

Nevada Statewide Asthma Control Plan



2015-2018

STATE OF NEVADA

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Dear Nevada Citizens:

The Nevada Division of Public and Behavioral Health, in collaboration with the Nevada Statewide Asthma Coalition, is very pleased to present this first ever Nevada Statewide Asthma Control Plan. This plan was developed with the vital cooperation and collaboration of community and state agencies and organizations, public health districts, school systems, government agencies, university researchers, individuals with asthma, and many others. The Nevada Division of Public and Behavioral Health would like to express our gratitude for the time and effort extended by the many individuals and organizations that participated in developing this plan, with special thanks to the Foundation for Positively Kids for organizing this effort.

According to the National Heart, Blood, and Lung Institute, “Asthma is a chronic lung disease that inflames and narrows the airways. Asthma causes recurring periods of wheezing, chest tightness, shortness of breath, and coughing, which most often occurs at night or early in the morning. Asthma affects people of all ages, but it most often starts during childhood.

In Nevada, asthma, especially among our children, is a critical, chronic health problem. As of 2010, the Trust for America’s Health reports asthma prevalence of nearly fifteen percent (14.5%) for Nevada adults who report having been told they currently have asthma. However, data reported in 2013, from a statewide study of children entering kindergarten in Nevada reveals asthma is the most common medical condition reported by 7,833 parents surveyed for the 2012-2013 study. Nearly eight percent (7.5%) of kindergartners reported having asthma. Other data reveals school-aged youth with asthma rates ranging from as low as 9.1 to as high as 16 percent in Clark County in 2010.

The work of the Nevada Statewide Asthma Coalition has brought vitally needed attention to this crucial public health problem through the publication and dissemination of our first Nevada Statewide Asthma Control Plan. We are pleased that our plan outlines effective measures that can help reduce the health and financial burden of asthma among Nevada’s adults and children. We look forward to continuing to partner with you to implement the vision of our plan.

Sincerely,

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EXECUTIVE SUMMARY

Asthma is a growing and critical chronic disease affecting millions of Nevada’s adults and children. In 2010 asthma prevalence among Nevada adults was 14.5 percent, higher than the nationwide rate of 13.8 percent (Nevada BRFSS, 2010). Asthma continues to be the leading chronic disorder among our children, with over 659,000 children having been told they had asthma as of 2012. Our dry climate, dust and quick temperature changes all contribute to our high asthma rates.

Asthma is a chronic (long-term) lung disease that inflames and narrows the airways. Asthma causes recurring periods of wheezing (a whistling sound when you breathe), chest tightness, shortness of breath, and coughing. Children and adults that have ongoing asthma symptoms can be at risk for poorer health outcomes, including hospitalizations and death. Asthma morbidity poses a significant personal and societal burden despite the availability of effective medications to manage the disease. Many children needing preventive medications do not receive them. Minority children and children in poverty have a greater burden from asthma compared with white, more socioeconomically advantaged children, and the same children are less likely to receive adequate treatment and to have family or community support for their asthma management.

For some time Nevada healthcare providers, public health professionals, researchers, parents, schools, and many other organizations have recognized a need for a more formal, statewide system to address the needs of children with asthma. However, the extreme impact of the national recession on Nevada has precluded all but the most limited focus on this health issue. Thus, we have not had a statewide “asthma plan”, nor an organized approach to meeting the needs of children and adults for whom asthma is a chronic health problem.

Organizing for Change

In late 2012, the Foundation for Positively Kids, Inc., a non-profit children’s health agency located in Las Vegas, Nevada, began seeking the designation of a Patient Centered Medical Home for its children’s clinical healthcare services. As a part of that effort, the agency began identifying children with chronic diseases including diabetes, obesity and asthma. The rising concern over children with asthma led to convening a group of community professionals concerned with children’s health and the high rates of asthma among Nevada’s children and adults. From an initial meeting of five or six organizations, the Nevada Statewide Asthma Coalition has grown to include over twenty-two individuals representing eighteen state and local community partner organizations. The Coalition secured support from Nevada’s State Health Officer, Dr. Tracey Green, and began meeting monthly to explore ways to organize a statewide effort to bring the need for asthma prevention and intervention services to the attention of Nevada’s public health policy makers. The group is also anxious to join other states by becoming part of the Centers for Disease Control and Prevention’s (CDC) National Asthma Control Program.

This *Nevada Statewide Asthma Control Plan* is the result of the work of Coalition members from across the state. This plan identifies the scope of the problem in Nevada and provides recommendations for asthma data collection and surveillance; evidence-based prevention and treatment options; school system and childcare facility interventions and supports, and public policy changes. With this plan, our work has just begun, and we will need to continue to move forward in helping Nevada’s children and adults better prevent and/or manage the public health problem of asthma.

NEVADA STATEWIDE ASTHMA COALITION

MISSION: The mission of the Nevada Statewide Asthma Coalition is to serve as a powerful and continuing catalyst to raise the visibility of the disease of asthma and promote a statewide effort to reduce the burden of the disease on Nevada's children, adults, and families.

VISION: The Nevada Statewide Asthma Coalition will function as a viable and critical resource and advocate for healthcare providers, public policy-makers, schools, parents, children and families affected by asthma.

