



Sonoma County Asthma Profile

July 2008

The County Asthma Profile is a data resource created by California Breathing for each of the 58 counties in California. Accompanying technical notes, county rankings for some asthma measures, and additional publications are available on the California Breathing website. In addition, we are pleased to offer technical assistance and custom data requests. www.californiabreathing.org

In Sonoma County, approximately 80,000 children and adults have been diagnosed with asthma.

County Population		
Age	0-4	27,895
	5-17	81,909
	18-64	317,077
	65+	66,049
	Total	492,930

Data Source: California Department of Finance, 2006

Lifetime Asthma Prevalence,¹ 2005

Percent with Asthma (95% Confidence Interval ²)			
	Age	Sonoma County	California
Children	0-4	–	9.7 (8.2-11.1)
	5-17	22.1 (12.0-32.2)	18.0 (16.8-19.1)
	Total (0-17)	20.2 (11.4-29.0)	16.1 (15.2-17.1)
Adults	18-64	17.6 (12.3-22.9)	13.0 (12.5-13.5)
	65+	10.0 (4.3-15.7)	11.2 (10.3-12.1)
	Total (18+)	16.4 (11.8-20.9)	12.7 (12.3-13.2)

Data Source: California Health Interview Survey (CHIS), 2005

Asthma Management Plans

National guidelines recommend that health care providers give all patients with asthma a written self-management plan. In Sonoma County, 58.1% (95% CI 44.3-71.9) of people with asthma have NOT received an asthma management plan from a health care provider.

Data Source: CHIS, 2005

Work-Related Asthma⁴

Studies show that asthma is triggered by workplace exposures, yet work-related asthma is under-recognized and under-diagnosed. The American Thoracic Society estimates that 15% of adult asthma is related to workplace exposures.* This means that an estimated 5,000 adults in Sonoma County may have work-related asthma.

Data Source: CHIS, 2005

* Balmes J, Becklake M, Blanc P, et al. Environmental and Occupational Health Assembly, American Thoracic Society. American Thoracic Society Statement: Occupational Contribution to the Burden of Airway Disease. Am J Respir Crit Care Med. 2003;167:787-797.

Asthma Risk Factors

Smoking

Exposure to tobacco smoke puts people at increased risk for asthma and its symptoms. In Sonoma County, 14.5% (10.5-18.5) of adults currently smoke. Additionally, 7.2% (95% CI 4.2-10.2) of adults and children are exposed to second-hand smoke in their homes.

Data Source: CHIS, 2005

Obesity³

People who are obese are more likely to have asthma. In Sonoma County, 24.2% (95% CI 19.3-29.1) of adults and adolescents are obese.

Data Source: CHIS, 2005

Poverty

Low income has been linked to more severe asthma. In Sonoma County, 8.4% of people have household incomes below the Federal Poverty Level.

Data Source: US Census Bureau, 2004

Outdoor Air Pollutants⁵

Data on air pollutants are from the California Air Resources Board (CARB) Aerometric Data Analysis and Measurement System (ADAM). In Sonoma County, there are four air monitors that measure ambient concentrations of particulate matter (PM) and two air monitors that measure ambient concentrations of ozone. Please note that the placement of air monitors is determined based on regulatory purposes, not public health purposes. For more information on outdoor air pollutants or to find the location of air monitors please visit www.arb.ca.gov.

Particulate Matter⁶

	Annual Average, 2007	Maximum 24-Hour Average, 2007	Estimated Days Over the 24-Hour Standard, 2007
PM10	17.1 µg/m ³	43 µg/m ³	0*
PM2.5	7.6 µg/m ³	32 µg/m ³	0**

*Compared to the California 24-hour standard for PM10 of 50 µg/m³.

**Compared to the national 24-hour standard for PM2.5 of 65 µg/m³.

Ozone⁷

Maximum 8-Hour Average, 2007	Number of Days Over the National 8-Hour Standard, 2007
0.067 ppm	0

Asthma Emergency Department Visits,⁸ 2006

Number of ED Visits Due to Asthma (N) and Age-Adjusted Rate⁹ (per 10,000 residents)

Age	Sonoma County		California		
	N	Rate	N	Rate	
Children	0-4	320	114.7	27,462	103.1
	5-17	365	45.6	37,877	55.2
	Total (0-17)	685	64.1	65,339	68.0
Adults	18-64	1,288	42.7	84,589	35.9
	65+	214	32.0	14,406	35.1
	Total (18+)	1,502	40.8	98,995	35.8

