



MASON COUNTY
COMMUNITY SERVICES

Mason County Community Health Assessment

2018

Mason County Public Health

A Safe and Healthy Mason County

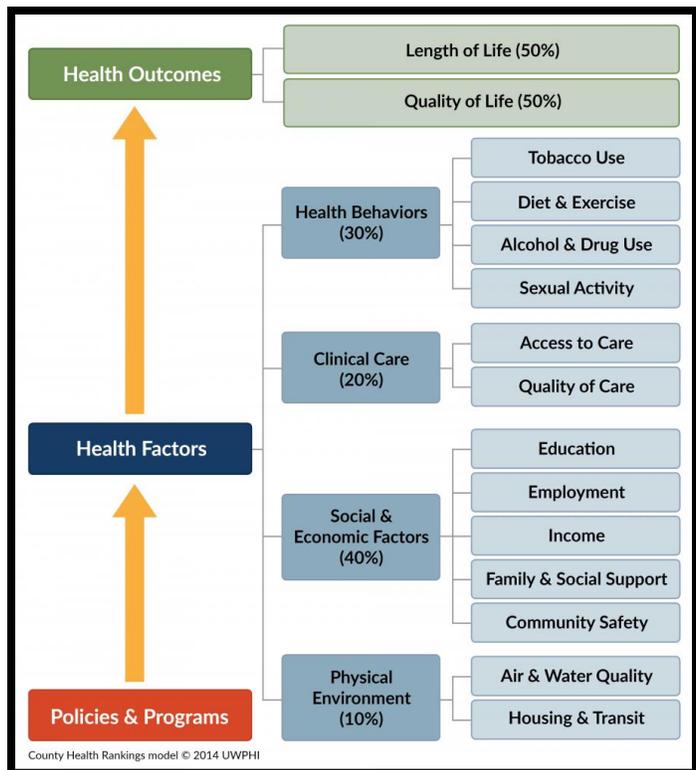
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Purpose

The Community Health Assessment is a review of various health data used to paint a picture of the current health status of a community and monitor its progress over time. The local data reported in this section is organized by the Health Rankings Model (1). The findings of this assessment will be used to identify the health priorities of focus for the latest Mason County Community Health Improvement Plan.

Health Rankings Model

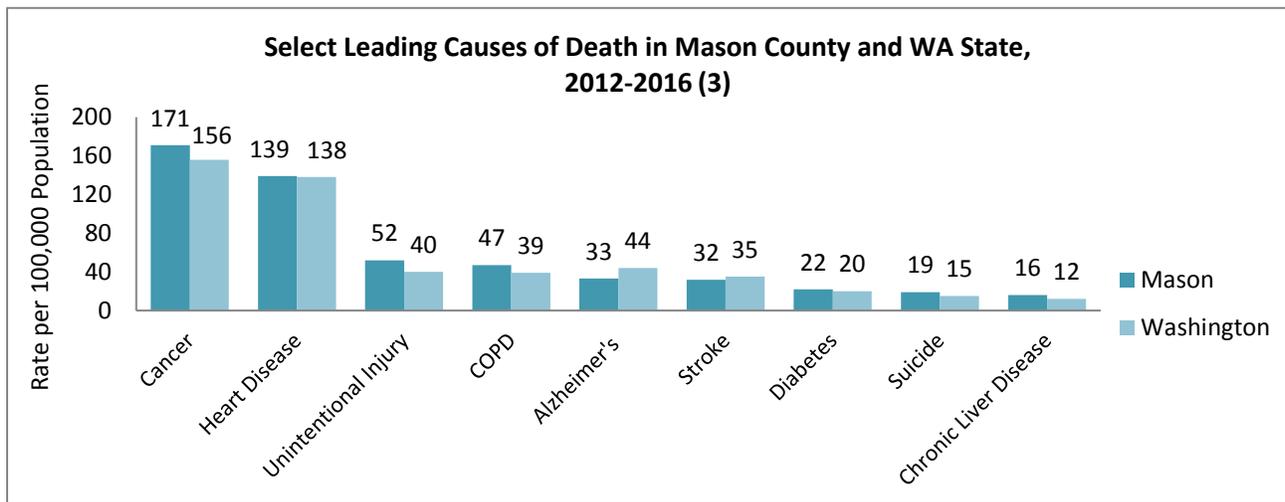
The Health Rankings Model (1) emphasizes the many factors in population health that, if improved, can help make communities healthier places to live, learn, work and play. In the Health Rankings Model, the current health status of a community is called **health outcomes**, which is ranked by rates of mortality (premature death) and morbidity (chronic diseases). These health outcomes are influenced by **health factors** in a community; ranked by a calculation of various health behaviors, clinical care, social and economic, and physical environment measures. Health Factors represent what will influence the future health of a community, while health outcomes represent how healthy a community is today (1). There are evidence-based **policies and programs** that a community can implement to improve health factors and, ultimately, improve its health outcomes.



HEALTH OUTCOMES

Mortality

The life expectancy for a child born between 2012 and 2016 in Mason County is 79.1 (2). Meaning a person born in Mason County between 2012 and 2016 can be expected to live 79.1 years on average. In comparison, the life expectancy for the state of Washington for that same period was 80.3 years (2). Mason County's life expectancy rate is increasing over time; between 1993 and 1997 the life expectancy for a newborn child was 75.3 years (2). The top 3 leading causes of death for both males and females in Mason County are cancer, heart disease and unintentional injury, in that order (3). Mason County has higher mortality rates due to cancer, unintentional injury, chronic obstructive pulmonary disorder (COPD), and chronic liver disease (3). The cancer type

