - Moved In More than Ten Years Prior, Alameda County, 2000


Source: CAPE; Census 2000.

Figure 1.17: Housing Opportunity Index, Alameda County


Source: CAPE; National Association of Homebuilders, 2005.

## Health Insurance

The uninsured are those who do not have health insurance coverage through private or public health insurance plans. In Alameda County, the percentage of adults aged 18-64 without health insurance increased from $11.4 \%$ in 2001 to $15.6 \%$ in 2003. Among children, the increase was from $5.0 \%$ in 2001 to $6.1 \%$ in 2003.

Latinos are, by far, the largest group of uninsured people in Alameda County, with almost one in four being uninsured. They are two to four times less likely to be insured than any other race/ethnic group in the county.

Health insurance promotes access to a regular source of care, which is particularly important for those with chronic health problems. Uninsured people may delay health care or not seek it at all, leading to later diagnoses and poor management of health problems.

## Crime

Crime rates in Alameda County, as well as California, declined between 1994 and 1999. Violent crime rates leveled out after 2000, while property crime rates increased. During 1994 to 2003, Alameda County property crime rates have been consistently $20 \%$ to $30 \%$ higher than those of California. Alameda County's violent crime rate has also been higher than the state rate. In 2003, the county rate was $19 \%$ higher than the state rate.

Table 1.5: Percentage Without Health Insurance, Alameda County, 2001 and 2003

|  | 2001 | 2003 |
| :--- | ---: | ---: |
| All Persons | $8.8 \%$ | $11.8 \%$ |
| 18-64 Years | $11.4 \%$ | $15.6 \%$ |
| $<18$ Years | $5.0 \%$ | $6.1 \%$ |

Source: CAPE; CHIS 2001 and 2003.

Figure 1.18: Percentage Without Health Insurance by Race/Ethnicity, Alameda County, 2003


Source: CAPE; CHIS 2003.

Figure 1.19: Crime Rates per 100,000 Persons


Source: CAPE; CA DOJ.

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## Ch a p t e r 2 HEALTH INEQUITIES

## Background

## Health Disparities versus Health Inequities

The World Health Organization defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." ${ }^{1}$ This definition recognizes that health must be understood in a broader context than the mere presence or absence of a list of diseases. The National Institutes of Health define health disparities as "differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific population groups in the United States." ${ }^{2}$ Describing health disparities as simply "differences" that exist among specific population groups ignores the social conditions that produce strikingly consistent patterns of health outcomes.

Health inequities, on the other hand, are defined as "differences in health that are unnecessary, avoidable, unfair and unjust." Another useful definition describes health inequities as "material, social, gender, racial, income, and other social and economic inequalities that are beyond the control of individuals and are therefore considered unfair and unjust." ${ }^{4}$ ACPHD has found that the concept of health inequities provides a more useful way of understanding differences in health outcomes and encourages a more thoughtful and just approach to designing interventions to eliminate these differences.

## Social Determinants of Health and the Influence of Racism

Public health efforts to improve a community's health recognize that health is not just the product of individual characteristics-genetics, behaviors, and lifestyle choices-but also of underlying, or root causes, that can define a lifelong health trajectory. These root causes, generally referred to as social determinants of health, are powerful independent predictors of health outcomes. Key social determinants include, but are not limited to: income and other forms of wealth; affordable, quality housing; quality education; employment opportunities and employment at a living wage; safe neighborhoods and community recreation sites; quality food; social support; and transportation. ${ }^{5,6}$ Social determinants, collectively, form the fabric of social and economic opportunity and a healthy environment. They help to shape individual behaviors in response to environmental conditions.

Racism and other forms of group discrimination have played a substantial historical role in the distribution of these social determinants in America. A consequence of this legacy of racial discrimination is that people of color are disproportionately represented among the poor. Consequently, people of color are more likely to have lower incomes, lower quality education, and fewer job opportunities than Whites. Thus race, as a consequence of long-standing patterns of racial discrimination in the distribution of key social determinants, has itself become an important determinant of health.

Racialized patterns of wealth distribution are consistent from community to community across the United States and there is evidence that the racial inequity in wealth in this country is growing rather
than diminishing. ${ }^{7}$ So if in the American context wealth is strongly correlated with race, and wealth often equates with health, it naturally follows that there will be a strong relationship between race and health and that large inequities in wealth will translate to large racial health inequities.

## The Social Gradient

Rates of illness and death increase as socioeconomic status decreases. ${ }^{8,9}$ There is now a large body of research that shows individual health is substantially influenced by the social and environmental context in which we live. ${ }^{10-15}$ In fact, health and life expectancy increase with every step up the social hierarchy. This means that wealthier people live longer, healthier lives, ${ }^{5}$ a phenomenon which is referred to as the social gradient. There is strong evidence that material wealth provides better access to all of the key social determinants of health. This phenomenon is significant for the middle class in our society, as well as the poor. Compared to the wealthy, the middle class must contend with lower incomes, more stressful jobs, lower quality schools, poorer access to health care, and generally less healthy living environments. As a consequence, the middle class live shorter and less healthy lives than the very rich.

## Environment and the Concentration of Poverty

Poverty is highly concentrated in certain neighborhoods. Historical policies and practices that separate communities on the basis of race have resulted in the poor and people of color becoming concentrated in extremely racially segregated neighborhoods. While there is some evidence that residential racial segregation is declining, this improvement is very modest and gradual in pace. ${ }^{16}$

Despite a slight decline in residential segregation in the past decade, there has been an increase in school segregation. ${ }^{17}$ These increases are most pronounced for Latino students in western states such as California where the percent of Latinos in predominantly minority schools jumped from $73 \%$ in 1991-92 to $81 \%$ in 2003-04. ${ }^{18}$ Similarly, African Americans in western states witnessed a more moderate increase from $70 \%$ attending predominantly minority schools in 1991-92 to 76\% in 2003-04. There has been a large increase in the Latino population, and many are living in the poorest areas and attending the poorest schools. Asians and American Indians (those not living on reservations) tend to be less segregated than African Americans and Latinos. ${ }^{18}$

The most segregated minority schools are in urban metropolitan areas where the majority of African American and Latino students live. ${ }^{17}$ The most segregated minority schools are almost entirely in areas with high concentrations of poverty, strongly suggesting that residential segregation perpetuates school segregation. Many of these neighborhoods are characterized by poor performing schools with high dropout rates, substandard housing and transportation, limited employment opportunities, inadequate parks and recreational space, and few full-service grocery stores. This inequity in key social determinants of health presents enormous obstacles to social and economic advancements, perpetuates residential and school segregation, and sustains persistent poverty.

In addition to limiting socioeconomic opportunities, living in poor neighborhoods can have a direct negative impact on health. Poor neighborhoods are often situated close to freeways and other sources of environmental pollutants. Streets may be unsafe and housing run down, providing a source of mold, dust, and other allergy and asthma triggers. The unhealthy neighborhood environment becomes the social context that promotes unhealthy behaviors such as low levels of exercise or poor nutrition. With an abundance of liquor stores and a paucity of full-service grocery stores, the environment supports less healthful behaviors and discourages healthful ones. In addition, poor neigh-
borhoods have a low property tax base and less political power to implement the upkeep or restoration of parks and other recreational areas.

In this analysis, neighborhood poverty level (specifically poverty level of census tract) is used as the measure of socioeconomic status. While there are several ways to measure poverty at the neighborhood level, research shows that the census tract is the best unit of analysis ${ }^{10-13}$ and that percent of population living in poverty is a good measure of socioeconomic status. ${ }^{13}$ See Technical Appendix for a description of methods used in this chapter.

## Trends in Mortality and Life Expectancy

During the 1960s, African Americans and Whites in Alameda County had very similar mortality rates. Each fluctuated so that sometimes White rates were higher and other times African American rates were higher. In 1968, (perhaps due to Vietnam losses) both White and African American mortality rates jumped. The increase for African Americans was dramatic, hitting the highest point ever at nearly 1,400 per 100,000. After 1968, rates for both groups began a gradual decline, with the White decline continuing to the present. The African American decline lasted until 1979, at which time the rate climbed again until 1988 before dropping to present day levels which are comparable to 1979 levels.

During this forty-year period, California rates were very similar to Alameda County rates, except that the 1968 increase in African American mortality continued to 1973 (about the end of the Vietnam war). In addition, the White California rate was lower than the White Alameda County rate during the 1960s.

The similarity between African American and White mortality in the 1960s was a phenomenon not observed nationally. At the national level, African American mortality has historically exceeded White mortality by a substantial margin. The fact that California rates reflect a pattern similar to Alameda County's during that time suggests that migration patterns may have played an important role. Immigrants are generally younger and in better health than stationary populations. This may

Figure 2.1: Mortality Rate, Alameda County and California, 1960-2003


Source: CAPE; Census 1960-2000, Alameda County vital statistics files, California DHS, DOF.
have been true of African Americans moving to California from the south in the 1940s and 1950s. If they were younger and in good health, migrating to the area for employment opportunities, then we would expect their mortality to be lower than the national average. In nearly all East Bay cities, the African American population grew from less than 3\% in 1940 to more than $11 \%$ in 1950.

Over time, however, the racial patterns of mortality in Alameda County and California came to reflect national patterns. If we examine the differences between African American and White rates between 1960 and 2003 for both Alameda County and California, we see that differences have grown. That is, even though rates have been declining for both African Americans and Whites, the White rate has been declining more steeply and thus the relative difference has grown. In 1960 in Alameda County the African American mortality rate was 4\% higher than the White rate; in 1970 it was $14 \%$ higher, $20 \%$ in 1980; $35 \%$ in 1990; and $42 \%$ in 2000.

The trend in life expectancy (Figure 2.2) mirrors the trend in mortality. Life expectancy for African Americans and Whites was similar in the 1960s. However, life expectancy for Whites has climbed steadily since 1970 while for African Americans it has changed very little. In 2003, the life expectancy for African Americans was 71.8 years, 7.7 years less than that for Whites (79.5 years).

Figure 2.2: Life Expectancy at Birth, Alameda County, 1960-2003


Source: CAPE; Census 1960-2000, Alameda County vital statistics files, California DHS, DOF.

## Poverty and Health Outcomes

Figure 2.3 illustrates both racial differences in life expectancy and socioeconomic differences in life expectancy that exist in Oakland, Alameda County's largest city. With the exception of Latinos, people of every racial group that live in the wealthier Oakland hills areas live longer, on average, than those of the same race who live in the flatter, less wealthy areas. For all races combined, Oakland hills residents live 6.3 years longer than those who live in the flats. Differences are most pronounced for Whites ( 7.4 years) and African Americans (5.4 years). In contrast, Latinos living in the Oakland hills have a life expectancy nearly the same as those living in the flats.

The life expectancy is lowest for African Americans, including those living in the Oakland hills. Whites living in the flats have a life expectancy that is on par with African Americans living in the hills.

These findings suggest that the social gradient is operating in Alameda County, as evidenced by lower life expectancy among those with lower incomes, especially African Americans with lower incomes.

Mortality from all causes in Alameda County increases with each step up in the concentration of neighborhood poverty. The mortality rate increases from 700 per 100,000 in the lowest poverty areas to nearly 1,200 per 100,000 in the highest poverty areas, an increase of $71 \%$. (For this analysis, census tracts are grouped together based on the poverty rate of each tract; see the map on the next page).

Figure 2.3: Life Expectancy at Birth, Oakland Flats \& Hills, 2000-2003


Source: CAPE; Census 2000, Alameda County vital statistics files, DOF.

Figure 2.4: Mortality Rate, Alameda County Poverty Groups, 2000-2003


Source: CAPE; Census 2000, Alameda County vital statistics files, DOF,


## Map 1: Poverty

As shown in the map, the highest poverty areas, those census tracts with $30 \%$ or more of the residents living in poverty, are concentrated in North Oakland, West Oakland, San Antonio, and parts of East Oakland and Berkeley. Areas concentrated around the UC Berkeley campus in the eastern part of Berkeley appear as high poverty, but residents are predominantly students. These census tracts were not included in the poverty-mortality analysis presented in this chapter. Other areas of moderate poverty, where $20-29 \%$ of residents live in poverty are scattered throughout South Berkeley, North Oakland, much of East Oakland, and parts of Hayward.

Figure 2.5 shows the mortality rate, for each race/ethnicity, by poverty level. As in the previous graph, Figure 2.5 shows that people in poorer neighborhoods die at higher rates than those in wealthier neighborhoods. In addition, this graph shows that this is true for African Americans, Asians, and Whites in Alameda County, but not for Latinos. Latinos have about the same mortality regardless of neighborhood poverty.

Among both Whites and Asians, mortality rates jump most significantly at the highest levels of neighborhood poverty, with White mortality surpassing African American mortality in neighborhoods where $30 \%$ or more of the population lives in poverty.

For African Americans, the mortality rate increases by about 140 deaths per 100,000 for each increase in neighborhood poverty level, or 423 overall from lowest to highest. For Whites, mortality increases by 942 deaths per 100,000 from lowest to highest poverty, but $60 \%$ of the increase occurs at the highest poverty level.

Figure 2.5: Mortality Rate, Alameda County Poverty Groups by Race/ Ethnicity, 2000-2003


Source: CAPE; Census 2000, Alameda County vital statistics files, DOF.

Because coronary heart disease (CHD) is the leading cause of death, patterns of CHD mortality by race/ ethnicity and neighborhood poverty level are very similar to those for mortality from all causes. Two differences emerge, however. First, for Latinos and Asians, the rate of mortality from CHD is nearly constant over all poverty groups. Second, CHD mortality rates among African Americans are the same at the two lowest poverty levels and increase starting at the third highest poverty level. Thus for CHD mortality, the social gradient appears to operate at some level for African Americans and Whites but not for Asians and Latinos.

Lung cancer incidence reflects the rate at which new cases of lung cancer are diagnosed. Thus it is a measure of morbidity, not mortality. Yet a pattern similar to those seen for mortality is evident. For both African Americans and Whites, incidence rates are lowest at the lowest level of neighborhood poverty and highest at the highest level. The gradient is steepest for African Americans, with rates increasing $82 \%$ between the lowest and highest poverty levels; for Whites, the rates increased by $52 \%$.

Among Asian/Pacific Islanders, rates are relatively flat over the poverty levels, while for Latinos, rates are actually lower at the higher poverty levels, but not significantly.

Figure 2.6: Coronary Heart Disease Mortality Rate, Alameda County Poverty Groups by Race/Ethnicity, 2000-2003


Source: CAPE; Census 2000, Alameda County vital statistics files, DOF.

Figure 2.7: Lung Cancer Incidence Rate, Alameda County Poverty Groups by Race/Ethnicity, 1998-2002


Source: CAPE; Census 2000, Alameda County vital statistics files, DOF.

The social gradient effect is evident when teen birth rate is examined. As in the mortality analysis, there is a clear disparity based on both where people live and on their race/ethnicity.

For each race/ethnic group, teen birth rates increase with each increase in neighborhood poverty level (with the exception of African Americans for whom the two middle rates are the same). Latinas have the highest rates except in the highest poverty group. As with mortality, rates for Whites in the highest poverty neighborhoods increase dramatically. While Latina rates jump two-fold between the lowest and highest poverty levels, White rates jump over ten-fold.

Figure 2.8: Teen Births, Alameda County Poverty Groups by Race/Ethnicity, 2000-2003


Source: CAPE; Census 2000, Alameda County vital statistics files, DOF.

## Summary

In the demographics chapter, we showed that, compared to Whites, a much higher proportion of African Americans and Latinos in Alameda County live in poverty. In this chapter we examined the relationships between race/ethnicity, income, and health. We showed that, in general, African Americans have a shorter life expectancy and higher mortality rate than Whites, and that the gap between the two groups has widened over the last 40 years in Alameda County.

We also showed that mortality and morbidity in Alameda County are higher in poorer neighborhoods, and higher among African Americans than Whites (with the exception of Whites in the poorest areas). This effect, which we call the 'social gradient', is robust. We demonstrate its impact on measures of health, including mortality, morbidity, and teen births. The effects are not uniform; for instance there is little evidence of social gradient for Latinos on mortality and morbidity indicators we examined but there is an effect for teen births. Among Asians the effects are variable. Some effects, however, are consistent: both African Americans and Whites show the relative effects of wealth for all the indicators examined, with the wealthiest experiencing the lowest death rates and those in the middle and lower end of the socioeconomic ladder experiencing higher death rates, respectively.

Mortality and morbidity, just like health and wellness, are influenced by a constellation of factorsenvironmental, economic, and geographic-in addition to genetic and behavioral. We have argued here that the root causes (income, education, safety, etc.) of health inequities must be addressed in order to improve health outcomes. But addressing the root causes of health inequities requires sustained innovation, persistence, and dedication. Health departments can strengthen a community's capacity to improve community health and well-being by finding and supporting local leaders, viewing residents as potential resources for change, helping residents to identify health and social issues, and working with residents to address these issues.

This approach is in line with Institute of Medicine recommendations that health departments form partnerships with other stakeholders, including community residents, health service delivery organizations, and community organizations, public and private, with the goal of engaging community participation in solving problems they identify as most important. ${ }^{19}$ This process is critical to the success of public health prevention and intervention efforts.

Since 1990, the ACPHD has built partnerships with residents and local agencies around a variety of health and neighborhood issues, including increasing childhood immunizations, improving nutrition, decreasing violence, and providing alternative activities for youth. Since 1999, the ACPHD has placed nurses and outreach workers directly in neighborhoods to meet local needs for health services and community capacity-building through our Community Health Teams Initiative.

The ACPHD has also joined with the City of Oakland Neighborhood Services Department, local organizations and residents to form the Community Capacity-Building Leadership Team. Currently, the Leadership Team focuses its work in two demonstration neighborhoods, Sobrante Park in East Oakland, and the Hoover Elementary School area in West Oakland. Leadership Team members have engaged residents in priority setting and action-planning around issues of local importance such as improving safety and recreation at local parks, reducing drug dealing, developing youth programs and increasing emergency preparedness. Additionally, the ACPHD is working with the city of Fremont, Fire Safety and Neighborhood Resource Center, to assess emergency preparedness among
seniors, disabled, and low income residents and to provide resources for improving and sustaining emergency preparedness in these communities.

The remainder of this report follows a descriptive format that highlights the racial, gender, and age groups most affected by each health indicator. While we would like to examine every health indicator by some measure of socioeconomic status, we have only neighborhood measures of poverty for some of the indicators reviewed here. Future reports will examine in greater detail a larger number of health outcomes in relation to neighborhood poverty.

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## Ch a p t e r 3 DEATH FROM ALL CAUSES

## Rates of Death From All Causes

Measuring death rates from all causes is a valuable tool for monitoring progress in fighting disease and improving health. In the early 1900s, the predominant health threats in the United States were diseases associated with poor hygiene and sanitation, poor nutrition, poor maternal and infant health, and diseases or injuries associated with unsafe workplaces or hazardous occupation. With the success of biomedical innovations such as vaccinations and antibiotics, and the development of interventions such as health education programs, the impact of these diseases has decreased significantly over the last 50 years. ${ }^{1-5}$ Along with a decline in mortality, life expectancy at birth has increased from 47.3 in 1900, to 68.2 in 1950, 75.4 in 1990, and 77.6 in 2003. ${ }^{6-8}$

In 2003, a total of 2,443,908 deaths occurred in the United States and the age-adjusted death rate from all causes was 831.2 per 100,000 population. ${ }^{6}$ In California it was 729.0 for the period 20012003. ${ }^{9}$ Currently, five chronic diseases account for two-thirds of all deaths in the United States-heart disease, cancer, stroke, chronic lower respiratory disease, and diabetes. Heart disease and cancer combined account for more than half of all deaths. ${ }^{10}$

Among the behaviors most clearly associated with chronic diseases are tobacco and alcohol use, poor diet, and lack of exercise. In turn, health behaviors are strongly influenced by social factors, such as income, education level, stress, workplace conditions, violence and exposure to environmental toxins. ${ }^{11-13}$ Routine screening, health education and appropriate follow-up care can save lives, reduce illness and disability, and reduce health care costs.

In general, recent declines in death rates for many leading causes of death reflect the influence of healthier life styles, greater use of preventive care, public health efforts, and advances in medicine. However, the rising prevalence of overweight in children, adolescents and adults, and the high percent of physically inactive adolescents and adults raise additional burden for future health outcomes. ${ }^{8,11}$

The elderly population in the United States is growing rapidly. By 2050, one in every five Americans will be 65 years of age and over. ${ }^{8,11}$ As the elderly population increases, more services will be required for the prevention, treatment and management of chronic and acute health conditions.

Despite overall declines in mortality, race/ethnic and gender inequities in mortality persist. Low-income groups continue to have poorer health outcomes. Future progress in improving health status will require comprehensive interventions that address individual behaviors, neighborhood environments and public policy. A profile of mortality for the residents of Alameda County by sex, age, and race/ethnicity provides us with a picture of the burden of disease and injury, which can serve as a guide for prevention efforts.

## What is Alameda County's status?

## All Cause Mortality

From 2001 to 2003, an average of 9,595 people per year died in Alameda County. The death rate was 742 per 100,000 people.

Alameda County's death rate from all causes was higher than its four Bay Area neighbors for the period 2001 to 2003. However, the rate was statistically significantly higher than only two of these, Marin and Santa Clara counties. Alameda County's death rate was slightly higher than that for California.

The African American mortality rate from all causes was significantly higher than any other race/ethnic group. In general, African American rates were two times higher than those of American Indians, Asians, and Latinos. Males of each race/ethnic group had $30-50 \%$ higher rates than females with the exception of Pacific Islanders and American Indians.

Mortality from all causes was higher among males than females in every age group. After the age of 15 , allcause mortality rose steeply with age. It was two to three times higher for the 85 and older age group than for the age group 75-84.

Figure 3.3: Death From All Causes by Age and Gender, Alameda County, 2001-2003


[^2]The rate of death due to all causes in Alameda County declined significantly during the last decade. Between 1998 and 2003 the overall mortality rate declined more steeply than earlier in the decade, by almost $4 \%$ per year. However, this declining trend was not seen for every race/ethnic group. The Latino rate has been relatively flat. White and Asian rates declined overall while the African American rate increased until the mid 1990s and then declined significantly until 2002.

The African American rate has been consistently higher than that of any other race/ethnic group over the past decade. The disparity in rates between African Americans and the county as a whole widened during this time; the African American rate was 30\% higher than the county rate in 199091 and 54\% higher in 2002-03.

Figure 3.4: Death From All Causes by Race/Ethnicity, Alameda County 1990-2003


Source: CAPE; Alameda County vital statistics files, Census 1990 and 2000, DOF.

NOTE: Birth and death figures that show a three-year average rate for the period 2001-2003 present Asians and Native Hawaiians/other Pacific Islanders (abbreviated as NHOPI or PacIsl in this report) separately. For many health indicators, NHOPI figures are not shown due to small numbers. Figures showing trends, 1990-2003, in this report group Asians with NHOPI. This combined group is shown as API, for Asian/Pacific Islander. The combined group is shown in order to be consistent with racial classifications used prior to Census 2000 when NHOPI was first offered as a separate racial group. Other data sources, such as hospitalization, cancer incidence, and communicable diseases present the combined API group in all figures.

## Leading Causes of Death

## What are they?

Leading causes of death are the most common causes of death and are generally ranked based on their frequency of occurrence. The most frequent cause of death is ranked as number one, the second most frequent as number two, and so on. In this section we consider the ten most common causes of death. However, when we examine cause of death by race/ethnicity or age group and the numbers become small, we consider only the five most common causes of death.

## Why are they important?

Cause of death ranked according to the number of deaths is a useful way to examine the relative burden of mortality from specific causes. From the standpoint of prevention, it is helpful to understand the most common causes of death and how they vary in different age, race, and sex subgroups. This type of data informs resource allocation, program planning, and provision of services.

In 2002, the ten leading causes of death accounted for $79 \%$ of all deaths occurring in the United States. ${ }^{10}$ Five chronic diseases accounted for almost two-thirds of all deaths in the United Statesheart disease, cancer, stroke, chronic lower respiratory disease, and diabetes. The first and third leading causes of death, heart disease and stroke, have been declining since 1950 and the second leading cause of death, cancer, has been declining since 1990. ${ }^{11}$

## What is Alameda County's status?

During the period 2001-2003, there were 28,790 deaths among Alameda County residents, an average of 9,597 per year. The ten leading causes of death accounted for $78 \%$ of this total. Heart disease, cancer, and stroke, the three leading causes of death, accounted for $59 \%$ of all deaths. Chronic lower respiratory disease and unintentional injuries ranked fourth and fifth, respectively, followed by influenza and pneumonia, diabetes, Alzheimer's disease, and chronic liver disease/cirrhosis. Homicide, which was not among the leading causes of death in 1999-2000, ranked tenth, accounting for about $1 \%$ of all deaths.

Figure 3.5: Leading Causes of Death, Alameda County, 2001-2003 ( $\mathrm{N}=28,790$ )


Source: CAPE; Alameda County vital statistics files.

## Gender

Both males and females had the same three leading causes of death-heart disease, cancer, and stroke. Among males, they accounted for $58 \%$ of deaths. The fourth leading cause of death among males was unintentional injury, followed by chronic lower respiratory disease, influenza and pneumonia, diabetes, homicide, suicide, and chronic liver disease/cirrhosis. Suicide ranked in the top ten for males while it did not for the total population or females alone.

The three leading causes of death among females-heart disease, cancer, and stroke-accounted for $60 \%$ of all deaths. The fourth leading cause was chronic lower respiratory disease, followed by influenza and pneumonia, diabetes, Alzheimer's disease, unintentional injuries, hypertension/hypertensive renal disease, and pneumonitis.

Figure 3.6: Leading Causes of Death Among Males, Alameda County, 2001-2003 ( $\mathrm{N}=14,109$ )


Source: CAPE; Alameda County vital statistics files.

Figure 3.7: Leading Causes of Death Among Females, Alameda County, 2001-2003 ( $\mathrm{N}=14,681$ )


Source: CAPE; Alameda County vital statistics files.

## Race/Ethnicity

Heart disease was the leading cause of death, followed by cancer and stroke, for every race/ethnic group except American Indians and Asians. Among American Indians and Asians, cancer was the leading cause, followed by heart disease. The third cause for American Indians was chronic liver disease/cirrhosis, while for Asians it was stroke.

Diabetes ranked among the five leading causes of death for every race/ethnic group except Whites. Chronic lower respiratory disease, homicide, unintentional injury, and influenza/ pneumonia are other diseases that ranked among the five leading causes, depending upon race/ethnicity.

The total number of deaths among American Indians, Native Hawaiians/ Pacific Islanders and Multiple Races was small $(72,154$, and 116 , respectively). Thus rankings of cause may shift based on just a few deaths.

## Age

Birth defects were the leading cause of death among babies under one year of age, accounting for $23.5 \%$ of infant deaths. Sudden Infant Death Syndrome (SIDS) ranked second, followed by disorders related to short gestation and low birth weight, neonatal hemorrhage, and complications of pregnancy (placenta, cord, or membranes). Birth defects were the leading cause of infant death for every race/ethnic group except African American infants, for whom SIDS was the leading cause of death.

Unintentional injury was the leading cause of death among children one to

Figure 3.8: Leading Causes of Death by Race/Ethnicity, Alameda County, 2001-2003 ( $\mathrm{N}=28,790$ )
African American ( $\mathrm{n}=6,134$ )




Latino ( $\mathrm{n}=2,275$


Native Hawaiian/Pacific Islander ( $\mathrm{n}=154$ )


Source: CAPE; Alameda County vital statistics files.

14 years of age, accounting for 27.7\% of all deaths. Of unintentional injury deaths, over one-third were from motor vehicle crashes. Cancer was the second leading cause of death, followed by birth defects and homicide.

Homicide was the leading cause of death among youth 15 to 24 years of age, accounting for one third of all deaths in this age group. Unintentional injury ranked a close second, accounting for $29.5 \%$ of deaths. Suicide and cancer tied for the third leading cause, followed by heart disease. It is noteworthy that over 70\% of all deaths in this age group are due to either intentional or unintentional injury.

Unintentional injury was the leading cause of death among adults 25 to 44 years of age, accounting for $18 \%$ of all deaths. Cancer was the second leading cause of death, followed by heart disease, homicide and suicide. Injury, either intentional or unintentional, accounted for $36 \%$ of all deaths in this age group.

Cancer was the leading cause of death among adults 45 to 64 years of age, accounting for $33.9 \%$, or one-third, of all deaths. Heart disease was the second leading cause of death, followed by stroke, unintentional injury, and diabetes. In this age group, chronic disease surpasses injury among the leading causes, accounting for $64 \%$ of deaths shown here.

By far, the greatest number of deaths occur in the oldest age group, reflecting, for the most part, the pattern observed for leading causes overall. Among the elderly, chronic diseases are the predominant cause of death.

Figure 3.9: Leading Causes of Death by Age Group, Alameda County, 2001-2003 ( $\mathrm{N}=28,790$ )
Infant <1 year ( $\mathrm{n}=319$ )

$25-44$ years ( $n=1,732$ )


Source: CAPE; Alameda County vital statistics files.

## Leading Causes of Premature Death

## What is it?

Premature or early death is measured in years of potential life lost (YPLL). Since most deaths occur among elderly people, death rates are dominated by the causes of death most common to the elderly. The measure of years of potential life lost has been used as an alternative to reflect the mortality patterns of younger age groups. ${ }^{11,14,15}$ This summary measure provides a more accurate picture of premature mortality by weighing deaths occurring at younger ages more heavily than those occurring in older populations. The measure of YPLL used in this report represents the number of years of life lost due to death before age 75 , summed over all age groups.

## Why is it important?

Since many premature deaths could be prevented by public health interventions, this measure indicates the potential for prevention in a population. It can be used to monitor progress toward the critical public health goal of preventing premature death. ${ }^{14}$ Premature death can be viewed as a loss to society in terms of lost years of productivity. ${ }^{11,14}$

## What is Alameda County's status?

The largest contributor to years of potential life lost is cancer, followed by heart disease and unintentional injury. The most notable difference between leading causes of death and leading causes of premature death is that intentional injury (homicide and suicide) ranked among the top ten causes of premature death and unintentional injury moved from the fifth leading cause to third.

