Asthma Among Native Americans and Alaska Natives in Washington State

Washington State Department of Health

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About This Report

For the Washington State Asthma Program and their partners, clarifying and addressing the asthma burden among the American Indian/Alaska Native (AI/AN) population is a priority. Information within this report is useful for the AI/AN communities to assist in prioritizing asthma prevention and control.

This report is the first to describe the burden of asthma specific to the AI/AN populations living in Washington State. It includes information on who asthma affects, status of asthma healthcare, and the impact that the home environment has on asthma. Other factors that may be associated with health in AI/AN communities, such as tribal affiliation, are beyond the scope of this report.

Report Data

We obtained data represented in this report from a variety of sources, including the:

- Washington Behavioral Risk Factor Surveillance System (BRFSS), Asthma Callback Surveys
- Washington Healthy Youth Survey (HYS)
- Comprehensive Hospitalization Abstract Reporting System (CHARS)
- Washington Death Certificate System

See the Appendix to learn more about these surveys.

Lifetime and Current Asthma

This report makes a distinction between people who have ever been diagnosed with asthma – referred to as lifetime asthma – and those who have current asthma. Lifetime asthma can provide a clearer picture of how many people have been affected by the disease at some point in their life. People with asthma are at higher risk of poor health outcomes and use more healthcare resources.

To estimate the number of people affected by asthma, people are asked, “Has a doctor or other health professional ever told you that you had asthma?” Those who answer “yes” are considered to have lifetime asthma. People who report that they have lifetime asthma are then asked: “Do you still have asthma?” Those who answer “yes” to both questions are considered to have current asthma.

For most of the analysis presented in this report, current asthma is used to describe the burden of the disease. There are many overlapping individual and environmental influences that contribute to asthma. Any reference to differences between groups implies that the differences are statistically detectable unless otherwise stated. We used the following conventions to describe population subgroups:

- All Adults – refers to all residents of Washington State.
- Adults/Youth– Adults are age 18 or older, youth are under age 18.
- With asthma – refers to people with current asthma.
- AI/AN Adults – defined as people who are non-Hispanic American Indians or Non-Hispanic Alaska Natives.

Washington has 29 federally recognized American Indian tribes. Including native migrants from across the nation, tribal members account for one and a half percent of the total state population. Washington has the seventh highest American Indian and Alaska Native (AI/AN) population in the nation.

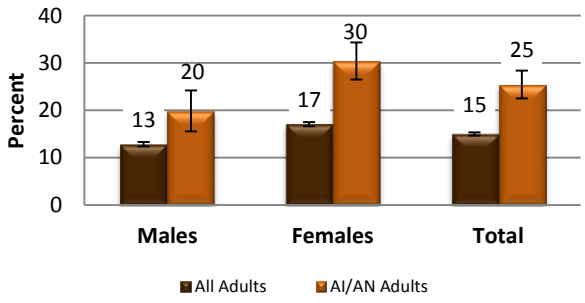
Asthma Among American Indians/Alaska Natives in Washington

American Indians/Alaska Natives in Washington have a higher prevalence of asthma than the general population:

- An estimated 18,000 AI/AN adults and 2,550 AI/AN youth in Washington State have had asthma at some point in their lives. Approximately 13,000 AI/AN adults and 1,450 AI/AN youth currently have asthma.
- The majority of AI/AN with asthma live in urban and suburban areas. Approximately 12,400 AI/AN with current asthma live in urban or suburban areas, while nearly 3,500 AI/AN with current asthma live in rural areas.
- AI/AN have a higher prevalence of asthma at every income level, with nearly one-quarter of low-income AI/AN adults having asthma.
- The Washington AI/AN population has higher prevalence of other chronic conditions, risk factors, and worse outcomes.
- The ten year combined asthma death rate of AI/AN is two times higher than the general population.

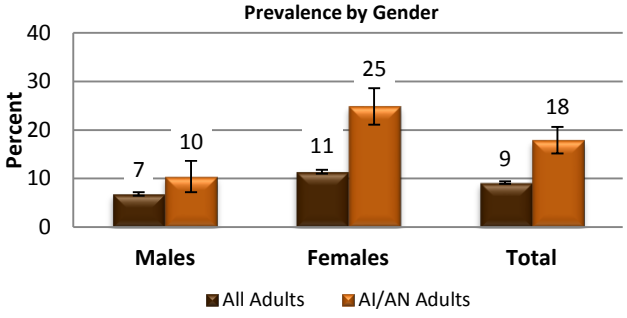
Asthma Among American Indian/Alaska Native Adults in Washington State

Figure 1. Lifetime Asthma Among Washington Adults Prevalence by Gender



Washington Behavioral Risk Factor Surveillance System, 2006-2010

Figure 2. Current Asthma Among Washington Adults Prevalence by Gender



Washington Behavioral Risk Factor Surveillance System, 2006-2010

Overall, AI/AN adults have higher lifetime asthma prevalence and twice the current asthma prevalence than that of the general adult population, as shown in Figures 1 and 2.

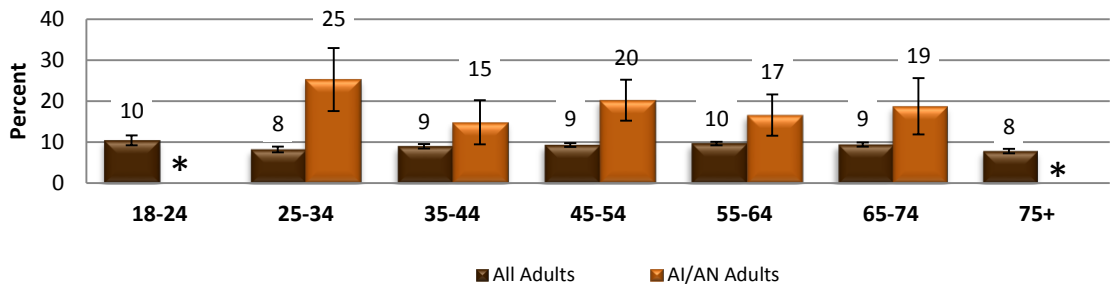
Prevalence by Gender

Nationally, women have a higher rate of asthma than men.[1] In Washington, nearly 9,000 AI/AN adults with asthma are women. The rate of asthma among AI/AN women is two and a half times higher than AI/AN men and over twice as high as both men and women combined in the general adult population [Fig. 2].

Prevalence by Age

The asthma rate of AI/AN people is nearly double that of the general population among people between the ages of 25 and 74 [Fig. 3].

Figure 3. Current Asthma Among Washington Adults Prevalence by Age



*Estimate unreliable due to small sample size

Washington Behavioral Risk Factor Surveillance System, 2006-2010

Socioeconomic Status

The socioeconomic status (SES) of people and where they live and work strongly influences their health.[2] People with lower SES are more likely to have asthma for both AI/AN and the general population.

