

Asthma

Asthma is a chronic inflammatory lung disease characterized by recurrent episodes of breathlessness, wheezing, coughing, and chest tightness, called exacerbations. Exacerbations can be triggered by exposures and conditions such as respiratory infections, house dust mites, animal dander, mold, pollen, exercise, tobacco smoke, and indoor and outdoor air pollutants. Although there is no cure for asthma, exacerbations can be reduced with appropriate management, which includes proper use of medications and provision of a healthy physical environment.

Asthma in California : A surveillance Report 2013.

Prevalence in California

- In 2010, 13.1% of adults and 12.5% of children had been diagnosed with asthma at some point in their lives (lifetime asthma); 7.9% of adults and 7.4% of children had current asthma.
- Each year, there are an estimated 187,700 new cases of asthma in California approximately 93,150 among adults and 96,550 among children.
- Among adults, both lifetime and current asthma prevalence have increased slightly over time and are similar to prevalence in the U.S. overall.
- Among males with asthma, a higher percentage had their asthma start as a child (69%) than as an adult (31%). Among females with asthma, roughly the same percentage had their asthma start as a child (48%) or as an adult (52%).
- It is estimated that over 974,000 adults in California have asthma that has been caused or aggravated by their work, but work-related asthma (WRA) is often not recognized or diagnosed.

Morbidity and Control

- The majority of adults and children with current asthma (65.9% and 53.7% respectively) had asthma symptoms in the past month.
- Approximately 649,000 adults with current asthma (36.4%) missed work or were unable to carry out their usual activities because of their asthma at

some point in the past year. This translates to an estimates 11.8 million days of work/ usual activities missed per year.

- Approximately 129,000 children with current asthma (52.3%) missed school or day care because of their asthma at some point in the past year. This translates to an estimated 1.2 million days of school/ day care missed per year.
- Compared to those with well controlled asthma, people with poorly controlled asthma are more likely to miss work or school, have an ED visit for asthma, or be hospitalized for asthma.
- The majority of people with work-related asthma (WRA): (1) cannot do their usual work (56%), (2) report continuing symptoms (56%), and (3) have gone to the ED for their WRA (61%).
- Asthma impact and impairment are greater for adults with WRA than non-WRA.

Access to Health Care

- 19.4% of adults and 4.7% of children with current asthma were uninsured at some point the past year.
- 11.2% of adults and 9.1% of children with current asthma do not have the usual place for health care.
- About three out of four children have had at least one routine asthma check up in the past year. Among adults, however, over half have not had a routine asthma check up in the past year.
- Approximately one quarter of adults and children (27.7% and 24.1%, respectively) used only a rescue medication in the past 3 months (i.e., they do not use any controller medication).
- 88.6% of Medi-Cal Managed Care beneficiaries with persistent asthma receive appropriate medications.
- Flu (influenza) infection can exacerbate asthma symptoms, yet more than one third of children and half of adults with current asthma did not get a flu vaccination in the past year.
- Only about 40% of adults and children have ever been given a written asthma action plan by their health care provider.

- Only 30% of adults and 45% of children have been advised to change their home, work or school environment to reduce their asthma symptoms.

Emergency Department Visits, Hospitalizations, and Mortality

- In 2010, there were 179,972 asthma ED visits, or an age-adjusted rate of 46.1 per 10,000 residents.
- In 2010, there were 34,796 asthma hospitalizations, or an age-adjusted rate of 9.0 per 10,000 residents.
- In 2010, of all people who had asthma hospitalization, 11.6% came back for at least one subsequent asthma hospitalization during that year.
- Asthma hospitalization rate in California have decreased in the past 16 years.
- Asthma ED visits and hospitalizations are very consistently by season, with lower numbers in the summer.
- In 2009, there were 415 deaths due to asthma, or a rate of 11 per million residents. These deaths corresponded to 7,038 years of potential life lost or 17 years lost per person.
- The rate of asthma deaths in California has been decreased from 2000 to 2009, similar to national trends.