COALITION GOALS AND PURPOSES

The long range goals of the Nevada Statewide Asthma Coalition are to bring sufficient attention and resources to addressing the public health problem of asthma such that persons with asthma have access to the programs and services they need, and to facilitate access to state and national resources such as the Centers for Disease Control and Prevention's (CDC) National Asthma Control Program, which collaborates with states to improve the control of asthma among affected children, adults, and families. It is our plan to update the Nevada Statewide Asthma Control Plan at least every three years, as new information and new data becomes available.



THE BURDEN OF ASTHMA IN NEVADA

The burden of asthma falls not only on individuals with asthma. It also falls on our schools, our families, our neighborhoods, our workplaces, our cities, and our state. It falls on our health care system. It falls on all Nevadans, whether or not we have asthma, because that burden results in higher health insurance rates, with lost productivity, and with our tax dollars (CDC National Asthma Control Program, 2011).

The National Center for Environmental Health reports that 1 in 11 children have asthma and 1 in 2 adults have asthma. Multi-race and black adults are more likely to have asthma than white adults. Black children are 2 times more likely to have asthma than white children.

The State of Nevada is home to over 2.7 million residents of all racial and ethnic backgrounds. Non-White populations are over 23 percent of residents and nearly a quarter of residents are children under the age of 18. With 17 counties, the largest population centers are located in Washoe County in the north and Clark County in the south. Remaining counties in the state are considered rural and/or frontier with much smaller populations.

To plan for effectively addressing asthma in Nevada, it is important to fully understand the scope of this chronic disease and its impact on our children and adults. To increase our understanding, we review a variety of objective data sources that details the extent of asthma in Nevada and identify specific populations with, or most at risk for, asthma. Later, we discuss needs to improve data collection and surveillance activities related to asthma for both adults and children.

Currently, Nevada does not have a designated asthma data collection, analysis or reporting entity. Data collected is from a combination of state agencies, universities and local health districts. Data sources below provide the most recent information available to characterize asthma in Nevada.

- *Southern Nevada Health District (SNHD) – Chronic Disease Snapshot: Asthma. Impact on Southern Nevada 2011.* This Office of Epidemiology report provides local/state asthma data.
- *2011 Nevada Behavior Risk Factor Surveillance System (BRFSS) for Adults –* This data is collected by the School of Community Health Sciences at the University of Nevada Las Vegas in Southern Nevada and by the University of Nevada Reno in Northern Nevada. Aggregate data is sent annually to the CDC for weighting.
- *2013 Youth Risk Behavior Survey (YRBS) -* This annual high school survey is conducted statewide and data is available by county. The YRBS asks two questions relative to asthma.
- *Childhood Asthma Module within BRFSS –* The School of Community Health Sciences produces a childhood asthma module that collects statewide data on children with asthma.
- *Adult Asthma Call-Back –* Nevada participates in the CDC Asthma Call Back program which conducts telephone surveys of adults who indicate they have asthma in the BRFSS survey.
- *Hospital Discharge Data -* Hospital discharge data is available for Clark County. Respiratory and related discharges are provided for the years 2009-2011.

Children with Asthma in Nevada

In 2012, in Nevada, over 24 percent of the total population was children under the age of 18 representing over 663,000 children. Data from Nevada's 2013 Youth Risk Behavior Risk Survey (YRBS) shows how asthma is impacting high school students in Nevada.

Percentage of high school students who had asthma, by sex, age, grade, race/ethnicity and region – Nevada, Youth Risk Behavior Survey, 2013

		Yes			No		
		N	% +	C.I. (95%)	N	% +	C.I. (95%)
Overall Total	Total	865	24.0 %	(22.0-25.9)	2,908	76.0%	(74.1-78.0)
Sex	Female	441	23.3%	(19.8-24.9)	1,523	77.7%	(75.1-80.2)
	Male	424	25.7%	(22.8-28.5)	1,385	74.3%	(71.5-77.2)
Age	14 years or <	93	26.2%	(20.5-32.0)	289	73.8%	(68.0-79.5)
	15 years old	214	22.3%	(18.6-26.0)	711	77.7%	(74.0-81.4)
	16 years old	234	22.8%	(19.3-26.3)	864	77.2%	(73.7-80.7)
	17 years old	209	24.5%	(20.5-28.6)	670	75.5%	(71.4-79.5)
	18 years or older	114	26.9%	(20.1-31.7)	379	74.1%	(68.3-79.9)
Grade	9th grade	200	25.9%	(21.9-30.0)	616	74.1%	(70.0-78.1)
	10th grade	248	20.9%	(17.6-24.1)	882	79.1%	(75.9-82.4)
	11th grade	217	25.3%	(21.3-29.3)	731	74.7%	(70.7-78.7)
	12th grade	190	23.6%	(19.5-27.8)	664	76.4%	(72.2-80.5)
Race/Ethnicity	Am. Indian/AN	29	45.4%	(29.8-61.0)	52	54.6%	(39.0-70.2)
	Asian	23	23.7%	(14.7-32.7)	96	76.3%	(67.3-85.3)
	Black/African American	45	30.2%	(21.9-38.5)	104	69.8%	(61.5-78.1)
	White	384	24.2%	(21.1-27.2)	1,277	75.8%	(72.8-78.9)
	Hispanic/Latino	280	20.4%	(17.5-23.2)	1,122	79.6%	(76.8-82.5)
	Other /Multiple	87	31.1%	(24.9-39.4)	192	67.9%	(60.6-75.1)
Region	Carson City & Douglas	72	20.7%	(16.4-25.0)	272	79.3%	(75.0-83.6)
	Elko, White Pine, & Eureka	98	26.0%	(21.4-30.6)	288	74.0%	(69.4-78.6)
	Churchill, Humboldt, Pershing, & Lander	119	30.4%	(25.8-35.0)	290	69.6%	(65.0-74.2)
	Lyon, Mineral & Storey	76	22.2%	(17.7-26.7)	266	77.8%	(73.3-82.3)
	Nye & Lincoln	41	19.9%	(14.2-25.6)	163	80.1%	(74.4-85.8)
	Washoe	178	17.8%	(15.4-20.3)	800	81.2%	(79.7-84.6)
	Clark	282	25.3%	(22.7-27.8)	836	74.7%	(72.2-77.3)