Prevalence by Income

Asthma prevalence for AI/AN adults is about two times higher than the general population and is higher in all income levels [Fig. 4]. About one-quarter of AI/AN with income at or below 200 percent of the federal poverty level have asthma [Fig. 5].

Prevalence by Education Level

AI/AN adults have higher rates of asthma at all levels of education compared to the general population [Fig. 6].

Quality of Life

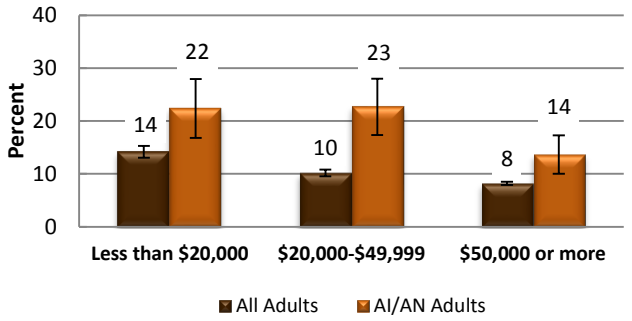
About half of AI/AN adults with asthma experience daily symptoms, compared to 24 percent of the general population with asthma.

Asthma Symptoms

AI/AN adults with asthma are nearly twice as likely to experience asthma symptoms every day than other adults with asthma [Fig. 7]. Compared to other adults with asthma, significantly more AI/AN adults have had an asthma episode or attack during the past three months.

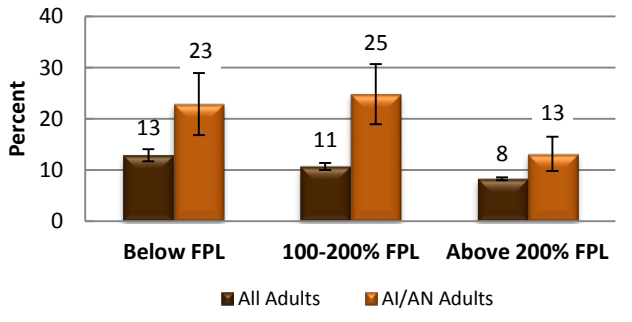
AI/AN adults with asthma are more likely to have had one or more episodes or attacks in the past three months compared to the general population. The majority of adults with asthma had between one and nine episodes or attacks in the past three months. [Fig. 8].

Figure 4. Asthma Among Washington Adults
Prevalence by Annual Household Income



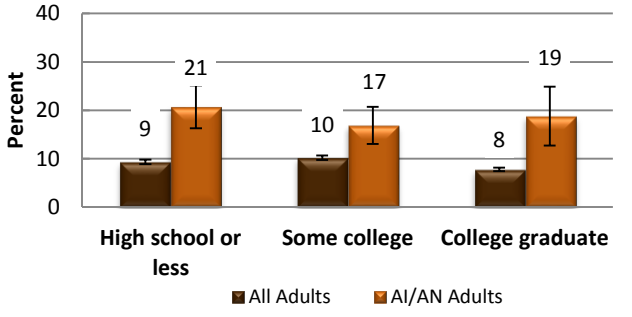
Washington Behavioral Risk Factor Surveillance System, 2006-2010

Figure 5. Asthma Among Washington Adults
Prevalence by Federal Poverty Level (FPL)



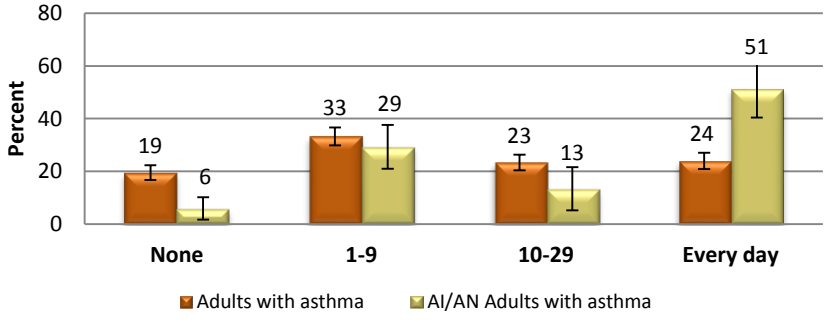
Washington Behavioral Risk Factor Surveillance System, 2006-2010

Figure 6. Asthma Among Washington Adults
Prevalence by Educational Attainment*



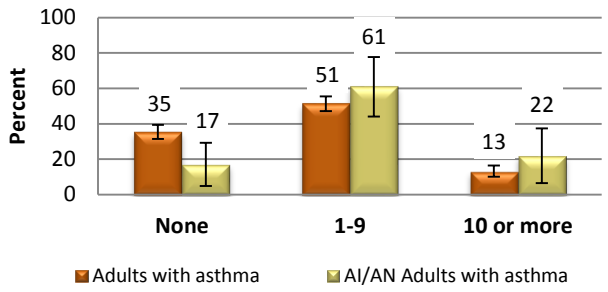
*Estimates include respondents ages 25 year or older only
Washington Behavioral Risk Factor Surveillance System, 2006-2010

Figure 7. Distribution of Asthma Symptom
Frequency in the Past 30 days



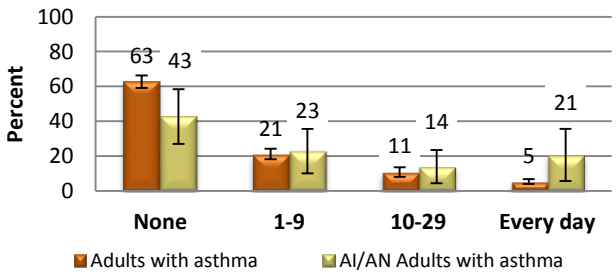
Washington Behavioral Risk Factor Surveillance System, Asthma Callback Surveys, 2006-2009

Figure 8. Distribution of Asthma Episodes or Attacks in the Past 3 Months



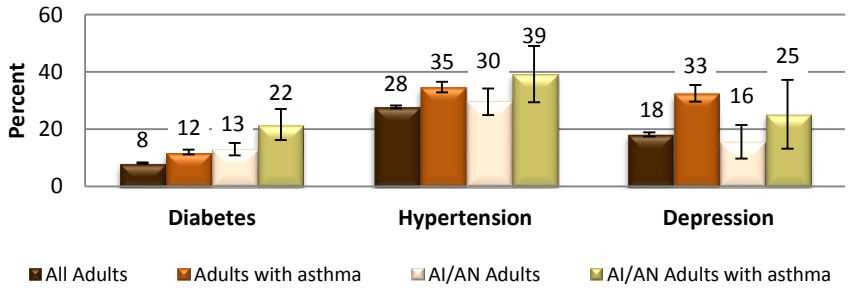
Washington Behavioral Risk Factor Surveillance System, Asthma Callback Surveys, 2006-2009

