

# Polk County



## Community Health Assessment 2015

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# Executive Summary

The local public health system in Oregon is in the midst of many changes. The Modernization of Public Health Bill (HB 3100) passed in the summer of 2015, allowing state and local partners greater flexibility to work toward a shared vision with standard foundational capabilities and programs at the core. One of these foundational capabilities is assessment and epidemiology: the ability for a local public health system to effectively and competently analyze and communicate health data to partners and the community. The Modernization of Public Health comes to Oregon on the heels of healthcare transformation with the creation of coordinated care organizations in the fall of 2012 and early learning hubs in the summer of 2013. The idea that resources can be aligned to achieve health, learning and social outcomes for a better community is at the crux of our changing systems.

In the summer of 2014, Marion and Polk health departments began to discuss a vision for a joint community health assessment and improvement plan. Marion and Polk counties sit in the heart of the Willamette Valley separated by the Willamette River. Both counties enjoy working with similar partners including Salem Health, Kaiser Permanente, Willamette Valley Community Health, OSU Extension, Early Learning Hub, Inc., and United Way. Many of our joint partners are required to conduct community health assessments every few years. Driven by shared data needs, Marion and Polk counties began planning for a joint community health assessment in September 2014. During the first few meetings, we gathered our mutual partners and formed the Steering Committee. We created our shared vision to set the tone for the year to come: *Marion Polk Community Health Assessment Steering Committee will ensure the community health assessment represents the whole community by looking at the broad definition of health including the community system and the environment.*

The Steering Committee selected the national model, *Mobilization for Action through Planning and Partnerships* or MAPP as the framework for the community health assessment. The four assessments of the MAPP framework include: Community Themes and Strengths, Local Public Health System Assessment (conducted in 2013), Community Health Status Assessment and The Forces of Change Assessment.

The Community Themes and Strengths Assessment was conducted by surveying community partners working in social, health, community, educational and correctional health settings and the community-at-large. The surveys used in both Marion and Polk counties consisted of the same questions and used the 2011 Marion County survey as a template. Paper and electronic surveys were allocated based on population distribution throughout our communities.

The Local Public Health System Assessment was conducted in 2013 and will be updated in late 2015/early, 2016 by an Americorps VISTA Volunteer.

The Community Health Status Assessment was conducted by compiling data from the Data Dashboard provided by the four hospitals (Salem Health, West Valley Hospital, Silverton Hospital and Santiam Hospital). This assessment focuses on the use of valid and reliable data sources such as the Behavior Risk Factor Surveillance Survey and Oregon Healthy Teens.

The Forces of Change Assessment was conducted with United Way, Salem Health staff, Marion County Health Advisory Board, Polk County Health Advisory Board, and the Willamette Valley Community Health Clinical Advisory Panel. United Way, Salem Health, and Willamette Valley Community Health serve both Marion and Polk counties. The Forces of Change Assessments were conducted by Health Department Staff in all locations except for Salem Health. Notes were transcribed and are included throughout this assessment.

Based on the data, the Steering Committee selected four priority areas including Timeliness of Prenatal Care, Obesity Prevention, Depression Screening and Tobacco Cessation. Marion and Polk counties held five community forums in Woodburn, Salem, Stayton, Dallas, and Independence to gather feedback on strengths, barriers and potential policy changes to affect these priority areas.

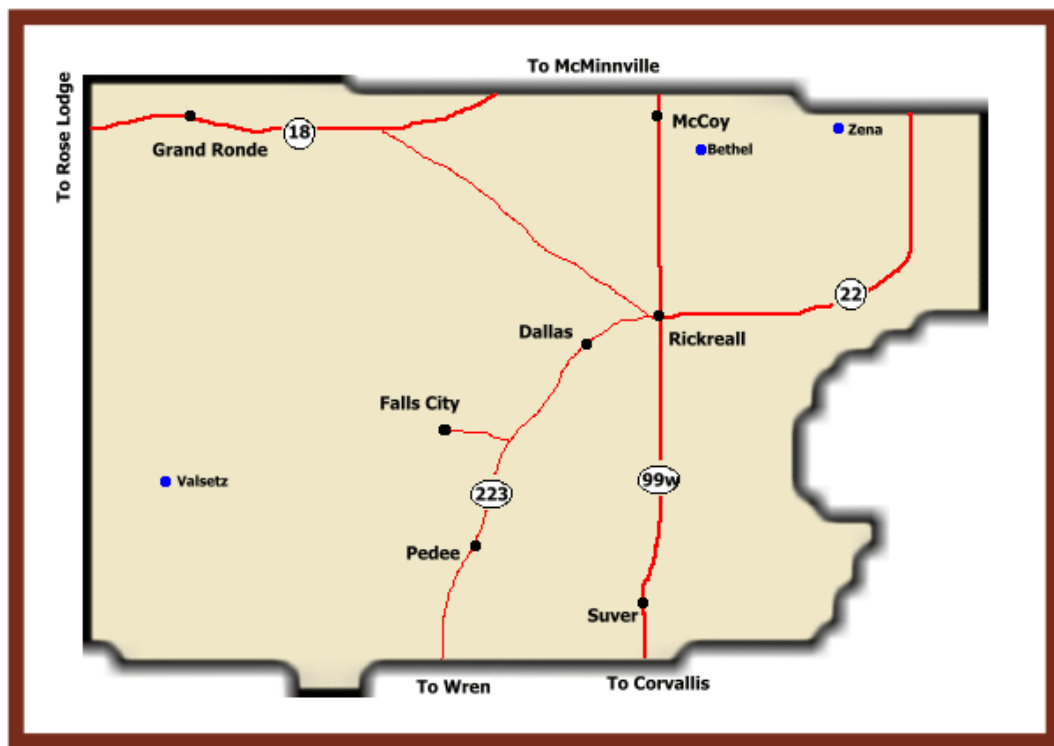
This report contains the most updated demographic, socioeconomic and health data for Polk County. A similar report for Marion County is available here: <http://www.co.marion.or.us/HLT/chip/Pages/default.aspx>.

\*It is important to note that the majority of the data presented in this report are publicly available data sets that individuals must elect to provide. While it is adjusted, weighted, and combined as necessary to provide the most accurate picture of health possible, it is likely that certain groups of people are not fully represented by these numbers. While the report strives to use the most reliable and valid data available; it is important to acknowledge some groups of people are less likely to participate in data collection experiences, certain types of information are more personal and less likely to be reported, and data collection methods can vary between organizations.

# Demographics

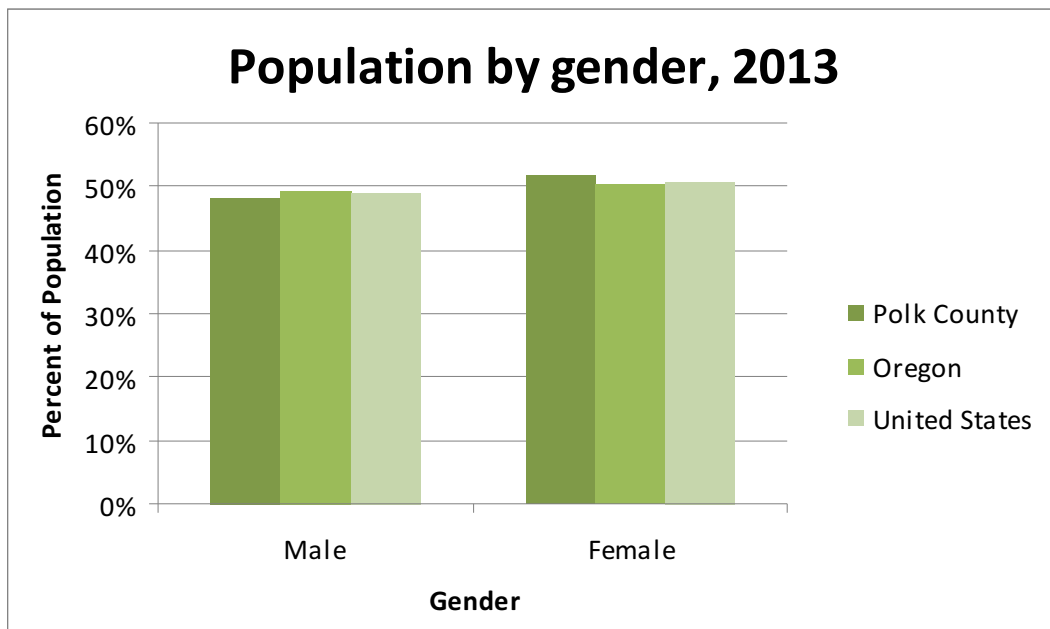
Demographics of a community identify and define who lives in a particular community at any given time. Demographic information helps set the context for health indicators because different groups of people have varying risk for disease. New services can be strategically placed in close proximity to the population in which they intend to serve by knowing where different parts of the community reside. For instance, a school immunization clinic is placed in a community with a high density of children between the ages 0-14 with poor immunization rates.

**Polk County Quick Facts:** Polk County is located in the Willamette Valley and spans about 750 square miles<sup>1</sup>. Incorporated cities in Polk County include Dallas, Falls City, Independence, Monmouth, Salem (97304) and Willamina. The county seat is located in Dallas. About 84% of people in Polk County reside in on of the incorporated communities listed above. Although many people reside in incorporated communities, access to services is limited through a lack of public transportation and major highway systems separating many of our communities. Additionally, there are about 101.8 persons per square mile in Polk County<sup>1</sup>.

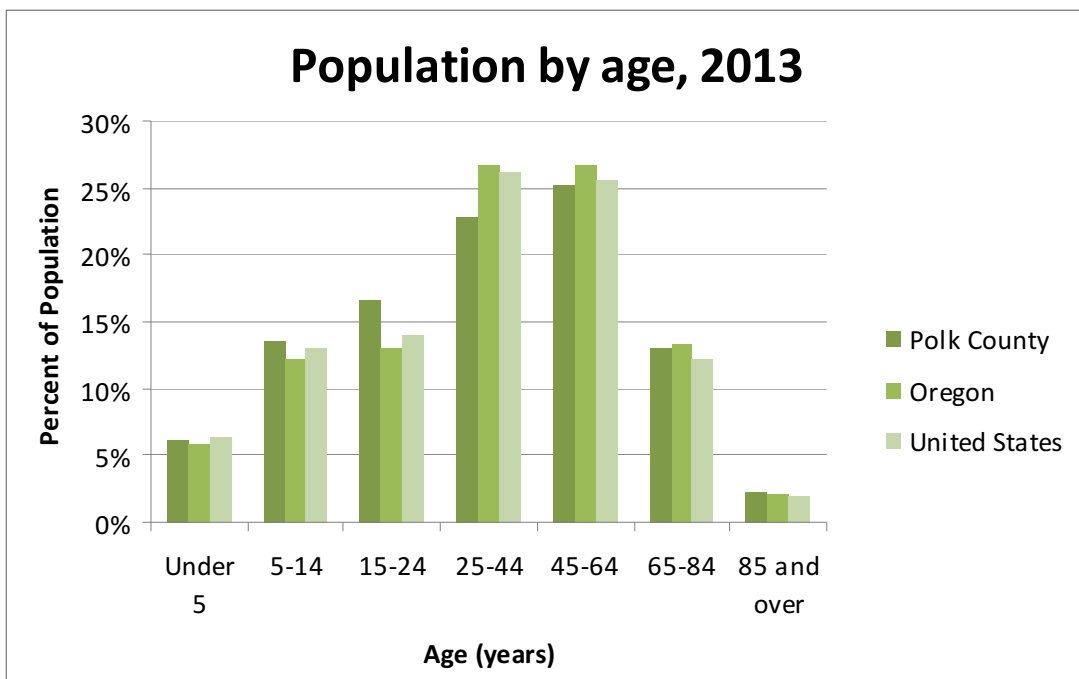


**Population:** In 2014, the population of Polk County was estimated to be 77,9161, which is a 3.3% increase from 2010<sup>2</sup>. The largest city population is located in West Salem with 28,871 people, even though Polk County only includes the 97304 zip code of Salem<sup>3</sup>. The next largest city is Dallas with 14,583<sup>4</sup> people.

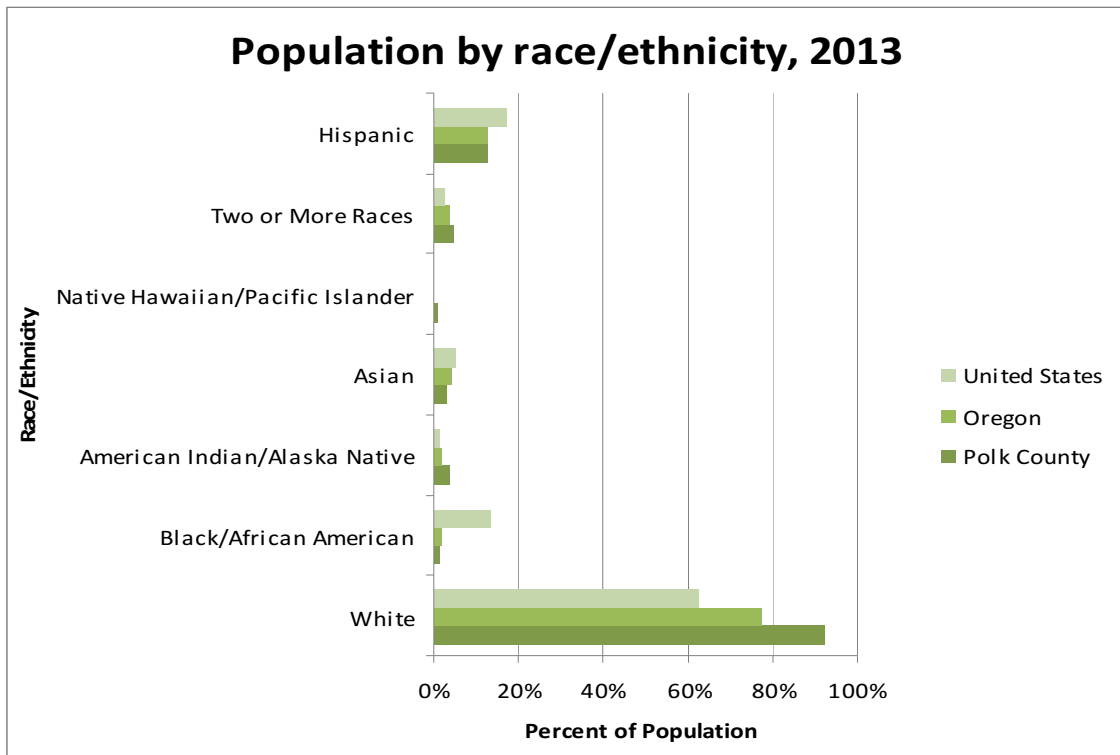
**Gender:** It is important to know the gender break down in a population because some diseases and risk factors for disease occur at different rates between sexes. A little over half of Polk County's population is female. Oregon and the United States show a similar break down with a population a little over 50% female<sup>4</sup>.



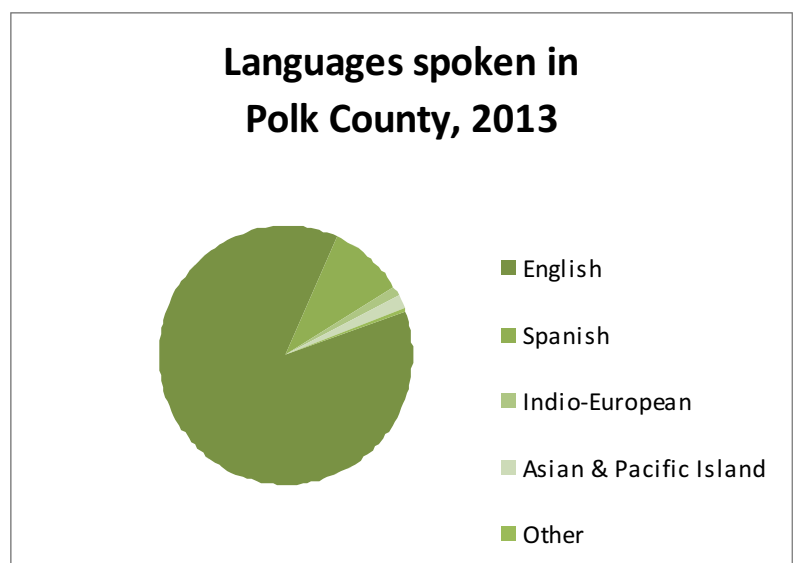
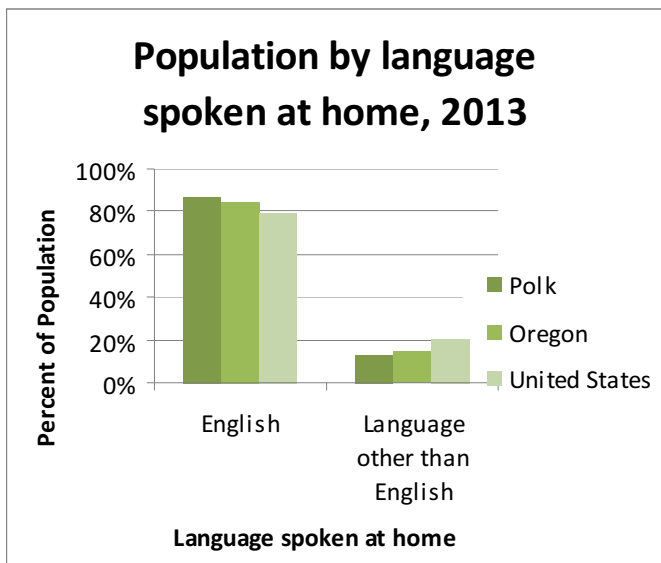
**Age:** Different age groups experience different health problems, for example, young children and elderly adults over 65 years of age are more likely to die of the flu than younger adults. Polk County has a larger proportion of individuals between the ages of 0-24 years old than Oregon and the United States. The median age in Polk County is 37.5. In Oregon the median age is 39.1<sup>5</sup>.



**Race/Ethnicity:** In order to explore possible differences in disease rates between race/ethnicity, we must first explore the current ethnic background of Polk County. Polk County has a higher proportion of White residents than Oregon, and a higher proportion of White residents than the United States. Polk County residents are more likely to identify as two or more races, American Indian/ Alaska Native or White than Oregon residents overall<sup>6</sup>.

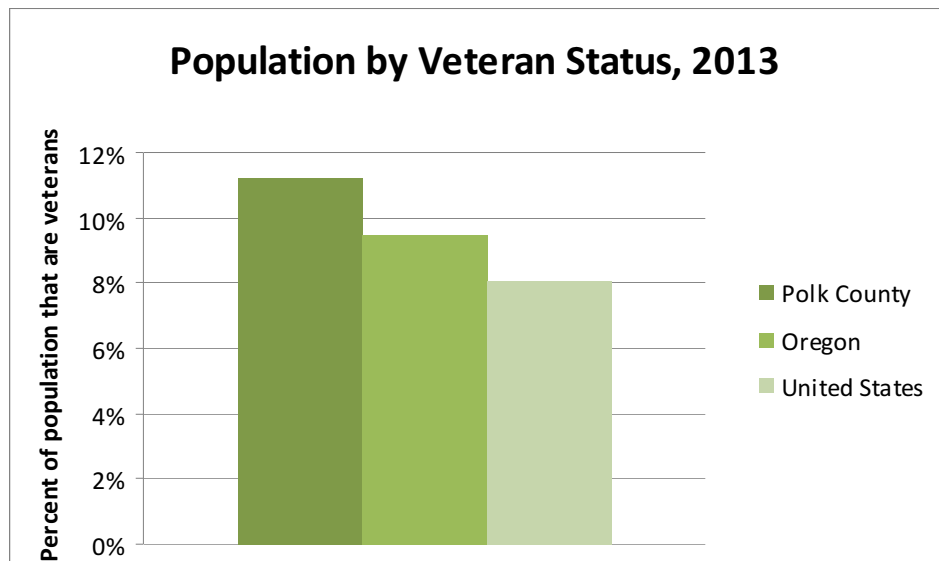


**Language Spoken at Home:** Inability to speak, read, or understand English can present barriers to seeking, accessing, and receiving necessary health care and other services. Polk County residents are more likely to speak English at home than Oregon and United States residents as a whole. The two main languages spoken in Polk County are English and Spanish<sup>7</sup>.



**Veteran Status:** Polk County has a higher proportion of veterans than Oregon and the United States<sup>8</sup>.

During service, military personnel often experience higher rates of exposure to adverse environmental factors that can increase risk for chronic health conditions and/or disability.





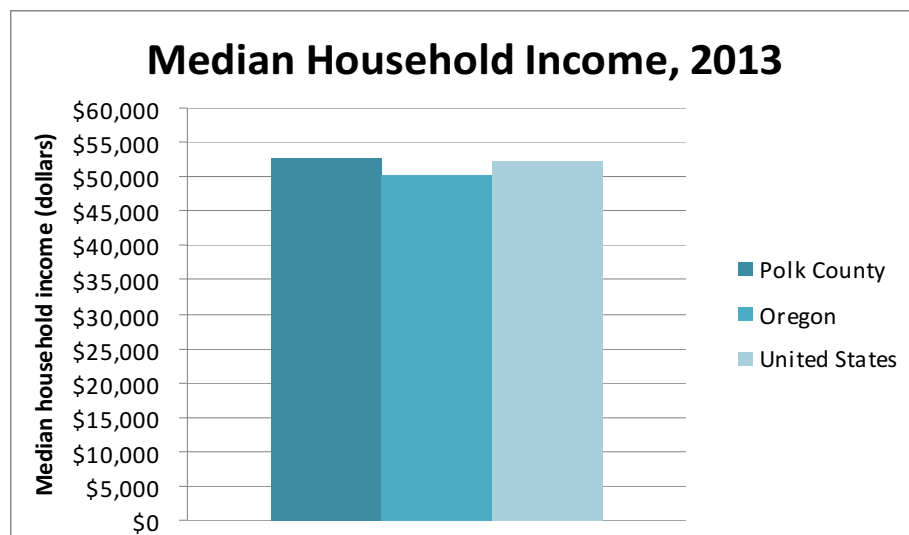
# Socioeconomics

Socioeconomic factors may determine fiscal earning power of individuals which, in turn, can increase access to supports that lead to a healthy lifestyle such as access to health care, healthy foods, safe housing and safe places to exercise. Social determinants of health are the circumstances in which people are born, grow up, live, work and age and the systems put in place to deal with illness (World Health Organization). These circumstances are then shaped by economics, social policy and politics.

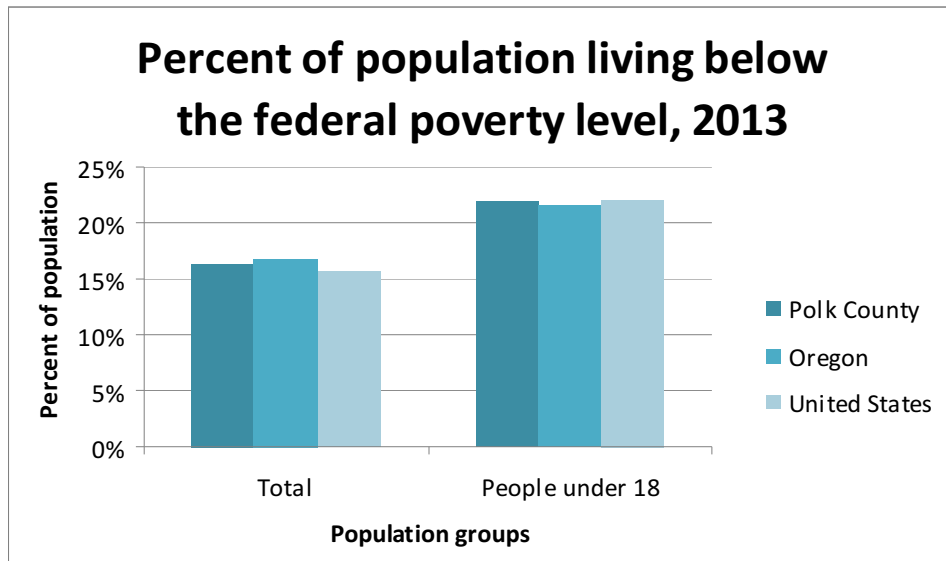
## Key Socioeconomic Findings for Polk County:

- Polk County residents have a slightly higher median household income than Oregon residents and Americans in general.
- A larger percent of Polk County residents under the age of 18 live below the federal poverty level than Oregon residents.
- Polk County has fewer people who did not complete high school than Oregon and the rest of the United States.