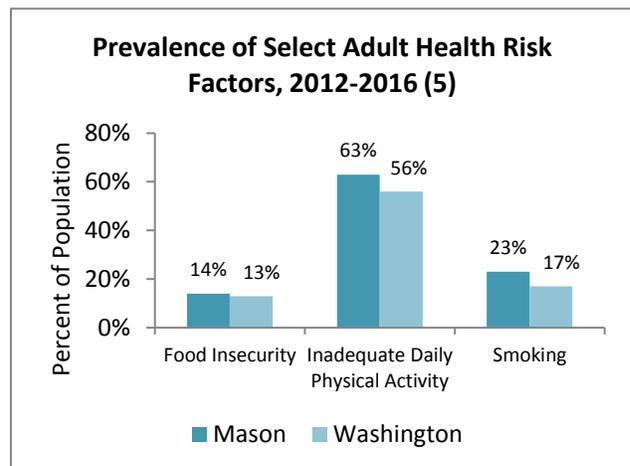
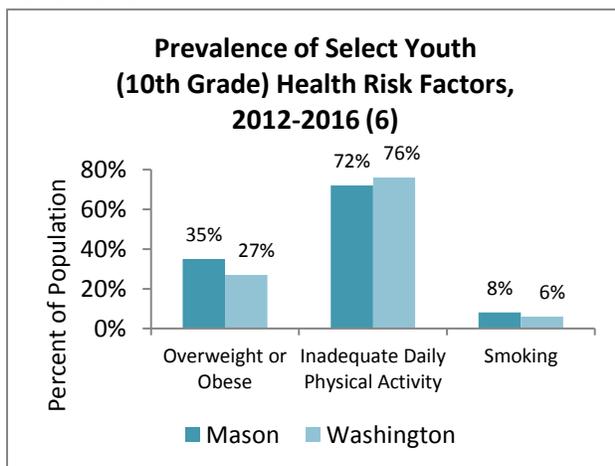
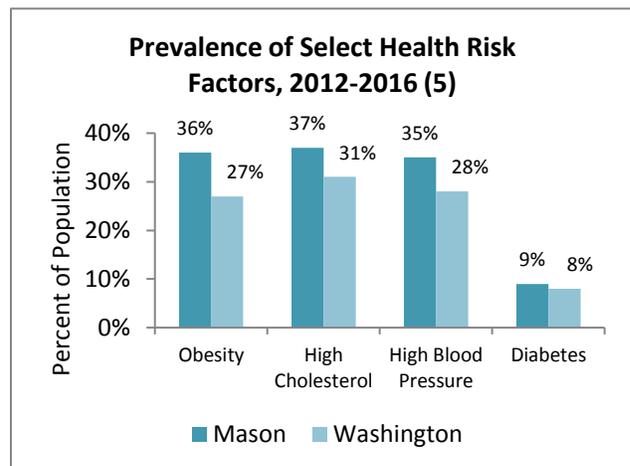


that results in the most deaths in Mason County is lung cancer. Between 2007 and 2016 the age-adjusted mortality rate as a result of lung cancer was 53.2 deaths per 100,000 or 480 deaths. Mortality rates associated with Alzheimer's are lower in Mason County; while death rates associated with heart disease, stroke, diabetes and suicide are similar to the state's rates (3). Although Mason County experiences approximately only 3 child deaths per year, the childhood mortality rate is also higher than the rate for the state (3).

Morbidity

Health outcomes are also determined by community morbidity measures (1). Morbidity describes how healthy individuals feel. Mason County adults report more poor health days, due to either physical or mental health conditions compared to other adults in the state (5).

Many of the leading causes of death and chronic health conditions are caused or exacerbated by unhealthy lifestyle behaviors.



Behaviors such as lack of physical activity, poor nutrition, and sedentary lifestyle can lead to higher incidences of obesity. In addition to being the second leading cause of death in Mason County, heart disease was the leading cause of hospitalizations; resulting in 3,111 hospitalization events between 2011 and 2015 (3,4).

Smoking behaviors can also increase a person’s risk of illness. Both Mason County adult and youth populations have higher smoking rates when compared to states rates (5,6). However, smoking rates have decreased over time (5,6).

HEALTH FACTORS

There are a plethora of factors that influence a person’s overall health. The Health Rankings Model focuses on four main health factors that influence the future health of the county. The four factors include: Social and Economic Factors, Healthy Behaviors, Clinical Care, and Physical Environment (1). The remainder of this report will discuss the health indicators that make up the four Health Factors.

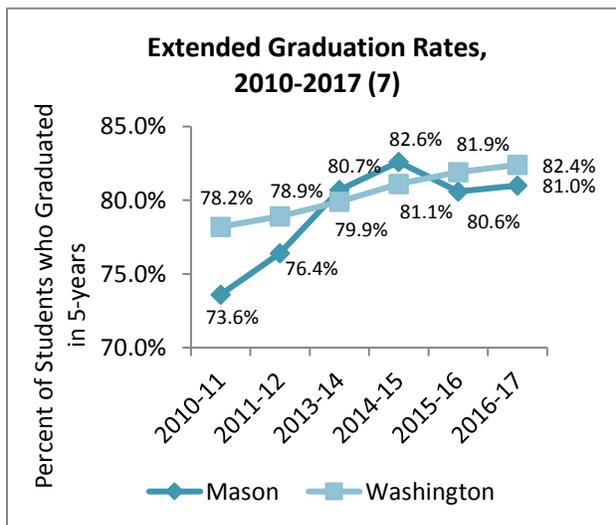
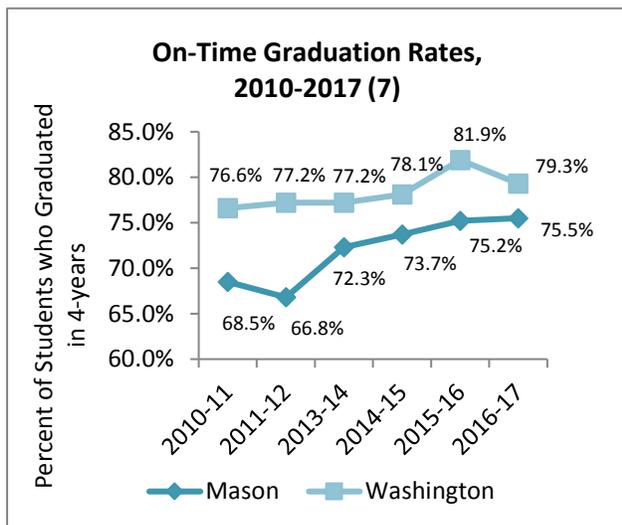
Social and Economic Factors

The Health Rankings Model estimates that 40% of our health is influenced by the social and economic conditions in which we live (1). This is demonstrated in the Health Rankings Model diagram on page 1 of this report. Some examples of social and economic factors of interest are education, employment, income, poverty and crime.

Graduation Rates

Historically, Mason County’s high school graduation rates have been lower than the state rates for both on-time and extended graduation (7). On-Time graduation rates in Mason County are improving over time (7).

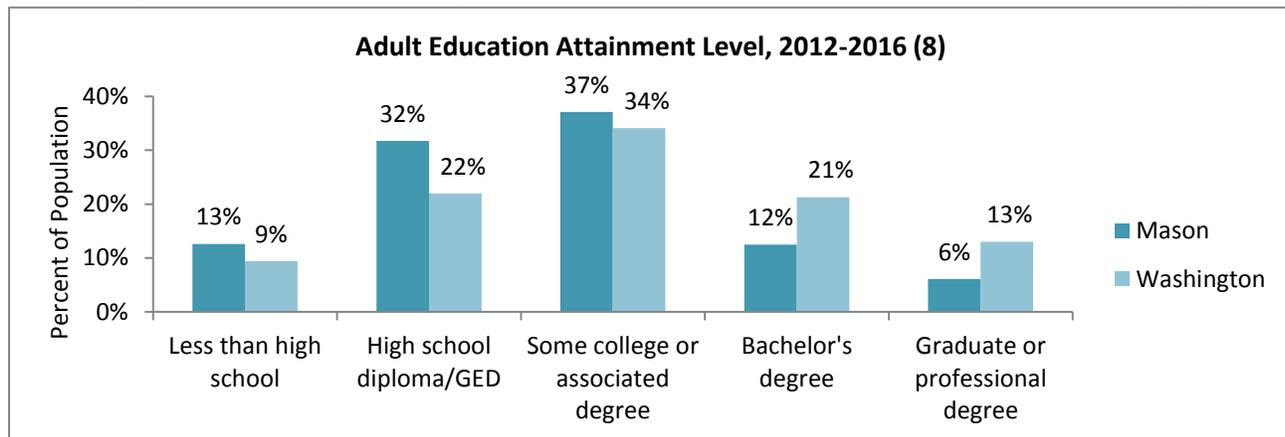
Comparison of Key Indicators		
Social and Economic Factors	Mason	Washington
On-time graduation rates (2013-2017)	76%	79%
Adults w/ some college education or higher (2012-2016)	55%	68%
Unemployment rate (2017)	6.6%	4.8%
Children in poverty (2016)	27%	17%
Income inequality ratio (2012-2016)	4.3	4.7
Single-parent households	37%	29%
Violent crime rate (per 1,000)	1.4	1.5
Injury deaths rate (per 100,000)	52.1	40.0



