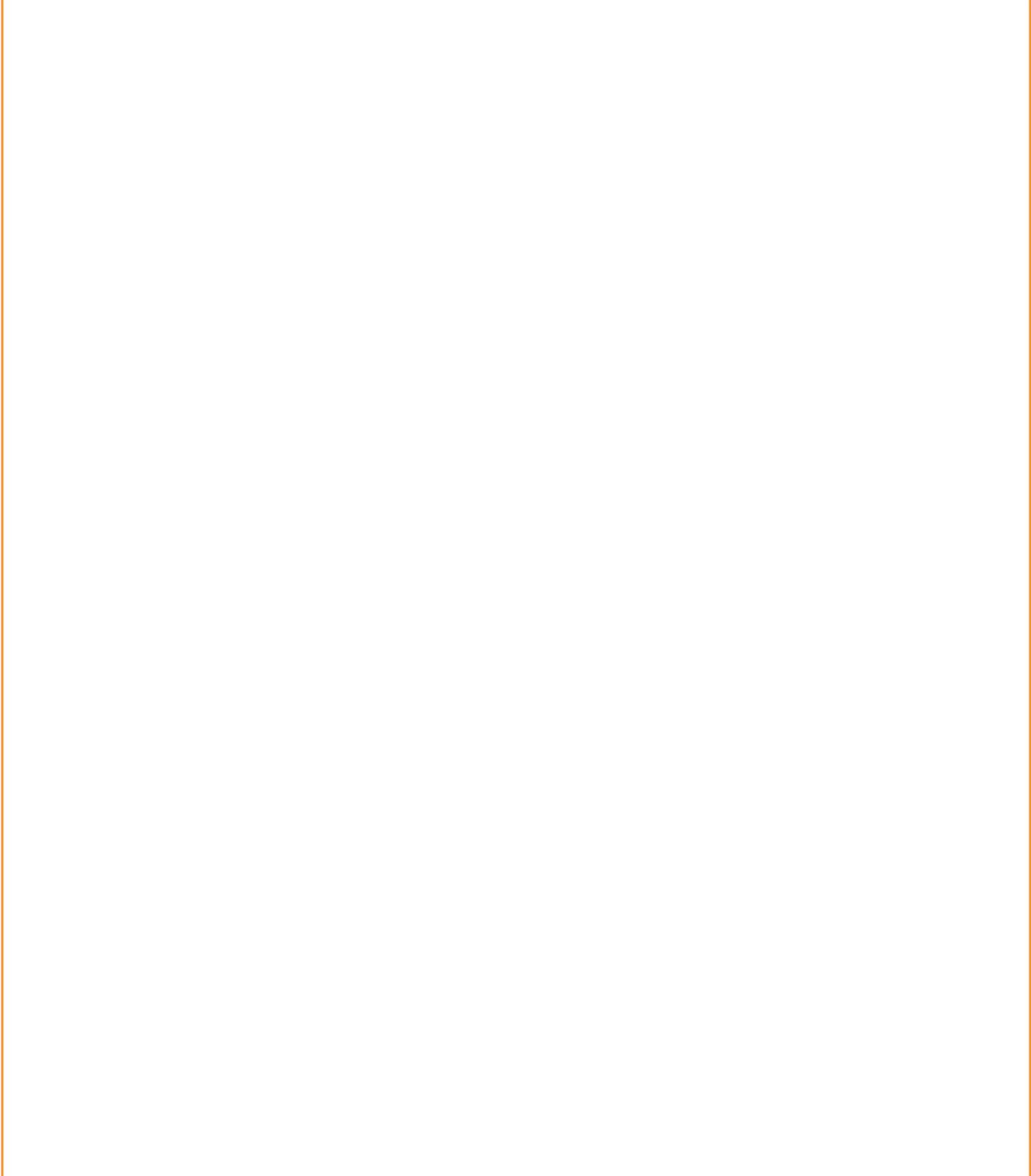


Stanislaus County Asthma Report Card 2010

Executive Summary



June 2010



Acknowledgements

The development of this report was supported in part by the California Asthma Public Health Initiative (CAPHI) and the California Department of Public Health (CDPH) with funding from the Cigarette and Tobacco Products Surtax Fund (Prop 99) Unallocated Account (UA). Stanislaus County is the recipient of an *Enhancing Local Capacity to Address Asthma Priorities (ELCAAP) Program* grant from CDPH for 2009-2012 and used ELCAAP funds, in part, to create this report.

