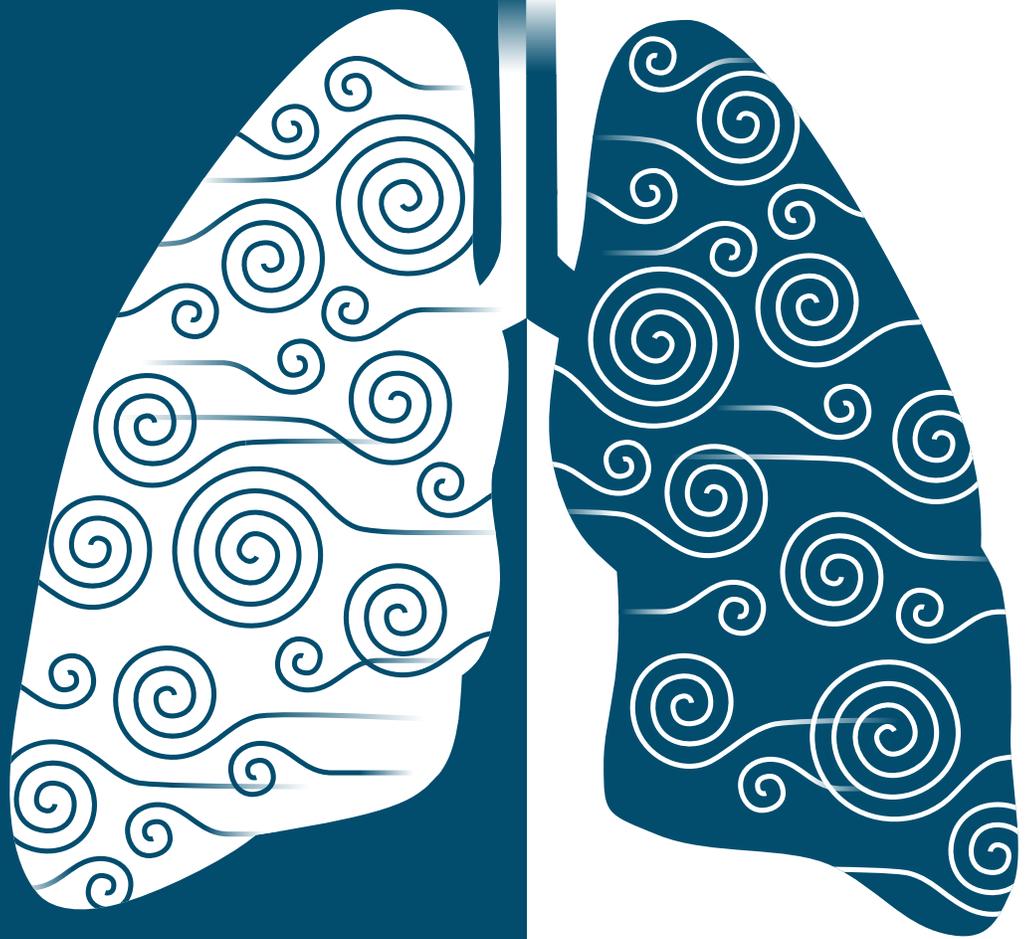


The Burden of Asthma in California

A Surveillance Report



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Contents

Acknowledgments	1
Executive Summary	3
Introduction	7
1. Asthma Prevalence	13
2. Symptoms and Management — Adults	23
3. Symptoms and Management — Children/Youth	39
4. School-based Asthma Surveillance	49
5. Risk Factors Associated with Asthma	57
6. Work-related Asthma	65
7. Asthma Emergency Department Visits	75
8. Asthma Hospitalizations	81
9. Asthma Among Medi-Cal Members	99
10. Asthma Mortality	105
Healthy People 2010	115
Asthma Disparities	117
Conclusions	121
Technical Notes	125
Acronyms	135
Glossary of Terms	137

Executive Summary

Asthma is one of the most common chronic diseases in the United States and has been recognized as a growing public health concern. The effects of asthma include missed school and work days, disruption of sleep and daily activities, urgent medical visits for asthma exacerbations, and even death. Asthma not only impacts people with asthma but also their family members and friends, as well as schools and businesses. There is no cure for asthma, but with access to medical care, appropriate medications, and proper self-management, people can control their symptoms so that they have a minimal effect on their daily lives.

The California Department of Health Services has established a blueprint for taking action against asthma through the *Strategic Plan for Asthma in California*. Over the past five years, strategies outlined in the plan have been implemented in an effort to reduce the burden of asthma in California. With input from stakeholders throughout the state, the plan was revised in 2007 for the next five years of implementation. In this way, California continues to promote better health and quality of life for people with asthma throughout the state.

California's asthma surveillance system uses data from a wide variety of sources to describe the burden of asthma in the state. Surveillance data include, but are not limited to: the number of people with asthma, frequency of symptoms, use of routine health care, visits to the emergency department and hospital, costs of health care utilization, and deaths due to asthma. Using all of the most recent available surveillance data, this report presents a comprehensive summary of the burden of asthma in California.

Over five million Californians have been diagnosed with asthma at some point in their lives, and almost three million currently have asthma. The majority of adults with asthma have mild symptoms, but about one in four have symptoms that are moderate or severe. About a third of children with asthma had an attack in the past year. Surveillance data show that there is much room for improvement in routine health care for people with asthma. Half of adults with asthma have not had a routine checkup for asthma in the past year and only about one-third of adults and children with asthma have received an asthma management plan. More encouraging is that the data indicate a decline in rates of the most severe outcomes — hospitalizations and deaths. Still, there are almost 500 deaths, 36,000 hospital discharges, and 145,000 emergency department (ED) visits (that did not result in hospitalization) per year due to asthma.