Extended graduation rates include students who completed their high school diploma after their expected year of graduation (7). Extended graduation rates have also improved over the past seven years (7).

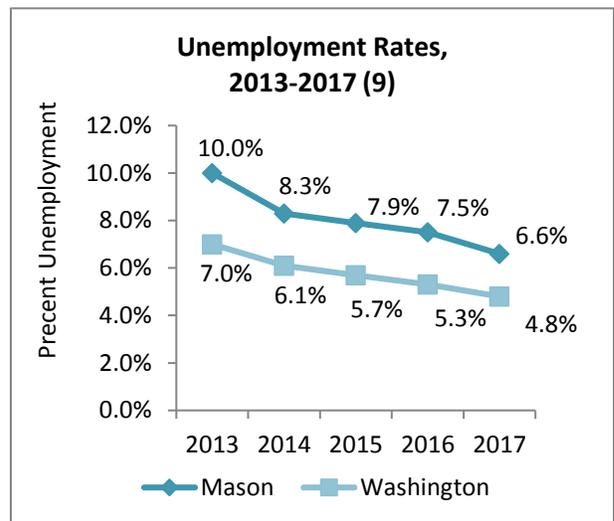
Educational Attainment

Mason County’s adult education attainment levels have been and continue to be lower than state rates (8). However, local rates have increased when compared to rates of the previous decade. Mason County has a higher percent of adults with less than a high school diploma and a lower percent of adults who have completed a college degree. Thirty-four percent of Washington State residents have a Bachelor degree or higher, while only 18% of Mason County residents has attained this same education level (8).



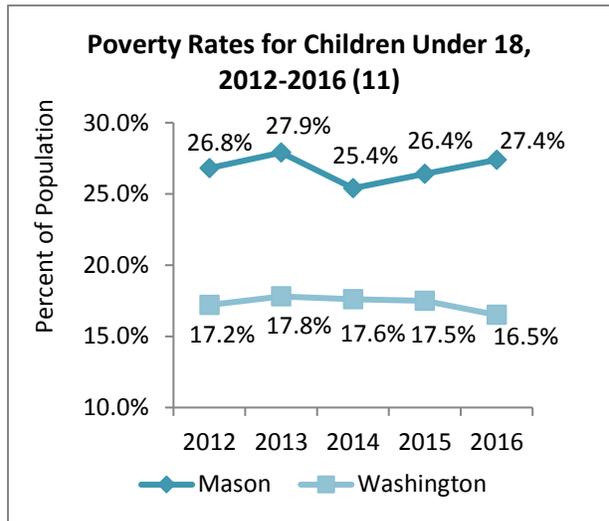
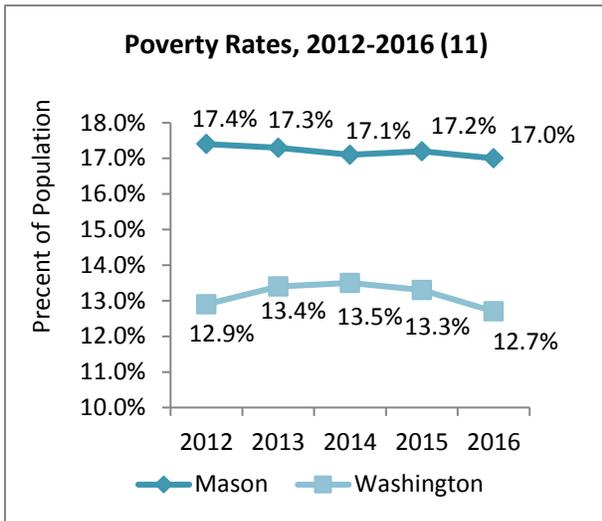
Unemployment Rate

Mason County’s unemployment rates have been consistently higher than the state’s rates over a number of years. Most recently in 2017, Mason County’s unemployment rate was 1.8% higher than the state’s rate (9). Mason County has experienced a slower recovery since the economic downturn of 2008. Despite the slow recovery, unemployment rates continue to fall in Mason County, with a 3.4% improvement in rates occurring since 2013 (9).

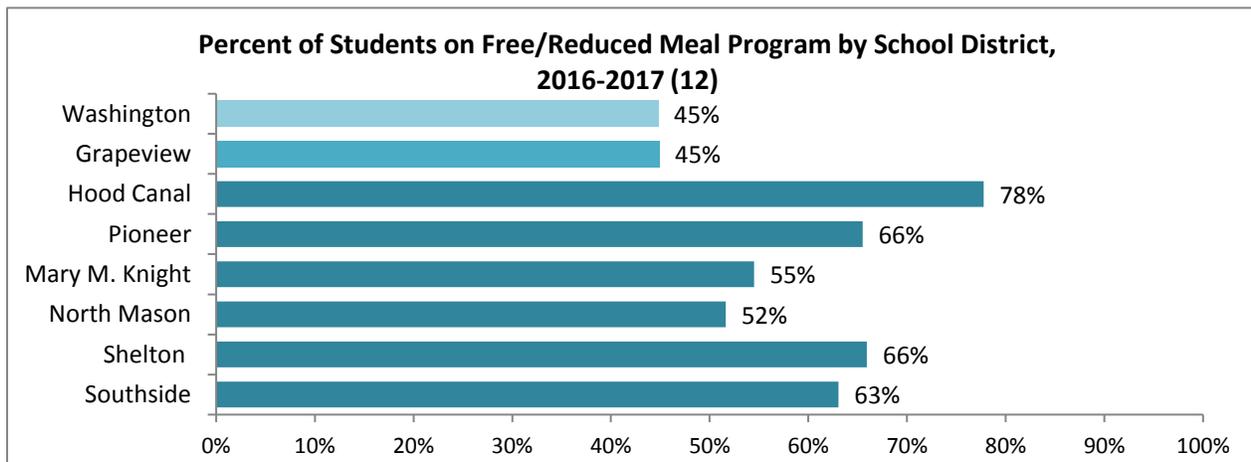


Poverty and Income Inequality

Poverty rate is defined as “living at or beyond the Federal Poverty Guidelines.” In 2016, the poverty threshold for a family of four with two children under the age of 18 was any family making at or below \$24,339 a year (10). In Mason County, 17% of residents met these criteria and were living below the federal poverty level (11). That same year, 1 in 4 Mason County children, under the age of 18, lived in poverty (11). Over time the total poverty rate has decreased but by a minimal amount. The poverty rates for children have remained consistent, with a quarter of children in Mason County living in poverty (11).