Figure 9. Distribution of Asthma Related Sleep Disturbance Frequency in the Past 30 Days



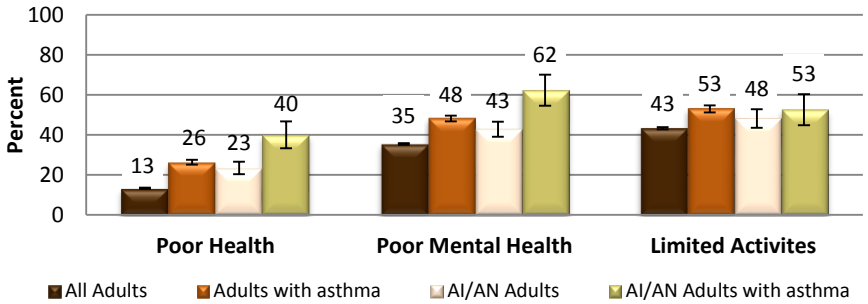
Washington Behavioral Risk Factor Surveillance System, Asthma Callback Survey 2006-2009

Figure 10. Prevalence of Other Chronic Conditions Among Washington Adults



Depression: Data avaliable for years 2006 and 2008. Hypertension: Data avaliable for years 2007 and 2009
Washington Behavioral Risk Factor Surveillance System, 2006-2010

Figure 11. Prevalence of Health Status Indicators Among Washington Adults



Washington Behavioral Risk Factor Surveillance System, 2006-2010

Sleep Disturbance

Asthma-related symptoms may cause sleep disruption. Sleep disruption can result in poor mental and physical function. AI/AN adults with asthma wake up more during the night because of asthma related symptoms than other adults with asthma do [Fig. 9].

Other Chronic Conditions

People with asthma often have other types of chronic diseases that require treatment, such as diabetes, hypertension, and depression. **Twenty-two percent of AI/AN adults with asthma also have diabetes** [Fig. 10]. This is nearly twice that of other adults with asthma and nearly three times that of the general population.

Nearly 40 percent of AI/AN adults with asthma also have high blood pressure. AI/AN adults with asthma are more likely to have hypertension when compared to the general population.

Mental Health

Asthma affects mental health as well as physical health. Depression is more common in adults with asthma than the general population. **Twenty-five percent of AI/AN adults with asthma in Washington experience depression** [Fig. 10].

AI/AN adults with asthma are also more likely to experience poor mental health and emotional issues, including stress and depression [Fig. 11].

Physical Health and Limitations

The constant struggle with asthma symptoms and disruption of normal activities decreases overall quality of life for people with asthma. Compared to all groups, **more AI/AN adults with asthma describe their health status as "fair" or "poor**."

Similar to adults with asthma, over one-half of AI/AN adults have limited their activities in the past month because of their health [Fig. 11].

Risk Factors

Asthma risk factors include smoking, exposure to second-hand smoke, obesity, and asthma triggers in the home.

Smoking and Secondhand Smoke

A person with asthma who smokes or is exposed to second-hand smoke is more likely to experience the wheezing, coughing, and shortness of breath associated with asthma.

One-third of AI/AN adults with asthma smoke – higher than the general population of adults with asthma who smoke. Current smoking was two times higher among AI/AN with asthma than the general population and two thirds higher than adults with asthma [Fig. 12]. In addition, **one in seven non-smoking AI/AN adults with asthma is exposed to secondhand smoke in the home** [Fig. 13].

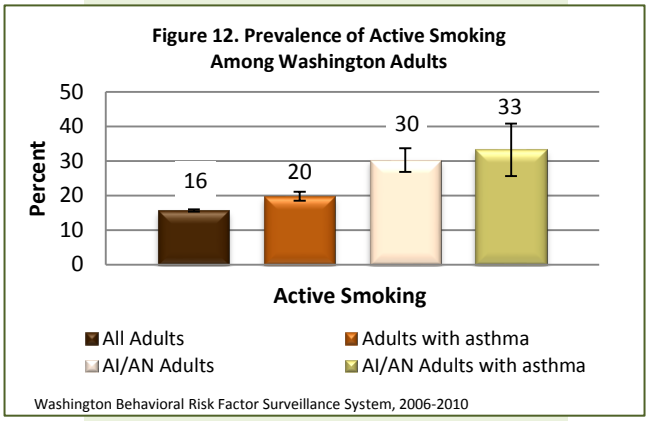
Obesity

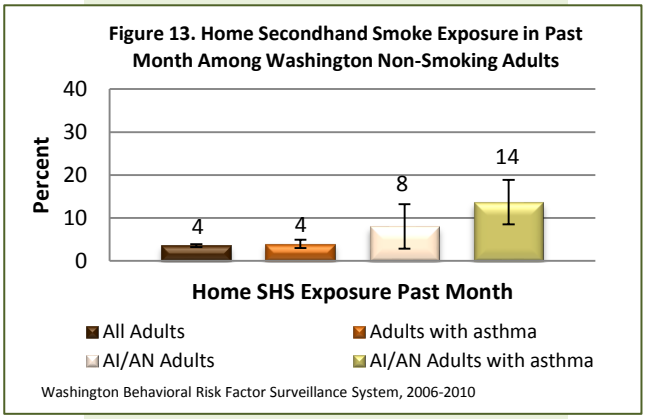
Studies suggest obesity is associated with greater risk of developing asthma, as well as worsened asthma symptoms.[3,4] Nearly half of AI/AN adults with asthma are obese. Over one-third of adults with asthma are obese and a little over a quarter of the general population are obese [Fig. 14].

