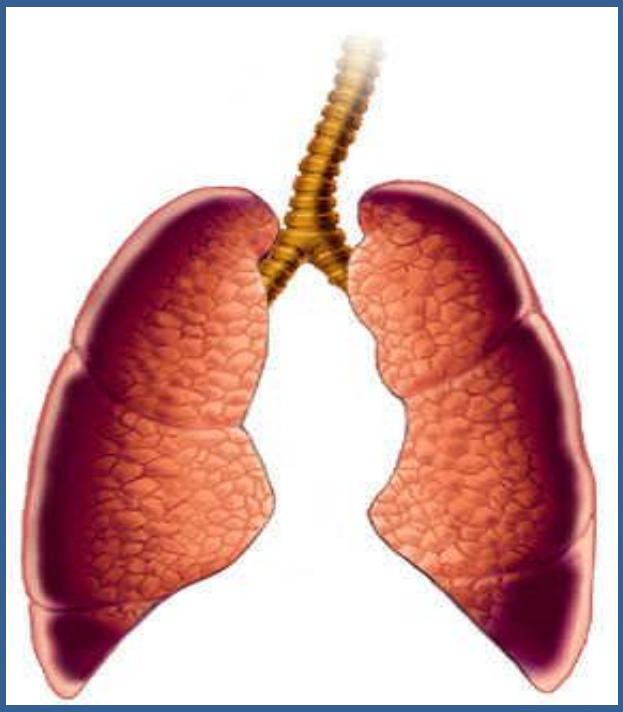
THE BURDEN OF ASTHMA IN NEW MEXICO

2014 EPIDEMIOLOGY REPORT



NEW MEXICO DEPARTMENT OF HEALTH

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The Burden of Asthma in New Mexico: 2014

New Mexico Asthma Program
Environmental Health Epidemiology Bureau
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TABLE OF CONTENTS

TABLE OF CONTENTS

LIST OF FIGURES

Asthma Prevalence

Risk Factors for Asthma

LIST OF FIGURES

Asthma Management and Quality of Life

Asthma Emergency Department Visits

Asthma Hospitalizations

LIST OF FIGURES

Asthma Among Medicaid Enrollees

Asthma Mortality

LIST OF FIGURES

Appendix C. New Mexico Public Health Regions Map

LIST OF TABLES

EXECUTIVE SUMMARY

Asthma is one of the most common chronic diseases in New Mexico, with an estimated 150,000 adults and 47,000 children currently having the disease. People with asthma are more likely to miss school or work, report feelings of depression, and experience an overall reduced quality of life compared to those without asthma. Asthma is also costly, with expenses from routine checkups, emergency department visits, hospitalizations, and medications putting a significant burden on families, the health care sector, and the economy. Though it cannot be cured, asthma can be controlled through quality health care, appropriate medications, and good self-management skills. When asthma is controlled, people with the disease have few, if any, symptoms, and can live normal and productive lives.

This report uses the most recent data available from the New Mexico asthma surveillance system to present a comprehensive picture of the burden of asthma in the state. The surveillance system is made up of several data sources, including health surveys, emergency department data, hospitalization data, Medicaid data and mortality data. Using data presented in this report, the New Mexico Asthma Program, along with other health care professionals dedicated to improving asthma care, can appropriately target education and intervention programs and shape policies that are necessary to prevent and control asthma in New Mexico.

Key findings:

Asthma Prevalence

- Approximately 9.6% of adults aged 18 and older currently have asthma. This translates to roughly 150,000 adults in New Mexico with the disease.
- Approximately 9% of children aged 0-17 years currently have asthma. This translates to roughly 47,000 children in New Mexico with the disease.
- Since 2000, current asthma prevalence among adults has steadily increased.
- Adult females (11.9%) are more likely to have asthma than adult males (7.3%).
- Among children aged 0-17 years, males (10.8%) have a higher current asthma prevalence than females (7.3%) overall; however, among only high school students, females (14.2%) have a higher current asthma prevalence than males (11.1%).
- Among adults, Hispanics (8.1%) are less likely to have asthma than non-Hispanic whites (10.7%) and African Americans (16.6%).

Risk Factors for Asthma

- Adults with asthma (23.9%) are more likely to smoke than adults who do not currently have asthma (20.0%).
- Obese (12.5%) and morbidly obese (21.8%) adults are more likely to have asthma than normal weight adults (7.7%).
- Adults and children from low-income households are more likely to have asthma than adults and children from high-income households.
- Approximately 66.0% of adults and children with asthma allow pets inside their home, and 18.3% of adults and 9.1% of children had a smoker in their home in the past week.

- Approximately 16.4% of adults reported that their asthma was caused by their current job.

Asthma Management and Quality of Life

- Over half of adults (52.8%) and children (56.7%) with asthma had an asthma attack in the past 12 months.
- Approximately 51.8% of adults and 38.1% of children have asthma that is not well-controlled.
- Adults in the southeast region of New Mexico are more likely to have very poorly controlled asthma compared to adults in other regions of the state.
- Among adults and children with asthma, only 41.8% and 29.6% used an inhaled corticosteroid medication in the past 3 months, respectively.
- Adults with asthma are more likely to report being diagnosed with depression and anxiety than adults without asthma.

Asthma Emergency Department Visits

- From 2010-2012, there was an average of 7,697 visits to the emergency department (ED) that had a primary diagnosis of asthma each year.
- Male children aged 0-4 years (85.6 visits per 10,000) and 5-14 years (74.9 visits per 10,000) had the highest asthma ED visit rates from 2010-2012.
- Overall and among children aged 0-14 years, counties in southeastern New Mexico had the highest asthma ED visit rates.

Asthma Hospitalizations

- From 2000-2012, there was an average of 1,802 hospitalizations with asthma listed as the primary diagnosis each year.
- Since 2000, the asthma hospitalization rate has remained stable.
- Male aged 0-4 years (30.8 hospitalizations per 10,000) had the highest asthma hospitalization rate from 2010-2012.
- Approximately 64% of the costs for asthma hospitalizations were charged to Medicaid and Medicare in 2009.
- Overall and among children aged 0-14 years, counties in southeastern New Mexico had the highest asthma hospitalization rates.

Asthma Among Medicaid Enrollees

- In 2011, 14.4% of New Mexico Medicaid enrollees had asthma and 3.8% had persistent asthma.
- From 2010-2011, 8.1% of adults aged 45-64 enrolled in Medicaid had persistent asthma, the highest of any age group.
- Persistent asthma prevalence was highest in the southeastern New Mexico counties.
- Only 25.1% of Medicaid enrollees with persistent asthma filled 1 or more prescriptions for an inhaled corticosteroid medication from 2010-2011.

EXECUTIVE SUMMARY

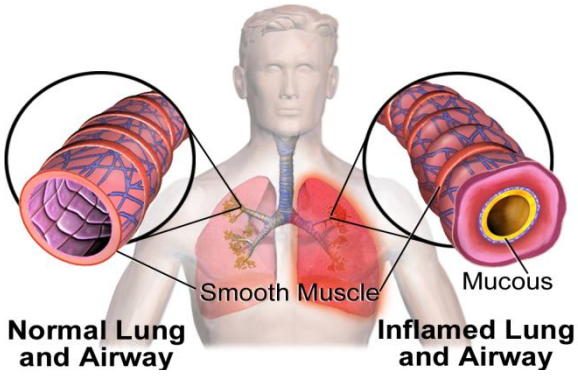
Asthma Mortality

- Since 1980, rates for deaths attributed to asthma as the underlying cause have been declining in New Mexico.
- From 2000-2012, there was an average of 25 deaths per year with asthma listed as the underlying cause of death.
- Asthma death rates are highest among adults aged 65 years and older.
- From 2005-2012, African Americans had the highest asthma death rate (2.6 deaths per 100,000).

INTRODUCTION

What is asthma?

Asthma is a chronic inflammatory disease that affects the airways in the lungs. People with asthma have inflamed airways that can be very sensitive to certain triggers, including allergens, irritants, and exercise. When exposed to these triggers, the airways swell and the muscles around them tighten, causing or exacerbating asthma symptoms. Symptoms of asthma include shortness of breath, chest tightness, wheezing, and coughing. These symptoms can usually be reversed, either with medication or spontaneously after removal of the trigger that caused them. Sometimes, when symptoms persist and are severe enough, immediate medical attention from a health care professional is required.[1]



While much is known about what triggers asthma symptoms, the exact cause of the disease is unknown. The strongest known risk factor for developing asthma is a family history of the disease. Other risk factors include a family history of allergies, long-term contact with some airborne allergens, and exposure to some viral infections in infancy or childhood when the immune system is developing.[2]

Common Asthma Triggers

- Cigarette smoke
- Air pollution
- Pollen
- Mold
- Viral infections
- Dust mites
- Cockroach allergens
- Pets
- Stress
- Exercise

Asthma as a public health priority in New Mexico

In both the United States and New Mexico, asthma is one of the most common chronic conditions affecting adults and children. In New Mexico, approximately 9.6% of adults and 9.0% of children currently have asthma. This amounts to about 197,000 people with the disease.

For many people with asthma, the disease adversely affects their health and quality of life, especially when they lack access to proper health care. In addition, the indirect and direct costs of asthma are substantial for individuals with the disease, their families, the health care sector, and the economy. Indirect costs derive primarily from lost time at work or school, resulting in reduced income and diminished skills and opportunities for people with asthma and their caregivers. Direct costs of asthma are even greater. Direct costs primarily include costs from doctor visits, medications, emergency department visits, and hospitalizations.[3] In 2009 alone, the direct charges for hospitalizations in New Mexico with a primary diagnosis of asthma - which are mostly preventable - was about $30 million (see table 11). About 64% of the costs of these hospitalizations were charged to Medicaid and Medicare.

Introduction

Taken together, the personal and economic costs of asthma are significant and represent an important challenge for health care professionals committed to improving asthma care in New Mexico. Already, strides are being made to reduce the burden of the disease around the state. Since 2001, the Centers for Disease Control and Prevention (CDC) has funded the New Mexico Department of Health (NMDOH) Asthma Program to address asthma from a public health perspective. The New Mexico Asthma Program has focused its efforts on asthma surveillance and working with partners around the state to design and implement interventions that aim to provide quality health care to individuals with asthma. In 2010, a statewide coalition, the New Mexico Council on Asthma (NMCOA), was formed. The NMCOA has diverse and growing representation from many important stakeholders involved in asthma care in New Mexico, and primarily focuses on improving provider education, improving access to quality health care, and addressing asthma-related policy issues.

In addition to the New Mexico Asthma Program and the NMCOA, there are countless other individuals and organizations in New Mexico who have dedicated their time and resources to improving the health and lives of people with asthma. Despite progress made, as the prevalence and costs of asthma continue to rise, a strong and sustained effort from health care professionals around the state is needed to reduce the burden of the disease for individuals, families, and the health care sector.

Description of this report

This report describes the burden of asthma in New Mexico using the most recent available data from the New Mexico asthma surveillance system. It is intended to be used to assist health care professionals, stakeholders, policymakers, and others to guide future public health efforts, including targeting education and intervention programs and developing policy initiatives.

The main body of this report is divided into the following sections: asthma prevalence, asthma risk factors, asthma symptoms and management, asthma emergency department visits, asthma hospitalizations, asthma among Medicaid recipients, and asthma deaths. An overview of the sections and the data source used is given at the beginning of each section. A more thorough summary of each data source is given in Appendix B. Throughout the report, the data are primarily presented in graphs, maps and tables that are supplemented by written summaries. The raw data for the graphs and maps can be found in Appendix C.

In the sections that use surveys as data sources, 95% confidence intervals are shown. Confidence intervals are used to indicate the precision of measurements from surveys. More information on confidence intervals and other technical information can be found in Appendix A.

ASTHMA PREVALENCE

Overview

Asthma prevalence is defined as the percentage of people who have asthma in a defined population at a single point in time. Typically, asthma prevalence is measured using health surveys.

There are two surveys used in New Mexico to track asthma prevalence. The first is the Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is an annual health survey sponsored by the CDC and administered by individual state health departments. The survey is conducted by telephone. The BRFFS tracks adult asthma prevalence and child asthma prevalence by adult proxy (i.e. the adult answers for the child).

The second survey, the New Mexico Youth Risk and Resiliency Survey (YRRS), monitors asthma prevalence in middle and high school students. The YRRS is offered to a selection of high schools and middle schools in each school district around the state in odd numbered years. All data are self-reported by students who voluntarily complete the survey during one class period.

Currently, the New Mexico BRFSS and YRRS are used to assess two types of asthma prevalence:

Lifetime prevalence is when an adult or child has ever been diagnosed with asthma by a health care professional. Estimates of lifetime prevalence are based on respondents who answer yes to the following question: *"Have you ever been told by a doctor, nurse, or other health professional that you had asthma?"*

Current prevalence is when an adult or child has ever been diagnosed with asthma AND still has asthma. Estimates of current prevalence are based on respondents who answer yes to the lifetime prevalence question and yes to the following question: "*Do you still have asthma*?"

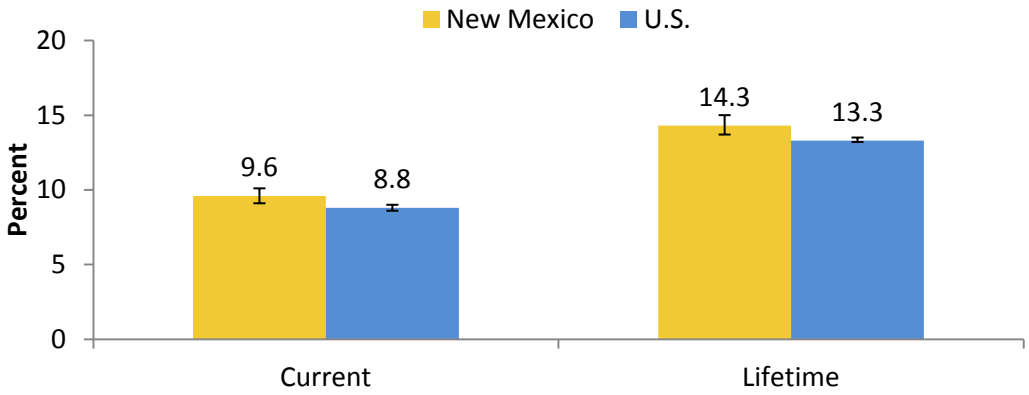
This section presents data from the BRFSS and YRRS and summarizes the prevalence of asthma in New Mexico adults and children. Demographic factors, including age, sex, race/ethnicity, and region of residence, were examined. Also, because public health interventions for asthma are mainly directed towards people who currently have asthma, this section will primarily focus on current asthma prevalence to describe the burden of asthma.

Asthma Prevalence

Adult Asthma Prevalence (≥ 18 Years)

From 2011-2012, 14.3% of New Mexico adults reported they had been diagnosed with asthma in their lifetime (lifetime asthma prevalence) and 9.6% reported they still have asthma (current asthma prevalence). The current asthma prevalence estimate translates to approximately 150,000 adults in New Mexico who currently have the disease. Current and lifetime asthma prevalence estimates among New Mexico adults were statistically significantly higher than the U.S. estimates (Figure 1).

Figure 1. Current and lifetime asthma prevalence among adults, New Mexico and U.S., 2011-2012

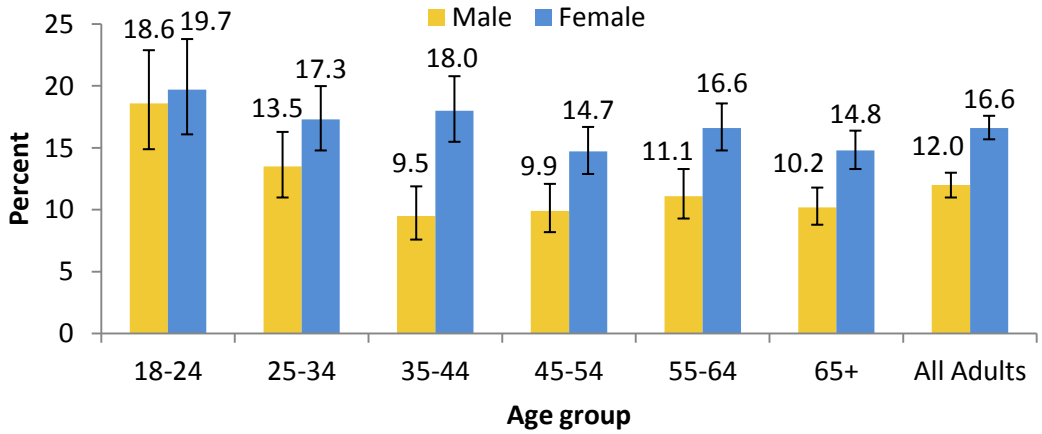


SOURCE: New Mexico and U.S. BRFSS, 2011-2012

NOTES: U.S. estimates include all 50 states plus the District of Columbia

Figure 2 depicts lifetime asthma prevalence by sex and age group. From 2011-2012, adult females were significantly more likely to report ever being diagnosed with asthma compared to males overall (16.6% vs. 12.0%) and for every age group except the 18-24 and 25-34 age groups. In addition, lifetime asthma prevalence was generally higher in young adults compared to older adults for both males and females.

Figure 2. Lifetime asthma prevalence among adults by sex and age group, New Mexico, 2011-2012

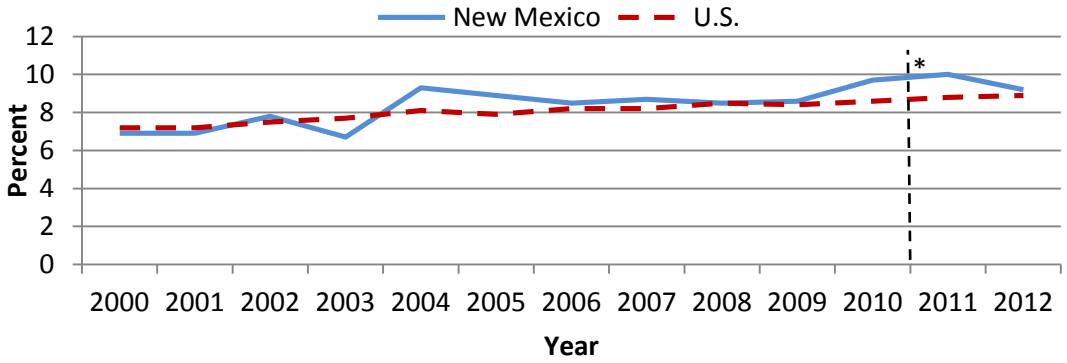


SOURCE: New Mexco BRFSS, 2011-2012

Asthma Prevalence

Between 2000 and 2012, the percentage of New Mexico adults who reported currently having asthma steadily increased. This mirrors the overall U.S. trend, where current asthma prevalence has also increased since 2000. Though prevalence of current asthma has been increasing, it is difficult to know how much of the increase is due to a true increase in prevalence or changes in the patterns of awareness and diagnosis of the disease (Figure 3).

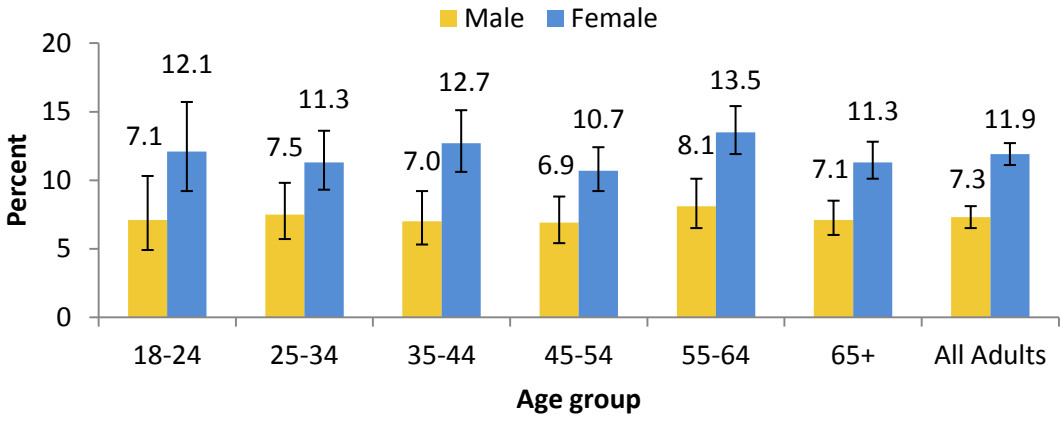
Figure 3. Current asthma prevalence among adults by year, New Mexico and U.S., 2000-2012



SOURCE: New Mexico and U.S. BRFSS, 2000-2012
NOTES: U.S. estimates include all 50 states plus the District of Columbia
* Due to changes in survey methodology, 2011 and 2012 estimates should be compared to prior year estimates with caution.

From 2011-2012, adult females were significantly more likely to report currently having asthma compared to males overall (11.9% vs. 7.3%) and for every age group except the 18-24 and 25-34 age groups. For males and females, the current asthma prevalence was similar across all age groups (Figure 4).

Figure 4. Current asthma prevalence among adults by sex and age group, New Mexico, 2011-2012

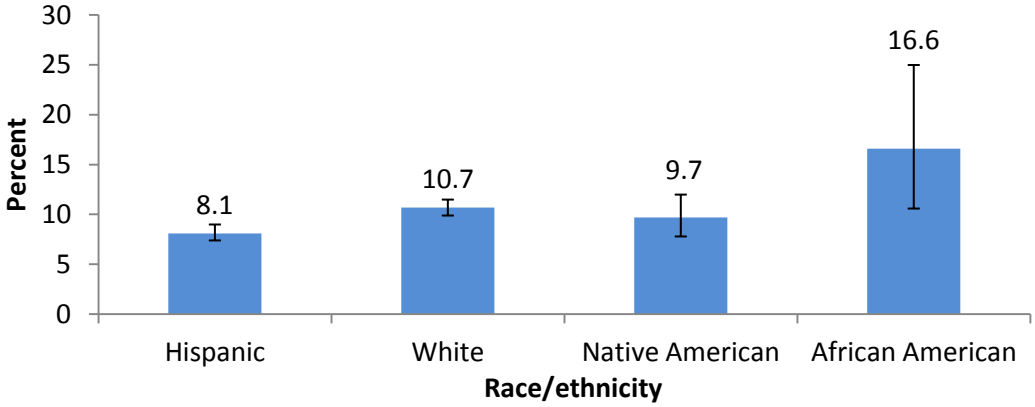


SOURCE: New Mexico BRFSS, 2011-2012

Asthma Prevalence

There are disparities in current asthma prevalence by race/ethnicity among New Mexico adults. From 2011-2012, African Americans had the highest current asthma prevalence (16.6%). Hispanics (8.1%) had a significantly lower current asthma prevalence than whites (10.7%) and African Americans (Figure 5).

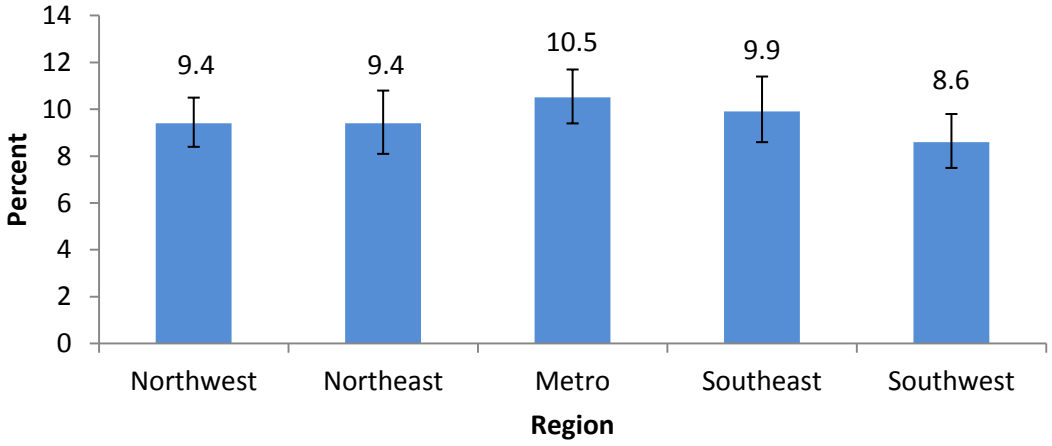
Figure 5. Current asthma prevalence among adults by race/ethnicity, New Mexico, 2011-2012



SOURCE: New Mexico BRFSS, 2011-2012
NOTES: The White, Native American, and African American groups include only non-Hispanics.

There were no statistically significant regional geographical disparities in current asthma prevalence from 2011-2012. This is consistent with prior years of BRFSS data. However, county level disparities may exist but are immeasurable by the BRFSS due to insufficient sample sizes (Figure 6).

Figure 6. Current asthma prevalence among adults by region, New Mexico, 2011-2012



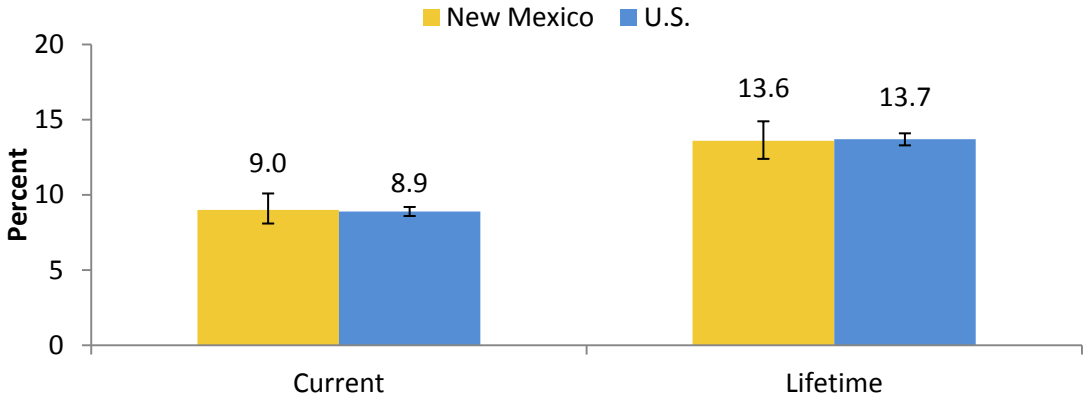
SOURCE: New Mexico BRFSS, 2011-2012

Asthma Prevalence

Child Asthma Prevalence (≤ 17 Years)

From 2011-2012, 13.6% of New Mexico children were reported to have ever been diagnosed with asthma in their lifetime (lifetime asthma prevalence) and 9.0% were reported to still have asthma (current asthma prevalence). The current asthma prevalence estimate translates to approximately 47,000 children in New Mexico who currently have the disease. The current and lifetime asthma prevalence estimates among New Mexico children are very similar to U.S. estimates (Figure 7).

Figure 7. Current and lifetime asthma prevalence among children (0-17 years of age), New Mexico and U.S., 2011-2012



SOURCE: New Mexico U.S. BRFSS, 2011-2012
NOTES: U.S. estimates include 16 states

Since 2003, lifetime asthma prevalence among children in New Mexico has increased very slightly. Current asthma prevalence estimates have not been consistent enough to discern a trend (Table 1).