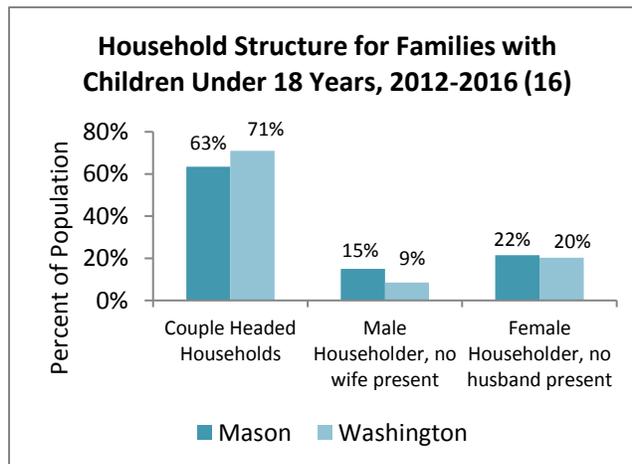
The incidence of children in poverty is not evenly spread across the county, as indicated by Free and Reduced Meal Program data (12). All but one Mason County school district reported higher rates of poverty compared to the state average (12).



Income inequality can also be an indicator of health outcomes (1). Income Inequality is defined as the ratio of household income at the 80th percentile to that at the 20th percentile. A higher inequality ratio indicates greater division between the top and the bottom ends of the income spectrum. Between 2012-2016, Mason County's income inequality ratio was 4.3 which was consistent with Washington state's ratio of 4.7 (13). Since 2013, the income inequality ratio has been increasing in Mason County along with Washington State's ratio (13).

Household Structure

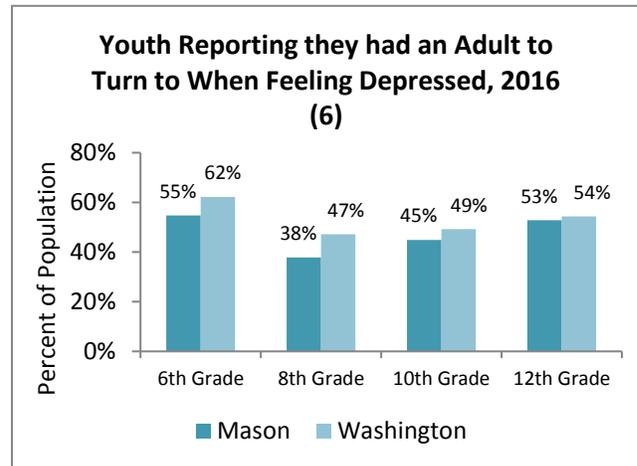
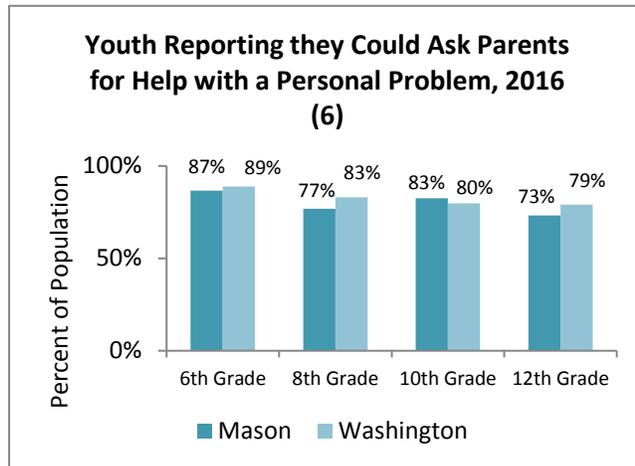
Single parenthood presents unique challenges in regard to social interaction (1). Both parents and children living in single parent households experience poorer health outcomes. In 2016, the divorce rate in Mason County was 4.8 per 1,000 persons, with a recorded 252 divorces (14).



Divorce rates in Mason County have remained relatively the same in the past 10 years (14). The majority of families in Mason County with children under the age of 18 are headed by couples (16). However, 37% of families are single parent households (16).

Social and Emotional Support

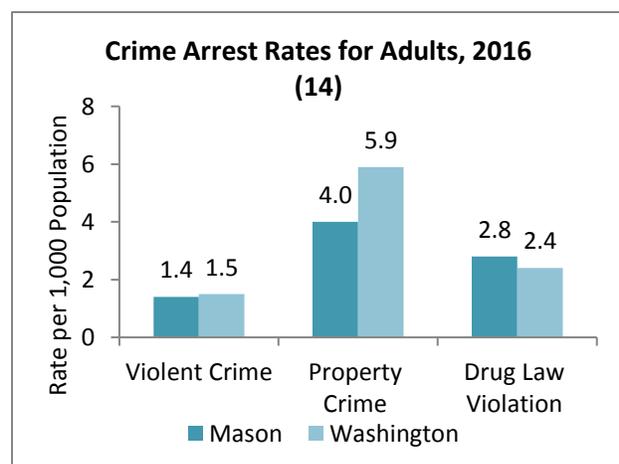
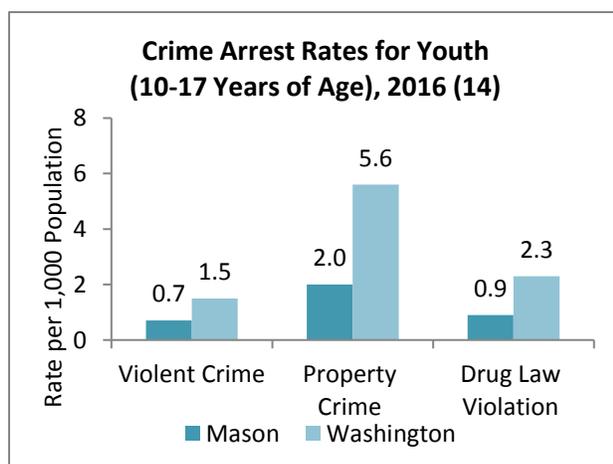
Research shows that individuals with limited social and emotional support experience poorer health outcomes (1). The majority of Mason County youth report having consistent social and emotional support (6). 3 out of 4 youth reported that they could ask their parents for help with a personal problem (6).



Over half of those same youth also reported having an adult in their lives they could turn to if they felt depressed (6). For 8th grade students in particular in Mason County, the percent of youth who feel they have an adult they can turn to for help has changed over time. In 2006, 49% of 8th graders reported having a supportive adult, then in 2010 this number fell to 46% (6). Finally in 2016, only 38% of Mason County 8th graders reported feeling they had an adult they could turn to when they felt depressed (6).