In addition, technical assistance was received from state epidemiologists from the *California Breathing* project of the California Department of Public Health's Environmental Health Investigations Branch. This report is modeled after the county asthma profiles produced by *California Breathing*, but includes more county-specific and sub-county information than those reports. Readers may wish to refer to these or other publications produced by *California Breathing* which can be found at <http://www.californiabreathing.org/>.

Finally, the Central Valley Health Policy Institute (at CSU Fresno) provided assistance with obtaining and analyzing data not available directly to county staff.

The Stanislaus County Asthma Coalition, particularly its subcommittee, played a key role in designing the focus of and helping collect survey data for this report.

A special thank you is due to the following Stanislaus County Health Services Agency/ Public Health staff for their contribution to the publication of this document:

Dolores Cisneros
Sharon Hutchins
Phoebe Leung

Cleopathia Moore-Bell
Olivia Tong
Joseph Wadley

Stanislaus County Board of Supervisors

Jeff Grover, Chairman, District Three
Dick Monteith, Vice-Chairman, District Four
William O'Brien, District One
Vito Chiesa, District Two
Jim DeMartini, District Five

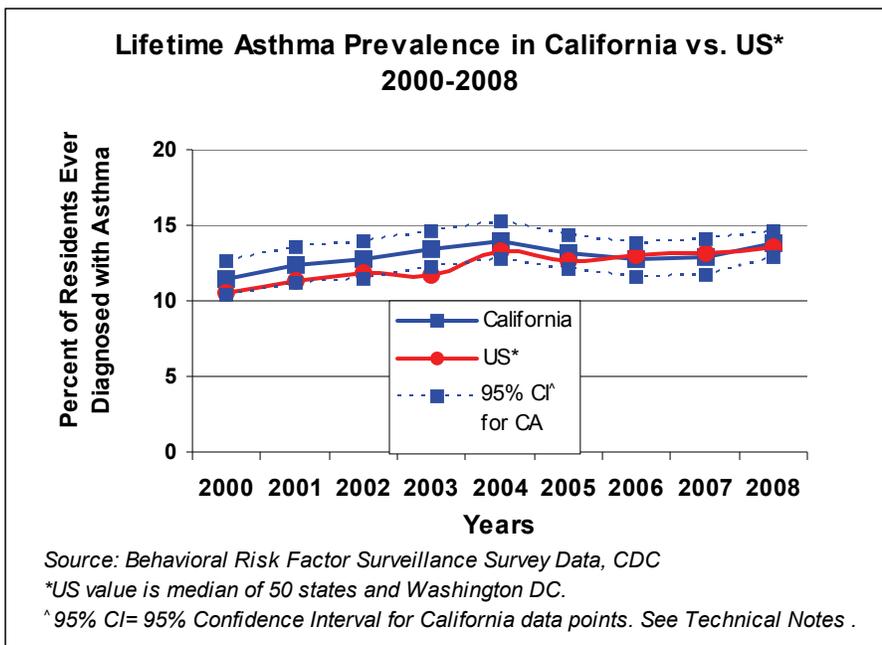
Health Services Agency, Public Health Administration

Mary Ann Lee, Managing Director, HSA
Cleopathia Moore-Bell, Associate Director, Director of Public Health Services
John Walker, M.D., Public Health Officer, Stanislaus County
Nancy Fisher, Assistant Director, Director of Nursing
Phoebe Leung, Assistant Director, Public Information Officer

Introduction

National and State Context

Asthma is a serious and chronic health condition affecting the lungs, whose ultimate causes are not completely understood (NIH, 2010). Asthma is one of the most common chronic diseases in childhood, and is responsible for a large amount of school and work absenteeism (CDC, 2006). Lifetime asthma prevalence (for both children and adults) has been generally rising nationally (e.g. US EPA, 2010, based on data from the National Health Interview Survey) and in California (e.g. CDC, 2008, based on Behavioral Risk Factor Surveillance System data). California falls generally in the upper (worse) half of US states in its asthma prevalence (see the graph below).