Table 1. Current and lifetime asthma prevalence among children (0-17 years of age) by year, New Mexico, 2003-2012

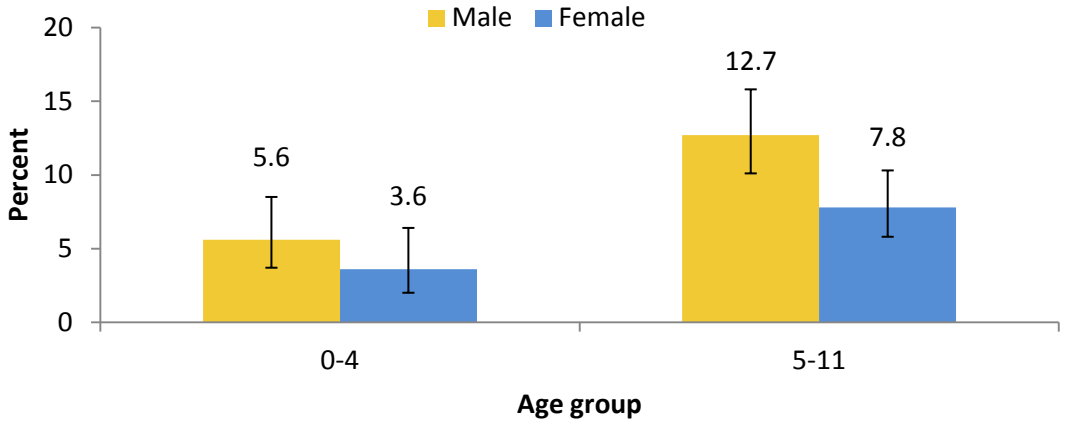
Year	Current asthma prevalence % (95% CI)	Lifetime asthma prevalence % (95% CI)
2003	7.5 (6.6-8.5)	11.3 (10.1-12.4)
2004	8.2 (7.2-9.2)	11.7 (10.5-12.8)
2005	10.3 (8.6-12.3)	14.4 (12.4-16.6)
2007	8.6 (7.1-10.3)	13.0 (11.2-15.1)
2008	7.6 (6.2-9.2)	11.1 (9.5-13.0)
2009	8.3 (6.6-10.4)	13.0 (11.0-15.3)
2010	8.0 (6.6-9.7)	12.3 (10.5-14.3)
2011*	10.4 (9.0-12.0)	14.5 (12.8-16.3)
2012*	7.3 (6.2-8.6)	12.1 (10.6-13.8)

SOURCE: New Mexico BRFSS, 2003-2012
NOTES: Data are missing for 2006 because New Mexico did not collect childhood prevalence data that year.
* Due to changes in survey methodology, 2011 and 2012 estimates should be compared to prior year estimates with caution.

Asthma Prevalence

Although the prevalence of asthma is higher in adult women compared to adult men (as shown in Figure 2), the opposite holds true among young children. Among New Mexico children aged 0-4 and 5-11, boys had a higher current asthma prevalence than girls, though the differences were not statistically significant (Figure 8).

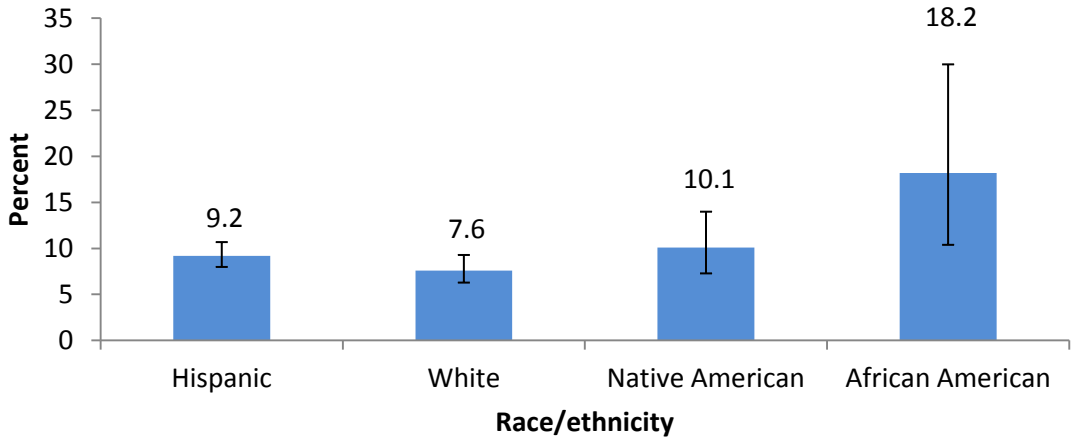
Figure 8. Current asthma prevalence among children (0-11 years of age) by sex and age group, New Mexico, 2011-2012



SOURCE: New Mexico BRFSS, 2011-2012

From 2011-2012, African American children had the highest current asthma prevalence (18.2%). Though Hispanic adults have a lower current asthma prevalence than white adults (Figure 5), Hispanic children (9.2%) have a higher current asthma prevalence than white children (7.6%); however, this difference is not statistically significant (Figure 9).

Figure 9. Current asthma prevalence among children (0-17 years of age) by race/ethnicity, New Mexico, 2011-2012



SOURCE: New Mexico BRFSS, 2011-2012

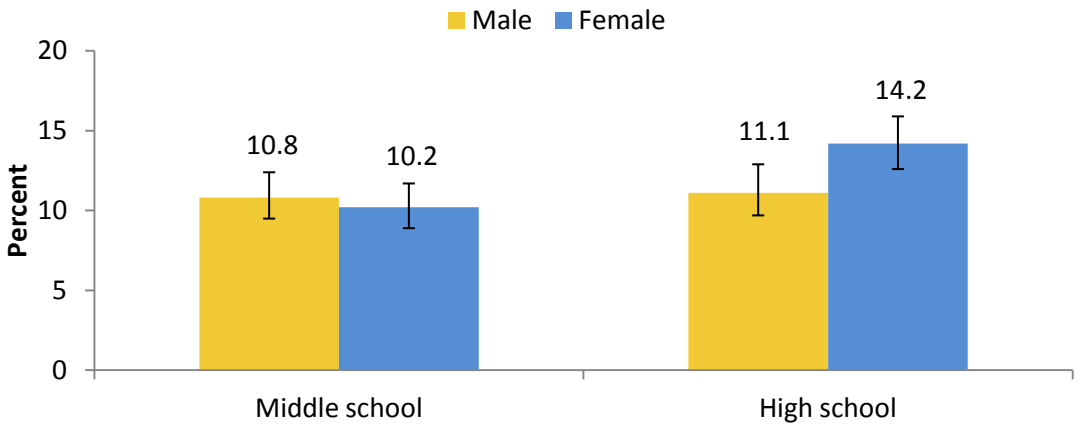
Asthma Prevalence

Middle and High School Asthma Prevalence

As noted above (Figure 8), among young children, boys have a higher prevalence of current asthma than girls. However, in general, by middle and high school, the prevalence of current asthma among boys and girls is very similar, if not slightly higher for girls. This change occurs due to remission of asthma in boys and an increased incidence in girls. [4] It is unknown why this change, which happens during the years of puberty, occurs, but it is thought that hormones play a role.

Figure 10 depicts current asthma prevalence among middle and high school boys and girls in New Mexico. In 2011, middle school boys were no more likely to report currently having asthma compared to middle school girls (10.8% vs. 10.2%). Among high school students, girls were more likely to report currently having asthma compared to boys, though the difference was not statistically significant (14.2% vs. 11.1%).

Figure 10. Current asthma prevalence among middle and high school students by sex, New Mexico, 2011

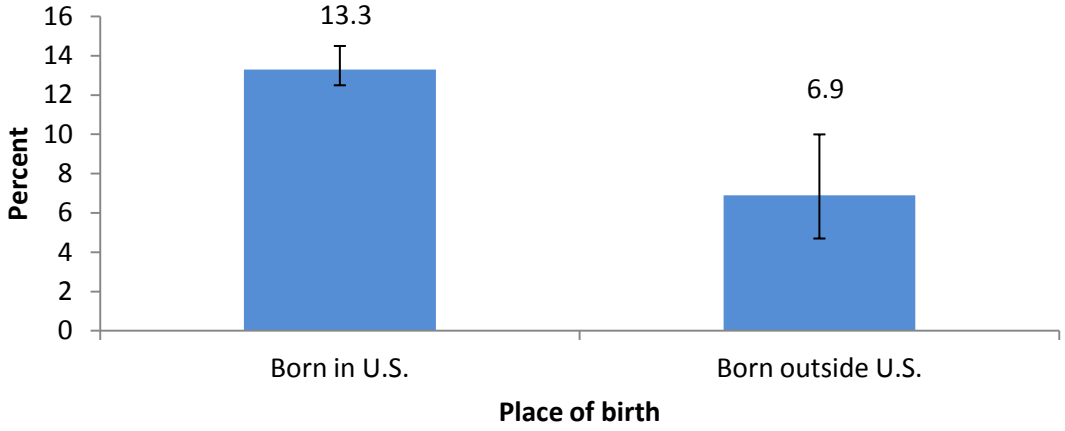


SOURCE: New Mexico YRRS , 2011

Among high school students, those born in the U.S. were significantly more likely to report currently having asthma than those born outside the U.S. in 2011. Approximately 13.3% of high school students born in the U.S. reported currently having asthma compared to 6.9% for high school students born outside the U.S. (Figure 11).

Asthma Prevalence

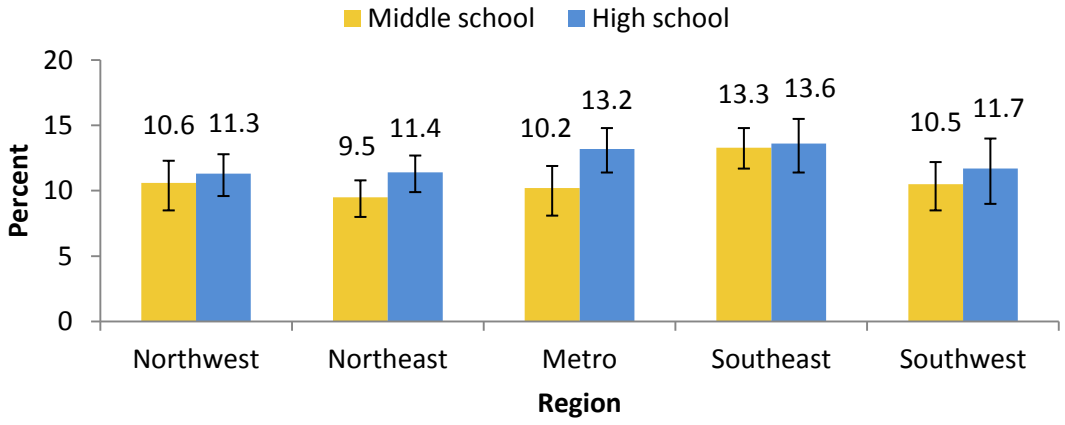
Figure 11. Current asthma prevalence among high school students by place of birth, New Mexico, 2011



SOURCE: New Mexico YRRS, 2011

In 2011, middle and high school students in the southeast region had the highest current asthma prevalence. Approximately 13.3% and 13.6% of middle and high school students in the southeast region reported they currently have asthma, respectively (Figure 12).

Figure 12. Current asthma prevalence among middle and high school students by region, New Mexico, 2011



SOURCE: New Mexico YRRS , 2011

RISK FACTORS FOR ASTHMA

Overview

Asthma is a complex disease that likely develops from interactions between environmental and genetic factors. While the cause of asthma is not fully understood, there are certain risk factors that predispose people toward developing the disease. A family history of the disease, exposure to some airborne allergens, obesity, low socioeconomic status, and exposure to tobacco smoke are some factors that have been shown to increase a person's risk for developing asthma.[2, 5, 6] However, it is not clear why some people develop asthma and others do not, and the cause of asthma is likely to differ for each individual.

Though we have some understanding of risk factors that may influence the actual development of asthma, we have much more knowledge about risk factors that cause symptoms and asthma attacks in people who already have the disease. These factors are known as asthma triggers, and many are common in the environment. A number of triggers have been identified, some of which may also impact development of the disease in the first place. Common triggers include tobacco smoke, dust mites, air pollution, cockroach allergen, pets, mold, respiratory infections, physical exercise, and stress.[7] With proper management, many of these triggers can be controlled.

This section describes survey data related to risk factors associated with asthma in New Mexico. It explores risk factors that may have influenced the development of the disease as well as asthma triggers that are known to cause symptoms and asthma attacks. The New Mexico BRFSS was used to examine some of these risk factors for adults and children. The New Mexico BRFSS Adult and Child Asthma Call-back surveys provided data on indoor environmental risk factors for asthma. The BRFSS Asthma Call-back Survey is a follow-up survey to the BRFSS. It is administered to BRFSS respondents who report ever being diagnosed with asthma (or report a child ever being diagnosed with asthma) and indicate that they would be willing to answer another, more in-depth survey regarding their asthma. Risk factors for asthma in New Mexico middle and high school students were examined using the New Mexico YRRS.

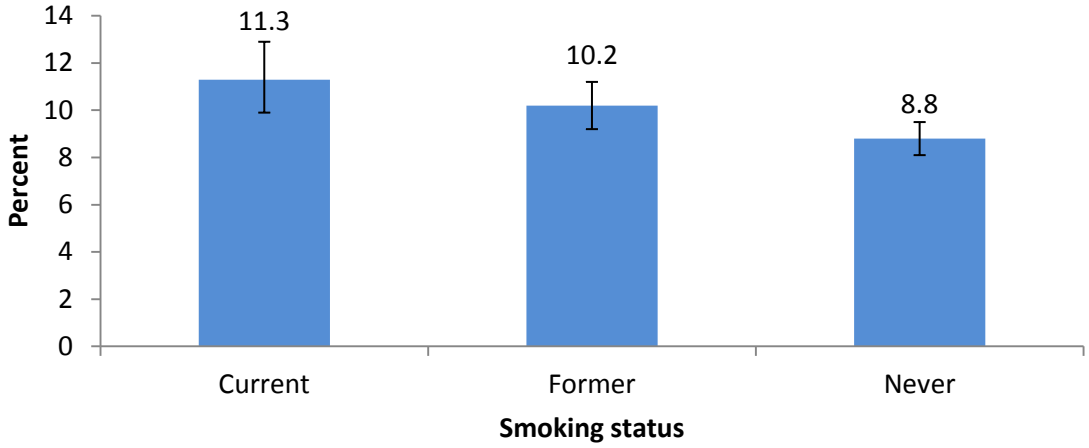
Risk Factors For Asthma

Smoking

Cigarette smoke is a major risk factor for asthma. Smoking and secondhand smoke can trigger asthma symptoms in those with the disease and secondhand smoke can contribute to the development of the disease in young children.[8]

From 2011-2012, the prevalence of current asthma was significantly higher among adults who reported they were current smokers (11.3%) compared to those who reported never smoking (8.8%). In addition, former smokers (10.2%) had a higher current asthma prevalence than never smokers, but the difference was not statistically significant (Figure 13).

Figure 13. Current asthma prevalence among adults by smoking status, New Mexico, 2011-2012

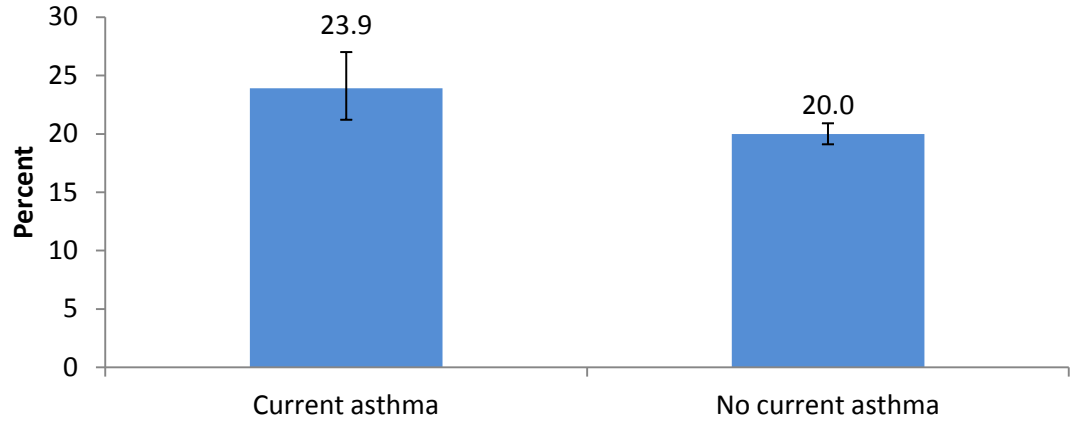


SOURCE: New Mexico BRFSS, 2011-2012

In addition, adults in New Mexico with current asthma were significantly more likely to report being a current smoker than adults without current asthma (23.9% vs. 20.0%) (Figure14).

Risk Factors For Asthma

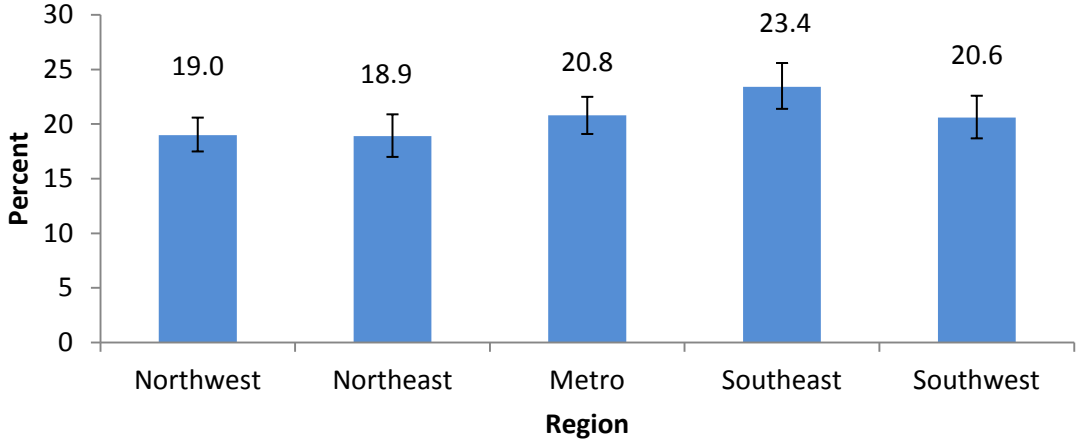
Figure 14. Current smoking prevalence among adults with and without current asthma, New Mexico, 2011-2012



SOURCE: New Mexico BRFSS, 2011-2012

From 2011-2012, current smoking prevalence was highest in the southeast region of the state. About 1 in 4 (23.4%) adults in the southeast region reported they currently smoke (Figure 15).

Figure 15. Current smoking prevalence among adults by region, New Mexico, 2011-2012

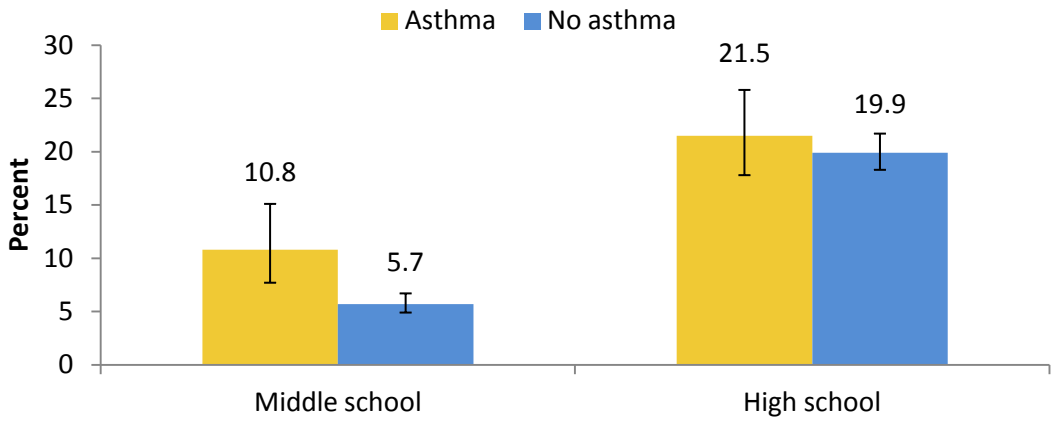


SOURCE: New Mexico BRFSS, 2011-2012

Risk Factors For Asthma

Among middle school students, students with current asthma were significantly more likely to report being a current smoker than students without current asthma (10.8% vs. 5.8%). Among high school students, students with current asthma were more likely to report being a current smoker than students without current asthma (21.5% vs. 19.9%), but the difference was not statistically significant (Figure 16).

Figure 16. Current smoking prevalence among middle and high school students with and without asthma, New Mexico, 2011



SOURCE: New Mexico YRSS, 2011

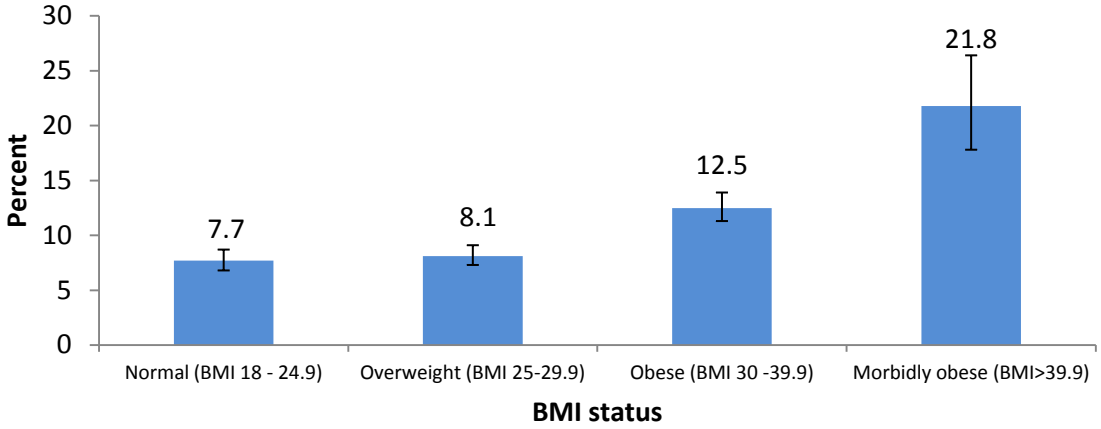
Obesity

Obesity has been linked to contributing to the development of asthma, but the underlying reasons for this are still unclear.[6] In addition, obesity can make asthma more difficult to control and is known to reduce the effectiveness of asthma medications. Weight loss in people with asthma improves symptoms and should be a part of asthma management in obese patients.[9]

From 2011-2012, obese (BMI 30 to <40) and morbidly obese (BMI ≥40) adults in New Mexico were significantly more likely to report currently having asthma than overweight (BMI 25 to <30) and normal weight (BMI 18 to <25) adults. Approximately 1 in 5 (21.8%) morbidly obese adults and 12.5% of obese adults reported currently having asthma (Figure 17).

Risk Factors For Asthma

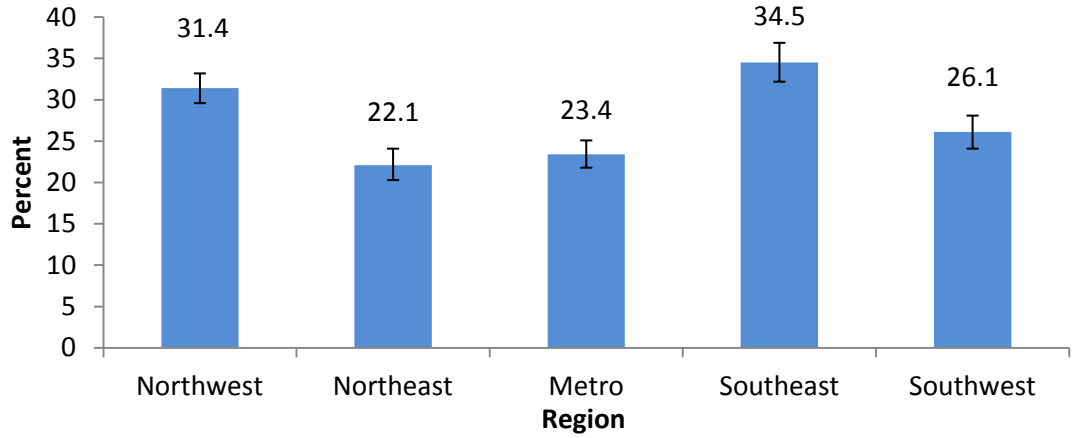
Figure 17. Current asthma prevalence among adults by BMI status, New Mexico, 2011-2012



SOURCE: New Mexico BRFSS, 2011-2012

From 2011-2012, the southeast region had the highest prevalence of obesity (BMI≥30), and had a statistically significantly higher obesity prevalence than every region except the northwest region. Approximately 34.6% adults in the southeast were obese compared to the state average of 26.7% (Figure 18).

Figure 18. Current obesity (BMI≥30) prevalence among adults by region, New Mexico, 2011-2012



SOURCE: New Mexico BRFSS, 2011-2012

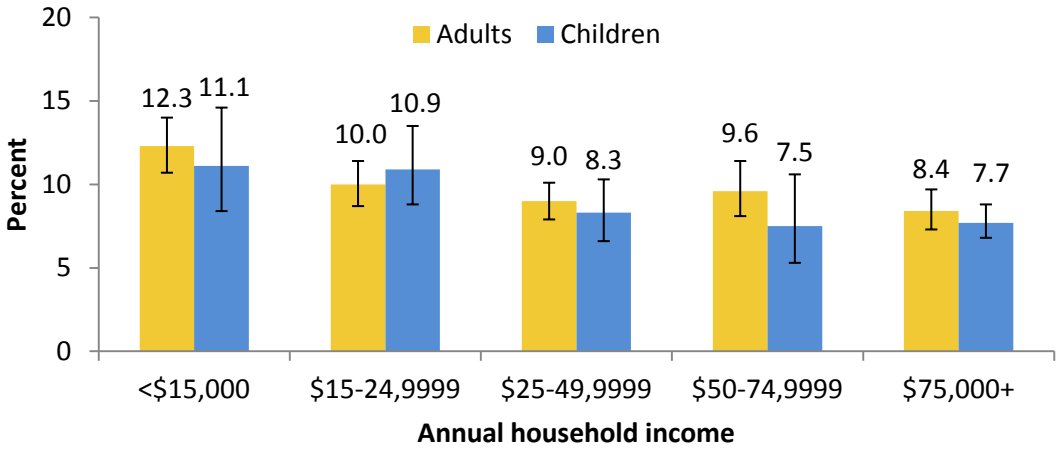
Risk Factors For Asthma

Socioeconomic Status

Asthma is more common in adults and children from households with low incomes.[10] This is likely due to different lifestyle and environmental exposures for people from lower income households compared to people from higher income households. People with asthma from low-income households are also more likely to have worse asthma control and have higher rates of emergency department visits and hospitalizations.[11]

From 2011-2012, adults from households with an income of <$15,000 a year were significantly more likely to report currently having asthma than adults from households with an income of >$75,000 a year. In addition, children from lower income households were more likely to have current asthma than children from higher income households, though the differences were not statistically significant (Figure 19).

Figure 19. Current asthma prevalence among adults and children by annual household income, New Mexico, 2011-2012



SOURCE: New Mexico BRFSS, 2011-2012

Indoor Environmental Exposures

Indoor environmental exposures, such as household pets and pests, mold, and tobacco smoke, may increase a person's risk of developing asthma and may also increase the risk of asthma exacerbations in adults and children with the disease.

Table 2 shows the prevalence of environmental triggers in the homes of adults and children with current asthma in New Mexico. Most adults and children had carpeting in their home (69.3% vs. 72.2%). Most adults and children with pets allowed them into their bedroom (77.7% vs. 65.7%). Approximately 18.3% of adults and 9.1% of children were exposed to cigarette smoke in their home in the last week.

Risk Factors For Asthma

Table 2. Prevalence of environmental asthma triggers in the homes of adults and children with current asthma, New Mexico, 2007-2010

Environmental trigger	Adults % (95% CI)	Children % (95% CI)
Carpeting or rugs in bedroom	69.3 (64.4-73.8)	72.2 (63.9-79.2)
Pets inside home	66.0 (61.3-70.4)	66.2 (58.2-73.4)
Pets allowed in bedroom*	77.7 (72.6-82.0)	65.7 (54.4-75.5)
Cooks with gas	63.2 (58.5-67.6)	67.8 (59.9-74.8)
Home has a woodstove or fireplace	30.1 (26.0-34.6)	33.9 (26.6-42.0)
Home has a unvented gas stove or fireplace	6.3 (4.4-8.9)	6.2 (3.5-11.0)
Mold inside home in past 30 days	7.5 (5.3-10.4)	3.5 (1.7-7.4)
Cockroach in home in past 30 days	17.0 (13.1-21.6)	7.5 (3.8-14.2)
Rodent in home in past 30 days	6.6 (4.8-9.1)	5.6 (3.0-10.1)
Smoker in home in last week	18.3 (14.5-22.8)	9.1 (5.5-14.6)

SOURCE: New Mexico BRFSS Adult and Child Asthma Call-back surveys, 2007-2010
*Only asked of respondents who indicated they have pets and allow them inside the home.

Survey respondents were also asked about home environmental modifications they have made to reduce exposure to indoor environmental triggers. Results suggest most adults and children with current asthma made few modifications (Table 3).