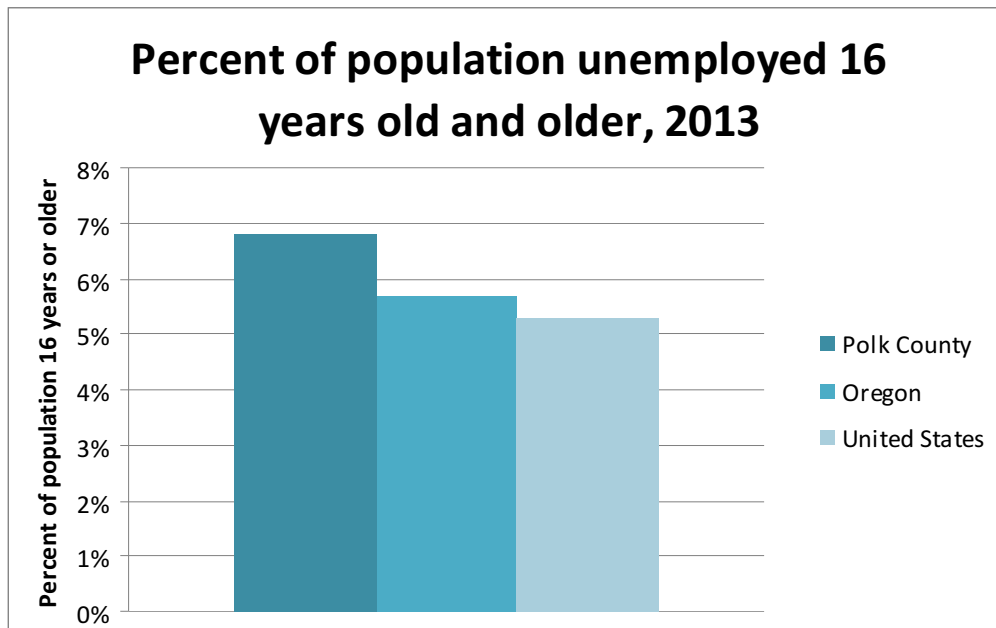
**Median Household Income:** Polk County has a higher median household income (\$52,808) than both Oregon (\$50,251) and the United States (\$52,250)<sup>9</sup>. Median household income can indicate access to supports that promote health such as access to health care, healthy foods, safe housing and safe places to exercise.



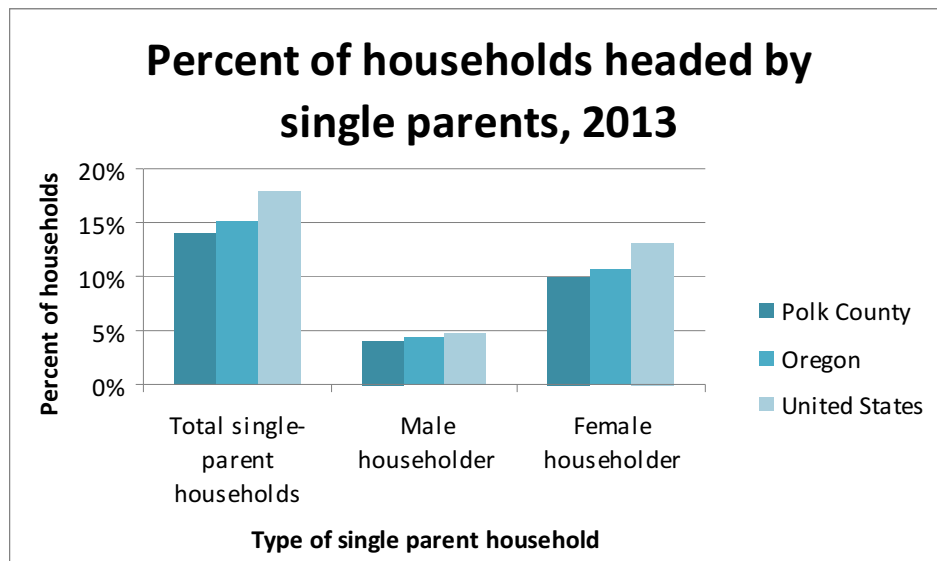
**Poverty:** Those living below the federal poverty level may be more likely than those living above the federal poverty level to rely on public health insurance and food stamps to receive health care and feed their families. Polk County has a lower proportion of people living below the federal poverty level than Oregon. However a higher proportion of Polk County residents under the age of 18 live below the federal poverty level<sup>9</sup>.



**Unemployment:** Like income, unemployment also indicates lack of access to supports that promote positive health behaviors such as access to health care, healthy foods, safe housing and safe places to exercise. Polk County has slightly larger proportion of unemployed individuals over the age of 16 than Oregon and the United States<sup>9</sup>.

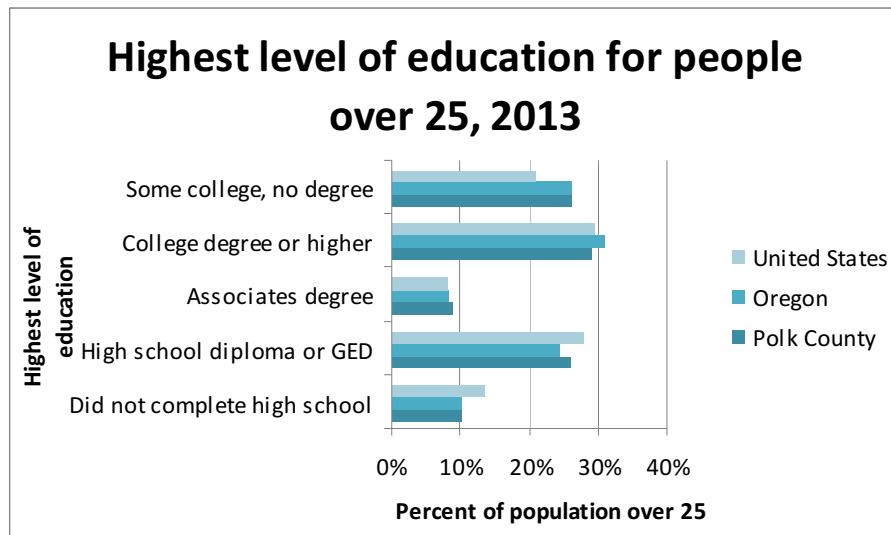


**Single-Parent Households:** Single-parent households may be more likely to live in poverty than two-parent household. This could mean that individuals living in single-parent households may lack access to supports that promote health and well-being. Polk County has a smaller proportion of households headed by single parents than the United States and Oregon. More single parent households in Polk County are headed by women (10%) than men (4.1%)<sup>10</sup>.

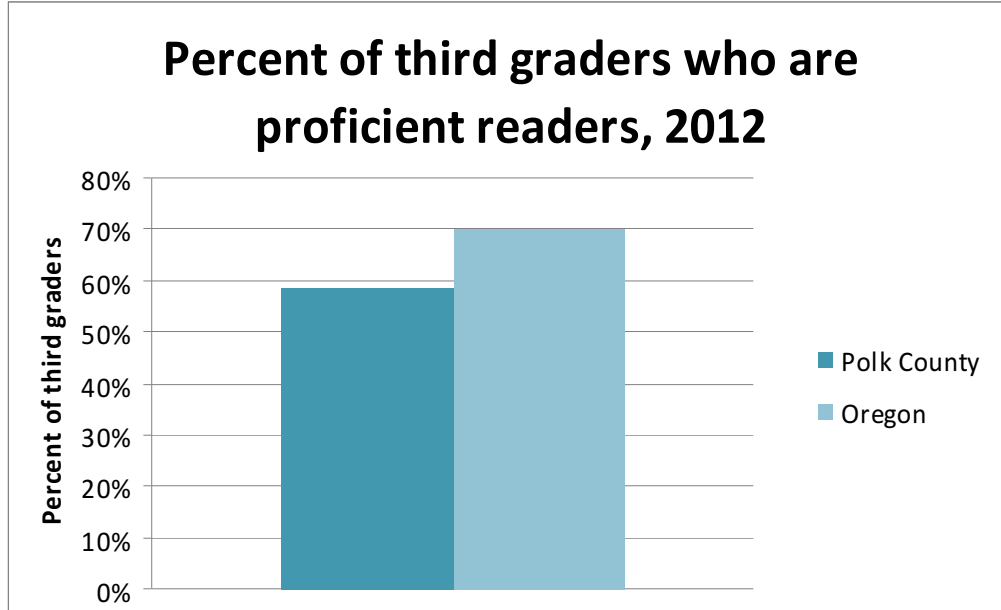


**Educational Attainment:** Educational attainment can be indicative of income earning power. Higher educational attainment is associated with better health outcomes. Polk County has a lower proportion of residents that did not complete high school than Oregon and the United States. Polk County has a lower proportion of residents with a college degree or higher than Oregon but a higher proportion than the United States<sup>11</sup>. In 2013, only 59.1% of Polk County high school students graduated from high school with a regular diploma within four years. Since 2009, high school graduation rates within four years have ranged between 58.5% and 59.7%<sup>12</sup>. This falls significantly short of the Healthy People 2020 goal of 82.4% four year graduation rate. It is important to note that this percentage does not include the percent of people in Polk County who graduated from high school in more than four years or earned a GED, so the overall educational attainment of high school degrees and above is higher than the four year high school graduation rate.

## Educational Attainment Continued:



**3<sup>rd</sup> Grade Reading Proficiency:** Reading proficiency during third grade is a good indicator for future school success, high school graduation and improved life outcomes<sup>13</sup>. Fewer third grade students in Polk County are considered proficient readers than third grade students in Oregon as a whole<sup>13</sup>.



## Homelessness:

Each year, Mid-Willamette Valley Community Action Agency in Marion and Polk Counties partner with community based organizations to survey and outreach to the homeless community. The information below displays both Marion and Polk combined data.

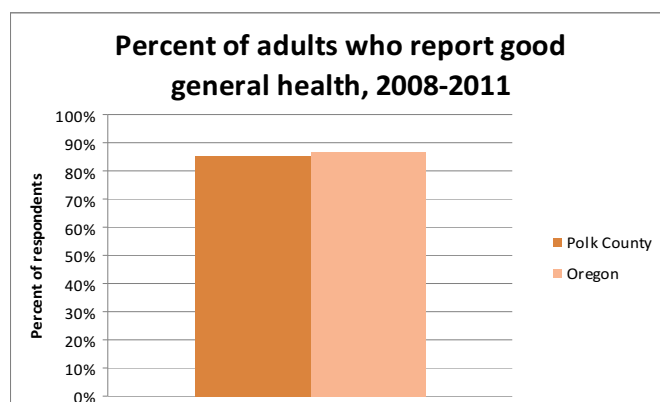
### Based on results from the 2014 Homeless Survey<sup>14</sup>:

- The majority of people surveyed were single adults without children (82%).
- About two thirds of the people surveyed were male (68%).
- The majority of people surveyed were White (84%).
- Almost one half (44%) said they have been homeless for 1-3 years.
- Almost one half (45%) said they were looking for a job.
- The three most common responses for homelessness were that the individuals “Could not afford rent” (28%), “Unemployed” (34%), and “Criminal History” (13%).
- The two main things respondents believe would improve their current situation were affordable housing and a job/income source.

## Quality of Life

Self-reported health status includes the individual’s consideration of their own physical, mental and emotional health as well as their social functioning within peer groups. Self reported health status can be a good indicator of the effects of chronic illness, long term medical treatments, and short and long term disabilities.

**Self Reported Health Status:** Self-reported health is a good indicator of future disability, hospitalization, and death. Those who report poor general health are more likely to suffer premature death than those who report good general health<sup>15</sup>. Polk County and Oregon have approximately the same percentage of adults who report overall good health, with Polk County being slightly lower.



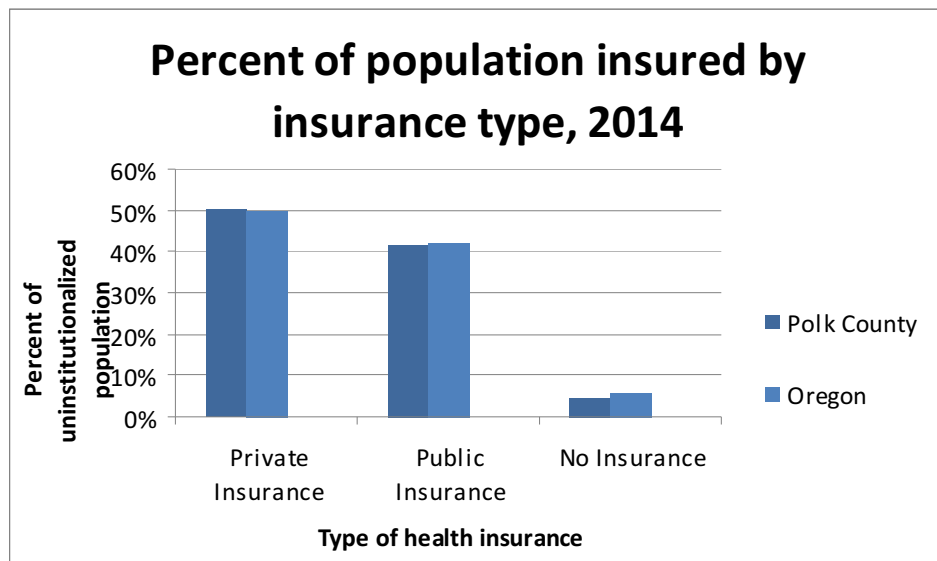
# Access to Care

Access to comprehensive health care services is important for the achievement of health equity and increasing the quality of health and life for everyone in a community. This section provides a brief overview of access to healthcare services. A more detailed assessment is available on the Health Department website at <http://www.co.polk.or.us/ph>.

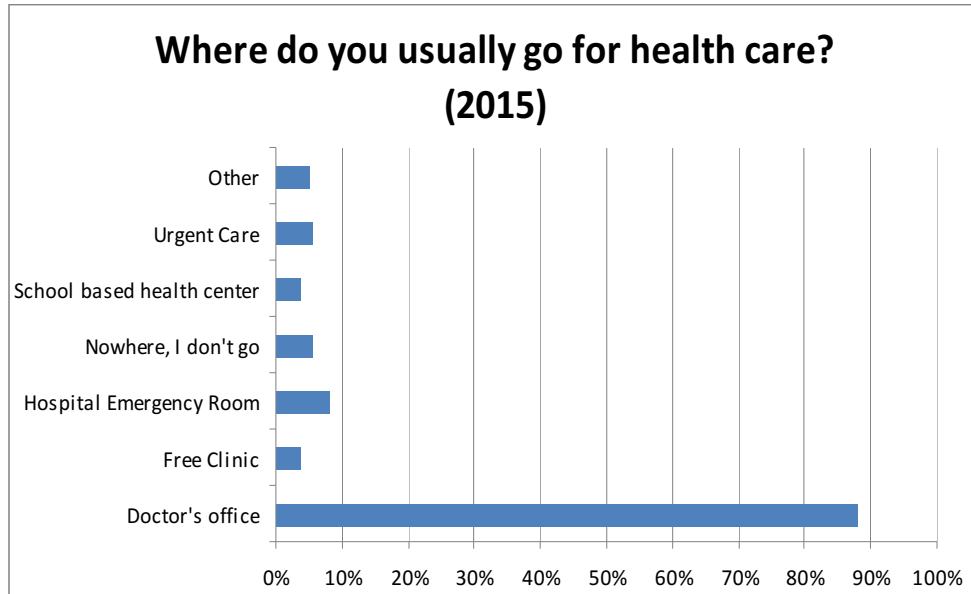
## Key Access to Care Findings for Polk County:

- The uninsured rate in Polk County dropped 8% from 2012(13%) to 2014 (5%).
- Gaps still exist in accessing needed care including vision and dental care.

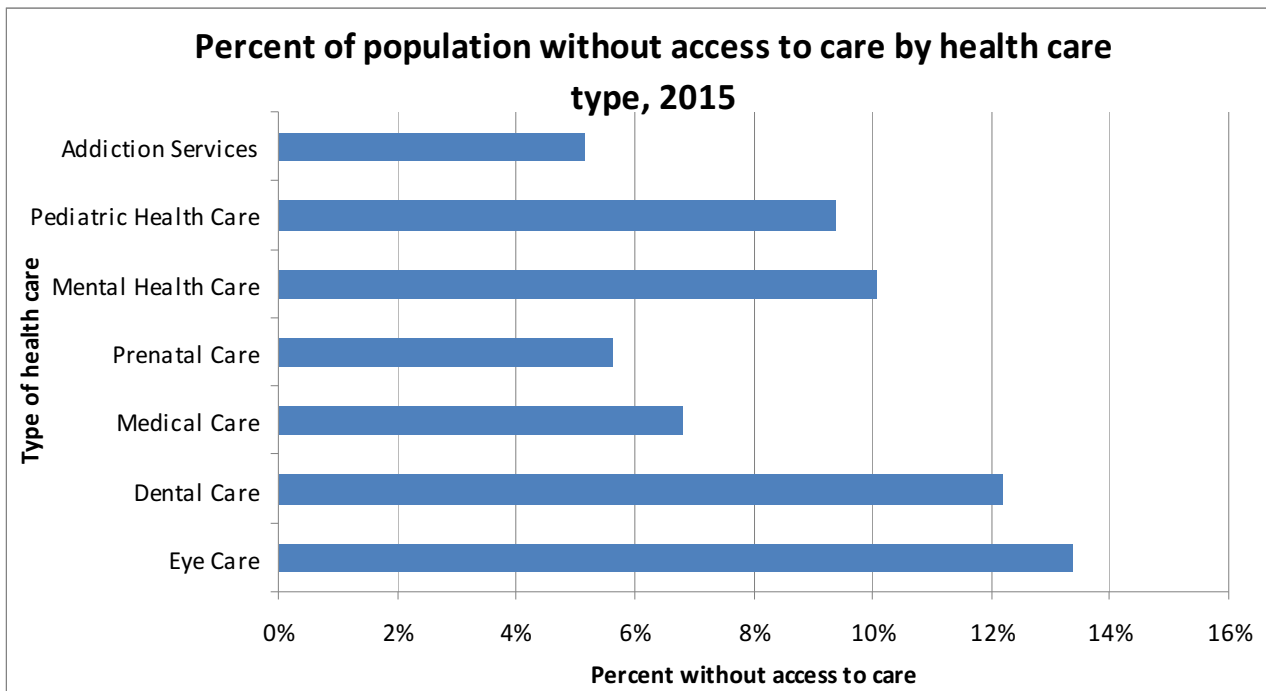
**Health Insurance:** Insurance status suggests access to a primary care physician and preventive care. Polk County has a larger proportion of people with private health insurance than Oregon. Polk County has slightly fewer people without health insurance as Oregon<sup>16</sup>.



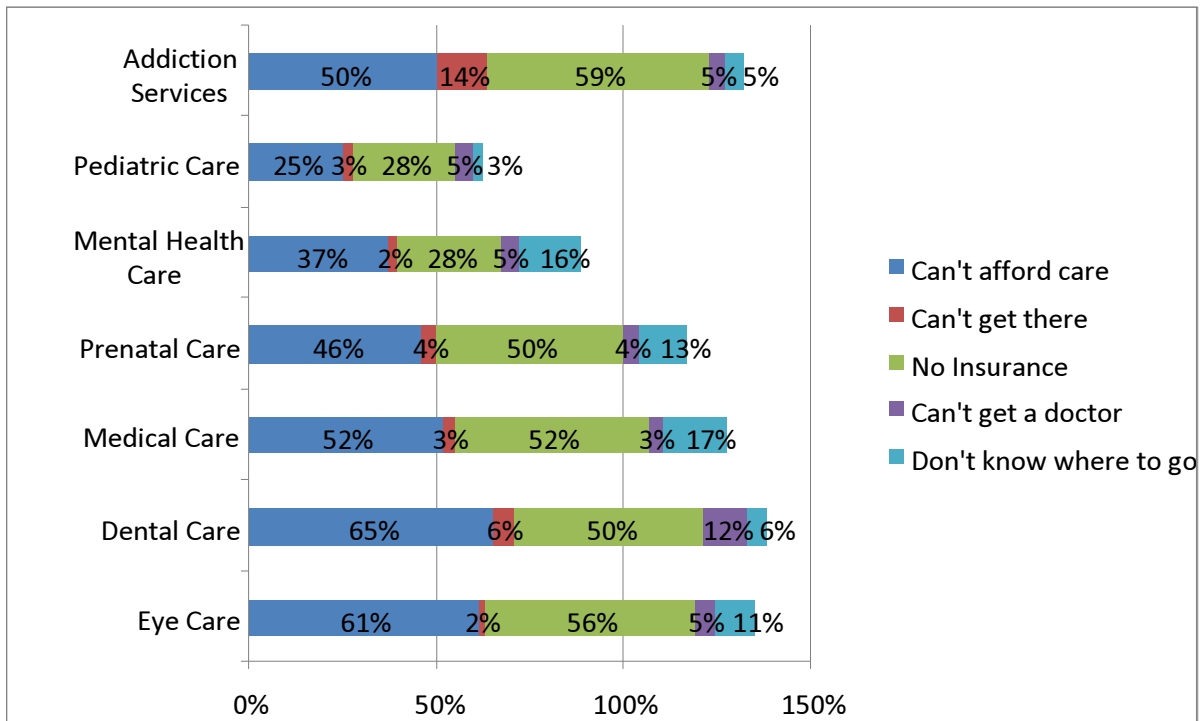
**Health Care Usage:** The medical provider’s office is often the most cost-effective means of caring for non-emergency health issues. Having a regular place for care, such as the office of a physician, nurse practitioner or physician’s assistant, can help ensure better coordinated, on-going care of chronic health problems. On the community health survey most Polk County residents stated that they usually go to the doctor’s office when they need health care<sup>17</sup>.



**Access to Providers:** In 2015, Polk County residents reported that the services they lack access the most are eye care and dental care<sup>17</sup>.



**Barriers to Accessing Health Care:** The most common barriers to accessing health care in Polk County, regardless of the type of health care were: not being able to afford care, not having insurance that covers needed health care services and not knowing where to seek necessary care<sup>17</sup>.





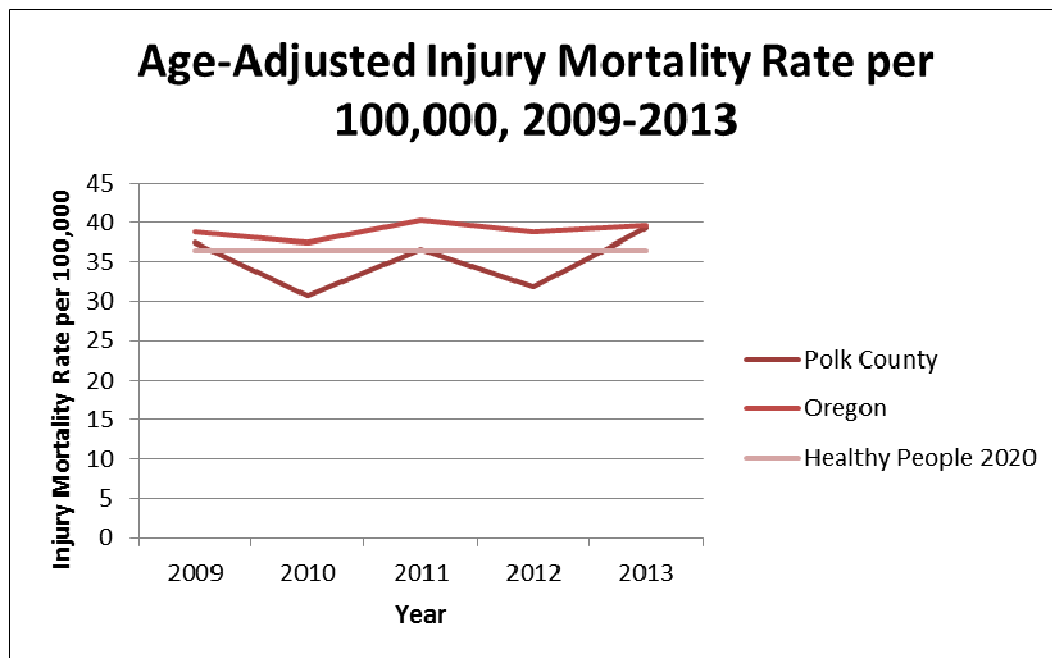
# Injury Prevention/Safety

Both unintentional and intentional injuries are among the top 15 causes of death for Americans of all ages and are the top cause of death for Americans under the age of 45. Injuries are the leading cause of disability at all ages, regardless of sex, race/ethnicity or socioeconomic status. While some accidents are unavoidable, many events that result in injury, disability, or death are predictable and preventable.