While a relatively small number of deaths are due to unintentional injury, homicide, and perinatal complications, they contribute a large number of YPLL due to the early age at which many of these deaths occur. Among Latinos, unintentional injury was the leading contributor to years of life lost. Homicide was the second leading contributor to years of life lost among American Indians and the third among African Americans.

Figure 3.10: Leading Causes of Premature Death (YPLL-75), Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files.

Of cancer deaths, lung cancer was the most important contributor to years of life lost, followed by breast cancer and colorectal cancer. Coronary heart disease was the major contributor to years of life lost due to heart disease. Motor vehicle crash was the major contributor to years of life lost due to unintentional injuries. Deaths classified as 'perinatal complications' are deaths to newborns. These were predominantly due to low birth weight and other conditions relating to short gestation, respiratory distress, and other complications of pregnancy. Chronic liver disease and cirrhosis were largely the result of alcohol dependence.

## Life Expectancy

## What is it?

Life expectancy represents the number of years a group is expected to live, either from birth or from a given point in the lifespan. Life expectancy at birth is the average number of years that a group of infants would be expected to live if they were to experience throughout their lifespan the same mortality experienced by the different age groups alive at that time. ${ }^{7,16,17}$ The measure is strongly influenced by infant and childhood mortality. One of the advantages of using life expectancy is that it does not require the use of a standard population as does age-adjustment. Therefore, it is easily comparable across different subgroups, periods and areas.

## Why is it important?

In the United States, life expectancy at birth increased from 47.3 in 1900 to 77.6 in 2003 . ${ }^{8,11}$ Female life expectancy is currently 80.1 years and male life expectancy is 74.8 years. The race/ethnic inequities in life expectancy are pronounced. Nationally, the life expectancy for African American males is 69.2 years compared to 75.4 years for White males. For African American females the life expectancy is 76.1 years compared to 80.5 years for White females. ${ }^{6}$ During the past decade, male-female differences have grown smaller as have African American-White differences. Nationally, the gap between African Americans and Whites narrowed from 7.0 years in 1990 to 5.2 years in 2003. ${ }^{8}$

## What is Alameda County's status?

Life expectancy at birth in Alameda County was 79.2 years during 2001 to 2003. In keeping with national trends, life expectancy in Alameda County has increased, by about four years during the past decade alone. The improvement in life expectancy at birth was seen in every race/ethnic group: 4.2 years for Asian/Pacific Islanders, 3.3 years for Whites, 3.1 years for African Americans, and 3.0 years for Latinos.

Asians have the highest life expectancy at birth, 85.9 years, while African Americans have the lowest, 71.6 years at birth, a difference of 14.3 years. On average, Whites live 7.1 years longer than African Americans. While this gap has been narrowing over the past decade at the national level, it has not been narrowing in Alameda County.

Females of every race/ethnic group have a higher life expectancy than males. The differences range from 4.5 years for Whites to 7.6 years for African Americans.

Table 3.1: Life Expectancy at Birth, Alameda County, 2001-2003

|  | Total | Male | Female |
| :--- | :---: | :---: | :---: |
| African American | 71.6 | 67.7 | 75.3 |
| Asian | 85.9 | 83.0 | 88.5 |
| Latino | 82.2 | 79.5 | 84.7 |
| White | 78.7 | 76.4 | 80.9 |
| Total | 79.2 | 76.7 | 81.5 |

Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

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## Chapter 4 CHRONIC DISEASE

## Chronic Disease

## What is it?

A chronic disease or condition is one that lasts for a long time. Most chronic diseases cannot be prevented by vaccines or cured by medication. ${ }^{1,2}$ The National Center for Health Statistics defines chronic conditions as conditions not cured once acquired or conditions that have been present three months or longer. ${ }^{3}$ Chronic diseases require long term treatment and management since they do not go away. The most common chronic diseases in the United States are cardiovascular disease, cancer, and diabetes. All are more common among older people. ${ }^{4,5}$ Most chronic diseases are not caused by infection. However, some infectious diseases, such as HIV/AIDS, are also chronic because they are life-long conditions. The National Center for Chronic Disease Prevention and Health Promotion targets those chronic diseases that are preventable and carry a high cost to society in terms of death, disability, and health care dollars. ${ }^{4}$

## Why is it important?

Chronic diseases, such as heart disease, cancer, and diabetes, are responsible for seven of every ten deaths in the United States. They are the leading cause of disability and death in the United States, claiming the lives of more than 1.7 million Americans per year and causing major limitations in activities of daily living for more than one in ten Americans. Chronic diseases account for $75 \%$ of the $\$ 1$ trillion spent on health care each year in the United States. ${ }^{5,6}$

Although chronic diseases are among the most prevalent and costly health problems, they are also among the most preventable. Access to prevention and health care services affect chronic disease burden and outcome. To a large degree, the major chronic diseases-heart disease, cancer, stroke, chronic obstructive pulmonary disease, and diabetes-result from our lifestyles and our habits of daily living. Health-damaging behaviors include tobacco use, lack of physical activity, and poor eating habits. ${ }^{5,6}$

Research has shown that there are major race/ethnic inequities in chronic disease burden and risk factors. Socioeconomic status is also an important determinant of chronic disease risk. People who are poor, have lower levels of education, or are isolated are more likely to engage in a wide array of risk-related behaviors. The social environment influences risk behaviors through the shaping of norms, patterns of social control, or environmental opportunities that determine individual behavior choices. ${ }^{3,5,7,8}$ Additionally, the social environment can impact people in ways that go beyond individual behavior choice. These can include factors which individuals may have little control over and can impact the health of entire communities, such as: exposure to environmental hazards, lack of access to quality education, and lack of clean and affordable housing (see Chapter 2).

What are the behavioral risk factors for chronic disease?

Figure 4.1: Select Chronic Disease Risk Factors Among Adults, Alameda County and California, 2003


Source: CAPE; California Health Interview Survey 2001 and 2003.
(*) $^{*}=$ CHIS 2001 data (**)=California data not comparable; US shown in gray

## Cigarette Smoking

It is estimated that in the United States, the health effects of smoking cause about 440,000 deaths each year, or roughly $20 \%$ of all deaths. Smoking increases the risk for a variety of cancers, heart disease, stroke, and lung disease. ${ }^{9}$

Cigarette smoking affects the health of nonsmokers as well. Nonsmoking adults exposed to secondhand smoke have an increased risk of lung cancer and coronary heart disease. Children are particularly vulnerable to the effects of environmental smoke because their lungs are not fully developed. Exposed children have a higher risk of sudden infant death syndrome, asthma, bronchitis, and pneumonia. ${ }^{10}$

In 2004, $21 \%$ of US adults were current smokers. ${ }^{11}$ Men are more likely to smoke than women. American Indians, Hispanics, and Asian/Pacific Islanders (API) are less likely to smoke than other race/ethnic groups in the US. Cigarette smoking is about twice as common among the poor as among more affluent persons. ${ }^{8}$ The Healthy People 2010 objective (HP2010) is to reduce the percentage of current smokers to $12 \%$ or less among adults. ${ }^{12}$

In 2003, 17\% of California adults were current smokers, about the same proportion as in Alameda County ( $16 \%$ ). ${ }^{13}$ Twenty five percent of African Americans in the county reported being current smokers, a significantly higher proportion than Asians (11\%) or Whites (15\%), and slightly higher proportion than Latinos (19\%). Smoking prevalence was highest among those with lower levels of education and lower income levels.

## Obesity

Obesity is caused by a complex set of inter-related factors-nutritional, behavioral, and environmental. Genetic predisposition toward obesity plays a role as well. ${ }^{14}$ There is widespread agreement that obesity is associated with a higher risk of illness and death due to diabetes, hypertension, coronary heart disease, stroke, and some cancers. ${ }^{15}$ Being overweight in childhood is linked to several health problems that can last into adulthood. These include poor heart health (e.g. hypertension, high cholesterol), Type 2 diabetes, and impaired mental health (depression, low self-esteem). ${ }^{16}$

Today, $20 \%$ to $30 \%$ of adults in the United States are obese-double the estimates from ten years before. The prevalence of overweight among youth 6 to 17 years old has more than tripled since the 1960s to over $15 \%$ in $2000 .{ }^{17}$ The HP2010 objective is to reduce the proportion of adults who are obese to $15 \%$ or less. ${ }^{12}$

In 2003, $20 \%$ of California adults were obese, close to the prevalence in Alameda County (18\%). African Americans had the highest obesity prevalence- $32 \%$ or three times that among Asian/Pacific Islanders (9\%). ${ }^{13}$ Twenty-six percent of Latinos and $17 \%$ of Whites were obese in the county. The prevalence of obesity prevalence was higher among those with lower levels of education as well as among those at higher levels of poverty.

## Physical Activity and Diet

Physical activity, along with a healthy diet plays an important role in the prevention of overweight and obesity. ${ }^{3}$ The combination of inactivity and unhealthy dietary pattern has an impact on obesity, and has been ranked as the second leading factor contributing to mortality in the US after tobacco use. ${ }^{18}$

Physical activity can take many forms and fitness can be achieved in different ways. Some people exercise regularly in their leisure time while others are employed to do manual labor and choose to relax during leisure time. Regular physical activity has been shown to protect against death from coronary heart disease, and reduce the risk of colon cancer, diabetes, and hypertension. It also helps to control weight, maintain healthy bones, joints, and muscle tone, reduce arthritis pain, and reduce anxiety and depression. Sedentary individuals can improve their health by increasing their physical activity. Research has shown that physical activity need not be strenuous to be beneficial. ${ }^{19}$ The HP2010 objective is to reduce the prevalence of physical inactivity among adults to $20 \%$ or lower. ${ }^{12}$

According to the 2003 National Health Interview Survey, 33\% of US adults reported getting regular physical activity, and $38 \%$ reported being physically inactive. ${ }^{3}$ The proportion of adults reporting no leisure time physical activity is higher among women than men, among Hispanics than among Whites, among older than younger adults, and among the less affluent. ${ }^{8}$

In 2001, $29 \%$ of California adults and $28 \%$ of Alameda County adults reported no moderate or vigorous physical activity at all. ${ }^{20}$ In the county, Latinos were twice as likely as Whites to be physically inactive ( $40 \%$ compared to $19 \%$ ). Thirty five percent of Asians and $27 \%$ of African Americans were physically inactive. The percentage of people who reported being physically inactive was higher among those with lower income and education levels.

Research shows that good nutrition can help to lower people's risk for many chronic diseases, including heart disease, stroke, some cancers, diabetes, and osteoporosis. ${ }^{19}$ Numerous studies have shown
that diets rich in fruits and vegetables are associated with reduced risk of several chronic diseases. ${ }^{21}$ However, a large gap remains between recommended dietary patterns and what Americans actually eat. One measure of a healthy diet is number of servings of fruits and vegetables consumed in a day. Less than one-fourth of U.S. adults (23\%) eat the recommended five or more servings of fruits and vegetables each day. ${ }^{19}$

As with adults nationally, about one-fourth of Alameda County adults reported eating the recommended five or more servings of fruits or vegetables a day. ${ }^{13,22}$ In 2003, 29\% of Whites reported consuming five a day, a significantly higher percentage than Latinos or African Americans (17\%), and a slightly higher percentage than Asians. Consumption of five a day was higher among those with higher education and income levels.

## Coronary Heart Disease

## What is it?

Coronary heart disease (CHD) develops when the arteries of the heart become narrowed or clogged and cannot supply enough blood to the heart. These coronary arteries carry oxygen-rich blood and nutrients to the heart muscle. Coronary heart disease usually results from the build up of fatty material and plaque (atherosclerosis) in the inner layer of the walls of the coronary arteries. If the blood supply to the heart muscle is inadequate, a person can experience chest pain or pressure called angina. A heart attack (myocardial infarction) occurs when the blood supply to parts of the heart muscle is cut off completely. ${ }^{1,2}$

## Why is it important?

Several risk factors for coronary heart disease can be modified through lifestyle changes. The risk of developing CHD can be reduced significantly through a healthy diet, regular exercise, reducing stress level, and not smoking, in addition to reducing or controlling high blood pressure, high blood cholesterol, and diabetes. Socioeconomic status, environment, and culture are also important risk factors in the development of the disease. ${ }^{3-5}$

Deaths from all types of heart disease have declined steadily over the past 50 years, mostly from better medical treatment and effective prevention efforts to reduce controllable risk factors such as hypertension, smoking, high blood cholesterol, and physical inactivity. ${ }^{3}$ Most deaths from heart disease are due to CHD. Other forms of heart disease include hypertensive heart disease and rheumatic heart disease. ${ }^{6}$

CHD is the most common cause of death in the United States, accounting for more than one of every five deaths. About 335,000 people per year die of CHD before ever being hospitalized. Most of these are sudden deaths caused by cardiac arrest. ${ }^{7}$

It is estimated that 13 million people in the United States, about $6.9 \%$ of the population 18 years and older, have CHD. In 2003, the age-adjusted death rate nationally was 162.6 per 100,000 population. ${ }^{8}$ In California it was 175.9 for the period 2001-2003. ${ }^{9}$ National rate met the HP2010 objective of 166 or fewer CHD deaths per 100,000, while the California rate still exceeded the HP2010 objective. ${ }^{3}$

From 1992 to 2002, the U.S. death rate from CHD declined $26.5 \%$. More than $83 \%$ of people who died of CHD were 65 years and older. Approximately 11.5 years of life were lost on average due to heart attack. ${ }^{7}$ African American males had the highest CHD death rate ( 251 per 100,000), followed by White males (221), African American females (170), and White females (131). ${ }^{7}$

CHD occurs more often in men than in women. It is the leading cause of premature and permanent disability among U.S. workers, and accounts for $19 \%$ of social security's disability allowances. ${ }^{6,10,11}$ About two-thirds of heart attack patients do not make a complete recovery, but $88 \%$ of those less than 65 years are able to return to their usual work. ${ }^{6}$

## What is Alameda County's status?

## Coronary Heart Disease Mortality

From 2001 to 2003, an average of 2,033 people per year died from CHD in Alameda County. The CHD mortality rate was 160 per 100,000 people.

Alameda County's death rate from CHD was higher than its four Bay Area neighbors for the three year period 2001 to 2003. However, the rate was significantly higher than only two counties, Marin and Santa Clara, and it was lower than the California rate. Alameda County, as well as its neighbors, have met the HP2010 national objective of 166 or fewer CHD deaths per 100,000 people.

Both African American males and females experienced higher CHD mortality than any other race/ethnic group. Pacific Islander males were also noted for higher CHD mortality rate after African American males. Among African Americans, both male and female rates were more than twice the corresponding rates for Asians and Latinos. Males had 40-80\% higher rates than females for every group. Among females, all groups except African Americans have met the HP2010 objective of no more than 166 deaths per 100,000 people. Among males, Asians and Latinos were the only groups to have met the HP2010 objective.

Figure 4.2: Coronary Heart Disease Mortality, Selected Counties and California, 2001-2003


Source: CAPE; ACPHD Vital Statistics files; CADHS County Health Profiles; Census 2000; DOF.

Figure 4.3: Coronary Heart Disease Mortality by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Very few deaths occurred in Alameda County under the age of 35 . After age 35 , CHD mortality increased with age. Between the ages of 35 and 64, the rate was two to three times higher for males than females. For the 85 and older age group, there was no gender difference.

Rates of death from CHD have declined significantly during the last decade for every race/ethnic group except Latinos. For the entire population, CHD mortality declined 7\% per year from 1998 to 2003. Declines were greatest among Whites and APIs. For all groups, the most noteworthy declines have been in recent years.

African American CHD mortality has been consistently higher than any other group throughout the past decade. The disparities in rates between African Americans and other race/ethnic groups have increased over the decade. In 1990-91 the African American rate was $16 \%$ higher than the county rate; in 2002-03 it was $50 \%$ higher. The gap between African Americans and APIs increased even more.

Figure 4.4: Coronary Heart Disease Mortality by Age and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Figure 4.5: Coronary Heart Disease Mortality by Race/Ethnicity, Alameda County, 1990-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

## Map 2: Coronary Heart Disease Mortality

While the county as a whole has met the HP2010 objective of 166 or fewer CHD deaths per 100,000 population, CHD mortality in many parts of Alameda County exceeds that target. The areas with CHD mortality below the objective are predominantly in the Oakland/Berkeley hills and scattered areas in south and east county. The areas with CHD mortality at least $50 \%$ above the objective are located in predominantly poorer census tracts in South Berkeley, North, West, and East Oakland, Alameda, San Lorenzo, Hayward, Fremont, Pleasanton, and Livermore.


## Coronary Heart Disease Hospitalization

From 2001 to 2003, an average of 16,653 hospitalizations per year for CHD-related illnesses occurred in Alameda County. The rate was 1,305 per 100,000 people. For all racial groups combined, the male CHD hospitalization rate was $65 \%$ higher than the female rate. The gender difference was largest for Whites, with the male rate $81 \%$ higher than the female rate, and lowest for American Indians (5\%) and African Americans (16\%).

White males had the highest rate of CHD hospitalization, followed by African American males. African American female and Latino male rates were also high. The lowest rates were seen among American Indians.

The rate of CHD hospitalization increased with age. In Alameda County, rates were higher for men in every age group. Between the ages of 35 and 64, male rates were two times female rates. After 65 years of age, the gender differences were smaller.

Hospitalization due to CHD in Alameda County has declined in every race/ethnic group in recent years. For African Americans and APIs, significant increases throughout most of the 1990s were followed by significant declines. The only steady decline over the period was among American Indians. The Latino rate did not change significantly over the decade.

African Americans continue to have the highest rate of CHD hospitalization of any race/ethnic group. Their rate was $20 \%$ higher than the county rate in 1996-97, but that difference dropped to $12 \%$ in 2002-03.

Figure 4.6: Coronary Heart Disease-Related Hospitalization by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; OSHPD, Census 2000, DOF.

Figure 4.7: Coronary Heart Disease-Related Hospitalization by Age and Gender, Alameda County, 2001-2003


Figure 4.8: Coronary Heart Disease-Related Hospitalization by Race/ Ethnicity, Alameda County, 1992-2003


## Stroke

## What is it?

A stroke occurs when the blood supply to the brain is cut off or when a blood vessel bursts. Within a few minutes of being deprived of oxygen, brain cells begin to die. Death or permanent disability can result.

There are two main types of stroke: ischemic and hemorrhagic. Most strokes are of the ischemic type. Ischemic stroke is caused by blockage in an artery that supplies blood to the brain, resulting in a deficiency in blood flow. Ischemic stroke develops in major blood vessels on the brain's surface or in small blood vessels deep in the brain. During ischemic stroke, diminished blood flow initiates a series of events (called ischemic cascade) that may result in additional, delayed damage to brain cells. Early emergency medical intervention helps to lessen damage to the brain and subsequent disability. ${ }^{1,2}$

Hemorrhagic stroke starts with the rupture of a blood vessel in the brain. Bleeding from the rupture compresses nearby blood vessels, depriving surrounding tissue of oxygen and causing stroke. Hemorrhagic stroke usually affects a large area of the brain, many times leading to death. ${ }^{1,2}$ Hypertension is the most common cause of hemorrhagic stroke. Strokes in young adults tend to be hemorrhagic.

## Why is it important?

Stroke is the third leading cause of death in the United States. It also is a leading cause of serious, long-term disability. About 700,000 people experience a new or recurrent stroke each year. Death rates from stroke have declined steadily since the early part of the twentieth century. ${ }^{3-5}$ From 1992 to 2002 the U.S. death rate from stroke declined $13.8 \% .{ }^{4}$

Nationally, the age-adjusted rate of death from stroke in 2003 was 53.6 per 100,000 population. ${ }^{6}$ The California rate was 53.3.7 These rates exceeded the HP2010 objective of no more than 48.0. ${ }^{5}$ Because women live longer than men, more women than men die of stroke each year. Women accounted for $61.5 \%$ of U.S. stroke deaths in $2002 .{ }^{8}$

In 2002, of all race/ethnic groups, African American males and females had the highest rates of death from stroke ( 81.7 and 71.8 per 100,000), followed by White males and females ( 54.2 and 53.4). ${ }^{8}$ The African American rate in California was 80.0, higher than the national rate of 76.3 . Both were higher than their respective White rates, 55.4 in California and 54.2 nationally. ${ }^{4,7,8}$

High blood pressure, diabetes, smoking, and having had a previous stroke or heart attack increase a person's chances of having a stroke. Maintaining healthy blood pressure through diet, exercise, and medication, if necessary, can decrease the risk for stroke. ${ }^{1,5}$

## What is Alameda County's status?

## Stroke Mortality

From 2001 to 2003, an average of 801 people per year died from stroke in Alameda County. The stroke mortality rate was 63 per 100,000 people.

Alameda County's death rate from stroke was higher than its four Bay Area neighbors for the three year period 2001 to 2003. However, the rate was significantly higher than only two counties, Marin and Santa Clara, as well as California. None of the five neighboring counties, nor the state, have met the HP2010 national objective of 48 or fewer stroke deaths per 100,000 people.

African American males experienced about 70-90\% higher stroke mortality rate than any other race/ethnic group. No significant differences in stroke mortality were observed by gender for any race/ethnic group. None of the gender/racial groups has met the HP2010 objective, though rates for Asian and Latino females were close.

Stroke mortality increased with age starting at about 45 years. Rates were only slightly higher among males than females until age 85 when the female rate exceeded the male rate by $18 \%$.

Figure 4.9: Stroke Mortality, Selected Counties and California, 2001-2003


Source: CAPE; ACPHD Vital Statistics files; CADHS County Health Profiles; Census 2000; DOF.

Figure 4.10: Stroke Mortality by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Figure 4.11: Stroke Mortality by Age and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Stroke mortality for the county, as well as for Whites, has declined about $2 \%$ per year over the past decade. Rates among APIs dropped sharply after 1997 by about $8 \%$ per year. Both African American and Latino rates were variable, showing recent declines but no clear trend.

African American stroke mortality has been consistently higher than any other race/ethnic group throughout the decade. The disparities in rates between African Americans and the other race/ethnic groups have increased over the decade. In 1990-91 the African American rate was 27\% higher than the county rate; in 200203 it was $58 \%$ higher. Relative to Latinos, the gap increased from 57\% in 1990-91 to $100 \%$ in 2002-03.

## Stroke Hospitalization

From 2001 to 2003, an average of 6,333 hospitalizations per year for stroke-related illnesses occurred in Alameda County. The rate was 496 per 100,000.

African Americans had the highest rate of stroke hospitalization, and they are unique from other race/ethnic groups in that the female rate was essentially the same as the male rate. Among API, Latinos and Whites, male rates were significantly higher than female rates.

Compared to APIs, who had the lowest rate of stroke hospitalization, the rate for African Americans was 2.2 to 2.7 times higher.

Figure 4.12: Stroke Mortality by Race/Ethnicity, Alameda County, 1990-2003


Source: CAPE; Alameda County vital statistics files, Census 1990 and 2000, DOF.

Figure 4.13: Stroke-Related Hospitalization by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; OSHPD, Census 2000, DOF.

Hospitalization for stroke is very uncommon prior to age 55. Rates increased substantially with age. In Alameda County, male rates were markedly higher than female rates between the ages of 55 and 84 .

Rates of stroke hospitalization for the county were unchanged throughout the 1990s and then declined approximately 6\% per year between 1998 and 2003. The pattern for Whites was similar. African Americans, APIs and American Indians also experienced declines, but these were not statistically significant. The Latino rate remained unchanged throughout the period.

Despite a recent decline, African Americans continue to have the highest rate of stroke hospitalization compared to other race/ethnic groups. The gap between African Americans and the county grew over the decade, with the African American rate approximately $50 \%$ higher than the county in the early 1990s increasing to $72 \%$ higher by 2002-2003.

Figure 4.14: Stroke-Related Hospitalization by Age and Gender, Alameda County, 2001-2003


Source: CAPE; OSHPD, Census 2000, DOF.

Figure 4.15: Stroke-Related Hospitalization by Race/Ethnicity, Alameda County, 1992-2003


Source: CAPE; OSHPD, Census 1990 and 2000, DOF.

## Diabetes

## What is it?

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. This is generally due to the body's inability to produce insulin (the hormone produced by the pancreas to regulate blood sugar) or use it properly. There are two main types of diabetes, type 1 and type 2:

Type 1 diabetes was previously called insulin-dependent diabetes mellitus or juvenile-onset diabetes. It develops when the body's immune system destroys pancreatic beta cells, the only cells in the body that make the hormone insulin that regulates blood glucose. This form of diabetes usually strikes children and young adults, although disease onset can occur at any age. Type 1 diabetes may account for $5 \%$ to $10 \%$ of all diagnosed cases of diabetes. Risk factors for type 1 diabetes may include autoimmune, genetic, and environmental factors.

Type 2 diabetes was previously called non-insulin-dependent diabetes mellitus or adult-onset diabetes. Type 2 diabetes may account for about $90 \%$ to $95 \%$ of all diagnosed cases of diabetes. It usually begins as insulin resistance, a disorder in which the cells do not use insulin properly. As the need for insulin rises, the pancreas gradually loses its ability to produce insulin. Type 2 diabetes is associated with older age, obesity, family history of diabetes, history of gestational diabetes, impaired glucose metabolism, physical inactivity, and race/ethnicity. African Americans, Latinos, American Indians, and some Asian Americans and Native Hawaiians or Other Pacific Islanders are at particularly high risk for type 2 diabetes. Type 2 diabetes is increasingly being diagnosed in children and adolescents. ${ }^{1,2}$

## Why is it important?

Diabetes requires rigorous management to reduce the risk of serious complications and premature death. It contributes to a variety of medical problems, including heart disease, stroke, high blood pressure, blindness, kidney disease, diseases of the nervous system, amputations, dental problems, and complications of pregnancy. ${ }^{1}$

Diabetes was the sixth leading cause of death in the United States in $2002 .{ }^{3}$ The CDC estimates that in year 2005, nearly 21 million people of all ages, about $7.0 \%$ of the population, have diabetes. Most of these are adults aged 20 years and older. Approximately 6.2 million of these have yet to be diagnosed. ${ }^{1,2,4}$ The number of U.S. adults with diagnosed diabetes has increased $61 \%$ since 1991 and is projected to more than double by 2050 . ${ }^{5,6}$

In 2005, it is estimated that about 1.5 million adults 20 years and older were newly diagnosed with diabetes. ${ }^{1,5}$ While diabetes is most common among those 65 years and older, the rate of type 2 diabetes in children and adolescents has been increasing, especially among people of color. ${ }^{7}$

It is estimated that $15.1 \%$ of adult American Indians have diabetes, 13.3\% of African Americans, 9.5\% of Latinos, and $8.7 \%$ of Whites. ${ }^{1}$ The prevalence of diabetes has increased steadily over the past 20 years among all race-sex groups. From 1980 to 2004, the age-adjusted prevalence rate of diagnosed diabetes was much higher among African Americans than Whites and highest among African American females. Recent increases have also occurred among Latinos. ${ }^{4,8}$

In 2003, there were 73,965 deaths from diabetes in the United States. The age-adjusted death rate was 25.2 per $100,000 .{ }^{9}$ The diabetes death rate in California was 21.3 per 100,000 in 2001-2003. ${ }^{10}$ However, the statistics on deaths alone do not fully describe the problem. Over 200,000 people die each year of diabetes-related complications. ${ }^{2}$ And, studies have shown that death certificates frequently do not
reflect diabetes as a cause of death or as an underlying cause of death. ${ }^{1,2}$
According to the California Health Interview Survey (CHIS), about 1.5 million or $6.6 \%$ of Californians 19 years and older had been diagnosed with diabetes in 2001. Nearly $37 \%$ of cases were among seniors 65 years and older. Overall, about 9.2\% of African American and 10.4\% of American Indian adults have been diagnosed with diabetes in California. The race/ethnic disparity in diabetes was widest among older adults. Among adults 65 years and older, approximately one out of four African Americans and Latinos have been diagnosed with diabetes, at least two times the figure for Whites. ${ }^{11}$

Adults living at or below the federal poverty level (FPL) had a higher diabetes prevalence than those with incomes above $300 \%$ FPL. In addition, the rate of diabetes was much higher among adults who never attended high school than among college graduates. ${ }^{11}$

In 2003, $5.1 \%$ of Alameda County adults had been diagnosed with diabetes. The prevalence was higher among African Americans (8.2\%) than Whites (5.0\%). ${ }^{12}$

## What is Alameda County's status?

## Diabetes Mortality

From 2001 to 2003, an average of 289 people per year died from diabetes in Alameda County. The diabetes mortality rate was 23 per 100,000 people.

Alameda County's diabetes death rate was significantly higher than its Bay Area neighbors for the period 2001 to 2003. However, the rate was not significantly higher than that for Contra Costa County or California.

For both males and females, the highest diabetes death rate was seen among African Americans, followed by Latinos. Asians and Whites had the lowest rates; however, they had the largest gender differences. The Asian male rate was $60 \%$ higher than the Asian female rate and the White male rate was $40 \%$ higher than the White female rate. No gender difference in diabetes mortality was found for Latinos.

Figure 4.16: Diabetes Mortality, Selected Counties and California, 2001-2003


Source: CAPE; ACPHD Vital Statistics files; CADHS County Health Profiles; Census 2000; DOF.

Figure 4.17: Diabetes Mortality by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Diabetes mortality was higher among males than females in almost every age group. There were very few deaths prior to the age of 35 . However, after age 35 the death rate increased and was highest among males aged 85 and older.

Figure 4.18: Diabetes Mortality by Age and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Figure 4.19: Diabetes Mortality by Race/Ethnicity, Alameda County, 1990-2003


Source: CAPE; Alameda County vital statistics files, Census 1990 and 2000, DOF.

## Diabetes Hospitalization

From 2001 to 2003, there was an average of 15,018 hospitalizations per year for diabetes-related illnesses in Alameda County. The rate was 1,129 per 100,000 people.

African American rates of diabetes hospitalization were significantly higher than any other race/ethnic group. Similarly, the Latino rate was higher than those among White, API and American Indian groups.

Among African Americans, the female rate was significantly higher than the male rate, while among Whites the male rate was significantly higher than the female rate.

Rates of hospitalization for diabetesrelated illnesses increased with age. In Alameda County, rates peaked in the age group 64 to 84 . Male rates exceeded female rates by small margins after age 45 .

Figure 4.20: Diabetes-Related Hospitalization by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; OSHPD, Census 2000, DOF.