Table 3. Prevalence of environmental modifications in the homes of adults and children with current asthma, New Mexico, 2007-2010

Environmental modification	Adults % (95% CI)	Children % (95% CI)
Uses bathroom fan	53.5 (48.7-58.3)	50.9 (42.4-59.3)
Uses kitchen fan	63.2 (58.6-67.5)	61.6 (53.3-69.3)
Washes sheets/pillowcases in hot water	36.9 (32.4-41.6)	41.6 (33.6-50.0)
Uses pillow cover for dust mite control	25.8 (22.0-30.0)	19.3 (13.8-26.3)
Uses mattress cover for dust mite control	28.9 (24.5-33.7)	20.9 (15.4-27.6)
Uses air cleaner/purifier	25.4 (21.6-29.7)	27.1 (20.1-35.5)
Uses dehumidifier	6.8 (4.6-9.9)	14.9 (9.5-22.8)

SOURCE: New Mexico BRFSS Adult and Child Asthma Call-back surveys, 2007-2010

Risk Factors For Asthma

Occupational Exposures

Exposure to substances found in the workplace may also contribute to the development of asthma or exacerbate symptoms in people who already have the disease. Common occupational substances that may cause or trigger asthma symptoms include dust, fumes, gases, animal dander and other chemicals. Up to 15% of all asthma cases in the U.S. may be job-related.[12]

In New Mexico, 16.4% of working adults reported that their asthma was caused by an exposure at their current job and 31.5% reported their current job makes their asthma worse. In addition, 8.6% of adults with current asthma reported that a doctor or other medical person had told them that their asthma was job-related (Table 4).

Table 4. Prevalence of work-related asthma among ever-employed adults with current asthma, New Mexico, 2007-2010

Measure	% (95% CI)
Asthma caused by chemicals, smoke, fumes, or dust from current job	16.4 (12.1-21.9)
Asthma made worse from current job	31.5 (26.0-37.5)
Asthma caused by previous job	25.1 (21.3-29.4)
Asthma made worse by previous job	38.8 (34.0-43.7)
Ever told by doctor or other medical person that your asthma was related to a job	8.6 (6.6-11.2)

SOURCE: New Mexico BRFSS Adult Call-back surveys, 2007-2010

ASTHMA MANAGEMENT AND QUALITY OF LIFE

Overview

In 2007, the National Asthma Education and Prevention Program (NAEEP) of the National Heart, Lung, and Blood Institute (NHLBI) issued guidelines regarding the diagnosis and management of asthma. The report, titled the *Expert Panel Report 3 (EPR-3): Guidelines for the Diagnosis and Management of Asthma*, provides the best available scientific evidence for managing asthma and outlines guidelines for selecting treatment based on a patient's individual needs and level of asthma control. The guidelines emphasize four key components for managing asthma[13]:

Assessment and monitoring: Assess asthma severity using multiple measures of the patient's level of current impairment and future risk.

Patient education: Teach patients skills to self-monitor and manage asthma through asthma action plans, expanded educational opportunities, and improved communication between the clinician and patient.

Control of environmental factors and other conditions that can affect asthma: Use multiple approaches to reduce environmental exposures that worsen asthma and treat other chronic problems, such as rhinitis and obesity, which are known to make asthma control more difficult.

Medications: Use a stepwise approach in which dosages are stepped up or down depending on the level of asthma control.

It is important that individuals with asthma receive appropriate care as outlined in the guidelines. Those who do not receive such care often suffer needlessly by experiencing increased symptoms, requiring emergency medical care, missing school and work, incurring increased economic costs, and reporting lower levels of well-being. By providing appropriate care, asthma can be controlled and people can live healthy lives that are not so adversely affected by their disease.

This section describes the management of asthma among New Mexico adults and children. It includes data on asthma symptoms, control, medication use, and self-management. This section also provides data on health-related quality of life. Data from this section were provided by the BRFSS Adult and Child Asthma Call-back surveys.

Asthma Management and Quality of Life

Asthma Symptoms and Impairment

People with asthma experience symptoms when their airways are inflamed, narrowed, or filled with mucus. The most common symptoms of asthma include coughing, wheezing, shortness of breath, and chest tightness. People with asthma do not all have the same symptoms or severity of symptoms. Some people may experience more coughing and nighttime awakenings, while others may primarily exhibit shortness of breath in response to exercise. In addition, some individuals may go for long periods without experiencing symptoms while others may have symptoms every day.[13]

The table below summarizes the severity of symptoms and measures of impairment for New Mexico adults and children with current asthma. Adults with current asthma were significantly more likely to have experienced symptoms in the past 30 days than children with current asthma (68.1% vs. 48.5%). About half of adults (52.8%) and children (56.7%) with current asthma experienced an asthma attack in the past 12 months. Approximately 35.0% of adults with current asthma missed work or could not carry out an activity due to their disease in the past 12 months. In addition, 46.2% of children with current asthma missed at least one day of school due to their disease in the past 12 months (Table 5).

Table 5. Measures of impairment among adults and children (0-17 years of age) with current asthma, New Mexico, 2007-2010

Measure	Adults % (95% CI)	Children % (95% CI)
Had symptoms in past 30 days	68.1 (64.1-73.1)	48.5 (39.9-57.2)
Sleep disrupted by asthma in past 30 days	30.2 (26.0-34.7)	22.6 (16.3-30.4)
Had an asthma attack in past 12 months	52.8 (48.1-57.5)	56.7 (46.4-64.7)
Visited ED room or urgent care center in past 12 months	16.3 (12.4-21.1)	13.0 (8.5-19.3)
Unable to work or carry out activities at least one day in past 12 months due to asthma	35.0 (30.4-39.9)	-
Missed one or more days of school in past 12 months due to asthma	-	46.2 (38.0-54.5)

SOURCE: New Mexico BRFSS Adult and Child Asthma Call-back surveys, 2007-2010

Asthma Control

For all patients, the goal of treatment is to control asthma to minimize risk of asthma exacerbations and other problems. The EPR-3 Guidelines outlines factors used to assess asthma control. Factors used to assess asthma control in children aged 12 and older and adults are shown in Table 6. The EPR-3 also outlines similar factors for younger age groups in tables not shown here.

Asthma Management and Quality of Life

Table 6. Factors used to assess asthma control in individuals ages 12 and older

Components of asthma control		Classification of asthma control (≥12 years of age)		
		Well controlled	**Not well controlled**	**Very poorly controlled**
Impairment	Symptoms	≤2 days/week	>2 days/week	Throughout the day
	Nighttime awakenings	≤2 days/month	1-3x/week	≥4x/week
	Interference with normal activity	None	Some limitation	Extremely limited
	Short-acting beta2-agonist use for symptom control	≤2 days/week	>2 days/week	Several times per day
	FEV1 or peak flow	>80% predicted/ personal best	60-80% predicted/ personal best	<60% predicted/ personal best
Risk	Exacerbations requiring oral systemic corticosteroids	0-1/year	≥2/year	
	Progressive loss of lung function	Evaluation requires long-term follow-up care		
	Treatment-related adverse effects	Medication side effects can vary in intensity from none to very troublesome and worrisome. The level of intensity does not correlate to specific level of control but should be considered in the overall assessment of risk		

SOURCE: Expert Panel Report 3 (EPR-3) Guidelines for the Diagnosis and Management of Asthma

Using the BRFSS Adult and Child Asthma Call-back Surveys, the level of asthma control in New Mexico adults and children with asthma can be assessed. Three categories were used to classify level of asthma control among those with current asthma: well-controlled, not well-controlled, and very poorly controlled. The criteria used to determine level of control were based on some of the factors listed in the EPR-3 Guidelines components of control in Table 6. These factors include frequency of asthma symptoms, nighttime awakenings and rescue medication use. A person's control classification is based on the response indicating the least control. For example, if someone falls into the "well-controlled" category based on their response to the nighttime awakenings and rescue medication questions, but falls into the "not well-controlled" category based on their response to frequency of symptoms, then the

person would be classified as "not well-controlled." Asthma control classification definitions created from the BRFSS Asthma Call-back surveys are shown in the table below (Table 7).

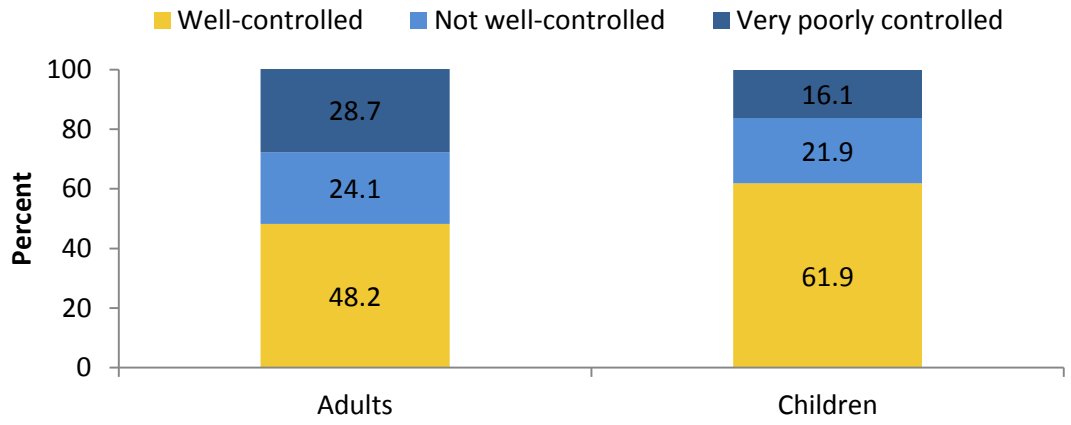
Table 7. Asthma control classifications using the BRFSS Asthma Call-back surveys and EPR-3 Guidelines

Measure	Well-controlled	Not well-controlled	Very poorly controlled
Symptoms in past 30 days			
All ages	≤8 days	>8 days	Every day and throughout the day
Rescue medication use per day*			
All ages	≤.29 uses	>.29 and<2 uses	≥2 uses
Nighttime awakenings in past 30 days			
0-4 years	≤1 time	≥2 and ≤4 times	≥5 times
5-11 years	≤1 time	≥2 and ≤8 times	≥9 times
≥ 12 years	≤2 times	≥3 and ≤12 times	≥13 times

*Frequency of inhaler rescue medication (not nebulizer) uses per day or per week for all reported medications taken in the last 3 months was converted to the number of uses per day and summed. Rescue medications used only for treatment before exercise were excluded.

Figure 20 depicts the level of asthma control among adults and children with current asthma in New Mexico. Children were more likely to have "well-controlled" asthma compared to adults (61.9% vs. 48.2%). Approximately 51.8% of adults and 38.1% of children with current asthma had "not well-controlled" or "very poorly controlled" asthma.

Figure 20. Asthma control among adults and children (0-17 years of age) with current asthma, New Mexico, 2007-2010

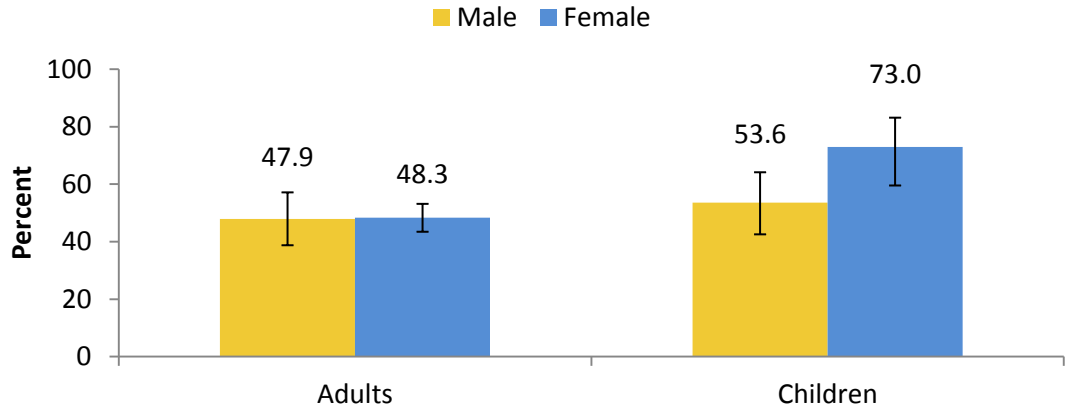


SOURCE: New Mexico BRFSS Adult and Child Call-back surveys, 2007-2010

Asthma Management and Quality of Life

Among adults with current asthma, men and women were equally likely to have well-controlled asthma (47.9% vs. 48.3%). Among children with current asthma, girls were more likely to have "well-controlled" asthma compared to boys (73.0%% vs. 53.6%); however, this difference was not statistically significant (Figure 21).

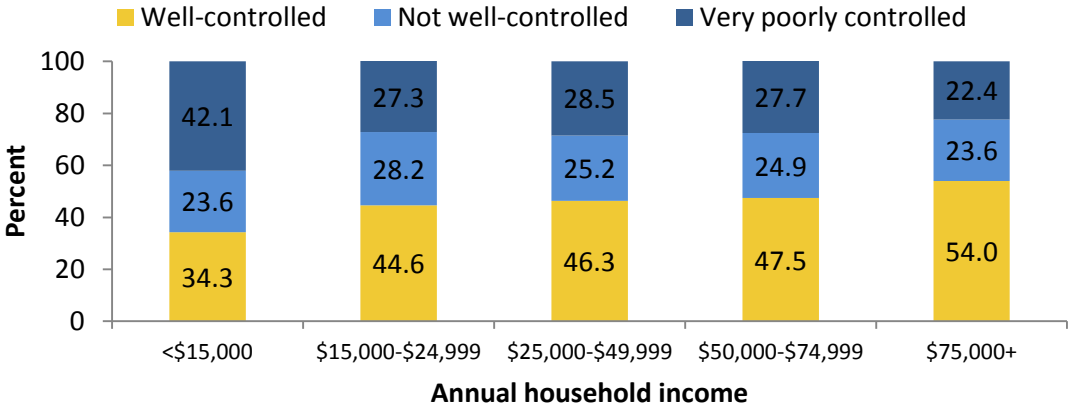
Figure 21. Percentage of adults and children (0-17 years of age) with current asthma that have well-controlled asthma by sex, New Mexico, 2007-2010



SOURCE: New Mexico BRFSS Adult and Child Call-back surveys, 2007-2010

Adults from households with the lowest income (<$15,000 a year) were the most likely to have "very poorly controlled" asthma. Conversely, adults from households with the highest income (≥$75,000) were the most likely to have "well-controlled" asthma (Figure 22).

Figure 22. Asthma control among adults with current asthma by annual household income, New Mexico, 2007-2010

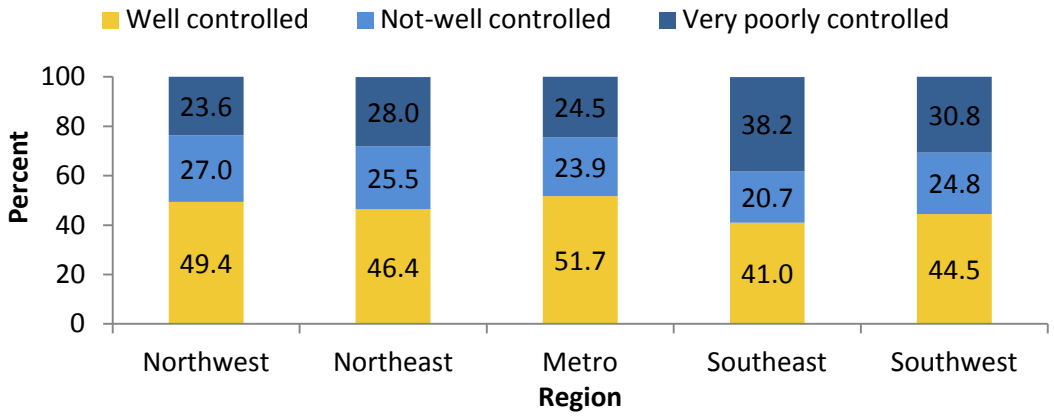


SOURCE: New Mexico BRFSS Adult Call-back Survey, 2007-2010

Asthma Management and Quality of Life

Adults with current asthma in the southeastern part of the state were most likely to have "very poorly controlled" asthma and least likely to have "well-controlled asthma" compared to adults with current asthma in the other New Mexico regions (Figure 23).

Figure 23. Asthma control among adults with current asthma by region, New Mexico, 2007-2010



SOURCE: New Mexico BRFSS Adult Call-back Survey, 2007-2010

Asthma Management

Insurance Status and Cost Barriers

People with asthma who lack health insurance or are underinsured are less likely to receive proper care for their disease, which may increase their chances of having uncontrolled asthma and serious asthma exacerbations.[14] In New Mexico, approximately 14.5% of adults with current asthma and 2.2% of children with current asthma lack health insurance. In addition, cost was a barrier for many adults and children trying to access care for their asthma (Table 8).

Table 8. Insurance status and cost barriers to asthma care among adults and children with current asthma, New Mexico, 2007-2010

Insurance and cost barriers for asthma care	Adults % (95% CI)	Children % (95% CI)
Currently has health insurance	85.5 (81.4-88.8)	97.8 (94.9-99.1)
Cost a barrier to seeing primary care doctor in past year	11.6 (8.8-15.2)	1.7 (0.7-4.2)
Cost a barrier to seeing a specialist for asthma care in past year	9.9 (6.8-14.1)	1.3 (0.4-4.5)
Cost a barrier to buying medications for asthma in past year	18.1 (15.0-21.7)	8.8 (4.5-16.7)

SOURCE: New Mexico BRFSS Adult and Child Asthma Call-back surveys, 2007-2010

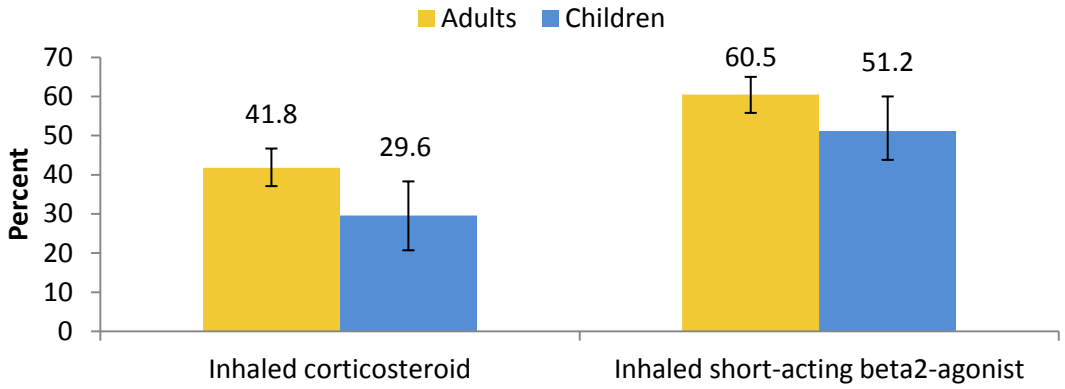
Asthma Management and Quality of Life

Medication Use

The NAEPP recommends pharmacologic therapy based on asthma severity and the level of asthma control. Mild intermittent asthma can usually be controlled using short-acting beta2 agonist (SABA) medications. However, frequent use of SABAs (>2 times a week) is an indication that a patient's asthma may be poorly controlled. Inhaled corticosteroids (ICS) are the most effective medications for long-term management of persistent asthma. These medications are meant to be used daily and improve asthma control in adults and children more than any other single long-term control medication.[13]

In New Mexico, approximately 60.5% of adults with current asthma and 51.2% of children with current asthma used a SABA medication in the past 3 months. In contrast, only 41.8% of adults with current asthma and 29.6% of children with current asthma used an ICS medication in the past 3 months. These results should be interpreted cautiously as some adults and children with mild, intermittent asthma may not require ICS medication (Figure 24).

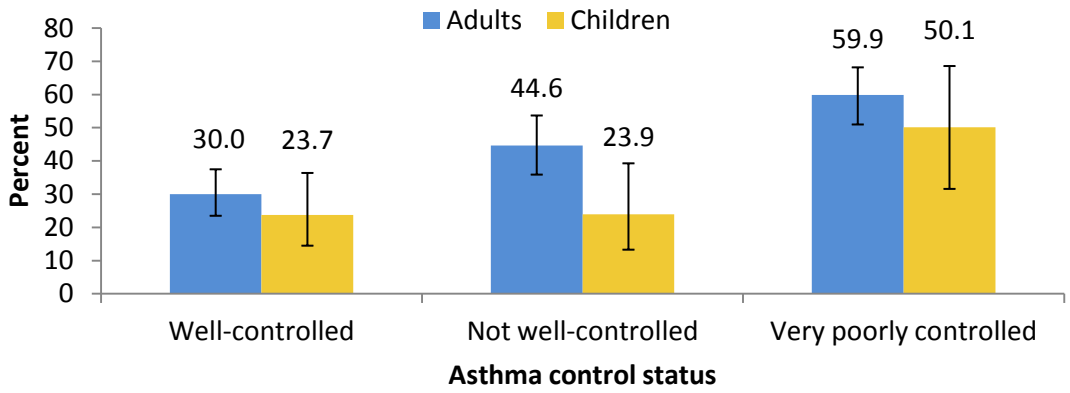
Figure 24. Medication use among adults and children (0-17 years of age) with current asthma in the past three months, New Mexico, 2007-2010



SOURCE: New Mexico BRFSS Adult and Child Call-back surveys, 2007-2010
NOTES: Respondent was counted as using an inhaled medication if they used an inhaler or a nebulizer.

Adults and children with current asthma who had "very poorly controlled" asthma were more likely to use ICS medication in the past three months than adults and children with current asthma who had "well-controlled" asthma. This difference was statistically significant for adults, but not for children.
As noted above, these results should be interpreted cautiously as some adults and children with mild intermittent asthma or "well-controlled" asthma may not require ICS medication (Figure 25).

Figure 25. Use of inhaled corticosteroids among adults and children (0-17 years of age) with current asthma by asthma control status, New Mexico, 2007-2010



SOURCE: New Mexico BRFSS Adult Call-back Survey, 2007-2010
NOTES: Respondent was counted as using an Inhaled medication if they used an inhaler or a nebulizer.

Self-Management Education

Asthma self-management education is a fundamental part of the asthma management guidelines. It involves health professionals providing tailored education to asthma patients regarding how to use their medications correctly, how to recognize and handle signs of an asthma attack, how to use an asthma action plan, and identifying and eliminating environmental triggers for asthma.

Table 9 shows the percentage of adults and children with current asthma in New Mexico who were taught various types of self-management education skills. Very few adults (8.6%) and children (10.8%) with current asthma have taken a class on asthma management. Only 25.0% of adults with current asthma and 43.3% of children with current asthma were ever given an asthma action plan by a health care provider.

Table 9. Percentage of adults and children (0-17 years of age) with current asthma who were taught various types of self-management education skills, New Mexico, 2007-2010

Self-management education	Adults % (95% CI)	Children % (95% CI)
Taught to recognize early signs of an asthma attack	66.0 (61.4-70.2)	84.3 (77.5-89.3)
Taught how to respond to an asthma attack	78.5 (74.9-81.8)	90.0 (84.5-93.7)
Taught how to monitor peak flow	52.2 (47.4-57.0)	52.2 (43.6-60.7)
Given asthma action plan	25.0 (21.1-29.4)	43.3 (35.4-51.6)
Taken a class on asthma management	8.6 (6.7-11.0)	10.8 (6.9-16.4)
Shown how to use inhaler by health professional	96.0 (93.8-97.4)	92.0 (85.1-95.9)
Health professional watched inhaler use	77.8 (73.6-81.6)	83.1 (75.2-88.8)
Health professional ever advised to modify home, work, or school environment	33.8 (29.5-38.3)	35.3 (27.2-44.2)

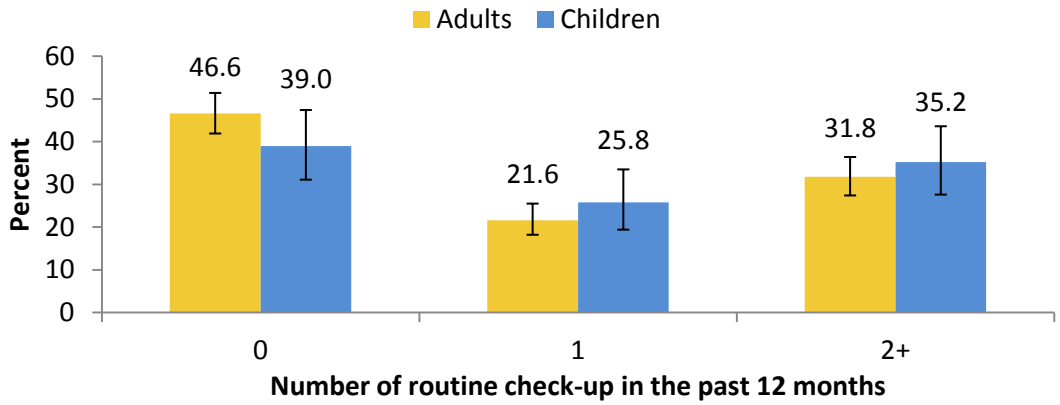
SOURCE: New Mexico BRFSS Adult and Child Asthma Call-back surveys, 2007-2010

Routine Office Visits

People with asthma should regularly visit their health care provider in order to assess their asthma control and modify treatment if needed. According to the NAEPP Guidelines, asthma patients should be seen by a health care provider at 2-to-6 week intervals after beginning pharmacological therapy or stepping up therapy to achieve control. They should be seen at 1-to-6 month intervals after asthma control is achieved in order ensure control is maintained.[13]

Approximately 46.6% of adults with current asthma and 39.0% of children with current asthma in New Mexico did not have a routine office checkup for asthma in the past 12 months (Figure 26).

Figure 26. Number of routine checkups for asthma in the past 12 months among adults and children with current asthma, New Mexico, 2007-2010



SOURCE: New Mexico BRFSS Adult and Child Call-back surveys, 2007-2010

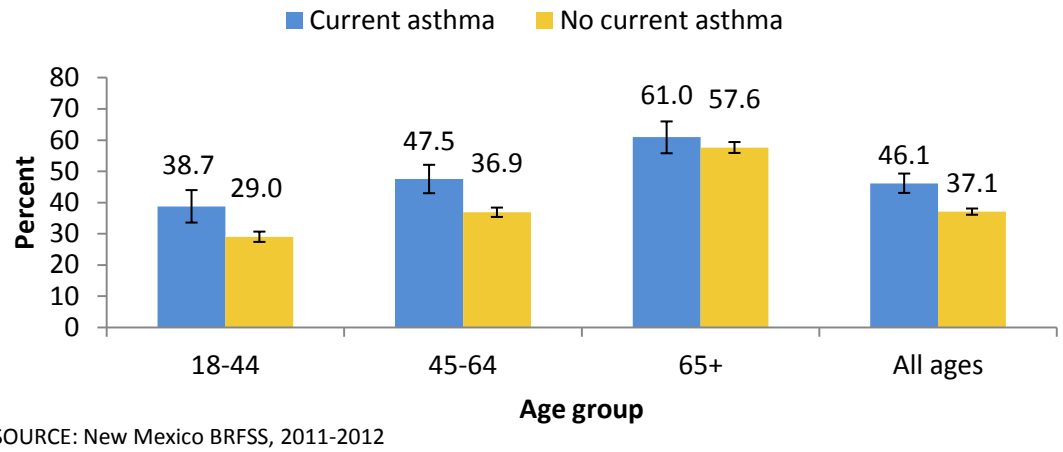
Asthma Management and Quality of Life

Influenza Vaccinations

It is recommended by the CDC and the NAEPP that people with asthma get an influenza vaccine. Respiratory infections, including influenza, can affect the lungs and exacerbate symptoms or cause asthma attacks in individuals with asthma. [15]

A significantly higher percent of adults with current asthma in New Mexico had the influenza vaccine in the past 12 months compared to adults without current asthma (46.1% vs. 37.1%). In addition, adults with current asthma were more likely to have the influenza vaccine than adults without current asthma across all age groups, although the difference was not statistically significant for the 65 and over age group (Figure 27).