Outdoor air quality plays a role in California's asthma burden. Eleven California Metropolitan Statistical Areas and 18 California counties are among the 25 worse in the nation for at least one pollutant category. Stanislaus County ranks as the 20th most polluted US county (out of 3,141 counties) based on short term particle pollution, while the capital, Modesto, ranks 17th worst among US Metropolitan Statistical Areas (ALA, 2009).

Health Disparities

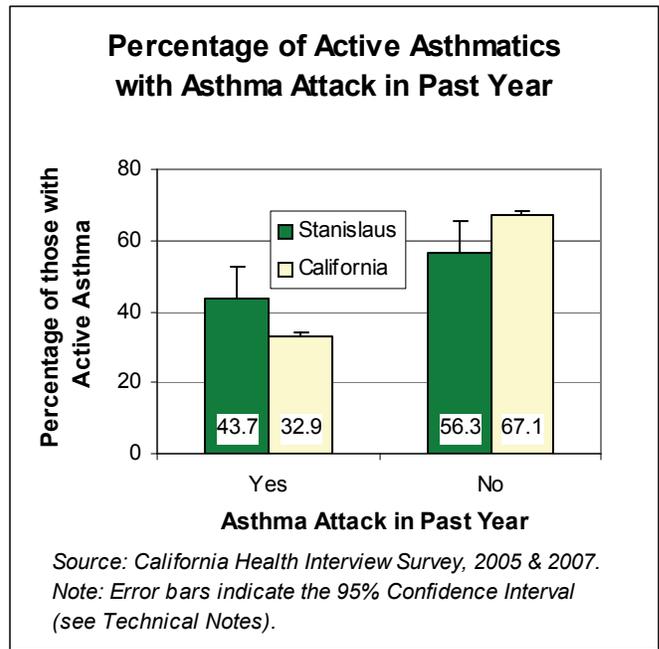
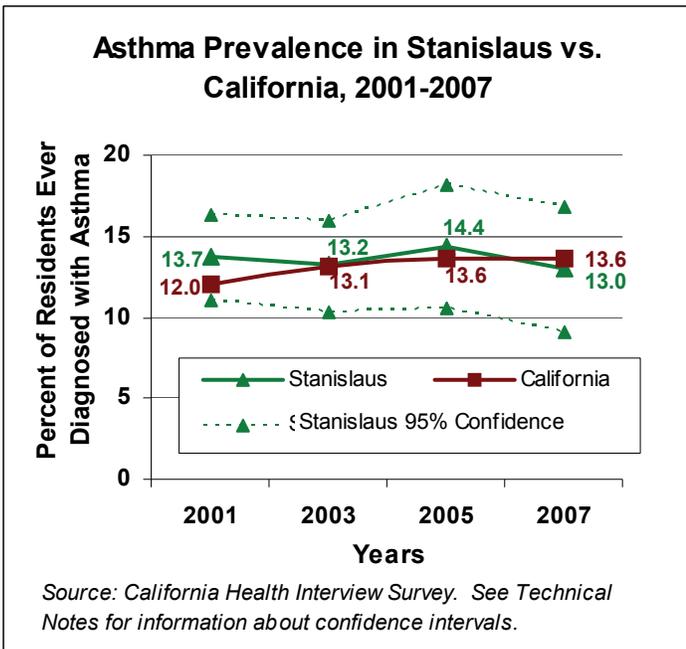
After several decades, researchers now understand that one's socioeconomic status plays a large role in one's health (e.g. Brennan Ramirez et al, 2008). Asthma, and factors contributing to it, do not affect everyone equally. Some people—by reasons of genetics, general health, behavior, social status, income, geographic location, occupation or environment—are more likely to have asthma or suffer severe consequences of asthma. Such differences across sub-groups of people are called *health inequities* or *health disparities*. Some people (e.g. CDC, June 2010) reserve the term *health disparity* for situations in which the health differences are unfair and due to prejudice or the unjust distribution of resources. However, in this report, *health disparity* will be used in the more general sense of any difference in health status or outcomes across different groups.