Figure 4.21: Diabetes-Related Hospitalization by Age and Gender,
Alameda County, 2001-2003


Source: CAPE; OSHPD, Census 2000, DOF.

In Alameda County, rates of hospitalization for diabetes-related illnesses increased significantly between 1991 and 1999, then declined slightly. A similar pattern was seen for African Americans, whose rates declined significantly from 1998 to 2003. While the American Indian rate declined steadily over the decade, those for Latinos and Whites increased significantly.

The African American diabetes hospitalization rate over the period was consistently two times the county rate. The gap narrowed slightly in the latest period with the African American rate $89 \%$ higher than the county rate. The Latino rate has also exceeded the county rate over the last 10 years, most recently by about $13 \%$.

Figure 4.22: Diabetes-Related Hospitalization by Race/Ethnicity, Alameda County, 1992-2003


Source: CAPE; OSHPD, Census 1990 and 2000, DOF.

## Map 3: Diabetes Hospitalization

Rates of hospitalization for diabetes-related illnesses are highest in parts of North, West, and East Oakland, and Fruitvale. Rates in these areas exceed the county rate of 1,129 per 100,000 by more than $50 \%$. Alameda, the Oakland and Berkeley hills, San Lorenzo, and east county diabetes hospitalization rates are lower than the county average.


## Asthma

## What is it?

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 breath. Symptoms include coughing, wheezing, shortness of breath, and a tight feeling in the chest. Asthma can be triggered by exposures and conditions such as respiratory infections, dust mites, animal dander, mold, pollen, tobacco smoke, wood smoke, indoor and outdoor air pollutants, and even exercise. ${ }^{1}$ Although the exact cause of asthma is not known, the development of asthma is determined by the interaction between genetics and environmental exposures.

## Why is it important?

There is no cure for asthma, so effective management of the condition is essential. Effective management of asthma involves: 1) controlling exposure to asthma triggers; 2) adequately managing asthma with medications; 3 ) monitoring lung function; and 4) educating asthma patients to work with medical providers as partners in their own care. ${ }^{1}$

There are roughly 5,000 deaths nationally per year from asthma. The death rate for African Americans is 2.5 times that for Whites, and about 1.5 times higher among females than males. Asthma death rates increase with age. ${ }^{2}$

The prevalence of asthma has been increasing nationally since $1980 .{ }^{2}$ The CDC estimates that over 19 million people in the United States have asthma and that 11 million have had an asthma attack in the past year. ${ }^{3}$ In general, asthma rates are higher among females and children five to 14 years. They are also higher among African Americans and low-income residents of inner cities. ${ }^{2}$

Data from the Behavioral Risk Factor Surveillance System show that 7.5\% of U.S. adults and $6.4 \%$ of California adults currently have asthma. ${ }^{4}$ Estimates from the CHIS are higher: about $10 \%$ to $11 \%$ of children and adults in Alameda County have had asthma symptoms in the last year. ${ }^{5}$

Chronic conditions such as asthma can affect the physical, cognitive, social, and emotional development of young children. According to The Health of Young Children in California, asthma is the most common health condition among young children. ${ }^{6}$ Approximately $10.5 \%$ of California children ages one to five years have been diagnosed with asthma. The highest rates are for African American children. Many children diagnosed with asthma do not get the medication they need to control it, leaving them to suffer symptoms and physical limitations that could be controlled. In addition, about $22 \%$ of children diagnosed with asthma have an asthma-related ER visit each year. Asthma is the single largest contributor to preventable hospital admissions among children. ${ }^{6}$

Nationally, there are approximately 484,000 asthma hospitalizations per year. ${ }^{3}$ Rates of asthma hospitalization are highest among children under five years, followed by children five to 14 years and adults 65 years and older. In California, asthma hospitalization rates are highest among African Americans even when income is taken into account. Statewide and nationally, rates among African Americans are at least three times those for Whites. ${ }^{7}$ Asthma hospitalization rates in Alameda County exceed California rates in every demographic group studied. Alameda County rates are the second highest among the state's 58 counties. ${ }^{8}$

## What is Alameda County's status?

## Asthma Mortality

During the three years, 2001 to 2003, 75 Alameda County residents died from asthma, an average of 25 per year. The county rate was 1.9 asthma deaths per 100,000 people. African Americans had the highest rate, 3.3 per 100,000, significantly higher than the White rate of 1.4.

No asthma deaths occurred among people under age 25 . Forty-four percent of those who died were 35-64 years of age, and $55 \%$ were age 65 or older. Alameda County appears to be well under the HP2010 target for the age groups $<5,5-14$, and $15-34$. However, due to small numbers of deaths in these age groups, the rates may vary substantially year to year.

Among 35-64 year-olds, the asthma death rate was 18.7 per million, two times higher than the HP2010 target of 9 per million. Among those over age 65 , the rate was $92,53 \%$ higher than the target rate of 60 .

## Asthma Hospitalization

We continue to monitor asthma hospitalizations based on the HP2000 objectives because the age group 0-14 years is of great interest. While the county is just meeting the objective for all ages combined, we have a great distance to go before reducing the rate among children under age 15 to 225 per 100,000.

From 2001 to 2003, an average of 1,084 asthma hospitalizations per year occurred among children in Alameda County. The rate was 356 per 100,000, two times the California rate and well above the HP2000 national objective of 225 asthma hospitalizations per 100,000 children ages 0-14.

During the same period, 2,290 asthma hospitalizations per year occurred among Alameda County residents of all ages, for a rate of 161 per 100,000. This rate is higher than the California rate but nearly equivalent to the HP2000 objective of 160 or less.

The newer HP2010 objectives for asthma hospitalization address three distinct age groups: 1) children under age five, 2) ages five to 64 years, and 3) ages 65 and older. Alameda County rates exceed California rates as well as the national objectives in all three age groups but most notably among children under five years of age. The rate for the under five age group is 2.7 times the HP2010 objective and the rate for those over age 65 is 2 times the HP2010 objective.

Figure 4.24: Asthma Hospitalization, Alameda County (2001-2003) and California (2003) with HP2000 National Objectives


Source: CAPE; OSHPD, Census 2000, DOF.

Figure 4.25: Asthma Hospitalization, Alameda County (2001-2003) and California (2003) with HP2010 National Objectives


Source: CAPE; OSHPD, Census 2000, DOF.

For all ages combined, there were only small gender differences in asthma hospitalization rates. African Americans were three to five times more likely than other race/ethnic groups to be hospitalized for asthma. Rates for APIs, Latinos and Whites were all well below the HP2000 objective of 160 while African American rates continue to be well over twice this target.

For every race/ethnic group, asthma hospitalization rates for males under five years of age were about twice those for females.

Rates were very high among African American males, five times higher than for APIs and three to four times higher than for Whites and Latinos. A similar pattern was observed for females.

Only API females met the HP2010 objective of no more than 250 asthma hospitalizations per 100,000 children under five. African American male rates exceed the objective by eight times.

Boys under age 15 in Alameda County are hospitalized for asthma at higher rates than females. However, the pattern shifts during adolescence and young adulthood when females are hospitalized for asthma at higher rates than males.

These age-specific data show that children under five years of age are particularly vulnerable to asthma attacks serious enough to warrant hospitalization.

Figure 4.26: Asthma Hospitalization (All Ages) by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; OSHPD, Census 2000, DOF.

Figure 4.27: Asthma Hospitalization ( $<5$ Years) by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; OSHPD, Census 2000, DOF.

Figure 4.28: Asthma Hospitalization by Age and Gender, Alameda County, 2001-2003


In Alameda County, rates of asthma hospitalization declined significantly over the past decade for every racial/ ethnic group.

Despite this improvement, when the African American rate is compared to the county rate, the disparity persists, with African Americans 2.6 times more likely than others to be hospitalized for asthma across the decade.

Asthma hospitalization rates among children under age five declined significantly in the county between 1991 and 1996, by about $5 \%$ per year; they have increased slightly since then. A similar pattern was seen for Whites. The API rate declined significantly by 6\% per year until recently. Latino and African American rates showed no clear trend.

Over the decade, however, the African American rate has been consistently 2.2 to 2.5 times the county rate.

Figure 4.29: Asthma Hospitalization (All Ages) by Race/Ethnicity, Alameda County, 1992-2003


Source: CAPE; OSHPD, Census 1990 and 2000, DOF.

Figure 4.30: Asthma Hospitalization (<5 Years) by Race/Ethnicity, Alameda County, 1992-2003


Source: CAPE; OSHPD, Census 1990 and 2000, DOF.

## Map 4: Childhood Asthma Hospitalization

Rates of hospitalization for asthma among children under five years of age were highest in North, West, and East Oakland, exceeding the county average rate by two or more times. Other areas, including parts of Berkeley, Oakland, Alameda, and San Leandro also have childhood asthma hospitalization rates that are above the county average of 683 per 100,000 children.


## Cancer

## What is it?

Cancer is a large group of diseases in which abnormal cells divide uncontrollably. Cancer cells differ from normal cells in size and in function. They are characterized by uncontrolled growth and spread of abnormal cells throughout the body rapidly and independently from the primary site to other tissues in the body. They can spread, or metastasize, to other locations via the bloodstream, the lymphatic system, or by accidental transplantation from one site to another during surgery. Cancer is broadly classified according to histologic origin: carcinomas - those derived from cells found in the lining of various tissues, and sarcomas - those derived from the underlying supporting tissue. ${ }^{1,2}$

## Why is it important?

Nationally, there were 554,643 deaths from cancer in 2003. Cancer is the second leading cause of death in the United States, accounting for $23 \%$ of all deaths. The age-adjusted death rate in the US in 2003 was 189.3 per 100,000. ${ }^{3}$ In California it was 169.6 for the period 2001-2003. ${ }^{4}$ Both national and state rates exceeded the HP2010 objective of 159.9 or fewer cancer deaths per $100,000 .{ }^{5}$ Nationally, more than 1.37 million new cancer cases are expected to be diagnosed in 2005. ${ }^{6}$

In general, incidence and death rates for all cancers combined are lower among Asian/Pacific Islander, American Indian, and Latino populations than among White and African American populations. African Americans are more likely to die of cancer than any other race/ethnic group. ${ }^{7}$ An examination of national figures for four major cancer sites revealed disparities between White and African American populations (see Table 4.2 at end of chapter). ${ }^{7-10}$ African American males have a higher incidence of lung, prostate, and colorectal cancer than White males. They are also more likely to die from these diseases. The rate of new breast cancer cases among White females is higher than among African American females, yet African American females are more likely to die from breast cancer.

Latinos have higher rates of cervical, esophageal, gallbladder, and stomach cancers than non-Hispanic Whites. Rates of stomach and liver cancers are higher among Asian Americans than the rest of the population, and the death rate of lung cancer is the third highest among American Indian/Alaska Natives after African Americans and Whites. ${ }^{7,10}$

Although the rates of cancer incidence and death have declined recently, the actual number of people diagnosed with cancer is expected to double in the next several decades, as the elderly population grows. ${ }^{11}$ Adequate access to cancer screening and the availability of high quality treatment among poor and underserved populations are critical to reducing the burden of cancer. ${ }^{12}$

Many cancers can be cured if detected early and treated promptly. Cancers that can be detected by screening account for about half of all new cancer cases. The 5 -year relative survival rate for all cancers diagnosed between 1995 and 2000 was $64 \%$, up from $50 \%$ in 1974-1976. ${ }^{6}$ In addition, some cancers can be prevented by lifestyle changes. Maintaining a healthy weight, exercising regularly, and not smoking can reduce an individual's risk of cancer substantially. ${ }^{13}$

## What is Alameda County's status?

## Cancer Mortality

From 2001 to 2003, an average of 2,278 people per year died from cancer in Alameda County. The cancer mortality rate was 178 per 100,000 people.

Alameda County's death rate from all cancers was higher than its four Bay Area neighbors for the three year period from 2001 to 2003. However, the rate was significantly higher than only two counties, Marin and Santa Clara. It was nearly the same as in Contra Costa County and just slightly higher than in California. Alameda County has not yet met the HP2010 national objective of 159.9 or fewer cancer deaths per 100,000 people.

The highest rate of cancer mortality was seen among African American males, followed by White males. Male and female rates for African Americans were more than twice the corresponding rates for Asians and Latinos. With the exception of Pacific Islanders, males had 40-60\% higher rates than females for every race/ethnic group. Asians of both genders, Latinas and Pacific Islander males were the only race/ethnic groups that met the HP2010 objective of no more than 159.9 cancer deaths per 100,000 people.

Cancer kills people of all ages, but it largely affects people over the age of 35 . As age increases so do cancer mortality rates, significantly more for males than females. The male-tofemale difference increased from 7\% for the 45-54 age group to $56 \%$ for the age group 85 and older.

Figure 4.31: Cancer Mortality, Selected Counties and California, 2001-2003


Source: CAPE; ACPHD Vital Statistics files; CADHS County Health Profiles; Census 2000; DOF.

Figure 4.32: Cancer Mortality by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.


Mortality from all cancers has declined significantly during the last decade for every race/ethnic group. For the entire population, cancer mortality declined about $2 \%$ per year. The steepest decline was among APIs.

African American cancer mortality has been consistently higher than that of any other race/ethnic group throughout the decade. The disparity in rates between African Americans and the county widened during this time, from 30\% higher in 1990-91 to $49 \%$ higher in 2002-03. Throughout the decade, the African American rate has been two times higher than those for APIs and Latinos.

## Cancer Incidence

An average of 6,148 new cases of cancer per year were diagnosed in Alameda County between 2000 and 2002. The annual average incidence rate for all cancers combined was 478 per 100,000 people.

The highest rates were found among African American and White males. For all races combined, the incidence rate for males was $24 \%$ higher than for females. The gender difference was most pronounced among African Americans; the male rate was $38 \%$ higher than the female rate. APIs had the lowest rates and the smallest gender difference.

Figure 4.34: Cancer Mortality by Race/Ethnicity, Alameda County, 1990-2003


Source: CAPE; Alameda County vital statistics files, Census 1990 and 2000, DOF.

Figure 4.35: Cancer Incidence by Race/Ethnicity and Gender, Alameda County, 2000-2002


Source: CAPE; Northern California Cancer Center, Census 2000, DOF.

Cancer is uncommon before age 35 . The incidence of all cancers combined goes up substantially among persons in their fifties. In Alameda County, male rates were higher than female rates in all age groups except between the ages of 25 and 54 . Gender differences were most pronounced after 65 years of age, when male rates exceeded female rates by $46 \%$ to $68 \%$.

The incidence of all cancers combined declined significantly by about $1.6 \%$ per year in the county between 1990 and 2002. There were significant, steady declines among females and periodic declines among males (data not shown).

Cancer incidence declined significantly for every race/ethnic group since 1990. The greatest declines were seen among APIs and African Americans, at about $2 \%$ per year. Rates declined about $1 \%$ per year for Latinos and Whites.

Over the period, African American rates were about $5 \%$ to $10 \%$ higher than the county rate, as were White rates. However, in 2001 and 2002, the White rate was about $15 \%$ higher than the county rate.

Figure 4.36: Cancer Incidence by Age and Gender, Alameda County, 2000-2002


Source: CAPE; Northern California Cancer Center, Census 2000, DOF.

Figure 4.37: Cancer Incidence by Race/Ethnicity, Alameda County, 1990-2002


Source: CAPE; Northern California Cancer Center, Census 1990 and 2000, DOF.

## Lung Cancer

## What is it?

Lung cancer is caused by an uncontrolled growth of abnormal cells in lung tissue. Primary lung cancer originates in the lungs, while metastatic lung cancer spreads to the lungs from another organ. Classification is based on the type of cell the cancer originates from and is broken down into two groups: small cell lung cancer and non-small cell lung cancer. The majority of lung cancer patients are non-small cell lung cancers. The most common form of lung cancer, squamous cell carcinoma, originates in the bronchi and is slow to spread to other parts of the body. About $20 \%-25 \%$ of lung cancer cases are caused by small cell carcinomas. Small cell lung cancer is more likely to spread to other parts of the body than non-small cell lung cancer. ${ }^{1,2}$

## Why is it important?

Lung cancer is the leading cause of death from cancer in the United States for both men and women, accounting for $28 \%$ of all cancer deaths. More than 157,500 people in the United States died of lung cancer in 2003. ${ }^{3}$ The American Cancer Society estimates that more than 172,500 new cases of lung cancer will be diagnosed in the United States in $2005 .{ }^{6}$ Although there has been some progress in treatment of lung cancer, the chances of full recovery are very low because a large proportion of cases are diagnosed at an advanced stage. Only about $15 \%$ of those treated for lung cancer survive five or more years. ${ }^{6}$

Nationally, the age-adjusted lung cancer death rate in 2003 was 53.9 deaths per 100,000 population. ${ }^{3}$ In California, it was 43.8 for the period 2001-2003. ${ }^{4}$ The national rate exceeds the Healthy People 2010 objective of 44.9 or fewer lung cancer deaths per 100,000 while the California rate meets the objective. ${ }^{5}$

While the lung cancer death rate has declined since 1990 among males, it has continued to increase among females. Since 1987, more females have died from lung cancer than from breast cancer. ${ }^{5}$ Ageadjusted lung cancer death rates are more than 30 percent higher among African American males than White males (see Table 4.2 at end of chapter). ${ }^{7,10}$ Part of this racial difference is believed to be due to factors associated with poverty. ${ }^{14}$

During the last 50 years patterns of lung cancer mortality among males changed dramatically. Early on, lung cancer mortality was higher among men in wealthier areas. However, by the early 1970s, the pattern reversed and men from poor areas had the higher rates. ${ }^{15}$

These racial and socioeconomic inequities will likely widen in the future if current racial and socioeconomic differences in smoking, dietary patterns, cancer screening, and cancer survival continue to persist or increase. ${ }^{15,16}$

According to the American Cancer Society, a single behavior - cigarette smoking - is thought to be responsible for eight out of ten cases of lung cancer. In addition, non-smokers who breathe the smoke of others also have an increased risk of developing lung cancer. ${ }^{17,18}$ Although per-capita cigarette consumption is currently lower than at any point since World War II, an estimated $25 \%$ of men and $20 \%$ of women still smoke cigarettes, and approximately $82 \%$ of these people still smoking daily. ${ }^{19}$ Thus, preventing and reducing cigarette smoking is key to reducing illness and death from lung cancer.

## What is Alameda County's status?

## Lung Cancer Mortality

From 2001 to 2003, an average of 595 people per year died from lung cancer in Alameda County. The lung cancer mortality rate was 47.4 per 100,000 people.

Alameda County's death rate from lung cancer was higher than its four Bay Area neighbors in the three year period 2001 to 2003. However, the rate was only significantly higher than Santa Clara County. The Alameda County rate was higher than the California rate as well as the HP2010 national objective of 44.9 or fewer lung cancer deaths per 100,000 people.

The rate of lung cancer mortality was significantly higher among African American men than any other group. The lowest rates were seen among Asian and Latino women. African American male and female rates were two to four times higher than those of Asians and Latinos.

Males were more likely than females of every race/ethnic group to die of lung cancer. Gender differences were most pronounced among African Americans, Asians and Latinos, with male rates two to three times higher than female rates. In comparison, White male rates were only $40 \%$ higher than White female rates. Asians and Latinos of both genders were the only race/ethnic groups that met the HP2010 objective.

Figure 4.38: Lung Cancer Mortality, Selected Counties and California, 2001-2003


Source: CAPE; ACPHD Vital Statistics files; CADHS County Health Profiles; Census 2000; DOF.

Figure 4.39: Lung Cancer Mortality by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

There were no lung cancer deaths below the age of 35 in Alameda County from 2001 to 2003. Lung cancer mortality was $50 \%$ to $90 \%$ higher among males than females. The highest rates were found among males over 75 years of age.

Figure 4.40: Lung Cancer Mortality by Age and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Figure 4.41: Lung Cancer Mortality by Race/Ethnicity, Alameda County, 1990-2003


Source: CAPE; Alameda County vital statistics files, Census 1990 and 2000, DOF.

## Lung Cancer Incidence

An average of 740 new cases of lung cancer per year were diagnosed in Alameda County from 2000 to 2002. The incidence rate was 60 per 100,000 people. Three-fourths of new cases were diagnosed at a late stage of the disease.

The rate among African American males was significantly higher than any other group. Rates for African American females were at least twice those for APIs and Latinas. For all races combined, male incidence rates exceeded female rates by $56 \%$. The gender difference was most pronounced among Latinos and APIs, for whom male rates were 2.2 times female rates. The African American male rate was $62 \%$ higher than that for females.

Lung cancer is uncommon before age 45. In Alameda County, the incidence increased notably with age and was highest among the elderly in the 75 to 84 age group.

Males had a higher incidence of lung cancer than females in all age groups. This gender difference was most pronounced in the 75-84 age group, where male rates exceeded female rates by $76 \%$.

Figure 4.42: Lung Cancer Incidence by Race/Ethnicity and Gender, Alameda County, 2000-2002


Source: CAPE; Northern California Cancer Center, Census 2000, DOF.

Figure 4.43: Lung Cancer Incidence by Age and Gender, Alameda County, 2000-2002


[^3]The incidence of lung cancer in the county declined significantly by about 2.3\% per year between 1990 and 2002. Declining rates were observed for every race/ethnic group over the decade. The steepest declines were seen among APIs ( $2.8 \%$ per year) and Latinos (2.6\%). The White rate dropped $2 \%$ per year. The African American rate declined as well; however the trend was not statistically significant.

The declining trend in lung cancer incidence was significant among both males and females (data not shown).

Disparities in rates of lung cancer have been variable over the past decade. African Americans had a rate of lung cancer incidence that was $30 \%$ to $50 \%$ higher than the county rate during this period.

Figure 4.44: Lung Cancer Incidence by Race/Ethnicity, Alameda County, 1991-2002


Source: CAPE; Northern California Cancer Center, Census 2000, DOF.

## Colorectal Cancer

## What is it?

Colorectal cancer is caused by abnormal tissue growth in the colon or rectum that is malignant. Symptoms for colorectal cancer may include rectal bleeding, abdominal discomfort, pain, bloating, a change in bowel habits, iron deficiency anemia, and unexplained weight loss. ${ }^{1,2}$ Most colorectal cancers develop over many years from benign polyps. Precancerous polyps can be detected and removed during certain screening procedures, thereby preventing colorectal cancer. If colorectal cancer is found early and treated appropriately, the chance of survival is greatly enhanced. ${ }^{18,20-23}$ However, only $39 \%$ of cases are diagnosed at this early stage. ${ }^{6}$

## Why is it important?

Colorectal cancer is the second leading cause of cancer-related death in the United States and it is the third most common cancer in men and women. ${ }^{18,20,21}$ It is estimated that approximately 145,290 new colorectal cancer cases will be diagnosed in 2005 and that 56,290 Americans will die of colorectal cancer in $2005 .{ }^{6}$

Nationally, there were 55,616 deaths from colorectal cancer in 2003 and the age-adjusted death rate was 18.9 deaths per 100,000. ${ }^{3}$ In California, the rate was 18.1 per 100,000 during the period 1997$2001 .{ }^{24}$ Both the national and state rates exceed the HP2010 objective of 13.9 or fewer deaths per 100,000. ${ }^{5}$

For males, incidence rates of colorectal cancer have declined over the past ten years for every race/ ethnic group except Latinos. For females, incidence rates have stabilized in every race/ethnic group. However, mortality rates have steadily declined for both males and females. ${ }^{21}$

The risk of developing colorectal cancer increases with advancing age. Most cases are diagnosed in those 50 years and older. The risk is also higher among people with inflammatory bowel disease (ulcerative colitis or Crohn's disease), a family history of colorectal cancer or colorectal polyps, and certain hereditary syndromes. Lack of regular physical activity, low fruit and vegetable intake, a low-fiber and high-fat diet, obesity, alcohol consumption, and tobacco use are associated with colon cancer. ${ }^{1,6,}$ 20,21

All adults 50 years and older should be screened routinely for colorectal cancer. Studies have found that at least $75 \%$ of colorectal cancers occur among people with no family or personal history of colorectal cancer and no risk factors that would place them at high risk for developing colorectal cancer. ${ }^{20-23}$ Despite of the proven effectiveness of colorectal cancer screening and the availability of various screening tests, colorectal cancer screening is not widely used. ${ }^{21,22,25}$

Both incidence and mortality rates of colorectal cancer are highest among African American males and females (see Table 4.2 at end of chapter). ${ }^{7}$ Studies show that African Americans were more likely to be diagnosed after the disease had spread beyond the colon and were less likely to receive recommended treatment and therapy. ${ }^{21,26,27}$

## What is Alameda County's status?

## Colorectal Cancer Mortality

Colorectal cancer mortality among females in Alameda County for the fiveyear period, 1998-2002, was similar to female rates in neighboring counties and the Greater Bay Area. Only Santa Clara's rate was significantly lower.

Male rates were similar across counties and the Greater Bay Area. Marin County's rate was the lowest, but not significantly different from Alameda County's rate.

Neither males nor females in Alameda County have met the HP2010 objective of 13.9 or fewer colorectal cancer deaths per 100,000.

From 2001 to 2003, an average of 228 people per year died from colorectal cancer in Alameda County. The colorectal cancer mortality rate was 17.9 per 100,000 people.

Males of every race/ethnic group except Latinos had 20\%-30\% higher rates than females. Among Latinos, the male rate was $70 \%$ higher.

Colorectal cancer death rates among African Americans, both males and females, were higher than any other race/ethnic group. African American males were twice as likely to die from the disease as Asian and Latino males. African American females were 2.7 times more likely to die than Latinas. Asian females and Latinas were the only groups that met the HP2010 objective of no more than 13.9 colorectal cancer deaths per 100,000.

Figure 4.45: Colorectal Cancer Mortality by Gender, Selected Counties and the Bay Area, 1998-2002


Source: CAPE; Northern California Cancer Center; Census 2000, DOF.

Figure 4.46: Colorectal Cancer Mortality by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

There were no colorectal cancer deaths below the age of 25 in Alameda County from 2001 to 2003. Colorectal cancer mortality increased steadily with age and was higher among males than females in every age group except the oldest, those aged 85 and older.

Figure 4.47: Colorectal Cancer Mortality by Age and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Figure 4.48: Colorectal Cancer Mortality by Race/Ethnicity, Alameda County, 1990-2003


Source: CAPE; Alameda County vital statistics files, Census 1990 and 2000, DOF.

## Colorectal Cancer Incidence

An average of 637 new cases of colorectal cancer per year were diagnosed in Alameda County between 2000 and 2002. The incidence rate was 51 per 100,000 people. Sixty percent of new cases of colorectal cancer were diagnosed at a late stage of disease.

For all races combined, male incidence rates exceeded female rates by $45 \%$. The gender difference was most pronounced among Latinos for whom male rates were $72 \%$ higher than female rates. The smallest gender difference, and the highest female rate was seen among African Americans.

Colorectal cancer screening is recommended at age 50 or older. In Alameda County, the incidence of colorectal cancer increased with age and was greater among males than females in all age groups. The most pronounced gender difference was in the 45 to 54 age group, where the male rate exceeded the female rate by 70\%.

Figure 4.49: Colorectal Cancer Incidence by Race/Ethnicity and Gender, Alameda County, 2000-2002


Source: CAPE; Northern California Cancer Center, Census 2000, DOF.

Figure 4.50: Colorectal Cancer Incidence by Age and Gender, Alameda County, 2000-2002


[^4]The incidence of colorectal cancer in the county declined significantly by about $2.1 \%$ per year between 1990 and 2002. African Americans had the steepest decline in incidence (3.4\% per year), followed by Whites ( $2 \%$ ). No clear trend was observed for APIs or Latinos.

Rates for both males and females declined significantly during the period (data not shown).

Racial/ethnic disparities in the incidence of new colorectal cancer cases grew smaller over the decade, especially after 2000. The African American incidence rate was $20 \%$ higher than the county rate in 1990 and was the same as the county rate in 2002. Disparities in incidence were most pronounced among African Americans and APIs throughout the decade.

Figure 4.51: Colorectal Cancer Incidence by Race/Ethnicity, Alameda County, 1991-2002


Source: CAPE; Northern California Cancer Center, Census 1990 and 2000, DOF.

## Female Breast Cancer

## What is it?

Female breast cancer is a disease in which cancer cells are found in the tissues of the breast. In its early stages, the cancer cells stay in the breast as a tiny nodule or lump. In later stages, some cells from the lump spread to other parts of the body and cause tumors to grow in these new sites. While breast cancer can occur in men, women comprise the vast majority of breast cancer cases. The earlier breast cancer is discovered, the greater the chance for survival. ${ }^{1,2}$

## Why is it important?

Breast cancer is the second leading cause of cancer death among women and the most commonly diagnosed cancer among women in the United States. ${ }^{6}$ Women at high risk of developing breast cancer include those who: have a family history of breast cancer, have never been pregnant, were first pregnant after age 31, have had endometrial, ovarian, or unilateral breast cancer, or were exposed to low level ionizing radiation. Estrogen therapy and diet are also associated with breast cancer. ${ }^{1,2,12}$

Seventy percent of all diagnosed cases of breast cancer are among women 50 years or older. The American Cancer Society estimates that more than 211,200 American women will be diagnosed with breast cancer in 2005 and over 40,400 women will die from the disease. ${ }^{6}$

In 2002, breast cancer killed 41,514 women in the United States. ${ }^{10}$ The age-adjusted death rate from breast cancer among U.S. women was 25.6 per 100,000. At the national level, breast cancer death rates are more than $30 \%$ higher among African American women than among White women (see Table 4.2 at end of chapter). ${ }^{7,10}$ In California, the breast cancer death rate is 23.4 per 100,000 women for the period 2001-2003. ${ }^{4}$ Both the national and state rates exceed the HP2010 objective of no more than 22.3 per 100,000 women. ${ }^{5}$

Breast cancer can be detected early through a combination of regular self-breast examination, clinical breast examination, and mammography. It is estimated that timely mammography screening among women older than age 40 could prevent $15 \%$ to $30 \%$ of all deaths from breast cancer. ${ }^{12}$

According to the National Health Interview Survey, there was a significant increase in the percentage of women aged 40 and older who reported having had a mammogram within the past 2 years during the last decade. ${ }^{28}$

Since 1990, the breast cancer death rate has decreased for White females. There are no clear trends for other race/ethnic groups. Deaths due to breast cancer for African Americans continued to increase until 1995 and then showed a gradually decreasing trend. However, for other race/ethnic groups the death rates leveled off since the mid-1990s. ${ }^{8,9}$ This difference may be due to the fact that breast cancer tends to be diagnosed at later stages in African Americans and Hispanics compared to non-Hispanic White females. ${ }^{5,14,29}$ Also, African American and Hispanic women may be less likely to be screened for breast cancer, and they may be more likely to delay seeking treatment once symptoms are present. ${ }^{14,30}$ Other studies also suggest that the racial differences in breast cancer survival decrease when socioeconomic factors are taken into account. ${ }^{31,32}$

## What is Alameda County's status?

## Female Breast Cancer Mortality

The female breast cancer death rate in Alameda County for the period 2001 to 2003 was higher than those in San Francisco and Santa Clara Counties and lower than in Contra Costa and Marin Counties, but none of these differences were statistically significant. Alameda County has yet to meet the national HP2010 objective of 22.3 or fewer breast cancer deaths per 100,000 women.