Figure 27. Adults with and without current asthma who have received the influenza vaccine in the past 12 months by age group, New Mexico, 2011-2012



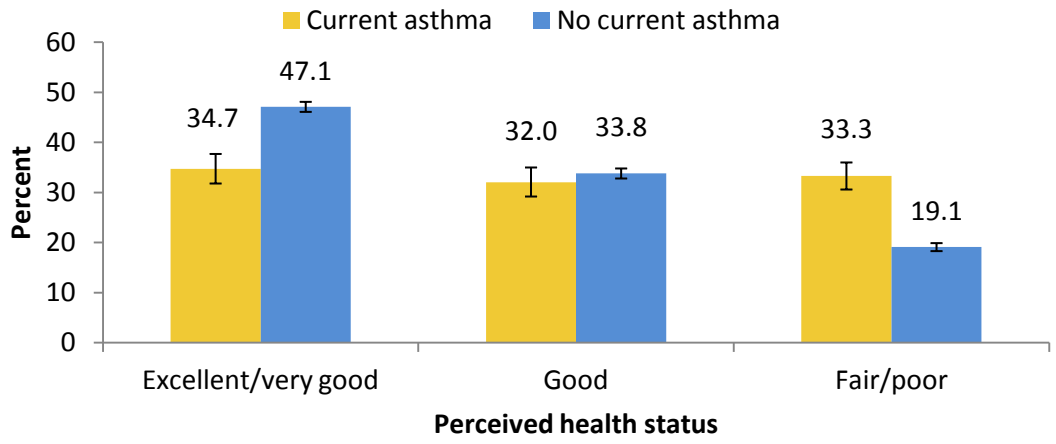
SOURCE: New Mexico BRFSS, 2011-2012

Health Status and Quality of Life

Individuals with asthma are more likely to report having a worse health status than individuals without asthma. In addition, people with asthma are more likely to have other diseases, including COPD, high blood pressure, depression, and anxiety, than people without asthma.[16]

In New Mexico, adults with current asthma were significantly more likely to report their health as fair or poor compared to adults without current asthma (33.1% vs. 19.1%) (Figure 28).

Figure 28. Perceived health status among adults with and without current asthma, New Mexico, 2011-2012



SOURCE: New Mexico BRFSS, 2011-2012

Adults in New Mexico with current asthma were also significantly more likely to report having emphysema, COPD or chronic bronchitis, high blood pressure, depression, and anxiety compared to adults without current asthma (Table 10).

Table 10. Comorbid conditions among adults with and without current asthma, New Mexico, 2011

Comorbidity	Current asthma % (95% CI)	No current asthma % (95% CI)
Emphysema, COPD or chronic bronchitis	24.9 (21.5-28.7)	4.0 (3.5-4.5)
High blood pressure	36.1 (32.2-40.3)	27.6 (26.4-28.8)
Depression disorder	34.7 (30.8-38.9)	18.8 (17.7-19.9)
Anxiety disorder	31.2 (27.0-35.7)	13.6 (12.6-14.7)

SOURCE: New Mexico BRFSS, 2011

ASTHMA EMERGENCY DEPARTMENT VISITS

Overview

With proper care and management, most emergency department (ED) visits for asthma can be prevented. Proper care and management include routine health care visits, use of proper medication, and use of self-management techniques such as trigger recognition and reduction. In 2012, there were 8,297 ED visits in New Mexico that had a primary diagnosis of asthma.

Asthma ED visits are monitored by the NMDOH Epidemiology and Response Division. These data are collected annually from all non-federally licensed hospitals throughout the state. At this writing, data are not collected from Veterans Administration facilities, military hospitals, or Indian Health Service (IHS) facilities. Data on New Mexico residents who visited an ED for asthma in an out-of-state facility are also not included in this report.

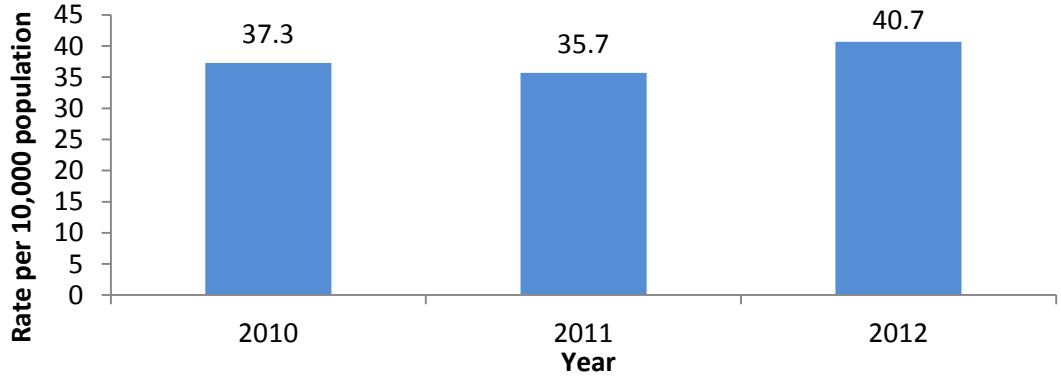
This section describes ED visits for asthma in New Mexico. It includes data on gender, age, and geographical disparities. Due to incomplete reporting, data on race/ethnicity are not presented. ED data collected prior to 2010 are not presented in this section due to issues of reliability and validity with these data. Unless otherwise indicated, most data presented in this section are for a primary, or first-listed, diagnosis of asthma.

Asthma Emergency Department Visits

Emergency Department Visits

From 2010-2012, there was an average of 7,697 ED visits in New Mexico that had a primary diagnosis of asthma each year. In 2012, the overall age-adjusted asthma ED rate was 40.7 per 10,000 population (Figure 29).

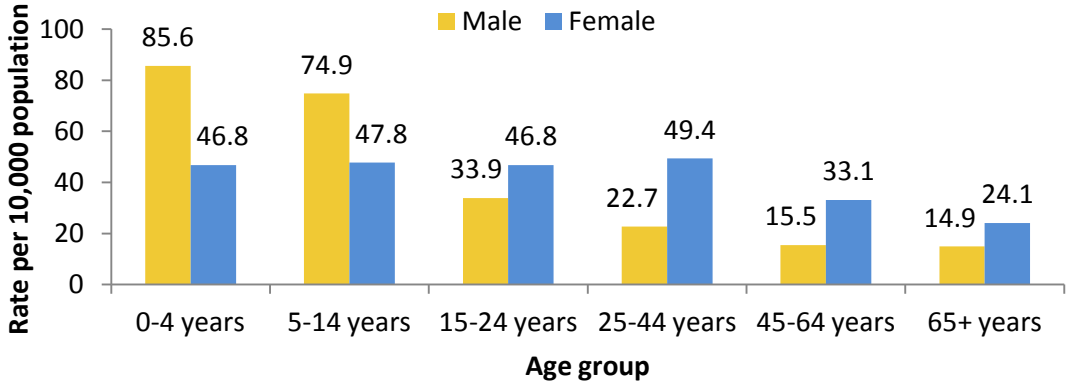
Figure 29. Asthma ED visit rates by year, New Mexico, 2010-2012



SOURCE: New Mexico Department of Health ED data, 2010-2012
NOTES: Asthma listed as the principal diagnosis (ICD-9-CM codes 493.00-493.92). Age-adjusted to the 2000 U.S. standard population.

Overall, asthma ED visit rates were higher among children compared to adults from 2010-2012. Children aged 0-4 had the highest asthma ED visit rate and adults aged 65 and older had the lowest asthma ED visit rate. Male children had higher asthma ED visit rates than female children. This trend was reversed in the late teenage years and throughout adulthood, with females having higher asthma ED visit rates than males (Figure 30).

Figure 30. Asthma ED visit rates by age and sex, New Mexico, 2010-2012



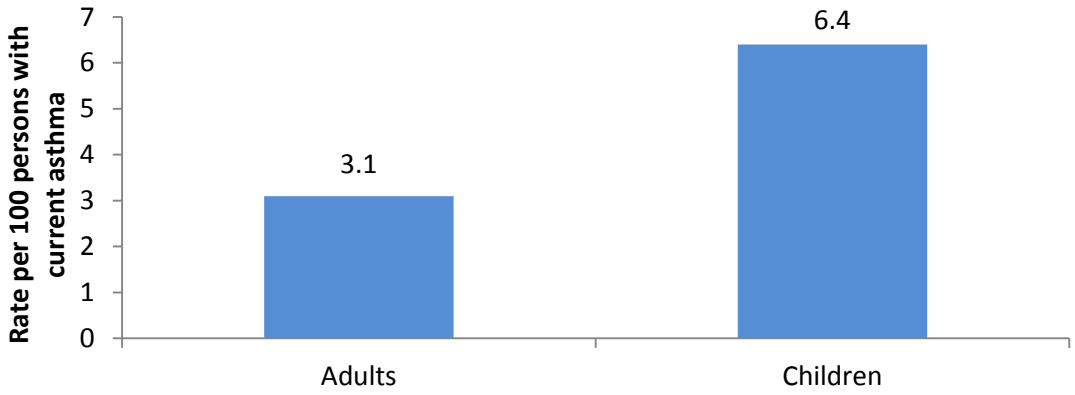
SOURCE: New Mexico Department of Health ED data, 2010-2012
NOTES: Asthma listed as the principal diagnosis (ICD-9-CM codes 493.00-493.92).

Asthma Emergency Department Visits

Risk-Based ED Visit Rates

Figure 31 below shows the rates of asthma ED visits per 100 adults and children with current asthma in New Mexico from 2011-2012. These rates are called risk-based rates because they factor in the number of asthma ED visits among people with current asthma (i.e. those at risk for asthma ED visits), rather than the general population. There were approximately 3.1 ED visits for asthma per every 100 adults with current asthma. In comparison, there were about 6.4 ED visits for asthma per every 100 children with asthma.

Figure 31. Estimated rate of asthma ED visits among adults and children (0-17 years of age) with asthma, New Mexico, 2011-2012



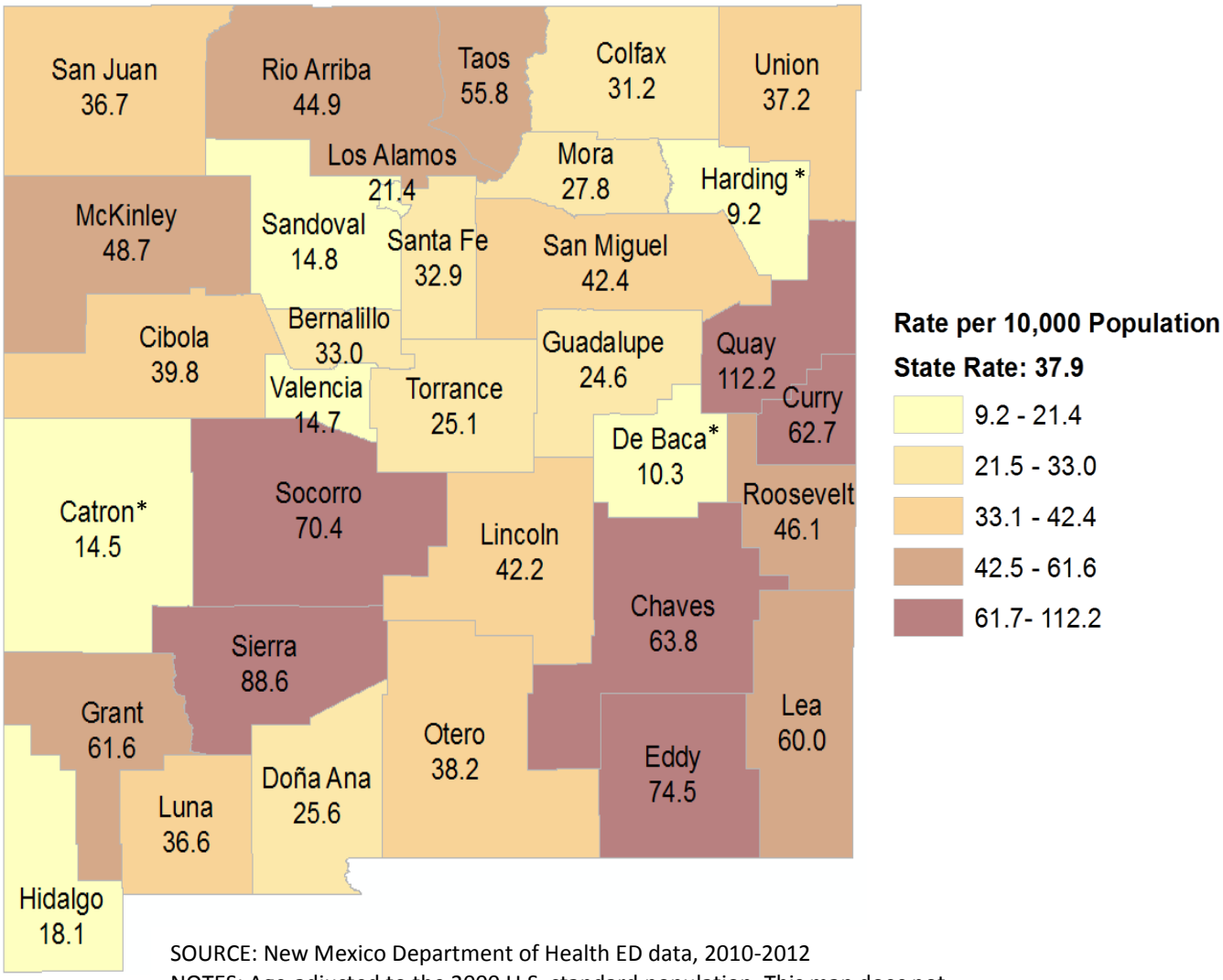
SOURCE: New Mexico BRFSS, 2011-12; New Mexico Department of Health ED data, 2011-2012
NOTES: Asthma listed as the principal diagnosis (ICD-9-CM codes 493.00-493.92).

Asthma ED Visit Rates by County

County-level age-adjusted asthma ED visit rates from 2010-2012 indicate that counties in southeastern New Mexico had some of the highest rates in the state. On average, the rate of asthma emergency department visits in the southeast region was 62.7 per 10,000 population. The northwest region had the next highest asthma emergency department rate, which was 41.1 per 10,000 population. Quay County had the highest rate at 112.2 asthma ED visits per 10,000 population. Grant, Socorro, and Sierra counties also had asthma ED visit rates well above the state rate of 37.9 (Figure 32).

Asthma Emergency Department Visits

Figure 32. Asthma ED visit rates by county, New Mexico, 2010-2012



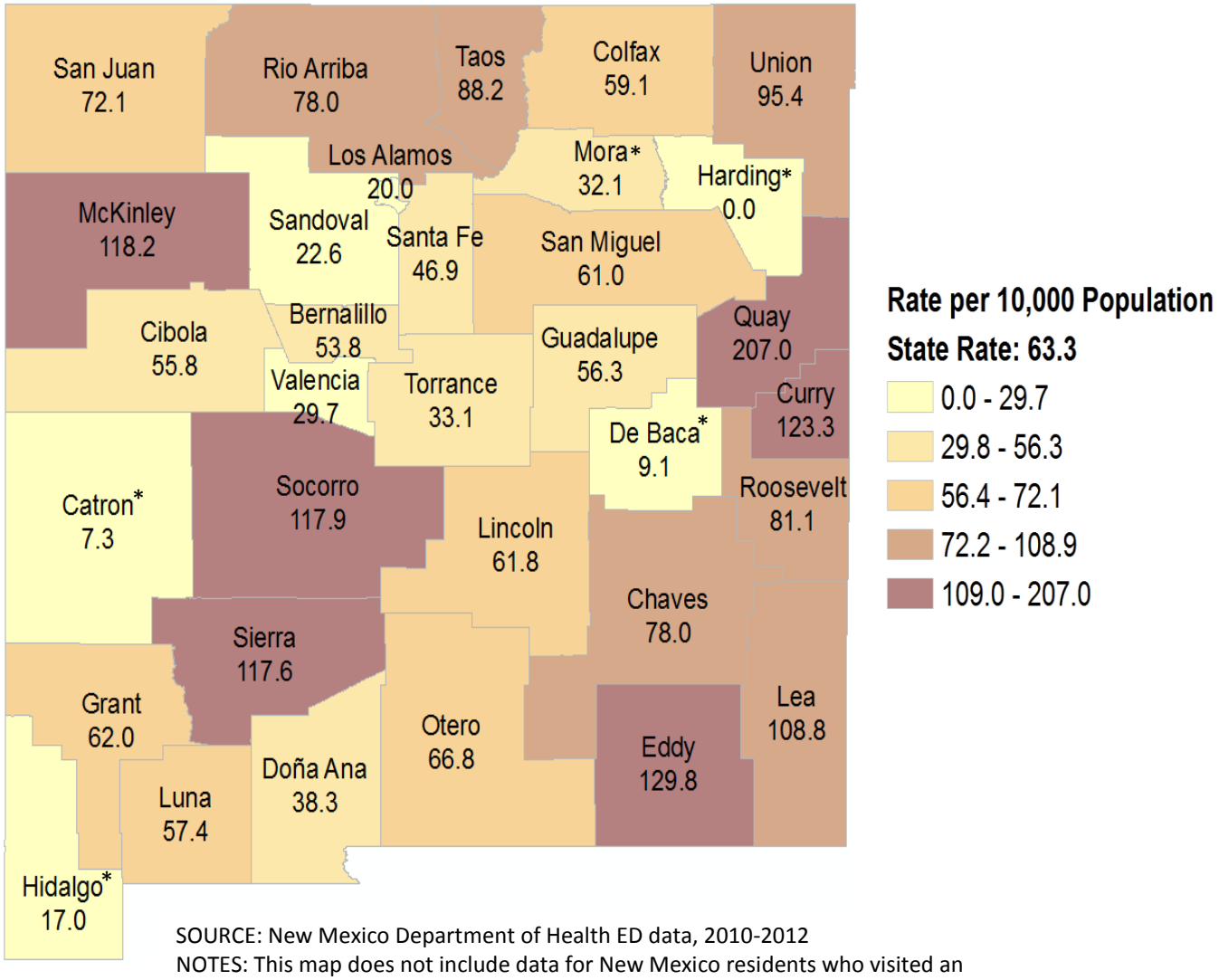
SOURCE: New Mexico Department of Health ED data, 2010-2012
NOTES: Age-adjusted to the 2000 U.S. standard population. This map does not include data for New Mexico residents who visited an ED at a Veterans Administration facility, a military hospital, an IHS facility, or a facility in a neighboring state.
*This rate is statistically unstable (RSE>0.30), and may fluctuate widely across time periods due to random variation (chance).

Asthma Emergency Department Visits

Child (0-14 years of age) Asthma ED Visit Rates by County

Among children aged 0-14, county-level asthma ED rates from 2010-2012 also indicate that counties in southeastern New Mexico had some of the highest rates in the state. Quay County had the highest rate at 207.0 asthma ED visits per 10,000 population. McKinley, Socorro, and Sierra counties also had asthma ED visit rates well above the state rate of 63.3 (Figure 33).

Figure 33. Youth (0-14 years old) asthma ED visit rates by county, New Mexico, 2010-2012



SOURCE: New Mexico Department of Health ED data, 2010-2012
NOTES: This map does not include data for New Mexico residents who visited an ED at a Veterans Administration facility, a military hospital, an IHS facility, or a facility in a neighboring state.
*This rate is statistically unstable (RSE>0.30), and may fluctuate widely across time periods due to random variation (chance).

ASTHMA HOSPITLIZATIONS

Overview

Asthma hospitalizations, like ED visits, are often preventable with proper care and management. Proper care and management includes routine health care visits, use of proper medication, and use of self-management techniques such as trigger recognition and reduction. Hospitalizations for asthma are serious and very costly. In 2012, there were 1,858 hospitalizations in New Mexico with asthma listed as the primary diagnosis.

In New Mexico, asthma hospitalizations are monitored by the NMDOH Epidemiology and Response Division. These data are collected annually from all non-federally licensed hospitals throughout the state. At this writing, data are not collected from the Veterans Administration and military hospitals. Data on New Mexico residents who were hospitalized for asthma in an out-of-state facility are not included in this report. The hospitalization data presented in this report also do not include hospitalizations that occurred in an IHS hospital because at the time of this writing the NMDOH only had obtained IHS data for the years 2007-2009; the main hospitalization data presented in this report includes years 2000-2012.

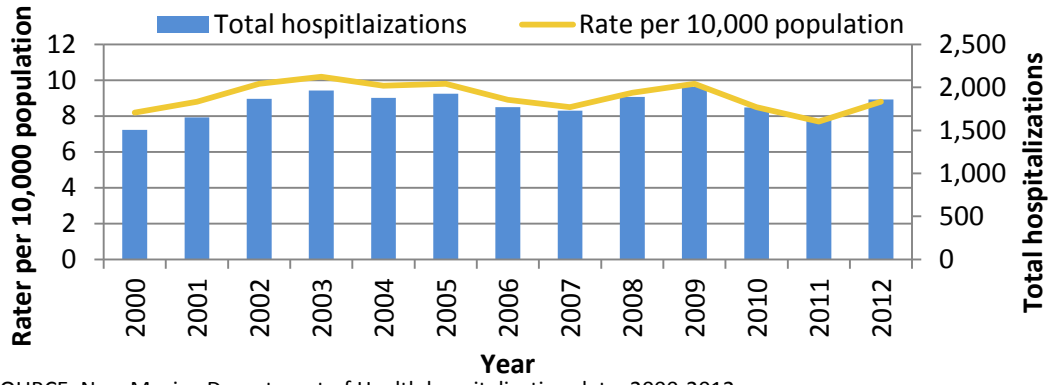
This section describes hospitalizations for asthma in New Mexico. It includes data on gender, age, and geographical disparities. Due to poor and inconsistent reporting, data on race/ethnicity are not presented. Unless otherwise indicated, most data presented in this section are for a primary, or first-listed, diagnosis of asthma.

Asthma Hospitalizations

Hospitalizations

Since 2000, the asthma hospitalization rate has remained relatively stable in New Mexico. The age-adjusted rate per 10,000 population was 8.8 in 2012 compared to a rate of 8.2 in 2000. From 2000-2012, there was an average of 1,802 hospitalizations with asthma listed as the primary diagnosis each year (Figure 34).

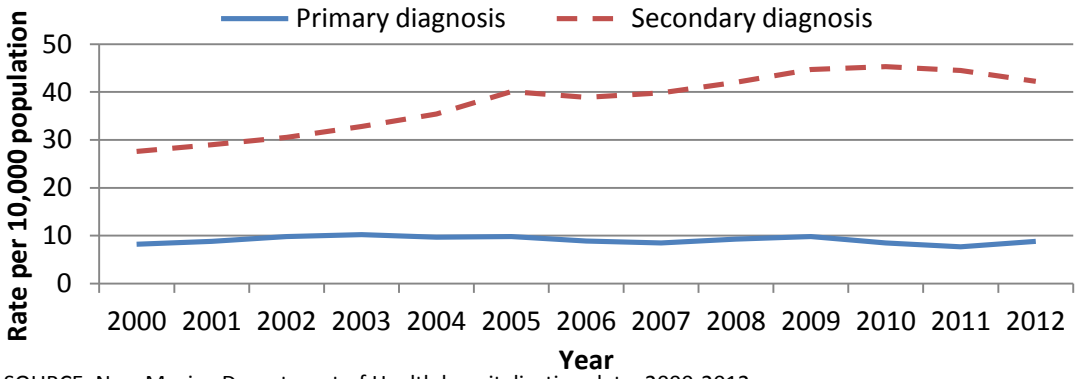
Figure 34. Total asthma hospitalizations and hospitalization rates by year, New Mexico, 2000-2012



SOURCE: New Mexico Department of Health hospitalization data, 2000-2012
NOTES: Asthma listed as the principal diagnosis (ICD-9-CM codes 493.00-493.92). Age-adjusted to the 2000 U.S. standard population.

While the hospitalization rate for asthma listed as the primary diagnosis has remained steady since the year 2000, the hospitalization rate for asthma listed as a secondary diagnosis has consistently been increasing. In 2000, the secondary diagnosis asthma hospitalization rate was 27.6; in 2012, this rate was 42.5, an increase of 54.0%. It is unclear why the secondary diagnosis asthma hospitalization rate has been increasing (Figure 35).

Figure 35. Asthma hospitalization rates by diagnosis and year, New Mexico, 2000-2012

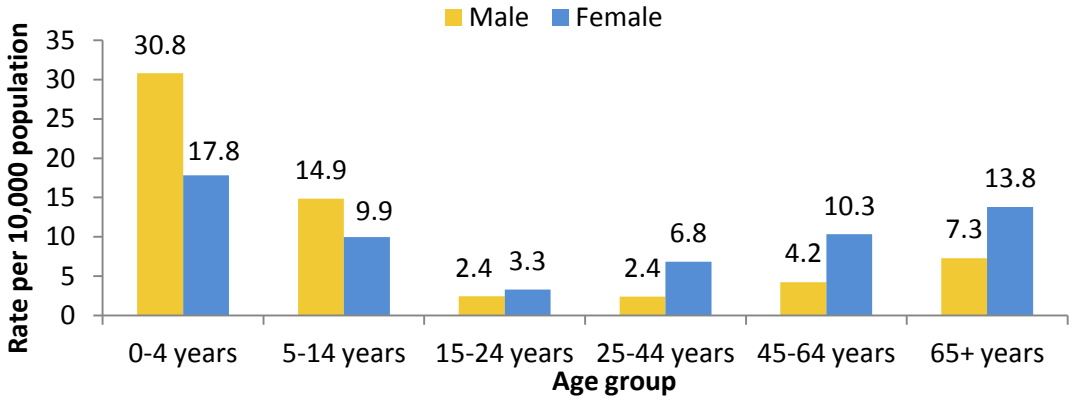


SOURCE: New Mexico Department of Health hospitalization data, 2000-2012
NOTES: Asthma diagnosis based on ICD-9-CM codes 493.00-493.92. Age-adjusted to the 2000 U.S. standard population.

Asthma Hospitalizations

From 2010-2012, male children had higher asthma hospitalization rates than female children, and had the highest rates overall. In the late teenage years and throughout adulthood, females had higher asthma hospitalization rates than males. Adult females 45-64 years old and 65 years old and greater had higher asthma hospitalization rates than female children aged 5-14 years old (Figure 36).

Figure 36. Asthma hospitalization rates by age and sex, New Mexico, 2010-2012



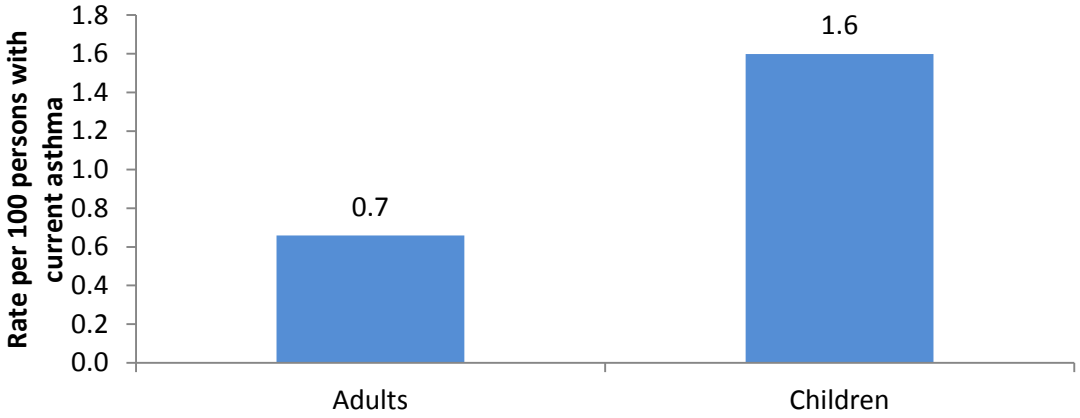
SOURCE: New Mexico Department of Health hospitalization data, 2000-2012
NOTES: Asthma listed as the principal diagnosis (ICD-9-CM codes 493.00-493.92).

Risk-Based Hospitalization Rates

Figure 37 shows the rates of asthma hospitalization per 100 adults and children with current asthma in New Mexico from 2011-2012. These rates are called risk-based rates because they factor in the number of asthma hospitalization among people with current asthma (i.e. those at risk of asthma hospitalizations), rather than the general population. There were approximately 0.7 hospitalizations for asthma per every 100 adults with current asthma. In comparison, there were roughly 1.6 hospitalizations for asthma per every 100 children with asthma.