Stanislaus County exhibits many health disparities related to asthma and the factors that contribute to it. Important differences among sub-groups must be understood when designing interventions to reduce asthma, its risk factors and consequences. Therefore, this report highlights health disparities to enable policy makers and those working to make Stanislaus County healthier to know where and on whom to focus particular programs to make the largest impact on the county's health.

Major Findings

Stanislaus vs. California

The burden of asthma in Stanislaus County is heavier than that of the state as a whole in several ways. First, a statistically significantly higher percentage of county residents with lifetime asthma (i.e. ever diagnosed with asthma) report having experienced symptoms in the past year (79% vs. 66%; see graph at left). Second, a statistically significantly larger percentage of Stanislaus County residents with lifetime asthma report having experienced symptoms in the past year (79% vs. 66%). Third, a statistically significantly higher percentage of county residents with active asthma (i.e. have a current diagnosis of asthma), report having had at least one asthma attack in the past year (44% vs. 33%; see graph at right). Fourth, the annual (age-adjusted) mortality rate from asthma is higher in Stanislaus County (13.9 deaths per million residents) than California (12.9) or the US (12.0). Between 2005-2007, Stanislaus residents who died from asthma did so at a mean of 63.0 years of age. Thus, on average, people who died of asthma lost 15.5 years of potential life compared to the standard life length of 75 years. For the time period 2005-2007, a cumulative of 310 years of potential life was lost due to asthma in the county.



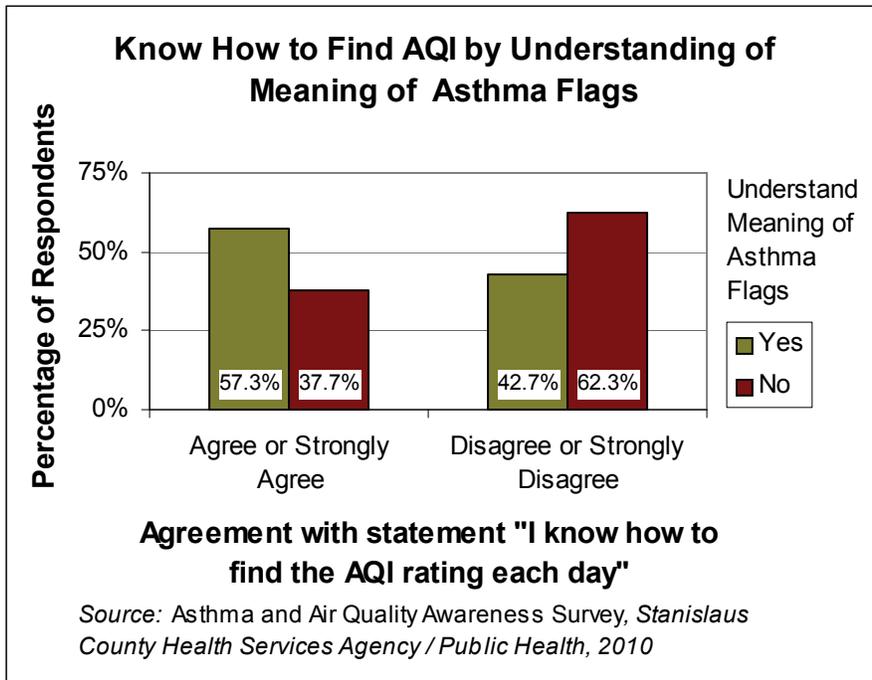
Stanislaus County also differs from the state of California in the distribution of asthma among individuals of different demographic characteristics. Notably, more females overall in Stanislaus County have been diagnosed with asthma than males (~41,000 vs. ~24,000), and this difference is true for each age group (children, working-age adults and seniors). In California (and the nation as a whole), however, more male children and teens have ever been diagnosed with asthma than females in these age groups, while more adult women have been diagnosed with asthma than adult men.

The county's heavier burden of asthma symptoms, attacks and deaths due to asthma may be the result of greater exposure to asthma triggers (e.g. outdoor air pollution, indoor cleaning agents, dust or pests), less effective self-management and/or medical control of the condition, reduced access to health insurance and healthcare, or other factors.

