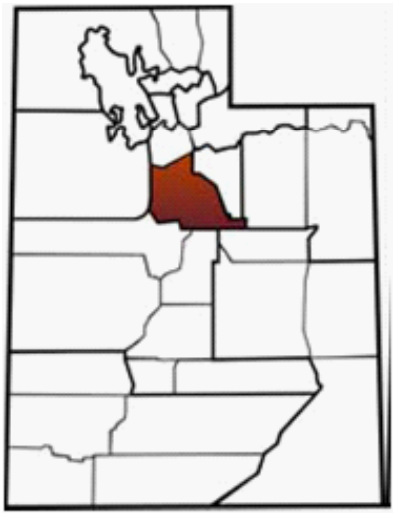
Utah County Health Department Asthma Report

Utah County Health Department is a single-county health district located in the Wasatch Front. More than 18% of Utah residents live within its boundaries.[1] This report is intended to provide residents of Utah County with county-specific information on asthma. Additional publications are available on the Utah Department of Health website at http://www.health.utah.gov/asthma/



Prevalence

Asthma prevalence is one of the foremost indicators to measure and track the burden of disease among population groups. Since 2001, asthma prevalence has been increasing in Utah, which is similar to increasing trends nationwide. Lifetime asthma is defined as having ever been diagnosed with asthma by a doctor or other health professional. Current asthma is defined as those who have ever been diagnosed with asthma by a doctor or other health professional and who report that they still have asthma.

Table 1. Current Asthma Prevalence 2006-2008

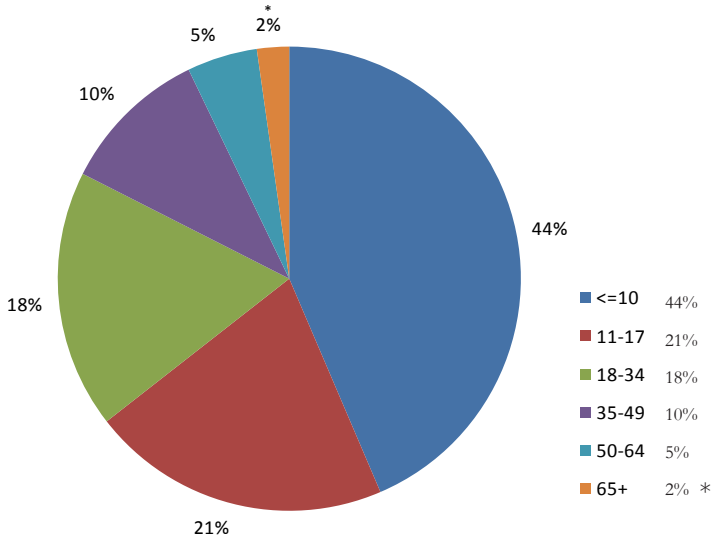
	Age Group	Utah County percent (95% CI)	State of Utah percent (95% CI)
Children	0-17	5.9 (4.2-8.3)	7.0 (6.2-7.8)
Adults	18-34	9.7 (6.7-13.9)	8.1 (7.0-9.4)
	35-49	6.2 (4.2-9.2)	8.5 (7.6-9.5)
	50-64	7.0 (4.7-10.2)	8.8 (7.8-9.9)
	65+	6.1 (3.6-10.1)	7.9 (6.8-9.1)

Asthma prevalence data source: Behavioral Risk Factor Surveillance System 2006-2008. Crude prevalence.

Utah County

Age at Diagnosis

Figure 1. Age at First Diagnosis Among Adults with Lifetime Asthma, Utah County, 2004-2008



Data source: Behavioral Risk Factor Surveillance System 2004-2008. Crude prevalence.
* Estimate has a coefficient of variation greater than 30% and does not meet Utah Department of Health standards for reliability.

The majority of Utah County adults who have ever been diagnosed with asthma (65%) were diagnosed by age 17.

Air Quality

The Environmental Protection Agency (EPA) has established health-based National Ambient Air Quality Standards (NAAQS) which consider both concentration level and duration of exposure that can cause adverse health effects. Pollution concentrations that are higher than the NAAQS are considered unhealthy.[2]

Particulate Matter ($PM_{2.5}$)

Table 2. Utah County Air Quality 2006-2009[1]

City	Estimated days over 24-hour standard*
Lindon	12
Provo	6

*Compared with the National Ambient Air Quality 24-hour Standard for $PM_{2.5}$ of 35 µg/m^3

Wintertime temperature inversions act to trap air in valleys long enough for concentrations of $PM_{2.5}$ to build up to levels that can be unhealthy. These particles

are so small that they can become embedded in human lung tissue, further harming those with respiratory diseases and cardiovascular problems. Depending on where one resides in Utah County, there were between six and twelve days when $PM_{2.5}$ levels exceeded the EPA national standard.