Crime Rates

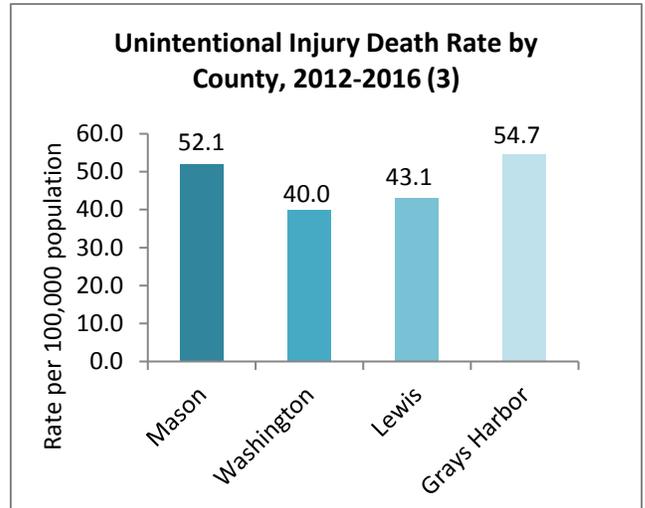
The safety of the community in which we live and work can also be an indicator of health outcomes (1). In Mason County, the arrest rates for youth ages (10-17) are lower than the state's rates for all types of crime (14). The total arrests for youth in Mason have decreased significantly over the past decade. In 2005, there were 381 recorded arrests for youth ages 10-17, compared to a mere 47 arrests in 2016 (14).



For adults, Mason County arrest rates are lower than the state's rate for property crime, similar to the state for violent crime, and higher than the state for drug law violations (14). Arrest rates for adults over time have remained relatively the same (14).

Unintentional Injury Deaths

The final indicator used to assess social and economic health is injury death rates (1). Between 2012 and 2016, deaths due to unintentional injury or accidents were the third leading cause of death for Mason County residents, occurring at an age-adjusted rate of 52.1 per 100,000 (or 186 deaths) (3). This rate is higher than the state's rate for that same time period of 40.0 per 100,000 (3). The top 3 causes of unintentional injury death in Mason County between 2007 and 2016 were poisoning, motor vehicle-traffic, and falls, in that order (3). Death rates due to unintentional injury have remained consistent over the past two decades (3).



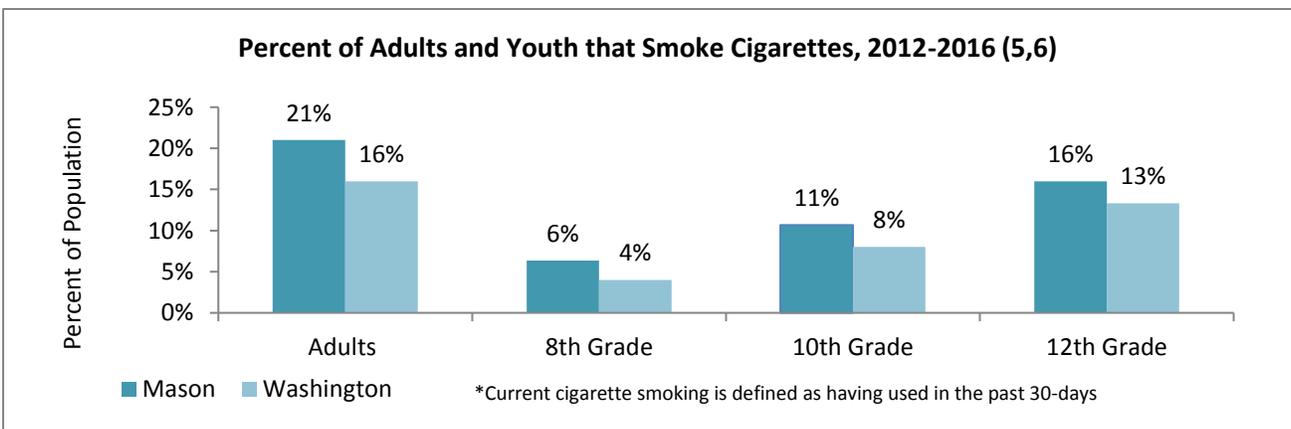
Health Behaviors

The Health Rankings Model estimates approximately 30% of our health is influenced by an individual's health behaviors (1). This is demonstrated in the Health Rankings Model diagram on page 1 of this report. Some examples of health behaviors of interest are substance use, physical fitness and safe sex practices.

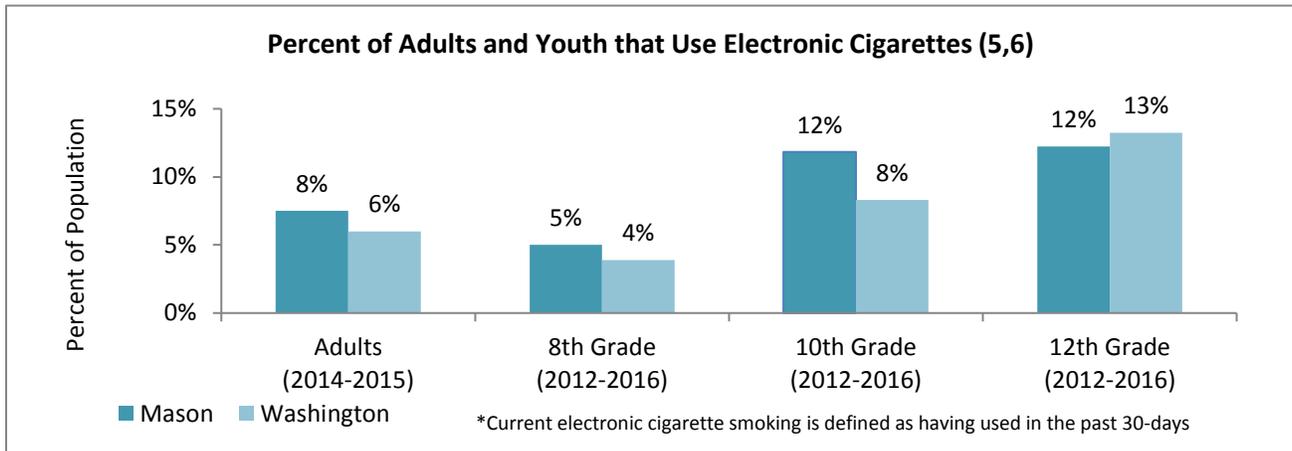
Comparison of Key Indicators		
Health Behaviors	Mason	Washington
Adult Smoking (2012-2016)	21%	16%
Adult Obesity (2012-2016)	36%	24%
Physical Inactivity (2016)	23%	17%
Excessive Drinking (2012-2016)	16%	17%
Alcohol-Impaired Driving Deaths (2012-2016)	33%	34%
Sexually Transmitted Infections (rate per 100,000) (2017)	349.7	444.0
Teen Births (rate per 1,000 females ages 15-19) (2010-2016)	36	21

Cigarette Smoking

The smoking rates of both adults and youth in Mason County have historically been higher than the state's rates. Between 2012 and 2016, 21% of Mason County residents



were current smokers compared to 16% of Washington state residents (5). Since 2012, smoking rates among adults in Mason County have remained around 1 in 5 residents. However, youth smoking rates have been decreasing since 2008. For example, 22% of 10th graders were current cigarette smokers in 2008, compared to only 8% in 2016 (6). Current smoking was defined as having smoked in the past 30 days (6).