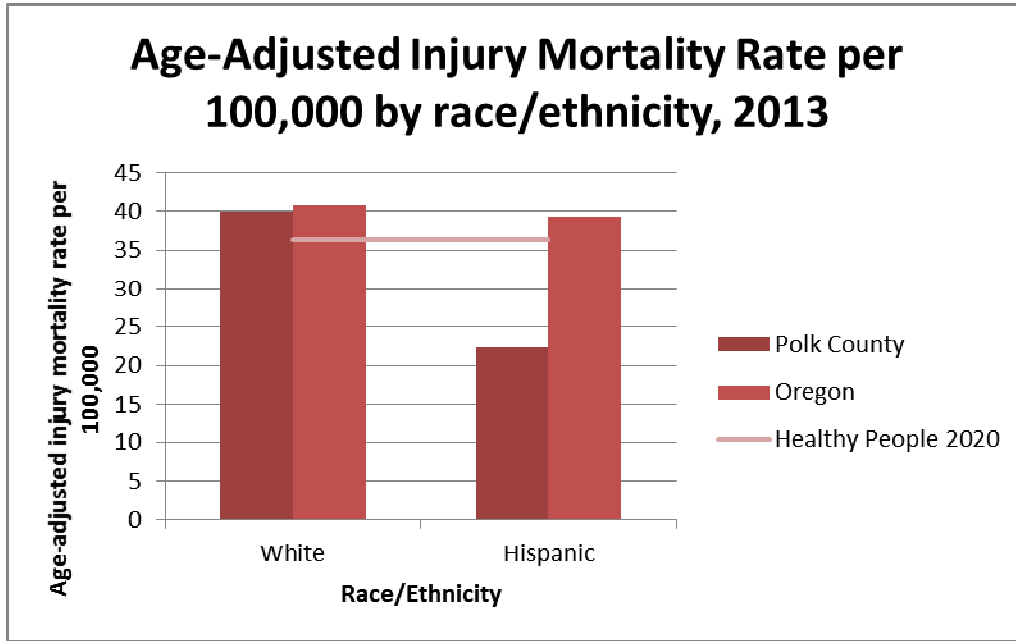
## Key Injury Prevention/Safety Findings for Polk County:

- Men die at higher rates from injuries than women.
- The main causes of injury death are: falls, poisoning and motor vehicle accidents.

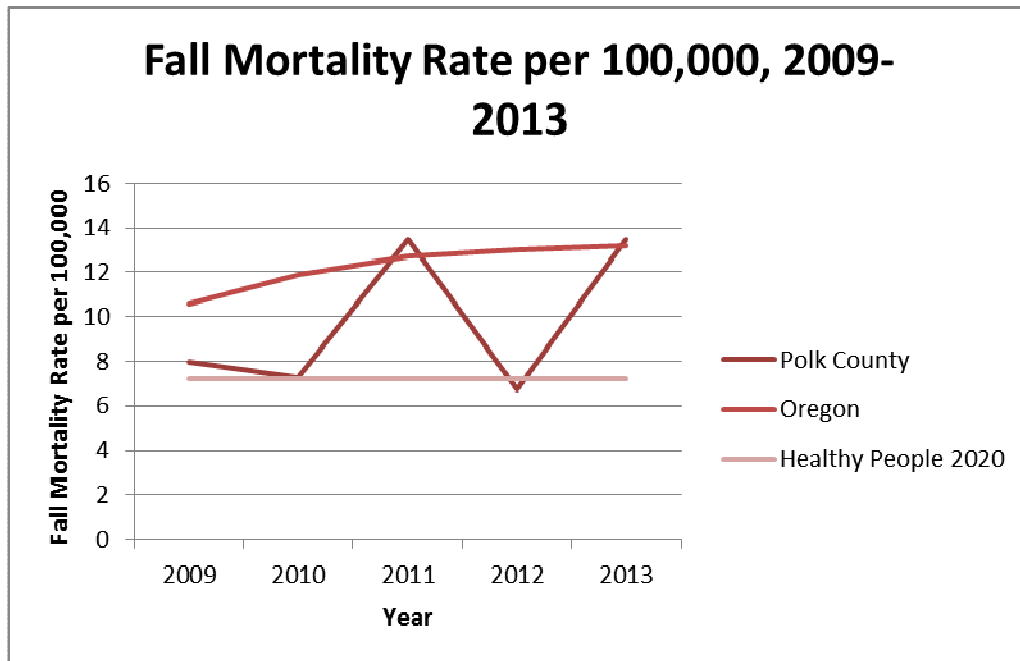
**Age-Adjusted Injury Mortality Rate:** Injury mortality rates often include avoidable premature deaths such as motor vehicle deaths or workplace deaths that may not have occurred with proper seatbelt use or proper workplace safety. The age-adjusted injury mortality rate for Oregon as a whole has remained steady for the past five years. Polk County has varied over the years and dipped below the Healthy People 2020 injury mortality goal, and then back up over it again<sup>18, 19</sup>.



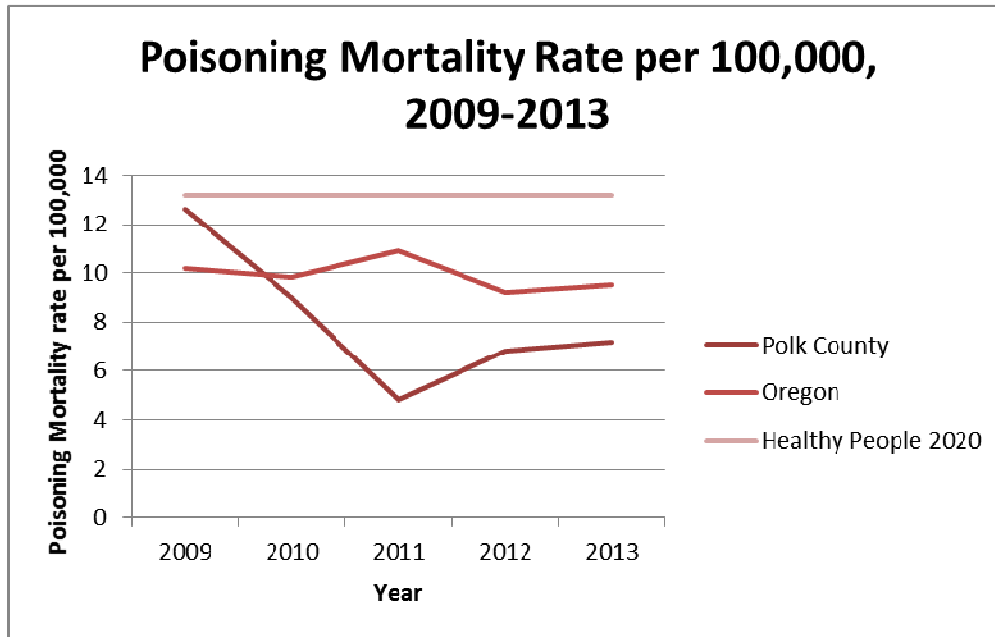
In Polk County, individuals who identify as White, non-Hispanic are almost twice as likely to die of accidental injury as individuals who identify as Hispanic. In Polk County, the Hispanic population has achieved the Healthy People goal while the White, non-Hispanic group has not<sup>18,19</sup>.



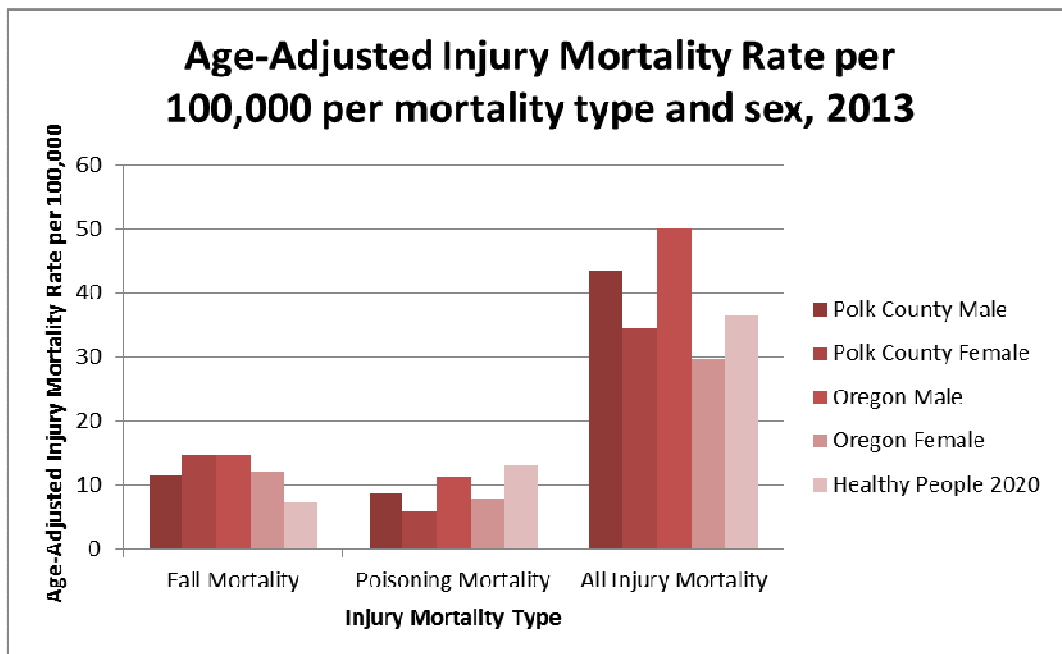
**Age-Adjusted Fall Injury Mortality Rate:** Oregon has seen an increase in the age-adjusted fall mortality rates, moving further away from the Healthy People goal. Polk County has been very inconsistent, sometimes achieving the Healthy People goal, and other years being very far away from it<sup>18,19</sup>. In elderly populations, falls are a common cause of death.



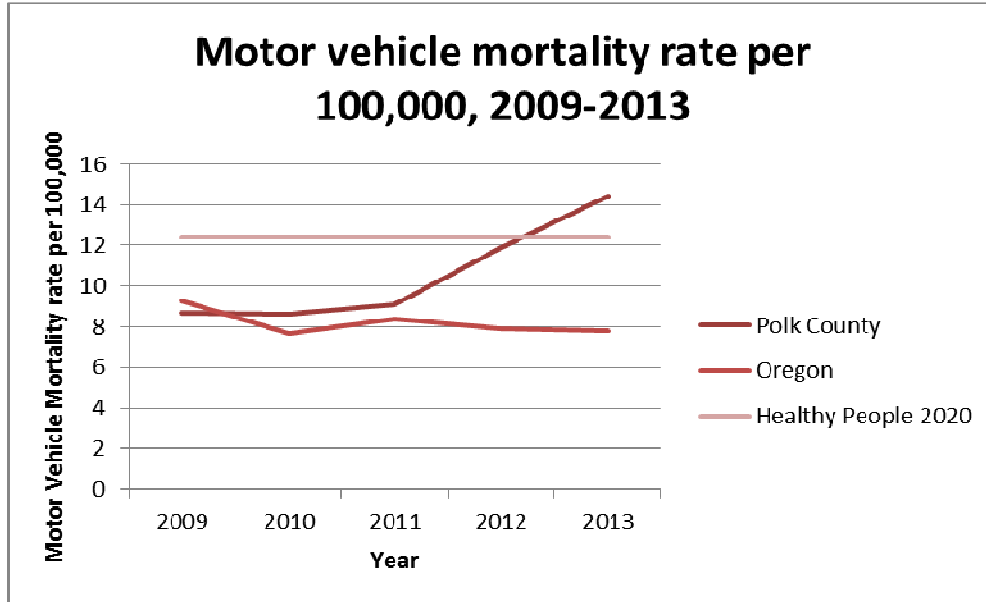
**Age-Adjusted Poisoning Mortality Rate:** The poisoning mortality rate can indicate access to dangerous household chemicals. Polk County poisoning mortality rate has been decreasing while the Oregon rate has remained stable. Both the county and state have achieved the Healthy People goal <sup>18,19</sup>.



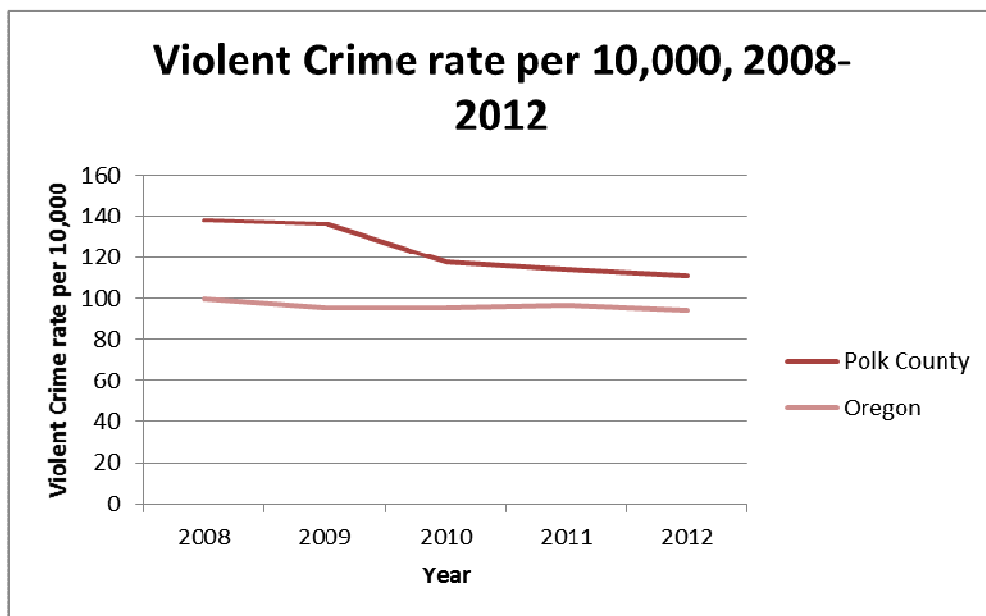
Polk County and Oregon males are more likely to die from accidental injuries than Polk County and Oregon females. Polk County males are more likely to die from an accidental injury than Oregon males while Polk County females are less likely to die from an accidental injury than Oregon females. Oregonian residents as a whole are more likely to die of accidental poisoning than Polk County residents <sup>18,19</sup>.



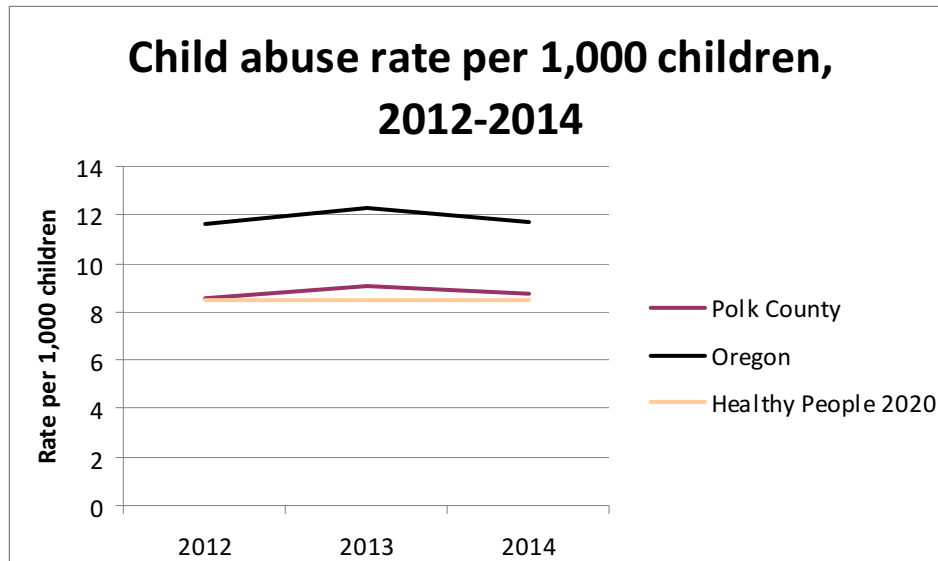
**Age-Adjusted Motor Vehicle Mortality Rate:** Car crashes kill more children and adults than any other cause of death in the United States. Decreasing age-adjusted motor vehicle mortality rates may indicate increased seat belt use as well as reductions in drinking while driving and other forms of distracted driving. The Polk County motor vehicle mortality rate has been increasing since 2011. Oregon as a whole has achieved the Healthy People 2020 goal, but Polk County has not <sup>18,19</sup>.



**Violent Crime Rate:** The violent crime rate is a good indicator of community safety. Violent crimes include murder, assault, kidnapping, robbery, rape and other sex crimes. The violent crime rate in Polk County decreased between 2008 and 2012 but remains higher than the violent crime rate in Oregon<sup>20</sup>.



**Child Abuse Rate:** This indicator shows the number of children less than 18 years of age that experienced abuse (physical, sexual and emotional) or neglect per 1,000 children. Children who experience abuse and/or neglect can have enduring physical and psychological issues into adolescence and adulthood<sup>21</sup>. Polk County has a lower child abuse rate than Oregon as whole but has not met the Healthy People 2020 goal<sup>21, 22</sup>.



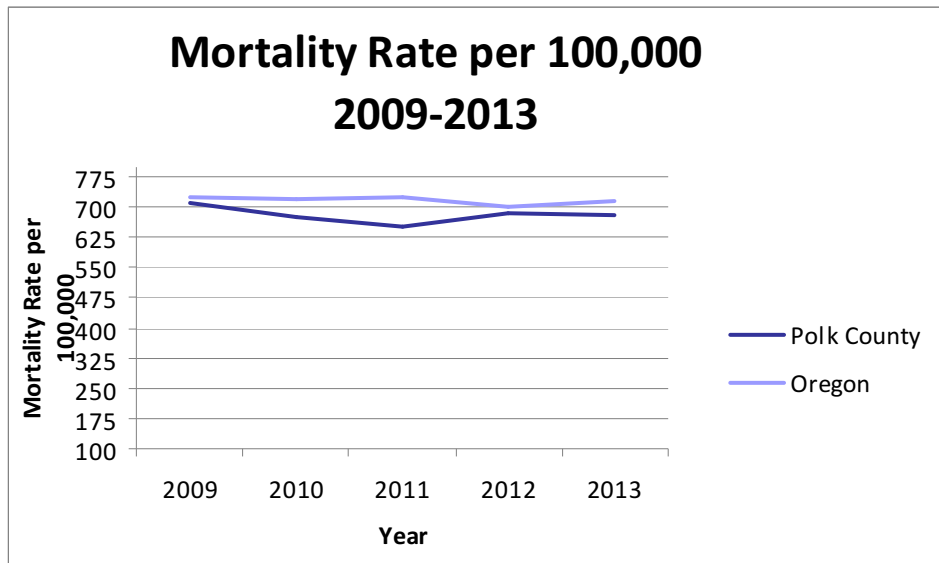
## Mortality

Mortality rates identify causes of death in a community. It is important to note the leading causes of death because it helps to inform location and stratification of prevention activities. If the leading cause of death is heart disease, community health agencies may choose to focus on alleviating health problems that contribute to heart disease such as high blood pressure, high cholesterol, unhealthy eating habits and lack of physical activity.

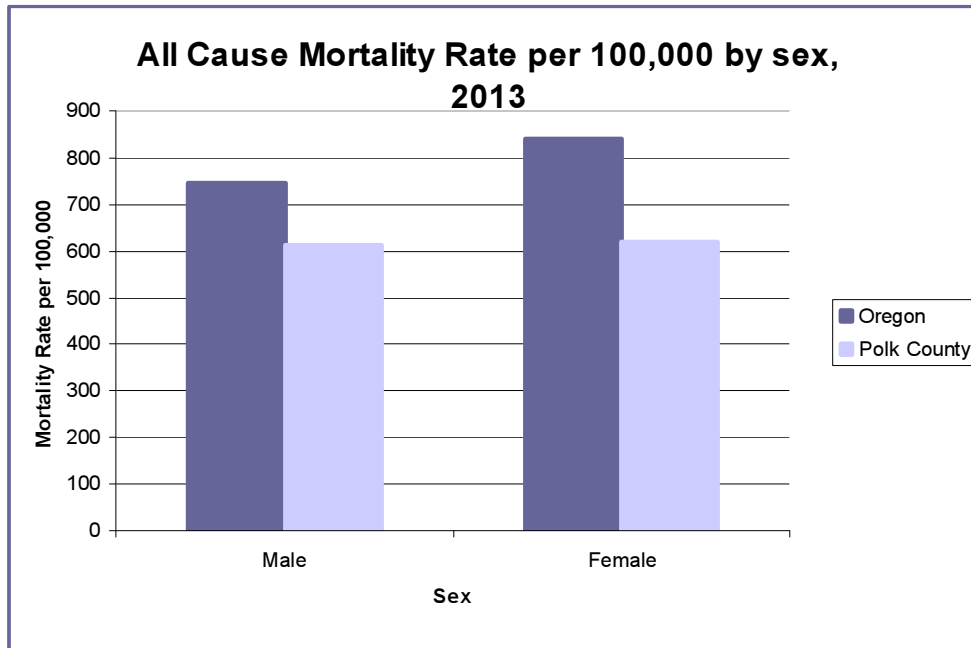
### Key Mortality Findings for Polk County:

- Polk County residents die at a lower rate than the state of Oregon.
- Leading causes of death are: heart disease, Alzheimer's Disease, and lung cancer.
- Mortality data by race and ethnicity is not readily available for most indicators due to small numbers.

**Age-Adjusted All Cause Mortality Rate:** Polk County has a lower mortality rate than Oregon<sup>23</sup>. This may indicate an increase of overall health, an increase in access to health services, development of better medical treatment/services or a combination of all three.

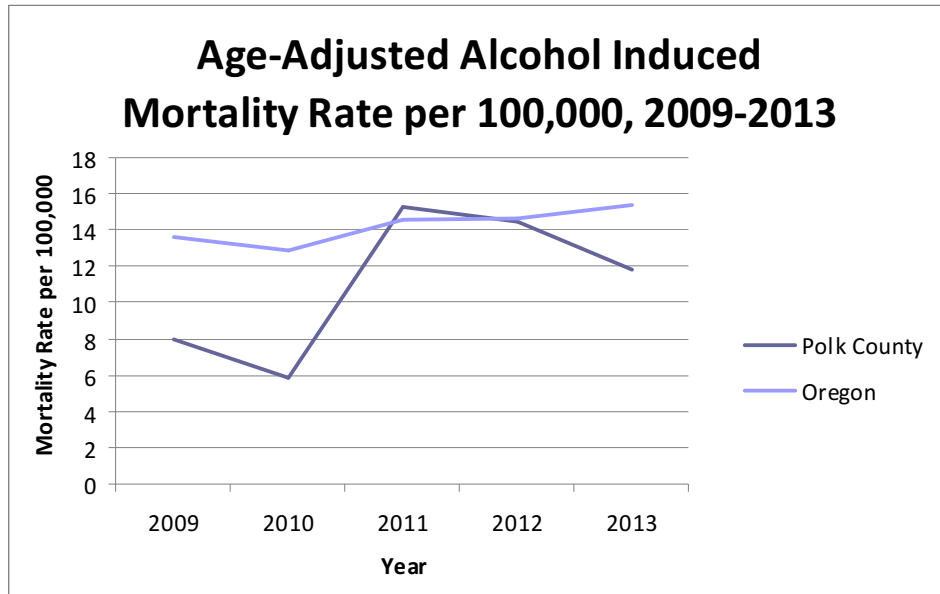


Men have a higher mortality rate than women<sup>23</sup>. This may be due to higher chronic disease rates related to the leading causes of death such as heart disease and lung cancer, as well as the fact that men are more likely to die from injury than women.

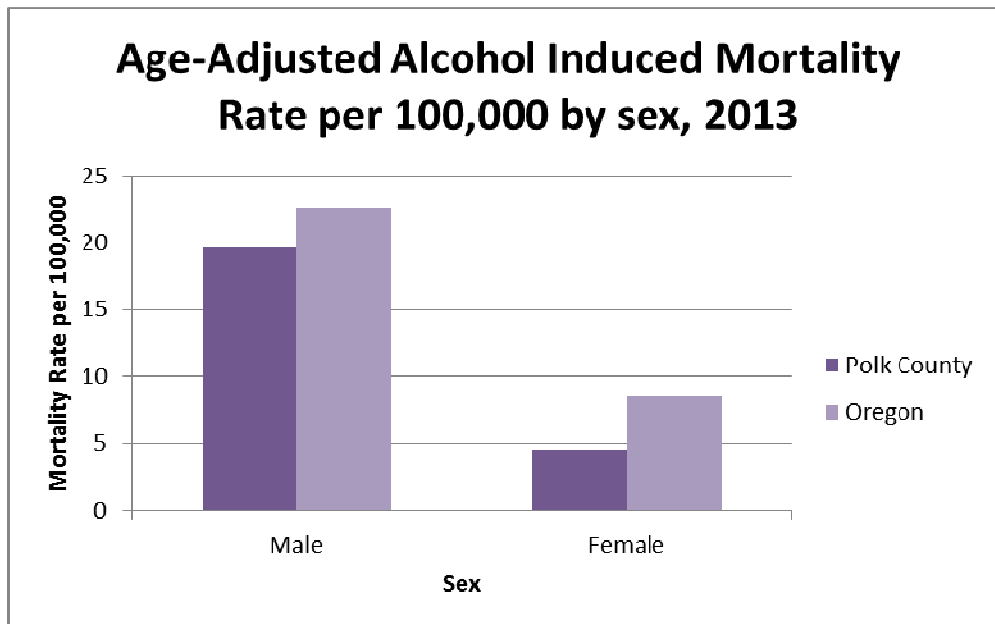


\* Due to a lack of data, Polk County is unable to break this down by race and ethnicity.