Data Source: Office of Statewide Health Planning and Development (OSHPD), 2006

Asthma Hospitalizations,¹⁰ 2006

Number of Hospitalizations Due to Asthma (N) and Age-Adjusted Rate⁹ (per 10,000 residents)

Age	Sonoma County		California		
	N	Rate	N	Rate	
Children	0-4	54	19.3	6,554	24.5
	5-17	27	3.5	4,881	7.2
	Total (0-17)	81	7.8	11,435	11.9
Adults	18-64	128	3.9	13,736	5.8
	65+	78	11.1	8,082	19.6
	Total (18+)	206	5.1	21,818	8.1

Data Source: OSHPD, 2006

Expected Source of Payment for Asthma ED Visits, 2006

ED Visits		Sonoma County	California
		Medicare	13.4%
	Medi-Cal	29.5%	32.3%
	Private	39.8%	34.2%
	Other	17.4%	21.7%

Data Source: OSHPD, 2006

Average Charges¹² Per Asthma Hospitalization, 2006

Age	Sonoma County	California
Children (0-17)	\$6,148	\$12,505
Adults (18+)	\$15,511	\$27,278

Data Source: OSHPD, 2006

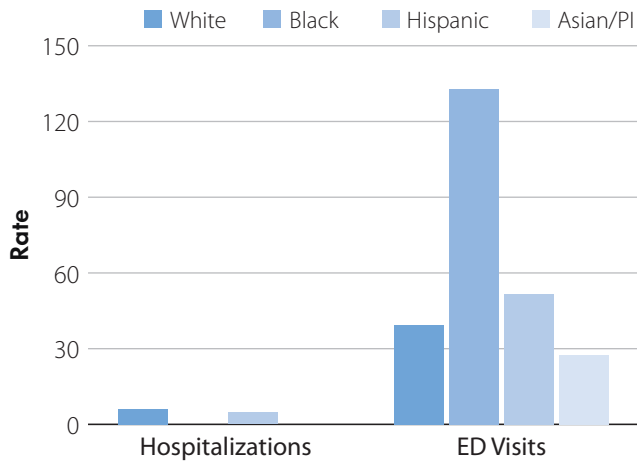
Expected Source of Payment for Asthma Hospitalizations, 2006

Hospitalizations		Sonoma County	California
		Medicare	28.9%
	Medi-Cal	18.1%	34.5%
	Private	41.1%	28.4%
	Other	11.9%	9.7%

Data Source: OSHPD, 2006

Asthma Disparities

Age-Adjusted Asthma Hospitalizations and ED Visits per 10,000 Sonoma County Residents by Race/Ethnicity,¹¹ 2006



Data Source: OSHPD, 2006

Missing bars indicate that rates are unavailable.

Asthma Deaths,¹³ 2003–2005

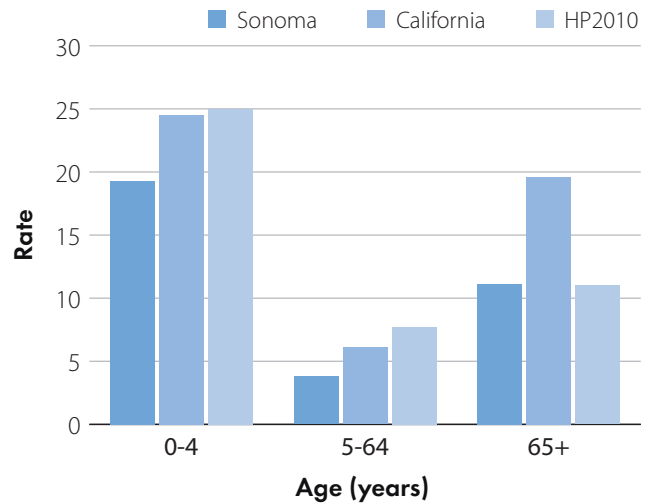
Number of Deaths Due to Asthma (N) and Age-Adjusted Rate⁹ (per 1,000,000 residents)

	Age	Sonoma County		California	
		N	Rate	N	Rate
Children	0-4	<5	–	18	2.3
	5-17	<5	–	43	2.0
	Total (0-17)	<5	–	61	2.1
Adults	18-64	7	–	616	9.0
	65+	9	–	718	57.4
	Total (18+)	16	–	1,334	17.3