Ozone

Table 3. Utah County Ozone 2007[2]

	Estimated days over 8-hour standard*
North	8
Central	4
South	5

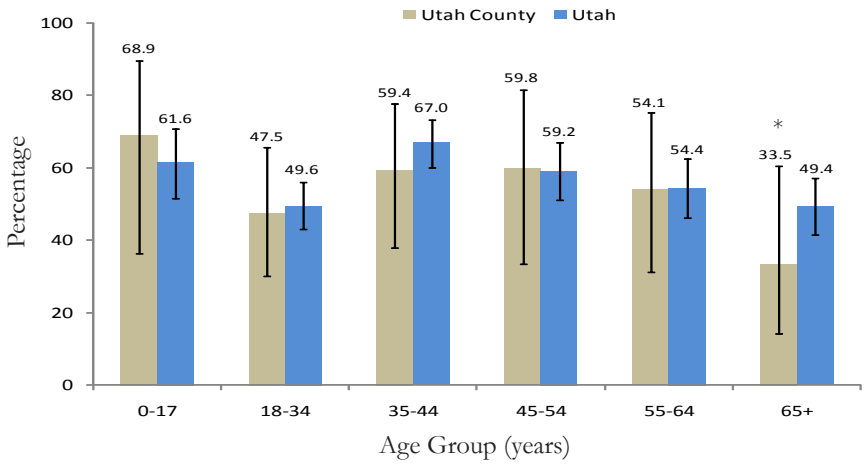
*Compared with the National Ambient Air Quality 8 hour Ozone Standard of .075 ppm

Ozone production is a year-round phenomenon. However, the highest ozone levels occur during the summer when strong sunlight, high temperatures, and stagnant meteorological conditions combine to drive chemical reactions and trap the air within a region for several days. In Utah County during 2007, there were between four and eight days where the EPA standard for ozone was exceeded.

Asthma Management and Quality of Life

Frequency and severity of asthma symptoms and quality of life are indicators of one's management of asthma.

Figure 2. Asthma Attack Among Adults and Children with Current Asthma During Past 12 Months, 2004-2008



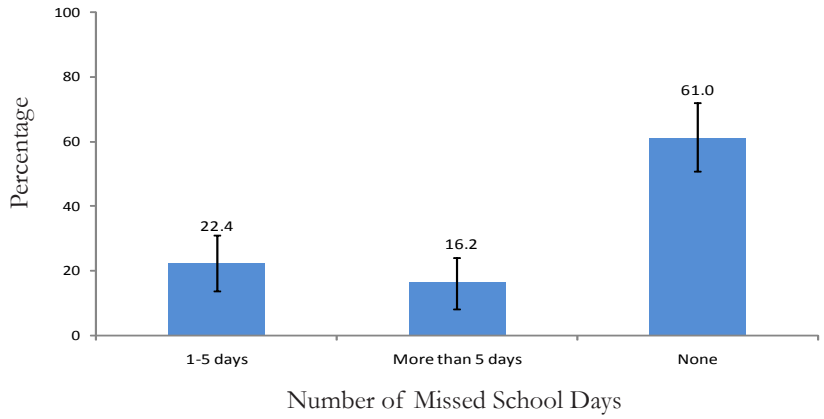
Data source: Behavioral Risk Factor Surveillance System 2004-2006 and Call-back Survey 2007-2008. Crude prevalence.

* Estimate has a coefficient of variation greater than 30% and does not meet Utah Department of Health standards for reliability.

In each age group, the number of residents who had experienced an asthma attack in the past 12 months was similar for Utah County and Utah.

Missed School Days

Figure 3. Number of School Days Missed Due to Asthma During the Past 12 Months, School-aged Children with Current Asthma, Utah, 2007-2008