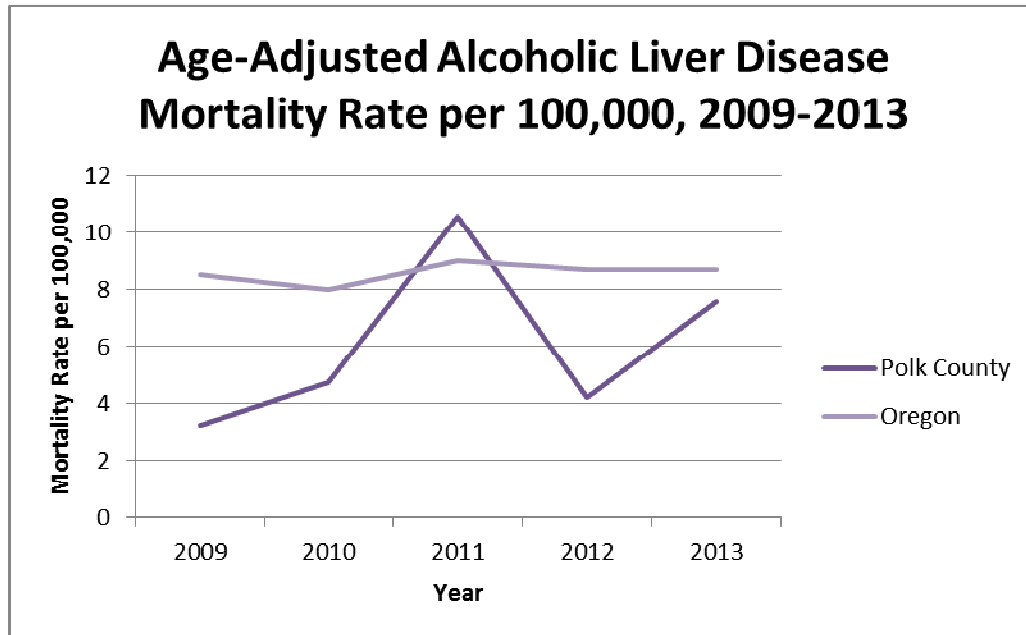
**Alcohol Induced Mortality Rate:** Alcohol induced mortality rates indicate the rate at which people die from alcohol related causes such as: degeneration of the nervous system due to alcohol, gastritis, myopathy, pancreatitis, and poisoning. Polk County residents have a lower alcohol induced mortality rate than Oregon residents as a whole <sup>23</sup>. This death rate may indicate higher rates of alcohol abuse in Oregon than in Polk County as a whole.



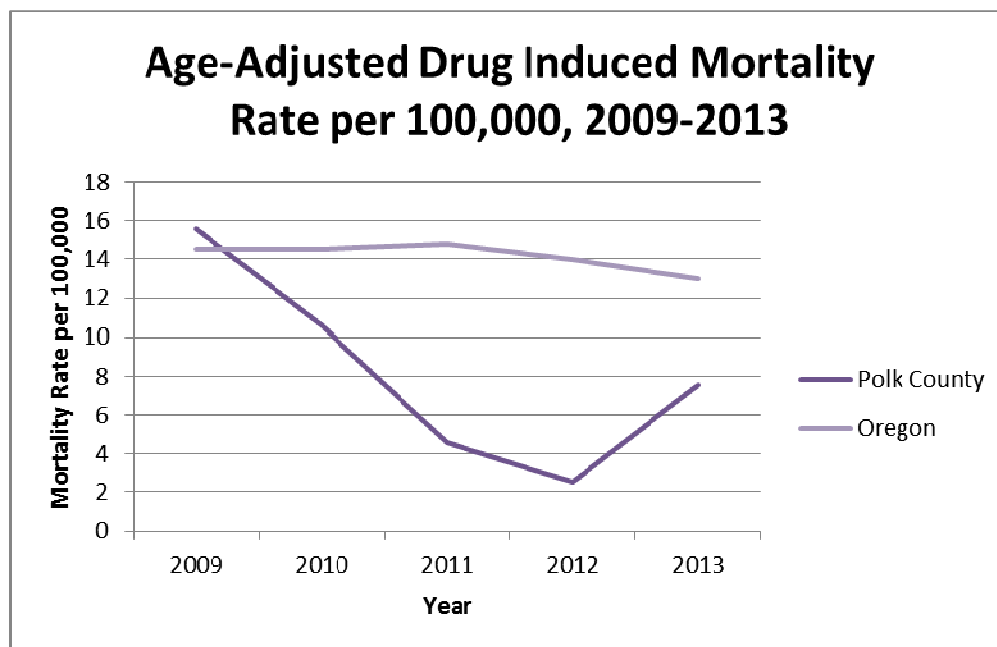
Men have a higher alcohol induced mortality rate than women. This suggests that men consume alcohol more often and in higher quantities than women. Polk County men and women are less likely to die of alcohol related causes than their respective sex in Oregon as a whole <sup>23</sup>.



**Alcoholic Liver Disease Mortality Rate:** Polk County residents have a lower alcoholic liver disease mortality rate than Oregon residents on average. This may indicate lower long-term alcohol abuse in Polk County than Oregon as a whole <sup>23</sup>.

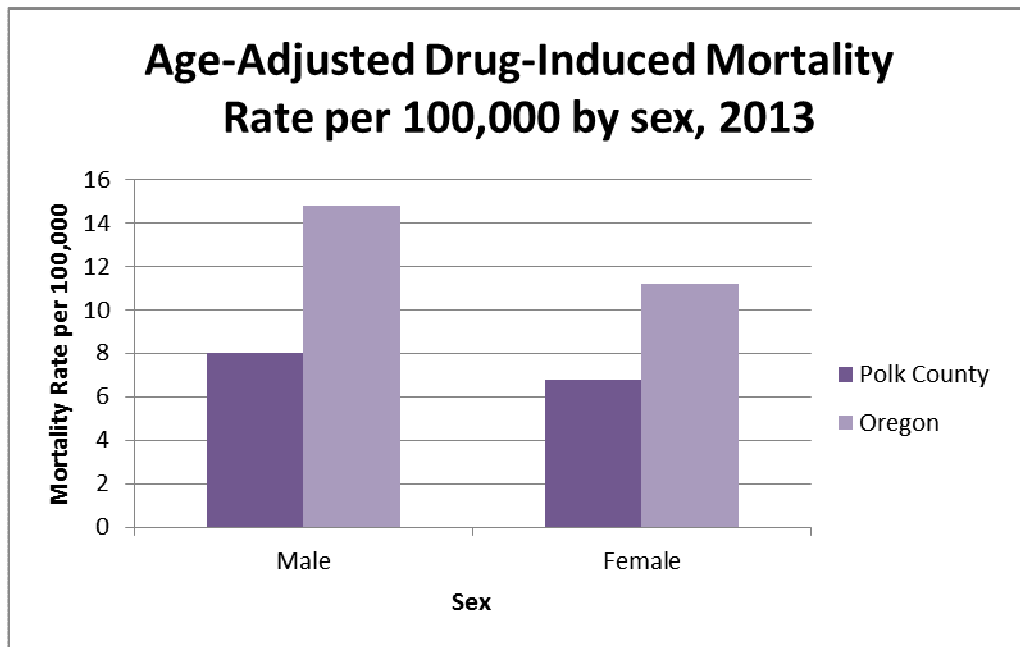


**Drug Induced Mortality Rate:** Drug induced mortality rates include all deaths for which drugs are the underlying cause including: overdose, and deaths from medical conditions resulting from chronic drug use. Polk County residents have lower drug-induced mortality rates than Oregon residents <sup>23</sup>. This may indicate less drug use in Polk County than Oregon as a whole.

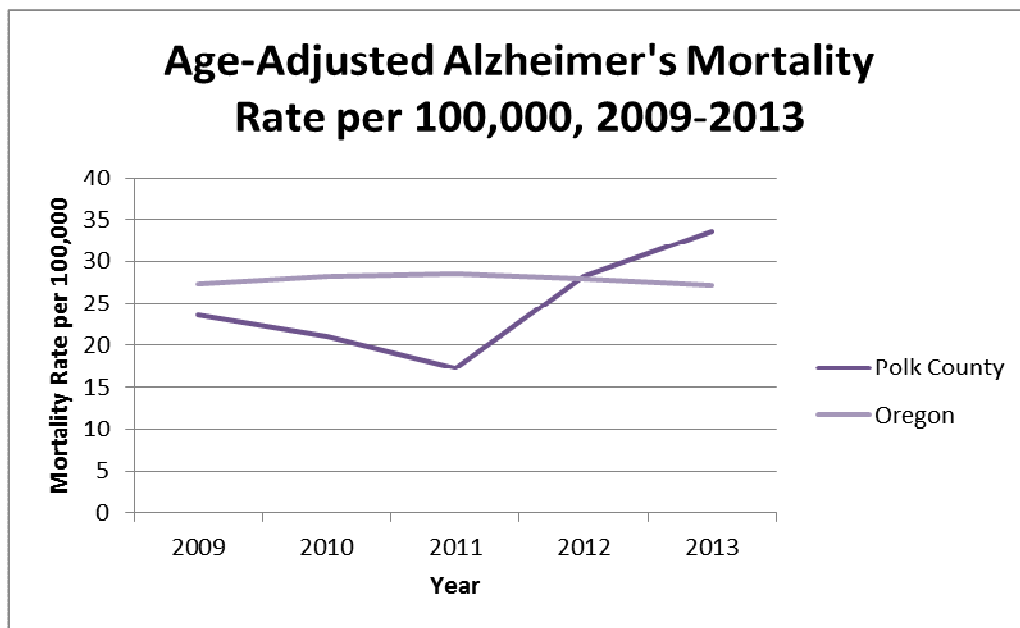




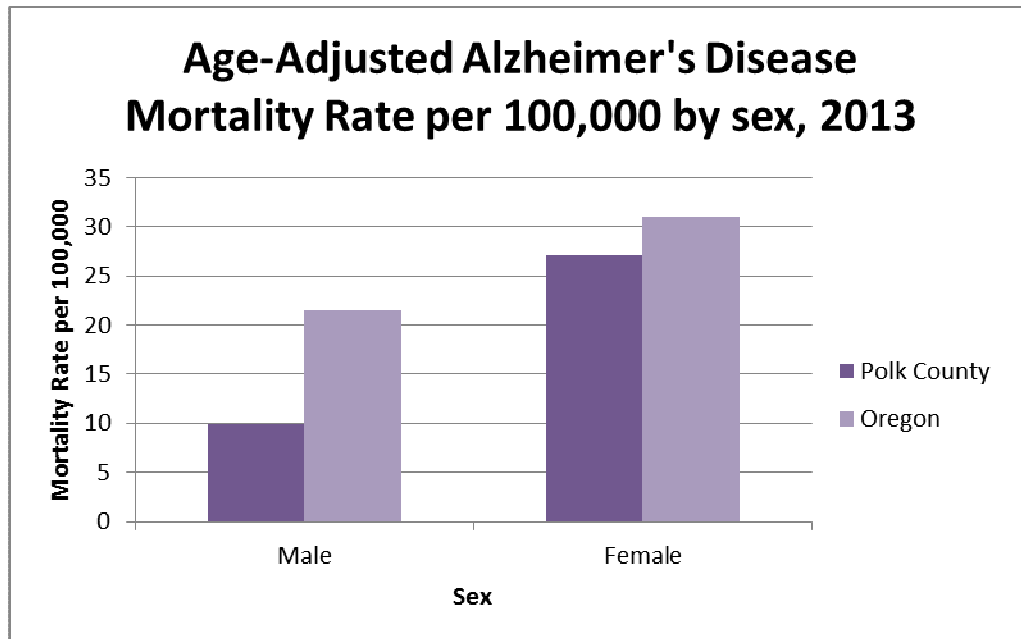
Oregon residents as a whole have higher drug induced mortality rates than Polk County residents. Polk County men and women have about the same drug induced mortality rates, suggesting equal drug use between men and women. Oregonian men have higher drug induced mortality rates than Oregonian women suggesting higher drug use among Oregon men than Oregon women <sup>23</sup>.



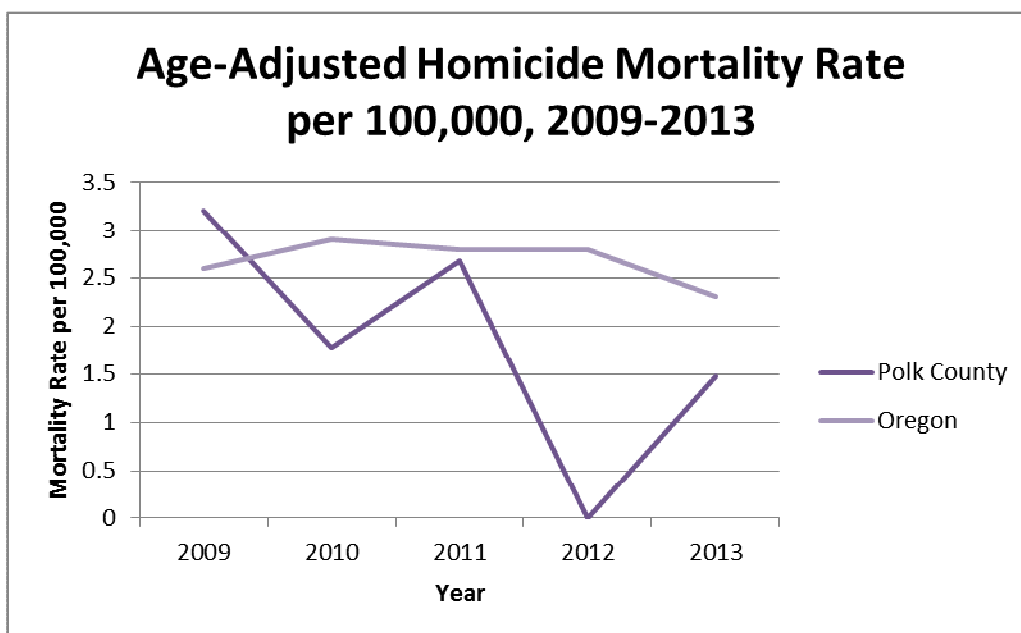
**Alzheimer’s Disease Mortality Rate:** “Dementia is a non-specific syndrome that severely affects memory, language, complex motor skills, and other intellectual abilities seriously enough to interfere with daily life.” Alzheimer’s Disease, which usually begins after age 60, is the most common form of dementia among seniors <sup>24</sup>. Polk County residents have lower Alzheimer’s mortality rates than Oregon residents from 2009 to 2011, but rising rates surpassed Oregon in 2012 and 2013 <sup>23</sup>.



Women have higher Alzheimer's disease mortality rates than men. Oregon residents in general have higher Alzheimer's disease mortality rates than Polk County residents <sup>23</sup>.

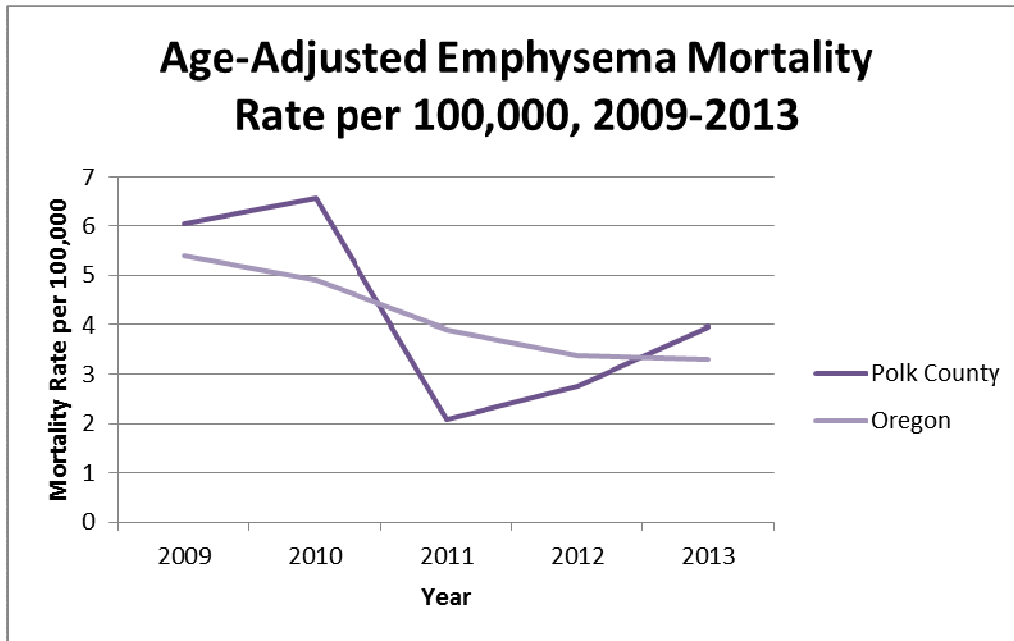


**Homicide Mortality Rate:** The homicide mortality rate is another indicator of community safety. Polk County has lower homicide mortality rates than Oregon as a whole <sup>23</sup>.



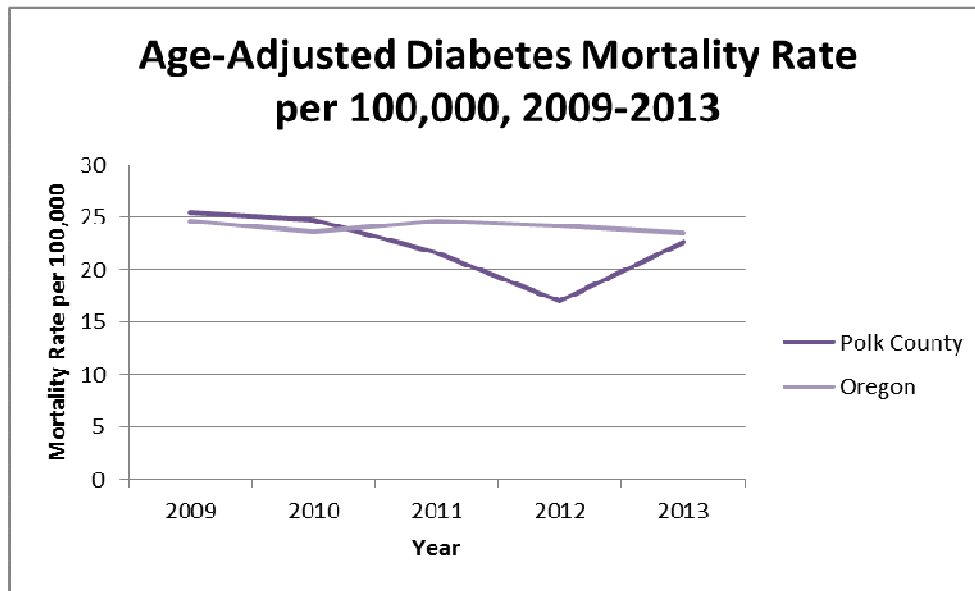
**Emphysema Mortality Rate:** Emphysema is one of several diseases known collectively as Chronic Obstructive Pulmonary Disease (COPD). Emphysema occurs when the air sacs in a person’s lungs are damaged. This damage reduces the amount of oxygen in a person’s bloodstream<sup>25</sup>.

Polk County residents have higher emphysema mortality rates than Oregon residents as a whole <sup>23</sup>. This suggests higher rates of tobacco use, exposure to secondhand smoke, and air pollution for Polk County residents than Oregon residents as a whole.

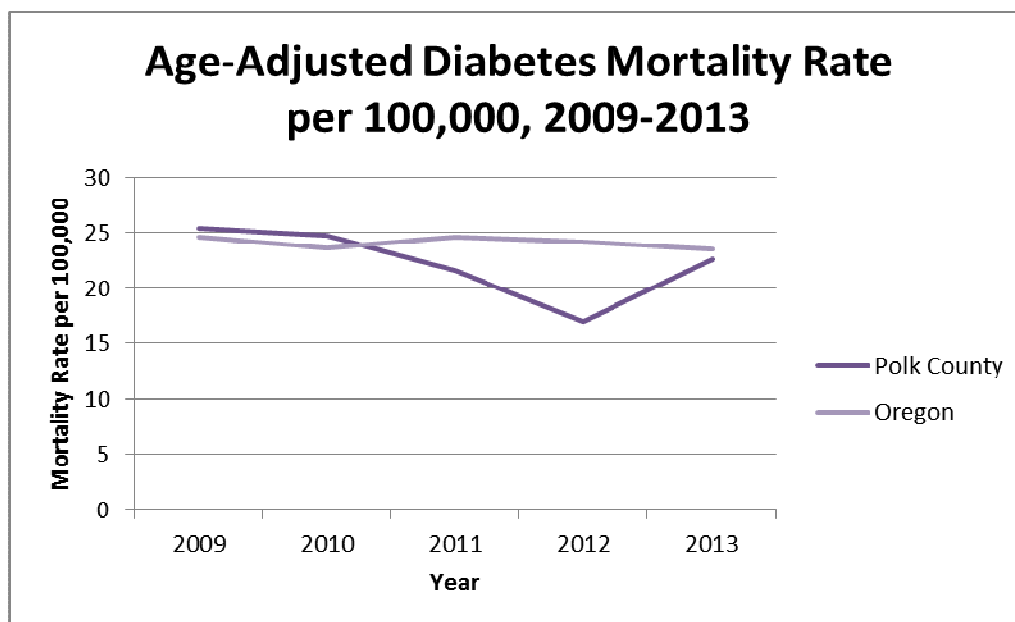


**Diabetes Mortality Rate:** Diabetes is a disease in which blood sugar levels are higher than normal. According to the Centers for Disease Control, some risk factors for diabetes are: family history of diabetes; overweight; high blood pressure; active less than three times per week; and history of having diabetes while pregnant. Diabetes can lead to heart disease, stroke, blindness and kidney problems<sup>26</sup>.

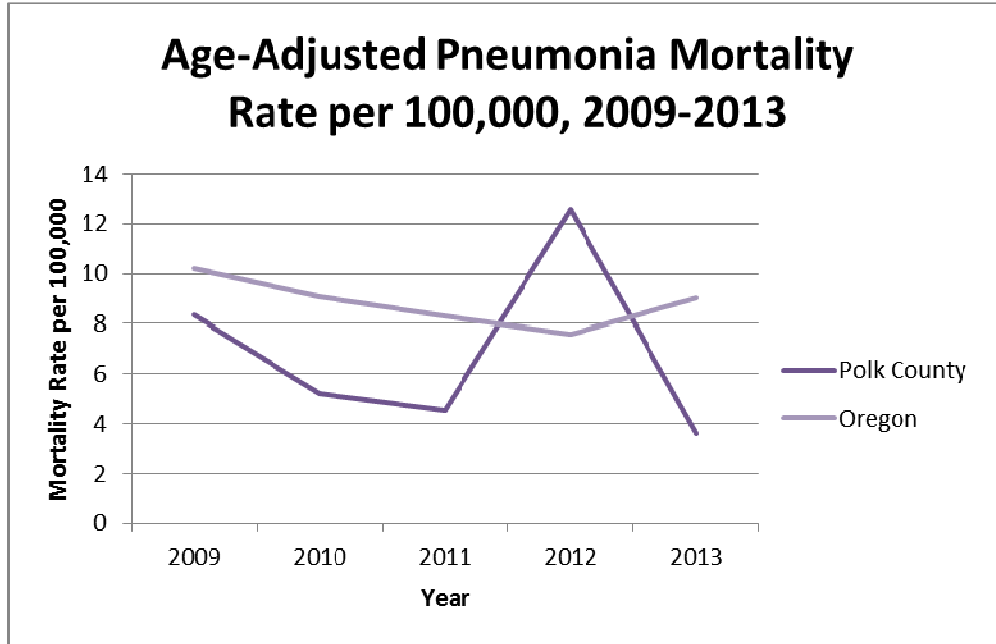
Polk County residents have a similar diabetes mortality rate as Oregon residents as a whole, with the exceptions of 2011 and 2012 when the rates dipped in Polk County<sup>23</sup>. Diabetes mortality can indicate lack of access to care needed to properly manage diabetes.