From 2001 to 2003, an average of 183 women per year died from breast cancer in Alameda County. The breast cancer mortality rate was 24.5 per 100,000 women.

African Americans had the highest breast cancer death rate, followed by Whites. Asians had the lowest rate. The African American rate was about three times that of Asians and two times that of Latinas. Asians and Latinas were the only race/ethnic groups that met the HP2010 objective of no more than 22.3 breast cancer deaths per 100,000 women.

There were no breast cancer deaths below the age of 25 in Alameda County from 2001 to 2003. Breast cancer mortality increased steadily with age.

Figure 4.52: Female Breast Cancer Mortality, Selected Counties and California, 2001-2003


Source: CAPE; ACPHD Vital Statistics files; CADHS County Health Profiles; Census 2000; DOF.

Figure 4.53: Female Breast Cancer Mortality by Race/Ethnicity, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Figure 4.54: Female Breast Cancer Mortality by Age, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Breast cancer mortality among Alameda County women has declined significantly over the last decade by about $2.5 \%$ per year. Significant declines were also observed for Whites and APIs. Rates for African Americans and Latinas were variable and showed no clear trends.

For most of the past decade, African American breast cancer mortality rates have exceeded those of other race/ethnic groups, tracking closely at times with Whites. In the 2002-03 period, the African American rate was $53 \%$ higher than the county rate, compared to $11 \%$ in 1990-91. While the variability in African American rates prevents us from drawing conclusions about trends, it is clear that the gap between the African American and the county rate is wider now than it was in 1990-91.

## Female Breast Cancer Incidence

An average of 1,167 new cases of breast cancer per year were diagnosed in Alameda County between 2000 and 2002. The incidence rate was 161 per 100,000 women.

The breast cancer incidence rate for White females was significantly higher than any other race/ethnic group, and the API rate was significantly lower than any other group. The White rate exceeded the API rate by $85 \%$, the Latino rate by $45 \%$, and the African American rate by $32 \%$.

Figure 4.55: Female Breast Cancer Mortality by Race/Ethnicity, Alameda County, 1990-2003


Source: CAPE; Alameda County vital statistics files, Census 1990 and 2000, DOF.

Figure 4.56: Female Breast Cancer Incidence by Race/Ethnicity, Alameda County, 2000-2002


Source: CAPE; Northern California Cancer Center, Census 2000, DOF.

Breast cancer diagnosis among women is very rare before 35 years of age. In Alameda County, the incidence of breast cancer increased with age and was highest among post-menopausal women.

The rate of new breast cancer cases in Alameda County changed very little between 1990 and 2002. However, the rate among White women increased significantly by about $1 \%$ per year. Rates for all other race/ethnic groups did not change significantly during this time period.

The disparity in breast cancer incidence between White women and the county increased over the decade, from $11 \%$ in 1991-92 to $21 \%$ in 200102.

It is noteworthy that the percentage of new breast cancer cases in Alameda County diagnosed at an early stage increased over the last decade, from 66\% in 1990 to $71 \%$ in 2002.

Figure 4.57: Female Breast Cancer Incidence by Age, Alameda County, 2000-2002


Source: CAPE; Northern California Cancer Center, Census 2000, DOF.

Figure 4.58: Female Breast Cancer Incidence by Race/Ethnicity, Alameda County, 1991-2002


Source: CAPE; Northern California Cancer Center, Census 1990 and 2000, DOF.

## Prostate Cancer

## What is it?

Prostate cancer is caused by malignant, abnormal tissue growth in the prostate gland, the walnutsized gland deep in the pelvis, between the bladder and the penis. The prostate, which wraps around the urethra, produces the fluid part of semen, which carries sperm. Most prostate cancer develops in the posterior part of the prostate gland, and the rest near the urethra. Prostate cancer is a slow-growing cancer that rarely produces symptoms until it is well advanced. ${ }^{1,2}$

## Why is it important?

Prostate cancer is the second leading cause of cancer-related death among men in the United States, as well as the most commonly diagnosed cancer among men. The American Cancer Society estimates that in 2005, there were 232,090 new cases of prostate cancer and approximately 30,350 deaths from the disease. ${ }^{6}$

Nationally, the age-adjusted prostate cancer death rate in 2002 was 27.9 deaths per 100,000 men; 30,446 men died from the disease. ${ }^{10}$ About $70 \%$ of prostate cancer cases are diagnosed among elderly men who are 65 years or older. ${ }^{33}$ In California, the age-adjusted prostate cancer death rate was 28.0 per 100,000 during the period 1997-2001. ${ }^{24}$ Both national and state rates are slightly lower than the Healthy People 2010 objective of no more than 28.8 per 100,000 men. ${ }^{5}$

Since 1990 there has been a gradual decline in the prostate cancer death rate among all race/ethnic groups monitored. This trend is more notable among Whites than among African Americans. 8,29,33 The death rates for African American men continue to be two times higher than those for White men (see Table 4.2 at end of chapter). ${ }^{7,10}$

The declining trend might be explained by technological advances in medicine and early screening for prostate cancer known as prostate-specific antigen (PSA) testing. ${ }^{29,33}$ From a public health perspective, the effectiveness of PSA screening in reducing mortality has not yet been clearly demonstrated because the test produces a large number of false positives. ${ }^{33}$

## What is Alameda County's status?

## Prostate Cancer Mortality

Alameda County's prostate cancer death rate for the five-year period, 1998-2002, was significantly higher than rates in Marin, San Francisco and Santa Clara Counties, as well as the Greater Bay Area. Alameda County has not yet met the national HP2010 objective of 28.8 or fewer prostate cancer deaths per 100,000 men.

Figure 4.59: Prostate Cancer Mortality, Selected Counties and the Bay Area, 1998-2002


Source: CAPE; Northern California Cancer Center; Census 2000; DOF.

For the three-year period, 2001 to 2003, an average of 144 men per year died from prostate cancer in Alameda County. The prostate cancer mortality rate was 30 per 100,000 men.

Mortality from prostate cancer was significantly higher among African Americans than any other race/ethnic group. Asians had the lowest rate. The African American rate was six times that of Asians, three times that of Latinos and two times that of Whites. Asians and Latinos were the only race/ethnic groups that met the HP2010 objective of no more than 28.8 prostate cancer deaths per 100,000 men.

There were no prostate cancer deaths below the age of 35 in Alameda County from 2001 to 2003. Prostate cancer mortality increases steeply with age.

Figure 4.60: Prostate Cancer Mortality by Race/Ethnicity, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Figure 4.61: Prostate Cancer Mortality by Age, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Prostate cancer mortality among Alameda County men declined significantly over the last decade by about 3\% per year. Significant declines were also observed for Whites and APIs. Death rates for African Americans declined overall, but due to variability in the rate, the decline was not statistically significant. The rates for Latinos rates changed very little over the decade.

African American prostate cancer mortality has been consistently higher than any other group throughout the past decade. The African American rate remains about two times higher than both the county rate and the White rate.

## Prostate Cancer Incidence

An average of 901 new cases of prostate cancer per year were diagnosed in Alameda County between 2000 and 2002. The incidence rate was 167 per 100,000 men.

The prostate cancer incidence rate for African American men was significantly higher than that for any other race/ethnic group, while the API rate was significantly lower. The African American rate was 2.4 times the API rate. It exceeded Latino rates by $50 \%$ and White rates by $24 \%$.

Figure 4.62: Prostate Cancer Mortality by Race/Ethnicity, Alameda County, 1990-2003


Source: CAPE; Alameda County vital statistics files, Census 1990 and 2000, DOF.

Figure 4.63: Prostate Cancer Incidence by Race/Ethnicity, Alameda County, 2000-2002


Source: CAPE; Northern California Cancer Center, Census 2000, DOF.

Prostate cancer screening is recommended among men age 50 or older. Survival from prostate cancer has improved dramatically since the mid-1990s when screening practices became increasingly widespread. In Alameda County, incidence of prostate cancer increased with age, peaking in the age group 65-74 years and then declining.

Figure 4.64: Prostate Cancer Incidence by Age, Alameda County, 2000-2002


Source: CAPE; Northern California Cancer Center, Census 2000, DOF.

Figure 4.65: Prostate Cancer Incidence by Race/Ethnicity, Alameda County, 1991-2002


Source: CAPE; Northern California Cancer Center, Census 1990 and 2000, DOF. cans has been $30 \%$ to $40 \%$ higher than the county rate throughout most of the past decade. The gap was widest at $60 \%$ in 1995-96, and narrowest at $27 \%$ in the most recent period, 2001-2002. Throughout the decade, the African Amroughout the decade, the African
Amen was two to three times that for APIs.

Prostate cancer cases in Alameda County diagnosed at an early stage increased from $56 \%$ in 1990 to $79 \%$ in 2002.

Prostate cancer incidence in the county has been relatively stable over the past decade except for a period of decline between 1992 and 1996 of about 7\% per year. Among African Americans, it decreased steadily by about 2\% per year between 1990 and 2002. Among Whites the rate declined 10\% per year between 1992 and 1996, then increased after 1996 about 4\% per year. Trends in prostate cancer incidence among APIs and Latinos were stable.

The incidence rate for African Ameri-

Table 4.2: Average Annual Age-adjusted Incidence and Death Rates (per 100,000) for Cancers by Race in United States, 1998-2002

| All Cancers |  | White | African <br> American | Asian/Pacific <br> Islander | Latino | American <br> Indian |
| :--- | :--- | :--- | :---: | :---: | :---: | :---: |
| Incidence rate | Total | 479.7 | 512.3 | 335.6 | 352.4 | 233.6 |
|  | Male | 556.4 | 682.6 | 383.5 | 420.7 | 255.4 |
|  | Female | 429.3 | 398.5 | 303.6 | 310.9 | 220.5 |
| Death rate | Total | 195.3 | 248.1 | 119.9 | 135.2 | 132.4 |
|  | Male | 242.5 | 339.4 | 148.0 | 171.4 | 159.7 |
|  | Female | 164.5 | 194.3 | 99.4 | 111.0 | 113.8 |


| Lung Cancer |  | White | African American | Asian/Pacific Islander | Latino | American Indian |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Incidence rate | Male | 76.7 | 113.9 | 59.4 | 44.6 | 42.6 |
|  | Female | 51.1 | 55.2 | 28.3 | 23.3 | 23.6 |
| Death rate | Male | 75.2 | 101.3 | 39.4 | 38.7 | 47.0 |
|  | Female | 41.8 | 39.9 | 18.8 | 14.8 | 27.1 |


| Colorectal Cancer |  | White | African <br> American | Asian/Pacific <br> Islander | Latino | American <br> Indian |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: |
| Incidence rate | Male | 61.7 | 72.5 | 56.0 | 48.3 | 36.7 |
|  | Female | 45.3 | 56.0 | 39.7 | 32.3 | 32.2 |
| Death rate | Male | 24.3 | 34.0 | 15.8 | 17.7 | 16.2 |
|  | Female | 16.8 | 24.1 | 10.6 | 11.6 | 11.8 |

Female Breast Cancer

|  | White | African American | Islander | Latino | American Indian |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Incidence rate | 141.1 | 119.4 | 96.6 | 89.9 | 54.8 |
| Death rate | 25.9 | 34.7 | 12.7 | 16.7 | 13.8 |


| Prostate Cancer | Asian/Pacific |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | White | African American | Islander | Latino | American Indian |
| Incidence rate | 169.0 | 272.0 | 101.4 | 141.9 | 50.3 |
| Death rate | 27.7 | 68.1 | 12.1 | 23.0 | 18.3 |

Source: National Cancer Institute; National Center for Health Statistics.

## What are we doing?

The Nutrition Services Program in the Community Health Services Division, Alameda County Public Health Department (ACPHD), promotes healthy eating habits and increased physical activity in the community to improve health and reduce morbidity and mortality due to chronic diseases. Through partnerships with both public and private organizations, the Nutritional Services Program:

- Works with several Alameda County school districts to promote healthy food practices, increase physical activity opportunities, and develop effective nutrition policies that 1) support the sale of nutritious foods, 2) ban the sale of unhealthy foods/sodas on campus, and 3) require regular physical activity in the curriculum.
- Partners with community organizations to provide nutrition education and training to increase capacity to promote healthy habits and environmental changes. Conducts community leadership forums and bi-annual workshops and maintains a "Nutrition Warmline" to answer nutrition questions. Works with communities to promote initiatives to increase physical activity and improve nutrition through mini-grants, assessments, and other strategies.
- Conducts community-based nutrition education with parents, food service workers, teachers, principals, senior citizens, children in schools, and after-school programs, including the Oakland Parks and Recreation Department. ACPHD staff works in neighborhoods to identify and promote local farmer's markets and community gardens.
- Convenes community Healthy Living Councils in selected senior centers and Oakland Unified School District schools to ensure that conditions exist for community members to eat better and be more active. Provides nutrition education programs to these councils and supports members in making both individual and environmental changes.
- Actively identifies and supports legislation to address key nutrition and physical activity issues in schools and regulate food advertising to children.
- Develops a community education campaign that includes public service messages and health education materials on important health topics such as the benefits of physical activity and good nutrition in preventing chronic diseases.
- Promotes employee health within the department by organizing and promoting inter-departmental walking challenges such as "Tour de Earth". In collaboration with the Employee Wellness Coordinator, staff have provided several "Lunch and Learn" sessions on improving nutrition and physical activity levels. The Nutrition Services Program also maintains an educational Nutrition and Physical Activity lobby display board for all staff viewing. The Program is currently developing a policy on vending machine sales and recommendations on workplace food and nutrition practices.

The Diabetes Program in the Community Health Services Division, ACPHD, provides diabetes selfmanagement education to Alameda County residents living with type 2 diabetes. The Program offers information to medical professionals on guidelines for the care of people with diabetes, and it provides case management to people living with type 2 diabetes. In addition, the Program is developing a peer educators network to assist in educating the community on diabetes prevention and management. The Program is extending its efforts to assist the Oakland Unified School District in the man-
agement of students with diabetes and is in the process of developing a pediatric coalition of diabetes care providers to plan coordinated service delivery.

The Asthma Start Program in the Community Health Services Division, ACPHD, provides case management services to children with asthma living in Alameda County. Services include health education, environmental home assessments for asthma triggers, asthma trigger reduction counseling (including smoking cessation and reducing exposure to second hand smoke), provision of asthma trigger reduction supplies (such as mattress encasings or vacuum cleaners) as appropriate, and advocacy mentoring for negotiating the health care system. The Asthma Start Program also participates in, and actively supports, partnerships and coalitions to provide services in a seamless manner, share referrals, raise awareness of best practices towards managing asthma, and coordinate service delivery.

The Tobacco Control Program of the ACPHD works with various community groups, organizations, educators, and policy makers to counter pro-tobacco influences in the community through a variety of strategies, including: 1) providing education on tobacco-related disease prevention, 2) reducing exposure to environmental tobacco smoke, 3) increasing the number of smoke-free public spaces, worksites, schools, and communities; and 4) reducing the availability of tobacco products to youth.

To reduce exposure to environmental tobacco smoke, the Tobacco Control Program encourages com-munity-based agencies, grass-roots organizations, businesses, and schools to incorporate new health promotion strategies, policies, and ordinances aimed at preventing smoking and reducing exposure to second hand smoke. It also provides training and support to local police departments in enforcement of smoke-free public spaces and restrictions on sales of tobacco to minors.

In 2005, Office of Urban Male Health was established in the Office of the Director of the Alameda County Public Health Department. The new office was established with the aim of improving health and reducing premature deaths among men and boys in Alameda County. The new office will address health problems and associated risk factors that disproportionately affect males in urban environments. To accomplish this, the office is coordinating outreach and awareness efforts on a regional level, promoting preventive health behaviors, and providing central resources for providers of men's health services. The goals of the program are three-fold: 1) To develop strategies, policy recommendations, and programs that are designed to increase healthcare access and advance a continuum of care for underserved men and boys; 2) To improve health outcomes for men in specific disease areas, including but not limited to prostate and testicular cancers, cardiovascular diseases (such as high blood pressure, stroke, and heart attacks), depression, suicide, and diabetes; and 3) To study local health problems which predominately affect men, and make appropriate recommendations.

As one of its first activities, the Office of Urban Male Health has launched a pilot project aimed at increasing healthcare access for underserved men and fathers in urban Alameda County. The pilot will inform efforts to start up a five year demonstration project called the Passports System. The goals of the Passport system are aligned with those of the Office itself. The program will offer comprehensive health care services and case management and other services that address social determinants of health such as housing and employment. Additionally, the program aims to help families develop positive relationships with fathers and enable fathers to care for their families by promoting paternal health. The program's target population is uninsured and underinsured men, with special focus on low income men, teenage males, men of color, elderly men, and formerly incarcerated men.

## What else do we need to do?

## Nutrition

- Expand funding sources for health promotion/chronic disease prevention to include a diversified funding base.
- Integrate built community approaches into chronic disease prevention interventions including pedestrian and transit planning and economic development.
- Expand the development of Healthy Living Councils in additional school districts, including Livermore and Fremont.
- Enhance worksite wellness with ACPHD to include the development of a vending machine policy and recommendations for worksite food and nutrition practices.
- Work with County Risk Management to explore discounted memberships to health clubs for County employees.
- Develop and disseminate healthy living tips and guidelines for ACPHD employees.
- Work to establish a countywide policy for the following: (1) Allow the use of county facilities for employee physical activity; (2) Ensure that all vending machines used by county employees in county owned or leased spaces meet specific criteria for healthy food options; and (3) Ensure that healthy food is provided when county funds are used to purchase food for county business.


## Diabetes

- Develop a diabetes education program for women that have had gestational diabetes and people with pre-diabetes.


## Asthma

- Develop healthy eating classes for parents of children with asthma.
- Produce a newsletter for parents of children with asthma.
- Develop an asthma support group for parents.


## Tobacco

- Utilize the recent California Air Resources Board ruling that second-hand smoke is a toxic air contaminant to more effectively protect the residents of Alameda County.
- Provide additional resources to assist smokers in quitting smoking.
- Expand sustainable resources for monitoring sales of tobacco to minors by working with local cities to pass an annual tobacco retailer license. This means that any retailer selling tobacco products would need to pay an annual fee (the amount would be decided by the jurisdiction); the proceeds from these fees would support local enforcement of laws prohibiting sales of tobacco to minors.
- Work to establish Reasonable Distance ordinances in Alameda County cities where ordinances currently do not exist.
- Ensure that all cities in Alameda County that have Reasonable Distance ordinances have included language that specifies footage requirements.


## Men's Health

- The Office of Men's Health will seek sources of funding in order to launch the Passports five-year demonstration project and to sustain this effort over the long term.
- The Office will create public and private partnerships through coordination with contracted health care providers, build relationships with community-based organizations targeting the same groups, and build inter-county alliances with other agencies dealing with the same mobile population.
- The Office will also develop education and outreach campaigns directed at both the target population and at increasing awareness among providers. Strategies will include brochures, health fairs, media partnerships, peer-to-peer health events, workplace health programs, and working at San Quentin and in target neighborhoods.
- Additional development goals include supporting men in their ability to pay child support; providing domestic violence interventions; promoting men's emotional wellness through promotion of positive fatherhood programs; and changing policy to require paternal inclusion in mandated maternal programs at state and local levels.


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## Chapter 5 INJURY

## Unintentional Injury

## What is it?

Physical injury that is not purposely inflicted is unintentional injury. We think of unintentional injuries as accidents, and we sometimes think of accidents happening as a result of chance.

## Why is it important?

Nationally, two-thirds of injury deaths are unintentional, and $94 \%$ of nonfatal injuries treated in emergency departments are unintentional. ${ }^{1,2}$ About 29.7 million injuries were treated in hospital emergency departments in 2001. ${ }^{3}$ The majority of these were unintentional; less than two million were violence-related.

Unintentional injuries are one of the major causes of premature death and lifelong disability. Most unintentional injuries are predictable and preventable. Motor vehicle accidents are the primary source of unintentional injury death, followed by poisoning, falls, suffocation, drowning, and fire. ${ }^{4}$ Falls cause the greatest number of unintentional, nonfatal injuries treated in emergency departments. Next are injuries from being struck by or against an object, motor vehicle accidents, overexertion, and cuts. ${ }^{2}$

About two-thirds of poisoning deaths are unintentional, and $93 \%$ of unintentional poisonings are related to drugs. Narcotics are responsible in half of all unintentional poisonings. ${ }^{1}$

In 2003, 105,695 people died of unintentional injuries in the United States. ${ }^{5}$ Nearly two-thirds of those were male. The age-adjusted rate of unintentional injury death in the United States was 36.1 per 100,000 in 2003. The rate among males was 51.5 per 100,000 , over twice the female rate of $23.5 .^{3}$ The death rates for males between 18 and 64 years were two to four times the rates for females. Persons over 70 years had the highest death rates. ${ }^{1}$

In California, the rate of unintentional injury deaths was 28.6 per $100,000 .{ }^{6}$ Both national and state rates exceed the HP2010 objective of 17.5 or less. ${ }^{7}$ Unintentional injuries were the fifth leading cause of death in the United States in 2003. ${ }^{5}$ For those under 35 years, they were the leading cause of death as they have been for the last 50 years. ${ }^{1,8}$ The death rate for unintentional injury declined from 1950 until 1992 and then increased slightly. In 2002, the age-adjusted death rate increased more than $3 \%$ from 2001. ${ }^{9}$ However, the preliminary data for 2003 showed the rate decreased about $2 \%$ from $2002 .{ }^{5}$ American Indians have disproportionately high rates of death from unintentional injury. Rural or isolated living, minimal emergency medical services, and great distances from sophisticated trauma care contribute to these increased rates. ${ }^{7}$

## What is Alameda County's status?

## Unintentional Injury Mortality

Alameda County's unintentional injury death rate for the period 2001 to 2003 was higher than those in Marin and Santa Clara Counties and lower than in San Francisco County and the state as a whole. However, the Alameda County rate was statistically significantly different only from Santa Clara's. Neither the counties nor the state have met the HP2010 objective of 17.5 or fewer unintentional injury deaths per 100,000 people.

From 2001 to 2003, an average of 348 people per year died from unintentional injury in Alameda County. The corresponding mortality rate was 24.2 per 100,000 people.

Male unintentional injury death rates were about two to three times higher than those for females in every race/ethnic group. The death rate among African American males was significantly higher than any other race/ethnic group-almost three times the rate of Asians and over 1.5 times the rates of Latinos and Whites. The female African American rate was almost twice the rates of Asians and Latinos. Only Asian, Latina, and White females have met the HP2010 objective of no more than 17.5 deaths per 100,000 people.

Figure 5.1: Unintentional Injury Mortality, Selected Counties and California, 2001-2003


Source: CAPE; ACPHD Vital Statistics files; CADHS County Health Profiles; Census 2000; DOF.

Figure 5.2: Unintentional Injury Mortality by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Deaths due to unintentional injuries were higher among males than females in every age group. The highest rate was seen among males 85 years and older. It was two times higher than that among females 85 and older.

Figure 5.3: Unintentional Injury Mortality by Age and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Figure 5.4: Unintentional Injury Mortality, Alameda County, 1990-


Source: CAPE; Alameda County vital statistics files, Census 1990 and 2000, DOF.

## Unintentional Injury Hospitalization

From 2001 to 2003, an average of 5,488 hospitalizations per year for unintentional injury occurred in Alameda County. The rate was 397 per 100,000 people.

Unintentional injury hospitalization was highest among males in every race/ethnic group except Asian/Pacific Islanders. Rates were equally high among African American and White males, followed by White females. They were lowest among American Indians and APIs.

The rate of unintentional injury hospitalization increased dramatically after age 65. In Alameda County, prior to age 65 , rates were higher among males than females, but after age 65 female rates exceeded male rates by large margins. Females in the 85 and older age group were particularly vulnerable to unintentional injury, largely due to falls.

Over the past decade, the rate of unintentional injury hospitalization declined significantly among all race/ ethnic groups except Latinos.

A significant decline was seen for both African Americans and Whites. However, the African American rate declined more steeply than the White rate. Thus the gap between African Americans and the county as a whole narrowed from 11\% in 1992-1993 to $5 \%$ in 2002-2003. Presently, the White rate is $20 \%$ higher than the county rate.

Figure 5.5: Unintentional Injury Hospitalization by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; California OSHPD, Census 2000, DOF

Figure 5.6: Unintentional Injury Hospitalization by Age and Gender, Alameda County, 2001-2003


Source: CAPE; California OSHPD, Census 2000, DOF

Figure 5.7: Unintentional Injury Hospitalization by Race/Ethnicity, Alameda County, 1992-2003


## Motor Vehicle Crashes

## What are they?

Motor vehicle crash injuries include all injuries to motor vehicle occupants during a collision, as well as injuries in which a pedestrian or cyclist was struck by a vehicle.

## Why are they important?

Motor vehicle crashes are the single largest cause of all injury mortality in the United States, and they are the leading cause of death and disability for young children and young adults. ${ }^{1,8}$ Two times as many males as females die in motor vehicle crashes. ${ }^{4}$ American Indians and Alaska Natives have disproportionately higher death rates from motor vehicle crashes than any other race/ethnic groups. ${ }^{7}$

Nationally, in 2003, there were 44,059 motor vehicle crash deaths, comprising $42 \%$ of all unintentional injury deaths. ${ }^{5}$ The age-adjusted death rate from motor vehicle crashes was 15.0 per 100,000. ${ }^{5}$ In California, the death rate from motor vehicle crashes was 12.0 per 100,000 for the period 2001-2003. ${ }^{6}$ Both national and state rates exceed the HP2010 objective of 9.2 or less. ${ }^{7}$

In 2000, there were 3.3 million nonfatal motor vehicle-related injuries treated in emergency departments in the United States. ${ }^{2}$

There has been a significant decline in deaths attributable to motor-vehicle crashes, especially in the 1990s. Prevention of motor vehicle-related injuries has focused on environmental interventions such as highway and vehicle safety, reduction of risky behaviors such as drunken driving, and legislation on vehicle occupant protection such as helmet and seat belt laws. These strategies have substantially reduced the burden of injury morbidity and mortality. ${ }^{10,11}$

## What is Alameda County's status?

## Motor Vehicle Crash Mortality

From 2001 to 2003, an average of 111 people per year died in motor vehicle crashes in Alameda County. The corresponding mortality rate was 7.6 per 100,000 people.

Alameda County's unintentional injury death rate for the period 2001 to 2003 was significantly higher than those in Marin and San Francisco Counties. All but Contra Costa County were significantly lower than the California rate. Alameda County has met the national HP2010 objective of 9.2 or fewer motor vehicle crash deaths per 100,000 people.

Figure 5.8: Motor Vehicle Crash Mortality, Selected Counties and California, 2001-2003


Source: CAPE; ACPHD Vital Statistics files; CADHS County Health Profiles; Census 2000; DOF.

Motor vehicle crash death rates among males were over three times higher than those among females for every race/ethnic group except Asians. Among Asians, the male rate was only 1.5 times higher than female rate.

African American males had the highest death rate due to motor vehicle crashes, followed by Latino males. The African American male rate was almost two times the rate of Asians, and more than 1.5 times the rate of Whites.

Among females, Asians had the highest rate, approximately twice the White rate and 1.5 times the Latina rate. Females of every race/ethnic group have met the HP2010 objective of no more than 9.2 motor vehicle crash deaths per 100,000 people.

Deaths due to motor vehicle accidents were much higher among males than females in almost every age group. The highest rates were seen among males aged 15-24, 65-74, and 75 and older.

Figure 5.9: Motor Vehicle Crash Mortality by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Figure 5.10: Motor Vehicle Crash Mortality by Age and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Motor vehicle crash (MVC) mortality for all race/ethnic groups in Alameda County declined throughout most of the 1990s. An increase for Latinos and APIs was observed late in the decade. The flattening or increase seen in trend lines after 1999 suggest that the declining trends of the 1990s have ended for now and that MVC death rates may actually be climbing again. Additional years of data will be needed to identify current trends.

African American MVC death rates have been higher than any other race/ethnic group throughout the past decade. The gap between African Americans and the county increased from $20 \%$ in 1990-91 to $69 \%$ in 199899. Recent trends suggest the gap may be closing.

## Motor Vehicle Crash Hospitalization

From 2001 to 2003, an average of 1,152 motor vehicle crash hospitalizations per year occurred in Alameda County. The rate was 78 per 100,000 people.

MVC hospitalization was approximately twice as high among males as females in every race/ethnic group but API, where the margin is smaller. Rates among African American and White males were highest, followed by Latino males and African American females.

There is a great deal of variability in the rates by sex and race. For instance, the African American male rate was 3.6 times higher than the API male rate and the African American female rate was 2.7 times the API female rate.

Figure 5.11: Motor Vehicle Crash Mortality, Alameda County, 1990-2003


Source: CAPE; Alameda County vital statistics files, Census 1990 and 2000, DOF.

Figure 5.12: Motor Vehicle Crash Hospitalization by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; California OSHPD, Census 2000, DOF

MVC hospitalization in Alameda County was highest among males in every age group but the oldest. The male rate peaked in the age 15-24 age group and then declined into middle age before starting up again. In contrast, the female rate dropped abruptly after age 24 and then climbed gradually with age.