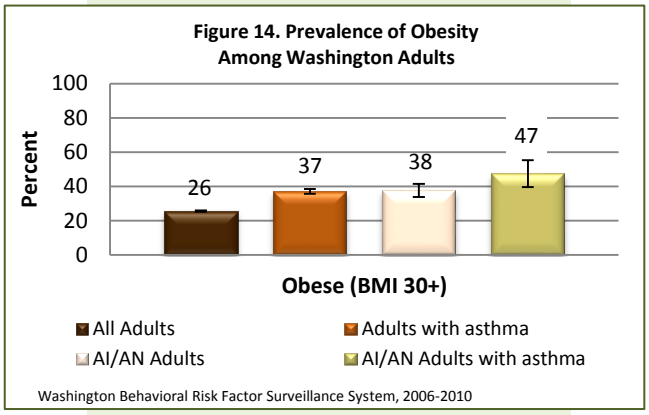
Asthma Triggers

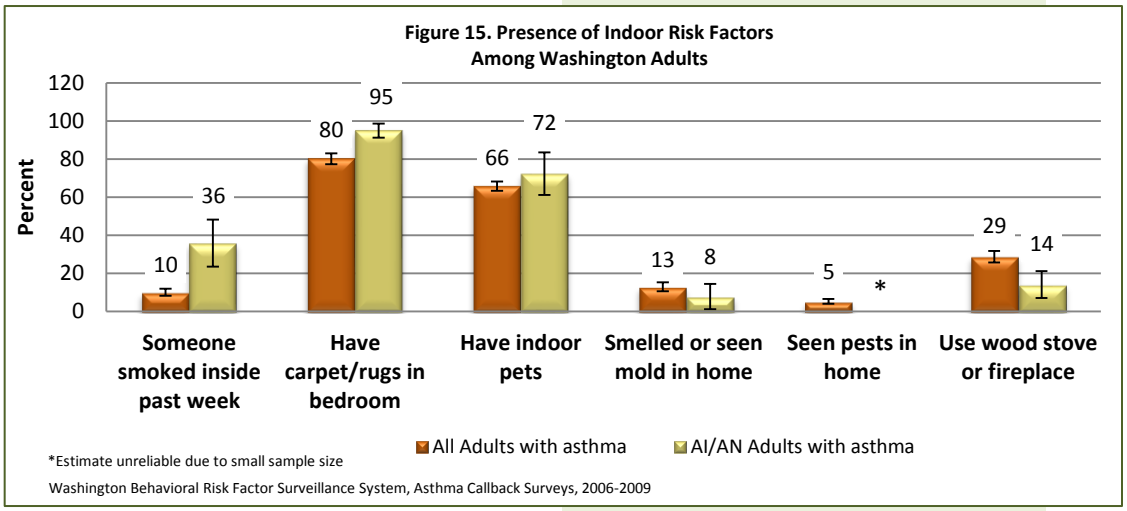
Carpets/rugs and indoor pets are the highest prevalence indoor risk factors in homes of people with asthma. Ninety-five percent of AI/AN homes have rugs or carpets, and 72 percent have inside pets. Thirty-six percent of AI/AN adults with asthma experienced secondhand smoke in the home, as compared to 10 percent of the general population with asthma [Fig. 15].

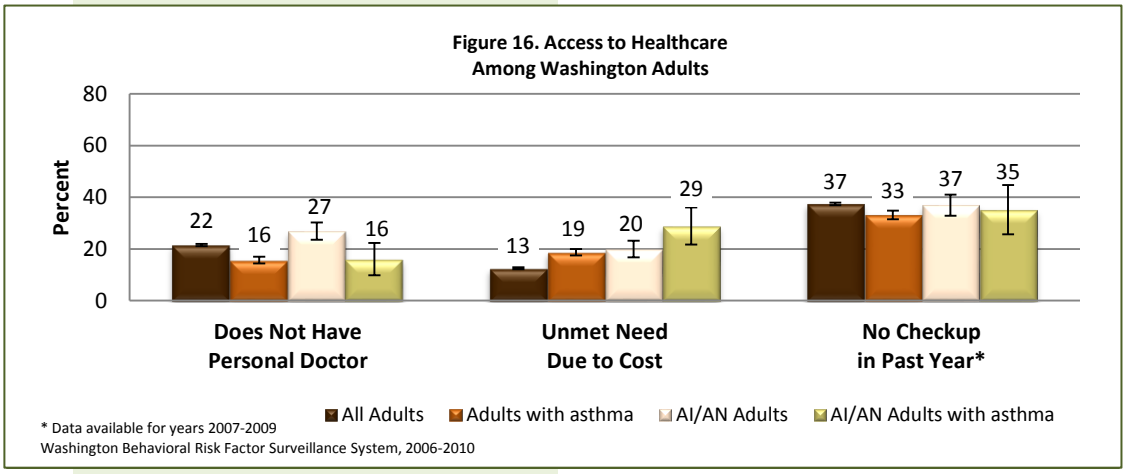
The good news for the AI/AN population is that they have lower prevalence of other indoor triggers than the general population with asthma. Eight percent of AI/AN adults with asthma saw or smelled mold in the home as compared to 13 percent of the general population with asthma. Fourteen percent of AI/AN adults with asthma use wood burning fireplaces or stove, as compared to 29 percent of the general population with asthma.

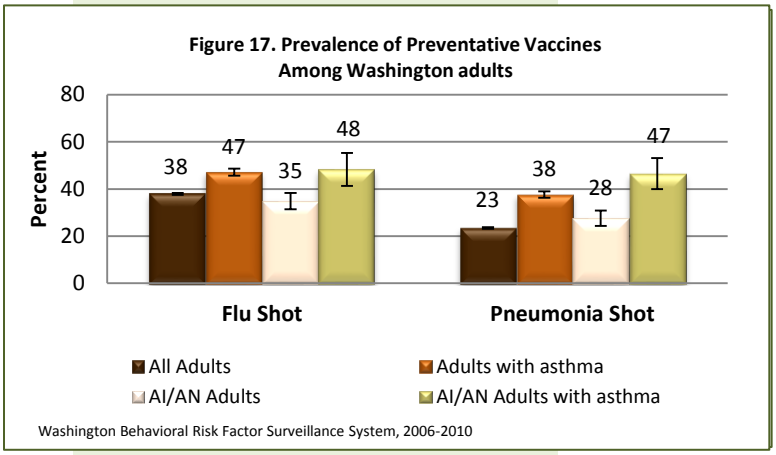












Taking Care

Effective management of asthma requires access to a healthcare provider, keeping current on vaccinations, and good self-management.

Healthcare

Twenty-nine percent of AI/AN adults with asthma are unable to see a healthcare provider due to costs. AI/AN adults with asthma were more likely to be unable to see a healthcare provider because of costs, when compared with the general population with asthma. That is more than double the rate of the overall general population.

Similar to other adults with asthma and the general population, 16 percent of AI/AN adults with asthma do not have a personal doctor and 35 percent have not visited a doctor for a routine checkup in the past year [Fig. 16].

Vaccinations

The National Asthma Education and Prevention Program (NAEPP) guidelines for asthma management advise preventative vaccines for people with asthma. **Although less than half of AI/AN adults with asthma receive flu or pneumonia shots, they are more likely than the general population to do so** [Fig. 17].

Self-Management

Advances in medical therapies and self-management education make controlling asthma a realistic goal for most patients. AI/AN with asthma appeared to have slightly better self-management skills than other adults with asthma [Fig. 18].

Seventy percent of AI/AN adults with asthma have been taught to recognize early signs of an asthma attack, similar to 62 percent of the general population with asthma.