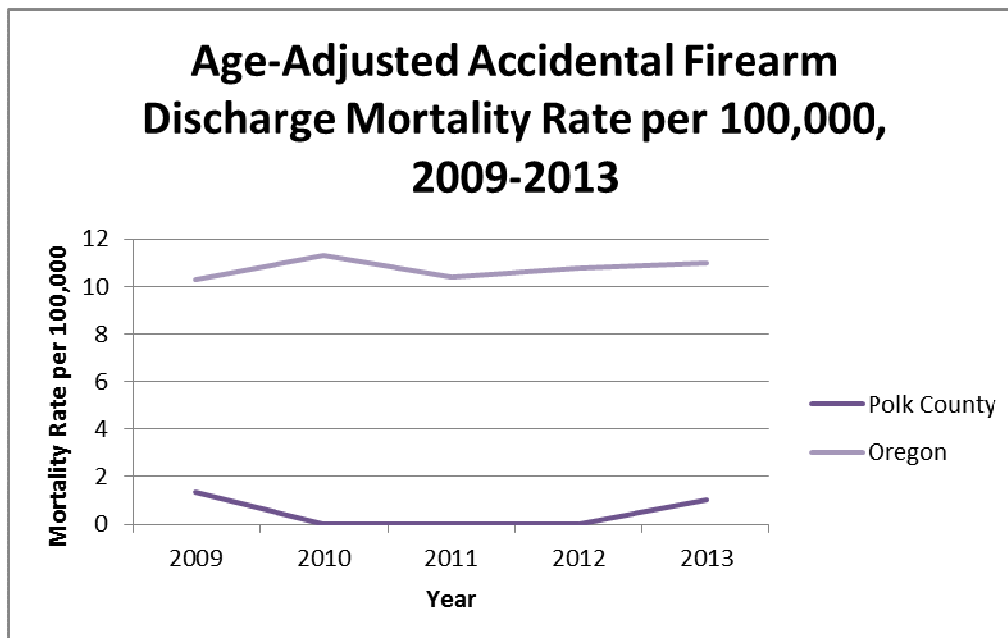
Males have a higher diabetes mortality rate than women. Polk County males have about the same diabetes mortality rate as Oregon males. Polk County females have a lower mortality rate than Oregon females.<sup>19</sup> Increased diabetes deaths in males may suggest higher diabetes prevalence in males or that men are more likely to have poorly controlled diabetes than women.



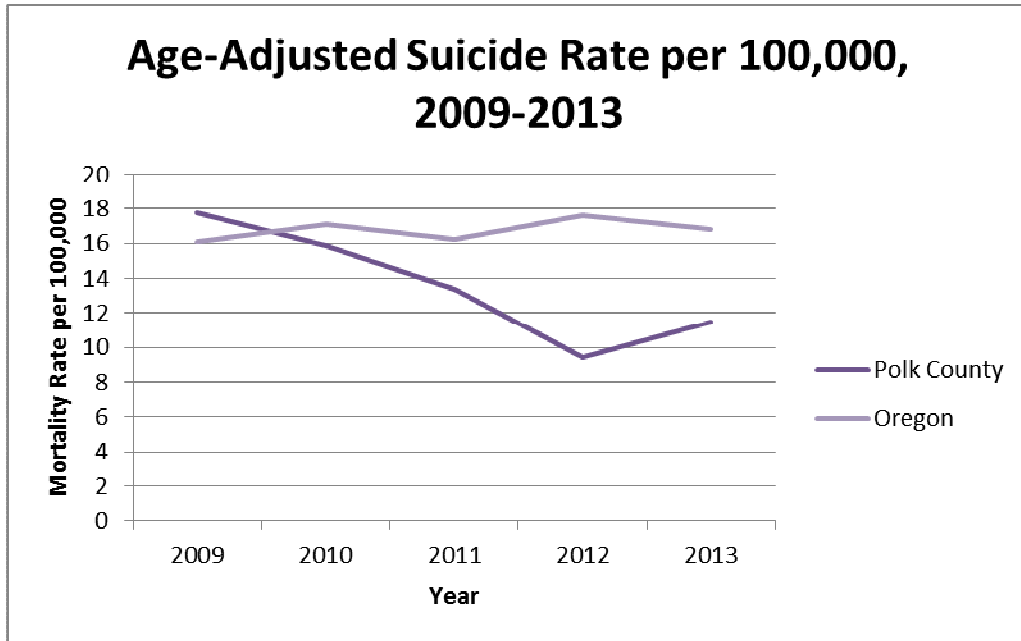
**Pneumonia Mortality Rate:** Pneumonia is an infection caused by a variety of organisms that causes cough, fever and difficulty breathing. Some types of pneumonia are preventable through pneumonia and influenza vaccines, especially important for young children and senior citizens. Polk County residents have a lower pneumonia mortality rate than Oregon residents, with the exception of 2012<sup>23</sup>. The pneumonia mortality could be decreased by ensuring at risk populations, the elderly and very young, receive the proper vaccines.



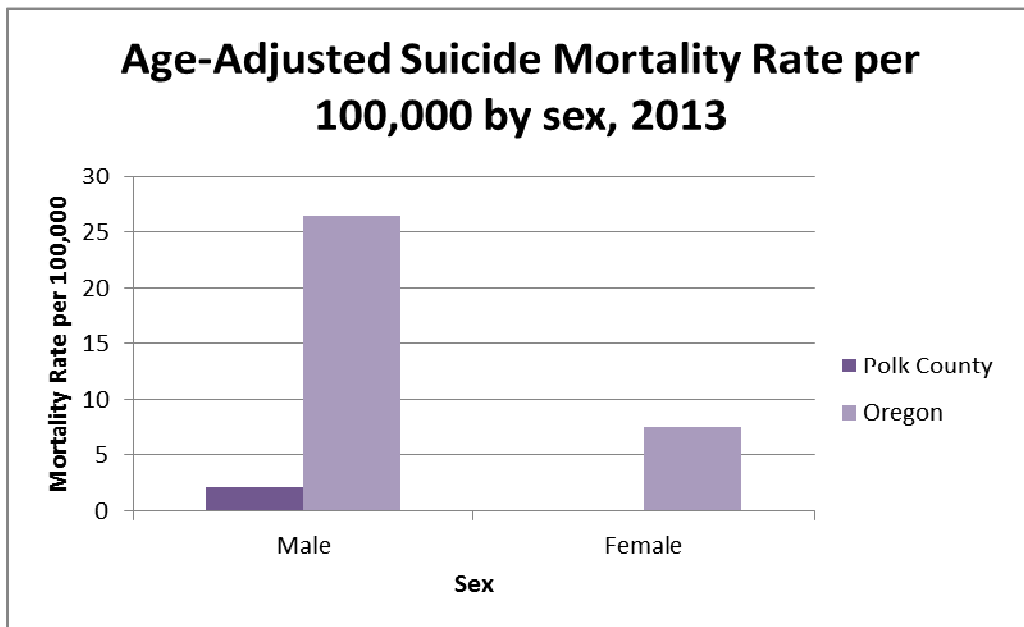
**Firearm Injury Mortality Rate:** Firearm injury mortality rates include deaths from accidental firearm discharge, suicide by firearm, assault by firearm, firearm discharge of undetermined intent, and legal intervention involving firearm discharge. Polk County residents have a lower accidental firearm discharge mortality rate than Oregon residents as a whole. In the years 2010-2012 there were no reported cases<sup>23</sup>.



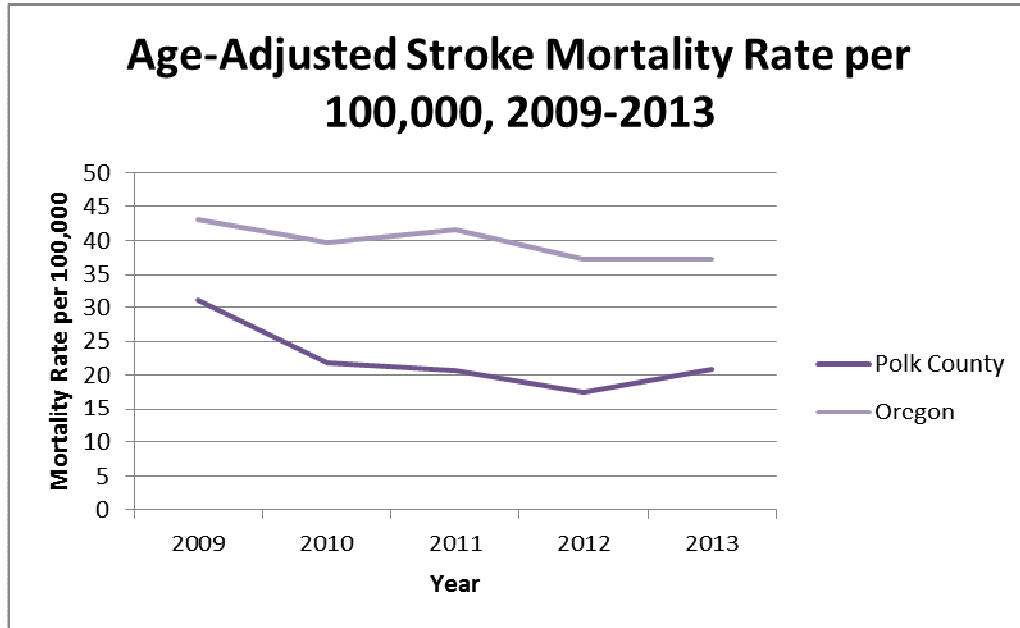
**Suicide Mortality Rate:** Polk County residents have a lower suicide mortality rate than Oregon residents as a whole<sup>23</sup>. The Polk County suicide rate was falling until 2013, when it rose slightly.



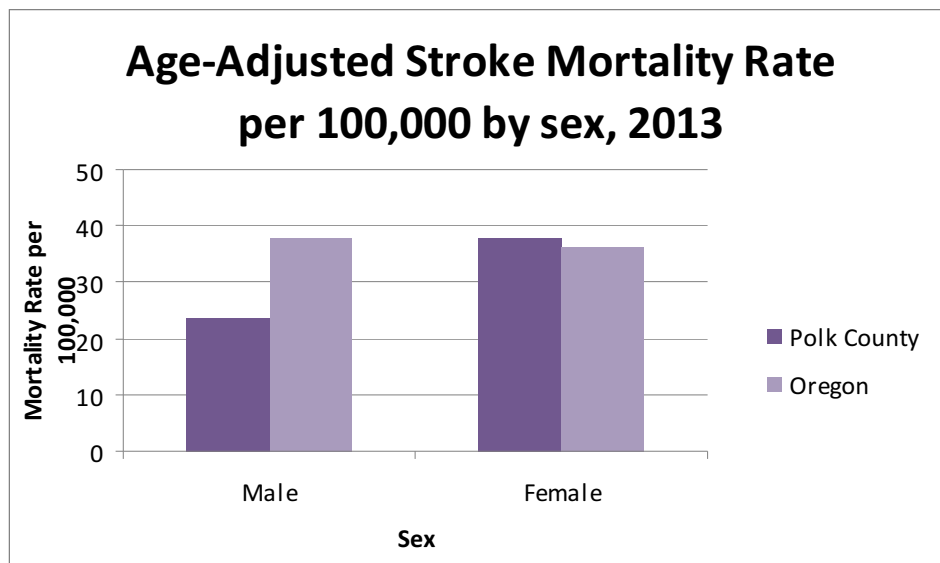
Males have a higher suicide mortality rate than females. Males and females in Polk County have a lower suicide mortality rate than Oregon males and females as a whole, with there being no reported cases of suicide in women in Polk County in 2013<sup>23</sup>.



**Stroke Mortality Rate:** Most strokes happen when blood flow to the brain is blocked. A stroke can result in mild to severe long-term disability and sometimes death. Risk factors for stroke include high blood pressure, high cholesterol and smoking, but the actual likelihood of having a stroke or dying from a stroke varies by race and ethnicity<sup>27</sup>. Polk County residents have a lower stroke mortality rate than Oregon residents as a whole<sup>23</sup>.

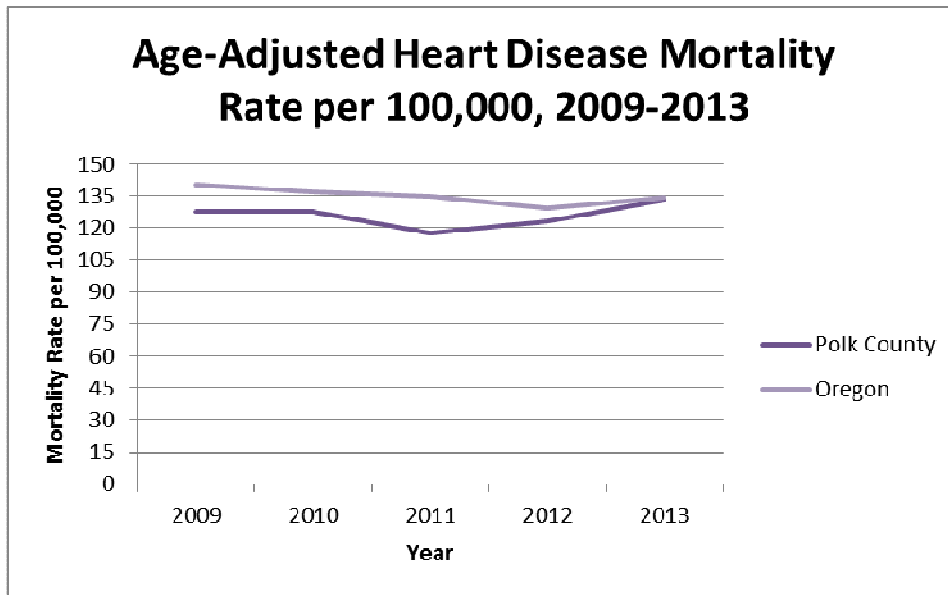


Oregon males and females in general have a higher stroke mortality rate than Polk County males and females<sup>23</sup>.

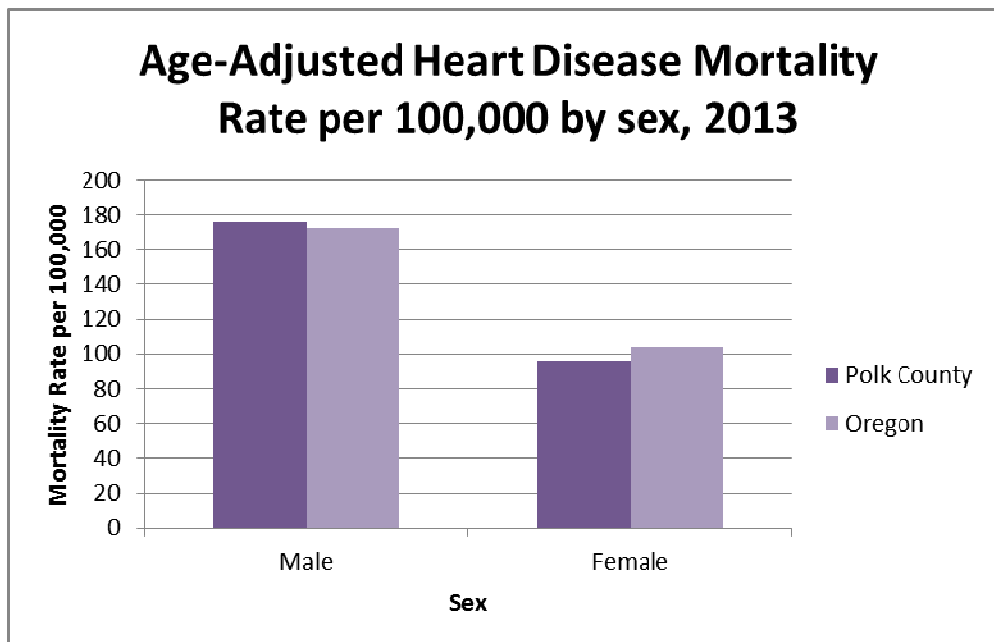


\* Due to a lack of data, Polk County was unable to break this down by race and ethnicity, or age.

**Heart Disease Mortality Rate:** Coronary artery disease is the most common type of heart disease in the United States, and can cause heart attack, angina, heart failure and problems with the heart’s rhythm. Risk factors for heart disease that a person can change include high cholesterol, high blood pressure, diabetes, tobacco use, diet choices, physical inactivity, obesity, and excessive alcohol use. If heart disease runs in the family, a person’s risk of developing heart disease can increase even more if they smoke, and make poor diet choices<sup>28</sup>. Polk County residents have a lower heart disease mortality rate than Oregon residents as a whole<sup>23</sup>.

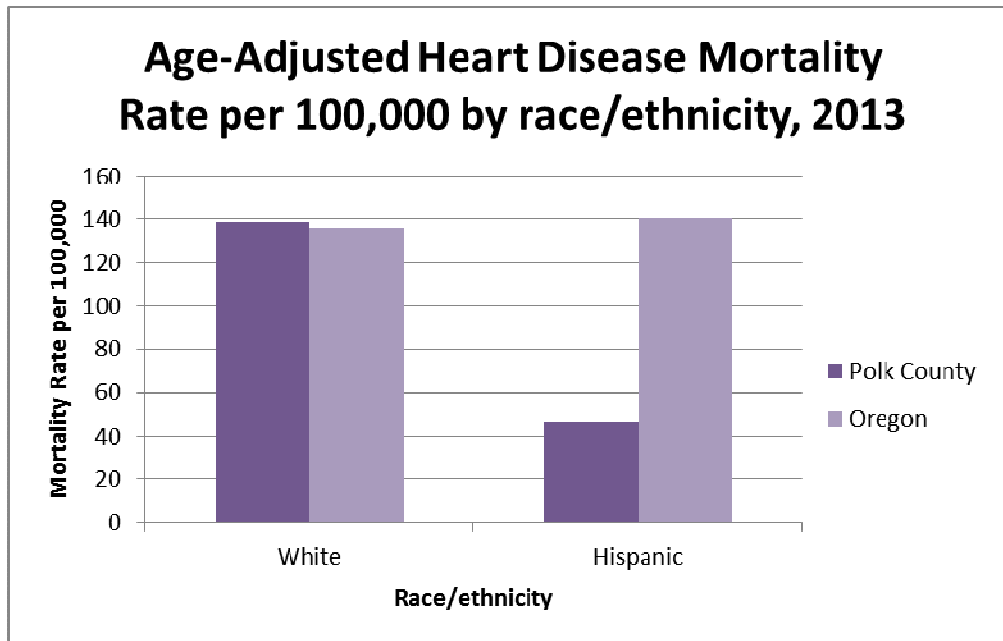


Polk County male residents have a higher heart disease mortality rate than Oregon males in general, while Polk county female residents have a lower heart disease mortality rate than Oregon female<sup>23</sup>.

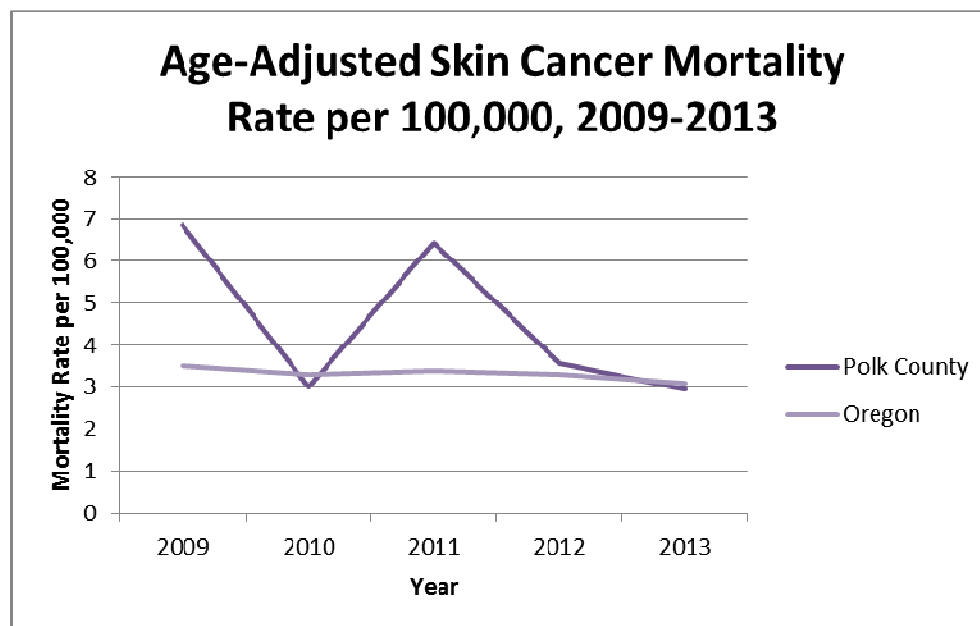




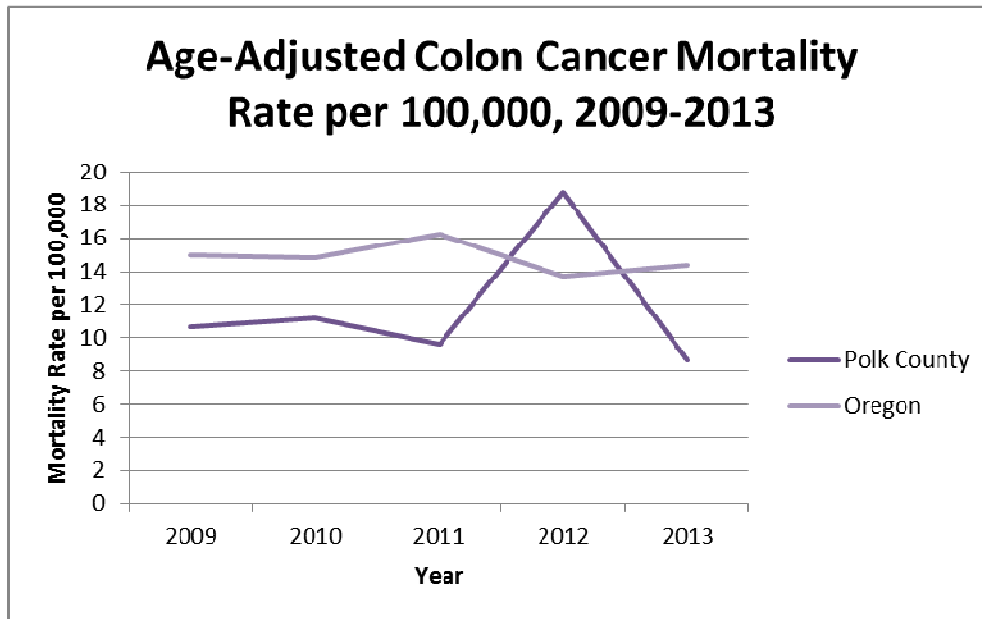
Polk County residents that identify as White have a higher heart disease mortality rate than Polk County residents that identify as Hispanic. Hispanic residents in Polk County have a lower heart disease mortality rate than Hispanic Oregonians in general<sup>23</sup>.



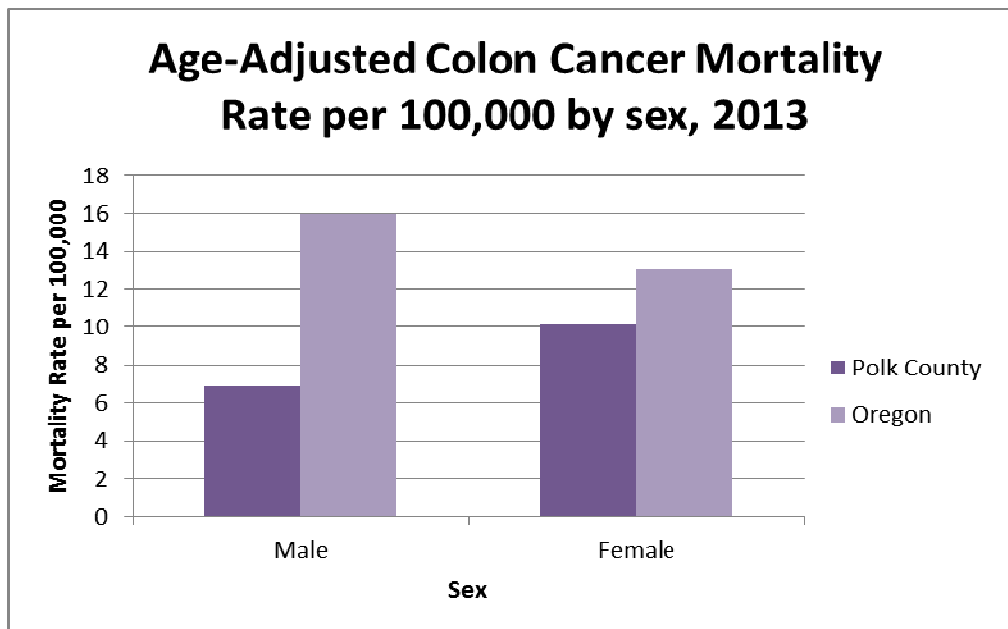
**Skin Cancer Mortality Rate:** Skin cancer (abnormal growth of skin cells) risk can be reduced by limiting/avoiding exposure to UV radiation (sunlight and tanning beds) and wearing sunscreen and protective clothing when exposed to sunlight<sup>29</sup>. Polk County residents have a slightly higher skin cancer mortality rate than Oregon residents as a whole<sup>23</sup>. Skin cancer mortality is decreasing slightly in both Polk County and Oregon. This may be related to increased knowledge of the risks of sun exposure.