Asthma Hospitalizations

Figure 37. Estimated rate of asthma hospitalizations among adults and children (0-17 years of age) with asthma, New Mexico, 2011-2012

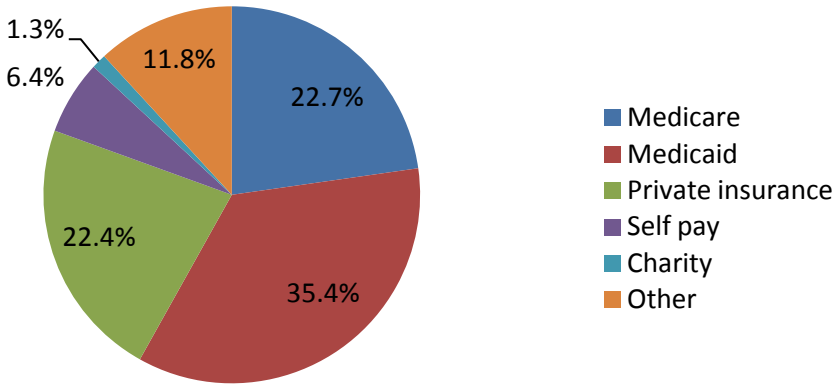


SOURCE: New Mexico BRFSS, 2011-2012; New Mexico Department of Health Hospitalization data, 2011-2012
NOTES: Asthma listed as the principal diagnosis (ICD-9-CM codes 493.00-493.92).

Asthma Hospitalization Payer, Charges and Length of Stay

From 2010-2012, approximately 35.4% and 22.7% of all patients hospitalized for asthma were insured by Medicaid and Medicare, respectively (Figure 38).

Figure 38. Asthma hospitalizations by primary payer, New Mexico, 2010-2012



SOURCE: New Mexico Department of Health hospitalization data, 2010-2012
NOTES: Asthma listed as the principal diagnosis (ICD-9-CM codes 493.00-493.92).

Asthma Hospitalizations

The NMDOH hospitalization data capture the amount charged to each patient or patient's insurer for their hospitalization as well as the length of time each patient spent in the hospital (also known as length of stay). While the total amount charged for an asthma hospitalization often exceeds the total amount payed, it is still a useful indicator to understand the economic impact of asthma hospitalizations in New Mexico. In 2009, the average length of stay for an asthma hospitalization was 3.1 days and the average amount charged to the patient or the patient's insurer for each hospitalization was $13,744. On average, females had longer length of stays (3.3 days) and were charged more ($14,578) for asthma hospitalizations than males (2.9 days and $12,510). The length of stay and the amount charged for an asthma hospitalization tended to increase on average as the patient's age increased. Approximately 2 out of every 3 dollars charged for asthma hospitalizations in New Mexico were charged to either Medicaid ($9,821,769) or Medicare ($9,251,532). In total, approximately $30 million was charged to patients and their insurers for asthma hospitalizations in New Mexico in 2009 (Table 11).

Table 11. Charges and length of stay for asthma hospitalizations by sex, age, and payer, New Mexico, 2009

	Hospitalizations (#)	Average LOS (days)	Average charge per hospitalizations ($)	Total hospitalization charges ($)
Sex				
Male	903	2.9	12,510	11,296,530
Female	1,103	3.3	14,758	16,278,074
Age				
0-4	462	2.4	8,986	4,151,532
5-14	376	2.6	10,383	3,904,008
15-24	88	2.9	15,308	1,347,104
25-44	301	3.3	15,567	4,685,667
45-64	457	3.6	17,155	7,839,835
65+	322	3.8	17,592	5,664,624
Payer				
Medicaid	771	2.9	12,739	9,821,769
Medicare	474	3.9	19,518	9,251,532
Other government	92	2.7	18,095	1,664,740
Private insurance	453	2.9	13,548	6,137,244
Workers compensation	3	1.7	18,587	55,761
Self pay/no insurance	147	2.7	13,562	1,993,614
Charity	25	2.5	16,045	401,125
Unknown	41	3.1	14,323	587,243
Overall	2,006	3.1	13,744	29,913,028

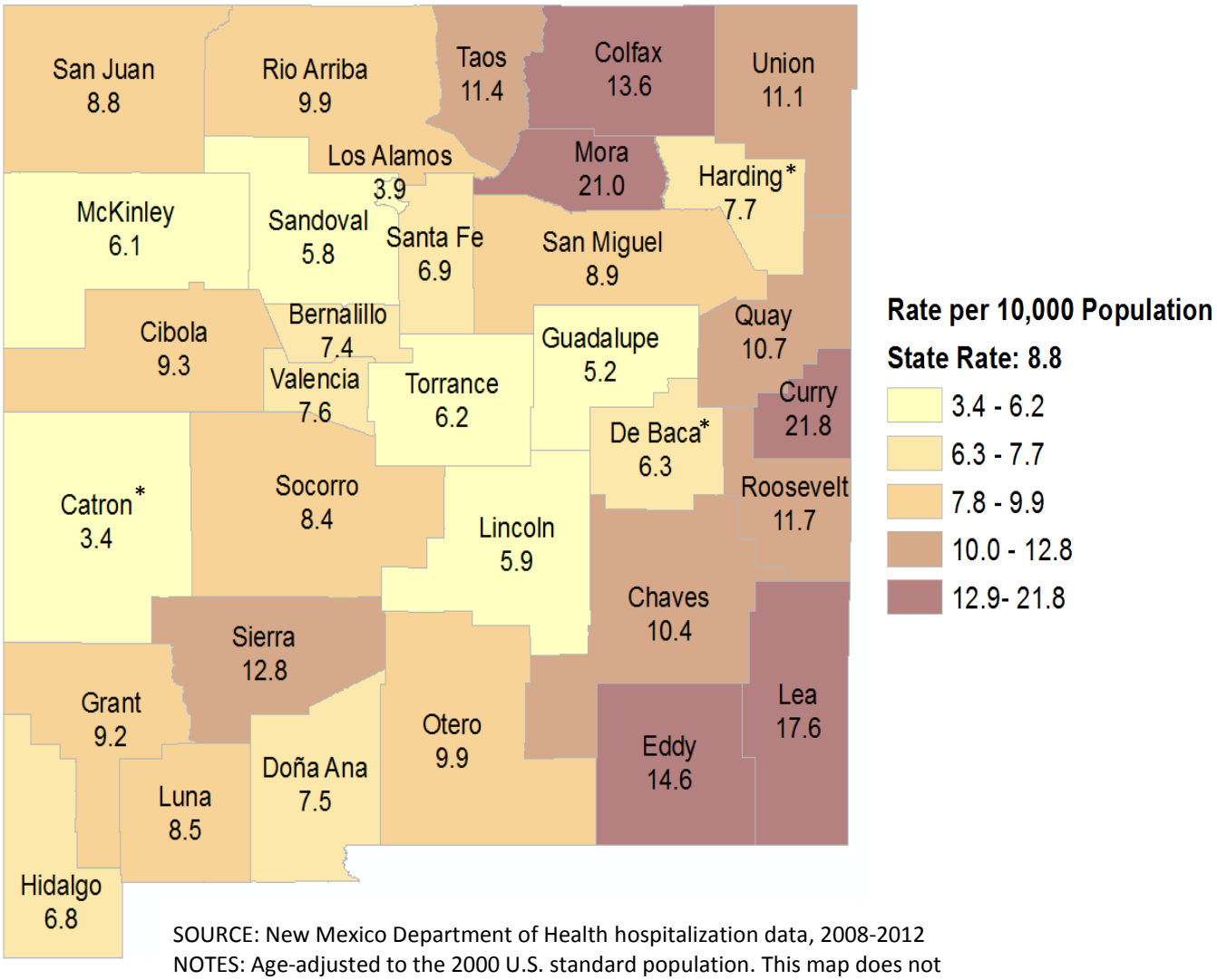
SOURCE: New Mexico Department of Health hospitalization data, 2009
NOTES: Asthma listed as the principal diagnosis (ICD-9-CM codes 493.00-493.92). Amount charged does not equal amount paid.

Asthma Hospitalizations

Asthma Hospitalization Rates by County

Much like ED visit rates, county-level age-adjusted asthma hospitalization rates from 2008-2012 indicate that counties in southeastern New Mexico had some of the highest rates in the state. On average, the rate of asthma hospitalizations in the southeast region was 14.9 per 10,000 population. The northeast region had the next highest asthma hospitalization rate, which was 8.5 per 10,000 population. Curry County had the highest rate at 21.8 asthma hospitalizations per 10,000 population. (Figure 39).

Figure 39. Asthma hospitalization rates by county, New Mexico, 2008-2012



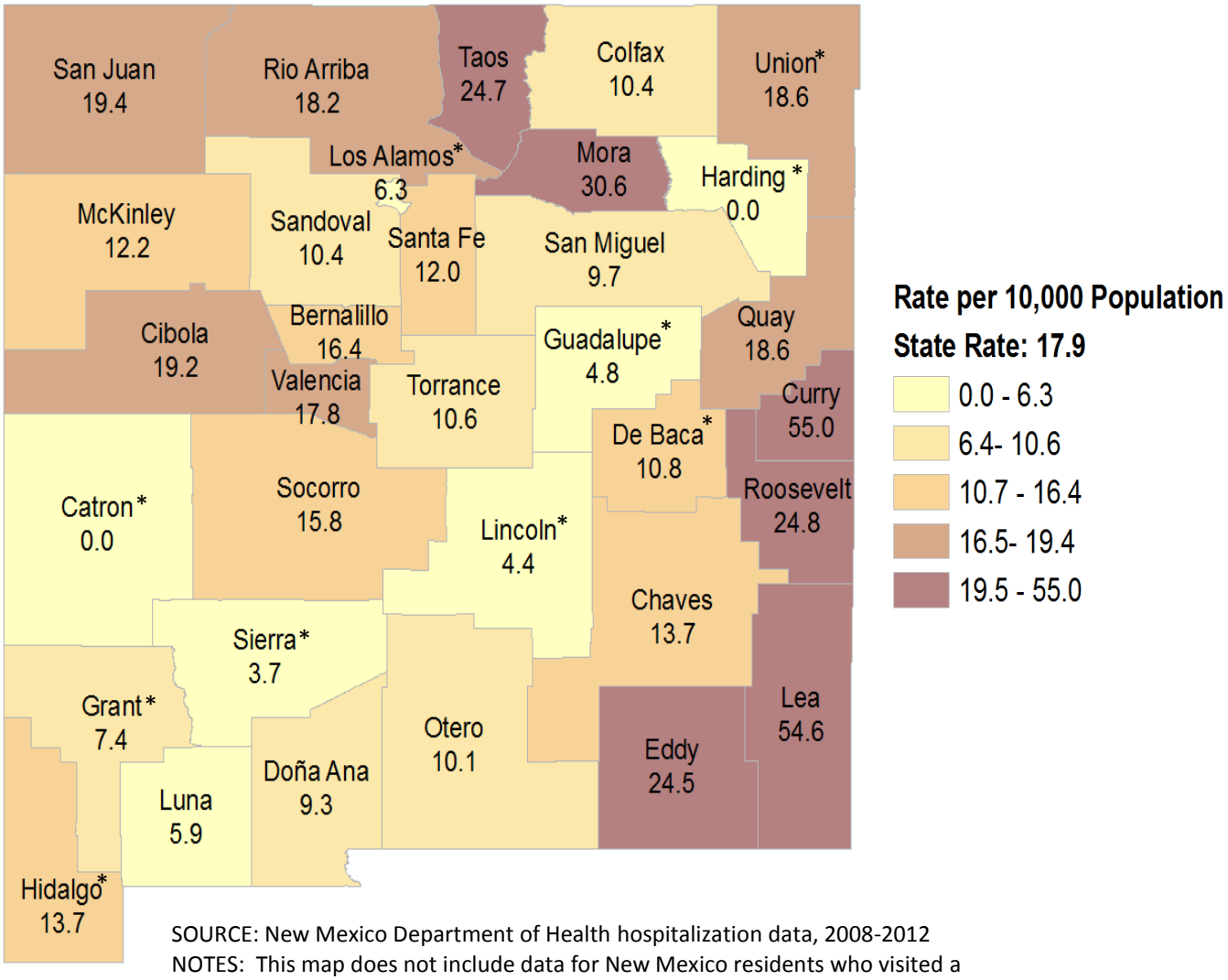
SOURCE: New Mexico Department of Health hospitalization data, 2008-2012
NOTES: Age-adjusted to the 2000 U.S. standard population. This map does not include data for New Mexico residents who visited a Veterans Administration hospital, a military hospital, an IHS hospital, or a hospital in a neighboring state.
*This rate is statistically unstable (RSE>0.30), and may fluctuate widely across time periods due to random variation (chance).

Asthma Hospitalizations

Child (0-14 years of age) Asthma Hospitalization Rates by County

Among children aged 0-14, county-level asthma hospitalization rates from 2007-2011 indicate that counties in southeastern New Mexico had some of the highest rates in the state. Asthma hospitalization rates were also high in some northeast counties, including Taos and Mora. Curry County had the highest rate at 55.0 asthma hospitalizations per 10,000 population (Figure 40).

Figure 40. Youth (0-14 years old) asthma hospitalization rates by county, New Mexico, 2008-2012



SOURCE: New Mexico Department of Health hospitalization data, 2008-2012
NOTES: This map does not include data for New Mexico residents who visited a Veterans Administration hospital, a military hospital, an IHS hospital, or a hospital in a neighboring state.
*This rate is statistically unstable (RSE>0.30), and may fluctuate widely across time periods due to random variation (chance).

ASTHMA AMONG MEDICAID ENROLLEES

Overview

The New Mexico Medicaid program is a federal and state funded program that provides medical insurance to people who meet financial and other eligibility requirements. The program provides payment for medical services ranging from routine preventative medical care for children to institutional care for the elderly and disabled.

It is important to understand the burden of asthma among New Mexico Medicaid enrollees because lower income populations are at a higher risk for developing asthma and experiencing asthma exacerbations. From 2007-2013, the average annual percentage of New Mexico residents enrolled in Medicaid was 20.3%.[17]

This section describes the burden of asthma among New Mexico Medicaid enrollees. Enrollees with asthma are classified into two prevalence groups based on available claims data:

Asthma Prevalence:

A person with *asthma* was defined as someone who met at least one of the following criteria:

- At least one pharmacy claim for an asthma drug
- At least one ED visit in which asthma was listed as the primary diagnosis
- At least one hospitalization in which asthma was listed as the primary diagnosis
- At least one primary or secondary outpatient visit with asthma listed as the primary or secondary reason for the visit

Persistent Asthma Prevalence

A person with *persistent asthma* was defined as someone who met at least one of the following criteria:

- At least four or more pharmacy claims for asthma drugs
- At least one ED visit in which asthma was listed as the primary diagnosis
- At least one hospitalization in which asthma was listed as the primary diagnosis
- At least four or more primary or secondary outpatient visits with asthma listed as one of the diagnoses AND at least two or more pharmacy claims for asthma drugs

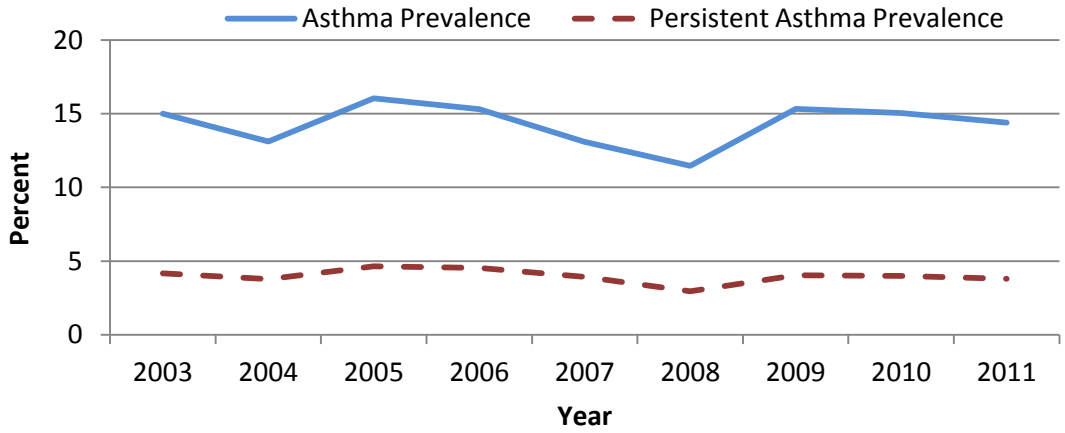
In addition to prevalence, this section presents data on health care utilization in the New Mexico Medicaid population. Health care utilization includes ED visits, hospitalizations, and medication use. The analyses are restricted to enrollees whose primary insurer was Medicaid; therefore, adults over the age of 65 who are insured by Medicaid are excluded from these analyses because Medicare is their primary insurer. The data were provided by the New Mexico Human Services Department, which is the administrator of the New Mexico Medicaid program. Data in this section are stratified by sex, age, race/ethnicity, and geographical location.

Asthma Among Medicaid Enrollees

Prevalence

In New Mexico, asthma prevalence and persistent asthma prevalence among Medicaid enrollees under 65 years old has remained relatively stable since 2003. In 2011, 14.4% of Medicaid enrollees had asthma and 3.8% had persistent asthma (Figure 41).

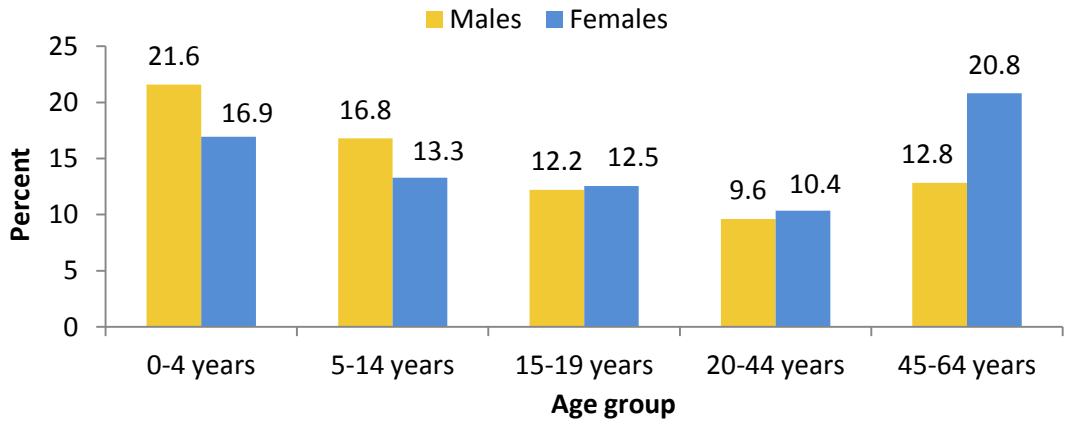
Figure 41. Asthma prevalence among New Mexico Medicaid enrollees, New Mexico, 2003-2011



SOURCE: New Mexico Human Services Department Medicaid data, 2003-2011

Among children enrolled in Medicaid, boys had a greater asthma prevalence than girls from 2010-2011. Among adults, women had a greater asthma prevalence than men. Asthma prevalence among women aged 45-64 enrolled in Medicaid was 20.8% (Figure 42).

Figure 42. Asthma prevalence among Medicaid enrollees by sex and age group, New Mexico, 2010-2011

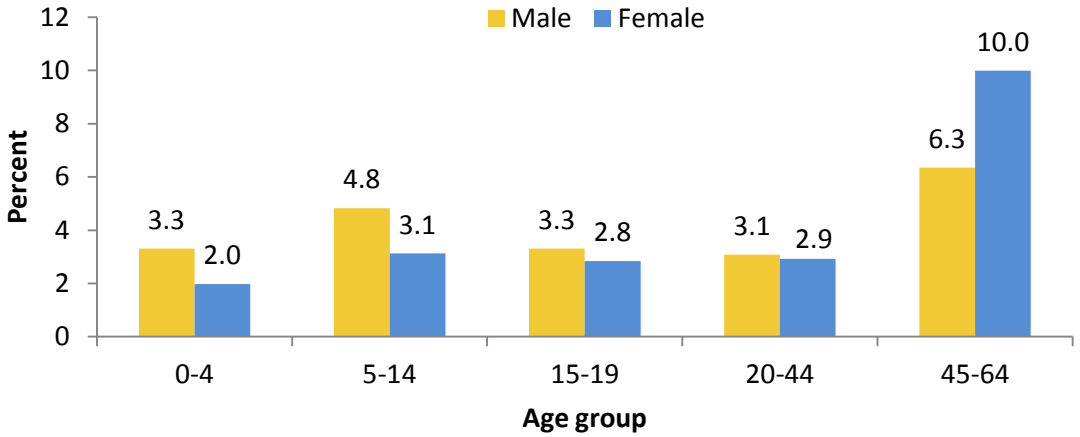


SOURCE: New Mexico Human Services Department Medicaid data, 2010-2011

Asthma Among Medicaid Enrollees

From 2010-2011, persistent asthma prevalence was highest among the 45-64 age group. Approximately 1 in 10 females aged 45-64 enrolled in Medicaid had persistent asthma (Figure 43).

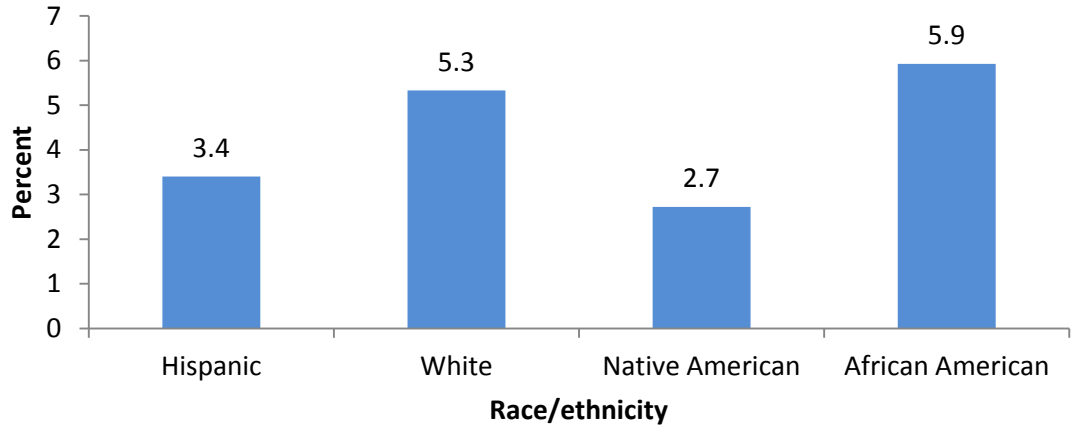
Figure 43. Persistent asthma prevalence among Medicaid enrollees by sex and age group, New Mexico, 2010-2011



SOURCE: New Mexico Human Services Department Medicaid data, 2010-2011

From 2010-2011, persistent asthma prevalence among Medicaid enrollees was greatest among African Americans (5.9%). Native Americans had the lowest persistent asthma prevalence (2.7%) (Figure 44).

Figure 44. Persistent asthma prevalence among Medicaid enrollees by race/ethnicity, New Mexico, 2010-2011



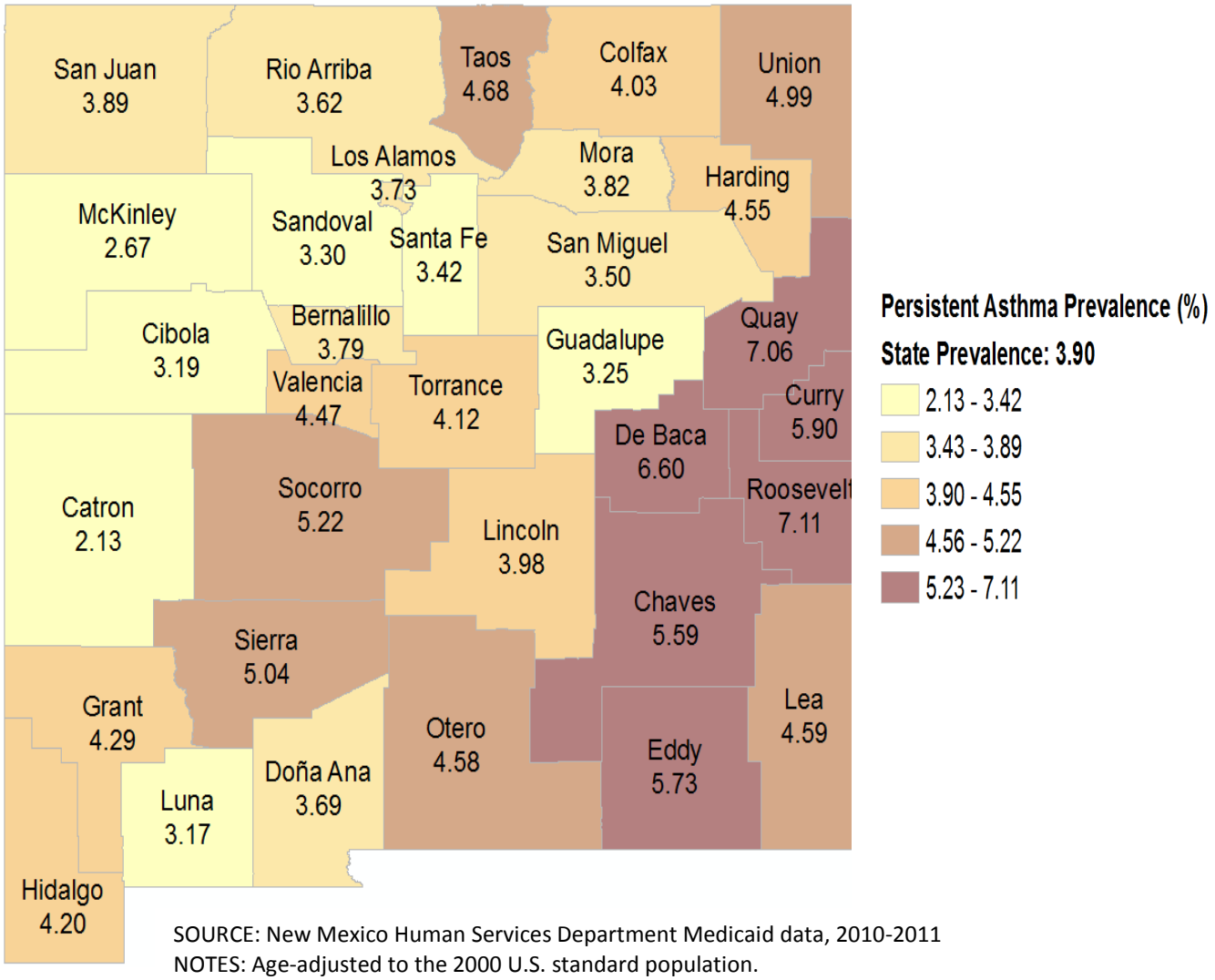
SOURCE: New Mexico Human Services Department Medicaid data, 2010-2011

Asthma Among Medicaid Enrollees

Persistent Asthma Prevalence by County

Among Medicaid enrollees, residents in counties in the southeastern part of the state had the highest persistent asthma prevalence. Quay (7.06%) and Roosevelt (7.11%) counties had the highest persistent asthma prevalence (Figure 45).

Figure 45. Persistent asthma prevalence among Medicaid enrollees by county, New Mexico, 2010-2011



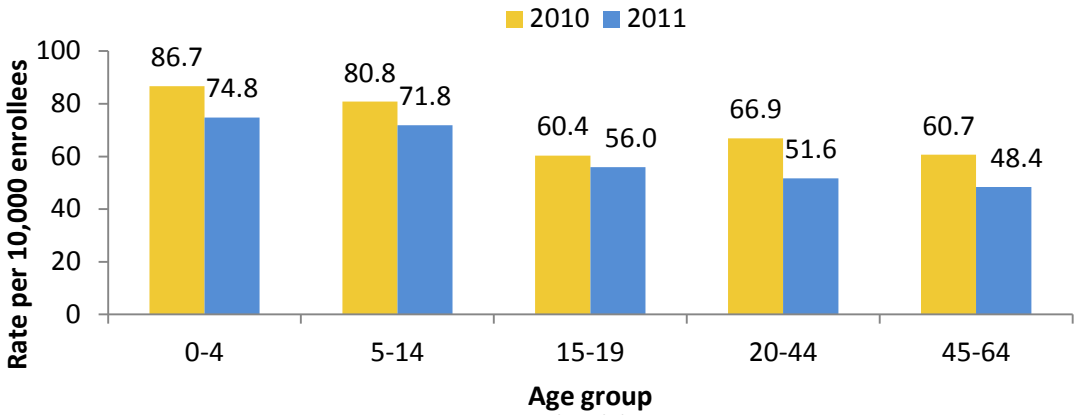
SOURCE: New Mexico Human Services Department Medicaid data, 2010-2011
NOTES: Age-adjusted to the 2000 U.S. standard population.

