

CENTRAL UTAH PUBLIC HEALTH DEPARTMENT

Central Utah Asthma Plan



Working for Healthy Communities

2010-2014



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August 2010

Dear Central Utah Residents,

At this time, Central Utah Local Health District has the highest prevalence of asthma within the state of Utah. Within communities served, little or no asthma-specific resources are available. By providing tools and resources within our area, we can make a difference in the lives of people with asthma and their families.

It is my pleasure to introduce Central Utah's first Local Asthma Plan: a strategic plan for improving the quality of life for residents with asthma.

The goals, objectives, and strategies found within the Central Utah Asthma Plan are included with the intention of improving overall quality of life for residents of the six-county area we serve.

It is my hope that this plan will be used to benefit community members affected by asthma. I appreciate those that assisted with the creation of this plan, and those that will work to implement this plan in local communities. Through the continued application of the objectives herein outlined, we can improve and protect the health of all citizens.

Sincerely,

Bruce Costa, Ph.D., L.E.H.S.
Executive Director, Central Utah Public Health Department

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Section 1: Asthma in Central Utah Health District

Introduction

Central Utah Public Health Department (CUPHD) was established in 1973 with a mission to improve and protect the health of all citizens in the six-county area by offering services that enhance the environment, prevent illness and injury, and promote healthy lifestyles. CUPHD provides services to a growing population of more than 70,000 residents of Juab, Millard, Sanpete, Wayne, Sevier, and Piute Counties. This section is intended to provide an assessment of asthma-specific needs among these residents. The supporting data in this report come largely from the Utah Asthma Program report entitled “Central Utah Local Health District Asthma Report” which can be found online at www.health.utah.gov/asthma.

At this time, Central Utah Local Health District (CULHD) has the highest prevalence of asthma in the state of Utah. The overall state prevalence is 7.9%, while that of CULHD is 9.5%. Within the communities served, little or no asthma-specific resources are available. Given the rural nature of Central Utah, most resources are located outside the area, primarily in Utah and Salt Lake Counties. Providing tools and resources locally would make a difference in the lives of people with asthma and their families. In addition, CULHD has a high rate of tobacco use. This at-risk population would benefit greatly from asthma-related resources. The Native American and Hispanic populations would benefit especially from culturally-appropriate tools to promote wellness and increase quality of life as well.

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

Prevalence

Asthma is a type of allergic disease. More than 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 at rates 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 point prevalence than comparable age groups in Utah overall, with the exception of the 18-34 age group, which was lower. However, none of these differences are statistically significant.

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 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 which 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 Utah. However, in the 0-17 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 worrisome problem with the compliance of schools to the senate bill SB32, 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

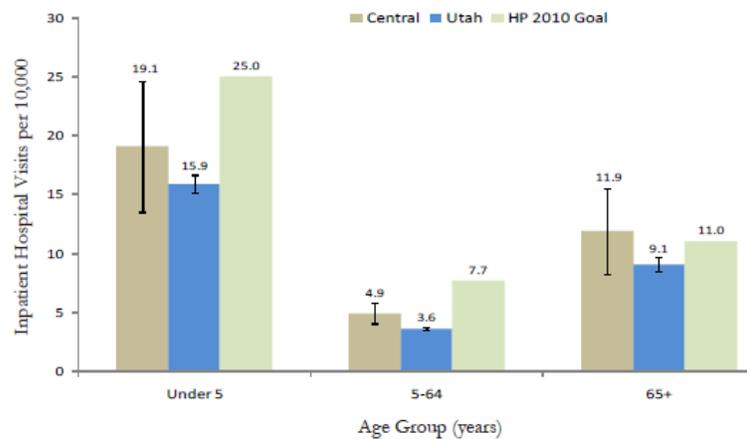
be made in the home to reduce exposure to these triggers and reduce asthma symptoms. In CULHD, having carpeting in the bedroom (96%) and pets in the home (93%) were the two highest environmental exposures for children. Similarly, having carpeting in the bedroom (63%) and having indoor pets (49%) were 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.