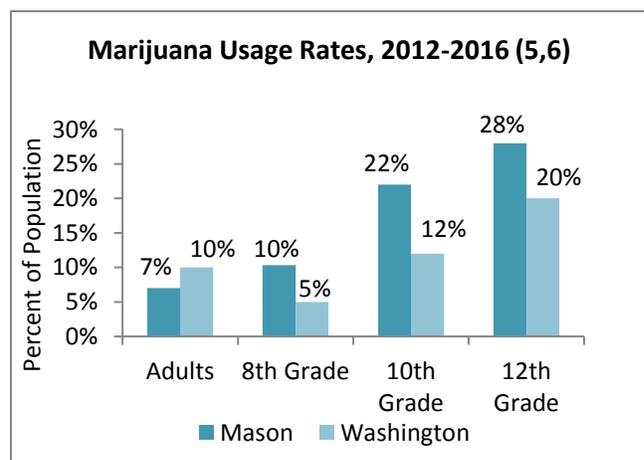
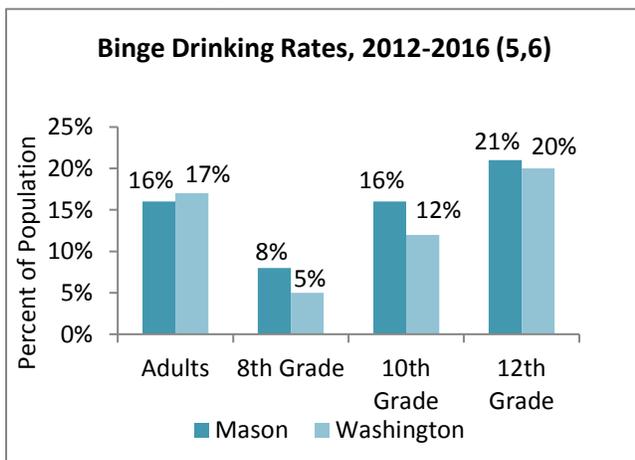


‘Vaping’ or electronic cigarette use has become more popular in recent years. Between 2012 and 2016, 12% of Mason County 10th graders reported using electronic cigarettes, compared to 8% of 10th graders in Washington State (6). Electronic cigarette usage has been rising nationally since 2013 (15).

Substance Use

Substance use and abuse is an individual health behavior that strongly influences health outcomes (1). Compared to the state, Mason County adults have lower usage rates of marijuana and similar heavy alcohol usage rates (5). Adult marijuana use rates have remained consistent since 2012, whereas heavy alcohol usage rates have decreased (5).

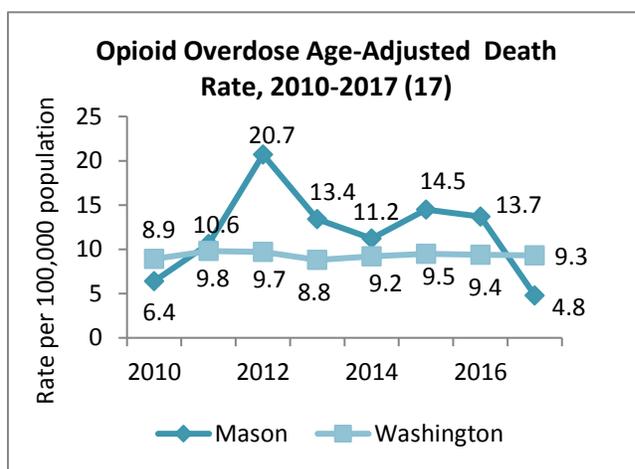
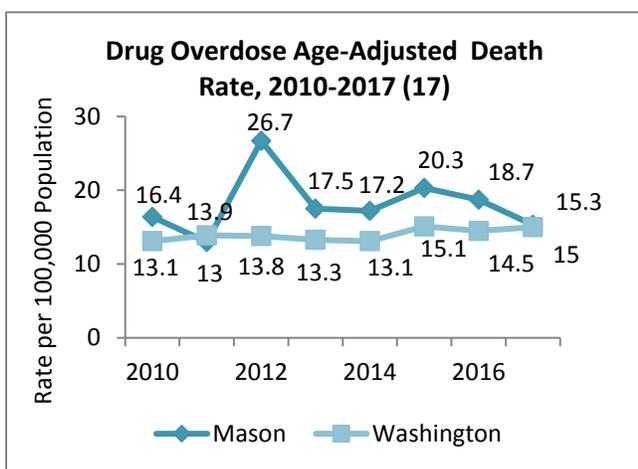
Mason County youth have higher binge drinking rates compared to the state at each grade level (6). Binge drinking is defined as having five or more drinks in a row in the past 2 weeks (6). Binge drinking rates among youth have decreased over time (6). In 2006, 28% of 12th graders reported binge drinking compared to only 16% in 2016 (6). Between 2012 and 2016, 1 in 4 12th graders had used marijuana in the past 30 days (6). Marijuana usage rates have remained consistent at each grade level since 2006 (6).



Deaths as a result of drugs **or alcohol** have remained relatively the same over the past decade (14). Between 2012 and 2016, the rate of death due to drugs or alcohol in Mason County was 13.8 per 100 deaths, compared to 12.7 per 100 for Washington State (14).

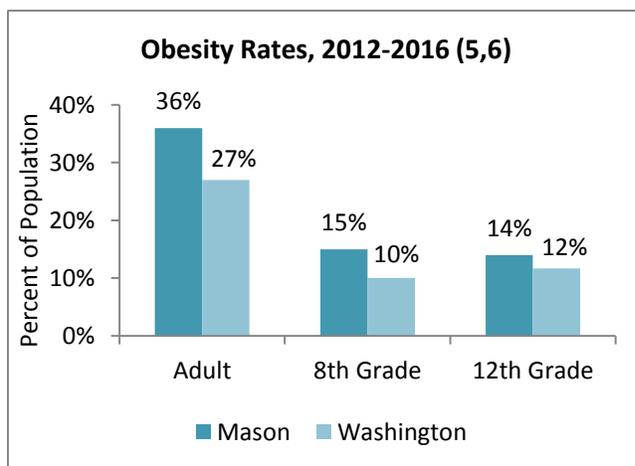
Drug Overdose Deaths

Drug-specific overdose deaths have been increasing in Mason County for a number of years. Prior to 2010, death rates due to any drug overdose were as low as 8.2 per 100,000 population (17). In 2016, the rate of any drug overdose deaths in Mason County was higher than the state's rate (17). That same year, Mason County Community Services-Public Health Division began their work in reducing drug overdose deaths. In 2017, the age-adjusted death rate due to any overdose decreased by 22% compared to the previous year (17). The age-adjusted death rate due to opioid overdose dropped even further from 13.7 per 100,000 to 4.8 per 100,000, a 65% decrease (17).