Asthma Among Medicaid Enrollees

Emergency Department Visits

Asthma ED visit rates among Medicaid enrollees declined from 2010 to 2011 for all age groups. Asthma ED visit rates were lower among older age groups compared to younger age groups. Children aged 0-4 years of age had the highest asthma ED visit rates (Figure 46).

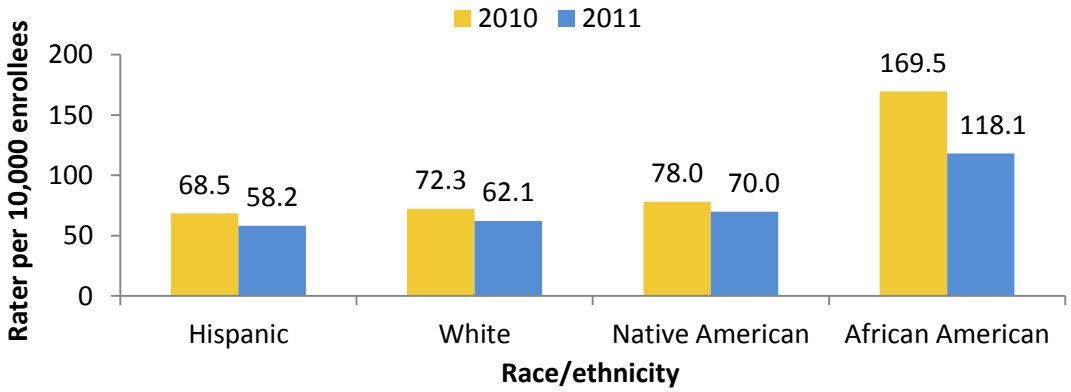
Figure 46. Asthma ED visit rates among Medicaid enrollees by year and age group, New Mexico, 2010-2011



SOURCE: New Mexico Human Services Department Medicaid data, 2010-2011
NOTES: Asthma listed ast the principal diagnosis (IDC-9-CM 493.00-493.92).

Asthma ED visit rates among Medicaid enrollees declined from 2010 to 2011 for all race/ethnicity groups. ED visit rates were highest among African Americans and lowest among Hispanics (Figure 47).

Figure 47. Asthma ED visit rates among Medicaid enrollees by year and race/ethnicity, New Mexico, 2010-2011

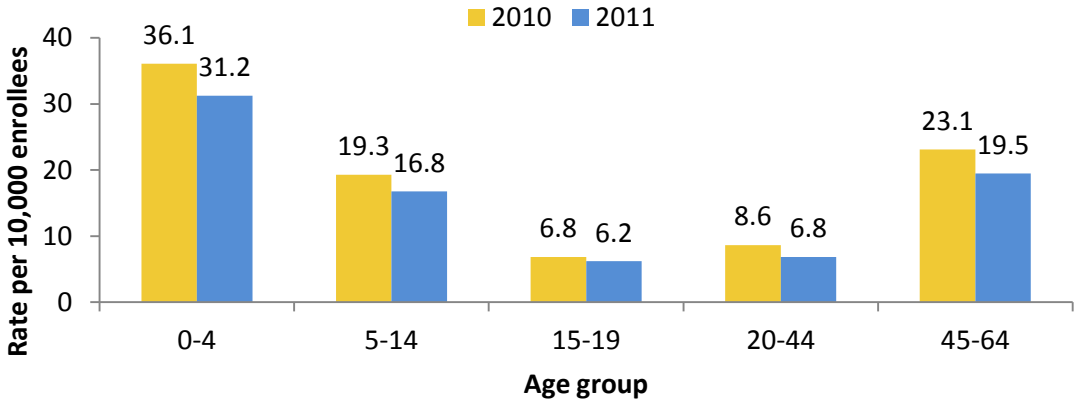


SOURCE: New Mexico Human Services Department Medicaid data, 2010-2011
NOTES: Asthma listed ast the principal diagnosis (IDC-9-CM 493.00-493.92)

Hospitalizations

Similar to ED visit rates, asthma hospitalization rates among Medicaid enrollees declined from 2010 to 2011 for all age groups. Children aged 0-4 years of age had the highest asthma hospitalization rates followed by adults aged 45-64 (Figure 48).

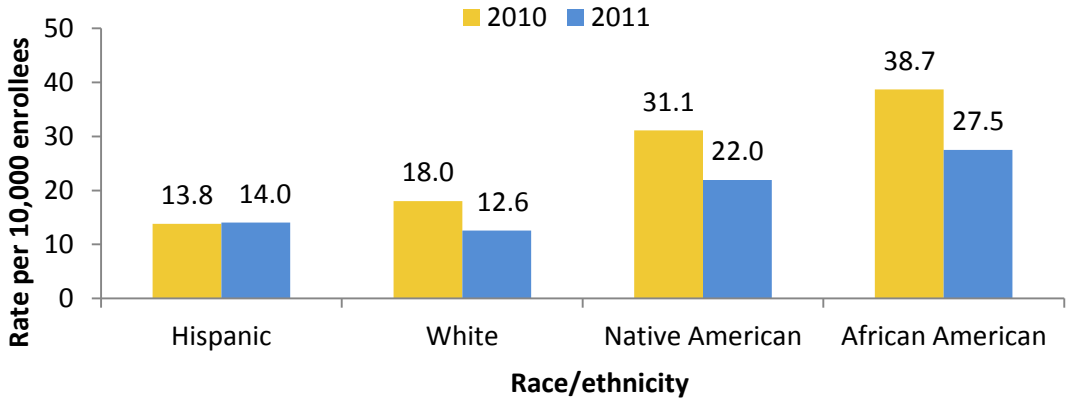
Figure 48. Asthma hospitalization rates among Medicaid enrollees by year and age group, New Mexico, 2010-2011



SOURCE: New Mexico Human Services Department Medicaid data, 2010-2011
NOTES: Asthma listed ast the principal diagnosis (IDC-9-CM 493.00-493.92)

Asthma hospitalization rates among Medicaid enrollees declined from 2010 to 2011 for all race/ethnicity groups. Asthma hospitalization rates were highest among African Americans followed by Native Americans (Figure 49).

Figure 49. Asthma hospitalization rates among Medicaid enrollees by year and race/ethnicity, New Mexico, 2010-2011

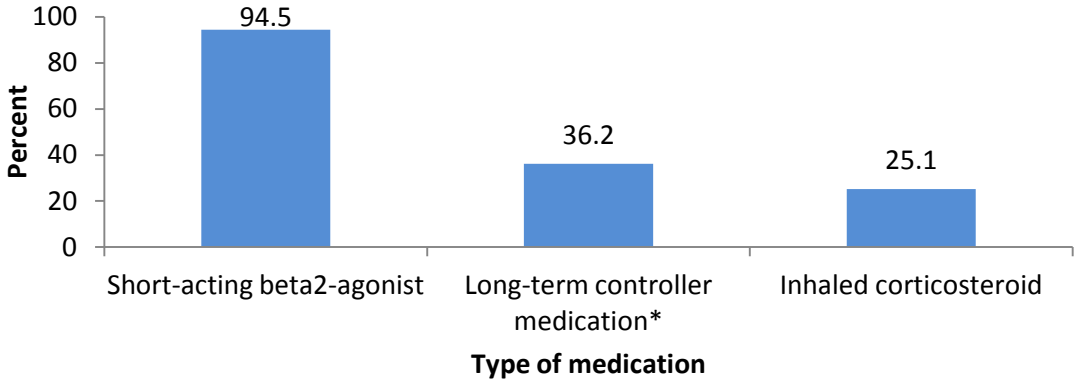


SOURCE: New Mexico Human Services Department Medicaid data, 2010-2011
NOTES: Asthma listed ast the principal diagnosis (IDC-9-CM 493.00-493.92)

Medication Use

From 2010-2011, 94.5% of persistent asthma Medicaid enrollees filled a prescription for a SABA medication. Use of long-term controller and ICS medications was very low for this population. Only 36.2% of persistent asthma enrollees filled a prescription for a long-term controller medication and only 25.1% filled a prescription for an ICS medication (Figure 50).

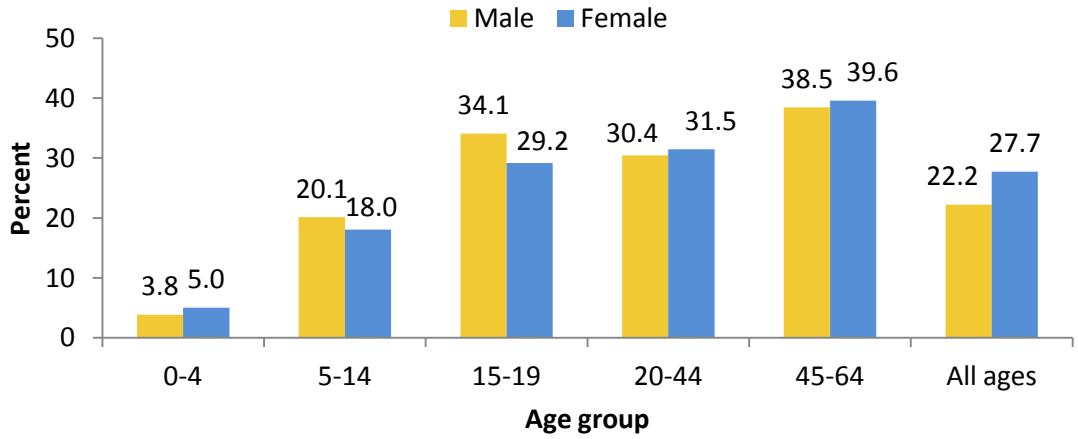
Figure 50. Percent of Medicaid enrollees with persistent asthma who filled ≥1 prescription by medication type, New Mexico, 2010-2011



SOURCE: New Mexico Human Services Department Medicaid data, 2010-2011
*Long-term controller medications include inhaled corticosteroids, long-acting beta2-agonists, leukotriene modifiers, and theophylline

Use of ICS medications increased with age among Medicaid enrollees with persistent asthma; however, use of ICS medications was less than 50% in every age group. Overall, females (27.7%) were more likely to have filled an ICS prescription compared to males (22.2%) (Figure 51).

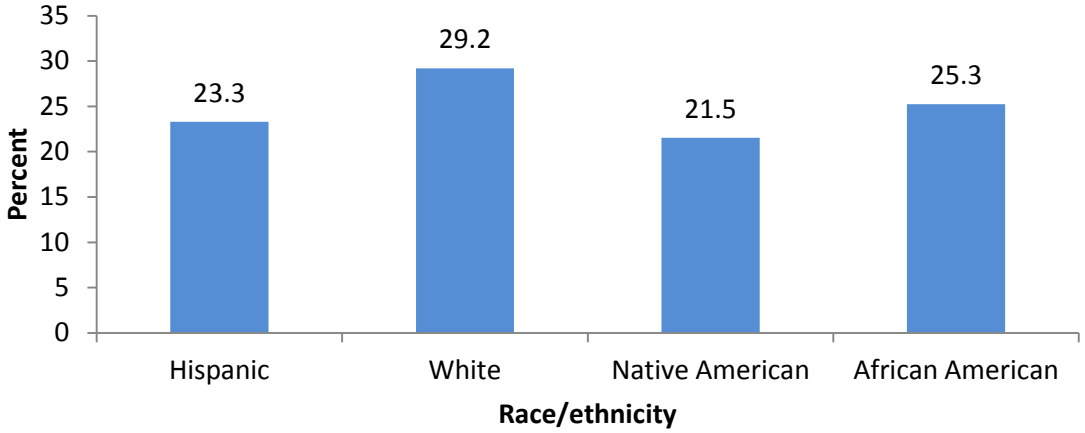
Figure 51. Percent of Medicaid enrollees with persistent asthma who filled ≥1 prescription for an inhaled corticosteroid by sex and age group, New Mexico, 2010-2011



SOURCE: New Mexico Human Services Department Medicaid data, 2010-2011

White (29.2%) Medicaid enrollees with persistent asthma were more likely to have filled an ICS prescription compared to Hispanic (23.3%), Native American (21.5%), and African American (25.3%) Medicaid enrollees with persistent asthma from 2010-2011. Native Americans with persistent asthma were the least likely to have filled an ICS prescription of all the race/ethnicity groups (Figure 52).

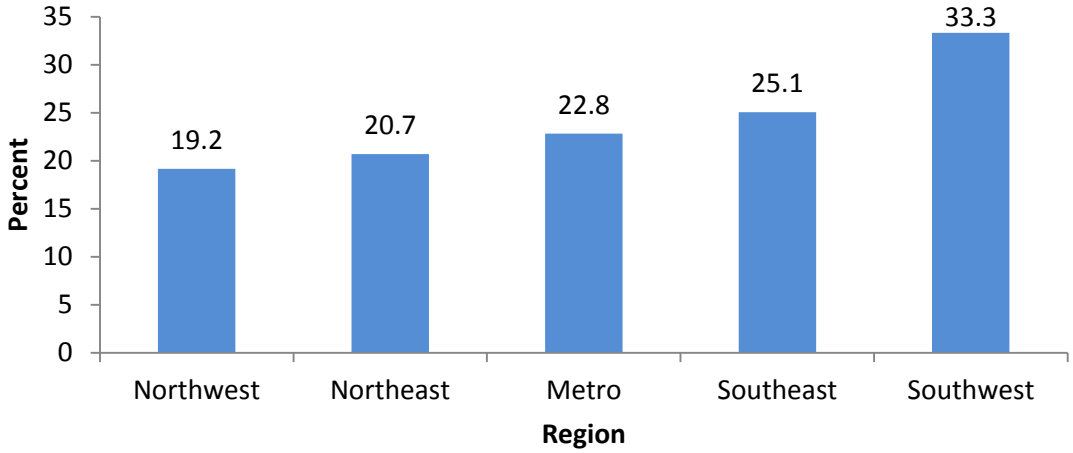
Figure 52. Percent of Medicaid enrollees with persistent asthma who filled ≥1 prescription for an inhaled corticosteroid by race/ethnicity, New Mexico, 2010-2011



SOURCE: New Mexico Human Services Department Medicaid data, 2010-2011

Medicaid enrollees with persistent asthma in the southwest region (33.3%) of the state were the most likely to have filled an ICS prescription from 2010-2011. Medicaid enrollees with persistent asthma in the northwest region (19.2%) of the state were the least likely to have filled an ICS prescription over this same time period (Figure 53).

Figure 53. Percent of Medicaid enrollees with persistent asthma who filled ≥1 prescription for an inhaled corticosteroid by region, New Mexico, 2010-2011



SOURCE: New Mexico Human Services Department Medicaid data, 2010-2011

ASTHMA MORTALITY

Overview

Death from asthma occurs relatively infrequently. Nonetheless, most asthma deaths are considered preventable with proper care and disease management. Patients with severe persistent asthma are at the greatest risk for asthma deaths, but all patients are at some risk.[18] Since 1980, asthma death rates in New Mexico have been declining. In 2012, 26 people in New Mexico were listed as having died from asthma as the underlying cause, with most of these deaths occurring among people 65 years and older.

Asthma deaths are monitored through the New Mexico Death Certificate Database, which is operated by the NMDOH Bureau of Vital Records and Statistics. This database gathers information about each death that occurs in New Mexico. For all death records, one underlying or primary cause of death and up to 20 contributing causes of death are recorded.

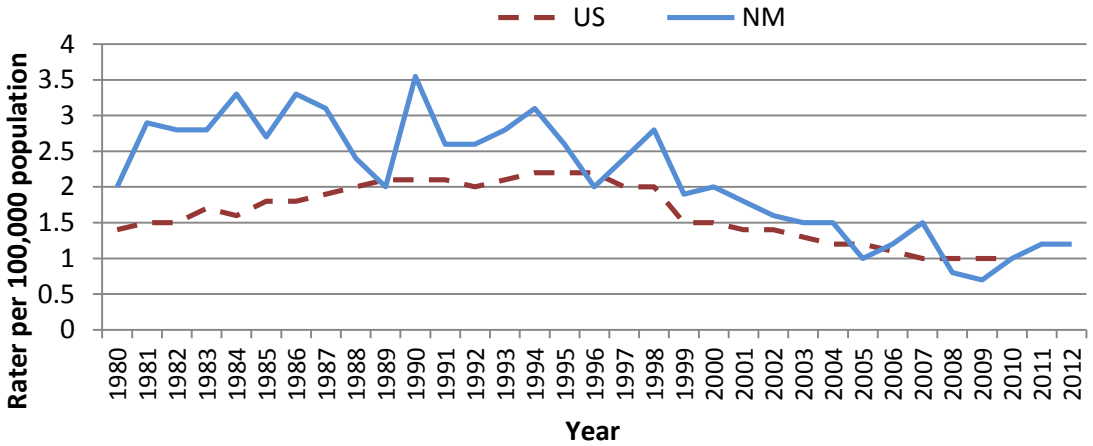
This section will focus on asthma as an underlying cause of death. It includes data from 1980-2012. Data are stratified by gender, race/ethnicity, and age.

Asthma Mortality

Mortality Rates

Since 1980, rates for deaths attributed to asthma as the underlying cause have been declining in New Mexico. This trend is similar to the U.S. trend. In 2012, the death rate for asthma as the underlying cause was 1.2 per 100,000 population in New Mexico (Figure 54).

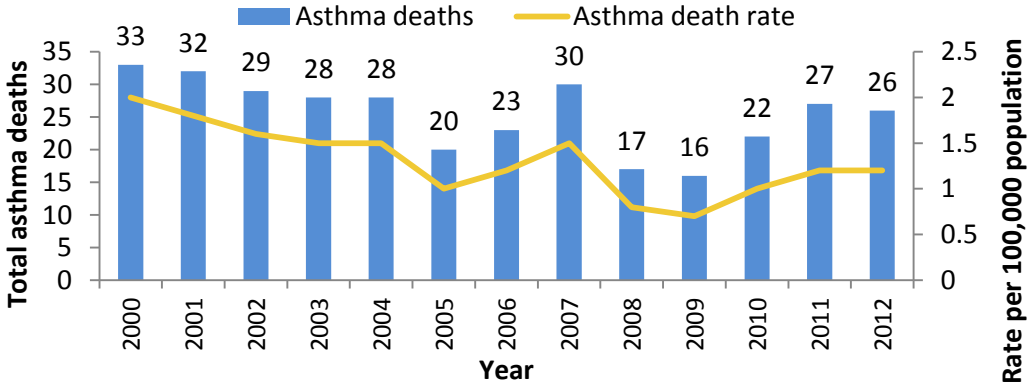
Figure 54. Asthma mortality rates by year, New Mexico and U.S., 1980-2012



SOURCE: New Mexico Bureau of Vital Records and Statistics, 1990-2012; CDC Wonder, 1980-2010
NOTES: Age-adjusted to the 2000 U.S. standard population. Asthma listed as the underlying cause of death. Rates derived from ICD-9 codes (493.0-493.92) for years 1980-1998. Rates derived from ICD-10 codes (J45-J46) for years 1999-2012.

From 2000-2012, there was an average of 25 deaths per year in New Mexico with asthma listed as underlying cause (Figure 55).

Figure 55. Total asthma deaths and asthma mortality rates by year, New Mexico, 2000-2012

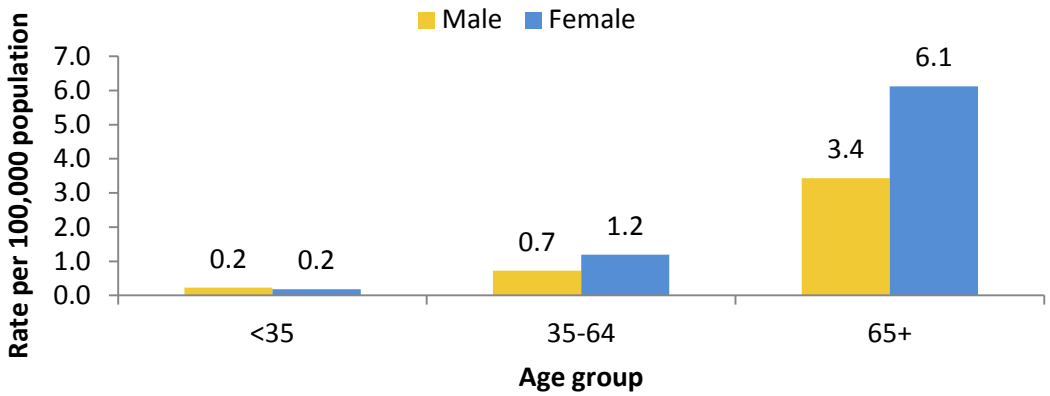


SOURCE: New Mexico Bureau of Vital Records and Statistics, 2000-2012
NOTES: Age-adjusted to the 2000 U.S. standard population. Asthma listed as the underlying cause of death (ICD-10 codes J45-J46).

Asthma Mortality

From 2005-2012, adults aged 65 and older had the highest asthma death rate. Females aged 65 had an asthma death rate of 6.1 per 100,000 population, almost twice the rate of males in the same age group (Figure 56).

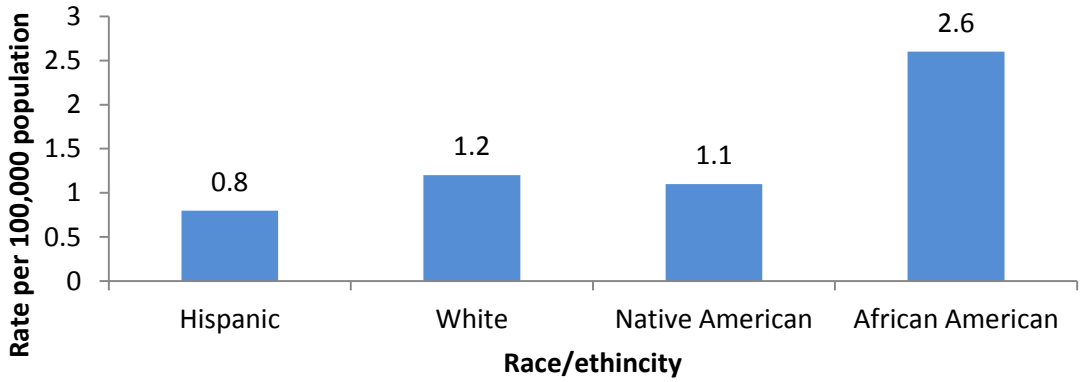
Figure 56. Asthma mortality rates by sex and age group, New Mexico, 2005-2012



SOURCE: New Mexico Bureau of Vital Records and Statistics, 2005-2012
NOTES: Asthma listed as the underlying cause of death (ICD-10 codes J45-J46).

From 2005-2012, African Americans had the highest asthma death rate (2.6 per 100,000 population). Hispanics had the lowest rate (0.8 per 100,000 population) (Figure 57).

Figure 57. Asthma mortality rates by race/ethnicity, New Mexico, 2005-2012

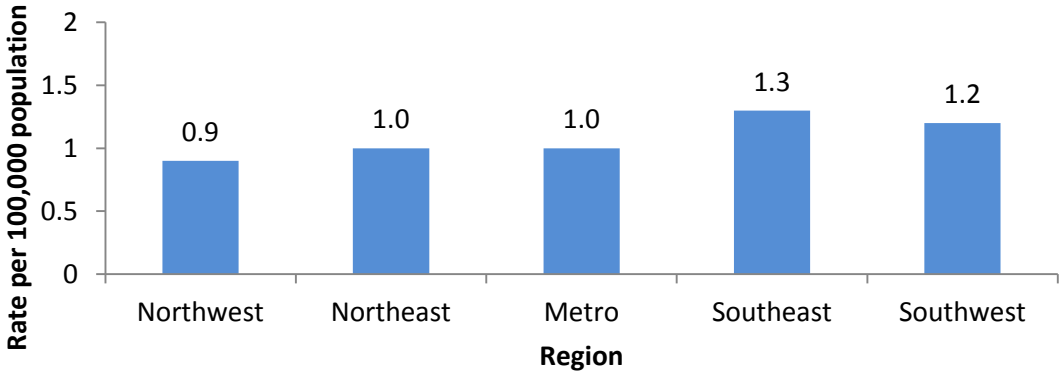


SOURCE: New Mexico Bureau of Vital Records and Statistics, 2005-2012
NOTES: Age-adjusted to the 2000 U.S. standard population. Asthma listed as the underlying cause of death (ICD-10 codes J45-J46).

Asthma Mortality

From 2005-2012, the southeast region had the highest asthma death rate (1.3 per 100,000 population) in New Mexico. The northwest region had the lowest rate (0.9 per 100,000 population) (Figure 58).

Figure 58. Asthma mortality rates by region, New Mexico, 2005-2012

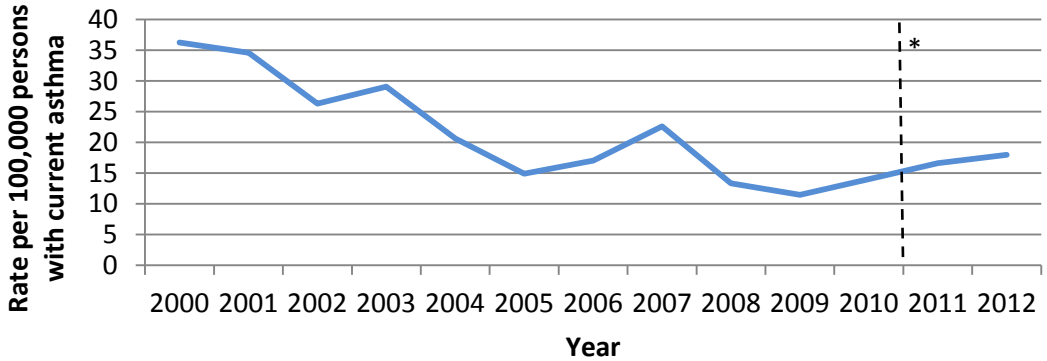


SOURCE: New Mexico Bureau of Vital Records and Statistics, 2005-2012
NOTES: Age-adjusted to the 2000 U.S. standard population. Asthma listed as the underlying cause of death (ICD-10 codes J45-J46).

Risk-Based Mortality Rate

Figure 59 below shows the adult (≥18 years of age) asthma mortality rate per 100,000 adults with current asthma in New Mexico from 2000-2012. These rates are called risk-based rates because they factor in the number of asthma death among adults with current asthma (i.e. those at risk for an asthma death), rather than the general population. From 2000-2012, the risk-based asthma mortality rate among adults with asthma decreased by approximately 50%. In 2012, for every 100,000 adults in New Mexico with current asthma, 18.8 died from the disease (Figure 59).

Figure 59. Estimated asthma mortality rate among adults (≥18 years of age) with asthma, New Mexico, 2000-2012



SOURCE: New Mexico Bureau of Vital Records and Statistics, 2000-2012; New Mexico BRFSS, 2000-2012
NOTES: Asthma listed as the underlying cause of death (ICD-10 codes J45-J46).
* Due to changes in survey methodology, 2011 and 2012 estimates should be compared to prior year estimates with caution.

CONCLUSIONS

The burden of asthma in New Mexico is significant and represents a major public health challenge. Currently, an estimated 197,000 people in New Mexico have asthma, and this number is likely to rise in the future. In addition, while asthma ED visit and hospitalization rates have remained steady, there are still about 7,700 visits to the emergency department and 1,800 hospitalizations each year for asthma. As a result of the high prevalence of asthma and the many preventable asthma ED visits and hospitalizations, the indirect and direct costs of asthma are substantial.

Though asthma affects all populations throughout New Mexico, it affects some populations more than others. Adults and children from low-income households are more likely to have asthma than adults and children from middle class and upper class households. Adults and children from low-income households are also the most likely to have poorly controlled asthma. There are important geographical asthma disparities as well. In particular, counties in southeastern New Mexico have significantly higher adult and child asthma ED visit and hospitalization rates compared to the rest of the state. These increased rates in southeastern New Mexico have been observed for a number of years and are probably at least partially due to the higher smoking and obesity rates in this part of the state.