In addition, the costs of asthma hospitalizations are enormous — \$763 million in 2005. This figure does not include the cost of ED visits, which are a precursor of asthma hospital admissions. Proper prevention efforts could reduce many of these poor outcomes and costs. For example, 19 percent of people who were hospitalized for asthma from 2003 to 2005 had at least one repeat visit during that time period. Intervening to prevent those repeat asthma hospitalizations would have saved \$565 million over three years.

In almost all measures of asthma burden, there are large disparities by race/ethnicity, income, age, gender, and geographic location. Blacks have especially disproportionate rates of ED visits, hospitalizations, and mortality. Although people of all incomes have a similar prevalence of asthma, people with lower incomes have more severe symptoms, higher rates of hospitalizations, and are more likely to have repeat hospitalizations. These and other key findings of this report are listed below.

Key Findings

Prevalence and Symptoms

- Approximately 3.7 million adults (13.7%) and 1.7 million children (13.3%) in California have been diagnosed with asthma at some point in their lives.
- Approximately 2.1 million adults (7.6%) and 827,000 children (8.6%) in California currently have asthma.
- Among adults with asthma, approximately 62 percent have very mild symptoms, 11 percent have mild symptoms, 17 percent have moderate symptoms, and 9 percent have severe symptoms.
- 52.4 percent of adults and 11.9 percent of children with asthma have symptoms at least weekly.
- On average, a child with asthma misses 2.6 days of school per year due to his/her asthma.

Routine Health Care

- 27.8 percent of children with frequent asthma symptoms do not take daily asthma medications.
- About 50 percent of adults with asthma did not have a routine checkup in the past year.
- Only 32.5 percent of adults and 38.4 percent of children with asthma have received asthma management plans from a health care provider.

ED, Hospitalization, and Mortality

- In 2005, there were approximately 145,000 asthma-related ED visits (39.1 per 10,000 residents) and 36,060 asthma hospitalizations (10.0 per 10,000 residents) in California.
- Many asthma hospitalizations were repeat visits:
 - In 2005, 13 percent of people hospitalized for asthma had more than one discharge. This increases to 19 percent over a three-year period (2003–2005).
 - There were more than 4,700 repeat hospitalizations in 2005, and over 24,000 in 2003–2005 combined.
- In 2004, there were 450 deaths due to asthma (13.0 per million residents).

Trends Over Time

- In the past 10 years, asthma prevalence has gone up, but severe outcomes have decreased:
 - The percent of adults ever diagnosed with asthma increased over the past 10 years, from 11.0 percent in 1995 to 13.7 percent in 2005.
 - The percent of adults who currently have asthma has remained relatively constant over the past five years.
 - Asthma hospitalization rates have decreased gradually over the past 10 years, from 13.3 per 10,000 in 1995 to 10.0 per 10,000 in 2005.
 - Asthma mortality rates have decreased substantially, especially in the past five years, going from 19.3 per million in 1999 to 13.0 per million in 2004.

Disparities

- Children make up a large part of the asthma burden:
 - Lifetime asthma is highest among children age 5–17, at 15.8 percent.
 - Lifetime asthma is even higher among adolescents in schools, at 17.7 percent.
 - Current asthma is highest among children age 5–17, at 10.4 percent.
 - Rates of asthma-related ED visits are two times higher among children under age 19 (63.0 per 10,000) than among adults (30.0 per 10,000). In particular, males under age 15 have the highest rates.
 - Rates of asthma-related hospitalizations are 1.6 times higher among children under age 15 (14.0 per 10,000) than among people over age 15 (8.6 per 10,000). Rates are particularly high among males under age five.
- Blacks have a disproportionate share of the asthma burden:
 - Asthma prevalence among Blacks is 30 percent higher than Whites.
 - Rates of ED visits, hospitalizations, and mortality are two to three times higher among Blacks than the next highest race/ethnicity groups.
- The gender disparity in asthma varies by age. When looking at prevalence, ED visits, hospitalizations, and mortality, males have higher rates as children and females have higher rates as adults.
- Lower income is associated with higher asthma hospitalization rates and worse symptoms:
 - The rate of asthma hospitalizations is three times higher among people from places where the median income is less than \$20,000 compared to people from places where the median income is greater than \$50,000.
 - People with more repeat asthma hospitalizations come from areas with a lower median income than people who do not have repeat hospitalizations.
 - Prevalence of severe symptoms is almost seven times higher among adults with household incomes below \$20,000 (19.5%) compared to adults with household incomes over \$100,000 (2.8%).

Costs

- Costs for asthma hospitalizations are very high:
 - The average charge for an asthma hospitalization was \$23,953 in 2005, a 158 percent increase since 1995. However, the average length of stay for asthma hospitalizations did not change during this same time period.
 - Total charges for asthma hospitalizations in 2005 in California were \$763 million.
 - Government-funded health insurance programs (Medicare and Medi-Cal) pay for 61 percent of asthma hospitalizations, or \$547 million in charges.
 - Charges for repeat hospitalizations were \$118 million in 2005 and \$565 million for 2003–2005 combined.

Risk Factors

- Between 137,000 and 315,000 people have asthma related to their work.
- People with asthma are exposed to triggers in the home:
 - 45.5 percent of people with asthma have cats or dogs in the home.
 - 12.6 percent of people with asthma have cockroaches in the home.
 - 11.1 percent of people with asthma are exposed to tobacco smoke in the home.
- People who smoke are more likely to have asthma than non-smokers (14% among smokers vs. 12% among non-smokers).
- In both children and adults, being overweight is associated with higher asthma prevalence.
- Among people with asthma age 5–64, fewer than 50 percent receive a yearly flu shot. Coverage is especially low among people age 18–49 (18%).

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