Obesity

Although Mason County and Washington State report similar rates for adult diabetes (8%), a larger portion of the Mason County adult population is diagnosed as obese. Between 2012 and 2016, the obesity rate for Mason County adults was 9% higher than the state's rate (5). Adult obesity rate in Mason County has fluctuated up and down over the past five years. There is not enough data for Mason County residents to understand how obesity rates have changed over time. However, Mason County rates are likely consistent with national rates which have been increasing steadily since 2000 (18). Being obese prior to getting pregnant can result in negative health

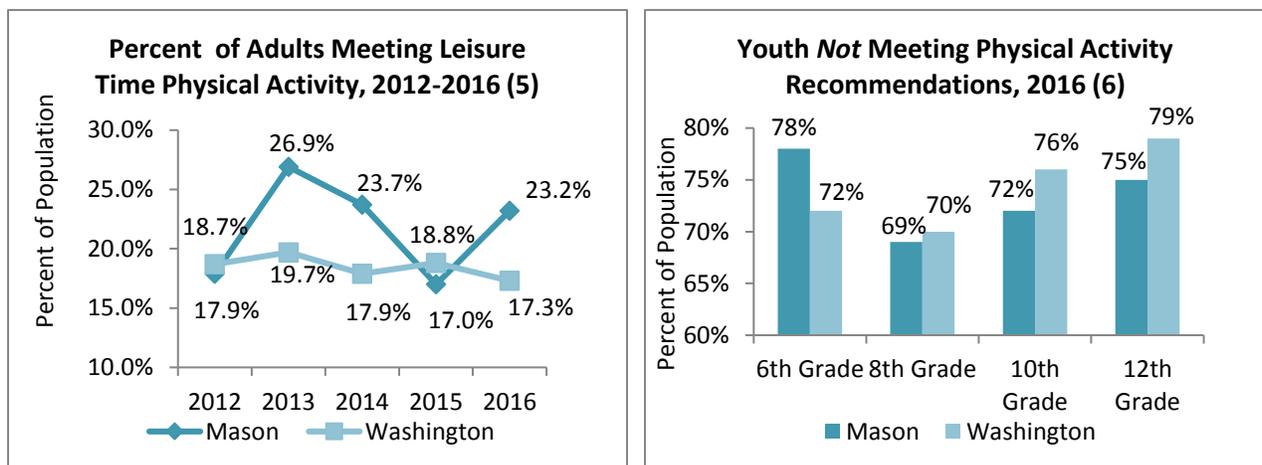


outcomes for both mother and baby (19). Between 2012 and 2016, 1 in 3 mothers (35%) in Mason County had a BMI of 30 or greater prior to pregnancy (20).

Mason County’s youth also experience higher rates of obesity when compared to the state. For example, 17% of Mason County 10th grade students are obese, compared to a state average of 11% (6). Youth obesity rates have remained relatively consistent over time in Mason County (6).

Physical Activity

Less than a quarter of Mason County adults participate in leisure time physical activity, however this percentage increased from 2012 (5). Leisure time physical activity is defined as “physical activity or exercises such as running, calisthenics, golf, gardening or walking for exercise” (5). In 2016, 72% of 10th graders in Mason County **did not** meet the recommendations for 60 minutes of physical activity 7 days a week, compared to the state’s 76% (6). Since 2006, the percentage of 8th graders in Mason County meeting the physical activity recommendation has increased by 12% (6).



Sexually Transmitted Infections

Sexually transmitted infection indicators are typically based upon reported Chlamydia cases, as Chlamydia is the most commonly reported sexually transmitted infection (1). In 2017, the rate of Chlamydia infection was 349.7 per 100,000 in Mason County, which was less than the state rate of 444.0 per 100,000 (21). Despite the overall rate being lower than the state’s, Chlamydia infection rates are increasing in Mason County. Since 2008, Chlamydia infection rates have increased by 44% (22).

The teen birth rate in Mason County has historically been higher than the state’s (23). Between 2010 and 2016 there were 36 births per 1,000 female population ages 15-19, compared to 21 births per 1,000 for Washington State (23). The teen birth rate in Mason County varies by demographic. For instance, the teen birth rate among Hispanics is 73 births per 1,000 female population ages 15-19, compared to 31 births per 1,000 among Whites (23).

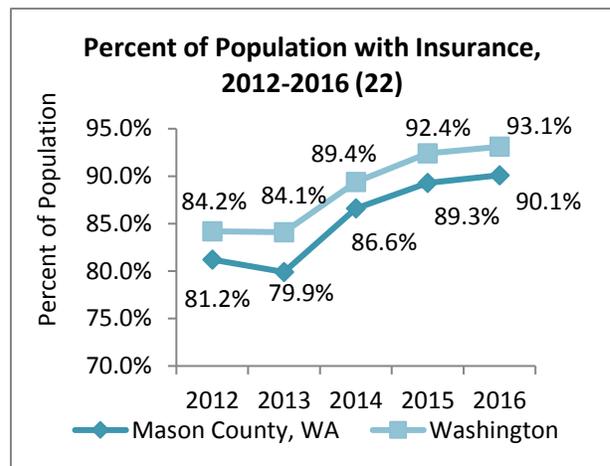
Clinical Care

Clinical Care factors account for 20% of a community's health status as demonstrated in the Health Rankings Model diagram on page 1 of this report (1). Clinical care considers both 1) access to care and 2) quality of care issues.

Comparison of Key Indicators		
Clinical Care	Mason	Washington
Uninsured (2016)	10%	7%
Primary Care Physicians (2015)	4,070:1	1,200:1
Dentists (2016)	2,590:1	1,250:1
Mental Health Providers (2017)	830:1	330:1

Health Insurance Status

The quality of health care in a community is dependent on an individual's ability to access both health insurance coverage and health care providers (1). Since 2013, the number of individuals who are insured has been increasing (24). In 2016, 90% of Mason County residents were insured compared to 93% of Washington state residents (24). In 2016, 95.6% of children under the age of 19 in Mason County were also insured. That same year, 97.3% of children under the age of 19 were insured in Washington State (24).



Access to Care

Accessing health care providers can be a challenge in Mason County due to barriers like geographical distances and provider shortages. In 2015, the ratio of Mason County's population to primary care physicians was 4,070:1 (25); meaning there is only one primary care provider per every 4,070 residents in Mason County. In comparison, the ratio for Washington State was 1,200:1 (25). As a result, many residents are forced to leave the county to access primary care, or utilize urgent cares and emergency departments. In 2016, the population to dentist ratio was 2,590:1, which was two times higher (worse) than the state's ratio of 1,250:1 (25). Finally, the ratio of residents to mental health care providers was two and half times higher than the states ratio. In 2017, Mason County's ratio was 830:1, compared to the states ratio of 330:1 (26).