- 1) Hospitalizations: CUPHD had higher rates of asthma hospitalization for all age groups as compared to Utah overall, though none were significantly higher.

Asthma Hospitalizations by Age Group, 2005-2008

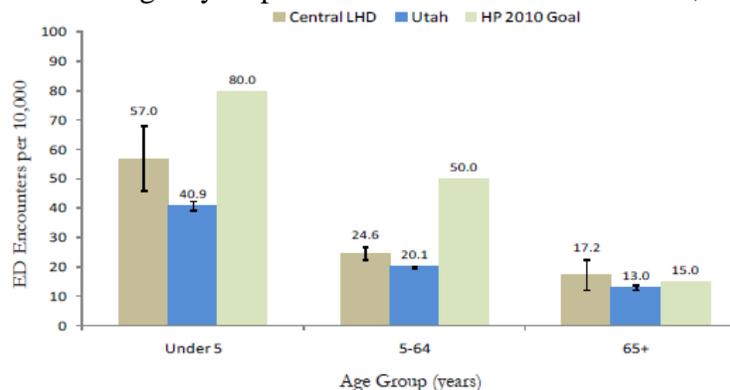


Source: Utah Hospital Discharge Database, 2005-2008. Crude rates.

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

- 2) Emergency Department Visits: For children under 5 between 2005-2007, CUPHD has a rate of 57.0 per 10,000 for emergency department visits.

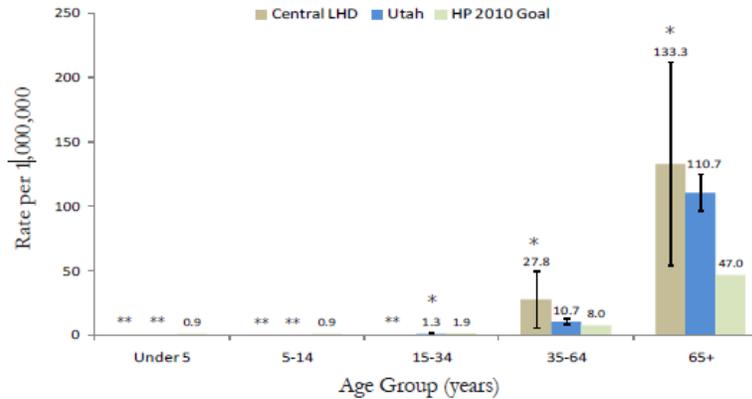
Asthma Emergency Department Treat and Release Visits, 2005-2007



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.

- 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

Clinics

In CUPHD there are eight school districts with 47 schools. Seven school nurses serve all 47 schools as outlined in the following table:

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 | No School Nurse |
| Sevier | Shelly Winn |
| Piute | Karen DeLange |
| Wayne | Colleen Chappell |

There are approximately 60 physicians in the area, with 21 primary facilities for care as outlined below:

CUPHD Asthma Facility Resources:

| County | Name/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

Strength

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

Weakness

As noted previously, only seven school nurses are available to serve the health district's 47 schools. Specifically, the amount of asthma plans on file at school and permitting the storage and use of inhalers needs to increase. Due to geographical barriers and task conflicts, the seven school nurses do not have adequate time to follow up with students in order to improve this.

Assessment of Current Asthma Programs Available.....

CUPHD knows of no programs currently available, in schools or other facilities such as child care centers or preschools. There is one coalition located in Richfield, which was first formed in

early 2010. Leaders have struggled to find community members who are willing to dedicate time to the coalition.

Identification of Asthma Gaps and Areas of Need.....

As indicated, there is a pressing need for asthma programs. The resources in schools present a gap as manifested 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 five 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 as being permitted 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.

Section 2: The Plan

Asthma Management

Background

The term asthma management is used because treatment of asthma is much more than pre-prescribing appropriate medications. For asthma management to be effective, it is important to assess the barriers people face in gaining control of their asthma. Barriers come in many forms and are different for everyone. For example, some people with asthma may be exposed to secondhand smoke and other triggers while others may not be taking their medications correctly. This may occur for many reasons, such as a lack of provider or patient education, which could lead to emergency room visits and hospitalizations.