Income

- The burden of asthma is greater among people who live in areas with lower median incomes, and this disparity is not explained by higher asthma prevalence. Although asthma prevalence does not differ much by income level, the rate of asthma hospitalization and ED visits is four times higher for people living in areas where the median household income is \$20,000 or less compared to those living in areas where the median household income is more than \$100,000 (pp.118, 134). Those in lower income areas are also more likely to have repeat asthma hospitalizations (p.141). In addition, adults are less likely to have well controlled asthma if they have lower household incomes or report cost barriers to receive medical care. (p. 53, 54)

Age

- Asthma has a large impact across all ages, but some asthma measures are higher for children than adults. Both lifetime and current asthma prevalence

are highest among children ages 5-17 (p. 29), and asthma hospitalization and ED visit rates are highest among children under age 5 (pp. 112, 125, 146, 150). In addition, asthma hospitalization rates are high and increasing among adults over the age of 65 (p.125).

- There is no clear explanation of high asthma hospitalization rates among the elderly, but older patients are more likely to have co-morbid conditions that may make management of asthma more difficult. Therefore, hospitalization may be more necessary among these patients. However, it is also possible that asthma is miscoded in some hospital records, as chronic obstructive pulmonary disease (COPD) is often misdiagnosed as asthma.

Summary

- People with current asthma report worse general health than people without asthma.
- Adults with current asthma are 8-10 times more likely to have chronic obstructive pulmonary disease (COPD) than adults who do not have asthma.
- Almost one in three adults with current asthma is obese (31% vs. 21.7% among adults who do not have asthma), and one in seven teens (age 12-17) with current asthma is obese (14.4% vs. 10.9% among teens who do not have asthma).
- Among adults with current asthma, 11.6% also have diabetes, 37% also have high blood pressure, and 9.8% also have heart disease (compared to 8.2%, 25.5%, and 5.6%, respectively, among adults who do not have asthma).
- Over 40% of adults with current asthma are disabled (compared to 26.3% among adults who do not have asthma).
- About 6% of adults and teens with current asthma have psychological distress.
- Over one third of children and half of adults with current asthma did not have flu vaccination in the past year.
- Almost 12% of adults and teens with asthma are smokers.
- 19.4% of adults and 4.7% of children with current asthma were uninsured at some time in the past year.
- 11.2% of adults and 9.1% of children with current asthma do not have a usual place for health care.

What is the general health status of people with asthma in California?

Overall, people with current asthma report worse general health than people with-out asthma. Many people with asthma also have other chronic conditions that contribute to poorer health. Among adults with current asthma, 20% have chronic obstructive pulmonary disease (COPD), 37% have high blood pressure, 12% have diabetes, 10% have heart disease, 41% are disabled, 31% are obese, and 6% have psychological distress. All of these conditions are more prevalent among adults with current asthma than other adults.

Some data on health behaviors are also available, including current smoking and flu vaccination. Smoking is very frequently a trigger of asthma symptoms, yet 11.9% of adults and teens with current asthma are smokers. Flu (influenza) infection can seriously exacerbate asthma symptoms, yet more than one third of children and half of adults with current asthma did not get a flu vaccination in the past year.

Can people with asthma in California access the care they need?

Although the majority of people with current asthma have health insurance, 19.4% of adults and 4.7% of children with current asthma were uninsured sometime in the past year. In addition, 11.2% of adults and 9.1% of children with current asthma reported not having a place they usually go when they are sick or need health advice.

Historical data on the effect of ozone and particulate matter in the environment on patients with Asthma in Imperial county.

A research study published online on Revista Panamericana de Salud Publica ‘Childhood asthma along the United States/ Mexico Border: hospitalizations and air quality in two California counties ‘

Two counties on the California/Baja California border were studied to obtain baseline data on trends in childhood asthma hospitalizations and two pollutants that aggravate asthma , ozone and particulate matter (less than 10 microns in diameter), from 1983 to 1994. Hospital discharge records of children 14 years and younger were analyzed, and rates by county, race, and sex were age-adjusted to the 1990

California population. Data on five ozone and particulate matter indices obtained from the California Environmental Protection Agency were used. Imperial County had the highest childhood asthma hospitalization rates in California for non-Hispanic whites and African-Americans, and the second highest for Hispanics. San Diego County had rates below the state average. Over the time period examined, rates in Imperial County increased 59%, while those in San Diego County decreased 9%. Maximum ozone levels increased 64% in Imperial County but decreased 46% in San Diego County. Particulate matter levels were four times higher in Imperial than San Diego County. High rates of childhood asthma hospitalizations in Imperial County may be partially related to high levels of poverty and worsening air quality conditions produced by increased burdens on the local airshed. Asthma prevalence surveys and binational time-series analyses examining asthma pollutant relationships are needed.