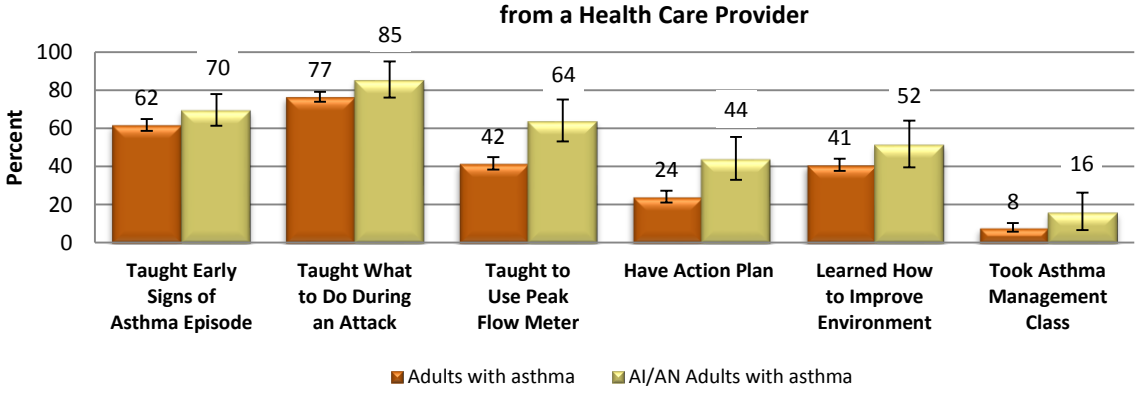
Eighty-five percent of AI/AN adults with asthma have been taught the appropriate response to early signs, similar to the general population with asthma at 77 percent.

Sixty-four percent of AI/AN adults with asthma were taught how to use a peak flow meter, which is higher than the general population with asthma at 42 percent.

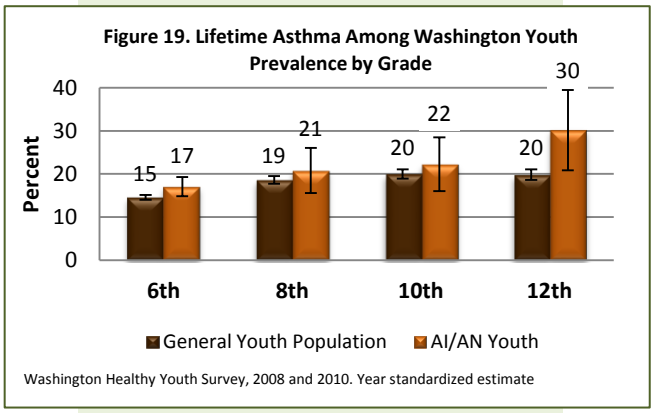
Having an asthma action plan, changing the environment to improve asthma, and completing an asthma management class are recommended standards of care. **Almost half of AI/AN adults with asthma received a written action plan**.

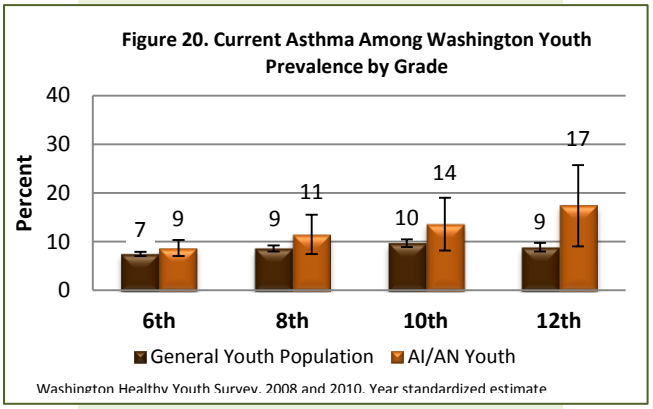
Fifty-two percent of AI/AN adults with asthma received advice on changing their environment for improved outcome. However, very few adults with asthma have taken an asthma management class. **Sixteen percent of AI/AN adults with asthma have taken an asthma management class.**

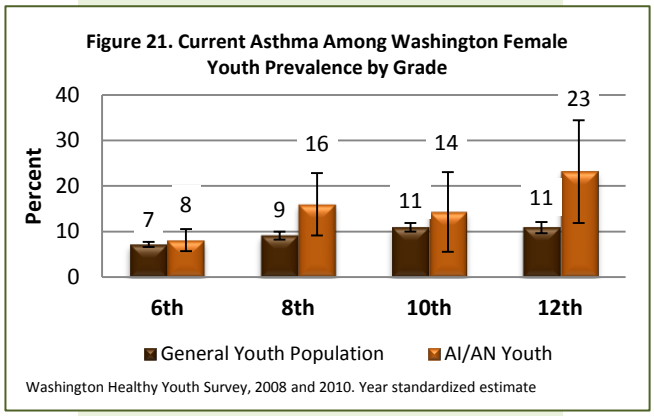
Figure 18. Adults with Asthma who Received Asthma Information from a Health Care Provider

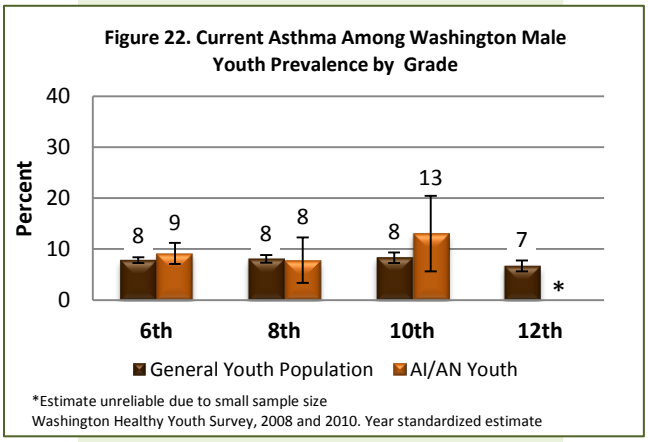


Washington Behavioral Risk Factor Surveillance System, Asthma Callback Survey, 2006-2009









Asthma Among Youth

In Washington, around 2,550 AI/AN youth have been diagnosed with asthma at some point in their lives and around 1,450 AI/AN youth currently have asthma.

Prevalence by Grade

Older youth were more likely than younger youth to report that their doctor told them they have asthma. AI/AN youth in 6th grade and 12th grade were more likely to have asthma than the general youth population in the same grade. **Thirty percent of AI/AN 12th graders reported having lifetime asthma**, which is ten percent higher than the general 12th grade population at 20 percent [Fig. 19].

About 17 percent of AI/AN 12th graders currently have asthma, which is nearly twice as high as the general 12th grade population [Fig. 20].