People with asthma can become experts in their own care. Asthma patients who learn to effectively control their asthma will experience a better quality of life.

Mission:

To assist people with asthma in improving their quality of life by providing the tools and resources necessary to maximize and promote wellness.

Objective 1

Increase awareness of how asthma affects daily life activities.

1. Strategies:
 - a. Develop, promote and distribute asthma education materials in the community to be used by people with asthma, their caregivers, and the general public.
 - b. Identify and recruit community partners to participate in local asthma coalition.
2. Desired Outcomes:
 - a. Improve quality of life for those with asthma.
 - b. Increase number of community partners.
3. Performance Measures for desired outcome a:
 - a. Measure 1: Percent of those living with current asthma who experienced an asthma attack during the past 12 months.
 - i. Baseline: Adult: 61.7% Child: 81.0% (BRFSS Call-back 2007-2009)
 - ii. Target: Adult: 55% Child: 75%
 - iii. Data Source: BRFSS
 - b. Measure 2: Percent of those with current asthma who experienced activity limitations during the past 12 months.
 - i. Baseline: Adult: 70.6% Child: 75.6% (BRFSS Call-back 2007-2009)
 - ii. Target: Adult: 65% Child: 70%
 - iii. Data Source: BRFSS
 - c. Measure 3: Percent of those with current asthma who lost 1 or more days of sleep in the past 30 days due to asthma.
 - i. Baseline: Adult: 32.0% Child: 19.4% (BRFSS Call-back 2007-2009)
 - ii. Target: Adult: 25% Child: 15%
 - iii. Data Source: BRFSS
4. Performance Measures for desired outcome b:

- a. Measure: Number of active members on coalition.
 - i. Baseline: 3
 - ii. Target: 10
 - iii. Data Source: Coalition Meeting Minutes

Objective 2

Assist people dealing with asthma to understand the disease process and possible treatments and strategies.

- 1. Strategies:
 - a. Promote asthma education among current and future providers
 - b. Promote asthma education among school nurses within the six-county area
- 2. Desired Outcomes:
 - a. Increase use of and compliance with asthma treatment plans.
- 3. Performance Measures:
 - a. Measure 1: Percent of those with current asthma who have been given an asthma management plan by a health professional.
 - i. Baseline: Adult: 28.0% Child: 31.9% (BRFSS Call-back 2007-2009)
 - ii. Target: Adult: 38% Child: 41%
 - iii. Data Source: BRFSS
 - b. Measure 2: Percent of children with current asthma with an asthma management plan on file at school.
 - i. Baseline: Child: 44.7% (BRFSS Call-back 2007-2009)
 - ii. Target: Child: 55%
 - iii. Data Source: BRFSS

Objective 3

Improve access to asthma management systems.

- 1. Strategies:
 - a. Collaborate with senior centers to provide CDSMP.
- 2. Desired Outcomes:
 - a. Increase information regarding asthma and asthma management among senior citizens.
- 3. Performance Measures:
 - a. Measure 1: Number of senior citizens with asthma who have taken CDSMP.
 - i. Baseline: 0
 - ii. Target: 25 total
 - iii. Data Source: CUPHD Administrative Records

Objective 4

Promote awareness of how the social/cultural environment affects asthma management.

- 1. Strategies:
 - a. Build partnerships in the community to improve access to culturally appropriate self-management education and resources.
 - b. Provide community partners access to asthma education materials and encourage distribution of materials.