Figure 5.13: Motor Vehicle Crash Hospitalization by Age and Gender, Alameda County, 2001-2003


Source: CAPE; California OSHPD, Census 2000, DOF

Figure 5.14: Motor Vehicle Crash Hospitalization by Race/Ethnicity, Alameda County, 1992-2003


Source: CAPE; California OSHPD, Census 1990 and 2000, DOF

Rates for Latinos and APIs were below the county rate for the past decade, at least until recently when the Latino rate approached the county rate.

## Homicide and Assault

## What is it?

Homicide is any intentionally inflicted fatal injury to another person. These exclude deaths caused by law enforcement officers in the line of duty. Assault is intentionally inflicted injury to another person that may, or may not, involve an intent to kill.

## Why is it important?

Nationally, preliminary data for 2003 showed the age-adjusted rate of homicide was 5.8 per $100,000 .{ }^{5}$ In 2002, the homicide rate among males was 9.4, more than three times the female rate of 2.8. ${ }^{4}$ In California, the homicide rate was 6.7 per 100,000 for the period 2001-2003. ${ }^{6}$ Both national and state rates exceed the HP2010 objective of 3.0 or less. ${ }^{7}$

In 2003, there were 17,096 known homicide victims in the United States. ${ }^{5}$ More than $75 \%$ were males. ${ }^{4}$ Homicide was the second leading cause of death, after unintentional injury, for the 15-24 age group. ${ }^{8}$ For the 25-34 age group, homicide ranked third after unintentional injury and suicide. ${ }^{8}$ Homicide victimization was especially high among African American males, exceeding the White male rate by more than six times. ${ }^{4}$ Among African American males 15 to 19 years, 20 to 24 years, and 25 to 34 years, homicide was the leading cause of death, accounting for $44 \%, 51 \%$, and $31 \%$ of deaths, respectively, in those age groups. ${ }^{8}$

Nationally, homicide rates among children and young adults increased between 1960 and the mid1990s, and have been declining since. ${ }^{9}$ Fifty-six percent of homicides involve firearms. ${ }^{1}$

## What is Alameda County's status? <br> Homicide Mortality

Alameda County, along with Contra Costa and San Francisco counties, had a homicide rate for 2001 to 2003 that was four times higher than Marin and Santa Clara Counties. Alameda County's homicide rate, in addition to exceeding the statewide rate, was almost three times higher than the national HP2010 objective of 3.0 or fewer homicides per 100,000 people.

From 2001 to 2003, an average of 129 people per year died from homicide in Alameda County. The homicide

Figure 5.15: Homicide Mortality, Selected Counties and California, 2001-2003


Source: CAPE; ACPHD Vital Statistics files; CADHS County Health Profiles; Census 2000; DOF. rate was 8.2 per 100,000.

For both African American men and women, homicide rates were significantly higher than any other race/ ethnic group. The African American male rate was over twenty times Asian and White rates and eight times Latino rates. The African American female rate was five times the Asian rate and eight times the White rate.

Homicides were many times higher among males than females in almost every age group. Rates were highest among teen and young adult males, approximately six times higher than among females of the same ages.

Rates of death due to homicide declined significantly for every race/ ethnic group throughout the 1990s. However, in 2000, the downward trends began to reverse and every group experienced an increase in recent years. The largest increases were among Latinos and African Americans.

The homicide rate among African Americans historically has been many times higher than those of other race/ ethnic groups. Over the period, the African American rate has been four to five times higher than the county rate and 12 to 19 times higher than White and API rates. The gaps were smallest between 1996 and 1999.

Figure 5.16: Homicide Mortality by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Figure 5.17: Homicide Mortality by Age and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Figure 5.18: Homicide Mortality by Race/Ethnicity, Alameda County, 1990-2003


Source: CAPE; Alameda County vital statistics files, Census 1990 and 2000, DOF.

## Assault Hospitalization

From 2001 to 2003, an average of 572 hospitalizations per year for assaultrelated injuries occurred in Alameda County. The rate was 37 per 100,000 people.

Assault hospitalizations were higher among males in every race/ethnic group. African American males were hospitalized for assault at 16 times the rate of Asian/Pacific Islander males, six times the rate of White males, and nearly four times the rate of Latino males. Rates among African American females also exceeded those of other racial groups by large margins.

Rates of hospitalization for assault in Alameda County were highest among males of every age group, but particularly males 15-24 years of age. Male rates declined with age between 25 and 75 years while female rates showed no clear pattern. Infants are particularly vulnerable to serious injury from violence.

Figure 5.19: Assault Hospitalization by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; California OSHPD, Census 2000, DOF

Figure 5.20: Assault Hospitalization by Age and Gender, Alameda County, 2001-2003


Source: CAPE; California OSHPD, Census 2000, DOF.

Over the past decade the rate of hospitalization for assault among African Americans dropped by nearly $60 \%$. Significant declines were also seen for the other race/ethnic groups. The county rate declined by $50 \%$ over the period. Thus the size of the disparity between African Americans and the county as a whole has grown smaller. However, in the most recent period, African Americans were at least three times more likely than other race/ethnic groups to be hospitalized for an assault-related injury.

Figure 5.21: Assault Hospitalization by Race/Ethnicity, Alameda County, 1992-2003


Source: CAPE; California OSHPD, Census 1990 and 2000, DOF.

## Map 5: Assault Hospitalization Rates and Homicides

Map 5 shows rates of hospitalization for assault by zip code of residence with homicides overlaid as points. Each point represents a homicide victim's residence. Homicides are most numerous throughout North, West and East Oakland, as well as the Fruitvale area. These areas are also where the highest rates of assault hospitalizations are found, rates that are at least twice as high as the county average of 37 per 100,000 population.


## Suicide and Self-Inflicted Injury

## What is it?

Suicide is any purposely self-inflicted injury that is fatal. Fatal injury events that involve reckless behavior, such as driving at high speeds or drinking and driving, are not classified as suicides. Non-fatal self-inflicted injury of the type seen in emergency departments is often, but not always, the result of a suicide attempt.

## Why is it important?

Nationally, suicide is the second leading cause of death in the 25-34 age group, and the third leading cause of death in the 15-19 and 20-24 age groups. Among those 25-34, for all races combined, the male rate exceeds the female by more than four to one ( 20.5 per 100,000 compared to 4.6 in 2002). ${ }^{8}$

In 2003, there were 30,642 suicides in the United States. Overall, the age-adjusted suicide rate was 10.5 per 100,000 population. ${ }^{5}$ In California, the suicide rate was 9.5 per 100,000 for the period 20012003. ${ }^{6}$ Both national and state rates exceed the HP2010 objective of 5.0 or less. ${ }^{7}$

More than 30,000 persons died from firearm injuries in the United States. Firearm suicide accounted for $56.6 \%$ of all firearm injury deaths in $2002 .{ }^{4}$

In 2000, nationally an estimated 264,108 nonfatal self-inflicted injuries were treated in hospital emergency departments. Of these, $57.4 \%$ were females. ${ }^{12}$ About $90 \%$ of self-inflicted injuries were the result of poisoning or being cut/pierced with a sharp instrument. ${ }^{12}$

Among males 25-34 years of age, American Indians have the highest suicide rates, followed by Whites. Among females in this age group, Whites have the highest suicide rates followed by Asian/ Pacific Islanders. ${ }^{8}$

## What is Alameda County's status?

## Suicide Mortality

From 2001 to 2003, an average of 119 people per year died from suicide in Alameda County. The suicide rate was 8.2 per 100,000.

Alameda County's suicide rate for the period 2001 to 2003 was lower than those in Contra Costa, Marin and San Francisco counties. Neither the counties nor the state have met the national HP2010 objective of 5.0 or fewer suicides per 100,000 people.

Figure 5.22: Suicide Mortality, Selected Counties and California, 2001-2003


Source: CAPE; ACPHD Vital Statistics files; CADHS County Health Profiles; Census 2000; DOF.

Suicide rates among males are three to four times higher than those among females. The rate of suicide among White men was highest, about 3.5 times the rate of Asian men and over twice those of Latino and African American men.

Asian females were the only race/ethnic group to meet the HP2010 objective of no more than 5.0 deaths per 100,000 . Rates were not calculated for Latina and African American females due to small numbers.

Suicide rate were much higher among males than females in every age group. The highest suicide rates were among the oldest males.

Suicide mortality in Alameda County has declined significantly over the past decade, by about $3 \%$ per year. The same trend was observed for Whites. No clear pattern was seen for APIs, African Americans, or Latinos.

Rates of suicide have been higher among Whites in Alameda County over the past decade than any other race/ethnic group. During this time, White suicide rates were $30 \%$ to $50 \%$ higher than the county rate and roughly two to four times higher than those of other race/ethnic groups. These gaps do not appear to be closing.

Figure 5.23: Suicide Mortality by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Figure 5.24: Suicide Mortality by Age and Gender, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

Figure 5.25: Suicide Mortality by Race/Ethnicity, Alameda County, 1990-2003


Source: CAPE; Alameda County vital statistics files, Census 1990 and 2000, DOF.

## Self-Inflicted Injury Hospitalization

From 2001 to 2003, an average of 408 hospitalizations per year for self-inflicted injury occurred in Alameda County. The rate was 27 per 100,000 people.

Self-inflicted injury hospitalization rates were higher among females than males in every race/ethnic group. This is in contrast to suicide rates, which were higher among males of every race/ethnic group.

Self-inflicted injury hospitalization was highest among White females followed by African American females.

White females were four times more likely than API females and 2.5 times more likely than Latinas to be hospitalized for self-inflicted injury.

The rate of self-inflicted injury hospitalization in Alameda County was very high among females 15-24 years of age. Rates for both males and females dropped off somewhat in the 55-64 age group; however they climbed again among elderly males.

Figure 5.26: Self-Inflicted Injury Hospitalization by Race/Ethnicity and Gender, Alameda County, 2001-2003


Source: CAPE; California OSHPD, Census 2000, DOF.

Figure 5.27: Self-Inflicted Injury Hospitalization by Age and Gender, Alameda County, 2001-2003


Source: CAPE; California OSHPD, Census 2000, DOF.

Over the past decade, the rate of selfinflicted injury hospitalization in the county declined by about 2\% per year. Among African Americans it declined steadily by about $4 \%$ per year. In recent years, the African American rate dropped well below the White rate, which did not change significantly over the decade.

Through the mid-1990s, the African American rate was $20 \%$ to $30 \%$ higher than county rate, but its decline has brought it even with the county rate. In contrast, the disparity between the White rate and the county rate has grown from approximately $20 \%$ in the early 1990s to over $50 \%$ in the 200203 period. Rates among APIs and Latinos were consistently lower than the county rate during the period and did not change significantly.

Figure 5.28: Self-Inflicted Injury Hospitalization by Race/Ethnicity, Alameda County, 1992-2003


Source: CAPE; California OSHPD, Census 1990 and 2000, DOF.

## Injury Deaths by Mechanism and Intent

Table 5.1 presents figures on death due to injury by both mechanism and intent using the External Cause of Death coding scheme. The matrix is developed by the Injury Control and Emergency Health Services (ICEHS) section of the American Public Health Association and the International Collaborative Effort (ICE) on Injury Statistics. ${ }^{1}$ It is a standard framework for presentation of injury mortality statistics. The mechanism describes the way someone died, such as fall, motor vehicle crash, or poisoning. The intent of the injury describes whether the injury is inflicted purposefully or not. If purposefully inflicted, it describes whether the injury is self-inflicted or inflicted by another person. ${ }^{1}$

Nationally, the leading mechanisms of injury death-motor vehicle crashes, firearms, poisonings, falls, and suffocation-accounted for $78 \%$ of all injury deaths. ${ }^{1}$

Table 5.1: Injury Deaths by Mechanism and Intent, Alameda County, 2001-2003

|  | Unintentional Injuries |  | Homicide |  | Suicide |  | All Other |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Count | \% | Count | \% | Count | \% | Count | \% | Count | \% |
| Cut/pierce | 0 |  | 33 | 8.5 | 13 | 3.6 | 2 | 5.3 | 48 | 2.6 |
| Drowning | 47 | 4.5 | 2 | 0.5 | 7 | 2.0 | 3 | 7.9 | 59 | 3.2 |
| Fall | 179 | 17.1 | 0 | 0.0 | 10 | 2.8 | 1 | 2.6 | 190 | 10.4 |
| Fire/hot object or substance | 38 | 3.6 | 2 | 0.5 | 0 |  | 0 | 0.0 | 40 | 2.2 |
| Firearm | 8 | 0.8 | 294 | 76.0 | 152 | 42.6 | 4 | 10.5 | 458 | 25.1 |
| Machinery | 4 | 0.4 | 0 |  | 0 |  | 0 |  | 4 | 0.2 |
| All transport | 359 | 34.4 | 0 |  | 0 |  | 0 |  | 359 | 19.7 |
| Motor vehicle crash | 333 | 31.9 |  |  |  |  |  |  | 333 | 18.2 |
| All other transport-related | 26 | 2.5 |  |  |  |  |  |  | 26 | 1.5 |
| Natural environmental | 6 | 0.6 | 0 |  | 0 |  | 0 |  | 6 | 0.3 |
| Overexertion | 1 | 0.1 | 0 |  | 0 |  | 0 |  | 1 | 0.1 |
| Poisoning | 280 | 26.8 | 1 | 0.3 | 69 | 19.3 | 4 | 10.5 | 354 | 19.4 |
| Struck by or against | 9 | 0.9 | 7 | 1.8 | 0 | 0.0 | 0 |  | 16 | 0.9 |
| Suffocation | 37 | 3.5 | 13 | 3.4 | 88 | 24.6 | 2 | 5.3 | 140 | 7.7 |
| Other/unspecified | 76 | 7.3 | 35 | 9.0 | 18 | 5.0 | 22 | 57.9 | 151 | 8.3 |
| Total | 1,044 | 100.0 | 387 | 100.0 | 357 | 100.0 | 38 | 100.0 | 1,826 | 100.0 |

Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.
More than half of injury deaths in Alameda County from 2001 to 2003 were unintentional (57.2\%). An additional $21.2 \%$ of injury deaths were from homicides, $19.6 \%$ from suicides, and $2.1 \%$ from other or unknown causes.

The leading mechanism of unintentional injury death was transport-related (34.4\%), primarily involving motor vehicle crashes. Motor vehicle crashes accounted for almost one third of unintentional injury deaths. The second leading mechanism of unintentional injury death was poisoning (26.8\%), followed by falls (17.1\%), drowning (4.5\%), fire/hot object or substance (3.6\%) and suffocation (3.5\%).

Guns were involved in the majority of homicides (76.0\%). A smaller number of homicides involved stabbing, suffocation, or striking ( $8.5 \%, 3.4 \%$, and $1.8 \%$ respectively).

Guns were used in $42.6 \%$ of suicides. Most others involved suffocation (24.6\%), and poisoning ( $19.3 \%$ ), while a smaller number was from cuts, falls, and drowning.

In 2001-2003, the five leading mechanisms of injury death accounted for $81 \%$ of all injury deaths in Alameda County: firearm (25.1\%), transport-related (19.7\%), poisoning (19.4\%), falls (10.4\%), and suffocation (7.7\%).

## What Are We Doing?

## Violence Prevention

In July 2005, the Alameda County Board of Supervisors adopted a countywide violence prevention plan, known as A Lifetime Commitment to Violence Prevention: The Alameda County Blueprint. ${ }^{13}$ The blueprint was developed through a county-wide participatory process involving county agencies (public health, social services, education, probation), city agencies, and community partners. The plan focuses on four key policy and program goals for violence prevention: 1) Influencing individual behavior change by encouraging activities in the community that support self-esteem building and empowerment, 2) Mobilizing neighborhoods toward systemic change, 3) Strengthening organizations that provide violence prevention programs and services; and 4) Encouraging the development of networks in high crime/distressed neighborhoods. The Public Health and the Probation departments jointly oversee the implementation of plan activities in partnership with community based organizations and residents. Specific violence prevention activities are:

- The creation of the Family Justice Center in 2005, a one-stop service delivery center for victims of domestic violence. The countywide Domestic Violence Collaborative and the Maternal, Paternal, Adolescent and Child Health Program of the ACPHD provide on-site support for referrals to entitlement programs, counseling, and health services for women and children impacted by domestic violence.
- Serving over 80 youth per year through Project New Start, a tattoo removal program and part of ACPHD's Community Health Services Division. Youth participants are also linked to mentorship, employment, and education support programs.
- Mobilizing neighborhoods and building community capacity to work towards healthier, safer neighborhoods, the ACPHD works in partnership with the cities of Oakland and Hayward, as well as with local residents, in three low-income, at-risk neighborhoods. Activities include: building community cohesion and leadership through site based activities like neighborhood watch, local city park redevelopment and leadership training; developing resident action groups that respond to local issues and engage in civic activities; encouraging local residents, churches and other community based organizations to build positive youth-adult relationships and to develop programs aimed at increased employment and educational activities for youth.
- In partnership with the Schools Subcommittee of the Violence Prevention Initiative, the Safe Passages program is developing and implementing a violence prevention/conflict resolution curriculum in Oakland Unified School District with plans to expand to other districts in the future.
- The new Urban Male Initiative, of the ACPHD, is in formative stages. Its aim is to work with San Quentin parolees re-entering the local community in order to increase chances for success. Participants will be connected to sources of primary health care and job skills training along with other supportive services.
- ACPHD is working in partnership with the Probation Department to develop a Continuum of Care Plan, including an After Care Program, for youth at Camp Sweeney. Toward this end, ACPHD is in the process of identifying gaps and service needs of youth in the juvenile justice system.
- The Violence Prevention Data and Evaluation Committee has been formed. Partners with ACPHD in this effort are: Urban Strategies, Probation, Safe Passages, UCSF, and the Prevention Institute. The aim of the committee is to develop mechanisms for effective tracking of violencerelated data, including risk and resiliency factors that will be shared with agency and community partners to inform prevention efforts.
- The Alameda County Violent Death Reporting System (ACVDRS) is a new ACPHD surveillance project that will track all fatal violent injuries (homicides and suicides). The focus in the first year is on homicide. The system links multiple data sources (information on victim and perpetrator using police, death certificate, coroner, supplemental homicide reports, and newspaper data sources). The goal is to assist policy makers and providers in developing and evaluating strategies to reduce violence in Alameda County. This effort is part of a larger statewide project, the California Violent Death Reporting System (CVDRS), coordinated by the California Department of Health Services and funded by CDC's National Violent Death Reporting System (NVDRS).


## Unintentional Injury Prevention

- ACPHD is working in collaboration with Community Recovery Services, a community based organization, to implement an underage drinking and driving prevention grant with a strong youth development component. This project assesses the drinking patterns of adolescents in Oakland and will develop recommendations to reduce underage drinking and its consequences.
- The Senior Injury Prevention Project (SIPP), of the EMS Division, ACPHD, is a collaborative made up of public and private partners, advocacy groups and other community-based organizations. The SIPP hosts statewide conferences and conducts discussion groups and safety fairs aimed at preventing falls and other injuries common among older adults.
- The Injury Prevention Program of the EMS Division provides education to providers, parents and school age children on childhood injury and distributes equipment. The Program also serves as the lead for the Alameda County Safe Kids Coalition, part of the National Safe Kids Coalition, dedicated to raising awareness about the risks from injuries that children face and how to prevent them
- The Injury Prevention Program oversees the Child Passenger Safety Seat Work Group, which is comprised of representatives from community based organizations, child care organizations, and health clinics. This work group distributes car seats to eligible low income families. The program also works in conjunction with the courts, to offer a court diversion class for car seat and seat belt violations.


## What else do we need to do?

Assessment

- Continue to monitor the prevalence of intentional and unintentional injury in Alameda County as well as the behavioral and environmental risk factors associated with such injuries. Make information available through a data warehouse provided through the departmental web page.
- Obtain Emergency Department data from local hospitals in order to monitor most frequent causes of ER visits.
- Optimize the Alameda County Violent Death Reporting Surveillance System and produce reports.
- Maintain an up-to-date county-wide directory of violence prevention and intervention programs.


## Program and Service Delivery

- Increase our partnerships with local school districts to ensure violence prevention curricula are included at every grade level.
- Develop a joint social service, health, housing and employment strategy targeting re-entry adults and youth needing aftercare upon exiting incarceration.
- Continue to provide support and build community capacity in neighborhoods with high crime rates.


## Policy Development

- Support enforcement of existing safety regulations including housing codes, pedestrian, traffic, car seat, and helmet laws.
- Support legislation that reduces intentional injuries (including domestic violence, homicide and suicide) and unintentional injuries (including motor vehicle accidents).
- Explore additional policy interventions to reduce the root causes of violence in Alameda County.


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## Chapter 6 MATERNAL, CHILD, AND ADOLESCENT HEALTH

The health of mothers, infants, and children is important, both as an indicator of population health and as a predictor of the next generation's health. Traditional maternal and child health (MCH) indicators include those that affect pregnant and postpartum women, as well as the health and survival of their infants and children. Increasingly, there is recognition that the general health status of women even before pregnancy has an impact on birth outcomes. This means that in order to influence problem areas, such as low birth weight, where there has been little or no improvement, broader women's health issues need to be addressed. At the heart of most such issues lie the root causes of health inequities discussed in Chapter 2 of this report: income, education and other social and environmental inequities. This section covers some core MCH indicators: infant mortality, low birth weight, prenatal care, births to teenagers, immunizations, and dental health.

## Characteristics of Live Births

The average number of births in Alameda County was 21,758 births per year from 2001 to 2003. The birth rate has decreased from 18.3 per 1000 people in 1990 to 14.4 in 2003. Native Hawaiians/Other Pacific Islanders (NHOPI) had the highest birth rate ( 22.4 per 1,000 people) followed closely by Latinos (21.1). Because the NHOPI population is much smaller than the Latino population, the actual number of births per year among NHOPIs is very small (239) compared to Latinos $(6,422)$.

For the period of 2001 to 2003, nearly $30 \%$ of all births were to Latinas; $28 \%$ were to Whites, $25 \%$ to Asians, and $13 \%$ to African Americans. A majority of births (73\%) were to mothers 20 to 34 years of age. Under $7 \%$ were to mothers 19 years and younger while $20 \%$ were to those 35 years and older. Eighty percent of mothers giving birth had 12 or more years of education. Twenty-eight percent of women who gave birth were covered by Medi-Cal.

In 2003, over half ( $52 \%$ ) of the births were to foreign-born mothers. Ninety percent of Asian mothers were foreign born, $71 \%$ of Latina mothers, $57 \%$ of NHOPI mothers, $18 \%$ of White mothers and $9 \%$ of African American mothers.

Table 6.1: Select Characteristics of Live Births to Alameda County Residents, 2001-2003

|  |  | Average <br> Number <br> of Births | $\%$ | Crude <br> Birth <br> Rate $^{*}$ |
| :--- | :--- | ---: | ---: | ---: |
| Birth Rate by Year | 1990 | 23,315 | - | 18.3 |
|  | 1995 | 20,441 | - | 15.1 |
|  | 2000 | 22,146 | - | 15.3 |
|  | 2001 | 21,993 | - | 14.9 |
|  | 2002 | 21,754 | - | 14.6 |
|  | 2003 | 21,528 | - | 14.4 |
| Race/Ethnicity of Mother | African American | 2,858 | $13.1 \%$ | 13.8 |
|  | American Indian | 79 | $0.4 \%$ | 9.2 |
|  | Asian | 5,514 | $25.3 \%$ | 16.1 |
|  | Latina | 6,422 | $29.5 \%$ | 21.1 |
|  | Multiple Race | 317 | $1.5 \%$ | 6.9 |
|  | NHOPI ${ }^{* *}$ | 239 | $1.1 \%$ | 22.4 |
|  | White | 6,004 | $27.6 \%$ | 10.6 |
|  | Other/Unknown/Withheld | 324 | $1.5 \%$ | - |
| Age of Mother (Years) | 14 and younger | 24 | $0.1 \%$ | - |
|  | $15-19$ | 1,416 | $6.5 \%$ | - |
|  | $20-34$ | 15,888 | $73.0 \%$ | - |
| Mother $\geq 12$ yrs Education |  | 4,429 | $20.4 \%$ | - |
| Medi-Cal Delivery |  | 16,798 | $80.6 \%$ | - |

[^5]
## Infant Mortality

## What is it?

Infant mortality is the death of a child less than one year of age. The infant mortality rate is the number of deaths of children less than one year old per 1,000 live births.

## Why is it important?

Infant mortality is an important indicator of the health status of a community. It signifies the general health status of new mothers and their ability to access prenatal care.

One of the great public health successes has been the dramatic decrease ( $97 \%$ since 1915) in infant mortality rates. ${ }^{1}$ In no other area has mortality decreased by this much in the last hundred years. However, the persistent challenge in infant mortality remains the inequities by race/ethnicity. African American infants continue to be more than two times more likely to die before their first birthday than White infants. ${ }^{2}$

The reasons for these differences in birth outcomes are complicated. Some of the differences have been explained by differences in income, the effects of racism and stress levels. Other research has suggested that answers will be found in the study of women's health and risk factors throughout her life span and not just during pregnancy. This body of research suggests that a series of events affect African American and White women differently throughout their lives that affect not only their overall health but their reproductive health as well. ${ }^{3}$

Other risks associated with infant mortality are substance abuse by the mother, young age of mother (less than 17 years), preterm birth, low birth weight, exposure to second hand smoke, inadequate prenatal care, and infections and other complications during pregnancy.

## What is Alameda County's status?

The infant mortality rate in Alameda County was slightly lower than that in California and higher than in neighboring counties. However, these differences were not statistically significant. Only Santa Clara's rate was significantly lower than California's. While Alameda County has not yet met the HP2010 objective of 4.5 or fewer infant deaths per 1,000 live births, the three neighboring counties have.

Figure 6.1: Infant Mortality Rate, Selected Counties and California, 2000-2002


Source: CAPE; CADHS, County Health Status Profiles, 2005.

The infant mortality rate among African Americans was two to three times higher than among other race/ethnic groups and the county as a whole. The African American rate also exceeded the HP2010 objective of 4.5 or fewer infant deaths per 1,000 live births by a similar margin.

Figure 6.2: Infant Mortality by Race/Ethnicity, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files 2001-2003, CA DOF.

Figure 6.3: Infant Mortality by Race/Ethnicity, Alameda County, 1990-2003


Source: CAPE; Alameda County vital statistics files 1990-2003, CA DOF.

## Low Birth Weight

## What is it?

Infants weighing less than 2,500 grams ( 5 lbs 8 oz ) at birth are considered low birth weight (LBW).

## Why is it important?

Achieving a healthy weight is crucial for a newborn's survival. Low birth weight is the most common cause of death during the neonatal period, the first 28 days of life. Thus, improvements in infant birth weight can contribute substantially to reducing infant mortality. In addition, low birth weight infants who survive their first year are at increased risk of long-term physical and developmental complications than are infants of normal birth weight.

In the past decade, infant mortality has declined largely due to improved survival rates of LBW infants, not to a decrease in the number of LBW infants. ${ }^{4}$ Nationally, LBW rates have slowly increased over time, partially because of an increase of multiple births. In 2003, the nationwide percentage of LBW infants was its highest in three decades at $7.9 \%{ }^{5}$

An additional area of concern is that no progress has been made in decreasing racial inequities in LBW infants. LBW rates are two times higher for African Americans than for Whites. The reasons for this inequity are complex and are not entirely understood.

Many factors increase the risk of low weight at birth. Some of the most important factors are pre-term delivery, maternal smoking and illicit drug use, poor maternal nutrition, young maternal age, low maternal educational attainment, low family income, late or no prenatal care, and pregnancy-associated hypertension. ${ }^{5,6}$ Emerging research also suggests that cumulative stress, racism, and maternal infections may also affect the weight of babies. ${ }^{3}$ Of all infants that are LBW, the smallest-those weighing less than 1,500 grams-are at the highest risk of dying in their first year of life.

## What is Alameda County's status?

Seven percent of Alameda County births were low birth weight, or an average of 1,522 births per year. Alameda County had the seventh highest rate among California's 58 counties. Currently, neither Alameda County nor its neighboring counties met the HP2010 objective of 5\% or less.

Figure 6.4: Low Birth Weight, Selected Counties and California, 2001-2003


Source: CAPE; CADHS, County Health Status Profiles, 2005.

African Americans in Alameda County had the highest rate of LBW, nearly $80 \%$ higher than the county average. The rate of LBW among those of two or more races also exceeded the rate of other race/ethnic groups. Latinos have the lowest rate. No race/ethnic group has met the HP2010 objective of $5 \%$ of less.

Figure 6.5: Low Birth Weight by Race/Ethnicity, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files 2001-2003.

Figure 6.6: Low Birth Weight by Race/Ethnicity, Alameda County, 1990-2003


Source: CAPE; Alameda County vital statistics files 1990-2003.

## Prenatal Care

## What is it?

Prenatal care refers to pregnancy-related health care provided to a woman during pregnancy. It is recommended that a woman start receiving prenatal care in the first trimester (first three months) of her pregnancy.

## Why is it important?

The use of timely, high-quality prenatal care can help prevent poor birth outcomes by identifying treatable medical conditions, such as hypertension and sexually transmitted diseases, which may endanger the mother and/or fetus. Entry into prenatal care also provides an opportunity for education and intervention around diet and exercise, in addition to behavioral risks such as alcohol, tobacco, and other drug use. While prenatal care is important, it alone is not sufficient to ensure healthy birth outcomes. In the last decade, while first trimester prenatal care has increased in Alameda County and in the state, it has not been sufficient to improve low birth weight rates.

Risk factors for late entry into prenatal care include lack of culturally appropriate pregnancy testing sites, pregnancy at a young age, less than a high school education, and having had a large number of children. Domestic violence, cultural beliefs, drug abuse, single parenthood, and poverty may also prevent women from receiving timely prenatal care. ${ }^{6}$

## What is Alameda County's status?

Ninety-one percent of pregnant women in Alameda County began prenatal care during their first trimester of pregnancy. Alameda County had the fourth highest rate of early prenatal care among California's 58 counties, and it has met the HP2010 objective of at least $90 \%$. It was the only one of the neighboring counties to have done so. Thus far, the relatively high rate of prenatal care in Alameda County has had little impact on the rate of low birth weight.

Figure 6.7: Early Prenatal Care, Selected Counties and California, 2001-2003


Source: CAPE; CADHS, County Health Status Profiles, 2005.