Asthma Management and Treatment

Self-Management: Individuals living with asthma can help manage their condition. Doing so requires awareness of asthma triggers and how to reduce exposure to them, as well as how to comply with medical recommendations. Findings from a local survey conducted by Stanislaus County Health Services Agency / Public Health (Public Health) in 2010, indicate that many county residents are unaware of how to control their exposure to asthma-causing agents or triggers. For example, only 49% of respondents reported

knowing how to find the daily Air Quality Index (AQI) rating that could help them limit their exposure to poor quality air. However, those who reported being aware of the Asthma Flag Program run by the Stanislaus County Asthma Coalition (in which schools, government offices and other facilities fly colored flags to indicate the air quality) and reported understanding the meaning of the flag's colors were statistically significantly more likely to report knowing how to find the AQI value.



Self-management requires understanding and complying with medical recommendations. Just over 40% of Stanislaus residents with active asthma have been prescribed a daily controller medication. However, over half of such individuals reported (in a local survey) believing that that they do not have to take daily asthma medication when they feel good, while 41% thought they only needed to see a doctor when they feel bad. These responses indicate a lack of awareness about asthma and its medical control and treatment and suggest that most Stanislaus County residents with asthma may benefit from discussion with their health care provider about how to control this condition.

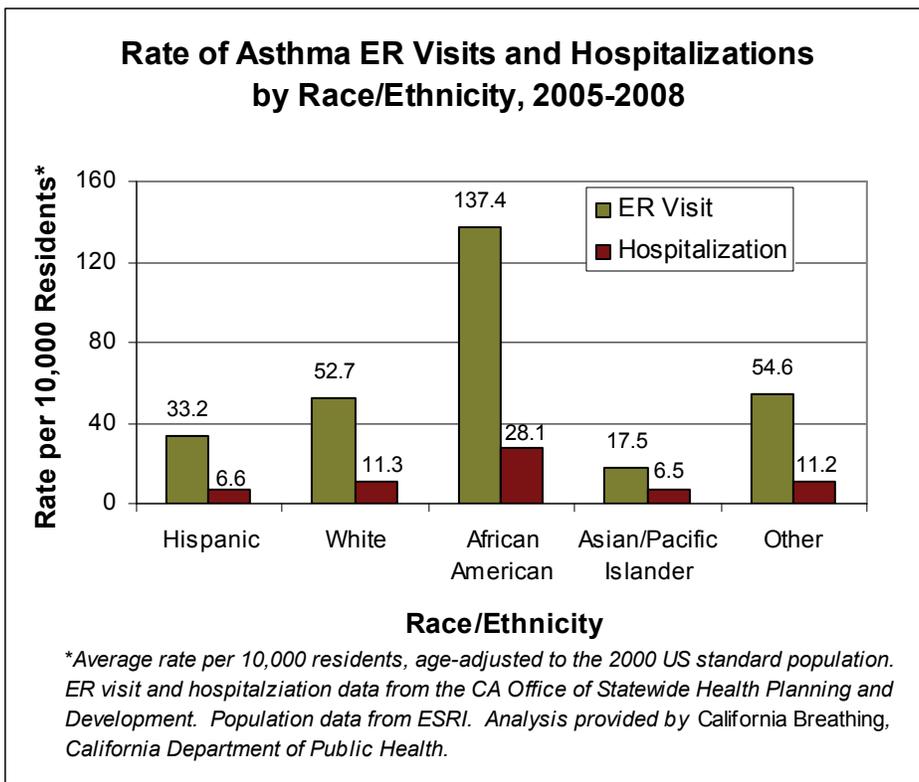
Institutional and Policy Support: Schools, child care facilities and workplaces, where children and adults spend much of their waking hours, can assist asthma sufferers to limit their exposure to potential asthma triggers. Increasingly, Stanislaus County schools and school districts have asthma management plans in place, and encourage or require the registration of individual Asthma Action Plans (AAPs) for students with asthma. Additionally, a total of 190 of the 254 schools in the county participate in the Asthma Flag Program mentioned above. In a recent survey of child care facility operators, Public Health and the Asthma Coalition found that over half of the responding facilities have an asthma policy or procedure in place while two-thirds of facilities require an AAP for all children with asthma. Larger commercial, center-based child care facilities are more likely to have an asthma policy and require AAPs than other types of child care facilities.