- c. Develop and promote asthma education materials to be used by people with asthma, their caregivers, and the general public. Continue to ensure that asthma materials are appropriate for the populations for whom they are intended.
- 2. Desired Outcomes:
 - a. Increase collaboration with community partners.
 - b. Improve access to asthma resources.
- 3. Performance Measure for desired outcome a:
 - a. Measure: Number of active members on coalition.
 - i. Baseline: 3
 - ii. Target: 10
 - iii. Data Source: Coalition Meeting Minutes
- 4. Performance Measure for desired outcome b:
 - a. Measure: Number of educational material translated into Spanish
 - i. Baseline: 0
 - ii. Target: 1
 - iii. Data Source: CUPHD Administrative Records

Health Systems

Background

Asthma patients must have access to appropriate primary and specialty asthma care, education services, necessary medications and devices to manage asthma more effectively. Unfortunately, many patients lack access to basic health services, including coordinated care.

Mission

Assist the health care system to provide access to appropriate care as defined by National Asthma Education Prevention Program (NAEPP) guidelines.

Objective 1

From a patient perspective, explore access and barriers to health care.

- 1. Strategies:
 - a. Increase awareness and promote use of chronic care model among pharmacies, primary care providers, asthma specialists, school systems, emergency departments, and hospitals.
- 2. Desired Outcomes:
 - a. Increase access to care.
 - b. Decrease barriers to care.
- 3. Performance Measure for desired outcome a:
 - a. Measure: Percent of those with current asthma who received a routine checkup for asthma within the past 12 months.
 - i. Baseline: Adult 59.7% (BRFSS Call-back 2007-2009)
 - ii. Target: Adult: 70%
 - iii. Data Source: BRFSS
- 4. Performance Measure for desired outcome b:
 - a. Measure 2: Percent of those with current asthma who stated that there was a time in the past twelve months when they needed to buy medication for asthma but could not because of the cost.

- i. Baseline: Adult 25.7% (BRFSS Call-back 2007-2009)
- ii. Target: Adult 23%
- iii. Data Source: BRFSS

Population Issues

Background

Asthma affects individuals in all age groups, ethnic backgrounds, and geographic locations. Within each group are sub-groups that are in need of special resources that are specific to that group or individual. Target populations include: youth, focusing in schools; adult issues, focusing on worksites, churches, and community adult organizations; and older adult, focusing in aging services, and long-term care/assisted living facilities. The design of the asthma intervention efforts must meet the educational needs of each target population, and be culturally appropriate for each ethnicity within their social and physical environments. Within the population's context and existing systems, the goal is to improve asthma self-management and influence policies that would support asthma friendly environments among all populations.

Mission

Within population systems, use best practices to provide culturally appropriate assistance for those affected by asthma so they can better manage their asthma within their social and physical environments.

Objective 1

Increase awareness that asthma is a chronic disease that occurs throughout the lifespan and is a public health concern so that people with asthma are better equipped to manage their disease.

1. Strategies
 - a. Distribute educational information to community members
2. Desired Outcomes
 - a. Increase self-management.
 - b. Improve quality of life for all people with asthma.
3. Performance Measure for desired outcome a:
 - a. Measure: Percent of those with current asthma who have been given an asthma management plan by a health professional.
 - i. Baseline: Adult 28.0% (BRFSS Call-back 2007-2009)
 - ii. Target: Adult: 38%
 - iii. Data Source: BRFSS
4. Performance Measure for desired outcome b:
 - a. Measure 1: Percent of those with current asthma who experienced an asthma attack during the past twelve months.
 - i. Baseline: Adult: 61.7% Child: 81.0% (BRFSS Call-back 2007-2009)
 - ii. Target: Adult: 57% Child: 76%
 - iii. Data Source: BRFSS
 - b. Measure 2: Rate for total ED visits for asthma during the last twelve months.
 - i. Baseline: 34.0 per 10,000 (Utah Emergency Department Encounter Database, 2009)
 - ii. Target: 30 per 10,000
 - iii. Data Source: BRFSS

Risk Factors

Background

Asthma is a complex disease and is recognized to have multiple causes and risk factors. Central Utah, with its variety of housing and unique mixture of mountain valley, desert climate, industry, and agriculture, provides a challenge to reducing risk factors. Environmental, societal, and behavioral risk factors will be addressed to help reduce the prevalence of asthma in Central Utah.

Mission

To identify asthma risk factors and promote intervention strategies to reduce those risks in Utah.