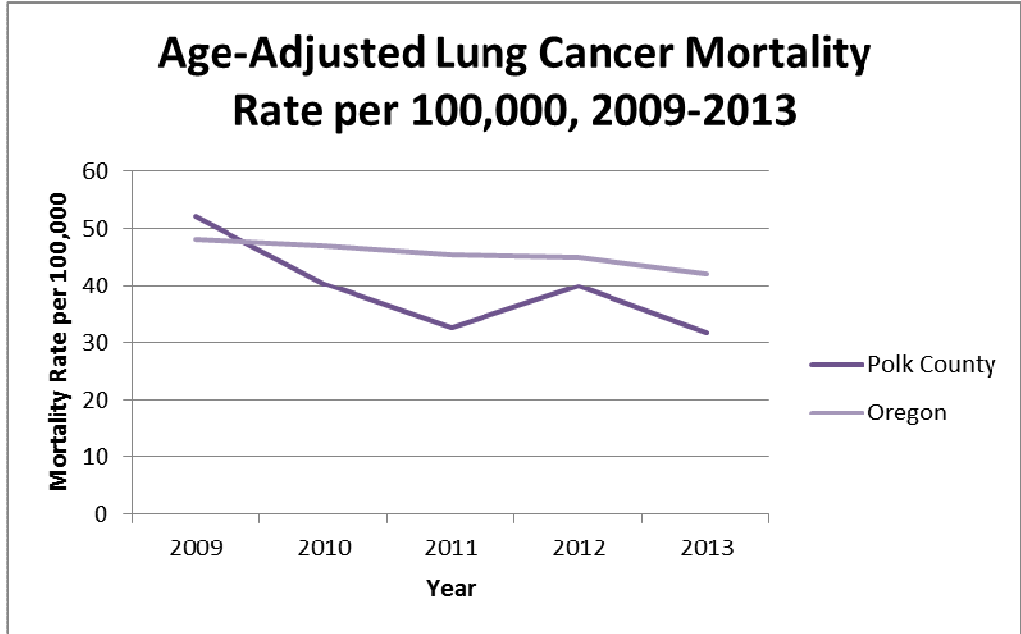
**Colon Cancer Mortality Rate:** According to the Centers for Disease Control and Prevention, colorectal cancer, also called colon cancer is most common in adults after age 50. Colorectal cancer screening saves lives by finding and removing precancerous growths in the colon, and by finding the cancer at an early, more treatable stage. Screening is recommended for persons aged 50 and older and for persons at higher risk due to a personal or family history, or other bowel disease. Persons under 50 who may be at higher risk should speak with their medical provider about the need for early screening<sup>30</sup>. The colon cancer mortality rate is inconsistent in Polk County<sup>23</sup>. This rate may decrease if colon cancer cases are identified at earlier stages. This could be achieved by increasing the percentage of Polk County residents that have had recommended colon cancer screenings.



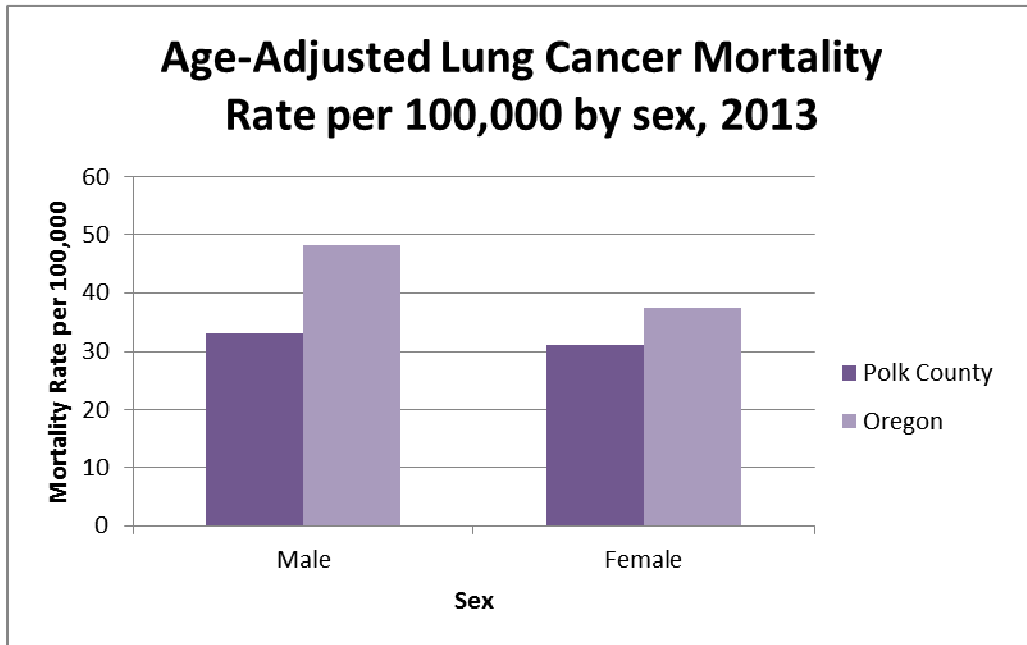
In Polk County, men had a lower colon cancer mortality rate than Oregon men in 2013. Polk County women have a lower colon cancer mortality rate than Oregon women<sup>23</sup>.



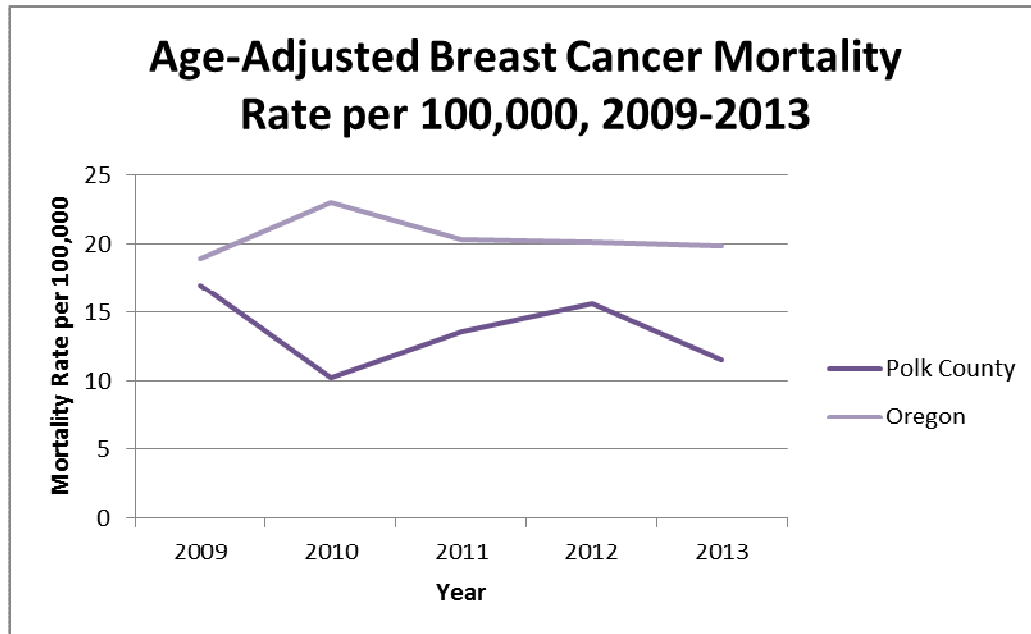
**Lung Cancer Mortality Rate:** According to the Centers for Disease Control and Prevention, “lung cancer is the leading cause of cancer death” for both men and women in the United States. Persons are encouraged to quit smoking and avoid secondhand smoke to lower their risk of lung cancer. “The second leading cause of lung cancer is radon, a naturally occurring gas that comes from rocks and dirt and can get trapped in houses and buildings.”<sup>31</sup> Polk County residents have a lower lung cancer mortality rate than Oregon residents<sup>23</sup>.



Men have a higher lung cancer mortality rate than women<sup>23</sup>. This data may suggest that men are more likely to use tobacco products than women.



**Breast Cancer Mortality Rate (Female):** According to the Centers for Disease Control and Prevention, “breast cancer is the most common cancer among American women”. Women ages 50-74 should have a mammogram screening every two years. Women between 40-49 years old should talk with their health care provider about whether they should have a mammogram<sup>32</sup>. Polk County residents have a lower breast cancer mortality rate than Oregon residents<sup>23</sup>.



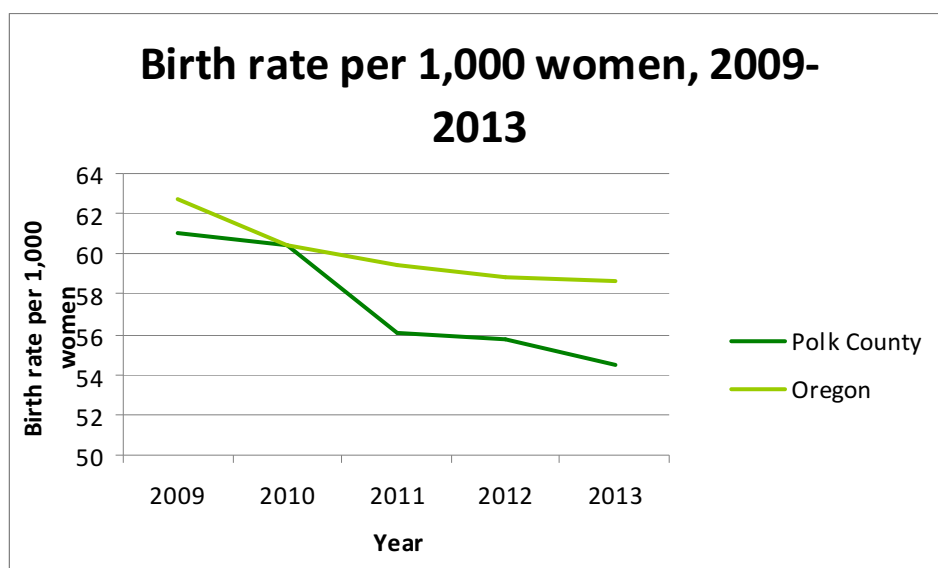
# Maternal & Child Health

Healthy moms and healthy infants ensure a healthy start to the next generation. Therefore, health indicators outlining the health of the youngest community measures are of the utmost importance.

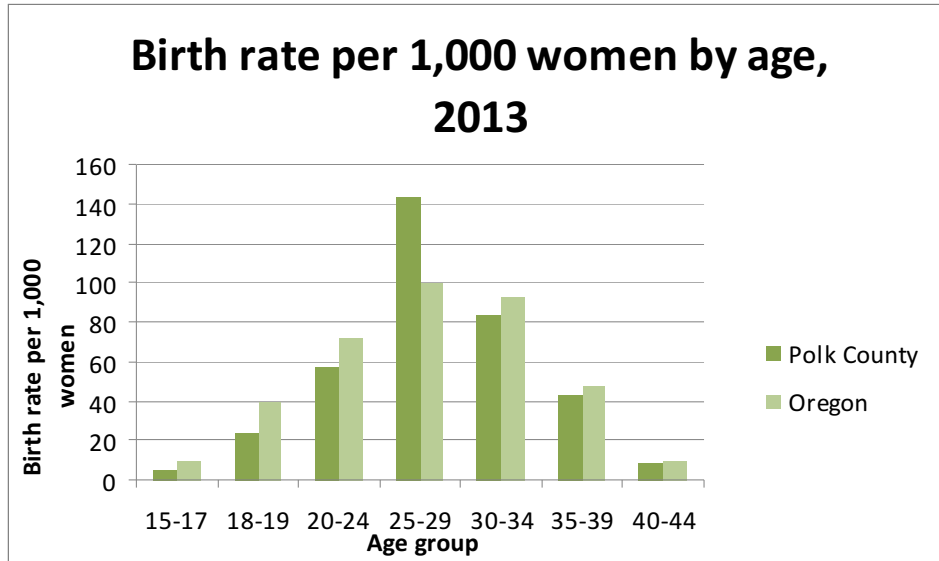
## Key Maternal & Child Health Findings for Polk County:

- The birth rate per 1,000 women has steadily declined since 2009.
- The percent of moms who receive first trimester prenatal care has been increasing since 2008.

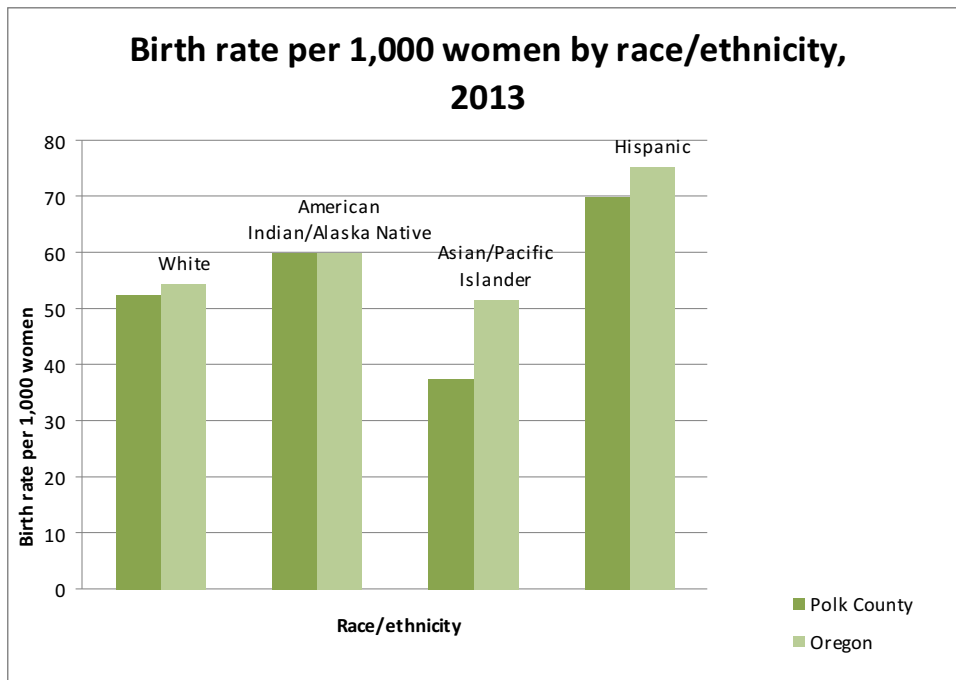
**Birth Rate:** The birth rate provides a glimpse into the number of people added to the community population each year. The birth rate includes all live births to women between the ages of 10-49 during a calendar year. The birth rate in Polk County has steadily declined since 2009<sup>33</sup>.



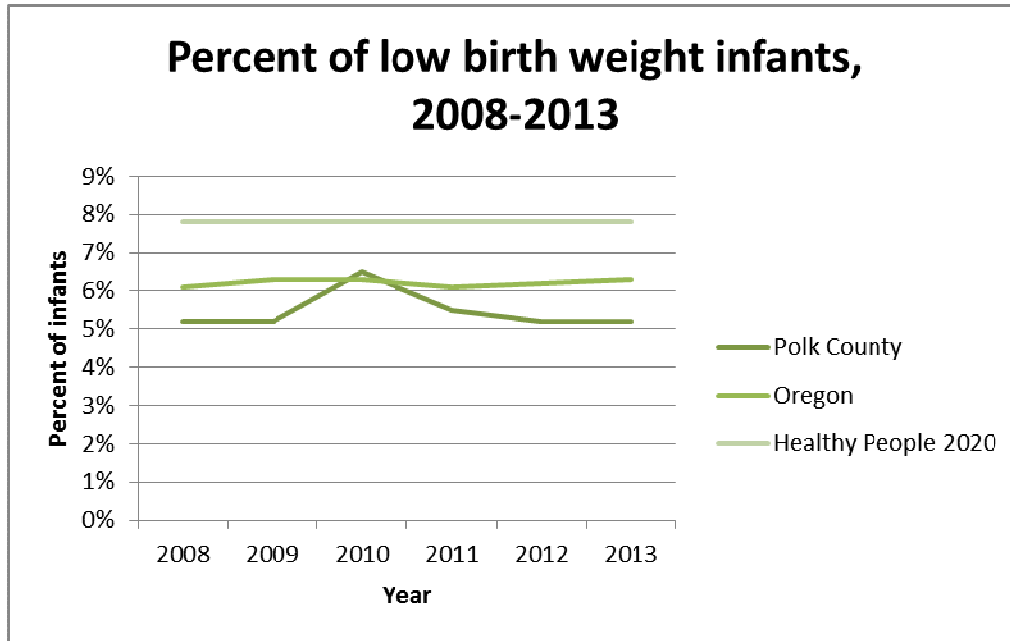
Women in certain age groups are at higher risk for birth complications. Teens and women over 35 are more likely to have higher risk pregnancies than women between the ages of 20-34.<sup>34</sup> Polk County has a lower teen birth rate than Oregon. Polk County women between the ages of 25 and 29 have the highest birth rate in Polk County<sup>33</sup>.



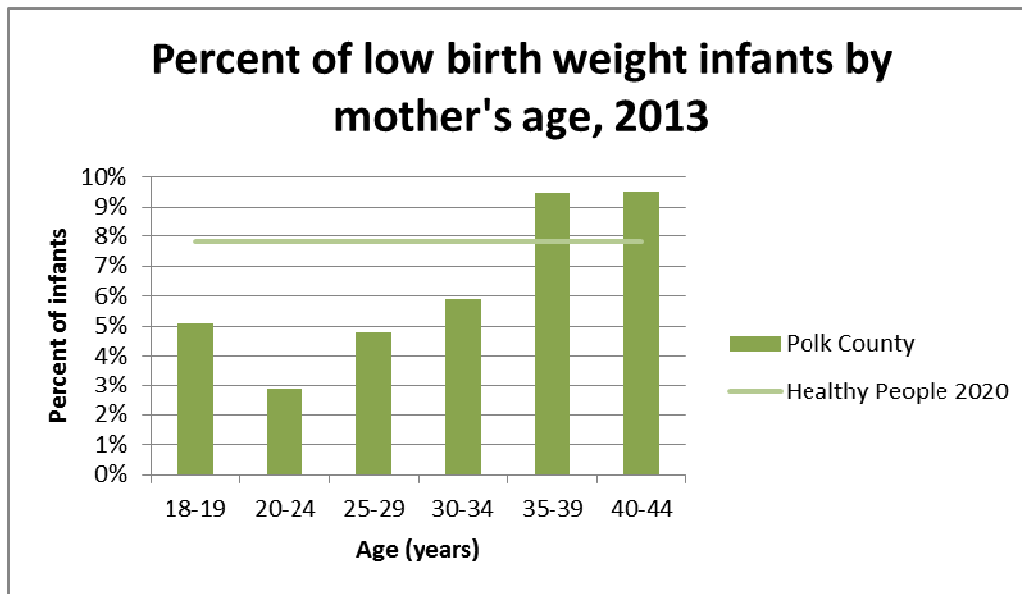
High birth rates among a population determine the rate at which that population is growing. In Polk County, the group with the highest birth rate is the Hispanic community<sup>33</sup>.



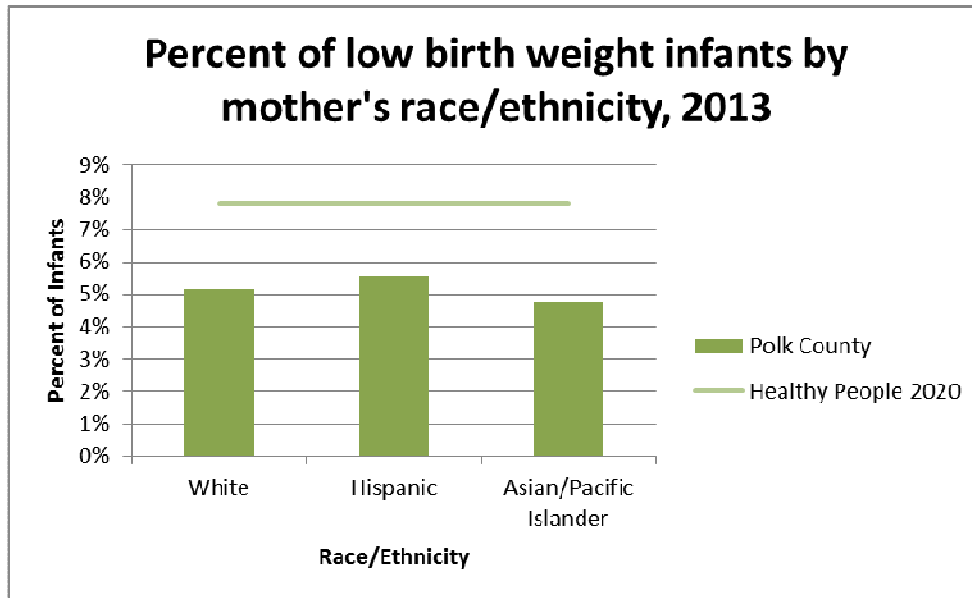
**Low Birth Weight Infants:** Low birth weight infants may have more health problems than infants of normal weight. There are several possible risk factors for having a low birth weight baby. A few examples include smoking, drinking alcohol, stress, and exposure to air pollution. Starting prenatal care during the first three months of pregnancy can help to prevent having a low birth weight baby<sup>35</sup>. Polk County has a lower proportion of low birth weight infants than Oregon for most years. Polk County and Oregon have achieved the Healthy People 2020 goal for percentage of low birth weight infants<sup>33,36</sup>.



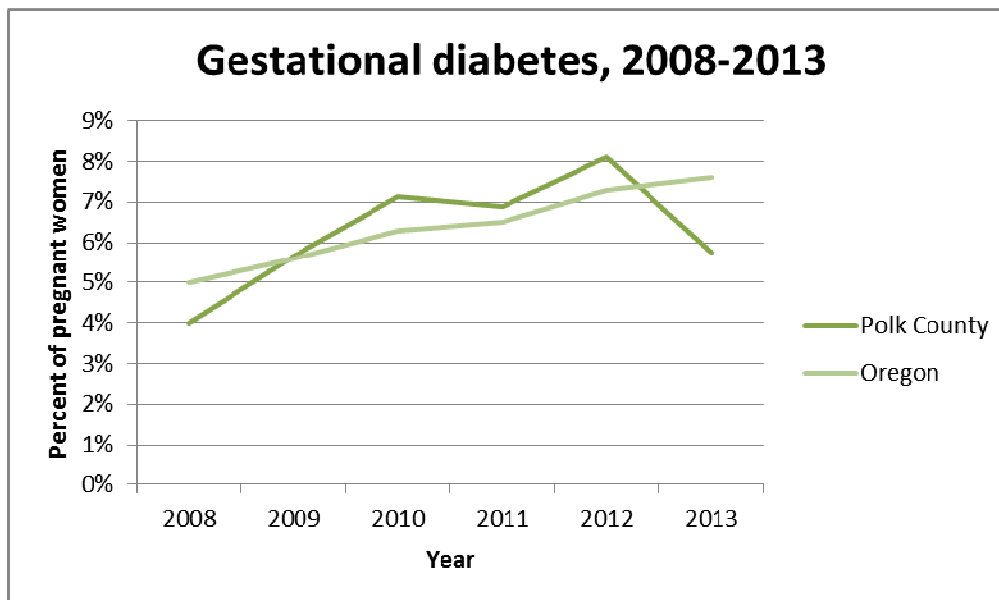
Mothers in Polk County with the highest proportion of low birth weight infants are in the 35-44 and 40-44 age range<sup>33,36</sup>.