Of note from this statewide information is the fact that nearly a quarter of all high school students surveyed indicated they had asthma, with male students reporting asthma at slightly higher levels than female students. From the perspective of race/ethnicity, American Indian/Alaska Natives, Black/African American and Multiple Race categories had the highest rates of asthma. Regionally within the state, rural communities in Churchill, Humboldt, Pershing and Lander Counties (30.4%); followed by Elko, White Pine and Eureka Counties (26.0%) then followed by urban Clark County (25.3%) have the highest rates of asthma.

Adults with Asthma in Nevada

Asthma is not just a disease of children. The condition is increasingly prevalent among adults. From 2001 to 2011, the number of cases grew by almost 30% according to the CDC; currently about one in 12 Americans is diagnosed with the condition. In adult populations, asthma is often overlooked as a medical condition according to the Asthma and Allergy Foundation of America (AAFA). In children a significant risk factor for asthma is obesity, which increases the chances of developing asthma as an adult.

Data from the 2011 Nevada BRFSS shown below indicates that nearly 14 percent of Nevada adults have ever been told they have asthma. Among minority groups, black populations report adult asthma rates at nearly 21 percent (Nevada BRFSS 2011 Annual Report, 2013).

Respondents Who Had Ever Had Asthma by Demographics and Region

Demographic	Grouping	Yes	No
Statewide	Nevada	13.8 (12.2-15.4)	86.2 (84.6-87.8)
Geography	Clark County	13.7 (11.7-15.8)	86.3 (84.2-88.3)
	Washoe County	13.2 (10.7-15.7)	86.8 (84.3-89.3)
	Balance of State Rural/Frontier	15.0 (11.8-18.3)	85.0 (81.7-88.2)
Age	18-24	18.5 (12.6-24.3)	81.5 (75.5-87.4)
	25-34	19.3 (14.4-24.1)	80.7 (75.9-85.6)
	35-44	11.2 (7.9 -14.5)	88.8 (85.5-92.1)
	45-54	12.4 (9.1-15.7)	87.6 (84.3-90.9)
	55-64	12.4 (9.4 -15.4)	87.6 (84.6-92.4)
	65+	10.0 (7.6-12.4)	90 (87.6-92.4)
Sex	Male	12.8 (10.5- 15.2)	87.2 (84.8-89.5)
	Female	14.8 (12.7-17.0)	85.5 (83.0-87.2)
Race/Ethnicity	White	14.2 (12.3-16.1)	85.8 (83.9-87.7)
	Black	20.7 (13.3-28.2)	79.3 (71.8-86.7)
	Other Race	11.7 (7.5-15.8)	88.3 (84.2-92.5)
	Hispanic	12.0 (8.1-16.0)	88.0 (84.0-91.1)

Additional data from the 2011 BRFSS provides information on the relationship of asthma to income as shown in the chart below:

Prevalence of Asthma by Household Income

Household Income	Estimated Nevada Adults	Percent (95%CL)
<\$15,000	22,501	12.0 (7.4-16.6)
\$15,000- \$24,999	28,765	8.0 (5.1-10.9)
\$25,000 - \$34,999	20,792	9.9 (5.3-14.2)
\$35,000 – \$49,999	25,892	9.0 (6.2-12.1)
\$50,000 - \$74,999	39,157	6.1 (3.5-8.7)
\$75,000+	N/A	6.0 (3.7-8.3)

Source: BRFSS, 2011

Asthma in Clark County

In 2011, 20 Clark County resident deaths were attributable to asthma as the underlying or primary cause of death. Although the burden of mortality from asthma is relatively low, these deaths are of public health concern because they were preventable. Individuals ranged in age from 4 to 86 years. The most commonly affected age groups were 75-84 years (25%) and 5-14 years (20%). Females accounted for 65% of these deaths, while 50% were White, 30% Black, 15% Hispanic, and 5% Asian. It is interesting to note that morbidity is higher in men, but mortality is higher in women. Because Blacks accounted for only about 10% of the overall population, it is clear that Blacks bore a much higher than expected burden of mortality in Clark County. (SNHD Asthma Chronic Disease Snapshot, May, 2014).

Additionally, there were over 10,000 inpatient hospital stays by Clark County residents related to asthma in 2011. This includes hospitalizations with any diagnosis of asthma. Of these hospitalizations, 2,065 were for primary diagnoses of asthma. The most commonly affected age groups were 5-14 years (16.4%) and 45-54 years (15.8%). Female patients accounted for 58.1%, Whites 46.6%, and Blacks 27.9% of primary asthma hospitalizations, mirroring mortality. The median length of stay was 2.0 days and the median total charge for an asthma-related hospitalization was \$23,205.

