

Asthma Needs Assessment

Central Utah Public Health Department
Including Juab, Millard, Piute, Sanpete, Sevier and Wayne County

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Introduction

Central Utah Public Health Department (CUPHD) is comprised of six counties located in middle-western Utah: Juab, Millard, Piute, Sanpete, Sevier, and Wayne. The district health department is headquartered in Richfield. This report is intended to provide an assessment of the asthma specific needs among residents of CUPHD. The supporting data in this report comes largely from the Utah Asthma Task Force report entitled “Central Utah Local Health District Asthma Report” which can be found online at www.health.utah.gov/asthma.

For asthma, the characterizing symptoms are muscle contraction around the bronchial airways (not alveoli which emphysema effects) which can come and go in a spasmodic or episodic manner, inflammation that causes a thickened airway wall, and increased mucus production. All these combine to narrow the bronchial airway and limit airflow which makes getting enough oxygen difficult when breathing. Triggers such as specific allergens like dust mites, pet dander, and ozone in the environment or physiological stress can cause an attack of acute respiratory trauma.

Burden of asthma in CUPHD

Prevalence

Asthma is a type of allergic disease. Over 22 million people in the United States are known to have asthma [National Heart Lung and Blood Institute (NHLBI) 2008]. Worldwide asthma prevalence is estimated to be 300 million with an estimated 255,000 deaths occurring in 2005 (World Health Organization, 2010). Asthma prevalence is one of the foremost indicators to measure and track the burden of disease among population groups. Asthma prevalence has nearly doubled in the United States since 1980 (Devereux, 2006; Umetsu, 2006). Since 2001, asthma prevalence has been increasing in Utah which is similar to increasing trends nationwide. 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 describes current asthma prevalence from 2004-2008 in age groups statewide and also specifically in CUPHD. During 2006-2008 all of the age groups in CUPHD had higher prevalence than the comparable age groups in the entire State of Utah, with the exception of the 18-34 age group which was lower.

Table 1. Current Asthma Prevalence 2006-2008
(95% confidence Intervals)

	Age Group	CUPHD percent	State of Utah percent
Children	0-17	8.3 (5.4-12.6)	7.0 (6.2-7.8)
Adults	18-34	7.0 (3.9-12.1)	8.1 (7-9.4)
	35-49	10.5 (6.8-16.1)	8.5 (7.6-9.5)
	50-64	9.1 (5.4-14.7)	8.8 (7.8-9.9)
	65+	14.3 (9.6-20.7)	7.9 (6.8-9.1)

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

Age at Diagnosis of Asthma and Management/ Quality of Life

Lifetime asthma is defined as having ever been diagnosed with asthma by a doctor or other health professional. In CUPHD over half (53%) of adults who have ever been diagnosed with

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asthma were diagnosed by age 17. The largest proportion of these were diagnosed by age 10 (33%).

Frequency and severity of asthma symptoms and quality of life are indicators of one's management of asthma. Avoiding triggers and consistently utilizing treatment can reduce the frequency and severity of asthma attacks. There are three classes of treatments for asthma yet alarmingly as much as 50% of asthmatic patients do not respond to any of these three treatments (Tantisira & Weiss, 2006). The three classes of treatment include long term control, quick relief, and medication for allergy triggered asthma (Mayoclinic, 2008; NHLBI, 2008; Tantisira & Weiss, 2006). The long term control class of treatment includes inhaled corticosteroids, long acting beta 2 agonist, and bronchodilator pills such as Theophyllin. The quick relief or rescue treatment includes short acting beta-1 agonist like Albuterol. Medications for allergies triggered by asthma include immunotherapy (the allergy injections) and anti- IgE antibodies.

The data comparing asthma attacks in the past 12 months among age groups in CUPHD were similar to the attacks in comparable age groups throughout the state of Utah. However, in the 0-17 year old age group CUPHD had a higher percentage of asthma attacks reported in the past 12 months as compared to the state of Utah (77.7% vs 61.6% respectively).

Asthma in Schools

Nationally, asthma is a leading cause of school absenteeism according to the United States Environmental Protection Agency. 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.