Objective 1

Promote awareness of indoor and outdoor environmental risk factors through community cooperation. Increase awareness of the effects of water damage, flooding, sewage backups, and plumbing leaks in relation to asthma.

1. Strategies:
 - a. Distribute educational material related to asthma and air quality on the following key elements: 1) exposure to secondhand smoke; 2) tobacco prevention and cessation among youth; 3) tobacco cessation among adults with asthma and caregivers of individuals with asthma.
2. Desired Outcomes:
 - a. Support efforts that increase awareness of environmental risks to asthma.
3. Performance Measure:
 - a. Measure: Number of news releases relating environmental risks to asthma.
 - i. Baseline: 0
 - ii. Target: 1 per year; 4 total
 - iii. Data Source: CUPHD Administrative Records

Objective 2

Promote awareness of asthma risk associated with social, economic, ethnic, occupational and other related factors to reduce asthma morbidity and improve quality of life.

1. Strategies:
 - a. Distribute appropriate asthma educational materials to community members.
 - b. Support ongoing efforts for tobacco-free policies in outdoor venues, worksites, health care settings, homes and multi-dwelling units.
2. Desired Outcomes:
 - a. Increase awareness of possible societal risks factors for asthma.
 - b. Increase tobacco-free policies that reduce societal risk factors.
3. Performance Measures for desired outcome a:
 - a. Measure 2: Number of local businesses who have received informational materials about asthma and risk factors.
 - i. Baseline: 0
 - ii. Target: 6; at least 1 per county
 - iii. Data Source: CUPHD Administrative Records
4. Performance measure for desired outcome b:
 - a. Measure 1: Number of local smoke-free policies
 - i. Baseline: Colleges: 1

- Outdoor Venues: 8
- Multiple Unit Housing: 2
- HealthCare Providers: 1
- Worksites: 3
- School Districts: 5 (totaling 37 schools)
- ii. Target: Baseline: Colleges: 1
 - Outdoor Venues: 10
 - Multiple Unit Housing: 4
 - HealthCare Providers: 2
 - Worksites: 5
 - School Districts: 8 (totaling 47 schools)
- iii. Data Source: BRFSS

Objective 3

Promote awareness of the association between behavioral choices and asthma.

1. Strategies:
 - a. Distribute educational material related to asthma and air quality on the following key elements: 1) exposure to secondhand smoke; 2) tobacco prevention and cessation among youth; 3) tobacco cessation among adults with asthma and caregivers of individuals with asthma.
 - b. Facilitate referrals to smoking cessation programs.
 - c. Support smoke-free homes and vehicle programs.
2. Desired Outcomes:
 - a. Increase awareness of possible behavioral risks for asthma.
3. Performance measure:
 - a. Measure: Number of tobacco cessation clients seen with current asthma
 - i. Baseline: 0
 - ii. Target: 5 per year; 20 total
 - iii. Data Source: CUPHD Administrative Records

Data and Monitoring.....

Background

The burden of asthma in Central Utah has a significant effect on the quality of life for many residents. To determine if the Central Utah Asthma Plan is effective in reducing this burden, the morbidity, mortality and impact of the disease must be assessed. These data will not only direct the plan, but will determine how close the plan is to achieving its goals.

Mission

Assure availability of quality data to guide interventions that prevent asthma and improve the quality of life for people with asthma.

Objective 1

Disseminate data information from needs assessment to appropriate stakeholders.

1. Strategies:
 - a. Identify and target information for specific audiences.
2. Desired Outcomes

- a. Reports are available to appropriate audiences.
- 3. Performance Measure:
 - a. Measure: Number of asthma reports disseminated to appropriate stakeholders
 - i. Baseline: 5
 - ii. Target: 20 total
 - iii. Data Source: CUPHD Administrative Records

Acknowledgments

This plan was prepared by the following staff at Central Utah Public Health Department:

- Lisa Taylor, M.S.
- Mike Carter, M.S., L.E.H.S.
- Louise Saw, B.S., C.H.E.S.
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