A particular area of concern highlighted in this report is that many individuals with asthma do not have their disease under control. Among adults and children who currently have asthma in New Mexico, approximately 52% and 38% have poorly or very poorly controlled asthma, respectively. With proper care and management, which includes routine health care visits, use of proper medication, and use of self-management techniques, asthma control can be achieved for a vast majority of those with the disease. Unfortunately, as indicated in this report, many people with asthma do not receive proper care or learn how to manage their disease effectively.

In summary, while progress has been made to reduce the burden of asthma in New Mexico, more work is needed to improve the lives of people with the disease. In particular, future education and intervention programs should aim to increase health care provider knowledge of the NHLBI asthma treatment guidelines and increase accessibility and participation in asthma self-management education.

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APPENDICES

Appendix A. Technical Notes

Confidence Intervals

The confidence interval (CI) may be thought of as the range of probable true values for a statistic. In this report, CI's are used to account for the difference between a sample from a survey of the population and the population itself. For example, to estimate the prevalence of asthma in New Mexico, surveys are used that only sample a fraction of the population. Estimates from these surveys are not a perfect reflection of the true prevalence of asthma in New Mexico because estimates can vary from sample to sample or year to year, even when the true underlying risk remains the same. The CI indicates the stability of the statistical estimate. A stable estimate is one that would change very little if the observation (survey) were repeated. An unstable estimate is one that may vary a great deal from one observation (survey) to another. In general, as a sample size increases, the CI gets smaller, indicating that the estimate is more stable. When the CI is larger, as may happen when there is a small sample size, there is less stability in the estimate.

The most commonly used CI in public health, and the one used in this report, is the 95% CI. The 95% CI indicates the range of values that an estimate would fall 95% of the time if the estimate were calculated from an infinite number of samples of the same size drawn from the same base population. For example, using survey data we estimate that 9.6% of New Mexico adults had current asthma from 2011-2012. The 95% CI for this estimate is 9.1-10.1. So, our best estimate of current asthma prevalence among adults in New Mexico is 9.6%, but we are 95% confident that the true value is between 9.1% and 10.1%. The CI's in this report that are presented graphically are shown by vertical lines on the bars in a bar graph, with the upper and lower bounds shown by horizontal lines at each end of the intervals.

Statistical Significance

Statistically significant differences between estimates indicate that the differences between the estimates are not likely due to chance. In this report, estimates from survey data were considered significantly different when the 95% confidence intervals did not overlap. Though this is not technically considered a statistical test, it is a commonly accepted way to compare estimates. This method of detecting statistical differences is more conservative than formal statistical testing.

Age-Adjusted Rates

Age adjustment allows for fairer comparisons between groups with different age distributions. For example, a county that has a high proportion of elderly people may have a higher death rate than a county with a younger population because the elderly are more likely to die. Age adjustment makes the different groups more comparable. In this report, age-adjusted rates were calculated using the direct method with the U.S. 2000 population as the standard population.

Appendices

Risk-Based Rates

Risk-based rates factor in the number of asthma events (i.e. ED visits, hospitalizations, deaths) among adults with current asthma (i.e. those at risk for an asthma event), rather than the general population. Risk-based rates were calculated by dividing the number of asthma ED visits, hospitalizations, and deaths by the total number of people with current asthma in the population of interest. The total number of people with current asthma was calculated from the BRFSS.

Suppression and Reliability Rules

This report followed the NMDOH rules for small numbers and public data release with regards to suppressing data. For non-survey data, if the specified population was less than 20 and the numerator was less than 3, than the data were suppressed. If the specified population was equal to or greater than 20, then the data were not suppressed regardless of the value of the numerator. In the county-level maps, an asterisk was placed next to counties with rates that are considered statistically unstable (unreliable) but do not meet the necessary qualifications for suppression. A rate is considered statistically unstable if the relative standard error (RSE) is greater than 0.30. Statistically unstable rates may fluctuate widely across time periods due to random variation (chance).

For survey data, if the number of persons surveyed in a given population or subpopulation was less than 50, then estimates based on this surveyed population or subpopulation were suppressed.

Appendices

Acronyms

AAIHS	Albuquerque Area Indian Health Service
ACBS	Asthma Call-back Survey
BMI	Body Mass Index
BRFSS	Behavioral Risk Factor Surveillance System
CDC	Centers for Disease Control and Prevention
CI	Confidence Interval
ED	Emergency Department
EPR-3	Expert Panel Report 3
HID	Hospital Inpatient Discharge
ICD	International Classification of Disease
ICS	Inhaled Corticosteroids
IHS	Indian Health Service
NAEPP	National Asthma Education and Prevention Program
NAIHS	Navajo Area Indian Health Service
NHLBI	National Heart, Lung, and Blood Institute
NMDOH	New Mexico Department of Health
NMHSD	New Mexico Human Services Department
RSE	Relative Standard Error
SABA	Short-acting $Beta_2$-Agonist
YRRS	Youth, Risk and Resiliency Survey

Appendices

Appendix B. Data Sources

Behavioral Risk Factor Surveillance System (BRFSS)

The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing, nationwide surveillance system that collects data on the prevalence of health conditions in the population and behaviors that affect risk for disease. The surveillance system uses telephone survey methods to collect data in all 50 states, the District of Columbia, Guam, Puerto Rico and the U.S. Virgin Islands. To be eligible for the survey, an individual must be a non-institutionalized adult aged 18 years and older and have a cell phone or live in a private residential household with landline telephone service (prior to 2011, cell phone respondents were not included in the BRFSS; therefore, 2011 and 2012 BRFSS data cannot be directly compared to earlier years. Information on children is provided by an adult in the household who is knowledgeable about the child's health. In New Mexico, approximately 8,800 randomly selected adults completed the survey in 2012.

Since 2000, the New Mexico BRFSS began asking asthma prevalence questions following procedures established by the CDC. There are two questions in the survey used to assess asthma prevalence. The first question, "Have you ever been told by a doctor, nurse, or other health professional that you had asthma," is used to assess lifetime asthma prevalence. If a respondent says yes to the first question, they are asked, "Do you still asthma?" The second question is used to assess current asthma prevalence.

While the BRFSS is one of the best available tools to estimate asthma prevalence, it does have some limitations. The BFSS only provides data on the non-institutionalized, civilian population with access to a cell phone or landline and speaks English or Spanish. Thus, some groups at risk for asthma may be underrepresented. Also, all responses are self-reported by respondents and may be subject to recall bias. Further, individuals who exhibit symptoms of asthma but have never received a diagnosis from a health care professional are not counted as having asthma.

BRFSS Asthma Call-back Survey (ACBS)

The BRFSS Asthma Call-back Survey (ACBS) is a follow-up survey to the BRFSS. It is administered to BRFSS respondents who report ever being diagnosed with asthma (or report a child ever being diagnosed with asthma) and indicate that they would be willing to answer another, more in-depth survey regarding their asthma. The ACBS is conducted approximately 2 weeks after the BRFSS. The ACBS provides in-depth data on the health and experiences of individuals with asthma in New Mexico. Data is collected on topics such as asthma severity, health care utilization, asthma management, asthma medications, environmental factors, cost barriers, comorbid conditions, and work-related asthma. New Mexico began conducting the ACBS in 2007. Due to small sample sizes, 4 years of call-back data (2007-2010) were combined for analyses in order to produce more stable estimates. The sample sizes of the 2007-2010 aggregated Adult and Child ACBS datasets were 1,513 and 355, respectively.

The ACBS has similar limitations to the BRFSS survey. An additional limitation is that not all people who reported ever being diagnosed with asthma in the BRFSS were reached for the ACBS. As a result,

there may be differences between the original BRFSS respondents who reported ever being diagnosed with asthma and those who completed the ACBS.

Emergency Department Visits

Starting in 2009, all non-federal emergency departments (ED) in New Mexico have been required to report ED data to the New Mexico Department of Health (NMDOH) pursuant to the New Mexico Public Health Act, as described in New Mexico Administrative Code (NMAC) 7.4.3.10. Prior to this mandate, asthma ED data had been collected by the asthma epidemiologist. Although presented in previous reports, these data are unreliable because it has been discovered that some ED's did not report their data or did not report it in full. Therefore, data collected prior to 2010 (this was the first year in which the mandate applied to data collection) are not presented in this report. Unless otherwise noted, asthma ED visits are defined as those in which asthma (ICD-9 CM codes 493.00-493.92) is listed in the primary diagnosis field of the patient medical record. Only asthma ED visits for New Mexico residents are included in this report.

There are some limitations to the ED data. At this writing, data are not collected from the Veterans Administration, military hospitals, IHS facilities or out-of-state facilities that may have treated New Mexico residents for asthma in their ED. In addition, ED data may be revised by the NMDOH due to hospitals sending updates of their previously reported ED data. As a result, ED data presented in this report may be subject to changes in the future.

Hospitalizations

Since 1989, all non-federal hospitals in New Mexico have been required to annually report their Hospital Inpatient Discharge (HID) data pursuant to the New Mexico Public Health Act. From 1990 to 2010, the Health Policy Commission assumed the role of data steward for the HID data. Starting in 2011, the NMDOH was authorized to collect, report on, and disseminate HID data. This report presents HID data from 2000-2012.Unless otherwise noted, asthma hospitalizations are defined as those in which asthma (ICD-9 CM codes 493.00-493.92) is listed in the primary diagnosis field of the patient medical record. Only asthma hospitalizations for New Mexico residents are included in this report.

There are some limitations to the hospitalization data. At this writing, data are not collected from the Veterans Administration, military hospitals or out-of-state hospitals that admitted New Mexico residents for asthma. In addition, the main hospitalization data presented in this report do not include hospitalizations that occurred in an IHS hospital. As a result, asthma hospitalization rates in some counties, mainly San Juan and McKinley, may significantly underestimate the true rates. However, this report includes a brief, separate section on IHS asthma hospitalization data for the years 2007-2009 (described below).

Medicaid

The New Mexico Medicaid program is a federal and state funded program that provides medical insurance to people who meet financial and other eligibility requirements. The program provides

payment for medical services ranging from routine preventative medical care for children to institutional care for the elderly and disabled.[10] The New Mexico Health and Human Services Department Medical

Assistance Division is the direct administrator of the program. Because the Medicaid program pays for the health care of its enrollees, detailed information on procedures, outpatient visits, hospitalizations and filled prescription medications is maintained by the program for the purpose of reimbursement. This report presents asthma prevalence and health care utilization data within the Medicaid population from 2010-2011.

Mortality

The NMDOH Bureau of Vital Records and Health Statistics maintains death records for deaths that occur to New Mexico residents and to out-of-state residents who died in the state. Asthma death data has been collected and analyzed since 1980. Since 1999, asthma deaths have been coded with the ICD-10 codes of J45-J46. Prior to 1999, asthma deaths were coded according to the ICD-9 codes of 493.00-493.92.

The Bureau of Vital Records and Statistics categorizes asthma death in two ways. Of all the diseases listed on the death certificate, if asthma was determined to be the principal cause of death, then it is counted as the underlying cause of death. If "asthma" appears anywhere on the death certificate along with other diseases, the death is counted as a contributing cause of death. This report only presents data on asthma as the underlying cause of death. In 2012, of the nearly 17,000 deaths to state residents, less than 30 were attributable to asthma as the underlying cause.

Youth, Risk and Resiliency Survey (YRRS)

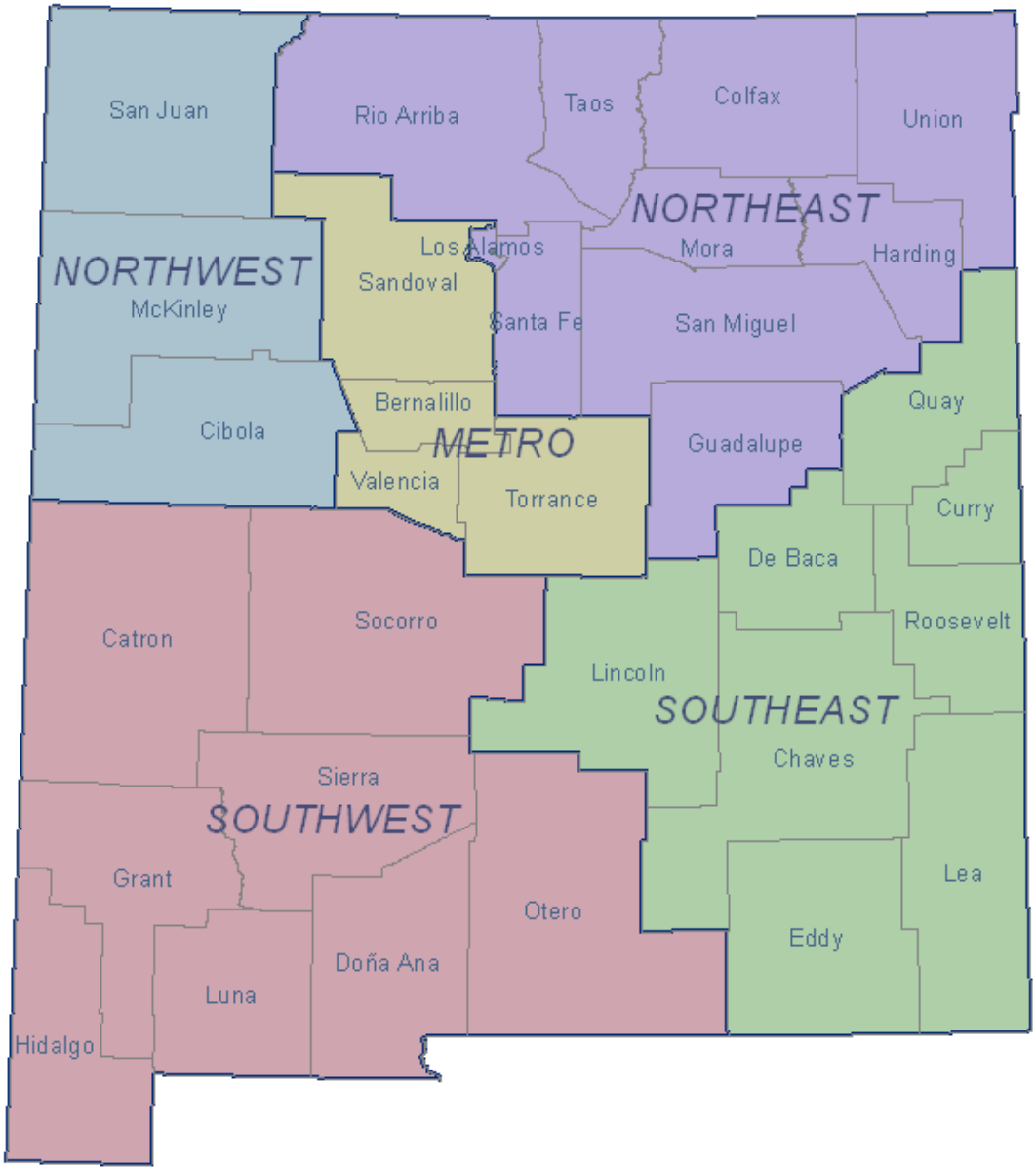
The New Mexico Youth Risk and Resiliency Survey (YRRS) is a tool used to assess the health risk behaviors and resiliency (protective) factors of New Mexico high school and middle school students. The YRRS is part of the national CDC Youth Risk Behavior Surveillance System. Topic areas include risk behaviors related to alcohol and drug use, violence, suicidal ideation and attempts, tobacco use, sexual activity, physical activity and nutrition; resiliency (protective) factors such as relationships in the family, school, community, and with peers; and health status issues such as body weight and asthma. The YRRS is offered to a selection of high school and middle schools in each school district in the fall of odd-numbered years. All data are self-reported by students who voluntarily complete the survey during one class period. In 2011, approximately 14,500 middle school students and 19,000 high school students completed the survey.

The primary limitation to the YRRS is that the responses are self-reported and are subject to recall bias.

Appendices

Appendix C. New Mexico Public Health Regions Map

Figure 60. New Mexico Public Health Regions Map



Northwest Region: San Juan, McKinley, and Cibola Counties
Northeast Region: Rio Arriba, Taos, Colfax, Union, Los Alamos, Santa Fe, Mora, San Miguel, Guadalupe, and Harding Counties
Metro Region: Bernalillo, Sandoval, Torrance, and Valencia Counties
Southeast Region: Quay, DeBaca, Curry, Lincoln, Roosevelt, Chaves, Eddy, and Lea Counties
Southwest Region: Catron, Socorro, Grant, Sierra, Hidalgo, Luna, Doña Ana, Otero

Appendices

Appendix D. Figure Data Tables

Data table for figure 1. Current and lifetime asthma among adults, New Mexico and U.S., 2011-2012. SOURCE: New Mexico and U.S. BRFSS, 2011-2012.

	Current asthma prevalence % (95% CI)	Lifetime asthma prevalence % (95% CI)
New Mexico	9.6 (9.1-10.1)	14.3 (13.7-15.0)
U.S.	8.8 (8.6-9.0)	13.1 (13.0-13.3)

Data table for figure 2. Lifetime asthma prevalence among adults by sex and age group, New Mexico, 2011-2012. SOURCE: New Mexico BRFSS, 2011-2012.

Age group	Male % (95% CI)	Female % (95% CI)
18-24	18.6 (14.9-22.9)	19.7 (16.1-23.8)
25-34	13.5 (11.0-16.3)	17.3 (14.8-20.0)
35-44	9.5 (7.6-11.9)	18.0 (15.5-20.8)
45-54	9.9 (8.2-12.1)	14.7 (12.9-16.7)
55-64	11.1 (9.3-13.3)	16.6 (14.8-18.6)
65+	10.2 (8.8-11.8)	14.8 (13.3-16.4)
All Adults	12.0 (11.0-13.0)	16.6 (15.7-17.6)

Data table for figure 3. Current asthma prevalence among adults, New Mexico and U.S., 2000-2012. SOURCE: New Mexico and U.S. BRFSS, 2000-2012

Year	U.S. % (95% CI)	NM % (95% CI)
2000	7.2 (7.0-7.4)	6.9 (6.0-7.9)
2001	7.2 (7.0-7.4)	6.9 (5.9-7.9)
2002	7.5 (7.3-7.7)	7.8 (6.9-8.8)
2003	7.7 (7.5-7.9)	6.7 (5.9-7.5)
2004	8.1 (7.9-8.3)	9.3 (8.4-10.2)
2005	7.9 (7.7-8.0)	8.9 (7.9-9.9)
2006	8.2 (8.0-8.4)	8.5 (7.5-9.4)
2007	8.2 (8.1-8.4)	8.7 (7.7-9.7)
2008	8.5 (8.3-8.7)	8.5 (7.5-9.5)
2009	8.4 (8.3-8.6)	8.6 (7.8-9.5)
2010	8.6 (8.5-8.8)	9.7 (8.5-10.9)
2011	8.8 (8.6-9.0)	10 (9.2-10.9)
2012	8.9 (8.7-9.0)	9.2 (8.5-10.0)

Appendices

Data table for figure 4. Current asthma prevalence among adults by sex and age group, New Mexico, 2011-2012. SOURCE: New Mexico BRFSS, 2011-2012.

Age group	Male % (95% CI)	Female % (95% CI)
18-24	7.1 (4.9-10.3)	12.1 (9.2-15.6)
25-34	7.5 (5.7-9.8)	11.3 (9.3-13.6)
35-44	7 (5.3-9.2)	12.7 (10.6-15.1)
45-54	6.9 (5.4-8.8)	10.7 (9.2-12.4)
55-64	8.1 (6.5-10.1)	13.5 (11.9-15.4)
65+	7.1 (6.0-8.5)	11.3 (10.2-12.8)
All Adults	7.3 (6.5-8.1)	11.9 (11.1-12.7)

Data table for figure 5. Current asthma prevalence among adults by race/ethnicity, New Mexico, 2011-2012. SOURCE: New Mexico BRFSS, 2011-2012.

Race/ethnicity	Current asthma prevalence % (95% CI)
Hispanic	8.1 (7.4-9.0)
White	10.7 (9.9-11.5)
Native Americans	9.7 (7.8-12.0)
African American	16.6 (10.6-25.0)

Data table for figure 6. Current asthma prevalence among adults by region, New Mexico, 2011-2012. SOURCE: New Mexico BRFSS, 2011-2012.

Region	Current asthma prevalence % (95% CI)
Northwest	9.4 (8.4-10.5)
Northeast	9.4 (8.1-10.8)
Metro	10.5 (9.4-11.7)
Southeast	9.9 (8.6-11.4)
Southwest	8.6 (7.5-9.8)

Data table for figure 7. Current and lifetime asthma among children (0-17 years of age), New Mexico, 2011-2012. SOURCE: New Mexico and U.S. BRFSS, 2011-2012.

	Current asthma prevalence % (95% CI)	Lifetime asthma prevalence % (95% CI)
New Mexico	9.0 (8.1-10.1)	13.6 (12.4-14.9)
U.S.	8.9 (8.6-9.2)	13.7 (13.3-14.1)

Appendices

Data table for figure 8. Current asthma prevalence among children (0-11 years of age) by sex and age group, New Mexico, 2011-2012. SOURCE: New Mexico BRFSS, 2011-2012.

Age Group	Male % (95% CI)	Female % (95% CI)
0-4	5.6 (3.7-8.5)	3.6 (2.0-6.4)
5-11	12.7 (10.1-13.8)	7.8 (5.8-10.3)

Data table for figure 9. Current asthma prevalence among children (0-17 years of age) by race/ethnicity, New Mexico, 2011-2012. SOURCE: New Mexico BRFSS, 2011-2012.

Race/ethnicity	Current asthma prevalence % (95% CI)
Hispanic	9.2 (8.0-10.7)
White	7.6 (6.3-9.3)
Native Americans	10.1 (7.3-14.0)
African American	18.8 (10.4-30.0)

Data table for figure 10. Current asthma prevalence among middle and high school students by sex, New Mexico, 2011. SOURCE: New Mexico YRRS, 2011.

Sex	Middle school % (95% CI)	High school % (95% CI)
Male	10.8 (9.5-12.4)	11.1 (9.7-12.9)
Female	10.2 (8.9-11.7)	14.2 (12.6-15.9)

Data table for figure 11. Current asthma prevalence among high school student by place of birth, New Mexico, 2011. SOURCE: New Mexico YRRS, 2011.

Place of birth	High school % (95% CI)
U.S.	13.3 (12.5-14.5)
Outside U.S.	6.9 (4.7-10.0)

Data table for figure 12. Current asthma prevalence among middle and high school students by region, New Mexico, 2011. SOURCE: New Mexico YRRS, 2011.

Region	Middle school % (95% CI)	High school % (95% CI)
Northwest	10.6 (8.9-12.7)	11.3 (9.8-13.0)
Northeast	9.5 (8.2-11.0)	11.4 (10.1-12.9)
Metro	10.2 (8.5-12.3)	13.2 (11.6-15.0)
Southeast	13.3 (11.8-14.9)	13.6 (11.7-15.8)
Southwest	10.5 (8.8-12.5)	11.7 (9.4-14.4)

Appendices

Data table for figure 13. Current asthma prevalence among adults by smoking status, New Mexico, 2011-2012. SOURCE: New Mexico BRFSS, 2011-2012.

Smoking status	Current asthma prevalence % (95% CI)
Current	11.3 (9.9-11.9)
Former	10.2 (9.2-11.2)
Never	8.8 (8.1-9.5)

Data table for figure 14. Current smoking prevalence among adults with and without current asthma, New Mexico, 2011-2012. SOURCE: New Mexico BRFSS, 2011-2012.

Asthma status	Current % (95% CI)
Current asthma	23.9 (21.2-27.0)
No current asthma	20.0 (19.1-20.9)

Data table for figure 15. Current smoking prevalence among adults by region, New Mexico, 2011-2012. SOURCE: New Mexico BRFSS, 2011-2012.

Region	Current smoking prevalence % (95% CI)
Northwest	19.0 (17.5-20.5)
Northeast	18.9 (17.0-20.9)
Metro	20.8 (19.1-22.5)
Southeast	23.4 (21.4-25.6)
Southwest	20.6 (19.7-22.6)

Data table for figure 16. Current smoking prevalence among middle and high school students with and without asthma, New Mexico, 2011. SOURCE: New Mexico YRRS, 2011.

Asthma status	Middle school % (95% CI)	High school % (95% CI)
Current asthma	10.8 (7.7-15.1)	21.5 (17.8-25.8)
No current asthma	5.7 (4.9-6.7)	19.9 (18.3-21.7)

Data table for figure 17. Current asthma prevalence among adults by BMI status, New Mexico, 2011-2012. SOURCE: New Mexico BRFSS, 2011-2012.

BMI status	Current asthma prevalence % (95% CI)
Normal (BMI<25)	7.7 (6.8-8.7)
Overweight (BMI25 to <30)	8.1 (7.3-9.1)
Obese (BMI 30 to <40)	12.5 (11.3-13.9)
Morbidly obese (BMI $\geq$ 40)	21.8 (17.8-26.4)

Appendices

Data table for figure 18. Current obesity (BMI≥30) prevalence among adults by region, New Mexico, 2011-2012. SOURCE: New Mexico BRFSS, 2011-2012.

Region	Current obesity prevalence % (95% CI)
Northwest	31.4 (29.6-33.2)
Northeast	22.1 (20.3-24.1)
Metro	23.4 (21.8-25.1)
Southeast	34.5 (32.2-36.9)
Southwest	26.1 (24.1-28.1)

Data table for figure 19. Current asthma prevalence among adults and children by annual household income, New Mexico, 2011-2012

Household income	Adults % (95% CI)	Children % (95% CI)
<$15,000	12.3 (10.7-14.0)	11.1 (8.4-14.6)
$15-24,9999	10.0 (8.7-11.4)	10.9 (8.8-13.5)
$25-49,9999	9.0 (7.9-10.1)	8.3 (6.6-10.3)
$50-74,9999	9.6 (8.1-11.4)	7.5 (5.3-10.6)
$75,000+	8.4 (7.3-8.5)	7.7 (6.0-9.7)

Data table for figure 20. Asthma control among adults and children (0-17 years of age) with current asthma, New Mexico, 2007-2010. SOURCE: New Mexico BRFSS Call-back Surveys, 2007-2010.

Asthma control status	Adults % (95% CI)	Children % (95% CI)
Well-controlled	48.2 (43.4-53.0)	61.9 (53.2-69.9)
Not well-controlled	24.1 (20.6-28.2)	21.9 (15.5-30.2)
Very poorly controlled	28.7 (23.6-32.1)	16.1 (10.9-23.2)

Data table for figure 21. Percentage of adults and children (0-17 years of age) with current asthma that have well-controlled asthma by sex, New Mexico, 2007-2010. SOURCE: New Mexico BRFSS Call-back Surveys, 2007-2010.

Sex	Adults % (95% CI)	Children % (95% CI)
Male	47.9 (38.8 -57.3)	53.6 (42.6-64.2)
Female	48.3 (43.5-53.2)	73.0 (59.6-83.2)

Appendices

Data table for figure 22. Asthma control among adults with current asthma by annual household income, New Mexico, 2007-2010. SOURCE: New Mexico BRFSS Call-back Surveys, 2007-2010.

Household income	Well-controlled % (95% CI)	Not well-controlled % (95% CI)	Very poorly controlled % (95% CI)
<$15,000	34.3 (24.8-45.4)	23.6 (15.7-33.8)	42.1 (31.2-53.8)
$15-24,9999	44.6 (32.7-57.1)	28.2 (19.1-39.4)	27.3 (19.6-36.7)
$25-49,9999	46.3 (32.9-60.2)	25.2 (12.4-44.5)	28.5 (18.9-40.6)
$50-74,9999	47.5 (35.3-60.0)	24.9 (17.0-34.8)	27.7 (17.9-40.1)
$75,000+	54.0 (46.3-61.5)	22.4 (18.2-30.0)	22.4 (15.8-30.9)

Data table for figure 23. Asthma control among adults with current asthma by region, New Mexico, 2007-2010. SOURCE: New Mexico BRFSS Call-back Surveys, 2007-2010.

Region	Well-controlled % (95% CI)	Not well-controlled % (95% CI)	Very poorly controlled % (95% CI)
Northwest	49.4 (39.4-59.4)	27.0 (18.9-37.0)	23.6 (16.7-32.2)
Northeast	46.4 (36.1-57.0)	25.5 (18.3-34.4)	28.0 (18.3-40.4)
Metro	51.7 (43.4-59.8)	23.9 (17.8-31.2)	24.5 (18.2-32.1)
Southeast	41.0 (32.0-50.7)	20.7 (14.4-29.0)	38.2 (29.5-47.8)
Southwest	44.5 (34.8-54.6)	24.8 (17.9-33.2)	30.8 (21.5-42.0)

Data table for figure 24. Medication use among adults and children (0-17 years of age) with current asthma in the past three months, New Mexico, 2007-2010. SOURCE: New Mexico BRFSS Call-back Surveys, 2007-2010.