CUPHD has a particularly concerning problem with the compliance of schools to the senate bill 32 which allows students to carry and self-administer asthma medication during the school day as long as a written statement is on file from the parents and health care provider. Only 58.7% of children are allowed to carry an inhaler at school. This may be related to the low percentage (48.3%) of children who have an action plan on file at school.

Indoor Environmental Exposure

Because people generally spend the majority of their time indoors, environmental factors in the home can play a significant role in triggering asthma attacks. Environmental modifications can be made in the home to reduce exposure to these triggers and reduce asthma symptoms. In CUPHD having carpeting in the bedroom (96%) and pets in the home (93%) were the two highest environmental exposures for children. Similarly, having carpeting in the bedroom (63%) and pets allowed in the bedroom (71%) were the two highest environmental exposures for adults.

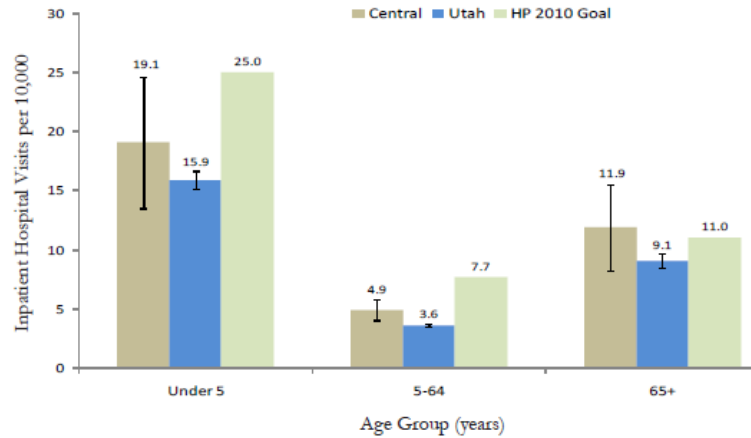
Health Care Burden

Emergency department (ED) and hospitalization data are taken from the Utah Inpatient Hospital Discharge Database and the Utah Emergency Department Encounter Database. Because hospitalizations for asthma are often part of ED visits, only "treat and release" encounters were included in the ED data.

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- 1) Hospitalizations: CUPHD had higher rates of asthma hospitalization for all age groups as compared to the state of Utah.

Asthma Hospitalizations by Age Group, 2005-2008

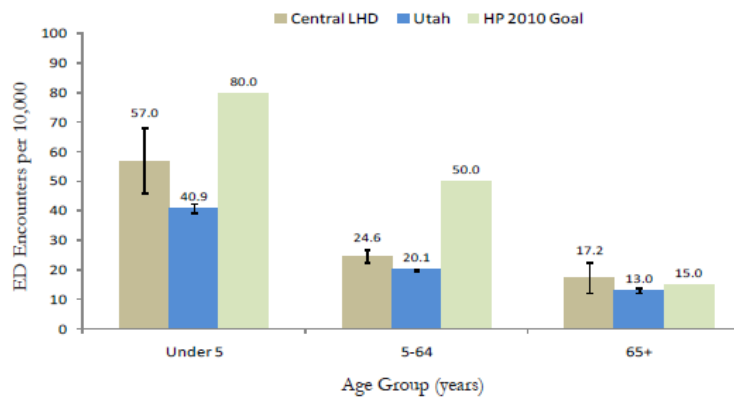


Source: Utah Hospital Discharge Database, 2005-2008. Crude rates.

Note: The primary diagnosis code ICD 493 was used to identify hospitalizations due to asthma.

- 2) Emergency Department Visits: For children under 5 in 2008, CUPHD has a rate of 74.3 per 10,000 for emergency department visits (n=45).