Prevalence by Gender

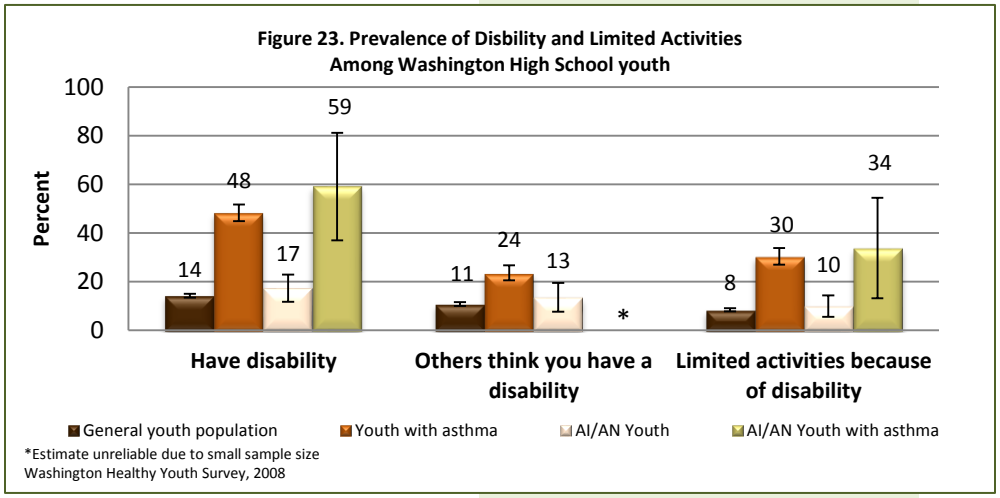
Current asthma prevalence in the general youth population increases by age/grade up to the 10th grade for females. **AI/AN females in grades 8 and 12 were nearly twice as likely to have current asthma** than females of the same grade in the general youth population [Fig. 21].

However, across grade levels, current asthma prevalence among boys was similar to the general youth population at 7-13 percent [Fig. 22].

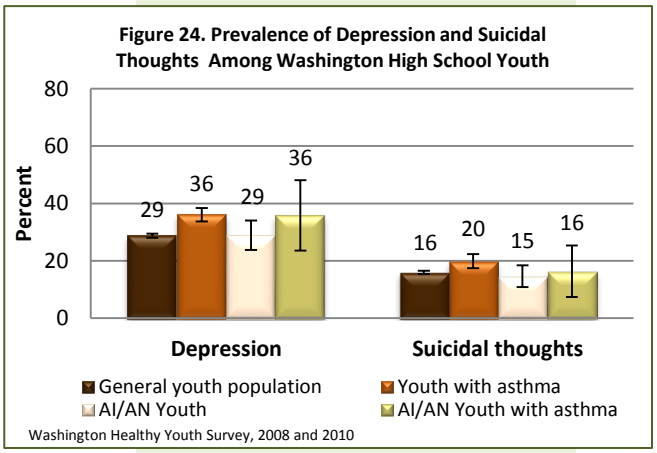
Quality of Life

Asthma-related symptoms can cause youth to limit their activities.

In general, high school youth with asthma are more likely to report having a long-term disability or long-term health problems and limited activity than the general youth population [Fig. 23]. AI/AN high school youth with asthma were nearly four times as likely as AI/AN youth without asthma to report having a long-term disability or long-term health problem. In addition, **one in three AI/AN high school youth with asthma said they had to limit their activities** because of their disability or long-term health condition.



AI/AN high school youth are as likely as other youth to experience depression and thoughts of suicide. **Over a third of AI/AN high school youth with asthma are depressed and about one in six has seriously thought about suicide** [Fig. 24].

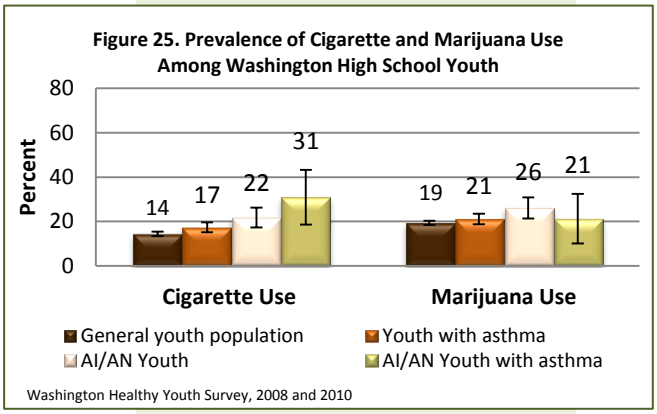


Risk Factors & Triggers

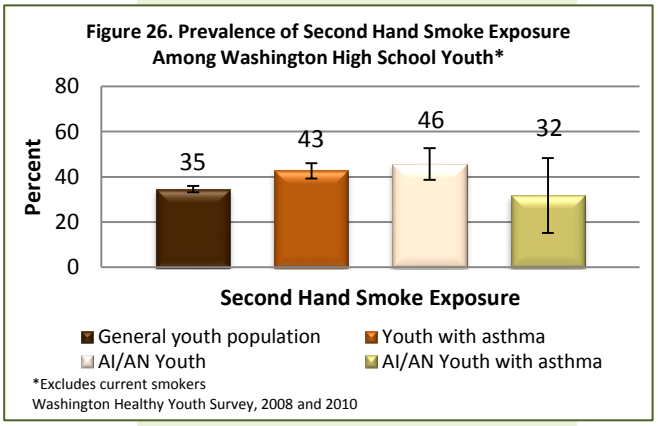
High school youth with asthma are more likely to smoke, be exposed to secondhand smoke, have diabetes, and be obese as compared to the general youth population.

Smoking and Secondhand Smoke

AI/AN high school youth with asthma are twice as likely to smoke than the general population of high school youth. There is very little difference in marijuana use among youth groups [Fig. 25].



Similar to general high school youth population, **about a third of AI/AN youth with asthma are exposed to secondhand smoke** [Fig. 26].

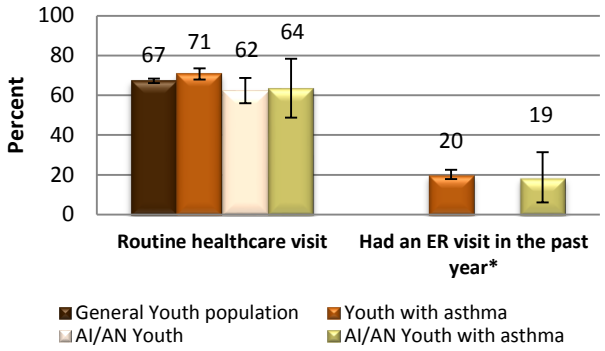


Diabetes and Obesity

Estimates for AI/AN youth with asthma are unavailable for diabetes and obesity due to small sample size. In general, youth with asthma are more likely to have diabetes (6 percent) and be obese (14 percent) than the general youth population (4 percent and 11 percent).