Mothers who identify as Hispanic in Polk County have a larger proportion of low birth weight infants than mothers who identify as White or Asian/Pacific Islander<sup>33</sup>. This may indicate lack of access to adequate prenatal care for this particular population.

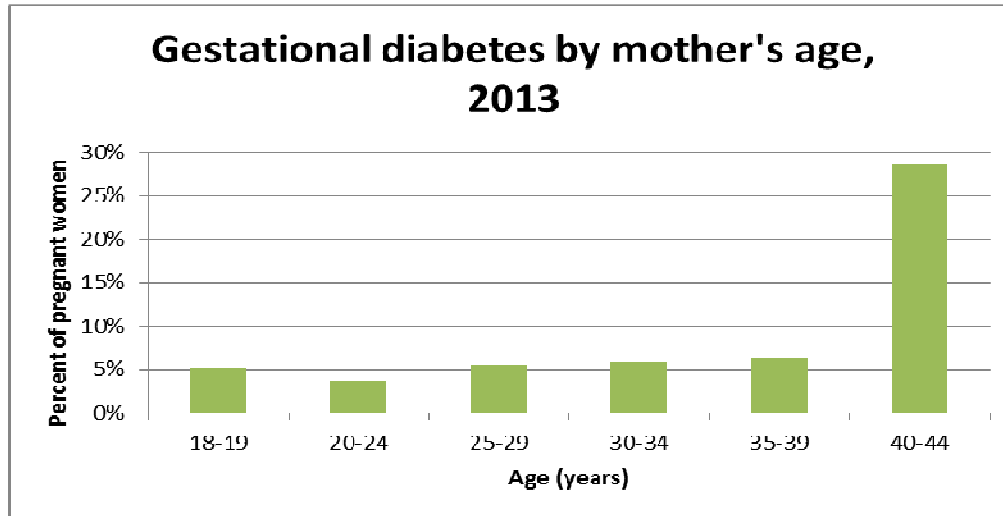


**Gestational Diabetes:** Pregnant women who are diagnosed with diabetes for the first time, while they are pregnant have gestational diabetes. Uncontrolled diabetes during pregnancy can cause problems for both the mother and baby. Poorly managed gestational diabetes can increase the newborn's risk of breathing problems as well as obesity in adulthood. A healthy diet and regular exercise may control the diabetes, but some women will need to take insulin. The proportion of women with gestational diabetes has been increasing since 2008, but decreased in 2013. Polk County typically has a larger percentage of women with gestational diabetes than Oregon, with the exception of 2008 and 2013<sup>33</sup>.

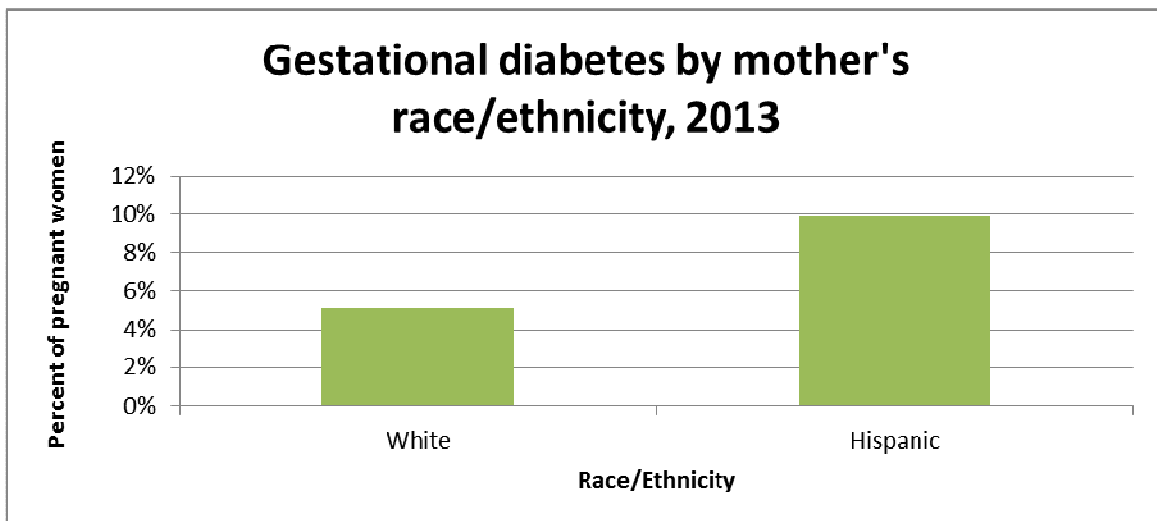




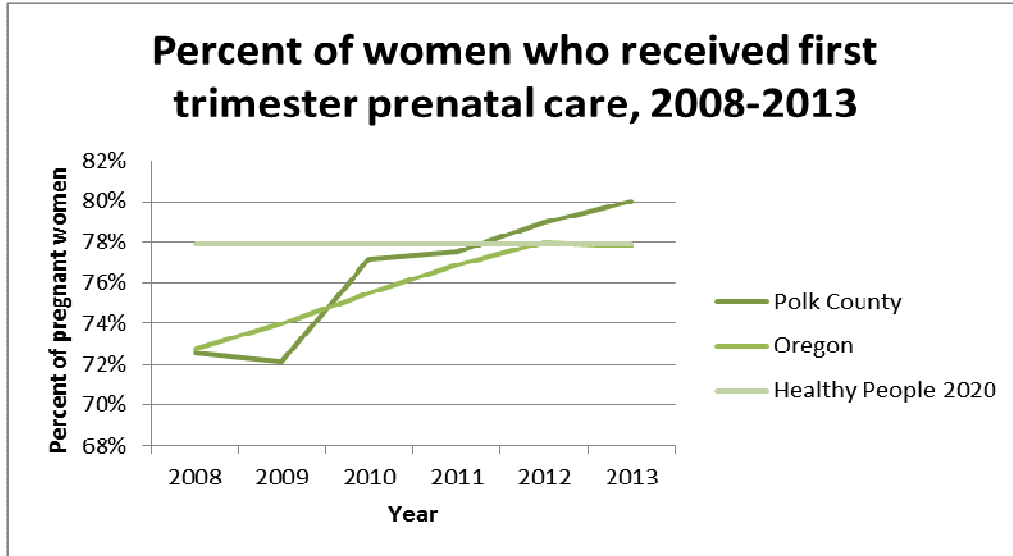
The proportion of women with gestational diabetes increases with the mother's age in Polk County<sup>33</sup>.



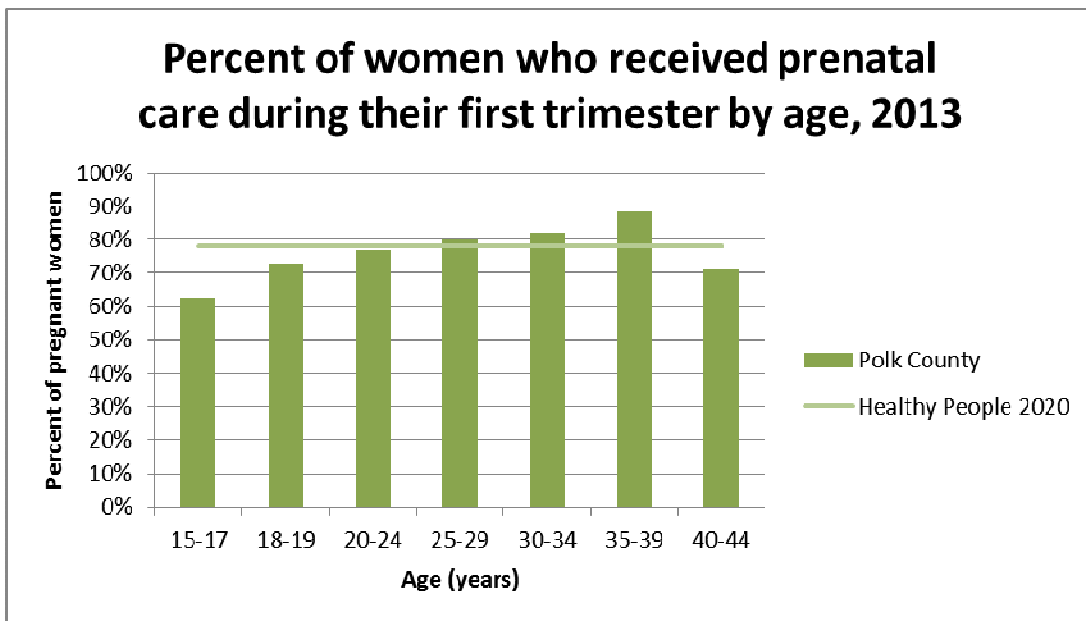
Pregnant women in Polk County who identify as Hispanic are more likely to have gestational diabetes than women in Polk County who identify as White<sup>33</sup>.



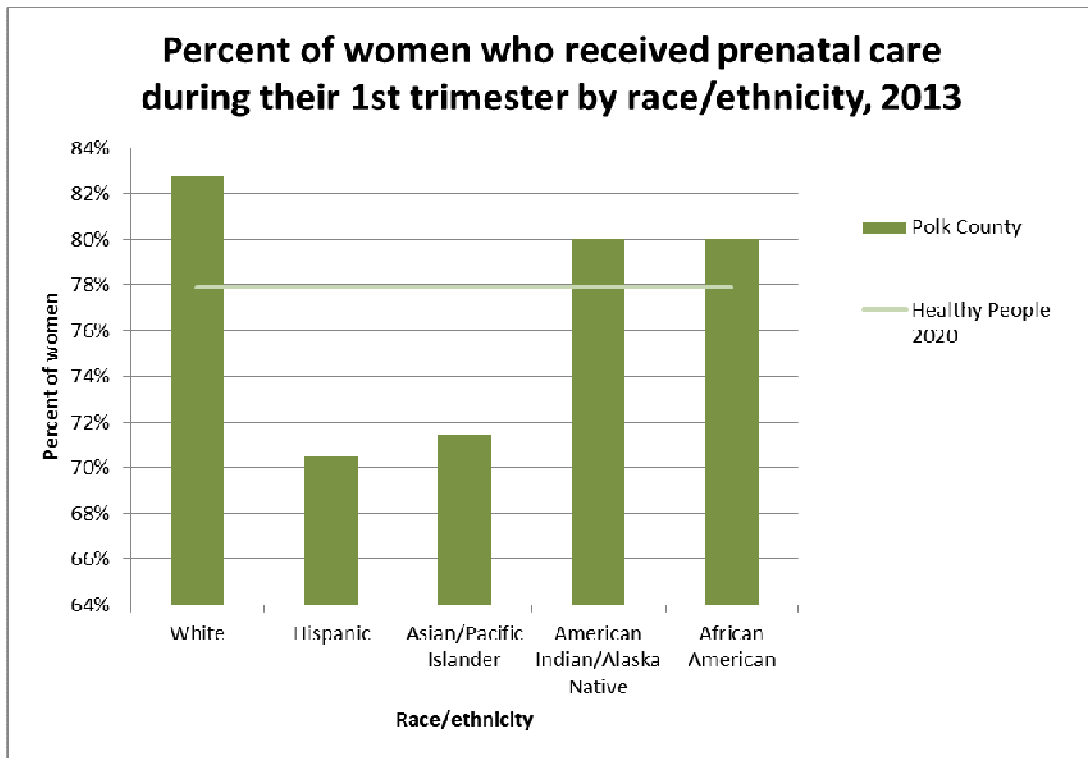
**Prenatal Care:** Women who start prenatal care during the first trimester of their pregnancy are at lower risk for low birth weight infants, pre-term births and other birth complications<sup>36</sup>. The proportion of women receiving first trimester prenatal care has continued to increase in Polk County and Oregon since 2009. The proportion of Polk County women receiving first trimester prenatal care (80.02%) is above the Healthy People 2020 goal (77.9%)<sup>33,36</sup>.



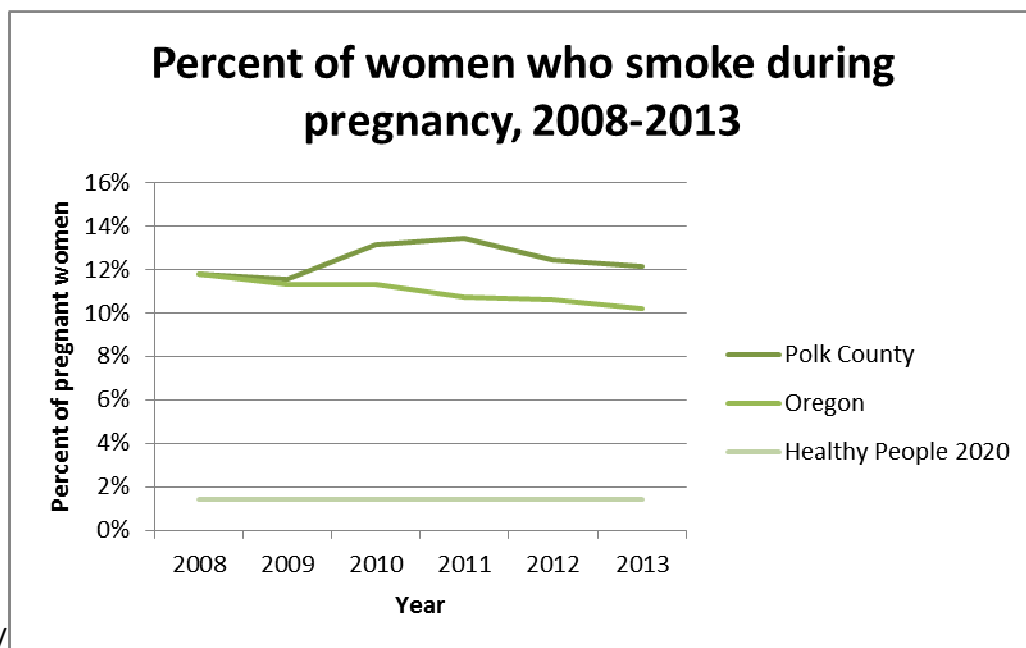
Pregnant women between the ages of 15-24 in Polk County are less likely to receive first trimester prenatal care than pregnant women between the ages 25-39 in Polk County<sup>33,36</sup>.



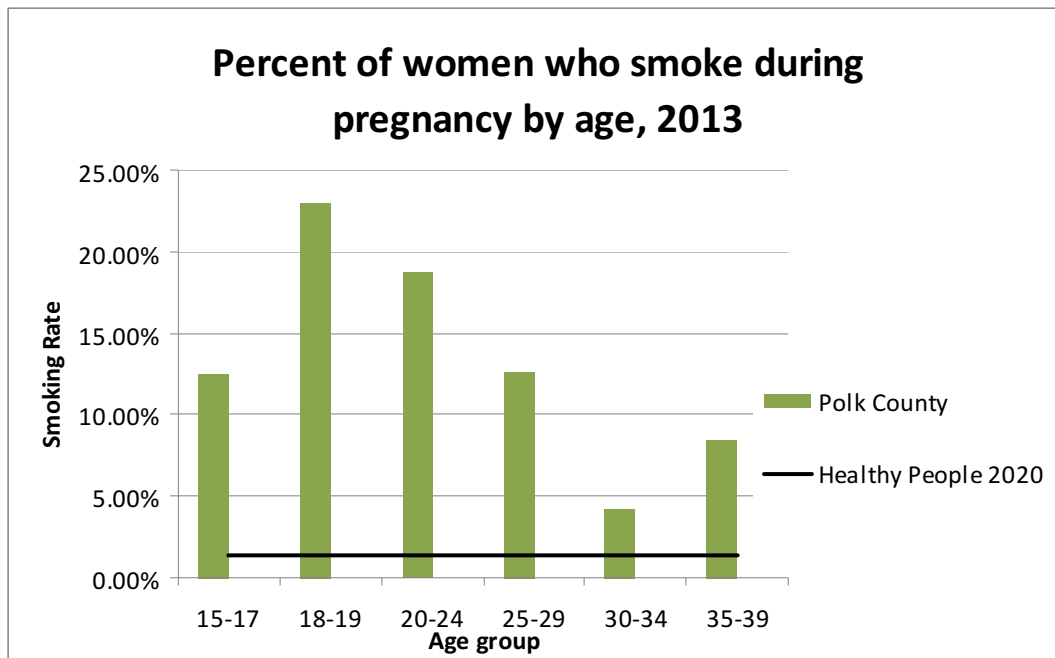
Pregnant women in Polk County who identify as White are more likely to receive first trimester prenatal care than pregnant women in Polk County who identify as Hispanic, Asian/Pacific Islander, American Indian/Alaska Native or African American. Pregnant women in Polk County who identify as Hispanic and Asian/Pacific Islander are least likely to receive first trimester prenatal care.



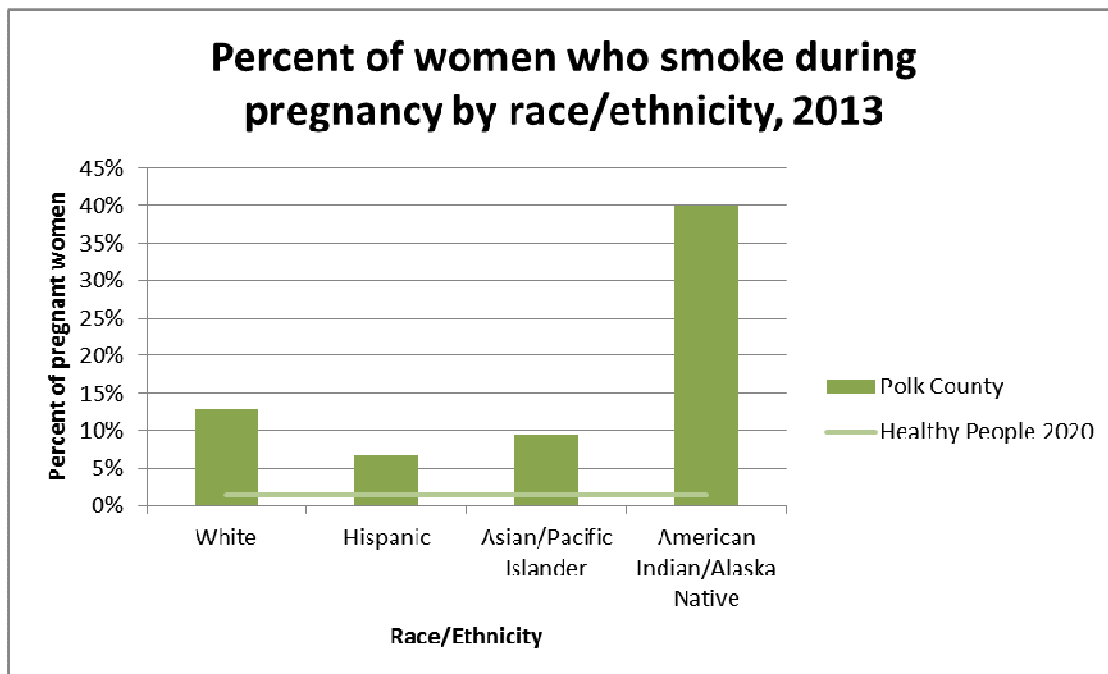
**Tobacco Use during Pregnancy:** The proportion of women who smoke during pregnancy has been rising since 2009. In 2013, more women in Polk County smoked during pregnancy than Oregon as a whole. Polk County and Oregon remain above the Healthy People 2020 goal (1.4%)<sup>33,36</sup>. Smoking during pregnancy can increase the risk of giving birth to a low birth weight infant.



In Polk County, women between the ages of 18-19 are most likely to smoke during pregnancy. None of the age groups in Polk County have achieved the Healthy People 2020 goal<sup>33,36</sup>.

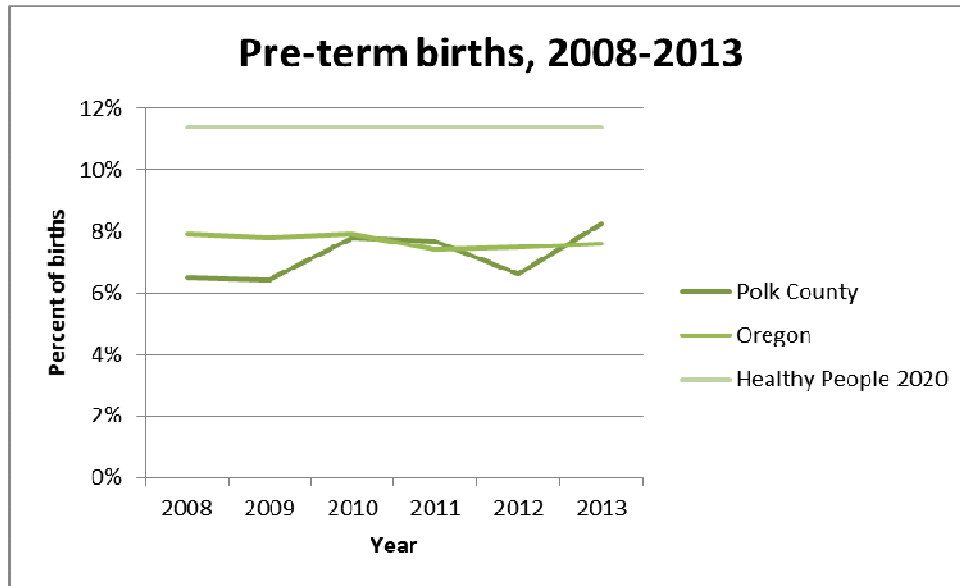


In Polk County, women who identify as American Indian/Alaska Native are more likely to smoke than women who identify as White, Hispanic or Asian/Pacific Islander. Women who identify as Hispanic are the least likely to smoke during pregnancy<sup>33,36</sup>.

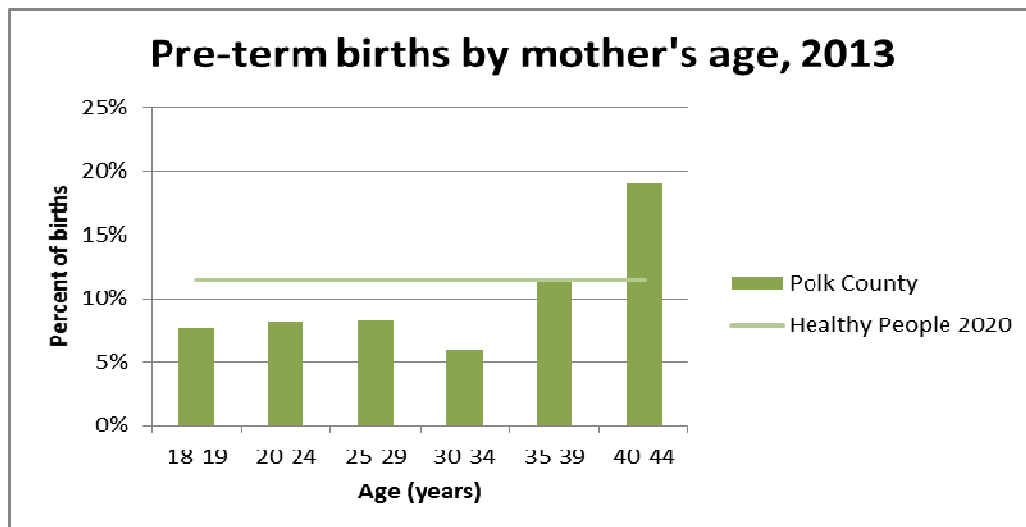


**Pre-term Births:** Pre-term birth, defined as a birth before 37 weeks of pregnancy, is the leading cause of long-term neurological disabilities in children in the United States. Low maternal income, infection during pregnancy, high blood pressure, tobacco use, alcohol use, substance abuse, high levels of stress and late prenatal care are associated with increased risk of pre-term birth.