Asthma Emergency Department Treat and Release Visits, 2005-2007



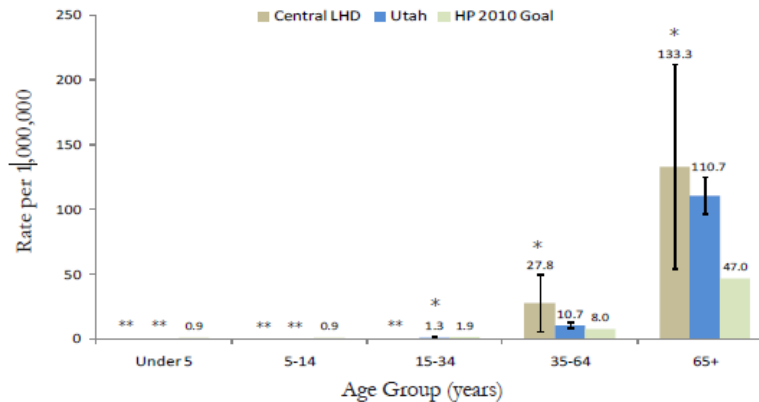
Source: Utah Emergency Department Encounter Database, 2005-2007. Crude rates.

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.

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- 3) Asthma Mortality: Asthma-related deaths are rare and most commonly occur among the elderly population. Due to the small numbers of asthma deaths among some age groups, data were not reportable for some of the younger age groups.

Asthma Mortality Rate by Age, 1999-2008



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.
 ** Estimate has a coefficient of variation >50% and is not considered appropriate for publication

Available Clinics and Resources for Asthma in CUPHD

Clinics

In CUPHD there are 8 school districts with 49 schools. There are 7 school nurses serving these. These are described in the table below:

School District	School Nurse
Juab	Cathy Sunderland
S. Sanpete	Alice Sperry
N. Sanpete	Alice Sperry
Millard	Linda Stephenson and Shauna Nelson
Tintic	
Sevier	Shelly Winn
Piute	Karen DeLange
Wayne	Colleen Chappell

There are approximately 60 physicians in the area, with 21 main facilities for care. The facilities are outlined below:

CUPHD Asthma facility resources:

County	Specialty	City
Juab	Central Valley Medical Center	Nephi
Millard	Delta Fillmore Physical Therapy	Delta
Millard	Delta Family Practice	Delta
Millard	Intermountain Fillmore Clinic	Fillmore
Millard	Fillmore Community Hospital	Fillmore
Piute	Circleville Clinic	Circleville
Sanpete	IHC Ephraim	Ephraim
Sanpete	Central Valley Medical Clinic	Fountain Green
Sanpete	Gunnison Family Medicine	Gunnison
Sanpete	Central Utah Clinic	Gunnison
Sanpete	Family Practice	Gunnison
Sanpete	Gunnison Valley Hospital	Gunnison
Sanpete	IHC Manti	Manti
Sanpete	IHC Mt. Pleasant	Mount Pleasant
Sevier	Monroe Clinic	Monroe
Sevier	Sevier Valley Hospital	Richfield
Sevier	Richfield Family Practice	Richfield
Sevier	Sevier Family Clinic	Richfield
Sevier	Women's Health	Richfield
Sevier	Family Practice	Salina
Wayne	Wayne Comm. Medical Clinic	Bicknell

Strengths and Weaknesses in CUPHD in Regards to Asthma

Strength

CUPHD has a low asthma mortality rate (n=0), however mortality usually affects older persons.

Weakness

There exists a great deal of weakness among the CUPHD schools. Specifically in the area of asthma plans on file at school and inhalers permitted. Due to geographical barriers and task conflicts, the 6 school nurses do not have adequate time to follow up with students in order to improve this.

Assessment of Current Programs Available

CUPHD knows of no programs currently available. There are no programs in schools. The school nurses do not run any programs to our knowledge. Likewise there are no programs in

preschools, or daycares. There is one coalition located in Richfield. The coalition was first formed in early spring 2010. It has struggled to find community members who are willing to dedicate time to the coalition.

Identification of Asthma Gaps and Areas of Need

As indicated from the current of program section above, there is a vast area of need for asthma programs. The resources in schools present a gap as manifest by the low percentage of students with an asthma plan on file. A high number of emergency department visits in children under the age of 5 indicate a need to investigate further. It is unknown whether these children are compliant with their asthma treatment, or if there are barriers such as medication cost, that are preventing compliance. However due to the fact that only approximately half of the children in CUPHD are reported being allowed to carry inhalers at school, it is likely that they do not have proper treatment during school hours.

Due to the large geographical area covered by CUPHD, multiple coalitions would be needed. Resources such as funding, personnel and educational materials are needed to start such programs.

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