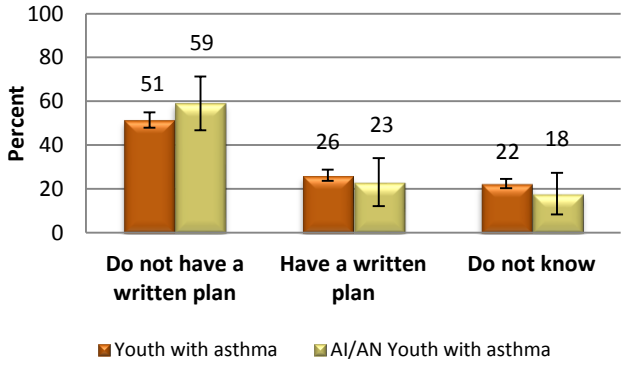
**NOTE: For Figures 23-28, we report "high school" youth estimate that combines all four grades. See Appendices for more information on "synthetic high school estimate."*

Figure 27. Prevalence of past year routine healthcare and emergency room visit among Washington high school youth



*Among youth with current asthma only
Washigton Healthy Youth Survey, 2008 and 2010

Figure 28. Prevalence of a Written Asthma Plan Among Washington High School Youth with Asthma



Washington Healthy Youth Survey, 2008

Healthcare

About one in five AI/AN high school youth with asthma visited an emergency room in the past year.

Routine Care & ER Visits

Sixty-four percent of AI/AN youth with asthma have had a routine healthcare visit, about the same as other youth populations [Fig. 27].

Similar to the general population of youth with asthma, about **one in five AI/AN youth with asthma visited an emergency room** in the past year.

Asthma Action Plan

Only a quarter of AI/AN high school youth with asthma received a written asthma action plan from their provider. An additional 18-22 percent of Washington youth with asthma did not know whether they had received a plan [Fig. 28].

Where Do We Go From Here?

Washington's American Indian/Alaska Native population bears a dramatically higher burden of asthma than any other population. The Washington State Department of Health is implementing the *Washington State Asthma Plan 2011-2015 through partnerships across the state*.

Address Asthma Inequities

Policies in schools, communities, and healthcare settings are being developed to support good asthma management and to increase:

- **Regular Health Care Checkups**
  Healthcare providers should schedule checkups every one to six months; prescribe controller medication to all patients with persistent asthma; assess for environmental triggers; and provide self-management education to patients and their caregivers.

  Coexisting health conditions, such as diabetes, hypertension, and mental health concerns, are higher among AI/AN. Providers need to assess AI/AN asthma patients for these conditions during routine office visits.

- **Use of Written Asthma Action Plan**
  National asthma guidelines recommend asthma patients receive a written asthma action plan from their healthcare provider. Only about one third of AI/AN adults and one quarter of AI/AN youth have received a written plan from their provider.

- **Asthma Education Availability**
  Good asthma education includes basic facts about asthma, understanding different medications and how to take them correctly, avoiding asthma triggers, monitoring symptoms, using an asthma action plan, and knowing when to seek medical care.

Implement Asthma Home Visit Programs

Home visits are an evidence-based strategy for improving asthma health outcomes. They combine home environmental assessment, trigger reduction, and self-management education.

We are working with tribal communities and health clinics to develop effective asthma home visit interventions.

- **Project Goals**
  - Reduce asthma-related health disparities in tribal communities as measured by emergency department visits, hospitalizations, symptom days, and missed school/work.
  - Build skills and capacity within Washington tribes to address asthma.
  - Develop an effective, replicable, and sustainable model for a tribal asthma home visit program.
- **Build Statewide Capacity**

By creating an effective model tribal home visit program, we can spread this work to other tribes. This will build statewide capacity to deliver these services to American Indians and Alaska Natives.

We will provide technical assistance to tribes and urban Indian health clinics interested in providing home visits or improving the quality of their clinical asthma care.

Appendix

Methods:
The Washington State Department of Health gathers data on Washingtonian's health and risk behaviors through multiple sources. The Asthma Program compiled data on asthma-related indicators and this report summarizes the surveillance findings using the most recent data available. We generally report the prevalence of asthma, defined as the percentage of people who have the condition at a single point in time. An in-depth discussion of methods used to determine statistical significance is described in The Burden of Asthma in Washington State 2008 (Technical Notes, Appendix C-1).[6]

Adult asthma prevalence is monitored primarily by using the Behavioral Risk Factor Surveillance System (BRFSS), a national state-based survey sponsored by the Centers for Disease Control and Prevention (CDC). Youth asthma prevalence is monitored primarily by using the Healthy Youth Survey (HYS), a state sponsored survey of middle and high school students. To understand the scope of the disease, two survey questions are used to define lifetime asthma and current asthma.

- Lifetime asthma is when the adult or youth has ever been told by a doctor, nurse, or other health professional they have asthma.
- Current asthma is when the adult or youth has ever been told they have asthma AND they still have asthma at the time they took the survey.

For most of the analysis presented here, current asthma is used to describe the burden of the disease. There are many overlapping individual and environmental influences that contribute to asthma. Any reference to differences between groups implies that the differences are statistically detectable unless otherwise stated. We used the following conventions to describe population subgroups:

- All Adults – defined as non-institutionalized adults who reside in Washington State and do not live in group quarters (i.e., nursing homes, military barracks, hospitals, correctional facilities, etc.).
- General Youth Population – defined as Washington state residents under age 18.
- Adults/Youth– adults are age 18 or older, youth are under 18 with asthma – refers to people with current asthma.
- AI/AN – defined as people who are non-Hispanic, American Indians or Alaska Natives.

Small population sizes and limited resources for data gathering make it difficult to accurately identify asthma rates and related indicators among AI/AN. In general, there are gaps in information for some racial and ethnic minorities living in Washington. Gaps can relate to insufficient data to produce reliable estimates or, when estimates are possible, inadequate power to detect differences between groups. This can limit our ability to identify the current state of disparities for some groups. To provide sufficient sample size for analysis we combined 2006-2010 BRFSS and 2006-2010 BRFSS Asthma Callback Survey data for the adult population. For the youth population we combined 2008 and 2010 HYS data (when available) and produced a combined high school estimate using grade-adjusted weighting and weights for the non-surveyed grades 9 and 11. See Appendices for additional information on data sources and technical notes.

AI/AN populations encompass numerous tribal nations. Grouping all AI/AN into a single category may mask differences among subgroups. The data describes asthma for the overall AI/AN population in Washington and may not reflect differences among diverse subgroups in this population.

Data Sources:

Behavioral Risk Factor Surveillance System
The Behavioral Risk Factor Surveillance System (BRFSS) is a statewide random-digit-dialing telephone survey coordinated by the Centers for Disease Control & Prevention (CDC) and conducted in all 50 states. Interviews were conducted on a monthly basis throughout the year. For this report, responses were combined by calendar year, and weighted to be representative of the adult population of Washington. Adult asthma prevalence was based on whether a respondent reported current asthma.