Whites and Asians had the highest rates of prenatal care and were the only two race/ethnic groups to have met the HP2010 objective of at least $90 \%$, though other groups were very close. Native Hawaiian and other Pacific Islanders (NHOPI) had notably lower rates of early prenatal care (76.8\%).

During the past decade, the percentage of women seeking early prenatal care increased in every race/ethnic group in Alameda County. The differences between groups were smaller in 2002-03 than they were in 1990-91. The largest gains were made by African Americans (17 percentage points), NHOPIs (12 percentage points), and Latinos (10 percentage points). Rates of early prenatal care among NHOPIs continue to fall well below other groups at only $77 \%$ in the most recent period.

Figure 6.8: Early Prenatal Care by Race/Ethnicity, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files 2001-2003.

Figure 6.9: Early Prenatal Care by Race/Ethnicity, Alameda County, 1990-2003


Source: CAPE; Alameda County vital statistics files 1990-2003.

## Teenage Births

## What is it?

The teen birth rate is defined as the number of live births to mothers aged $15-19$ years per 1,000 females 15-19 years of age in the population. The percentage of teen births is defined as the number of births to mothers aged 15-19 years per 100 live births. The number of teen births is not the same as the number of teen pregnancies. It is estimated that $50 \%$ of teen pregnancies end in birth, $36 \%$ in abortion and $14 \%$ in miscarriage. ${ }^{7}$ Thus, the teen pregnancy rate may be twice the teen birth rate.

## Why is it important?

Teen mothers typically have more difficulty completing their education, have fewer employment opportunities, and are more likely to require public assistance and to live in poverty than their peers. They also are at high risk for poor birth outcomes and for having another pregnancy while still in their teens. Infants born to teen mothers are at greater risk of child abuse, neglect, and behavioral and educational problems at later stages.

Adolescence is a time of increased vulnerability to social influences, which may seriously compromise the health of young people. This time is characterized by experimentation, risk-taking, and an increased dependence on peers. Youth are at significant risk for unplanned pregnancies and sexually transmitted diseases. ${ }^{8}$ Unintended pregnancies are serious and costly. With an unwanted pregnancy, a teenager is less likely to seek prenatal care in the first trimester, and is more likely to expose the fetus to harmful substances such as tobacco or alcohol.

Nationally, the birth rate for U.S. teenagers declined for the twelfth consecutive year in a row from 62.1 births per 1,000 females 15-19 years in 1991 to 41.7 in 2003. ${ }^{5}$ In fact, the decline in teen birth rates during the last decade was seen in every state in the nation and for every racial and ethnic group.

Many factors increase the risk for teen pregnancy. Among the most important are poor access to birth control and health care in general, low income, lack of financial and emotional support, lack of education, lack of positive role models, unsatisfactory adult relationships, lack of after-school and community activities, substance abuse, and low self-esteem. ${ }^{8}$

## What is Alameda County's status?

The teen birth rate in Alameda County was 31.0 per 1,000 females aged 15-19 years. This rate was higher than those in neighboring counties but substantially lower than California's rate of 41.1. There is no HP2010 objective for teen birth rates.

Figure 6.10: Teen Births, Selected Counties and California, 2001-2003


Source: CAPE; CADHS, County Health Status Profiles, 2005.

Reflecting state and national trends, the teen birth rate in Alameda County has declined steadily since 1990. With the exception of Latinas, all race/ethnic groups in Alameda County have seen marked improvements. The slight decline in the Latina rate in the county was not statistically significant and did not follow the declines observed at both the state and national levels. The decline among African Americans has been dramatic (64\%), with the rate dropping below the Latina rate since 1998.

In Alameda County, Latinas had the highest teen birth followed by African Americans and NHOPIs. The Latina rate is eight times higher than the Asian rate and five times higher than rates among Whites.

Figure 6.11: Teen Births by Race/Ethnicity, Alameda County, 1990-2003


Source: CAPE; Alameda County vital statistics files 1990-2003, CA DOF.

Figure 6.12: Teen Births by Race/Ethnicity, Alameda County, 2001-2003


Source: CAPE; Alameda County vital statistics files 2001-2003, CA DOF.

## Map 6: Teen Birth Rates

The highest rates of teen birth are in East and West Oakland. Teen birth rates in these areas are over twice the county rate of 31 births per 1,000 females aged 15-19 years. Albany, Castro Valley, Dublin, Fremont, Piedmont, and Pleasanton have teen birth rates that are well below the county average. Between 2001 and 2003, there were 1,416 births to teen mothers in Alameda County which represented $6.5 \%$ of all births.


## Childhood Immunization

## What is it?

Immunizations are given to children to protect them from serious infectious diseases. California requires that children be up-to-date on their shots before enrolling in licensed child-care programs, kindergarten, and seventh grade.

## Why is it important?

The reduction in incidence of infectious diseases is the most significant public health achievement of the past 100 years, and vaccination has played a key role in this progress. Immunization continues to be an important safe guard for child health. It is one of the safest and most effective preventive measures ever known. However, many infants do not start immunizations on time or complete the entire series.

Vaccines are the first-line of defense against diseases such as polio, measles, pertussis and hepatitis. These biological substances cause the immune system to produce an immune response that is very similar to that produced by the natural infection, yet does not subject a person to "full blown" disease or complications. Vaccines not only protect the immunized individual, but the community as well. When immunization levels in a community are high, the few who cannot be vaccinated are protected because they are surrounded by immune people, thus their risk of exposure to disease is low. This phenomenon is called herd immunity.

Each year, the Immunization Branch of the State Department of Health Services conducts a survey of kindergartens within each county throughout the state. This survey is called the Kindergarten Retrospective Survey. It uses immunization records of kindergarten students at age five to estimate the percent of children who were up-to-date when they were two years old. Therefore, the 2003 retrospective survey of kindergarten students at age five is in fact estimating the immunization levels among two year-olds in 2000.

## What is Alameda County's status?

According to estimates from the 2003 Kindergarten Retrospective Survey, $73 \%$ of Alameda County children were fully up-to-date on their immunizations by two years of age. This was similar to the statewide immunization rate of $71 \%$, but is well below the HP2010 objective of at least $90 \%$. The immunization rate in the larger Bay Area was the same as Alameda County. Though the percentage of fully immunized children improved since 1997, it has leveled off in the last year.

Figure 6.13: Child Immunization Rates, Alameda County, 1997-2003


The percentage of fully immunized children varied across racial/ethnic groups. While only $60 \%$ of African American children were immunized, almost $80 \%$ of Asian children were. No racial group has met the HP2010 objective of at least $90 \%$.

Figure 6.14: Child Immunization Rates by Race/Ethnicity, Alameda County, 2003


[^6]
## Dental Health

## What is it?

Dental caries, or tooth decay, is the most common of all chronic and infectious diseases. It is caused by the bacteria, Streptococcus mutans. Foods such as refined carbohydrates or simple sugars can produce acidic plaque that feeds the bacteria and, over time, causes tooth decay.

Early Childhood Caries (ECC) (also called Baby Bottle Tooth Decay) is a rapidly developing form of dental cavities affecting the baby teeth as soon as they erupt at 6-12 months of age. ECC is caused by frequent and prolonged exposure to milk, formula, juices or other sweet drinks in bottles.

Pit and Fissure Decay is the most common type of dental caries among school age children 5-17 years of age, accounting for $80 \%$ of all tooth decay in this age group. Pit and Fissure Decay primarily affects the chewing surfaces of molar teeth.

## Why is it important?

Dental caries, both treated and untreated, is a pervasive public health problem affecting the quality of life for young children and others not able to care for themselves. It is five times more common than asthma and seven times more common than hay fever. Its impact can be measured in both human and economic terms: unnecessary pain and suffering, absence from school and work, difficulty speaking and chewing, and diminished self-esteem. It has even resulted in failure to thrive in the very young. In more extreme cases treatment is traumatic and costly. Dental caries has its greatest impact on the very young, the elderly, the poor, minorities, and others who experience geographic, linguistic, or cultural barriers to accessing care.

Data from the 2005 California Oral Health Needs Assessment of children revealed that $54 \%$ of all kindergarteners and $71 \%$ of all 3 rd graders had experienced dental caries. It also documented inequities associated with low income and ethnicity. For example, over one-third of children from lowincome families had untreated tooth decay compared to only one-fifth of those from higher-income families. Latino children had a higher prevalence of dental decay than did White children.

Dental caries is almost entirely preventable. Key strategies for the primary prevention of dental caries include fluoridated water supplies, dental sealants in older children, and early preventive interventions with infants and toddlers. Community water fluoridation is the most cost effective means of delivering fluoride ion to our teeth. Topical fluoride may be applied directly to teeth by a dental professional, or it may be self-applied through the use of toothpaste with fluoride. Dental sealants, which are applied by dental professionals, prevent Pit and Fissure Decay and are best applied as soon as molars erupt into the mouth at ages 6-8 and 12-14 years. Dental sealants began to gain popularity as an effective treatment in the 1980s. Dental sealants are profoundly effective and prevent $80 \%$ of the decay that is experienced by school age children.

Individuals can prevent tooth decay by reducing the amount and type of foods that cause tooth decay and by increasing personal use of fluorides and anti-bacterials (like gum sweetened with xylitol). Tooth decay among infants and young children can be prevented by healthy parental feeding practices and the first dental check up by the first birthday, a policy now recommended by the American Academy of Pediatrics.

## What is Alameda County's status?

The first ever representative oral health needs assessment of Alameda County children was completed in the Spring of 2004. This survey, involving a combined total of 3,269 kindergarten and third grade children from 22 public schools, documented that dental disease is of epidemic proportions.

Overall, 69\% of Alameda County third graders have had some experience with dental disease, either treated or untreated. This figure is well above the established HP2010 objective of $42 \%$ or lower.

Nearly one-third of third graders had untreated decay, a figure thought to be conservative since x -rays were not taken as part of the study. The HP2010 objective is to bring untreated decay among 6-8 year-olds down to $21 \%$.

Alameda County is also significantly behind the national objective for preventive dental sealants. Only $34 \%$ of third graders had dental sealants on at least one molar while the HP2010 objective is $50 \%$ or more.

As school poverty level goes up so does the proportion of children with untreated tooth decay. Almost a quarter $(23 \%)$ of kindergarteners and $18 \%$ of third graders in higher income schools had untreated tooth decay. The numbers double to $46 \%$ of kindergarteners and $44 \%$ of third graders when school poverty level reaches $50 \%$ or more of children on free and reduced school lunch program.

Figure 6.15: Oral Health of Third Graders and HP2010 National Objectives, Alameda County, 2002-2004


* Any treated or untreated decay.

Source: Alameda County Oral Health Needs Assessment, 2004.

Figure 6.16: Percentage of School Children With Untreated Dental Decay by School Poverty Status, Alameda County, 2002-2004


[^7]The proportion of Alameda County third graders with protective dental sealants decreased as school poverty level increased. In schools where 50\% of more of students are on free and reduced lunch program, only $21 \%$ of third graders had sealants compared to $47 \%$ in schools where fewer than one-quarter of students are on free and reduced lunch.

This relationship suggests that poorer families have the hardest time getting preventive dental care.

Figure 6.17: Percentage of Third Graders With Dental Sealants by School Poverty Status, Alameda County, 2002-2004


Source: Alameda County Oral Health Needs Assessment, 2004.

## What are we doing?

The Maternal, Paternal, Child, and Adolescent Health (MPCAH) Program of the Alameda County Public Health Department (ACPHD) provides a coordinated local effort to improve outreach and case finding activities for pregnant women and children including early and continuous perinatal, infant, and child care. The Program works to ensure the best possible start in life for infants and children in Alameda County. In the past, the programs of MPCAH focused mainly on women, children and adolescent. Starting last year, paternal components were either enhanced or added to the programs. Although MPCAH activities are aimed at increasing prenatal care, preventing low birth weight, infant death and teen pregnancy, the program involves fathers, male partners or father figures to improve the birth outcomes.

- The Improving Pregnancy Outcomes Program (IPOP) offers case management services and community health education classes in selected zip codes of Alameda County for eligible pregnant and parenting women to reduce infant mortality and improve pregnancy outcomes among African American women. IPOP's fatherhood program provides a variety of services for fathers and fathers-to-be including care coordination, referral and follow-up, counseling, advocacy and peer support.
- The Black Infant Health (BIH) Program targets the African American community in its efforts to reduce premature birth and infant mortality through improving access to a comprehensive set of services for at-risk women, the fathers and their children up to one year of age. The BIH program works with local prenatal care providers to make education and resource materials available to those they serve. The Black Infant Health Role of Men (ROM) Program targets partners of pregnant women enrolled in the Black Infant Health Program as well as parenting fathers and caregivers (stand-in fathers) in the community. The Program provides social support, employment search and preparedness, life skill training and in-home case management, as well as referral services for its participants.
- The MPCAH Program offers culturally appropriate perinatal outreach and education for women, infants and families through a multicultural Health Information Team. The aim is to encourage early entry into prenatal care, enrollment in WIC, tobacco and other substance use cessation, in
addition to other healthy behaviors. The Family Care Network targets at-risk pregnant women and new mothers for HIV/AIDS prevention.
- The MPCAH Program works with other county agencies and service providers to develop and implement a countywide Strategic Plan for addressing perinatal substance abuse and its effects. The program aims to reduce barriers to substance abuse treatment among pregnant women.
- The MPCAH Program provides technical assistance and training to Comprehensive Perinatal Services Program (CPSP) providers to ensure they are providing prenatal care according to state regulations, as well as identifying and enrolling Medi-Cal eligible women.
- MPCAH, through a Community Challenge Grant, works in partnership with Oakland schools, after-school programs, and in neighborhoods to provide health education, mentoring, and youth leadership opportunities to adolescents. The aim is to reduce the rates of teen birth with the focus on abstinence, birth control, refusal skills, access to health care, and healthy relationships. The grant also provides resources for a Regional Collaborative of youth health care providers and community members.
- The Male Involvement Program (MIP) is designed to include young men in the "equation" at the pre-conceptual stage. Young men are taught about their role in preventing pregnancies and sexually transmitted infections (STIs).
- The MPCAH Program works with Alameda County delivery hospitals to conduct the Sudden Infant Death Syndrome (SIDS) Risk Reduction campaign. The Fetal Infant Mortality Review (FIMR) Program works with local agencies in a broad-based, comprehensive case review process to better understand and prevent fetal and infant deaths. The Child Care Health Linkages Program works with childcare providers, other health care providers and other community based organizations to decrease childhood injury and mortality through increased caregiver education and awareness.

The Women, Infants and Children (WIC) Program in the Community Health Services Division, ACPHD, is a national nutrition education program that promotes healthy eating. Studies show that clients who participate in the WIC program have healthier pregnancies and healthier children. WIC offices are co-located with Public Health Nursing and other services in North Oakland, Eastmont Mall, Hayward and the Fremont Resource Center. Alameda County WIC Program serves over 18,000 pregnant and breastfeeding women and parents raising infants or children under the age of five years. Foster parents, guardians \& single fathers who have custody of their children are also eligible.

WIC services include:

- Nutrition and health assessment from Registered Dietitians and trained nutrition counselors.
- Individual and group education on healthy eating and active living. Topics for the year 2006 include: classes on nutrition and breastfeeding for pregnant women, classes on healthy foods for infants and toddlers, promotion of fruits and vegetables, farmers markets, family fitness and heart healthy foods.
- Breastfeeding help, including a Breastfeeding Helpline, breastfeeding advice and breast pumps; additional funding from California Nutrition Network, a USDA pilot program and Every Child

Counts pays for breastfeeding peer counselors and board certified Lactation Consultants in WIC offices.

- Help getting health insurance, finding a doctor or dentist, getting immunizations and getting access to other community programs: Health Information Team workers and Community Health Team outreach workers help clients get health care and other needed services.
- Money coupons to buy healthy foods such as milk, beans, peanut butter, cheese, iron fortified cereal, pure juice, and eggs.

The Immunization Assistance Project of the Division of Communicable Disease Control and Prevention, ACPHD, provides education and targeted outreach to families and community groups; training and technical assistance to physicians, nurses, and medical assistants; disease investigation and surveillance; vaccine distribution and management; and immunizations to children, adolescents, and seniors at risk of under-immunization. The Project also participates in the implementation of a regional immunization registry. Assessments of the immunization status of two-year old children are conducted each year in county clinics and community health centers. The immunization status of children in childcare centers and kindergarten is monitored annually.

The Office of Dental Health, ACPHD, has organized a variety of age-related interventions designed to address both the primary and secondary prevention of dental caries. In brief, these include the following: Healthy Kids, Healthy Teeth, Early Childhood Caries Initiative for 0-5 year old Medi-Cal enrollees; the California Children's Dental Disease Prevention Program, which provides sealants and dental education in a school-based setting; The Healthy Smiles Children's Dental Treatment Program for children who require dental care and have no insurance; and Dental Health Referral Services for people of all ages who need dental referrals and information.

## What else do we need to do?

## Maternal, Paternal, Child, and Adolescent Health

- Promote full participation in Medi-Cal in order to assure access to prenatal care and vital medical and support services by providing information and advocacy services that increase enrollment.
- Develop programs that aim to decrease unwanted pregnancies by empowering young adults to make informed decisions about their reproductive health by addressing a continuum of healthy life for pre-child bearing adolescents beginning from pre school age.
- Develop and implement programs that would offer health services for women before and during pregnancy. Participate in action-oriented community processes that lead to improvement of services and resources for women, infants and families of Alameda County.
- Collaborate with local obstetric providers and delivery hospitals to prevent preterm labor through intensive patient education. Collaborate with community agencies to develop and implement aggressive outreach programs targeting high-risk pregnant women.
- Target high-risk geographic areas for intensive parent education including parenting skills, safety precautions, nutrition, and healthy lifestyles for women and children.
- Increase access to school based clinics and other youth-centered clinics to provide primary care,
referrals, counseling, health education, and youth development services to both adolescent boys and girls.
- Increase outreach and education to young men to provide job training, health education, and other types of classes to improve personal relationships and promote anger management and responsible fatherhood.


## Women, Infants and Children (WIC)

- Expand the development of Healthy Living Councils in additional school districts, including Livermore and Fremont.
- Support neighborhood efforts to gain WIC vendor authorization for neighborhood grocery stores in low income areas.
- Seek funding to support outreach for WIC and other food programs to very low income vulnerable populations including homeless families.


## Immunizations

- Develop and implement a collaborative plan to improve the immunization rates of African American and Latino children.
- Increase participation in the immunization registry in order to reach the Healthy People 2010 goal of having $95 \%$ of children less than six years of age in a registry.
- Provide education and consultation to medical providers on new adolescent and adult vaccines for pertussis in order to improve vaccination coverage and decrease the incidence of pertussis in Alameda County.


## Dental Health

- Collaborate with public and private organizations to conduct a representative County-wide Oral Health Needs Assessment at three-year intervals in order to 1) measure oral/dental health, 2) evaluate prevention and intervention efforts, 3) make comparisons with state and national data.
- Expand successful elements of the Healthy Kids, Healthy Teeth Demonstration project to other low income families beyond those enrolled in Medi-Cal.
- Fully implement two dental teams working to provide school based dental services including the provision of dental sealants.
- Continue the Healthy Smiles Dental Treatment Program strengthening outreach and follow-up services to facilitate access to care and insurance resources.
- Actively support the statutory change that would require Child Health and Disability Program physicians to refer all children beginning at age one to the dentist.


## Men's Health

- Additional development goals in the Office of Men's Health include supporting men in their ability to pay child support; providing domestic violence interventions; promoting men's emotional wellness through promotion of positive fatherhood programs; and changing policy to require paternal inclusion in mandated maternal programs at state and local levels.


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## Chapter 7 COMMUNICABLE DISEASE

## Tuberculosis

## What is it?

Tuberculosis (TB) is a communicable disease caused by Mycobacterium tuberculosis, also referred to as tubercle bacilli. It is transmitted from person to person through particles carrying the bacteria through the air. Transmission can occur when people breathe in the bacteria while in close and prolonged contact with a person with infectious TB.

Once a person has been exposed to someone with TB and has inhaled the TB bacteria, that person may become infected with TB. In most people who are infected with the TB bacteria, the body is able to fight the bacteria to stop it from growing, but will still show evidence of exposure when tested. This is referred to as latent TB infection (LTBI). For other individuals who inhale the TB bacteria and become infected, TB infection can progress to TB disease when the immune system cannot fight off the tubercle bacilli. TB is curable if a person takes all of their TB medications as prescribed. Individuals with active TB disease may have some or all of the following symptoms: cough, weight loss, fevers, fatigue, night sweats or loss of appetite.

## Why is it important?

Approximately one-third of the world's population is infected with Mycobacterium tuberculosis, with more than 9 million people becoming sick with TB disease and approximately 2 million people dying from TB each year. ${ }^{1}$ The majority of these cases occur in the countries of Asia, Africa, Eastern Europe, and Latin America where there are high rates of TB. In the United States, there are an estimated 10 to 15 million Americans infected with LTBI, and about $10 \%$ of these have the potential to develop active TB disease in the future. In 2004, the United States had a case rate of 4.9 per 100,000 with 14,517 cases of tuberculosis reported nationwide. ${ }^{2}$ Although the TB case rate has decreased by half since the early 1990s, the U.S. rate still exceeds the Healthy People 2010 objective of 1.0 per 100,000.

Drug resistant strains of tuberculosis can occur when a person with TB disease does not take their medications as prescribed and the bacteria changes, becoming resistant to the drug(s). This is of concern because drug resistant strains and multi-drug resistant (MDR) TB are more difficult to treat and require longer treatment regimens.

## What is Alameda County's status?

Alameda County's average annual TB rate was 12.4 per 100,000 for the period 2002-2004, 40\% greater than the California rate (8.8). Alameda County's rate (excluding Berkeley) was third highest among Bay Area counties, and far exceeded the Healthy People 2010 objective of no more than one new TB case per 100,000 people.

Asian/Pacific Islanders had the highest rates of TB; they were over two times those of other racial/ethnic groups. Males have higher rates than females in every race/ethnic group.

The majority of new TB cases occurred among persons born in countries with TB rates greater than the United States, particularly from countries in Asia. From 2002-2004, 77\% of new TB cases were foreign-born people. The average annual case rate for foreign-born Alameda County residents was 34.5 per 100,000, nearly nine times the rate of U.S.-born residents (3.9).

Figure 7.1: Tuberculosis Case Rates: Selected Counties and California, 2002-2004


Source: CAPE; ACPHD; CA DHS TB Control Branch, TIMS, Census 2000, DOF.
Figure 7.2: Tuberculosis Rates by Race/Ethnicity and Gender, Alameda County, 2002-2004


Source: CAPE; TIMS, Census 2000, DOF.
Figure 7.3: Percent TB Cases by Place of Birth and Race/Ethnicity, Alameda County, 2002-2004

Foreign-Born TB Cases


The racial/ethnic make-up of U.S.born versus foreign-born cases in Alameda County was vastly different, with African-Americans comprising the greatest portion of U.S.-born TB cases, whereas the majority of the for-eign-born cases were of Asian/Pacific Islander descent.

Source: CAPE; TIMS, Census 2000, DOF.


The distribution of TB cases by age has remained consistent over time, with the majority of cases occurring among individuals 25 years and older. The risk for TB disease increased with age. Adults of both genders aged 65 and over had the highest case rates.

TB cases and rates in Alameda County (excluding the city of Berkeley) have fluctuated since 1993. Beginning in 1994, annual TB case rates for Alameda County exceeded state and national rates. Rates in Alameda County, California, and the U.S. have declined in recent years.

Figure 7.4: Tuberculosis Rates by Age and Gender, Alameda County, 2002-2004


Source: CAPE; TIMS, Census 2000, DOF.

Figure 7.5: Tuberculosis Cases and Case Rates, Alameda County 1993-2004


[^8]Source: CAPE; TIMS, Census 2000, DOF.

## Map 7: Tuberculosis Case Rates

For the five-year period, 2000-2004, Union City had the highest rate of TB in Alameda County at 22.3 per 100,000. Oakland, San Leandro, Hayward, Newark, and Fremont TB rates were higher than the overall county rate of 12.8 per 100,000 for the period.


## HIV/AIDS

## What is it?

Acquired immune deficiency syndrome (AIDS) is caused by the human immunodeficiency virus, known as HIV. The term AIDS applies to the most advanced stages of HIV infection. HIV progressively weakens the body's immune system and thus the ability to protect itself from infection and disease. HIV is spread from person to person through the exchange of bodily fluids, including blood, semen, vaginal secretions and breast milk. While the most common forms of transmission are sexual contact with infected individuals and the sharing of contaminated needles or syringes, the virus can also be transmitted from HIV-infected women to their babies during pregnancy, delivery, or breastfeeding.

## Why is it important?

HIV/AIDS is a severe, life-threatening condition that has reached epidemic proportions, affecting more than 60 million people worldwide since the onset of the HIV/AIDS epidemic 25 years ago. In the United States, there have been approximately 944,000 AIDS cases and 529,000 AIDS-related deaths reported as of December, 2004. ${ }^{3}$ It is estimated that by January, 2004, between 1,039,000 and $1,185,000$ people were living with HIV/AIDS and that 40,000 new HIV infections occurred annually. ${ }^{4}$ The 2004 AIDS case rate in the United States was 15 per 100,000; in California it was 13 per 100,000. In Alameda County, the number of new AIDS cases increased from one case in 1980 to 620 cases at the height of the epidemic in 1992, and decreased to 138 cases in 2004.

Individuals can place themselves at risk for HIV/AIDS with various behaviors. Men having sex with men (MSM) continues to be the predominant exposure mode, accounting for the greatest number and percentage of cases. However, new infections due to heterosexual contact have been steadily increasing over the past decade. Injection drug use is also an important risk behavior.

The AIDS epidemic has changed over time, which has implications for prevention. Case rates peaked in the early 1990s and have dramatically declined since, representing the slowing progression of HIV infection to AIDS. This slowing progression is largely attributable to antiretroviral drug therapies and improved behavioral risk reduction interventions.

## What is Alameda County's status?

Figure 7.6: AIDS Case Rates: Selected Counties and California, 2002-2004
Alameda County's AIDS case rate for 2002-2004 was 13.0 per 100,000 people. The rate was higher than those in Contra Costa and Santa Clara Counties, and the state as a whole, but just a fraction of the San Francisco rate. None of these Bay Area counties has met the Healthy People 2010 objective of no more than one AIDS case per 100,000 people.


African Americans of both genders continue to have the highest rate of AIDS in Alameda County, several times higher than other race/ethnic groups. Among African Americans, the male rate is two times the female rate, while among Whites and Latinos male rates are about seven times female rates.

Nearly all AIDS cases (99\%) occurred among adults who were age 20 years or older at time of AIDS diagnosis. Overall, rates are about three times higher among males than females, and they are highest between the ages of 30 and 49 years.

AIDS cases and case rates have declined significantly among every race/ethnic group in Alameda County since the height of the epidemic in the early 1990s. Despite these declines, the African American rates continued to be higher than those for any other race/ethnic group. In 2003-04, the African American rate was 3.5 times the county rate, a slightly larger gap than existed in 1993-94 (2.6).

Figure 7.7: AIDS Case Rate by Race/Ethnicity and Gender, Alameda County, 2002-2004


Source: CAPE; HARS, Census 2000, DOF.

Figure 7.8: AIDS Case Rate by Age and Gender, Alameda County 2002-2004


Source: CAPE; HARS, Census 2000, DOF.

Figure 7.9: AIDS Cases Rates by Race/Ethnicity, Alameda County 1993-2004


Source: CAPE; HARS, Census 2000, DOF.

Men-who-have-sex-with-men (MSM) continues to be the common mode of exposure. It has declined, however, and the proportion of cases attributed to heterosexual exposure has risen. Injection drug use (IDU) exposure has remained fairly constant over the period. Among AIDS cases diagnosed in the period 2002-2004, $19 \%$ of males and $65 \%$ of females attributed exposure risk to heterosexual contact.

Figure 7.10: Percent of AIDS Cases by Exposure Mode and Year of Diagnosis, Alameda County, 1990-2004


Figure 7.11: Cases, Deaths and PLWA by Year of Diagnosis, Alameda County, 1990-2004


Source: CAPE; HARS, Census 2000, DOF.
Sol CAPE:HARS, Census 2000, DOF.

New AIDS cases and deaths among persons with AIDS have decreased since the early 1990s. Much of this is attributed to prevention messages and the use of antiretroviral therapies that slow the progression from HIV to an AIDS diagnosis or death. As a result, there are increasing numbers of persons living with AIDS (PLWA) each year.

## Map 8: AIDS Case Rates

For the five-year period, 2000-2004, Emeryville had the highest rate of new AIDS cases in Alameda County, 48.7 per 100,000, a rate over three times the county rate of 13.8 . The Oakland rate, 30.6 was twice the county rate. San Leandro, with a rate of 15.8 also exceeded the county.


## Sexually Transmitted Diseases

## What are they?

Sexually transmitted diseases (STDs) are infections that are acquired through sexual contact. They are among the most common infectious diseases in the United States today. In the United States, 65 million people are living with an incurable STD and 15 million people are infected each year. Although STDs affect men and women of all backgrounds and economic levels, they are most prevalent among teenagers and young adults. Nearly two-thirds of all STDs occur in people younger than 25 years of age. Females are biologically more susceptible to many STDs.

Many individuals infected with STDs will show no symptoms of the disease and are therefore unlikely to be diagnosed and treated. Even cases of disease that are detected are often times not reported. Thus the extent of infection of STDs is difficult to monitor as each new case that goes undetected and untreated magnifies this "hidden" epidemic. Untreated STDs can cause serious health problems such as pelvic inflammatory disease (PID), which can cause damage to the fallopian tubes, uterus and surrounding tissues or lead to infertility.