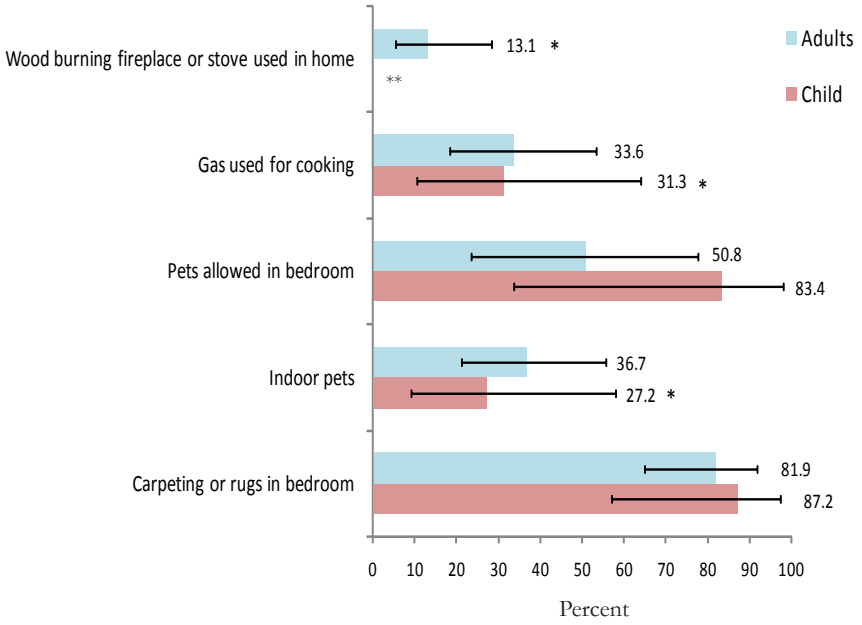
Data source: Behavioral Risk Factor Surveillance System, Call-back Survey 2007-2008. Crude prevalence.

Nationally, asthma is a leading cause of school absenteeism.[3] Utah County data could not be reported in Figure 3 due to the unreliability of available data. In Utah, among parents of school-aged children with asthma, 22.4% reported that their child missed 1-5 days of school because of asthma during the past 12 months and 16.2% said their child missed more than five days of school due to asthma.

Indoor Environmental Exposures

Because people generally spend the majority of their time indoors, environmental factors in the home can play an important role in triggering asthma attacks. Environmental modifications can be made in the home to reduce exposure to these triggers and reduce asthma symptoms.

Figure 4. Environmental Triggers in the Homes of Adults and Children with Current Asthma, Utah County, 2007-2008 Combined



Data source: Behavioral Risk Factor Surveillance System, Call-back Survey 2007-2008. Crude prevalence.
* Estimate has a coefficient of variation greater than 30% and does not meet Utah Department of Health standards for reliability.
** Estimate has a coefficient of variation >50% and is not considered appropriate for publication.

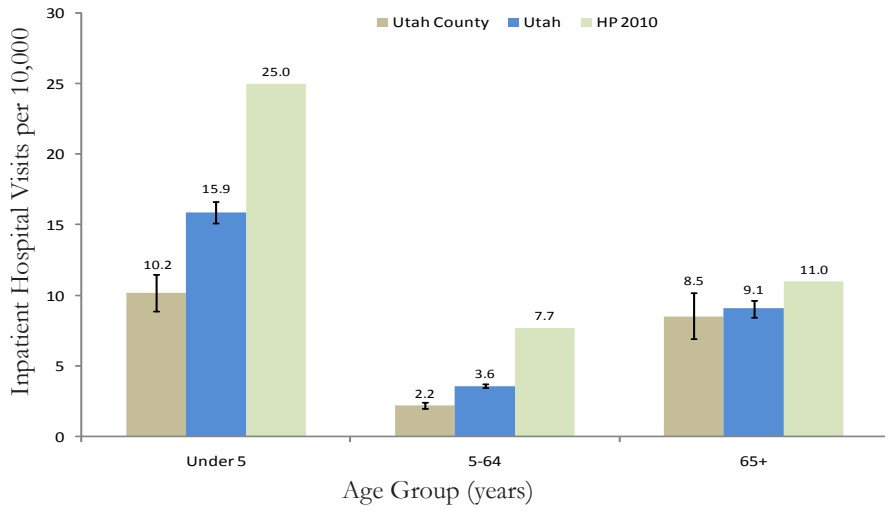
Keeping pets out of bedrooms is one simple, low cost indoor environmental change that could reduce triggers for Utah County residents with asthma. As the data show, among adults and children with current asthma who have pets, 83.4% of children and 50.8% of adults reported allowing their pets in their bedroom.

Health Care Utilization

Emergency department (ED) and hospitalization data are taken from the Utah Inpatient Hospital Discharge Database and the Utah Emergency Department Encounter Database. Because hospitalizations are often a result of ED visits, only "treat and release" encounters are included in the ED data. In several of these figures, Healthy People 2010 Goals are shown in comparison with Utah County and state data. Healthy People 2010 (HP2010) is a comprehensive set of disease prevention and health promotion objectives for the nation.