Over 21,000 emergency department visits by Clark County residents were related to asthma in 2011. Of these visits, 7,487 resulted in a primary diagnosis of asthma and 55.0% of patients were ages 24 years or younger. Overall, 52.5% of patients were female, 36.2% White, 31.4% Black, 24.3% Hispanic, and 3.7% Asian. The patient was the primary payer for 25.0% of these visits, compared with 13.4% for hospitalizations with a primary diagnosis of asthma.

Asthma in Washoe County

Data from the 2012 BRFSS for Washoe County indicates that 12.1% of residents in the Reno-Sparks Metropolitan Statistical Area, encompassing Washoe County in Northern Nevada, have ever been told they have asthma. Nearly 8 percent (7.8%) of residents report having asthma currently. Information below, concerns hospitalizations as a result of asthma in Washoe County by zip code.

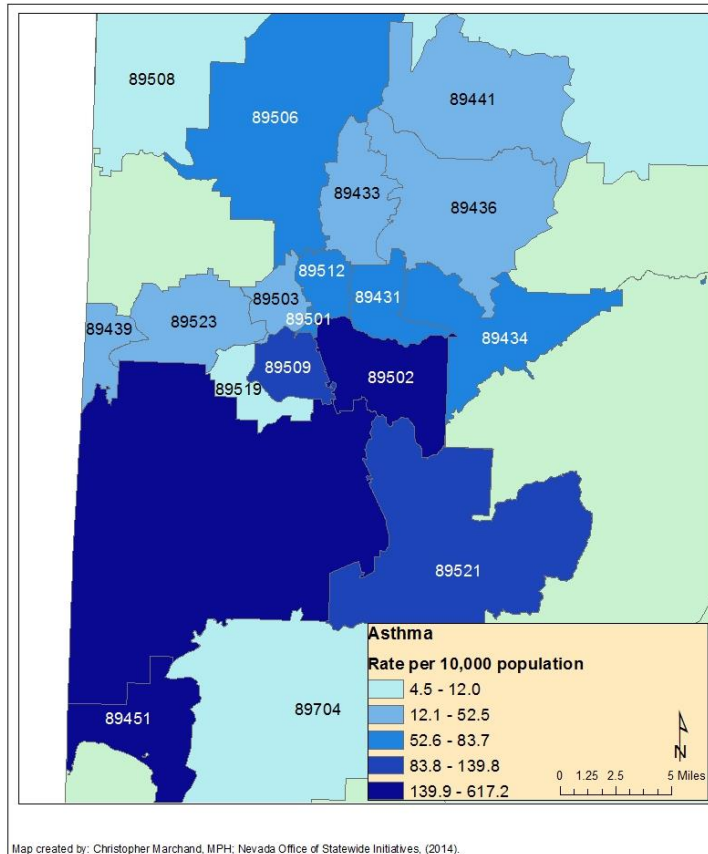
Washoe County Asthma Related Hospitalizations

Zip Code	#asthma hospitalizations	Percent of Total Population
89501	52	1.22
89512	190	0.74
89502	250	0.57
89431	226	0.62
89433	106	0.53
89503	127	0.46
89405	2	0.84
89509	163	0.49
89434	147	0.58
89506	187	0.49
89439	5	0.35

Zip Code	# asthma hospitalizations	Percent of Total population
89523	110	0.35
89508	46	0.39
89510	15	0.89
89451	4	0.04
89704	26	0.61
89441	54	0.47
89521	83	0.32
89436	148	0.40
89511	104	0.42
89519	20	0.24

The map below identifies zip codes in Washoe County with asthma prevalence.

Asthma Prevalence by Zip Code, Washoe County 2013



Asthma in Rural/Frontier Nevada

In Nevada, the terms “rural and frontier counties” include three rural counties (Douglas, Lyon, and Storey Counties), and eleven frontier counties (Churchill, Elko, Esmeralda, Eureka, Humboldt, Lander, Lincoln, Mineral, Nye, Pershing, and White Pine Counties) per the consensus definition of “frontier counties” developed by the National Center for Frontier Communities (NCFC) and reported in the 2013 Rural and Frontier Health Data Book produced by the Nevada State Office of Rural Health.

The chart below identifies the significant differences in asthma prevalence among adults in rural Nevada as compared with other urban counties, statewide, and in the U.S. In some reports, Carson City is considered part of rural Nevada.

Self-Reported Chronic Asthma in Adults by Region- 2011

Indicator	Percent of Adult Population					
	Rural & Frontier Counties	Carson City	Clark County	Washoe County	Nevada -Total	United States
Asthma Ever Had	14.9	15.9	13.7	13.2	13.8	13.6
Asthma Still Have	11.3	9.2	7.4	8.5	8.1	9.1

For both adults and children data shows the incidence of asthma as very high in the rural/frontier counties that comprise large parts of northern Nevada. In rural/frontier counties 15% of adults have ever been told they have asthma. In rural/frontier counties 15% of adults have ever been told they have asthma. For children, rural communities in Churchill, Humboldt, Pershing and Lander Counties (30.4%) followed by Elko, White Pine and Eureka Counties (26.0%) have the highest rates of asthma.

Asthma and Allergies

It may not be surprising to learn that about 25 million people in the U.S. have asthma. But you may not know that about 60% of those people have allergic asthma. For those whose asthma is moderate to severe and uncontrolled, getting the right diagnosis can be hard. This is because people with allergic asthma don't always realize their asthma is triggered by allergens. They simply think they have asthma and allergies. However, the symptoms of asthma and allergic asthma are the same.