Physical Environment

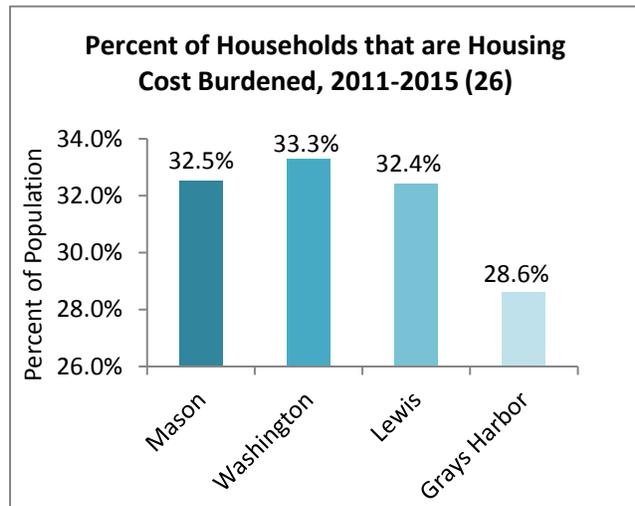
Physical Environment factors account for 10% of a community's health status as demonstrated in the Health Rankings Model diagram on page 1 of this report (1). Some examples of physical environment factors of interest include housing stock, housing cost, and water and air quality.

Housing Stock

According to the American Community Survey, between 2012 and 2016 there were 32,617 housing units located in Mason County (27). Of that total, 22,454 units are currently occupied with 77% of units being owner-occupied and 23% of units being rentals (27).

Housing Cost

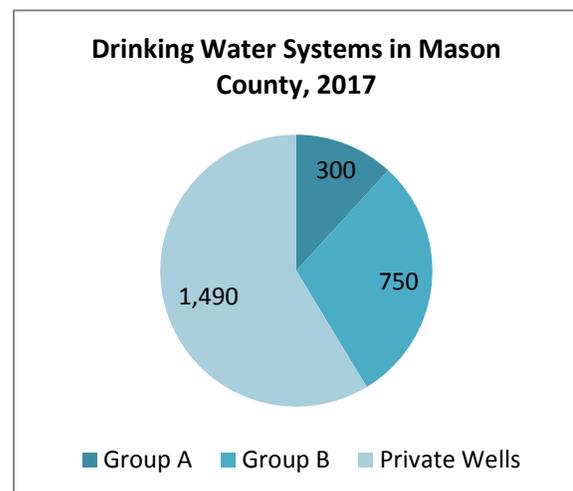
A measure used to identify housing problems is housing cost burden (1). Housing cost burden is the ratio of housing cost (including utilities) to household income (28). The U.S. Department of Housing and Urban Development (HUD) considers households that pay more than 30 percent of their income for rent or housing costs (including utilities) as housing cost burdened (29). One third (33%) of Mason County residents have a housing cost burden greater than 30 percent of their income (28). Of those residents that are housing cost burdened, 35% of household are renters and 65% are owner households (28). Mason County has a lower housing cost burden compared to the State of Washington, but a higher housing cost burden compared to neighboring Grays Harbor County (28).



Water Quality

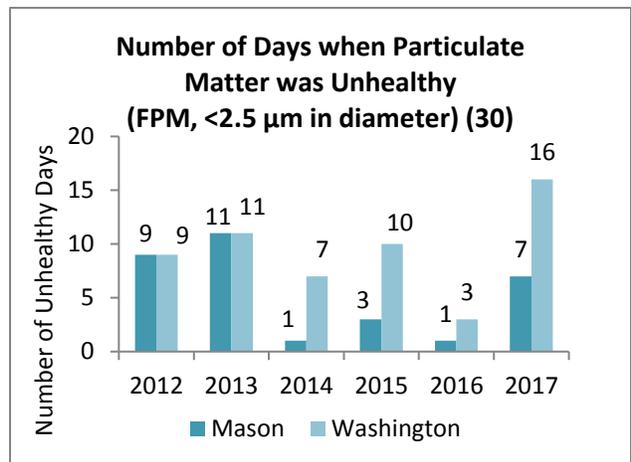
Mason County residents receive drinking water from three different types of public water systems: Group A, Group B, and private wells (30). Group A systems are the largest type of system and are regulated by the State Department of Health Office of Drinking Water (30). Group B systems are smaller systems and are regulated by Mason County Public Health (30). Homeowners with private wells are responsible for monitoring their own drinking water systems for quality.

Open shellfish harvesting areas are an indicator of good water quality (31). Washington State monitors marine water quality to assure safe shellfish for the consumer (31). In addition to shellfish harvesting, stringent water quality requirements exist to assure the public's health is protected. At the beginning of 2018, 350 acres in Mason County were restored to harvestable shellfish acreage. This increase in harvestable shellfish acres indicates the correction of pollution sources (31).



Air Quality

The relationships between air pollution and poor health outcomes have been well documented (32). Unsafe levels of air pollution can lead to decreased lung function, chronic bronchitis, asthma and other adverse pulmonary effects. In Mason County, the main source of particulate matter is wood burning fire emissions. Forest fires are also a source of particulate matter. One way to evaluate the quality of the air is to measure particulate matter less than 2.5 micrograms in diameter. Particulate



matter days are a measure of the annual number of days that air quality was unhealthy for sensitive populations due to fine particulate matter of $20.4 \mu\text{m}^3$ or above (32). Higher values seen in 2017 are largely due to wildfire events (32).

Conclusions

Strengths

The current health status of Mason County residents has improved over time as demonstrated by an increase in the life expectancy of the average resident (2). Some other strengths to highlight in this report include graduation rates, arrest rates, health insurance rates, unemployment rates and water and air quality.

- Graduation rates in Mason County are improving (7)
- Crime rates for youth are lower for all types of crime and have decreased over the past decade (14)
- Crime rates for adults are lower for property crime (14)
- Binge drinking rates for both adults and youth have decreased over time (5,6)
- Unemployment rates are decreasing (9)
- The number of individuals in Mason County who have health insurance is increasing (24)
- Water quality continues to improve (31)
- Air quality is good for the majority of the days in each year (32)

Weaknesses

In addition to demonstrating our strengths, this report has highlighted some areas where Mason County can work to make improvements. Some notable measures where improvements could be made include substance use, obesity, safe sex practices, and poverty.

- Cigarette smoking rates remain higher than the state for both adults and youth (5,6)
- Electronic cigarette or 'vaping' rates are increasing (5,6)
- The rate of drug overdose deaths from any type of drug is higher in Mason County (17)
- Adult and youth obesity rates remain higher than the state (18)
- The increase in Chlamydia cases demonstrate a reduction in safe sex practices (19,20)
- The population of Mason County residents that live in poverty remains higher than the state (11)
- One third of Mason County residents are housing cost burdened (28)

The findings of this assessment will be used to identify the health priorities of focus for the Mason County Community Health Improvement Plan. The purpose of the Community Health Improvement Plan is to develop strategies to address the health priorities that are identified by the Community Health Improvement Plan Committee.

Questions about this report may be directed to

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