Type of medication	Adults % (95% CI)	Children % (95% CI)
ICS	41.8 (37.1-46.7)	29.6 (22.2-38.3)
SABA	60.5 (55.8-65.0)	51.2 (42.3-60.0)

Data table for figure 25. Use of inhaled corticosteroids among adults and children (0-17 years of age) with current asthma by asthma control status, New Mexico, 2007-2010. SOURCE: New Mexico BRFSS Call-back Surveys, 2007-2010.

Asthma control status	Adults % (95% CI)	Children % (95% CI)
Well-controlled	30 (23.5-37.5)	23.7 (14.5-36.4)
Not well-controlled	44.6 (35.9-53.7)	23.9 (13.6-39.3)
Very poorly controlled	59.9 (51.0-68.2)	50.1 (31.6-68.6)

Appendices

Data table for figure 26. Number of routine checkups for asthma in the past 12 months among adults and children with current asthma, New Mexico, 2007-2010. SOURCE: New Mexico BRFSS Call-back Surveys, 2007-2010.

Number of routine checkups in past 12 months	Adults % (95% CI)	Children % (95% CI)
0	46.6 (41.9-51.4)	39.0 (31.1-47.4)
1	21.6 (18.2-25.5)	25.8 (19.4-33.5)
≥2	31.8 (27.4-36.4)	35.2 (27.6-43.6)

Data table for figure 27. Adults with and without current asthma who have received the influenza vaccine in the past 12 months by age group, New Mexico, 2011-2012. SOURCE: New Mexico BRFSS, 2011-2012.

Age group	Current asthma % (95% CI)	No current asthma % (95% CI)
18-44	38.7 (33.6-44.0)	29.0 (27.4-30.7)
45-64	47.5 (43.0-52.1)	36.9 (35.4-38.4)
65+	61.0 (55.8-66.0)	57.6 (55.9-59.4)
All ages	46.1 (43.1-49.3)	37.1 (36.1-38.1)

Data table for figure 28. Perceived health status among adults with and without current asthma, New Mexico, 2011-2012. SOURCE: New Mexico BRFSS, 2011-012.

Perceived health status	Current asthma % (95% CI)	No current asthma % (95% CI)
Excellent/very good	34.7 (31.8-37.7)	47.1 (46.1-48.1)
Good	32.0 (29.2-35.0)	33.8 (32.8-34.8)
Fair/poor	33.3 (30.6-36.0)	19.1 (18.3-19.1)

Data table for figure 29. Asthma ED visit by year, New Mexico, 2010-2012. SOURCE: NMDOH ED data, 2010-2012.

Year	ED visit rate per 10,000 % (95% CI)	Total ED visits (#)
2010	37.3 (36.4-38.1)	7,508
2011	35.7 (34.9-36.5)	7,285
2012	40.7 (39.8-41.6)	8,297

Appendices

Data table for figure 30. Asthma ED visit rates by age and sex, New Mexico, 2010-2012. SOURCE: NMDOH ED data, 2010-2012.

Age group	Male ED visit rate per 10,000 % (95% CI)	Total male ED visits (#)	Female ED visit rate per 10,000 % (95% CI)	Total Female ED visits (#)
0-4 years	85.6 (81.7-89.4)	1,906	46.8 (43.9-49.7)	997
5-14 years	74.9 (72.3-77.4)	3,257	47.8 (45.7-49.9)	2,014
15-24 years	33.9 (32.2-35.6)	1,521	46.8 (44.7-48.8)	2,001
25-44 years	22.7 (21.6-23.7)	1,777	49.4 (47.8-50.9)	3,805
45-64 years	15.5 (14.6-16.3)	1,245	33.1 (31.9-34.3)	2,823
65+ years	14.9 (13.7-16.1)	576	24.1 (22.7-25.5)	1,140

Data table for figure 31. Estimated rate of asthma ED visits among adults and children (0-17 years of age) with asthma, New Mexico, 2011-2012. SOURCE: NMDOH ED data, 2011-2012; New Mexico BRFSS, 2011-2012.

	ED visit rate per 100 people with current asthma
Adults	3.1
Children	6.4

Data table for figure 32. Asthma ED visit rates by county, New Mexico, 2010-2012. SOURCE: NMDOH ED data, 2010-2012.

County	Rate per 10,000 population %(95% CI)	Number of ED Visits (#)
Bernalillo	33.0 (32.2-33.8)	6,500
Catron	14.5 (4.8-24.3)	12
Chaves	63.8 (60.1-67.4)	1,221
Cibola	39.8 (35.4-44.2)	317
Colfax	31.2 (25.2-37.2)	111
Curry	62.7 (58.8-66.7)	968
De Baca	10.3 (1.0-19.5)	6
Dona Ana	25.6 (24.4-26.9)	1,625
Eddy	74.5 (70.2-78.7)	1,192
Grant	61.6 (55.8-67.5)	470
Guadalupe	24.6 (15.9-33.3)	32
Harding	9.2 (0.0-27.2)	1
Hidalgo	18.1 (11.0-25.3)	26

Lea	60.0 (56.6-63.4)	1,239
Lincoln	42.2 (36.2-48.2)	213
Los Alamos	21.4 (17.1-25.7)	103
Luna	36.6 (32.1-41.1)	269
McKinley	48.7 (45.8-51.6)	1,128
Mora	27.8 (18.4-37.2)	36
Otero	38.2 (35.4-41.0)	731
Quay	112.2 (98.2-126.2)	256
Rio Arriba	44.9 (41.0-48.8)	517
Roosevelt	46.1 (40.6-51.6)	280
Sandoval	14.8 (13.6-16.0)	580
San Juan	36.7 (34.8-38.6)	1,455
San Miguel	42.4 (37.8-47.0)	345
Santa Fe	32.9 (31.1-34.7)	1,332
Sierra	88.6 (76.8-100-4)	295
Socorro	70.4 (63.0-77.8)	361
Taos	55.8 (50.7-60.9)	495
Torrance	25.1 (20.3-29.8)	110
Union	37.2 (25.9-48.5)	43
Valencia	14.7 (13.1-16.3)	335
Unknown	-	486

Data table for figure 33. Youth (0-14 years old) asthma ED visit rates by county, New Mexico, 2010-2012. SOURCE: NMDOH ED data, 2010-2012.

County	Rate per 10,000 population %(95% CI)	Number of ED Visits (#)
Bernalillo	53.8 (51.5-56.1)	2,161
Catron	7.3 (0.0-21.7)	1
Chaves	78.0 (70.0-86.1)	358
Cibola	55.8 (44.5-67.1)	93
Colfax	59.1 (40.9-77.4)	40
Curry	123.3 (111.8-134.8)	437
De Baca	9.1 (0.0-27.0)	1
Dona Ana	38.3 (35.0-41.5)	525
Eddy	129.8 (118.0-141.7)	454
Grant	62.0 (49.8-74.3)	98
Guadalupe	56.3 (26.9-85.7)	14
Harding	-	0
Hidalgo	17.0 (2.1-32.0)	5
Lea	108.9 (99.7-118.0)	534

Appendices

Lincoln	61.8 (45.9-77.7)	58
Los Alamos	20.0 (11.5-28.6)	21
Luna	57.7 (45.8-69.0)	93
McKinley	118.2 (109.2-127.2)	650
Mora	32.1 (9.9-54.3)	8
Otero	66.8 (58.8-74.8)	267
Quay	207.0 (166.5-247.6)	98
Rio Arriba	78.0 (67.0-89.1)	190
Roosevelt	81.1 (65.9-96.3)	108
Sandoval	22.6 (19.5-25.8)	199
San Juan	72.1 (66.7-77.5)	676
San Miguel	61.0 (48.5-73.4)	92
Santa Fe	46.9 (42.0-51.8)	351
Sierra	117.6 (86.7-148.5)	55
Socorro	117.9 (97.3-138.6)	124
Taos	88.2 (74.0-102.4)	147
Torrance	33.1 (21.5-44.8)	31
Union	95.4 (65.8-136.0)	21
Valencia	29.7 (24.9-34.5)	147
Unknown	-	118

Data table for figures 34 & 35. Total asthma hospitalizations and hospitalization rates by year, New Mexico, 2000-2012. SOURCE: NMDOH hospitalization data, 2000-2012.

Year	ED visit rate per 10,000 (primary diagnosis) % (95% CI)	Total hospitalizations (primary diagnosis) (#)	ED visit rate per 10,000 (secondary diagnosis) % (95% CI)	Total hospitalizations (secondary diagnosis) (#)
2000	8.2 (7.8-8.6)	1,505	27.6 (26.8-28.3)	4,935
2001	8.8 (8.4-9.2)	1,651	29.0 (28.2-29.8)	5,299
2002	9.8 (9.4-10.3)	1,865	30.5 (29.8-31.3)	5,665
2003	10.2 (9.8-10.7)	1,962	32.8 (32.0-33.6)	6,176
2004	9.7 (9.2-10.1)	1,877	35.4 (34.6-36.3)	6,790
2005	9.8 (9.4-10.2)	1,925	40.1 (39.2-41.0)	7,797
2006	8.9 (8.4-9.3)	1,770	38.9 (38.0-39.7)	7,709
2007	8.5 (8.1-8.9)	1,730	39.8 (38.9-40.6)	7,986
2008	9.3 (8.8-9.7)	1,889	42.0 (41.1-42.9)	8,536
2009	9.8 (9.3-10.2)	2,006	44.7 (43.8-45.6)	9,214
2010	8.5 (8.1-8.9)	1,765	45.3 (44.4-46.2)	9,495
2011	7.7 (7.4-8.1)	1,626	44.5 (43.6-45.4)	9,485

2012	8.8 (8.4-9.2)	1,858	42. (41.3-43.1)	9,057

Data table for figure 36. Asthma hospitalization rates by age and sex, New Mexico, 2010-2012. SOURCE: NMDOH hospitalization data, 2010-2012.

Age group	Male hospitalization rate per 10,000 % (95% CI)	Total male hospitalization visits (#)	Female hospitalization rate per 10,000 % (95% CI)	Total female hospitalization visits (#)
0-4 years	30.8 (28.5-33.1)	686	17.8 (16.0-19.6)	380
5-14 years	14.9 (13.7-16.0)	647	9.9 (9.0-10.9)	419
15-24 years	2.4 (2.0-2.9)	109	3.3 (2.7-3.8)	140
25-44 years	2.4 (2.1-2.7)	188	6.8 (6.2-7.4)	526
45-64 years	4.2 (3.8-4.7)	340	10. (9.6-11.0)	880
65+ years	7.3 (6.4-8.2)	282	13.8 (12.8-14.9)	652

Data table for figure 37. Estimated rate of asthma hospitalizations among adults and children (0-17 years of age) with asthma, New Mexico, 2011. SOURCE: NMDOH hospitalization data, 2011; New Mexico BRFSS, 2011.

	ED visit rate per 100 people with current asthma
Adults	0.7
Children	1.6

Data table for figure 38. Asthma hospitalizations by primary payer, New Mexico, 2010-2012. SOURCE: NMDOH hospitalization data, 2010-2012.

Principal Payer	Total hospitalizations (#)	Percent of hospitalizations (%)
Medicare	1,194	22.7
Medicaid	1,856	35.4
Private insurance	1,177	22.4
Self pay	334	6.4
Charity	66	1.3
Other	622	11.8

Appendices

Data table for figure 39. Asthma hospitalization rates by county, New Mexico, 2008-2012. SOURCE: NMDOH hospitalization data, 2008-2012.

County	Rate per 10,000 population %(95% CI)	Number of hospitalizations (#)
Bernalillo	7.4 (7.1-7.7)	2,418
Catron	3.4 (0.7-6.1)	9
Chaves	10.4 (9.3-11.6)	350
Cibola	9.3 (7.7-11.0)	127
Colfax	13.6 (10.8-16.4)	101
Curry	21.8 (20.0-23.7)	553
De Baca	6.3 (1.6-11.1)	8
Dona Ana	7.5 (7.0-8.0)	773
Eddy	14.6 (13.2-16.1)	401
Grant	9.2 (7.5-10.8)	146
Guadalupe	5.2 (2.4-8.0)	14
Harding	7.7 (0.0-18.7)	3
Hidalgo	6.8 (3.6-9.9)	18
Lea	17.6 (16.2-19.0)	627
Lincoln	5.9 (4.4-7.4)	73
Los Alamos	3.9 (2.6-5.2)	36
Luna	8.5 (6.9-10.1)	122
McKinley	6.1 (5.3-6.9)	226
Mora	21.0 (15.3-26.8)	56
Otero	9.9 (8.9-11.0)	343
Quay	10.7 (7.5-13.8)	48
Rio Arriba	9.9 (8.5-11.2)	203
Roosevelt	11.7 (9.5-13.8)	115
Sandoval	5.8 (5.2-6.4)	387
San Juan	8.8 (8.0-9.5)	592
San Miguel	8.9 (7.4-10.5)	141
Santa Fe	6.9 (6.3-7.5)	500
Sierra	12.8 (10.2-15.5)	127
Socorro	8.4 (6.5-10.4)	73
Taos	11.4 (9.7-13.1)	182
Torrance	6.2 (4.4-8.0)	50
Union	11.1 (6.6-15.6)	25
Valencia	7.6 (6.7-8.5)	297

Appendices

Data table for figure 40. Youth (0-14 years old) asthma hospitalization rates by county, New Mexico, 2008-2012. SOURCE: NMDOH hospitalization data, 2008-2012.

County	Rate per 10,000 population %(95% CI)	Number of hospitalizations (#)
Bernalillo	16.4 (15.4-17.4)	1,088
Catron	-	0
Chaves	13.7 (11.0-16.3)	104
Cibola	19.2 (14.1-24.3)	54
Colfax	10.4 (4.5-16.3)	12
Curry	55.0 (49.0-61.0)	323
De Baca	10.8 (0.0-25.7)	2
Dona Ana	9.3 (8.1-10.6)	213
Eddy	24.5 (20.5-28.5)	143
Grant	7.4 (4.2-10.7)	20
Guadalupe	4.8 (0.0-11.4)	2
Harding	-	0
Hidalgo	13.7 (3.6-23.9)	7
Lea	54.6 (49.6-59.7)	440
Lincoln	4.4 (1.2-7.7)	7
Los Alamos	6.3 (2.6-10.0)	11
Luna	5.9 (3.0-8.7)	16
McKinley	12.2 (10.0-14.5)	114
Mora	30.6 (14.0-47.1)	13
Otero	10.1 (7.7-12.6)	68
Quay	18.6 (9.2-28.0)	15
Rio Arriba	18.2 (14.1-22.3)	75
Roosevelt	24.8 (18.3-31.4)	55
Sandoval	10.4 (8.7-12.1)	150
San Juan	19.4 (17.2-21.6)	303
San Miguel	9.7 (5.9-13.5)	25
Santa Fe	12.0 (10.1-13.9)	150
Sierra	3.7 (0.0-8.0)	3
Socorro	15.8 (10.0-21.6)	28
Taos	24.7 (18.8-30.5)	69
Torrance	10.6 (5.6-15.6)	17
Union	18.6 (4.8-32.4)	7
Valencia	17.8 (14.9-20.6)	147

Appendices

Data table for figure 41. Asthma prevalence among New Mexico Medicaid Enrollees, New Mexico, 2003-2011. SOURCE: NMHSD Medicaid data, 2003-2011.

Year	Asthma Prevalence (%)	Persistent Asthma Prevalence (%)
2003	15.0	4.2
2004	13.1	3.8
2005	16.1	4.6
2006	15.3	4.5
2007	13.1	3.9
2008	11.5	3.0
2009	15.3	4.0
2010	15.1	4.0
2011	14.4	3.8

Data table for figure 42. Asthma prevalence among Medicaid enrollees by sex and age group, New Mexico, 2010-2011. SOURCE: NMHSD Medicaid data, 2010-2011.

Age group	Male prevalence (%)	Total males with asthma (#)	Female prevalence (%)	Total females with asthma (#)
0-4 years	21.6	16,152	16.9	12,232
5-14 years	16.8	25,254	13.3	19,227
15-19 years	12.2	5,977	12.5	6,406
20-44 years	9.6	3,799	10.4	14,201
45-64 years	12.8	3,949	20.8	10,398

Data table for figure 43. Persistent asthma prevalence among Medicaid enrollees by sex and age group, New Mexico, 2010-2011. SOURCE: NMHSD Medicaid data, 2010-2011.

Age group	Male prevalence (%)	Total males with persistent asthma (#)	Female prevalence (%)	Total females with persistent asthma (#)
0-4 years	3.3	2,477	2.0	1,427
5-14 years	4.8	7,254	3.1	4,524
15-19 years	3.3	1,622	2.8	1,450
20-44 years	3.1	1,219	2.9	4,003
45-64 years	6.3	1,953	10.0	4,993

Appendices

Data table for figure 44. Persistent asthma prevalence among Medicaid enrollees by race/ethnicity, New Mexico, 2010-2011. SOURCE: NMHSD Medicaid data, 2010-2011.

Race/ethnicity	Prevalence (%)	Total with persistent asthma (#)
Hispanic	3.4	15,742
White	5.3	8,802
Native American	2.7	3,595
African American	5.9	875

Data table for figure 45. Persistent asthma prevalence among Medicaid enrollees by county, New Mexico 2010-2011. SOURCE: NMHSD Medicaid data, 2010-2011.

County	Prevalence (%)	Total with persistent asthma (#)
Bernalillo	3.6	8430
Catron	2.9	23
Chaves	5.5	1832
Cibola	2.9	325
Colfax	3.9	240
Curry	5.7	1141
De Baca	6.4	45
Dona Ana	3.9	4985
Eddy	5.5	1025
Grant	4.1	414
Guadalupe	3.2	56
Harding	5.5	5
Hidalgo	4.3	70
Lea	4.2	837
Lincoln	4.0	258
Los Alamos	3.7	26
Luna	3.0	375
McKinley	2.5	1075
Mora	4.1	63
Otero	4.3	692
Quay	7.1	256
Rio Arriba	3.5	671
Roosevelt	6.7	463
Sandoval	3.1	1430
San Juan	4.0	543
San Miguel	3.9	2149
Santa Fe	3.1	953

Sierra	5.5	211
Socorro	5.4	386
Taos	4.7	498
Torrance	3.8	302
Union	5.1	49
Valencia	4.2	1094

Data table for figure 46 & 47. Asthma ED visit rates among Medicaid enrollees by year, age group, and race/ethnicity, New Mexico, 2010-2011. SOURCE: NMHSD Medicaid data, 2010-2011.

	Rate per 10,000 enrollees in 2010 % (95% CI)	Total ED visits in 2010 (#)	Rate per 10,000 enrollees in 2011 % (95% CI)	Total ED visits in 2011 (#)
Age group				
0-4 years	86.7 (80.1-93.4)	651	74.8 (68.5-81.1)	539
5-14 years	80.8 (76.2-85.5)	1,169	71.8 (67.6-76.1)	1,080
15-19 years	60.4 (53.6-67.2)	301	56.0 (49.5-62.5)	281
20-44 years	66.9 (61.5-72.3)	582	51.6 (46.9-56.3)	462
45-64 years	60.7 (53.2-68.3)	247	48.4 (41.6-55.2)	194
Race/ethnicity				
Hispanic	68.5 (65.2-71.9)	1,574	58.2 (55.1-61.3)	1,355
White	72.3 (66.5-78.1)	597	62.1 (56.8-67.5)	513
Native American	78.0 (71.3-84.8)	514	70.0 (63.6-76.3)	463
African American	169.5 (140.3-198.7)	127	118.1 (93.3-143.0)	86

Appendices

Data table for figure 48 & 49. Asthma hospitalization rates among Medicaid enrollees by year, age group, and race/ethnicity, New Mexico, 2010-2011. SOURCE: NMHSD Medicaid data, 2010-2011.

	Rate per 10,000 enrollees in 2010 % (95% CI)	Total hospitalizations in 2010 (#)	Rate per 10,000 enrollees in 2011 % (95% CI)	Total hospitalizations in 2011 (#)
Age group				
0-4 years	36.1 (8.24-91.0)	271	31.2 (70.8-78.9)	225
5-14 years	80.8 (78.6-83.1)	279	16.8 (69.8-73.9)	252
15-19 years	6.8 (58.1-62.7)	34	6.2 (53.8-58.2)	31
20-44 years	8.6 (64.9-68.8)	75	6.8 (49.9-53.4)	61
45-64 years	60.7 (56.1-65.4)	94	19.5 (44.1-52.7)	78
Race/ethnicity				
Hispanic	13.8 (12.3-15.3)	317	14.0 (12.5-15.6)	327
White	18.0 (15.2-21.0)	149	12.6 (10.2-15.0)	104
Native American	31.1 (26.9-35.4)	205	22.0 (18.4-25.5)	145
African American	38.7 (24.6-52.8)	29	12.0 (15.5-39.5)	20

Data table for figure 50. Percent of Medicaid enrollees with persistent asthma who filled ≥1 prescription by medication type, New Mexico, 2010-2011. SOURCE: NMHSD Medicaid data, 2010-2011.

Type of medication	Prevalence (%)	Total (#)
Short-acting beta2-agonist	94.5	29,214
Long-term controller medication	36.2	11,999
Inhaled corticosteroid	25.1	7,775

Data table for figure 51. Percent of Medicaid enrollees with persistent asthma who filled ≥1 prescription for an inhaled corticosteroid by sex and age group, New Mexico, 2010-2011. SOURCE: NMHSD Medicaid data, 2010-2011.

Age group	Male prevalence (%)	Total males (#)	Female prevalence (%)	Total females (#)
0-4 years	3.8	95	72	5.0
5-14 years	20.1	1,460	816	18.0
15-19 years	34.1	553	423	29.2
20-44 years	30.4	371	1,259	31.5
45-64 years	38.5	751	1,975	39.6
All ages	22.2	3,230	4,545	27.7

Appendices

Data table for figure 52. Percent of Medicaid enrollees with persistent asthma who filled ≥1 prescription for an inhaled corticosteroid by race/ethnicity, New Mexico, 2010-2011. SOURCE: NMHSD Medicaid data, 2010-2011.

Race/ethnicity	Prevalence (%)	Total (#)
Hispanic	23.3	3,666
White	29.2	2,571
Native American	21.5	774
African American	25.3	221

Data table for figure 53. Percent of Medicaid enrollees with persistent asthma who filled ≥1 prescription for an inhaled corticosteroid by region, New Mexico, 2010-2011. SOURCE: NMHSD Medicaid data, 2010-2011.

Region	Prevalence (%)	Total (#)
Northwest	19.2	542
Northeast	20.7	643
Metro	22.8	2,736
Southeast	25.1	1,469
Southwest	33.3	2,385

Data table for figure 54 & 55. Asthma mortality rates by year, New Mexico and U.S., 1980-2012. SOURCE: NM Office of Vital Records and Statistics, 1990-2012; CDC Wonder, 1980-2010.

Year	Rate per 100,000 population in New Mexico % (95% CI)	Total NM Deaths (#)	Rate per 100,000 population in U.S. % (95% CI)	Total U.S. Deaths (#)
1980	2 (1.2-3.1)	21	1.4 (1.4-1.5)	2,891
1981	2.9 (1.9-4.3)	28	1.5 (1.4-1.5)	3,054
1982	2.8 (1.8-4.0)	29	1.5 (1.4-1.5)	3,154
1983	2.8 (1.9-4.1)	29	1.7 (1.6-1.7)	3,561
1984	3.3 (2.3-4.7)	36	1.6 (1.6-1.7)	3,564
1985	2.7 (1.8-3.9)	30	1.8 (1.7-1.8)	3,880
1986	3.3 (2.3-4.6)	36	1.8 (1.7-1.8)	3,955
1987	3.1 (2.2-4.3)	39	1.9 (1.9-2.0)	4,360
1988	2.4 (1.6-3.5)	28	2.0 (2.0-2.1)	4,597
1989	2.0 (1.3-2.9)	27	2.1 (2.0-2.2)	4,869
1990	3.5 (2.5-4.7)	44	2.0 (2.0-2.1)	4,819
1991	2.6 (1.8-3.6)	35	2.1 (2.1-2.2)	5,106
1992	2.6 (1.8-3.6)	34	2.0 (2.0-2.1)	4,964
1993	2.8 (2.0-3.8)	40	2.1 (2.0-2.1)	5,167

1994	3.1 (2.3-4.2)	45	2.2 (2.1-2.2)	5,487
1995	2.6 (1.8-3.6)	38	2.2 (2.1-2.3)	5,637
1996	2.0 (1.4-2.8)	31	2.2 (2.1-2.2)	5,667
1997	2.4 (1.7-3.3)	39	2.0 (2.0-2.1)	5,434
1998	2.8 (2.1-3.8)	46	2.0 (2.0-2.1)	5,438
1999	1.9 (1.2-2.5)	31	1.5 (1.5-1.6)	4,172
2000	2 (1.3-2.6)	33	1.5 (1.4-1.5)	4,040
2001	1.8 (1.2-2.5)	32	1.4 (1.3-1.4)	3,897
2002	1.6 (1.0-2.2)	29	1.4 (1.3-1.4)	3,910
2003	1.5 (1.0-2.1)	28	1.3 (1.3-1.3)	3,779
2004	1.5 (0.9-2.0)	28	1.2 (1.2-1.2)	3,523
2005	1.0 (0.6-1.5)	20	1.2 (1.2-1.2)	3,591
2006	1.2 (0.7-1.7)	23	1.1 (1.1-1.1)	3,365
2007	1.5 (1.0-2.0)	30	1.0 (1.0-1.1)	3,188
2008	0.8 (0.4-1.2)	17	1.0 (1.0-1.0)	3,131
2009	0.7 (0.4-1.1)	16	1.0 (0.9-1.0)	3,145
2010	1.0 (0.6-1.5)	22	1.0 (0.9-1.0)	3,135
2011	1.2 (0.7-1.6)	27	-	-
2012	1.2 (0.7-1.6)	26	-	-

Data table for figure 56. Asthma mortality rates by sex and age group, New Mexico and U.S., 2005-2012. SOURCE: NM Office of Vital Records and Statistics, 2005-2012.

Age group	Male mortality rate per 100,000 % (95% CI)	Total male asthma deaths (#)	Female mortality rate per 100,000 (%)	Total female asthma deaths (#)
<35	0.2 (0.05-.35)	9	0.2 (0.06-.34)	7
35-64	0.7 (0.4-1.0)	22	1.2 (0.8-1.6)	38
65+	3.4 (2.2-4.6)	33	6.1 (4.7-7.5)	72

Data table for figure 57. Asthma mortality rates by race/ethnicity, New Mexico, 2005-2012. SOURCE: NM Office of Vital Records and Statistics, 2005-2012.

Race/ethnicity	Mortality rate per 100,000 % (95% CI)	Total asthma deaths (#)
Hispanic	0.8 (0.6-1.1)	49
White	1.2 (1.0-1.5)	112
Native American	1.1 (0.4-1.9)	10
African American	2.6 (0.9-4.2)	9

Appendices

Data table for figure 58. Asthma mortality rates by region, New Mexico and U.S., 2005-2012. SOURCE: NM Office of Vital Records and Statistics, 2005-2012.

Region	Mortality rate per 100,000 (%)	Total asthma deaths (#)
Northwest	0.9 (0.4-1.4)	14
Northeast	1.0 (0.6-1.4)	27
Metro	1.0 (0.8-1.3)	73
Southeast	1.3 (0.8-1.8)	29
Southwest	1.2 (0.8-1.6)	38

Data table for figure 59. Estimated asthma mortality rate among adults (>17 years of age) with asthma, New Mexico, 2000-2012. SOURCE: NM Office of Vital Records and Statistics, 2005-2012.

Year	Mortality rate per 100,000 people with current asthma
2000	36.2
2001	34.6
2002	26.3
2003	29.1
2004	20.6
2005	14.9
2006	17.0
2007	22.6
2008	13.4
2009	11.5
2010	14.0
2011	16.6
2012	18.0

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