Asthma is a chronic condition with inflammation and narrowing of the airways, as well as tightening of the muscles around the airways. This can lead to wheezing, shortness of breath, chest tightness, and coughing. Allergic asthma is a type of asthma. So, if you have allergic asthma, you may experience these symptoms. With allergic asthma, it's the triggers that are different. All asthma attacks and symptoms are triggered by something. In the case of allergic asthma, these symptoms are brought on by exposure **to** allergens in the air, including pet dander, dust mites, and cockroaches.²

¹ “2013 Edition Nevada Rural and Frontier Health Data Book.” Nevada Office of Rural Health. University of Nevada School of Medicine. 2013.

Asthma attacks (worsening of asthma symptoms) can be triggered by allergies, which can temporarily increase the inflammation of the airways in a susceptible person. The most prevalent allergens for people with allergic asthma appear to be those asthma triggers that are inhaled. Hay fever or seasonal allergic rhinitis occurs when a person comes in contact with an allergen or a substance that he or she is sensitive to. Common inhaled allergens include:

- Animal dander (skin, saliva)
- Dust mites
- Cockroach particles
- Mold
- Pollen

Nevada's climate change, dry air, high winds, and certain plants can cause allergies. The main plant culprits are pollen, mulberry and juniper. Weeds can also cause allergy problems.

Tobacco Use and Asthma

Since 1964, the US Office of the Surgeon General has produced multiple reports on the health consequences of using tobacco, including its influence on the chronic condition of asthma. The 2004 report concluded...“the evidence was *sufficient to infer a causal relationship between active smoking and both poor asthma control and exacerbation of disease among adults*. From the 2014 report, “together, evidence from observational and clinical trials shows that *active smoking adversely affects the natural history of adult asthma*.” The 2014 report also states that, “Incidence of asthma is generally highest during childhood, but new cases occur among adults, too. The evidence reviewed identifies active smoking as a possible cause of new-onset asthma among adolescents. The report also concludes that smoking is a cause of exacerbation of asthma among adults.”

Additionally, secondhand smoke exposure is causally associated with asthma prevalence, perhaps reflecting a greater clinical severity associated with exposure. Secondhand smoke exposure, particularly at home, should be addressed by clinicians caring for any child with a respiratory complaint and particularly children with asthma³

Respondents from the 2013 Nevada Latino Health Needs Assessment conducted by the Nevada Division of Public and Behavioral Health, and the 2012 Adult Tobacco Survey, conducted by the Southern Nevada Health District, report on the incidence of second hand smoke. From Latino respondents, “Tobacco products were used *every day* by 7% of the respondents. Thirty two percent (32%) of persons surveyed were exposed to secondhand smoke at work from one to five or more days a week. At home, 12% of respondents were exposed to secondhand smoke from one to seven days a week. Six percent of respondents with children reported that children were exposed to secondhand smoke at their home from one to 7 days a week.”⁴

In 2012, 30% of respondents to an Adult Tobacco Survey reported daily exposure to secondhand smoke at work; 23% reported secondhand smoke infiltration at home. Subgroups of residents

² “West Virginia Asthma Education and Prevention Program.” West Virginia Department of Health and Human Resources. 2006.

³ “2006 The Health Consequences of involuntary Exposure to Tobacco Smoke.” Office of the Surgeon General.

frequently targeted for tobacco advertising and product use include: youth under age 18 (25%), African Americans (10.5%) and Hispanics (28.9%). In 2013, **60.3% of Hispanic youth and 47.9% of African American** youth reported inhaling secondary tobacco smoke in a public place.

Data from the 2013 Nevada Youth Risk Behavior Survey reveals smoking behaviors for school aged children as shown in the chart below:

Percentage of high school students who currently used tobacco,* by sex, age, grade, race/ethnicity, and region — Nevada, Youth Risk Behavior Survey, 2013*

		Yes			No		
		N	% †	C.I. (95%)	N	% †	C.I. (95%)
Overall Total	Total	715	14.3	(12.8-15.8)	3,019	85.7%	(84.2-87.2)
Sex	Female	312	12.8	(10.9-14.7)	1,632	87.2%	(85.3-89.1)
	Male	403	15.9	(13.6-18.1)	1,387	84.1%	(81.9-86.4)
Age	14 years or <	44	7.8	(4.7-10.9)	345	92.2%	(89.1-95.3)
	15 years old	117	10.0	(7.5-12.4)	807	90.0%	(87.6-92.5)
	16 years old	174	12.9	(10.3-15.6)	890	87.1%	(84.4-89.7)
	17 years old	229	17.6	(14.4-20.9)	648	82.4%	(79.1-85.6)
	18 years or older	153	26.4	(20.7-32.1)	332	73.6%	(67.9-79.3)
Grade	9th grade	104	9.6	(7.1-12.1)	712	90.4%	(87.9-92.9)
	10th grade	173	12.6	(10.1-15.2)	942	87.4%	(84.8-89.9)
	11th grade	189	14.7	(11.7-17.7)	745	85.3%	(82.3-88.3)
	12th grade	245	20.9	(17.2-24.6)	601	79.1%	(75.4-82.8)
Race/Ethnicity	Am. Indian/AN	23	25.9	(13.1-38.6)	60	74.1%	(61.4-86.9)
	Asian	10	8.2	(2.5-13.9)	108	91.8%	(86.1-97.5)
	Black/African American	18	9.3	(4.2-14.5)	126	90.7%	(85.5-95.8)
	White	362	16.7	(14.2-19.1)	1,283	83.3%	(80.9-85.8)
	Hispanic/Latino	222	13.2	(10.9-15.6)	1,168	86.8%	(84.4-89.1)
	Other /Multiple	58	14.3	(9.1-19.5)	218	85.7%	(80.5-90.9)
Region	Carson City & Douglas	82	25.0	(20.3-29.7)	256	75.0%	(70.3-79.7)
	Elko, White Pine, & Eureka	108	26.7	(22.2-31.2)	283	73.3%	(68.8-77.8)
	Churchill, Humboldt, Pershing, & Lander	111	25.3	(21.1-29.5)	302	74.7%	(70.5-78.9)
	Lyon, Mineral & Storey	80	23.4	(18.8-27.9)	273	76.6%	(72.1-81.2)
	Nye & Lincoln	44	23.4	(17.2-29.9)	156	76.4%	(70.1-82.8)
	Washoe	167	18.4	(15.8-20.9)	790	81.6%	(79.1-84.2)
	Clark	125	11.5	(9.6-13.4)	966	88.5%	(86.6-90.4)