Hospitalizations

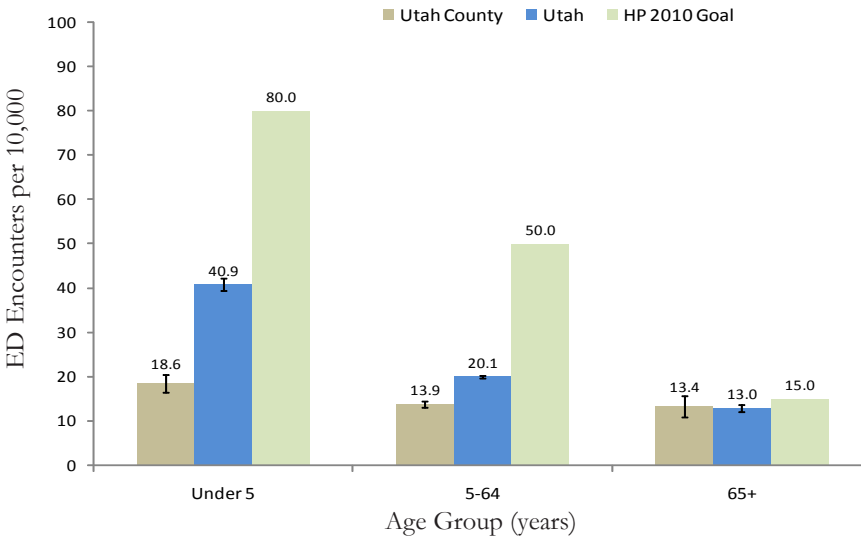
Figure 5. Asthma Hospitalizations by Age Group, 2005-2008



Source: Utah Hospital Discharge Database, 2005-2008. Crude rates.
Note: The primary diagnosis code ICD 493 was used to identify hospitalizations due to asthma.

Emergency Department Visits

Figure 6. Asthma Emergency Department Treat and Release Visits, 2005-2007

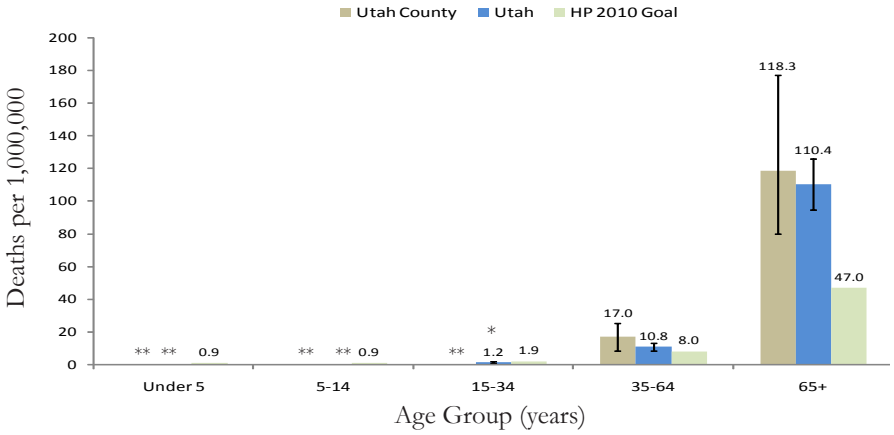


Source: Utah Emergency Department Encounter Database, 2005-2007. Crude rates.
Note: The primary diagnosis code ICD 493 was used to identify emergency department visits due to asthma. Data include only those who were treated and released but not admitted as inpatients.

Asthma Mortality

Asthma-related deaths are rare and most commonly occur among the elderly population. Due to the small number of asthma deaths among some age groups, data were not reportable for the youngest age groups.

Figure 7. Asthma Mortality Rate by Age, 2001-2008



Source: Utah Death Certificate Database, 2001-2008 combined. Crude rates.
Note: ICD-10 codes J45 and J46 were used to identify asthma as the primary cause of death.
* Estimate has a coefficient of variation greater than 30% and does not meet Utah Department of Health standards for reliability.
** The estimate has a coefficient of variation >50% and is not considered appropriate for publication.

References

1. Utah Division of Air Quality: Air Monitoring Center and the AQS EPA database. 2006-2009. Available at http://www.airmonitoring.utah.gov/dataarchive/archpm25.htm
2. Governor's Office of Planning and Budget. Retrieved on April 13, 2010 from Utah Department of Health, Center for Health Data, Indicator based Information System for Public Health website at http://ibis.health.utah.gov.
3. United States Environmental Protection Agency. IAQ tools for schools. Available at http://www.epa.gov/iaq/schools/pdfs/publications/managing_asthma.pdf

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