## Why are they important?

Chlamydia is the most commonly reported infectious disease in the United States. While chlamydia affects both men and women, women suffer the most severe consequences of untreated infection. Up to $40 \%$ of untreated women will develop PID and $20 \%$ of these may become infertile. Fifty percent of men and $75 \%$ of women infected with chlamydia will show no symptoms. In 2004, more than 929,000 cases were reported in the U.S., with a case rate of 319.6 per 100,000. The rate of chlamydia infection has been increasing in the United States from a rate of 50.8 per 100,000 from the mid-1980s to 319.6 per 100,000 in 2004. This increase can be attributed, at least in part, to increased screening and more sensitive diagnostic tests. It is estimated that about 2.8 million new cases in the United States occur annually. ${ }^{5}$

Gonorrhea is a sexually transmitted bacterial infection, and the second most commonly reported infectious disease in the U.S. The CDC estimates more than 700,000 cases of gonorrhea occur each year in the United States. ${ }^{6}$ Like chlamydia, gonorrhea infections are under-reported and it is believed that reported cases constitute only about half of all actual cases occurring annually. More than 330,000 cases of gonorrhea had been reported in the United States in 2004, yielding a case rate of 113.5 per 100,000. Reported cases of gonorrhea declined in the United States from a high of 467.7 per 100,000 in 1975 to 113.5 in 2004. Gonorrhea rates remain high for African Americans, adolescents and young adults. Left untreated, it is a major cause of PID, which can lead to infertility and tubal pregnancies in women and epididymitis and infertility in men. Gonorrhea can be cured easily and its long-term consequences avoided by early detection and treatment with antibiotics.

## What is Alameda County's status?

The average chlamydia rate in Alameda County during the period 2002-2004 was 325 per 100,000 people. It was higher than those of other Bay Area jurisdictions, with the exception of San Francisco, and nearly the same as the California rate.

The average gonorrhea rate in Alameda County during the period 2002-2004 was 117 per 100,000 people. It was higher than those of other Bay Area jurisdictions with the exception of San Francisco, and it was 57\% higher than the California rate.

Forty percent of reported chlamydia cases were missing information on race/ethnicity during the 2002-2004 period. While this is a large proportion of cases, it is a great improvement over the $60 \%$ missing in the period 1999-2001.

Of the cases with known race/ethnicity, the largest group was African American, followed by Latino, White and Asian/Pacific Islander.

Figure 7.12: Chlamydia Case Rates, Selected Counties and California, 2002-2004


Source: CAPE; ACPHD-DCDCP; CA DHS STD Control Branch, Census 2000, DOF.

Figure 7.13: Gonorrhea Case Rates, Selected Counties and California, 2002-2004


Source: CAPE; ACPHD-CDCDP; CA DHS STD Control Branch, Census 2000, DOF.

Figure 7.14: Chlamydia Cases by Race/Ethnicity, Alameda County, 2002-2004


Information on race/ethnicity was missing for $38 \%$ of reported gonorrhea cases during the 2002-2004 period. Of the cases with known race/ethnicity, the largest group was African American, followed by White, Latino and Asian/Pacific Islander.

The chlamydia rate was highest among African American females, 11 times higher than White females, eight times higher than API females and about three times higher than Latino females.

These rates may not be accurate due to the large number of cases with missing information on race/ethnicity, but it is likely that they reflect the relative burden of the disease among race/ethnic groups and therefore potential areas for prevention efforts.

Gonorrhea rates among African Americans of both genders were very high, ranging from 10 to 30 times higher than those among other race/ethnic groups. Rates for females in every race/ethnic group were lower than for males. The largest gender difference was among Whites, for whom the female rate was half the male rate.

Figure 7.15: Gonorrhea Cases by Race/Ethnicity, Alameda County, 2002-2004


Source: CAPE; Alameda County STD Surveillance, Census 2000, DOF.
Figure 7.16: Chlamydia Case Rates by Race/Ethnicity and Gender, Alameda County, 2002-2004


Source: CAPE; Alameda County STD Surveillance, Census 2000, DOF.

Figure 7.17: Gonorrhea Case Rates by Race/Ethnicity and Gender, Alameda County, 2002-2004


Source: CAPE; Alameda County STD Surveillance, Census 2000, DOF.

In Alameda County from 2002-2004, $77 \%$ of reported chlamydia cases were female. Across nearly all age groups, female rates were several times greater than male rates. While females are biologically more susceptible to many STDs, the gender difference in chlamydial infection rates is also likely due to targeted screening and treatment of females in recent years.

Among females, the highest rates of chlamydia infection were found among 15-19 year-olds, followed closely by 20-24 year-olds. This pattern was not consistent with those for California and neighboring counties, where rates among 20-24 year-old females were highest.

Just over half of gonorrhea cases reported in Alameda County from 2002-2004 were female. Under age 25, female rates exceeded male rates by large margins, while over age 25 , male rates exceeded female rates.

The gonorrhea infection rate among 15-19 year-old females was very high, approximately two times that seen statewide. As with chlamydia, rates were higher among females 15-19 years than among females 20-24 years, a pattern that was not typical for the state or neighboring counties.

Figure 7.18: Chlamydia Case Rates by Age and Gender, Alameda County, 2002-2004


Source: CAPE; Alameda County STD Surveillance, Census 2000, DOF.

Figure 7.19: Gonorrhea Case Rates by Age and Gender, Alameda County, 2002-2004


Source: CAPE; Alameda County STD Surveillance, Census 2000, DOF.

The chlamydia case rate increased significantly for both males and females in Alameda County between 1995 and 2004. Over this period, female rates were about three times higher than male rates.

Until 2000, gonorrhea infection rates were about one-third higher among females than males. In recent years, male and female rates have converged, and in 2004 male rates in Alameda County were higher than female rates.

Figure 7.20: Chlamydia Case Rates by Gender, Alameda County, 1995-2004


Source: CAPE; CA DHS STD Control Branch.
Data include both Alameda County and Berkeley health jurisdictions.

Figure 7.21: Gonorrhea Case Rates by Gender, Alameda County, 1995-2004


Source: CAPE; CA DHS STD Control Branch.
Data include both Alameda County and Berkeley health jurisdictions.

## What are we doing?

## Tuberculosis Control

The Tuberculosis Control Program is witnessing many changes in TB disease in Alameda County. The number of active cases of TB disease has declined over the last five years, but in other ways TB control is becoming more complex. The face of TB in Alameda County has shifted from one which primarily impacted US-born individuals to one which primarily impacts the foreign-born, particularly those from countries with high rates of TB. Additionally, the number of individuals showing resistance to one or more of the first line TB drugs is increasing, complicating the treatment regimen, extending the length of treatment and increasing both the cost of treatment as well as staff time.
The TB program activities include:

- Reinforcing partnerships with medical care providers in order to increase awareness of TB and assist with the early identification, diagnosis and treatment of active cases.
- Conducting case management and contact investigation of TB cases.
- Collaborating with providers to determine appropriate initiation of therapy and ensure best practices, best possible care, and successful patient completion of therapy.
- Reaching out to culturally diverse communities with a high prevalence of tuberculosis and MDR. Activities include identification of health needs and the training of "health navigators" to serve as cultural brokers to immigrants needing access to the health care system.
- Conducting enhanced tracking and follow-up of B1/B2 immigrants in Alameda County to ensure appropriate assessment and facilitate access to appropriate and culturally sensitive health care services. These efforts help to prevent progression from infection to disease.Conducting enhanced tracking and follow-up of B1/B2 immigrants in Alameda County to ensure appropriate assessment and facilitate access to appropriate and culturally sensitive health care services.
- Administering directly observed therapy (DOT); increase the number of individuals receiving DOT; and improve rates of completion among individuals on DOT. Wide use of DOT prevents adverse outcomes such as relapse, further TB transmission and development of drug resistant strains.
- Conducting surveillance activities to collect necessary information to gain a clearer profile of those in Alameda County affected with TB disease. The surveillance data help to direct activities for TB control and is shared with providers of TB care.
- Evaluating the TB Program's performance on selected indicators for TB control and elimination as part of the TB Indicator Project of the California Department of Health Services TB Control Branch. Outcome and performance results help guide program planning and areas for strengthened efforts.
- Participating in CDC's universal genotyping initiative. This program provides genotyping services to TB programs to ascertain the diversity of TB strains occurring in their jurisdictions, determining if two or more TB cases have a specific DNA fingerprint pattern. Genotyping also helps identify highly prevalent clusters and risk factors for clustering and enhances contact investigation.


## AIDS and HIV

## Surveillance

The HIV/AIDS Epidemiology Surveillance (AES) unit of the Division of Communicable Disease Control and Prevention conducts surveillance of new cases of HIV and AIDS infection in the county. While AES has been conducting AIDS surveillance since the early 1980's, HIV surveillance was mandated using a non-name reporting system implemented in 2002. Since that time, more than 1,600 HIV cases have been reported in Alameda County. This expanded surveillance information provides information needed to gain a more accurate picture of the HIV/AIDS epidemic in Alameda County and is used in policy development and for program planning/service provision. Surveillance activities also include:

- Conducting epidemiologic investigation of HIV/AIDS cases in order to establish an accurate mode of HIV transmission, and (in conjunction with Office of AIDS staff) conducting investigations of cases of epidemiological interest.
- Reducing the number of new HIV/AIDS cases in Alameda County and California by offering assistance in the counseling and referral of partners of individuals affected by HIV/AIDS.
- Conducting the Young Men's Study, now in its third year. This study is a survey of men 18-35 years, in low income neighborhoods, aimed at determining the prevalence of HIV, STD and Hepatitis among the target population and characterizing their sexual and drug using behaviors.


## Education \& Prevention and Care \& Treatment

ACPHD, in collaboration with the Community Collaborative Planning Council, service providers, community-based organizations, and other state and federal agencies, provides focused HIV education and prevention services and integrated HIV/AIDS care and treatment services throughout the region, all while responding rapidly to changes in local service demands and utilization patterns among people living with HIV/AIDS. ACPHD activities include:

- Allocating Ryan White Care funds through The Office of AIDS Administration (OAA) contracts with community-based organizations that provide full access to services for diverse HIV-affected populations, regardless of economic status.
- Merging of the HIV Education \& Prevention Planning Council with the Health Services Planning Council to form the Collaborative Community Planning Council (CCPC). The CCPC is a planning body that is representative of the local HIV/AIDS community. It addresses concerns regarding education and prevention in addition to care and treatment in the jurisdiction. This is the first jurisdiction in California to accomplish the task.
- Providing care, treatment, and prevention services to HIV-infected residents through the Early Intervention Program from the moment they test positive.
- Providing outreach and education to high-risk populations such as intravenous drug users and sex trade workers.
- Providing HIV/AIDS drugs to individuals who could not otherwise afford them through the AIDS Drug Assistance Program (ADAP).
- Providing funds for care and treatment of recently released prisoners through the Minority AIDS Initiative (MAI).
- Advocating for increased HIV/AIDS awareness in the community through periodic town hall meetings, alliances with faith based organizations and ongoing dissemination of information and materials.
- Bringing additional technical assistance and funding to Alameda County through ongoing collaboration with Congresswoman Lee and the African American Taskforce. The Office of AIDS has funded a grant writer for the past five years to assist community based organizations in applying for additional funding; to date this effort has brought an additional $\$ 4$ million into Alameda County.


## Sexually Transmitted Diseases

## Chlamydia and Gonorrhea

The Alameda County Public Health Department (ACPHD) is proactively engaged on multiple levels to assess the number of new and existing cases of sexually transmitted disease, particularly chlamydia and gonorrhea.

The STD Community Intervention Program (SCIP) continues to build collaborative partnerships with community-based organizations to increase STD awareness, identify innovative prevention strategies, and implement early detection and treatment efforts throughout the county.

The Chlamydia Screening Project (ClaSP) works with Juvenile Justice Health Services (JJHS), to ensure that all females and all symptomatic males are screened for chlamydia within 24 hours of being incarcerated at Juvenile Hall. Project staff also provides an STD health education series for high-risk youth at group homes and foster care facilities, court-ordered and alternative schools and the Juvenile Probation Department. Follow-up treatment, case management and Directly Observed Therapy (DOT), for both chlamydia and gonorrhea, are provided to lapsed clients of JJHS, the county prisons, public health clinics, local hospitals and private providers.

## Syphilis

The STD Unit has taken on a more active and aggressive role in syphilis surveillance and case investigation, working in partnership with the State to follow up on primary and secondary syphilis cases. Disease Intervention Specialists conduct enhanced case investigation on highly infectious cases of syphilis.

## What else do we need to do?

## Tuberculosis

- Pay greater attention to latent TB infection in Alameda County in order to prevent the development of active Tuberculosis in individuals who have been infected. The TB Control Program must address both cases of active disease as well as latent infection in the goal of eliminating TB in Alameda County.
- Perform critical outreach and education to high-risk communities regarding the signs and symptoms of TB and the importance of treatment. Address barriers to identifying, diagnosing and
treating individuals in high-risk communities.
- Enhance prevention efforts among foreign-born persons at greatest risk for developing active disease by developing innovative strategies for targeted testing and preventive treatment of LTBI. Partner with community leaders and organizations to address the impact of TB on their foreignborn residents and develop ways to improve the care of immigrant families.
- Identify resources for Quantiferon testing and other enhanced laboratory services to assure accurate screening and rapid identification of TB infection and disease.
- Provide feedback to providers and healthcare facilities on their contributions to the performance outcomes of the TB Indicator Project. Discussion and collaboration with providers assist in the efforts to eliminate and control TB in the county.


## AIDS and HIV

- Continue to work with providers who serve the HIV/AIDS community to improve surveillance efforts that ensure timely and accurate diagnosis and reporting of HIV and AIDS cases.
- Strengthen partnerships with community-based organizations, and promote involvement with faith-based organizations around AIDS awareness, education, and prevention. Work in partnership with these organizations as potential sources of supplemental HIV/AIDS case data.
- Work with hospitals and other service providers that receive Ryan White Care funds to develop a system of uniform reporting of services and enlist participation of each facility.
- Continue to advocate and pursue funding for education and prevention activities, as well as for quality HIV/AIDS services.


## Sexually Transmitted Diseases

- Improve surveillance efforts to ensure timely and complete diagnosis and reporting of chlamydia and gonorrhea.
- Work in partnership with health care providers to improve screening of sexually active adolescents and young adult females.
- Encourage repeat screening of adolescent and young adult cases and pregnant females within 4-6 months of treatment.
- Strengthen provider utilization of appropriate therapy to treat uncomplicated chlamydia and gonorrhea cases and support the use of "partner delivered therapy" to prevent re-infection of cases.
- Increase awareness of communities regarding high rates of chlamydia and gonorrhea and their impact on the overall health of the county.
- Increase staffing in order to conduct public health investigations in accordance with recent increases in syphilis cases.
- Provide training for providers on recognizing, diagnosing, staging and treating syphilis. Many providers are unfamiliar with syphilis, hence many are misdiagnosing symptoms and/or providing inappropriate treatment.


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## Appendix A TECHNICAL NOTES

## Methods

## 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, rather than Black or African. In tables and figures, African American is usually shortened to AfrAmer. Other standard terms are White; American Indian (sometimes shortened to AmerInd); Pacific Islander (sometimes shortened to PacIsl and sometimes referred to as Native Hawaiian or Other Pacific Islander); and Asian (sometimes combined with Pacific Islanders and shortened to API). Latino includes all those of Spanish- and Portuguese-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, a Latino may be White or Asian or Black, but here all those persons are reported as Latino. 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. Finally, race is often unreported, mis-reported, or unclassifiable in many data systems; the report often includes these for completeness, labeled as appropriate for the circumstance.

## Rate Calculations

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 for specific causes of mortality in a community is affected by the size and age composition of the population. Because the risk of dying is primarily a function of age, simply calculating a crude rate for vital events such as death (number of deaths/population) can lead to misleading conclusions when comparing different subpopulations. This is because populations with a large component of elderly people tend to have a high death rate simply because the risk of dying is determined mostly by age. In order to nullify the effect of differences in the age composition of populations, disease rates can be age-adjusted. Age-adjusting methodology involves first calculating rates for each age category to determine age-specific rates. Each age-specific rate is multiplied by the proportion of the age category in a standard population. The sum of these weighted age-specific rates in a community is the age-adjusted rate for that community. Ageadjusted disease rates form a better basis for unbiased comparison across populations.

Variability of rates All vital statistics, including death rates, are subject to random variation. This variation is inversely related to the number of events (e.g. deaths) used to calculate the rate. The smaller the number of events, the greater the likelihood 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 this
report, this standard has been relaxed to a requisite ten or more events for 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. ${ }^{3}$

## Area-based Socioeconomic Measures and Health Inequities

One way of looking at health inequities is by analyzing data according to socioeconomic status. Most datasets, however, do not carry these types of data. Absent appropriate data in the datasets themselves, socioeconomic status is best represented by poverty level according to census tracts. Nancy Krieger et al have shown in the Public Health Disparities Geocoding Project that the census tract is the best unit of analysis. They have also shown that the poverty level captures as much difference as more complex measures. This representation of economic status also takes into account neighbor-hood-level factors. The poverty rate is the rate for a tract, a proxy for neighborhood.

## Years of Potential Life Lost

Years of potential life lost is calculated based on YPLL-75, the number of years of life lost due to death before age 75. This method is used because average life expectancy in the United States is over 75 years. Years of potential life lost is derived by summing years of life lost over all age groups.

## Life Expectancy

Life expectancy at birth is calculated using abridged life tables by 10-year age intervals. The abridged method is used because 1) it is a short cut method, and 2) preparing a complete life table would not be suitable because data are sparsely distributed by single years of age.

## Tests for Trends

To test for significance of trends, Joinpoint Regression Program for Windows (v3.0) software was used. ${ }^{12}$ Software is available through the National Cancer Institute. Method uses regression techniques to fit model with one or more line segments on a logarithmic scale. Statistics obtained from the models were average annual percent change (APC), and $95 \%$ confidence interval around APC, in rates associated with each line segment. Joinpoints (the years at which the slope of a line segment changes) are also provided.

## Data Sources

Demographic and socioeconomic U.S. Bureau of the Census, 1950-2000 Census; California Department of Education, Dataquest and Ed-Data; California Department of Finance; California Health Interview Survey; California Employment Development Department; National Economic Development
and Law Center; National Association of Homebuilders; California Department of Justice.
Population estimates The population estimate for Alameda County is from Census 2000 and California Department of Finance (DOF) estimates. Since most data are for 2001 to 2003, they have a midpoint of July 1, 2002. Age, sex, and race distributions are from Census 2000 (assuming that little had changed since the Census of April 1, 2000), but the total population is adjusted using the DOF benchmarks. For the years prior to 2000, the age and sex distributions are assumed to change linearly from Census 1990 to Census 2000, with the total number of persons taken from DOF estimates. ${ }^{4,5}$

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

Deaths Alameda County Public Health Department Vital Statistics Files obtained from the Alameda County Department of Public Health Automated Vital Statistics System (AVSS) and the State of California Statistical Master Death file.

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

Cancer incidence California Cancer Registry (CCR) data provided by the Northern California Cancer Center (NCCC) is the source of data on new cases of cancer. This data source has reports of cases diagnosed by site, as well as a range of clinical characteristics such as extent of disease and stage.

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

HIV/AIDS Alameda County Department of Public Health HIV/AIDS Reporting System (HARS).
STDs Alameda County STD surveillance system.

## Limitations of Data and Other Data Issues

Hospital discharge data Because persons with multiple hospitalizations during the year can be counted more than once, hospital discharge data produces the estimates for discharges, not persons. Changes in rates of hospitalization may be changes in hospital admission practices or the diagnostic coding of illnesses, or reflective of true changes in the patterns of disease. The data capture those illnesses or injuries serious enough to get people admitted to the hospital and are not the prevalence of a given disease or condition in the population since many who have the illness are not hospitalized. Race and ethnicity data are missing for many cases due to the omission of a race field on many hospital discharge forms. Consequently, race is not recorded in about $18 \%$ of records. ${ }^{6}$ 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 death rates are overestimated by about $1 \%$ among Whites and $5 \%$ among African Americans. They are underestimated by approximately $21 \%$ for American Indian or Alaska Natives, $11 \%$ for Asian and Pacific Islanders, and $2 \%$ for Latinos. ${ }^{7}$

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 $1999 .{ }^{8}$ However, the mortality trend data for 1990 to 1998, and hospital discharge 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 10 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 4digit alphanumeric codes compared with 4-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. ${ }^{9}$

Introducing this tenth revision of International Classification of Disease creates discontinuities in time series and trends. This means the Healthy People 2010 objectives may not be strictly comparable with the tracking data for 1999 and subsequent years whose baseline data were 1997 and 1998.9

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 Census 2000, 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. ${ }^{10}$ 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. ${ }^{10}$

Sexually transmitted diseases 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.

## 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 Codes | Cause of Death | ICD-10 Codes |
| :--- | :--- | :--- | :--- | :--- |
|  | Diabetes | E10-E14 | Motor Vehicle Crash | V02-V04, V09.0, V09.2, V12- |
| Coronary heart disease | I11; I20-I25 |  | V14, V19.0-V19.2, V19.4-V19.6, |  |
|  | Stroke | I60-I69 |  | V20-V79, V80.3-V80.5, V81.0- |
|  | All cancer | C00-C97 |  | V81.1, V82.0-V82.1, V83-V86, |
|  | Lung cancer | C33-C34 |  | V87.0-V87.8, V88.0- V88.8, |
| Colorectal cancer | C18-C21 |  | V89.0, V89.2 |  |
| Female breast cancer | C50 | Unintentional injury | V01-X59; Y85-Y86 |  |
| Prostate cancer | C61 | Suicide | X60-X84, Y87.0 |  |
| Asthma | J45-J46 | Homicide | X85-Y09; Y87.1 |  |


| Hospitalization | Diagnosis | ICD-9 Codes | Code Positions |
| :--- | :--- | :--- | :--- |
|  | Asthma | $493.00-493.99$ | Primary Dx |
|  | Diabetes | $250.00-250.99$ | Primary Dx-Dx4 |
|  | Coronary heart disease | $402.00-402.99 ; 410.00-414.99 ; 429.2$ | Primary Dx-Dx4 |
|  | Stroke | $430.00-438.99$ | Primary Dx-Dx4 |
|  | Self-Inflicted Injury | E950-959 | Primary E-code |
|  | Unintentional injury | E800-E949 | Primary E-code |
|  | Assault | E960-E969 | Primary E-code |


| Cancer Incidence | Site | SEER Site Code |
| :--- | :--- | :--- |
|  | Breast | 26000 |
|  | Prostate | 28010 |
|  | Colorectal | $21041-21049 ; 21051-21052$ |
|  | Lung | 22030 |

A cancer case is defined in this report as a primary malignant tumor, that is, one originating in a particular organ or anatomic site rather than having spread from another location. Surveillance Epidemiology and End Results (SEER) site codes in the California Cancer Registry were used to define and select cases by site for this report. ${ }^{11}$

## 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 $C$. trachomatis by culture.
Gonorrhea A case that is laboratory confirmed by isolation of Neisseria gonorrhea by culture.
Tuberculosis 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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**Rate per 1000 females 15-19 years
Note: Numbers of total births vary by indicator since cases with missing data were excluded

Table B．2：Historical Infant Mortality by Race／Ethnicity，1990－2003，Annual Counts，Rates（per 1，000 Births），and 95\％Confidence Limits |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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Table B．3：Historical Low Birth Weight by Race／Ethnicity，Alameda County，1990－2003，Annual Counts，Percentages，and 95\％Confidence Limits

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Table B.4: Historical Early Prenatal Care by Race/Ethnicity, Alameda County, 1990-2003, Annual Counts, Percentages, and 95\% Confidence Limits


Table B．5：Historical Teen Births by Race／Ethnicity，Alameda County，1990－2003，Annual Counts，Rates（per 1，000 Females 15－19 years），and 95\％Confidence Limits

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Table B.6: Mortality by Gender and Race/Ethnicity, Alameda County, 2001-2003, Counts, 3-Year Average Rates, * 95\% Confidence Limits

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Table B.8: Injury Mortality by Gender and Race/Ethnicity, Alameda County, 2001-2003, Counts, 3-Year Average Rates, * and 95\% Confidence Limits

Table B.9: Historical Mortality, Alameda County, 1990-2003, Annual Counts, Rates, and 95\% Confidence Limits




Table B.13: Chronic Disease Hospitalizations by Gender and Race/Ethnicity, Alameda County, 2001-2003, Counts, Rates,* and 95\% Confidence Limits


[^9]*Rates are per 100,000 and are age-adjusted by the direct method to the 2000 U.S. population
Table B.15: Cancer Incidence by Gender and Race/Ethnicity, Alameda County, 2000-2002, Total Counts, 3-Year Average Rates*, and 95\% Confidence Limits

*Rates are per 100,000 and are age-adjusted by the direct method to the 2000 U.S. Population.
Table B.16: Historical Chronic Disease Hospitalization by Race/Ethnicity, Alameda County, 1991-2003, Annual Counts, Rates, and 95\% Confidence Limits