* Current (past 30 days) cigarette use, current smokeless tobacco use, or current cigar use.

† Weighted row percent.

§ 95% confidence interval.

¶ Non-Hispanic

Asthma and Overweight/Obesity

Recently, experts have begun to recognize and investigate a possible link between obesity and asthma. In fact, the link between asthma and obesity may now be recognized too much — a study published in the medical journal CHEST found that obese patients are at risk of being incorrectly diagnosed with asthma, due to the similarity of symptoms, such as breathlessness. In the study, about one-third of obese patients were misclassified with asthma. One study, published in the August 2013 issue of the American Journal of Epidemiology, found that overweight and obese children had a higher chance of developing asthma — with more severe symptoms.

Nevada currently has the 16th highest childhood obesity rate in the U.S.⁴ The 2013-2014 Nevada Statewide Kindergarten Study conducted by the Nevada Institute for Children’s Research and Policy at the University of Nevada Las Vegas, shows 30 percent of kindergartners are overweight/obese, an increase of 1.4% over last years’ study. Parents were surveyed as to whether or not their child had any medical conditions. Asthma was the highest reported medical condition.⁵

Obesity can worsen asthma symptoms and make them more difficult to manage. Simply being obese may put an individual at increased risk of developing asthma. In addition to being hospitalized more frequently due to their asthma, obese asthmatics have also been found to experience poorer quality of life than asthmatics that aren’t obese.

Summary

Data presented in this section of the Nevada Statewide Asthma Control Plan clearly characterize the importance of understanding asthma prevalence among Nevada adults and children and call for a statewide strategy to better inform communities about asthma, to improve surveillance and reporting capacity, and to make education, prevention and treatment of asthma and related respiratory conditions a public health priority in our state.

⁴ Nevada Child Obesity Rate.” Alliance for a Healthier Generation. American Heart Association and the Clinton Foundation. 2014; as found at: https://www.healthiergeneration.org/about_childhood_obesity/in_your_state/nevada/?gclid=CMqbqqOh1MACFYdlfgodT34AYw.

⁵ “2013-2014 Nevada Statewide Kindergarten Study.” Nevada Institute for Children’s Research and Policy. University of Nevada Las Vegas. 2014.

Nevada Statewide Asthma Control Plan (The Plan)

The Nevada Statewide Asthma Control Plan outlines a series of issues and corresponding policy recommendations intended to increase the visibility and attention of local, state, and national policy makers regarding the need to address the chronic health problem of asthma.

Issues of concern to Nevada Statewide Asthma Coalition Members, and subsequent strategies and recommendations are categorized under the topics listed below. While there are many issues in working to develop asthma control plans, these five topics are appropriate for this first edition of the Nevada Statewide Asthma Control Plan. Each topic is addressed in brief, and a set of goals, proposed strategies, and intended outcomes have been developed to guide the work of the Asthma Coalition and local and state healthcare providers.

- Public Education and Awareness
- School Health and Childcare Issues
- Improve Access to Health Care
- Asthma Data Collection and Monitoring

Additionally, a set of policy recommendations are included for consideration by public policy-makers in Nevada and nationally.

PUBLIC EDUCATION AND AWARENESS

Goal: *Increase awareness of asthma as a public health concern among the general public, and raise awareness of patients, health professionals, and the public that asthma is a serious chronic disease.*

Many persons in Nevada are unaware of the seriousness of asthma and its life-threatening potential. Greater public education is needed to help our citizens to better understand the disease of asthma and its relationship to environmental problems such as exposure to second-hand smoke and air pollutants.

More education is needed so that the symptoms of asthma are recognized by patients, families, and the public and the appropriate diagnosis is made by health professionals. Education can help ensure effective control of asthma by encouraging a partnership among patients, physicians, and other health professionals through modern treatment and education programs, and more parents and families are aware of available community programs and resources for persons with asthma.

Resources available to Nevadans that provide asthma education include such organizations as the American Lung Association, the Health Districts, and the federal National Heart Lung and Blood Institute which provides a number of publications about asthma and asthma control.