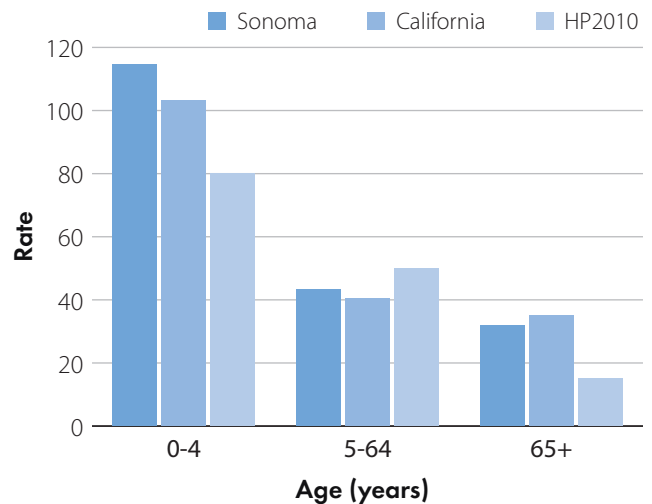
Data Source: California Death Public Use Tape, 2003–2005

Healthy People 2010¹⁴

Asthma Hospitalizations per 10,000 Residents by Age, Compared to HP2010 Targets, California and Sonoma County, 2006



Asthma ED Visits per 10,000 Residents by Age, Compared to HP2010 Targets, California and Sonoma County, 2006



Data Source: OSHPD, 2006

Notes

1. Lifetime asthma prevalence is the proportion of people in the population who have ever been diagnosed with asthma by a health provider.
2. The 95% confidence interval (CI) is a range that expresses a level of certainty about an estimate based on the margin of error. The 95% CI means that we are 95 percent confident that this range contains the true population percent. A narrow CI means that there is less variability in the estimate and/or there is a larger sample size. A wide CI indicates more variability and/or a smaller sample size.
3. For adults, obesity is defined as a body mass index (BMI) of 30 or greater. For adolescents, obesity is defined as BMI greater than or equal to the 95th percentile of the same age and gender group.
4. Work-related asthma is asthma that is caused or triggered by conditions or substances in the workplace.
5. Particulate matter (PM) and ozone are pollutants in the air that can cause a worsening of asthma symptoms. PM10 and PM2.5 (particles less than 10 microns or 2.5 microns in diameter, respectively) pose the greatest health concern because they can pass through the nose and throat and get into the lungs. Ozone (O₃) is a gas that at ground level reacts chemically with lung tissue and people with asthma are vulnerable to its effects.
6. The annual average is the average of the year's local measurements. The maximum 24-hour average is the highest local daily average observed within the year. The estimated days over the 24-hour standard is the estimated number of days in the year that the state or national standard would have been exceeded had sampling occurred every day of the year. PM10 statistic may include data that are related to an exceptional event.
7. The maximum 8-hour average is the highest 8-hour average ozone concentration in the year. The number of days over the national 8-hour standard is the number of days in each year that the maximum 8-hour average concentration was greater than or equal to 0.085 parts per million.
8. An asthma ED visit is an admission to a licensed ED in California with the primary diagnosis of asthma. The rate of asthma ED visits is the number of visits per 10,000 residents.
9. Population denominators for rates are from the California Department of Finance. All rates are age-adjusted to the 2000 U.S. population. Age-adjusted rates are modified to eliminate the effect of different age distributions in different populations. Rates based on numbers <20 are not reported.
10. An asthma hospitalization is a discharge from a licensed acute care hospital in California with the primary diagnosis of asthma. The rate of asthma hospitalizations is the number of hospitalizations per 10,000 residents, age-adjusted to 2000 U.S. population.
11. Please see technical notes for more information on race/ethnicity categorizations.
12. Charges for asthma hospitalizations are the only type of data available to assess the costs of asthma in California counties. However, there are many other costs associated with asthma, including other types of health care utilization, medications, and indirect costs due to factors such as school and work missed.
13. An asthma death is a death where asthma was indicated as the underlying cause on the death certificate. The rate of asthma deaths is the number of deaths per 1,000,000 residents, age-adjusted to the 2000 U.S. population.
14. Healthy People 2010 (HP2010) is a set of national benchmarks for a wide range of health topics, including asthma. For more information on HP2010, visit www.healthypeople.gov.

Further details about the data presented in this report can be found in the accompanying Technical Notes document (www.californiabreathing.org).