Medical Management and Treatment: Healthcare providers are not required to report diagnoses of asthma to public health authorities under Title 17 of the California Health and Safety code, making detailed information on the medical treatment and management of asthma difficult to obtain. However, one large clinic system in Stanislaus County voluntarily provided aggregated information about care for asthma patients during 12-month period for this report. Only one-third of asthma patients received an influenza immunization during the previous 12 months (as recommended by CDC) and only 20% were given a severity assessment at their last visit. Still fewer were asked about symptom-free days, ER/urgent care visits, absenteeism from school or work, and exposure to environmental tobacco smoke or other asthma triggers, or had an asthma self-management goal set within the previous year. It is important to take into account that patients not receiving screenings or assessments during this time period may have had them during earlier time periods, and that not all visits received during this time period may have been due to asthma-related concerns. However, despite these limitations, the data show that asthma treatment and management can be improved in Stanislaus County.

Health Disparities

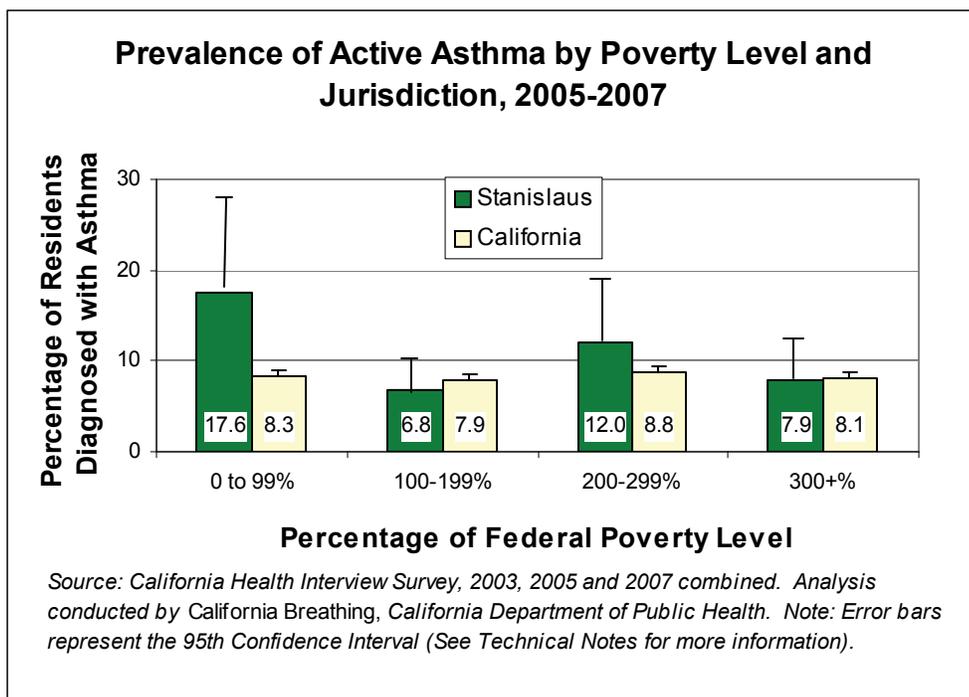
Race and Ethnicity: Racial and ethnic differences are common across health conditions. Asthma is no exception, with African Americans having the highest prevalence in the US. The full *Asthma Report Card* documents disparities in the asthma burden on individuals of different racial and ethnic groups. Despite evidence that racial and ethnic minorities are less likely to have a regular source of medical care (and, thus, are less likely to be diagnosed with asthma), neither the prevalence of lifetime nor active asthma

in Stanislaus County differs statistically significantly by race or ethnicity. However, the (age-adjusted) rate of asthma ER visits and hospitalizations are significantly higher for African Americans than Whites (see graph), indicating a higher burden of complications in this group. All the reasons for this higher burden are not known, though stress, socio-economic status, co-morbidities, health insurance and health-care access all likely play a significant role.



Income and Poverty: In Stanislaus County, as in California and the nation as a whole, individuals with lower incomes (especially those living under the Federal Poverty Level) have a higher prevalence of active asthma than individuals with greater financial resources. These differences persist despite the fact that individuals of lower income are less likely to have regular access to a healthcare provider. Again, there are likely many

factors contributing to this health disparity, including type of housing (and exposure to indoor asthma triggers), occupation, and outdoor air quality typically encountered. In addition, poverty is more common among racial and ethnic minorities, indicating that these two variables may work together to increase the burden of asthma.