Program Strategies:

- Provide asthma education for health care professionals.
- Provide asthma education targeting the general public and populations at highest risk of asthma.
- Provide access to information about asthma and asthma management strategies for individuals with, or at risk of, asthma and their families.

Intended Outcomes:

- Increased understanding of asthma as a public health problem by healthcare professionals and the general public.
- Increased access to asthma education and management strategies for persons affected by asthma, especially among those at highest risk.

SCHOOL HEALTH AND CHILDCARE ISSUES

Goal: *Increase awareness of asthma as a public health concern among elementary and secondary public and private schools, and among Nevada childcare providers.*

In 2012, 24 percent of Nevada high school students reported having asthma in the Nevada Youth Risk Behavioral Survey (YRBS). An important resource for asthma management for school children is found in a variety of community-based programs that offer resources that schools can use to better manage asthma among their students. As an example, the American Lung Association's (ALA) Asthma Friendly Schools Initiative highlights low-cost to no-cost educational and policy components that impact asthma management, emergency response, and the overall wellbeing of the school. The *Asthma Friendly Initiative Toolkit* offers a range of strategies that can decrease the number of acute care visits to the school nurse as well as potentially decrease student absenteeism.

Additionally, the ALA's Open Airways For Schools is a school-based curriculum that educates and empowers children through a fun and interactive approach to asthma self-management. It teaches children with asthma ages 8-11 how to detect the warning signs of asthma, avoid their triggers and make decisions about their health. Children who complete the Open Airways for Schools program should be able to:

- Take steps to prevent asthma symptoms.
- Recognize asthma symptoms when they first occur, and carry out appropriate management steps.
- Discuss and solve problems related to asthma with parents, medical professionals, teachers, and friends
- Feel more confident about taking care of their asthma on a daily basis

The Open Airways For Schools curriculum consists of six 40-minute interactive, group lessons for children with asthma held during the school day. Topics covered include basic information about asthma, recognizing and managing asthma symptoms, using medication, avoiding asthma triggers, getting enough exercise, and doing well at school.

Program Strategies:

- Promote Asthma Friendly Schools throughout Nevada School District.
- Offer Open Airways for Schools education program for elementary and middle school students.
- Increase use of Asthma Action Plans for persons with asthma.
- Provide education and management tools and training for Nevada child care providers.

Intended Outcomes:

- More schools, teachers and parents learn about asthma and how to successfully manage the disease.
- Children in early childhood learning centers have access to teachers trained in asthma management.

IMPROVE ACCESS TO HEALTH CARE

GOAL: *Every child and adult with asthma in Nevada has access to high quality comprehensive asthma treatment and management.*

A 2010 report from The George Washington University found that “asthma adds about 50 cents to every health care dollar spent on children with asthma compared to children without asthma. Those most at risk - low income, medically underserved, African-American and Hispanic children - have the least access to preventive care, the most visits to the ER, and the most hospitalizations. Beyond medical care, many communities, particularly those that carry the heaviest burden of the disease, don't have the resources they need for effective asthma management. This includes a healthy living environment, educational services for lifestyle changes, case management, and community support systems for those at high risk and/or who have poorly controlled asthma, and access to home visitation to mitigate triggers that exacerbate asthma symptoms.”⁶

With the passage of the Affordable Care Act in 2010, Nevadans who have pre-existing conditions, like asthma, can no longer be denied health insurance. This also means that people with asthma and other respiratory conditions will have options for receiving medical treatment other than going to the Emergency Room.

Program Strategies:

- Provide education about medical treatment options for adults and children with asthma.
- Increase the number of individuals with asthma who receive self-management education.
- Increase the number of businesses who offer asthma education and self-management classes on-site for their employees.
- Encourage enrollment in a health insurance plan or Medicaid or Nevada Check Up.

Intended Outcomes:

- Increased numbers of Nevada adults and children with asthma who access asthma education.
- Increased numbers of Nevada employers who offer asthma education classes at the worksite.
- Increased numbers of eligible adults and children with access to health insurance coverage.

⁶“Access & Quality.” Merck Childhood Asthma Network. 2013..

ASTHMA DATA COLLECTION AND MONITORING

GOAL: *Assure the availability of high quality data to inform public policy and guide interventions that improve the quality of life for Nevada adults and children with, or at risk for, asthma.*

Healthy People 2020 has established an objective to “Increase the number of States, Territories, and the District of Columbia with a comprehensive asthma surveillance system for tracking asthma cases, illness, and disability at the state level.” Currently 43 states participate in the CDC National Asthma Control Program with a 2020 goal of 47 states and territories.

Asthma cannot currently be prevented, however it can be managed. Costs to Nevada could be reduced and quality of life improved through more effective programs and policies. Asthma data surveillance systems and clinical registries are essential tools to inform such programs and policies; however, Nevada is one of 14 U.S. states and territories that do not maintain an asthma surveillance system and no clinical registry currently exists.

Program Strategies

Increase Nevada’s capacity to conduct on-going asthma surveillance activities.

Establish an asthma clinical registry in Nevada.

Increase Nevada’s ability to collect, analyze and report on the incidence and prevalence of asthma for adults and children.

Make high quality asthma data available to Nevada local and state policy makers.

Intended Outcomes

Better access to detailed information about the nature and scope of asthma and its impact on Nevada adults, children and families.

Better informed health care providers and healthcare professionals about the nature and scope of asthma in Nevada.