In 2007-2008, more than 13,000 Washington respondents who reported they had children in their household, were asked about asthma. They were asked how many children living with them had ever been diagnosed with asthma and, among those, how many still had asthma. Survey results were used to estimate the prevalence of households that have one or more children with asthma among all households with children. Learn more at: http://www.doh.wa.gov/DataandStatisticalReports/HealthBehaviors/BehavioralRiskFactorSurveillanceSystemBRFSS.aspx

Learn more about national BRFSS at: www.cdc.gov/brfss

BRFSS, Asthma Callback Surveys (ACBS)
The ACBS is an in-depth asthma survey conducted approximately two weeks after the Behavioral Risk Factor Surveillance Survey (BRFSS). BRFSS respondents who report ever being diagnosed with asthma are eligible for the asthma callback. The ACBS addresses critical questions surrounding the health and experiences of persons with asthma. Through the callback, the Washington Asthma Program collects detailed information on topics such as healthcare utilization, knowledge of asthma, asthma management, asthma medications, environmental factors, costs, co-morbid conditions, work related asthma, and complementary and alternative medicines. Learn more at: www.cdc.gov/asthma/ACBS.htm

Washington State Healthy Youth Survey (HYS)
The HYS is a "pencil-and-paper" school based survey of adolescents in grades 6,8,10 and 12 administered in the classroom. It is intended to monitor health-risk behaviors that contribute to morbidity, mortality, and social problems among youth in Washington. The survey is administered in the fall of even years and contains questions about behaviors that result in unintentional and intentional injury such as seat belt use, fighting and weapon carrying; physical activity and dietary behaviors such as fruit and vegetable consumption; alcohol, tobacco, and other drug use; and related risk and protective factors. It includes items from the CDC-sponsored Youth Risk Behavior Survey (YRBS) and Youth Tobacco Survey, the National Institute on Drug Abuse, Monitoring the Future survey, and the Social Development Research Group's Risk and Protective Factor Assessment instrument.

Valid state sample surveys in 2008 and 2010 are as follows:

	2008	2010	Total
Grade 6	9,068	11,549	20,617
Grade 8	8,730	9,723	18,453
Grade 10	6,907	6,889	13,796
Grade 12	5,601	5,908	11,509
Total	30,346	34,069	64,415

Local communities are offered the opportunity to participate in the survey in order to collect data for program planning and evaluation. In 2008 and 2010, an additional 358,000 students contributed to local level results. Only schools selected as part of a random state-level sample are included in this report. Learn more at: http://www.doh.wa.gov/DataandStatisticalReports/HealthBehaviors/HealthyYouthSurvey.aspx

Issues related to reported race/ethnicity
Death certificates use open-ended reporting of race, allowing for multiple racial entries. However, the multiple race data have not been used in this report because they are of uncertain quality and completeness.

The determination of race when more than one race is reported follows decision rules established by the National Center for Health Statistics. In most cases, the first race given is assigned as the person's race

Reporting of race/Hispanic origin on death certificates is sometimes based on observing the decedent rather than questioning the next of kin. This procedure causes an underestimate of deaths for certain groups, particularly Native Americans, some of the Asian subgroups, and Hispanics. Thus, death rates based on death certificate data are lower than true death rates for these groups. Learn more at: http://www.doh.wa.gov/DataandStatisticalReports/VitalStatisticsData/DeathData.aspx

Terms:

Age-adjustment– A method to standardize populations with different age distributions and allows for comparisons over time; also known as age-standardization. This is particularly important for age-related diseases. Unless otherwise indicated, all age-adjusted rates in this document have been adjusted to the 2000 U.S. standard population.

Body Mass Index (BMI) – A mathematical method to determine body fat in relation to lean body mass by dividing a person's metric weight by the square of the person's metric height. For this report BMI is defined as people who are not overweight (BMI <25), overweight (BMI between 25-29.9), or obese (BMI ≥30). For youth the cut points for obesity and overweight are based on age and gender specific growth charts developed by the CDC. Individuals in the top 5 percent for BMI based on age- and gender-specific growth charts are considered obese. Those in the top 15 percent, but not the top 5 percent, are considered overweight.

Confidence interval (CI) – An indication of a measurement's precision with a narrow confidence interval indicating high precision and a wide confidence interval indicating low precision. This is sometimes called the "margin of error."

Current asthma –When a survey respondent reports that they have ever been told they have asthma AND they still have asthma at the time they took the survey.

Federal Poverty Level (FPL) – A general term which refers to the federal poverty guidelines, an income level based on the number of people in a family unit. The poverty threshold is calculated annually by the Health and Human Services for administrative purposes, such as determining financial eligibility for federal programs. In this report FPL is defined as people who are above 200 percent FPL, 100-200 percent FPL (near poor), or below FPL (poor).

Lifetime asthma - When survey respondents report they have been told by a doctor, nurse, or other health professional they have asthma.

Prevalence – The percentage of a defined population with a disease at a given time.

Rate – A fraction calculated by dividing the number of people affected by a problem by the number of people at risk of experiencing the problem. Rates are generally expressed in relation to a specific time period and multiplied so the rate is not expressed as a fraction. In this report we express maternal smoking, hospitalizations, and mortality rates per 100,000 people.

Risk factor – A personal habit or characteristic, clinical condition, or environmental exposure that is associated with an increased probability or severity of disease.

Second-hand smoke (SHS) exposure – Inhalation of air containing tobacco smoke from someone else smoking. Also known as environmental tobacco smoke.
Adult - smoking occurring in the home in the past 30 days.
Adult Call back –smoking inside the home in the past 7 days.
Youth –smoking in a room in the past 30 days.

Statistically detectable – An observed difference between two populations is determined to be statically detectable (significant) if it is unlikely to have occurred randomly or by chance. If there is more than a 5 percent probability that the differences we see are due to chance, we say that there is no statistically detectable (or significant) difference.

Surveillance - The ongoing systematic collection, analysis, and interpretation of health data. Surveillance is essential to the planning, implementation, and evaluation of public health practice.

Synthetic high school estimate – A generated high school estimate using grade-adjusted weighting and weights for the non-surveyed grades 9 and 11. The combined estimate also allows for more robust analysis, especially for minority populations.

Tobacco Use – Adults that ever smoked at least 100 cigarettes in their lifetime and currently smoke every day or someday; Youth that smoked a cigarette in the past 30 days

Trigger – A risk factor that causes exacerbations of asthma. Triggers are secondhand smoke, exercise, mold, pet dander, etc.

Youth Substance Abuse – Using marijuana in the past 30 days.

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[7]Data Source: Washington State Department of Health, Center for Health Statistics, Behavioral Risk Factor Surveillance System, supported in part by Centers for Disease Control and Prevention, Cooperative Agreement U58/CCU022819 and DP001996-1.

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