



California Asthma Facts

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Asthma Disparities Among African Americans

Asthma Prevalence

Asthma continues to be a major public health problem affecting African Americans. In 2001, the lifetime asthma prevalence among African American children and adults was significantly higher than the lifetime asthma prevalence among Non-Hispanic Whites, Latinos, and Asians. While approximately 12 percent of the state's adult population reported that they had been diagnosed with asthma during their lifetime, 16 percent of African American adults and more than 20 percent of African American children under 18 years of age were reported to have been diagnosed with asthma (based on data from the California Health Interview Survey).¹

Asthma Hospitalizations

In California, every year about 40,000 people are hospitalized due to asthma. In 2000, the overall state asthma hospitalization rate was 10.54 per 10,000 residents. The hospitalization rate for African Americans was almost four times higher for children and three times higher for adults compared to Non-Hispanic Whites. Tables 1 and 2 display hospitalization rates and rate ratios by gender and race/ethnicity for children and adults. Boys were almost twice as likely to be hospitalized for asthma as girls. The reverse was true for adults, with women having higher asthma hospitalization rates than men.

This gender difference by age is seen across all race/ethnicity groups.



Table 1. Asthma Hospitalization Rates* per 10,000 and Rate Ratios for Children ages 0-17 years, California, 2000

Gender	Non-Hispanic White	African American	Overall	Rate Ratio
Male	17.11	63.50	20.36	3.71
Female	10.18	41.74	12.26	4.10

*Age-adjusted to the 2000 U.S. population

Table 2. Asthma Hospitalization Rates* per 10,000 and Rate Ratios for Adults ages 18+ years, California, 2000

Gender	Non-Hispanic White	African American	Overall	Rate Ratio
Male	4.06	14.83	4.96	3.65
Female	10.61	32.40	11.83	3.05

*Age-adjusted to the 2000 U.S. population

Inside this issue: This issue of *California Asthma Facts* focuses on disparities in asthma prevalence, hospitalizations, and mortality among African Americans in California.



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Asthma Hospitalizations (*continued*)

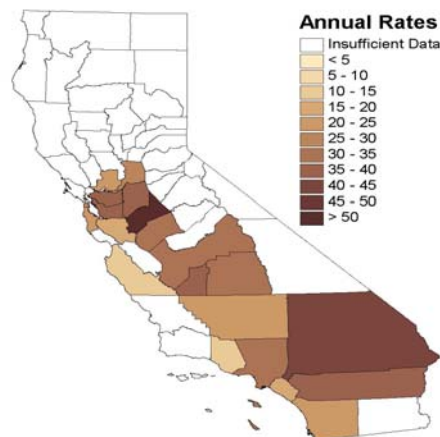
There were differences in asthma hospitalization rates by county for African Americans (Figure 1). Counties with the highest rates for African Americans were San Joaquin, Contra Costa, Alameda, San Bernardino, Los Angeles, and Riverside Counties. King and Stanislaus Counties showed high asthma hospitalization rates; however, the number of asthma hospital discharges for each county was less than 50.

When we conducted an additional analysis of the hospitalization rates, we factored in socioeconomic status*. We found that African Americans were still more than two times as likely to be hospitalized due to asthma compared to Non-Hispanic Whites.



*Socioeconomic status was indicated by median household income, percent below poverty level, percent without a high school diploma, and percent in managerial/professional occupations for the patient's zip code of residence.

Figure 1. Asthma Hospitalization Rates*, African Americans, All Ages, California, 2000



*Rates were calculated per 10,000 residents and age-adjusted to the 2000 U.S. population.

African American adults are also more likely to be repeatedly hospitalized. In 2000, adults ages 18 years and older with repeat asthma hospital admissions accounted for 17.8 percent of the total hospital stays. Of 20,518 adult asthma hospitalizations, African American adults accounted for the highest proportion experiencing repeat asthma hospital admissions (24.7 percent).