|  | All Races |  |  |  | African American |  |  |  | American Indian |  |  |  | API |  |  |  | Latin |  |  |  | White |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Tota | Ra | LCL | UCL | Sount | Rate | LCL | UCL | Total | Rate | CL | UCL | Total | Rat | CL | UCL |  | Ra |  |  |  | Ra | LCL | UCL |
|  | 16, | 1,560 | 1,536.3 | 1,585.0 | 2,722 | 1,729.2 | 1,66 | 1,7 | 19 | 422.5 | 254.4 | 659.8 | 76 | . 1 | 5.1 | 921.1 |  | 1,075.8 | 1,003.4 | 8.2 | 11,144 | 1,681.9 | 0.6 | 1,7 |
| 1992 | 15,6 | 1,495 | 1,472.1 | 1,519.3 | 2, | 1,6 | 1,557.7 | 84.9 | 22 | 504.4 | 316.1 | 763.7 | 1,034 | 2.6 | 788.0 | 897.2 | 908 | 06.0 | 937 | 1,074.2 | 10, | 1,629.0 | 1,598.2 | 1,659.8 |
| 1993 | 16,35 | 1,549 | ,525 | , 573. | 2,645 | 1,643.3 | 1,579 | 706.8 | 24 | 414.4 | 265.5 | 616.6 | 1,140 | 876.7 | 822.4 | 930.9 | 98 | 1,082.1 | 1,011.5 | 152.6 | 11,3 | 1,703.4 | 672.0 | 1,734.9 |
|  | 16, | 1,588 |  |  | 2,967 |  |  |  | 25 | 340.8 | 220.5 | 503.0 | 1,318 | 970.6 | 914.8 | 1,026.5 |  | 06 | ,035. | 177.0 | 11,2 | , 99. | 668.0 | 1.0 |
|  | 16 | 1,561.6 | 1,537, |  | 3, |  |  |  | 32 | 469.7 | 321.3 | 663.1 | 1,385 | 958.6 | 905.2 | 2.0 |  | 1,079.8 | 1,010.9 | 8.7 |  |  | 586.1 | 1,647, |
|  | 17, | 1,6 | 1,622 | 1,670.8 | 3,170 | 1, |  | , 021.5 | 27 | 359.0 | 236.6 | 522.4 | 1,621 | 1,0 | 1,014.0 | . 3 |  | 1,152.8 | ,081. | 4.6 |  |  | 687.6 | 1,751.3 |
| 1997 | 17,9 | 1,628 | 1,6050 | 1,652.8 | 3,324 | 2,0 | 1,940 | 7.8 | 16 | 159.6 | 91.2 | 259.2 | 1,8 | 1,108. | ,055.0 | 1,162.1 |  | 1,172.2 | ,100 | 1,243.8 |  | ,674,9 | 1,643.6 | 1,706.1 |
| 1998 | 18,53 | 1,643 | 1,619.6 | 1,667.1 | 3,343 | 1,9 | 1,908.4 | 2,043.5 | 30 | 261. | 176.1 | 37 | 1,916 | 1,060.9 | 1,011.1 | 1,110.6 | 1,27 | 1,279.4 | 206 | 352.7 | 11,2 | 1,698.1 | 66.7 | . 5 |
| 1999 | 18,846 | 1,608.0 | ,585. | 1,631.1 | 3,362 | 1,940.8 | 1,874.7 | 2,006.8 | 24 | 238.8 | 153.0 | 355.3 | 2,021 | 1,015.0 | 969.1 | 1,060.8 | 1,6 | 1,649 | ,567.8 | ,731.0 | 11,1 | ,641.9 | ,611.3 | 2.5 |
| 00 | 17,970 | 1,454.3 | ,433.0 | 1,475.7 | 3,193 | 1,7 | 1,690, | 1,812.5 | 20 | 65.5 | 162.2 | 10.0 | 1,997 | 867.5 | 828.5 | 906.5 | 1,3 | 1,183.7 | 1,117.8 | 1,249.6 | 10,815 | ,554 | ,524.7 | 3 7 |
|  | 16,89 | 1,358.2 | 1,337.6 | 1,378.8 | 2,8 | 1,567 | 1,509, | ,625.2 | 20 | 216.7 | 132.4 | 334.6 | 2,062 | 1.5 | 765 | 837.0 | 1,2 | 1,104.7 | 1,041 | ,168.3 |  | 472 | 442.6 | 1.5 |
| 2002 | 16,96 | 1,329.8 | ,309.6 | 349.9 | 2,8 | 1,5 | 1,479, | ,592. |  |  |  |  | 2,162 | 797.7 | 763.4 |  | 1,32 | , 117 | 1,055.0 | 180.0 |  | 1,407 | 378 | 1,435.7 |
| 2003 | 16,106 | 1,231.3 | ,212. | ,250.4 | 2,554 | 1,354.2 | 1,301 | , 407.2 | 18 | 60 | 95.1 | 25 | 2,169 | 776.3 | 743.1 | 809.6 | 1,296 | ,005. | 948. | 1,062. | 8,993 | , | 1,265.2 | 1,319.3 |
|  | 6,475 | 642.5 | 2.7 | 658.4 |  | 924.9 | 875.9 | , | <5 |  |  |  |  | 505.5 | 458 |  |  | 31. | 84 | 478.1 |  | 613.1 | 59.2 |  |
|  | 6,212 | 606.3 | 591.1 |  | 1,383 | 890.5 | 842.7 |  | 10 | 24 |  |  | 512 | 439.8 | 398.6 |  |  | 320.1 | 280.2 | 360.1 | 3,935 | 591.0 | 572.5 |  |
| 93 | 6,226 | 9.1 | 4.1 | 614.1 | 1,433 | 8 | 859.1 |  | 5 |  |  |  | 563 | 1.9 | 411.9 | 491.9 | 367 | 407.1 | 363.3 | 450 | 3,772 | 566.9 | 548.7 |  |
| 1994 | 6,184 | 90.6 | 575.8 | 605. | 1,3 | 0 | 809.8 | 902.2 | 6 |  |  |  | 606 | 88. | 447.5 | 530 | 358 | 389.5 | 346.9 | 432 | 3,771 | 566.6 | 548.5 |  |
| 1995 | 6,267 | 1.2 | 6.5 | 605.9 | 1,4 | 8 | 29.5 | 922.0 | 11 | 173.8 | 8.8 |  | 693 | 487.2 | 448.4 | 526.0 | 356 | 380.2 | 338.2 | 422 | 3,646 | 553.5 | 535.5 |  |
| 1996 | 616 | 9.7 | 4.7 | 634. | 1,5 | 8 | 920.1 | 1,017 | 6 |  |  |  | 73 | 489.2 | 451. | 526. | 378 | 397. | 354.9 | 439.8 | 3,768 | 573.0 | 554. |  |
| 1997 | 6,589 | 602.1 | 87.5 | 616.7 | 1,46 | 3 | 842.4 | 934.3 | 8 |  |  |  | 78 | 495.4 | 458 | 532. | 370 | 386 | 44. | 427 | 3,778 | 67.3 | 49.2 |  |
| 1998 | 7,136 | 639.4 | 24.5 | 654.3 | 1,6 | 3 | 940.9 | 1,037.6 | 12 | 138.0 |  |  |  | 507 | 1. | 542 | 428 | 441 | 397 | 485.4 | 3,954 | 593.1 | 574. |  |
|  | 7,039 | 2.2 | 588.1 | 6. | 1,65 | 67.1 | 920 | ,013. | 10 | 82. | 39.4 | 151.2 | 868 | 446.2 | 415.3 | 477.2 | 4 | 466.9 | 423 | 510 | 3,780 | 549.9 | 532.3 |  |
| 2000 | 6,998 | 56 | 554.5 | 581.3 | 1,6 | 0 | 845 | 932.5 | 19 | 258.0 | 155.3 |  | 826 | 374.1 | 7.7 |  |  | 431.8 | 391.6 | 472 | 3,845 | 548.1 | 530.6 |  |
| 2001 | 6,370 | 510.3 | 497.7 | 522. | 1,5 | 4 | 5.8 |  | 8 |  |  |  | 870 |  | 328.1 |  | 437 | 391.8 | 352.9 | 430 | 3,313 | 487.8 | 470.9 |  |
| 02 | 6,457 | 5.9 | 493.4 | 518. | 1,60 | 4 | 825.6 |  | 8 |  |  |  |  | 35.5 | 312.9 | 358 | 470 | 383.8 | 347.3 | 420 | 3,276 | 475.1 | 458. |  |
| 03 | 6,175 | 472.3 | 460.4 | 484.1 | 1,523 | 810.2 | 769.2 | 851.3 | <5 |  |  |  | 54 | 348.3 | 325.8 | 370.9 | 497 | 368.8 | 334.5 | 403 | 2,977 | 427.3 | 411.8 | 42 |
|  | 12,055 | 1,1 | 1,096 | 1,136. |  | 2, | 2,176.8 | 2,323.1 | 13 |  |  |  |  | 702.5 | 651.8 | 3,3 | 1,038 | 1,082.5 | 1,012.7. | ,152 |  | 918.7 | 895.6 |  |
|  | 11,599 | 1,060 | 1,040.9 | 1,079. |  |  | 2,050.2 | 91. | 29 |  | 341.7 | 732.9 | 914 | 710.1 | 661 | 759.0 |  | 10.7 | 945 | 1,076.5 | 5,8 | 874.9 | 852. |  |
|  | 11,996 | 1,083.8 | 1,064.2 | 1,103.3 | 3, | 2,114.9 | 2,044.8 | 185.1 | 27 | 423 | 278.8 | 615.6 | 1,036 | 760.9 | 711.4 | 810.3 |  | 1,160.1 | 1,090 | 229.8 | 5,955 | 893.0 | 870.2 | 9,7 |
|  | 12,05 | 1,086.2 | 1,066 | 1,105.8 | 3,5 | 2,103.7 | 2, | 3.6 | 33 | 28.8 | 295.2 | 602.2 | 998 | 697.0 | 650.8 | 743.1 | 1,2 | 1,164.7 | 1,096.3 | 233.0 | 6,045 | 915.5 | 892.3 | 938.7 |
| 1995 | 12,404 | 1,110.9 | 1,091.2 | , | 3,861 | 2,259.4 | 2,187.3 | 1.6 | 51 | 28.3 | 467.8 | 826 | 1,071 | 714.4 | 669.1 | 759.8 | 1,202 | 1,106.2 | 1,040.1 | ,172.3 | 5,845 | 893.7 | 870.7 | 16.6 |
| 19 | 13,082 | 1,163.4 | 1,143. | 1,183 | 3,87 | 2,260.1 | 2,188.1 | 泿32.1 | 38 | 379 | 268.7 | 521.2 | 1,206 | 735. | 691.2 | 779.1 | 1,35 | 1,240.2 | 1,169.8 | 1,310.5 | 6,160 | 946.4 | 922.7 | \% 1 |
| 1997 | 13,572 | 1,177.4 | 1,157. | 1,197 | 4,30 | 2,451 | 2,377.6 | , 525.9 | 24 | 05. | 1.8 | 306 | 1,3 | 759.8 | 717. | 802.5 | 1,2 | 1,165.6 | ,097.9 | ,233. | 6,1 | 937.2 | 913. |  |
| 1998 | 14,403 | 1,223.6 | 1,203.5 | 1,243.7 | 4,3 | 2,439 | 2,365.7 | ,512.5 | 29 | 259 | 174.0 |  | 1,5 | 812.3 | 770.2 |  |  | 1,392.7 | ,319 |  | 6,351 | 965.4 | 41. | 989 |
|  | 15,31 | 1,255.2 | 1,235. | 1,275. | 4, | 2,475.3 | 2,402.3 | 548.3 | 30 | 220.4 | 14 |  | 1,75 | 832 | 791.6 | 872.6 |  | 1,576.1 | 1,501.8 |  | 6,588 | 986.6 | 962.7 | 1,010.6 |
| 2000 | 15,492 | 1,212.8 | 1,193.6 | 1,232.0 | 4 | 2,331.3 | 2,262.3 | 2,400.3 | 31 | 346 | 235.6 | 492 | 1,838 | 755.8 | 720.3 | 791.3 | 1,8 | 1,414.8 | 1,346.7 | 483.0 | 6,8 | ,007.5 | 983.4 | 1,031.5 |
| 2001 | 14,400 | 1,111.0 | 1,092.7 | 1,129.3 | 4,164 | 2,169.6 | 2,103.1 | 2,236.0 | 22 | 189.6 | 118.8 | 287.1 | 1,900 | 704.7 | 672.0 | 73 | 1,683 | 1,225.5 | 1,162.7 | 1,288.2 | 6,064 | 931.7 | 907.9 | 955.4 |
| 2002 | 15,347 | 1,156.0 | 1,137.5 | 1,174.4 | 4,239 | 2,177.8 | 2,111.7 | 2,244.0 | 32 | 261.1 | 178.6 | 368.6 | 2,132 | 744.5 | 712.1 | 776.9 | 1,833 | 1,289.6 | 1,226.3 | 1,352.8 | 6,475 | 974.1 | 950.0 | 998.2 |
| 2003 | 15,310 | 1,120.8 | 1,102.9 | 1,138.8 | 4,244 | 2,134.7 | 2,069.8 | 2,199.6 | 20 | 177.8 | 108.6 | 274.6 | 2,276 | 770.3 | 738.0 | 802.6 | 1,943 | 1,291.2 | 1,230.0 | 1,352.5 | 6,123 | 901.4 | 878.5 | 924 |

Table B.17: Historical Hospitalizations by Race/Ethnicity, Alameda County, 1991-2003, Annual Counts, Rates, and 95\% Confidence Limits


Table B.19: Historical Cancer Incidence by Race/Ethnicity, Alameda County, 1990-2002, Annual Counts, Rates, and 95\% Confidence Limits


|  | Female |  |  |  | Male |  |  |  | Afram |  |  |  | Asian |  |  |  | Latino |  |  |  | White |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Rate | LCL | UCL | Total | Rate | LCL | UCL | Total | Rate | LCL | UCL | Total | Rate | LCL | UCL | Total | Rate | LCL | UCL | Tota | Ra | LCL | UCL |
| 1990 | 925 | 158.2 | 147.9 | 168.5 |  |  |  |  | 126 | 135.3 | 111.3 | 159.3 | 78 | 101.8 | 80.5 | 127.1 | 73 | 133.9 | 105.0 | 168.4 | 645 | 177.3 | 163.5 | 191.2 |
| 1991 | 926 | 155.8 | 145.7 | 165.9 |  |  |  |  | 135 | 142.0 | 117.6 | 166.3 | 90 | 113.5 | 91.2 | 139.5 | 84 | 154.5 | 123.3 | 191.3 | 607 | 167.3 | 153.8 | 180.8 |
| 1992 | 936 | 155.5 | 145.4 | 165.5 |  |  |  |  | 128 | 132.7 | 109.4 | 156.0 | 84 | 106.5 | 84.9 | 131.9 | 56 | 102.7 | 77.6 | 133.4 | 652 | 178.6 | 164.8 | 192.5 |
| 1993 | 875 | 142.9 | 133.4 | 152.4 |  |  |  |  | 131 | 134.1 | 110.9 | 157.3 | 72 | 83.6 | 65.4 | 105.3 | 77 | 129.7 | 102.4 | 162.1 | 590 | 161.9 | 148.8 | 175.1 |
| 1994 | 976 | 158.8 | 148.8 | 168.8 |  |  |  |  | 153 | 156.0 | 131.1 | 180.9 | 104 | 109.4 | 87.6 | 131.3 | 68 | 115.2 | 89.4 | 146.0 | 637 | 177.2 | 163.4 | 191.1 |
| 1995 | 993 | 159.9 | 149.9 | 169.9 |  |  |  |  | 121 | 124.5 | 102.2 | 146.8 | 99 | 99.4 | 80.8 | 121.1 | 89 | 139.9 | 112.4 | 172.2 | 673 | 187.9 | 173.6 | 202.2 |
| 1996 | 1,019 | 161.7 | 151.7 | 171.7 |  |  |  |  | 128 | 130.1 | 107.5 | 152.8 | 116 | 107.0 | 87.0 | 127.0 | 84 | 128.0 | 102.1 | 158.4 | 668 | 188.1 | 173.7 | 202.4 |
| 1997 | 1,110 | 170.9 | 160.8 | 181.0 |  |  |  |  | 166 | 164.9 | 139.7 | 190.1 | 133 | 112.0 | 92.5 | 131.5 | 68 | 103.3 | 80.2 | 131.0 | 729 | 203.0 | 188.1 | 217.8 |
| 1998 | 1,109 | 165.8 | 156.0 | 175.6 |  |  |  |  | 138 | 131.0 | 109.0 | 152.9 | 134 | 102.9 | 85.1 | 120.7 | 76 | 110.6 | 87.1 | 138.4 | 709 | 196.7 | 182.2 | 211.3 |
| 1999 | 1,217 | 177.2 | 167.3 | 187.2 |  |  |  |  | 160 | 150.9 | 127.4 | 174.3 | 165 | 122.9 | 103.7 | 142.1 | 100 | 142.5 | 113.6 | 171.5 | 727 | 199.2 | 184.6 | 213.8 |
| 2000 | 1,167 | 163.1 | 153.7 | 172.5 |  |  |  |  | 161 | 149.1 | 126.0 | 172.3 | 162 | 109.8 | 92.7 | 126.9 | 104 | 132.9 | 106.6 | 159.2 | 689 | 185.4 | 171.5 | 199.4 |
| 2001 | 1,107 | 152.8 | 143.7 | 161.8 |  |  |  |  | 145 | 134.4 | 112.4 | 156.4 | 175 | 107.0 | 90.9 | 123.1 | 93 | 112.5 | 90.8 | 137.9 | 655 | 185.5 | 171.1 | 199.8 |
| 2002 | 1,228 | 165.4 | 156.1 | 174.7 |  |  |  |  | 165 | 152.1 | 128.8 | 175.5 | 184 | 107.1 | 91.5 | 122.7 | 132 | 153.3 | 126.2 | 180.4 | 732 | 200.0 | 185.3 | 214.7 |
| 1990 |  |  |  |  | 589 | 146.3 | 134.0 | 158.7 | 129 | 221.4 | 180.7 | 262.2 | 42 | 105.4 | 76.0 | 142.5 | 27 | 89.1 | 58.7 | 129.7 | 384 | 143.4 | 128.6 | 158.2 |
| 1991 |  |  |  |  | 817 | 195.8 | 181.9 | 209.6 | 170 | 275.5 | 232.2 | 318.8 | 37 | 87.5 | 61.6 | 120.6 | 48 | 139.3 | 102.7 | 184.7 | 554 | 203.6 | 186.3 | 221.0 |
| 1992 |  |  |  |  | 873 | 206.4 | 192.4 | 220.5 | 160 | 250.1 | 210.0 | 290.3 | 50 | 99.4 | 73.8 | 131.0 | 53 | 141.4 | 105.9 | 184.9 | 591 | 218.5 | 200.6 | 236.4 |
| 1993 |  |  |  |  | 886 | 199.9 | 186.5 | 213.4 | 183 | 281.3 | 239.5 | 323.1 | 60 | 106.3 | 81.1 | 136.8 | 61 | 156.3 | 119.5 | 200.8 | 547 | 195.3 | 178.7 | 211.8 |
| 1994 |  |  |  |  | 846 | 190.7 | 177.6 | 203.8 | 183 | 282.5 | 240.5 | 324.5 | 73 | 122.5 | 96.1 | 154.1 | 55 | 149.1 | 112.4 | 194.1 | 497 | 180.3 | 164.3 | 196.3 |
| 1995 |  |  |  |  | 736 | 164.3 | 152.2 | 176.4 | 162 | 250.9 | 211.4 | 290.3 | 62 | 93.9 | 72.0 | 120.3 | 56 | 143.1 | 108.1 | 185.8 | 427 | 155.4 | 140.5 | 170.2 |
| 1996 |  |  |  |  | 731 | 161.4 | 149.5 | 173.4 | 173 | 266.2 | 225.7 | 306.8 | 53 | 82.7 | 61.9 | 108.2 | 66 | 172.9 | 133.7 | 220.0 | 400 | 146.3 | 131.8 | 160.8 |
| 1997 |  |  |  |  | 714 | 155.0 | 143.4 | 166.5 | 150 | 229.4 | 191.9 | 267.0 | 69 | 93.4 | 72.6 | 118.1 | 56 | 140.7 | 106.3 | 182.7 | 398 | 144.5 | 130.2 | 158.9 |
| 1998 |  |  |  |  | 775 | 161.9 | 150.4 | 173.5 | 124 | 184.5 | 151.2 | 217.7 | 65 | 84.3 | 65.1 | 107.4 | 60 | 133.2 | 101.7 | 171.5 | 458 | 164.6 | 149.4 | 179.8 |
| 1999 |  |  |  |  | 857 | 172.6 | 160.9 | 184.4 | 173 | 247.6 | 210.0 | 285.3 | 75 | 88.0 | 69.2 | 110.3 | 54 | 122.5 | 92.0 | 159.8 | 482 | 168.2 | 153.1 | 183.4 |
| 2000 |  |  |  |  | 900 | 168.8 | 157.6 | 180.0 | 177 | 238.7 | 202.9 | 274.4 | 96 | 96.3 | 78.0 | 117.6 | 72 | 147.4 | 115.4 | 185.7 | 477 | 161.0 | 146.5 | 175.6 |
| 2001 |  |  |  |  | 888 | 164.9 | 153.9 | 175.9 | 164 | 214.4 | 181.1 | 247.7 | 99 | 88.3 | 71.8 | 107.5 | 65 | 131.6 | 101.5 | 167.7 | 522 | 182.7 | 166.8 | 198.6 |
| 2002 |  |  |  |  | 916 | 163.0 | 152.3 | 173.7 | 157 | 203.7 | 171.2 | 236.2 | 117 | 99.9 | 81.4 | 118.5 | 84 | 153.0 | 122.0 | 189.4 | 526 | 178.1 | 162.6 | 193.6 |

Table B.21: Tuberculosis Cases, Alameda County, 2002-2004, Total Counts, 3-Year Average Rates, and 95\% Confidence Limits

|  | Total | \% | Rate | LCL | UCL |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Total | 518 | 100.0 | 12.4 | 11.3 | 13.5 |
| Sex |  |  |  |  |  |
| Female | 229 | 44.2 | 10.8 | 9.4 | 12.2 |
| Male | 289 | 55.8 | 14.1 | 12.5 | 15.7 |
| Race/Ethnicity |  |  |  |  |  |
| AfrAm | 75 | 14.5 | 12.8 | 10.1 | 16.0 |
| API | 317 | 61.2 | 32.2 | 28.7 | 35.8 |
| Latino | 91 | 17.6 | 10.3 | 8.3 | 12.6 |
| White | 29 | 5.6 | 1.9 | 1.3 | 2.7 |
| Other | 6 | 1.2 | 3.6 |  |  |
| Age Group |  |  |  |  |  |
| 0-4 | 17 | 3.3 | 5.8 | 3.4 | 9.2 |
| 5-14 | 20 | 3.9 | 3.5 | 2.1 | 5.4 |
| 15-24 | 52 | 10.0 | 10.3 | 7.7 | 13.5 |
| 25-44 | 155 | 29.9 | 11.1 | 9.4 | 12.8 |
| 45-64 | 153 | 29.5 | 15.6 | 13.2 | 18.1 |
| 65 \& up | 121 | 23.4 | 28.8 | 23.7 | 34.0 |
| County of Origin |  |  |  |  |  |
| Foreign-born | 399 | 77.0 | 34.5 | 31.1 | 37.9 |
| U.S.-born | 117 | 22.6 | 3.9 | 3.2 | 4.6 |
| Unknown | 2 | 0.4 |  |  |  |

Table B.22: AIDS Cases, Alameda County, 2002-2004, Total Counts, 3-Year Average Rates, and 95\% Confidence Limits

|  | Total | \% | Rate | LCL | UCL |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Total | 583 | 100.0 | 13.0 | 11.9 | 14.0 |
| Sex |  |  |  |  |  |
| Female | 140 | 24.0 | 6.1 | 5.1 | 7.1 |
| Male | 443 | 76.0 | 20.1 | 18.2 | 21.9 |
| Race/Ethnicity |  |  |  |  |  |
| AfrAm | 306 | 52.5 | 49.0 | 43.5 | 54.5 |
| API | 21 | 3.6 | 1.9 | 1.2 | 3.0 |
| Hispanic | 111 | 19.0 | 11.9 | 9.7 | 14.1 |
| Amerind | 2 | 0.3 |  |  |  |
| White | 142 | 24.4 | 8.4 | 7.0 | 9.7 |
| Unknown | 1 | 0.2 |  |  |  |
| Age Group |  |  |  |  |  |
| 0-12 | 2 | 0.3 |  |  |  |
| 13-19 | 2 | 0.3 |  |  |  |
| 20-29 | 57 | 9.8 | 8.6 | 6.5 | 11.2 |
| 30-39 | 195 | 33.4 | 24.9 | 21.4 | 28.4 |
| 40-49 | 204 | 35.0 | 28.6 | 24.6 | 32.5 |
| 50 \& up | 123 | 21.1 | 10.7 | 8.8 | 12.5 |
| Sex by Age |  |  |  |  |  |
| Females |  |  |  |  |  |
| 0-12 | 1 | 0.7 |  |  |  |
| 13-19 | 1 | 0.7 |  |  |  |
| 20-29 | 14 | 10.0 | 4.3 | 2.4 | 7.2 |
| 30-39 | 43 | 30.7 | 10.9 | 7.9 | 14.6 |
| 40-49 | 49 | 35.0 | 13.6 | 10.1 | 18.0 |
| 50 \& up | 32 | 22.9 | 5.1 | 3.5 | 7.2 |
| Males |  |  |  |  |  |
| 0-12 | 1 | 0.2 |  |  |  |
| 13-19 | 1 | 0.2 |  |  |  |
| 20-29 | 43 | 9.7 | 12.8 | 9.3 | 17.3 |
| 30-39 | 152 | 34.3 | 39.2 | 32.9 | 45.4 |
| 40-49 | 155 | 35.0 | 43.8 | 36.9 | 50.7 |
| 50 \& up | 91 | 20.5 | 17.4 | 14.0 | 21.3 |
| Exposure Mode |  |  |  |  |  |
| Men who have sex with men (MSM) | 261 | 44.8 |  |  |  |
| Injection drug use (IDU) | 95 | 16.3 |  |  |  |
| MSM \& IDU | 17 | 2.9 |  |  |  |
| Heterosexual contact | 176 | 30.2 |  |  |  |
| Other | 34 | 5.8 |  |  |  |

Table B.23: Gonorrhea Cases, Alameda County, 2002-2004, Total Counts, 3-Year Average Rates, and 95\% Confidence Limits

|  |  | Total | \% | Rate | LCL | UCL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total |  | 4,880 | 100.0 | 116.9 | 113.7 | 120.2 |
| Sex |  |  |  |  |  |  |
|  | Female | 2,472 | 50.7 | 115.9 | 111.3 | 120.5 |
|  | Male | 2,382 | 48.8 | 116.0 | 111.3 | 120.6 |
|  | Unknown | 26 | 0.5 |  |  |  |
| Race/Ethnicity |  |  |  |  |  |  |
|  | AfrAm | 2,134 | 43.7 |  |  |  |
|  | API | 111 | 2.3 |  |  |  |
|  | Latino | 264 | 5.4 |  |  |  |
|  | Other | 201 | 4.1 |  |  |  |
|  | White | 327 | 6.7 |  |  |  |
|  | Unknown | 1,843 | 37.8 |  |  |  |
| Sex by Age |  |  |  |  |  |  |
| Females |  |  |  |  |  |  |
|  | $<10$ | 5 | 0.2 |  |  |  |
|  | 10-14 | 70 | 2.8 | 49.3 | 38.5 | 62.3 |
|  | 15-19 | 920 | 37.2 | 729.3 | 682.2 | 776.4 |
|  | 20-24 | 705 | 28.5 | 567.5 | 525.6 | 609.4 |
|  | 25-29 | 356 | 14.4 | 219.2 | 196.4 | 241.9 |
|  | 30-34 | 181 | 7.3 | 95.6 | 81.7 | 109.6 |
|  | 35-44 | 172 | 7.0 | 47.6 | 40.5 | 54.7 |
|  | 45 \& up | 59 | 2.4 | 7.9 | 6.0 | 10.2 |
|  | Unknown | 4 | 0.2 |  |  |  |
| Males |  |  |  |  |  |  |
|  | $<10$ | 1 | 0.0 |  |  |  |
|  | 10-14 | 14 | 0.6 | 9.4 | 5.1 | 15.8 |
|  | 15-19 | 339 | 14.2 | 255.4 | 228.2 | 282.6 |
|  | 20-24 | 586 | 24.6 | 442.2 | 406.4 | 478.0 |
|  | 25-29 | 405 | 17.0 | 252.4 | 227.8 | 277.0 |
|  | 30-34 | 339 | 14.2 | 185.8 | 166.0 | 205.5 |
|  | 35-44 | 464 | 19.5 | 129.4 | 117.6 | 141.2 |
|  | 45 \& up | 227 | 9.5 | 35.2 | 30.6 | 39.8 |
|  | Unknown | 7 | 0.3 |  |  |  |

Table B.24: Chlamydia Cases, Alameda County, 2002-2004, Total Counts, 3-Year Average Rates, and 95\% Confidence Limits

|  |  | Total | \% | Rate | LCL | UCL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total |  | 13,626 | 100.0 | 324.5 | 320.0 | 330.9 |
| Sex |  |  |  |  |  |  |
|  | Female | 10,504 | 77.1 | 492.1 | 482.7 | 501.5 |
|  | Male | 3,082 | 22.6 | 150.1 | 144.8 | 155.4 |
|  | Unknown | 40 | 0.3 |  |  |  |
| Race/Ethnicity |  |  |  |  |  |  |
|  | AfrAm | 3,947 | 29.0 |  |  |  |
|  | API | 765 | 5.6 |  |  |  |
|  | Latino | 1,844 | 13.5 |  |  |  |
|  | Other | 546 | 4.0 |  |  |  |
|  | White | 5,636 | 41.4 |  |  |  |
|  | Unknown | 888 | 6.5 |  |  |  |
| Sex by Age |  |  |  |  |  |  |
| Females |  |  |  |  |  |  |
|  | $<10$ | 5 | 0.0 |  |  |  |
|  | 10-14 | 262 | 2.5 | 184.6 | 162.3 | 207.0 |
|  | 15-19 | 3,847 | 36.6 | 3,049.5 | 2,953.1 | 3,145.9 |
|  | 20-24 | 3,417 | 32.5 | 2,750.6 | 2,658.4 | 2,842.8 |
|  | 25-29 | 1,552 | 14.8 | 955.5 | 908.0 | 1,003.0 |
|  | 30-34 | 725 | 6.9 | 383.1 | 355.2 | 411.0 |
|  | 35-44 | 510 | 4.9 | 141.2 | 128.9 | 153.4 |
|  | 45+ | 158 | 1.5 | 21.2 | 17.9 | 24.5 |
|  | Unknown | 28 | 0.3 |  |  |  |
| Males |  |  |  |  |  |  |
|  | <10 | 6 | 0.2 |  |  |  |
|  | 10-14 | 19 | 0.6 | 12.8 | 7.7 | 20.0 |
|  | 15-19 | 667 | 21.6 | 502.5 | 464.3 | 540.6 |
|  | 20-24 | 906 | 29.4 | 683.7 | 639.1 | 728.2 |
|  | 25-29 | 588 | 19.1 | 366.4 | 336.8 | 396.0 |
|  | 30-34 | 378 | 12.3 | 207.1 | 186.2 | 228.0 |
|  | 35-44 | 364 | 11.8 | 101.5 | 91.1 | 112.0 |
|  | 45+ | 147 | 4.8 | 22.8 | 19.1 | 26.5 |
|  | Unknown | 7 | 0.2 |  |  |  |

Table B.25: Historical Communicable Disease, Alameda County, 1980-2004, Annual Counts, Rates, and 95\% Confidence Limits

|  |  | Total | Rate | LCL | UCL |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { n } \\ & \frac{n}{3} \\ & \frac{0}{0} \\ & \text { in } \end{aligned}$ | 1990 | 296 | 25.2 | 22.3 | 28.1 |
|  | 1991 | 267 | 22.2 | 19.6 | 24.9 |
|  | 1992 | 223 | 18.6 | 16.1 | 21.0 |
|  | 1993 | 158 | 13.0 | 11.0 | 15.0 |
|  | 1994 | 200 | 16.3 | 14.0 | 18.6 |
|  | 1995 | 238 | 19.3 | 16.9 | 21.8 |
|  | 1996 | 234 | 18.9 | 16.4 | 21.3 |
|  | 1997 | 192 | 15.2 | 13.1 | 17.4 |
|  | 1998 | 223 | 17.3 | 15.1 | 19.6 |
|  | 1999 | 224 | 17.1 | 14.9 | 19.3 |
|  | 2000 | 241 | 18.0 | 15.7 | 20.2 |
|  | 2001 | 196 | 14.4 | 12.4 | 16.4 |
|  | 2002 | 199 | 14.4 | 12.4 | 16.5 |
|  | 2003 | 175 | 12.6 | 10.8 | 14.5 |
|  | 2004 | 144 | 10.3 | 8.6 | 12.0 |
| $\frac{\tilde{2}}{\frac{1}{4}}$ | 1980 | 1 |  |  |  |
|  | 1981 | 3 |  |  |  |
|  | 1982 | 7 |  |  |  |
|  | 1983 | 27 |  |  |  |
|  | 1984 | 53 |  |  |  |
|  | 1985 | 106 |  |  |  |
|  | 1986 | 193 |  |  |  |
|  | 1987 | 283 | 23.0 | 20.3 | 25.7 |
|  | 1988 | 323 | 25.8 | 23.0 | 28.6 |
|  | 1989 | 411 | 32.3 | 29.2 | 35.5 |
|  | 1990 | 394 | 30.8 | 27.8 | 33.8 |
|  | 1991 | 475 | 36.7 | 33.4 | 40.0 |
|  | 1992 | 620 | 47.3 | 43.5 | 51.0 |
|  | 1993 | 571 | 43.1 | 39.6 | 46.7 |
|  | 1994 | 496 | 37.3 | 34.0 | 40.6 |
|  | 1995 | 440 | 33.0 | 29.9 | 36.0 |
|  | 1996 | 401 | 29.8 | 26.9 | 32.7 |
|  | 1997 | 326 | 23.7 | 21.1 | 26.2 |
|  | 1998 | 254 | 18.1 | 15.9 | 20.4 |
|  | 1999 | 241 | 16.9 | 14.8 | 19.1 |
|  | 2000 | 225 | 15.6 | 13.5 | 17.6 |
|  | 2001 | 220 | 15.1 | 13.1 | 17.1 |
|  | 2002 | 226 | 15.3 | 13.3 | 17.3 |
|  | 2003 | 219 | 14.6 | 12.7 | 16.6 |
|  | 2004 | 138 | 9.1 | 7.6 | 10.6 |



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[^0]:    Source: CAPE; Census 1990 and 2000.

[^1]:    Source: CAPE; CA EDD.

[^2]:    Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

[^3]:    Source: CAPE; Northern California Cancer Center, Census 2000, DOF.

[^4]:    Source: CAPE; Northern California Cancer Center, Census 2000, DOF.

[^5]:    Note: Average annual number of births 2001-2003=21,758; average annual birth rate=14.6 per 1,000
    Source: CAPE; Alameda County vital statistics files, Census 2000, DOF.

    * Birth rates are per 1,000 population.
    **NHOPI: Native Hawaiian and other Pacific Islander

[^6]:    Source: CAPE; Alameda County Kindergarten Retrospective Survey, 2003

[^7]:    Source: Alameda County Oral Health Needs Assessment, 2004

[^8]:    Alameda County Cases ——Alameda County Case Rate ——California Rate ——U.S. Rate

[^9]:    Rates are per 100,000 and are age-adjusted by the direct method to the 2000 U.S. population.