Geographic Location: Communities within Stanislaus Counties are impacted differently by asthma. These communities differ in a multitude of characteristics, including the proportions of younger vs. older individuals, the number of individuals of specific racial/ethnic and socioeconomic groups, common types of occupations, rates of health insurance among residents, risk of exposure to various indoor and outdoor asthma triggers and the proximity of medical facilities. Thus, it is difficult to determine which factors contribute most to the unequal asthma burdens across these communities. In the interest of preserving the unique character of various communities, the County was divided into 9 regions for the purposes of this report. Each of these regions is based on zip code, has a Family Resource Center at its core, and is made up of communities that share some common features.

The asthma burden, at least of ER visits and hospitalizations, is greatest in West Modesto, the Central part of the county (East Central Modesto and Airport Neighborhood), the South Central region (Ceres and Keyes) and the Northeast side (Knights Ferry, Oakdale, Riverbank and Valley Home). The North (Del Rio and Salida), South (Turlock), West (including Crows Landing, Grayson, Newman, Patterson and Westley) and Southeast (including Denair, Empire, Hickman, Hughson, La Grange and Waterford) sides of the county have a lower burden of ER visits and hospitalizations.

Recommendations

Expansion of Asthma Flag Program and Awareness of Air Quality: The Asthma Flag Program is a program sponsored by the Stanislaus County Asthma Coalition in which colored flags are flown daily at schools and other public buildings to inform residents about air quality. Evidence was reviewed showing that the Asthma Flag Program is successful in providing residents access to AQI information. The Stanislaus County Asthma Coalition, school boards and administrators, and managers of hospitals and clinics or other public institutions should consider expanding participation in the asthma flag program.

Media Campaign to Increase Awareness About Asthma Management and Control: Recent surveys reviewed in this report revealed that a majority of Stanislaus County residents with asthma misunderstand how to work with a healthcare provider to control their asthma. A media campaign focused on effective self-management of asthma is warranted, particularly to encourage individuals to take medications as prescribed and regularly see a healthcare provider.

Support for Initiatives to Improve Access to Healthcare: The 2008 Stanislaus County Community Health Assessment revealed many obstacles to effective asthma management in the county, including a large percentage of residents lacking health insurance, a regular source of care, and/or coverage for prescription medications (e.g. daily asthma controllers). These issues can lead to delay in diagnosis and treatment of asthma, which in turn can lead to negative consequences ranging from work and school absenteeism (decreasing economic productivity and educational attainment), increased use of urgent care facilities and emergency rooms, avoidable hospitalizations and preventable deaths.

Additional Healthcare Provider Continuing Education Opportunities: The Stanislaus County Asthma Coalition conducts a Physician Roundtable annually, at which continuing education credits for physicians, nurses, and respiratory therapists are provided. The findings of this report on asthma prevalence, severe consequences and the medical treatment and control of asthma suggest that review of the usage of asthma management plans, daily controller medications, and the diagnosis and treatment of asthma in very young children would be productive future topics for this series.

Expansion of Asthma Policies at Child Care Facilities, Schools and Work Settings: Findings from a recent local survey of child care facility operators revealed that nearly half of the facilities surveyed do not have an asthma management plan to help reduce exposure to asthma triggers and promote effective response to an asthma-related emergency at the center. Stanislaus County Health Services Agency/Public Health, the Stanislaus County Asthma Coalition, the Stanislaus County Office of Education, and employer associations may wish to consider increasing outreach to child care facilities as well as schools to help improve these environments to prevent and control asthma.

Support for Initiatives to Improve Outdoor Air Quality: The poor air quality of the San Joaquin Valley is a challenge to asthma prevention efforts and will continue to be so as the population increases. Policy makers may also wish to explore ways to protect vulnerable populations, including children, from air pollution sources, such as restricting idling of emergency and commercial vehicles, setting minimum distances between major roadways and newly built places where individuals spend a good deal of time, including schools, childcare facilities and residences.