The expected sources of payment for asthma hospitalizations differed between race/ethnicity groups. Non-Hispanic Whites accounted for about half of the private insurance payments. Of 12,683 asthma hospitalizations with an expected payment of Medi-Cal, the race/ethnicity groups with the highest proportions were African Americans (28.1 percent) and Hispanics (37.8 percent).

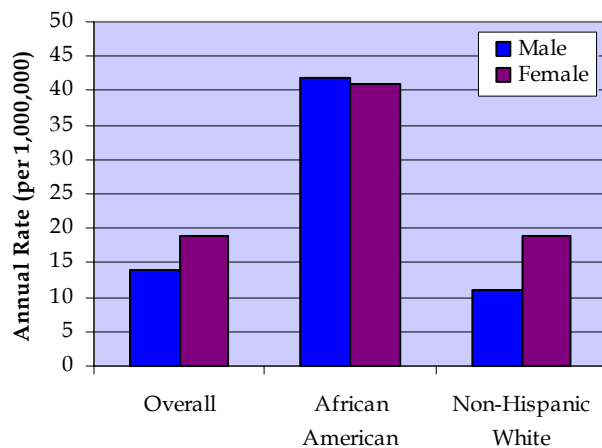
METHODS

Hospitalization data from the 2000 California Patient Discharge Data was obtained from the California Office of Statewide Health Planning and Development. These computerized records included all hospital discharges in California, except from federal facilities. All discharges with asthma as the primary diagnosis were selected, based on the ninth revision of the International Classification of Diseases (ICD-9), code 493. Mortality data from the 2001 California Death Public Use Tape was obtained from the California Department of Health Services, Center for Health Statistics. All deaths with asthma as the underlying cause of death, ICD-10 codes "J45-J46" were selected. California population estimates were obtained from the California Department of Finance and 2000 United States population estimates for age-adjusted rate calculations were obtained from the United States Census Bureau.

Asthma Mortality

In 2001, there were 543 deaths due to asthma and the overall age-adjusted asthma mortality rate was 16.93 per one million residents. Figure 2 shows asthma mortality rates per one million residents by gender and race/ethnicity among all ages. Overall, African Americans had higher asthma mortality rates than Non-Hispanic Whites. The mortality rate for African American males was three times higher than Non-Hispanic White males. The mortality rate for African American females was two times higher than their counterparts.

Figure 2. Asthma Mortality Rates* per 1,000,000 for All Ages, California, 2001



*Age-adjusted to the 2000 U.S. population

Addressing Disparities

Explanations for the prevalence, hospitalization, and mortality rate disparities for African Americans compared to other race/ethnicity groups are not clear. Some environmental triggers (mold, dust mites, cockroaches, etc.) and poor access to health care may be more prevalent in African American communities. Other studies have identified differences in asthma medication management between African American and Non-Hispanic White children.^{2,3} This may be due to differences in how clinicians prescribe medications to African Americans and Non-Hispanic Whites.³ Genetic differences may also contribute to the disparities. Studies have identified differences in lung volume, airway responsiveness, and serum IgE levels between African Americans and Non-Hispanic Whites.^{4,5}

The reduction of asthma related disparities should involve the development of effective intervention programs targeted toward African American communities, including families with asthmatic children, schools, health care organizations, and policy makers. Health educators can implement a culturally relevant model that utilizes research findings and involves community participation in the development of educational approaches to address the disparities. The educational approaches should address issues involving equity of medication management according to the National Asthma Education and Prevention Program Guidelines for the Diagnosis and Management of Asthma.⁶

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California Asthma Facts

The California Department of Health Services has worked with leading asthma organizations, agencies, and public interest groups throughout the state to develop an integrated plan, *The Statewide Strategic Plan for Asthma in California*, to address the asthma epidemic in California.

Please visit the *California Breathing* website for more information:

www.californiabreathing.org

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