PUBLIC POLICY RECOMMENDATIONS

Asthma and Public Health

The Nevada Statewide Asthma Coalition supports funding the asthma public health program at the Centers for Disease Control and Prevention that includes increased surveillance, improved health tracking and funding for state and local planning and programs and public health interventions in every state.

Asthma and Children

In an effort to ensure that children in Nevada schools and/or in childcare settings have optimal resources to address asthma conditions, the Nevada Statewide Asthma Coalition recommends adoption of the American Lung Association's policy regarding asthma and children as shown below: All schools/school systems and child care settings (including sports and recreation activities) should adopt and implement an evidence-based comprehensive plan for the management of asthma:

- Identify and track all students with a diagnosis of asthma.
- Obtain and ensure the use of an individualized Asthma Action Plan for all students with asthma.
- Establish standard emergency protocols.
- Educate all school personnel (especially health personnel, physical educators and coaches) about asthma, including how to respond to an emergency.
- Ensure students have immediate access to quick-relief medications, but should be educated about the importance of proper use of medication to manage asthma to alleviate reliance on emergency medication (rescue inhalers).
- Ensure that students whose asthma is not under good control are provided self-management, education, and case management.
- Establish standard emergency protocols.

School and Child Care Facility Environments

The Nevada Statewide Asthma Coalition believes that schools and child care facilities should be safe and healthful environments. The Coalition supports the American Lung Association's position on the adoption of protective indoor air quality guidelines for schools and child care facilities. The American Lung Association supports policies that protect students and faculty from elevated levels of outdoor air pollution.

Asthma Data Collection and Monitoring

Efforts are needed to enable Nevada to effectively and routinely collect, analyze, and report asthma incidence and prevalence data to guide programming and policy decisions at state and local community levels. Resources are needed to maintain up-to-date information on the impact of asthma on Nevada's adults, children and families. We need to be able to secure emergency room and hospitalization data, as well as gather data to increase our understanding of the relationship of obesity and asthma. However, currently there is insufficient staff to regularly analyze the Asthma Call Back data. The Nevada Statewide Asthma Coalition recommends increased funding and resources to support valuable data collection and analysis efforts.

APPENDIX A

Healthy People 2020 Asthma Objectives

RD-1 Reduce asthma deaths

RD-1.1 Reduce asthma deaths among children and adults under age 35 years

RD-1.2 Reduce asthma deaths among adults aged 35 to 64 years old

RD-1.3 Reduce asthma deaths among adults aged 65 years and older

RD-2 Reduce hospitalizations for asthma

RD-2.1 Reduce hospitalizations for asthma among children under age 5 years

RD-2.2 Reduce hospitalizations for asthma among children and adults aged 5 to 64 years

RD-2.3 Reduce hospitalizations for asthma among adults aged 65 years and older

RD-3 Reduce emergency department (ED) visits for asthma

RD-3.1 Reduce emergency department (ED) visits for asthma among children under age 5 years

RD-3.2 Reduce emergency department (ED) visits for asthma among children and adults aged 5 to 64 years

RD-3.3 Reduce emergency department (ED) visits for asthma among adults aged 65 years and older

RD-4 Reduce activity limitations among persons with current asthma

RD-5 Reduce the proportion of persons with asthma who miss school or work days

RD-5.1 Reduce the proportion of children aged 5 to 17 years with asthma who miss school days

RD-5.2 Reduce the proportion of adults aged 18 to 64 years with asthma who miss work days

RD-6 Increase the proportion of persons with current asthma who receive formal patient education

RD-7 Increase the proportion of persons with current asthma who receive appropriate asthma care according to National Asthma Education and Prevention Program (NAEPP) guidelines

RD-7.1 Increase the proportion of persons with current asthma who receive written asthma management plans from their health care provider according to National Asthma Education and Prevention Program (NAEPP) guidelines

RD-7.2 Increase the proportion of persons with current asthma with prescribed inhalers who receive instruction on their use according to National Asthma Education and Prevention Program (NAEPP) guidelines

Appendix A (Continued)

RD-7.3 Increase the proportion of persons with current asthma who receive education about appropriate response to an asthma episode, including recognizing early signs and symptoms or monitoring peak flow results, according to National Asthma Education and Prevention Program (NAEPP) guidelines

RD-7.4 Increase the proportion of persons with current asthma who do not use more than one canister of short-acting inhaled beta agonist per month according to National Asthma Education and Prevention Program (NAEPP) guidelines

RD-7.5 Increase the proportion of persons with current asthma who have been advised by a health professional to change things in their home, school, and work environments to reduce exposure to irritants or allergens to which they are sensitive according to National Asthma Education and Prevention Program (NAEPP) guidelines

RD-7.6 (Developmental) Increase the proportion of persons with current asthma who have had at least one routine follow-up visit in the past 12 months according to National Asthma Education and Prevention Program (NAEPP) guidelines

RD-7.7 (Developmental) Increase the proportion of persons with current asthma whose doctor assessed their asthma control in the past 12 months according to National Asthma Education and Prevention Program (NAEPP) guidelines

RD-7.8 Increase the proportion of adults with current asthma who have discussed with a doctor or other health professional whether their asthma was work related according to National Asthma Education and Prevention Program (NAEPP) guidelines

RD-8 Increase the number of States, Territories, and the District of Columbia with a comprehensive asthma surveillance system for tracking asthma cases, illness, and disability at the State level

APPENDIX B

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