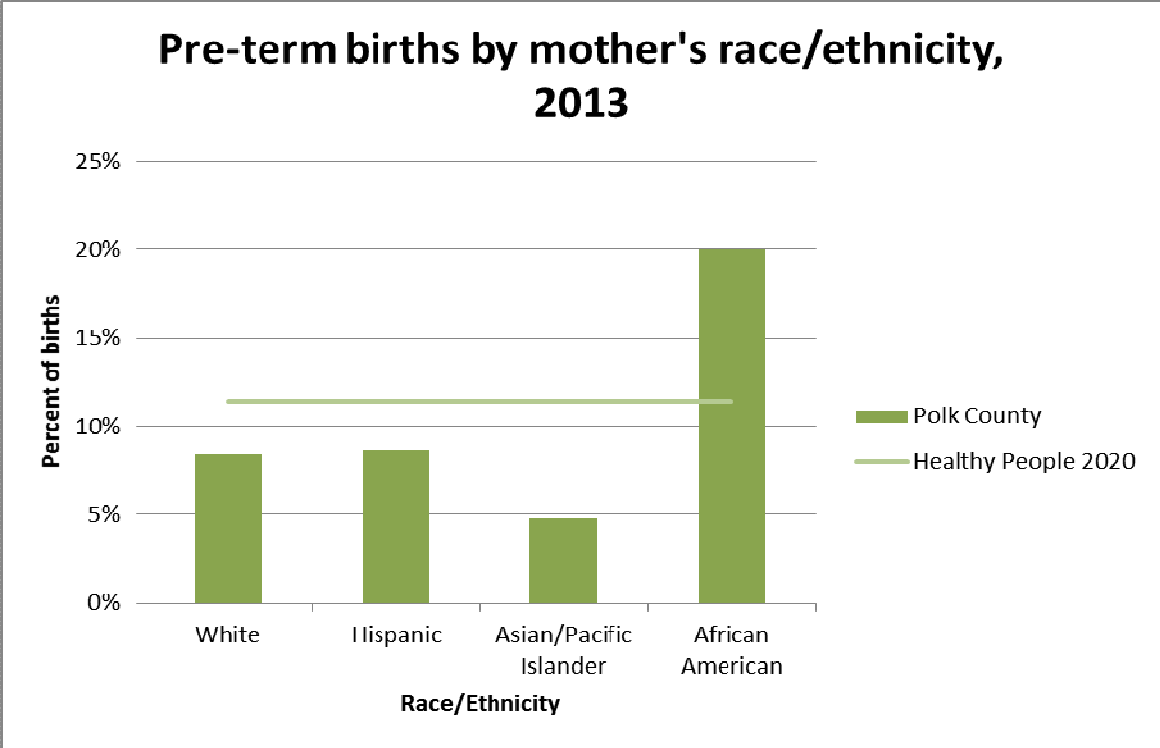
Polk County and Oregon have about the same proportion of pre-term births. The proportion of pre-term births has remained about the same since 2008 and is below the Healthy People 2020 goal<sup>33,36</sup>.



In Polk County, mothers between the ages 40-44 were most likely to have pre-term infants followed by those aged 35-39. Mothers between the ages 30-34 were least likely to have a pre-term infant<sup>33,36</sup>.



Mothers who identify as Asian/Pacific Islander were least likely to have pre-term births. Mothers who identified as African American were the most likely to have pre-term births, and were the only group who didn't meet the Health People 2020 goal<sup>33,36</sup>.

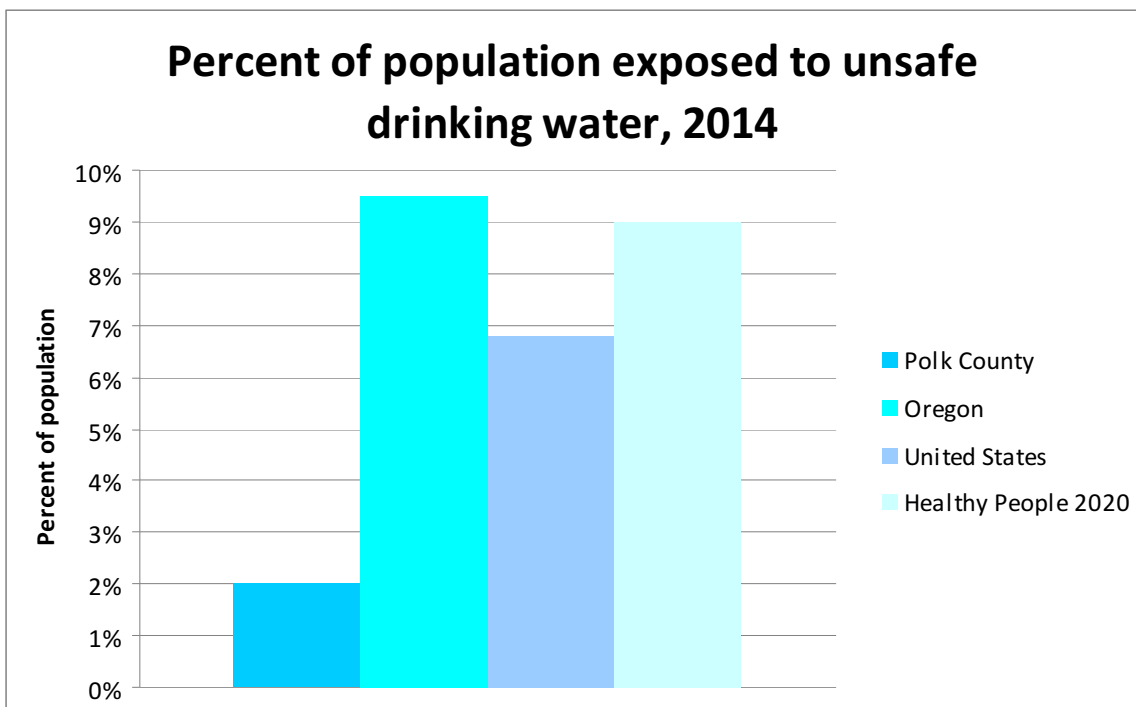


# Environmental Health

According to the World Health Organization environment is all of the physical, chemical and biological factors external to a person. Environmental health consists of preventing or controlling disease, injury and disability related to interactions between people and the environment.

**Drinking Water Quality:** High quality drinking water decreases exposures to harmful chemicals present in water, such as arsenic, as well as bacteria that can make people sick, like E. coli. Drinking water quality in Marion County far exceeds the Healthy People 2020 goal.

In Polk County, only 2% of the population was exposed to drinking water that did not meet safety regulations for drinking water. This is a much lower proportion of people than were exposed to potentially unsafe drinking water in Oregon and the United States<sup>37, 38</sup>.



# Built Environment

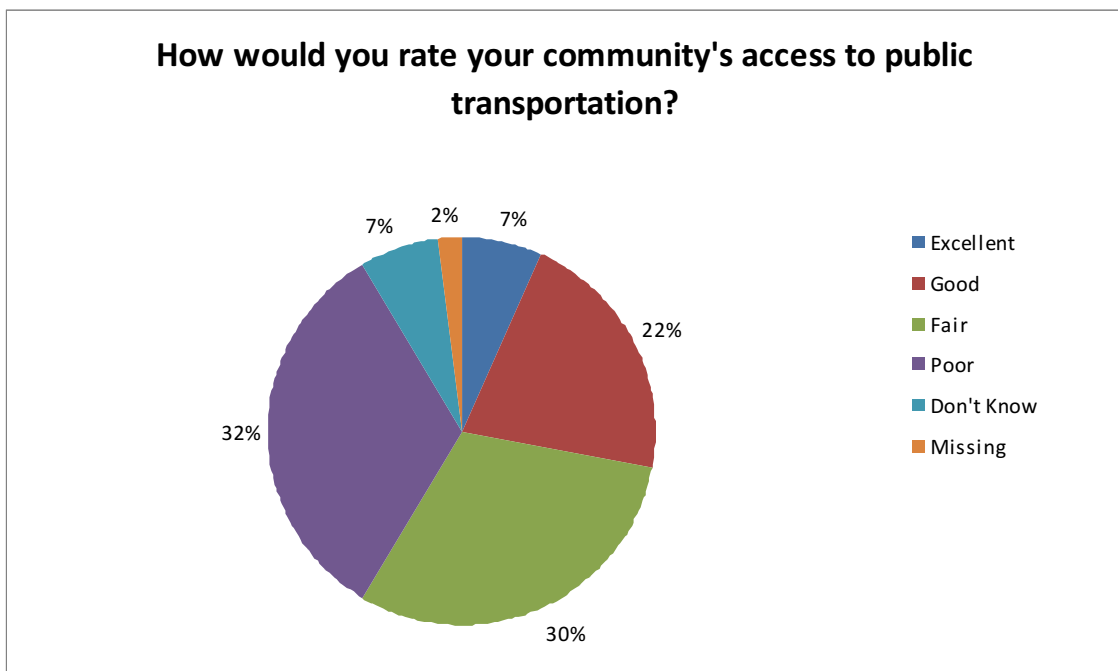
According to the CDC, the built environment includes all of the physical parts of where we live and work, such as streets, open spaces, sidewalks, and walking paths. The built environment can influence a person's health by increasing access to supports that encourage a healthy lifestyle, such as access to healthy foods, parks and sidewalks.

## Key Built Environment Findings for Polk County:

Based on 2015 Community Survey Data:

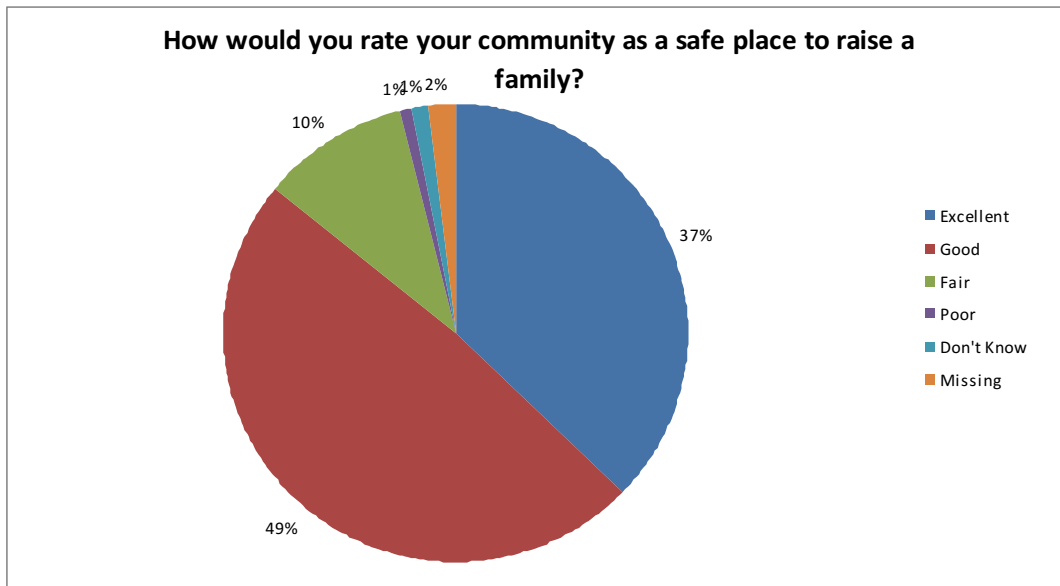
- Almost one third of Polk County residents believe their access to public transportation is poor.
- Almost one third of Polk County residents believe the county is an excellent place to raise a family.
- Almost one half of Polk County residents believe their access to healthy foods is good.

**Access to Public Transportation:** About a third of Polk County residents believe their access to public transportation is fair<sup>17</sup>. Increased access to public transportation reduces the amount of traffic in an area, therefore reducing crash related injuries/fatalities as well as pollution emissions. Access to public transportation also increases access to medical care, and healthy food options. Lastly, use of public transportation can increase physical fitness through encouraging individuals to walk from the bus stop to their destination.

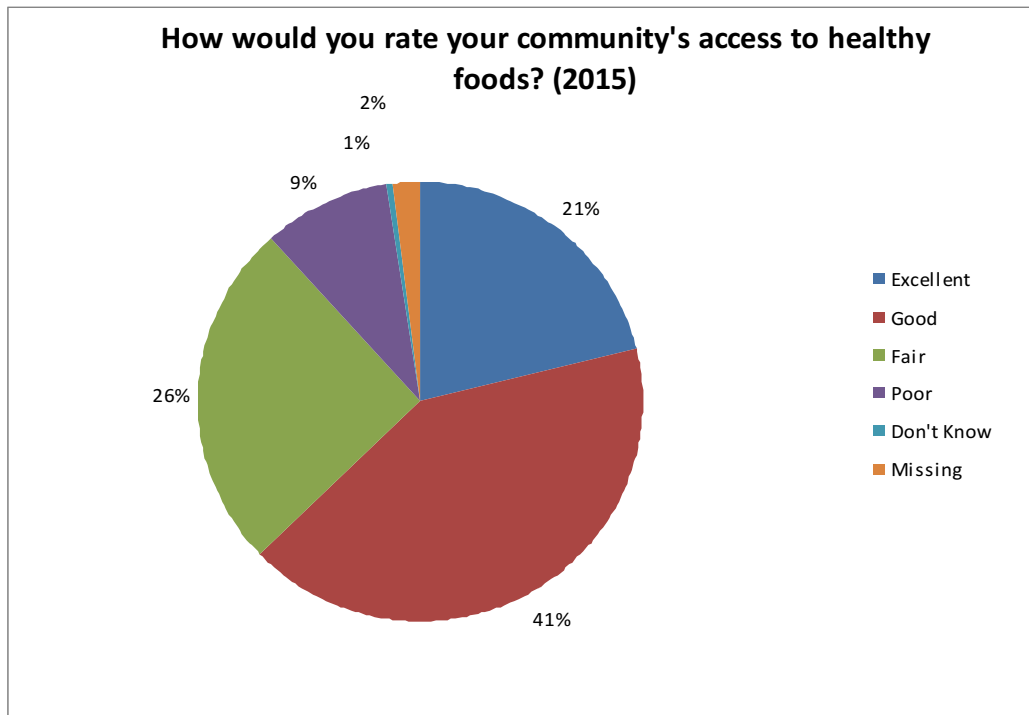




**Community Safety:** Overall, residents feel Polk County is a safe place to raise a family. Very few respondents feel that Polk County is a poor place to raise a family<sup>17</sup>.



**Access to Healthy Foods:** The majority of Polk County residents believe their community has excellent or good access to healthy food. Access to healthy food indicates better community nutrition and may affect the community's weight status<sup>17</sup>.



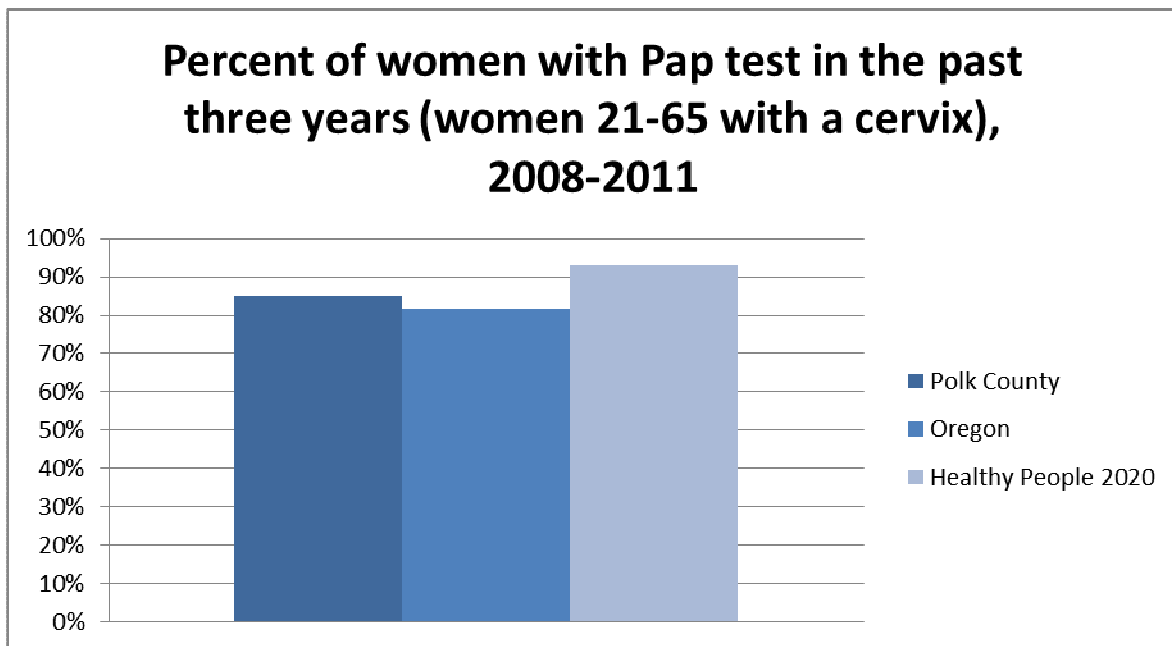
# Health Behaviors

Genetics, social circumstances, environmental exposure, and health care are all factors that impact health. In the case of health behaviors, a fifth factor, individuals can take steps to help ensure that they live healthier and longer lives. Some of these include avoiding tobacco and excessive alcohol consumption, maintaining a healthy weight with physical activity and healthy food choices, and receiving the recommended health screenings.

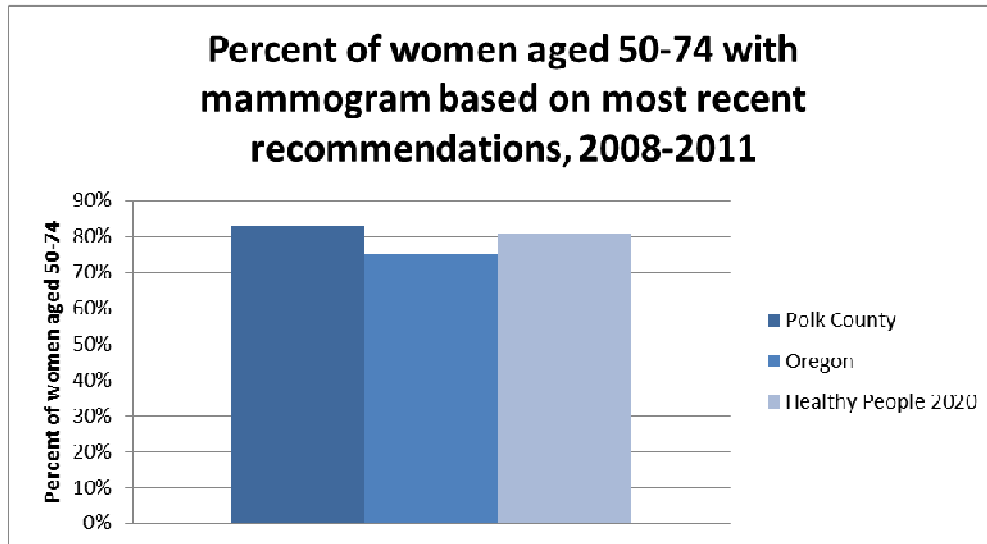
## Key Health Behavior Findings for Polk County:

- Racial and ethnic disparities exist in the Polk County teen pregnancy rate, however has steadily declined since 2008.
- Alcohol impaired driving deaths in Polk County occur at a rate higher than the state of Oregon.
- Tobacco, alcohol and marijuana use in youth increases with increasing grade levels.

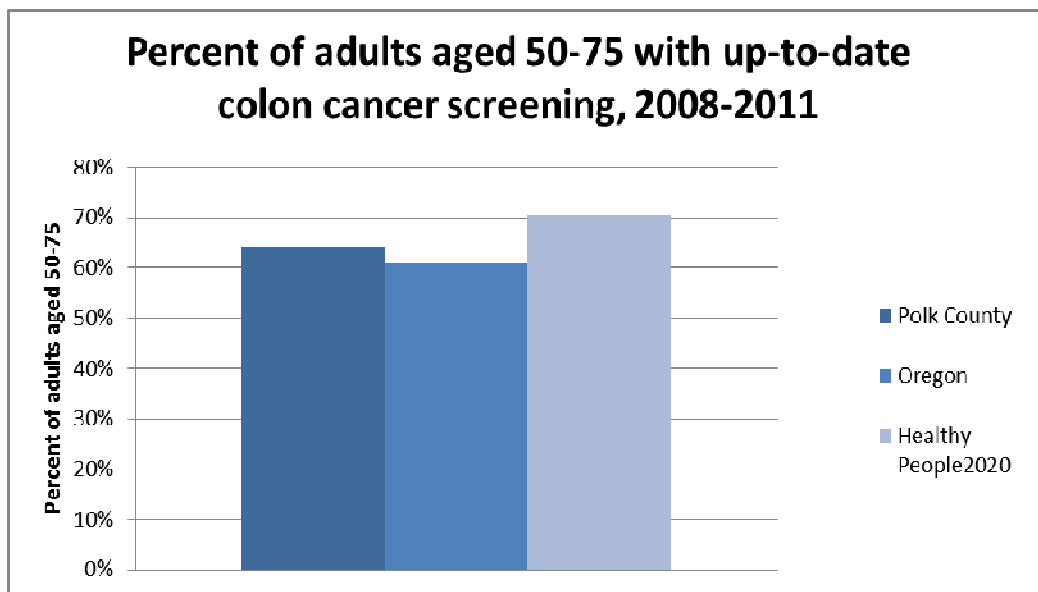
**Preventive Screenings- Pap Test:** This indicator shows the percentage of women ages 21-65 who had a pap smear or test of their cervix. Pap smears are an effective means of early cervical cancer detection. Polk County women were as likely to have had a Pap test in the past three years as Oregon women. Pap smears are an effective way of preventing cervical cancer. Polk County and Oregon Pap test rates have not yet reached Healthy People 2020 goals<sup>39,40</sup>.



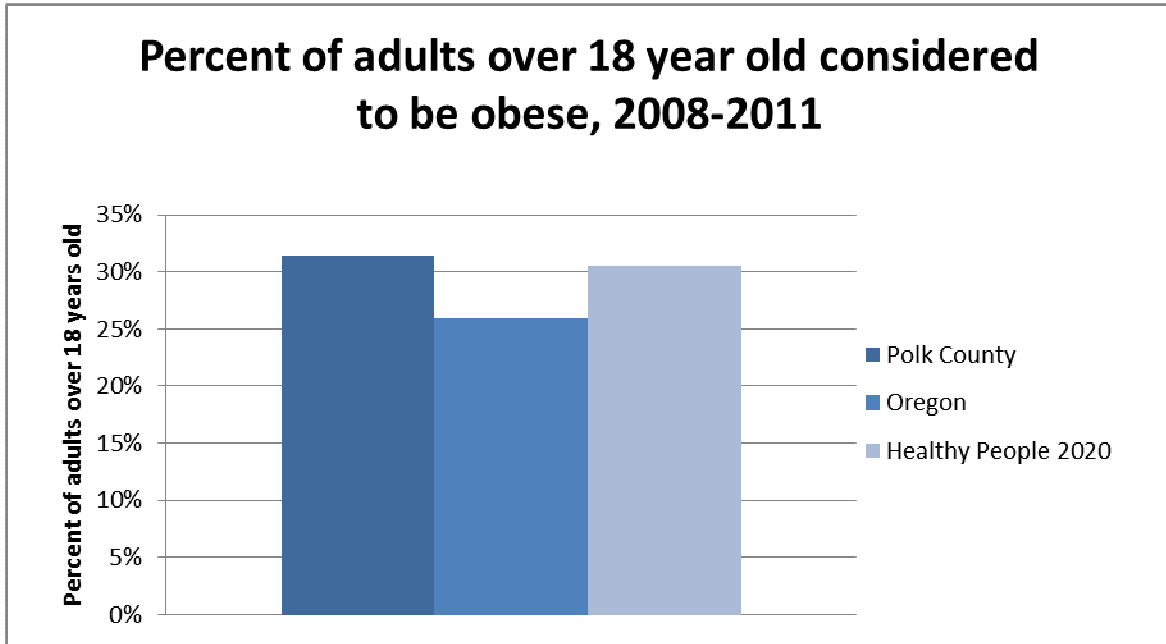
**Preventive Screening-Mammogram:** Mammograms may help doctors to diagnose breast cancer during earlier, more treatable stages. Polk County has met the Healthy People 2020 goal for mammograms and Polk County women are more likely to have had a breast cancer screening than Oregon women <sup>41,42</sup>.



**Preventive Screening-Colon Cancer:** Polk County adults 50-75 years old are more likely to have had appropriate colon cancer screening than Oregon adults 50-75 years old. Colon cancer screening is an effective way of preventing late stage colon cancer and greatly increases the odds of survival after a colon cancer diagnosis. The American Cancer Society recommends all adults begin colon cancer screening at age 50. They recommend one of the following schedules for screening: Colonoscopy every 10 years, Flexible Sigmoidoscopy, Double-Contrast Barium Enema, or CT Colonography every 5 years, Stool DNA test every 3 years, or a Guaiac-Based Fecal Occult Blood Test or Fecal Immunochemical Test annually. <sup>43</sup> Polk County has not reached the Healthy People 2020 goal for colon cancer screening <sup>41,42</sup>.



**Modifiable Risk Factors-Obesity:** Obesity is measured by a person’s Body Mass Index or BMI (weight in kilograms divided by the square height in meters). A person is considered to be obese if he or she has a BMI of 30 or larger. Obesity is linked to other chronic diseases such as Type 2 diabetes, heart disease and high blood pressure. Polk County has a higher proportion of residents considered to be obese than Oregon as a whole. Polk County has not achieved the Healthy People 2020 goal (30.5%)<sup>41,42</sup>.



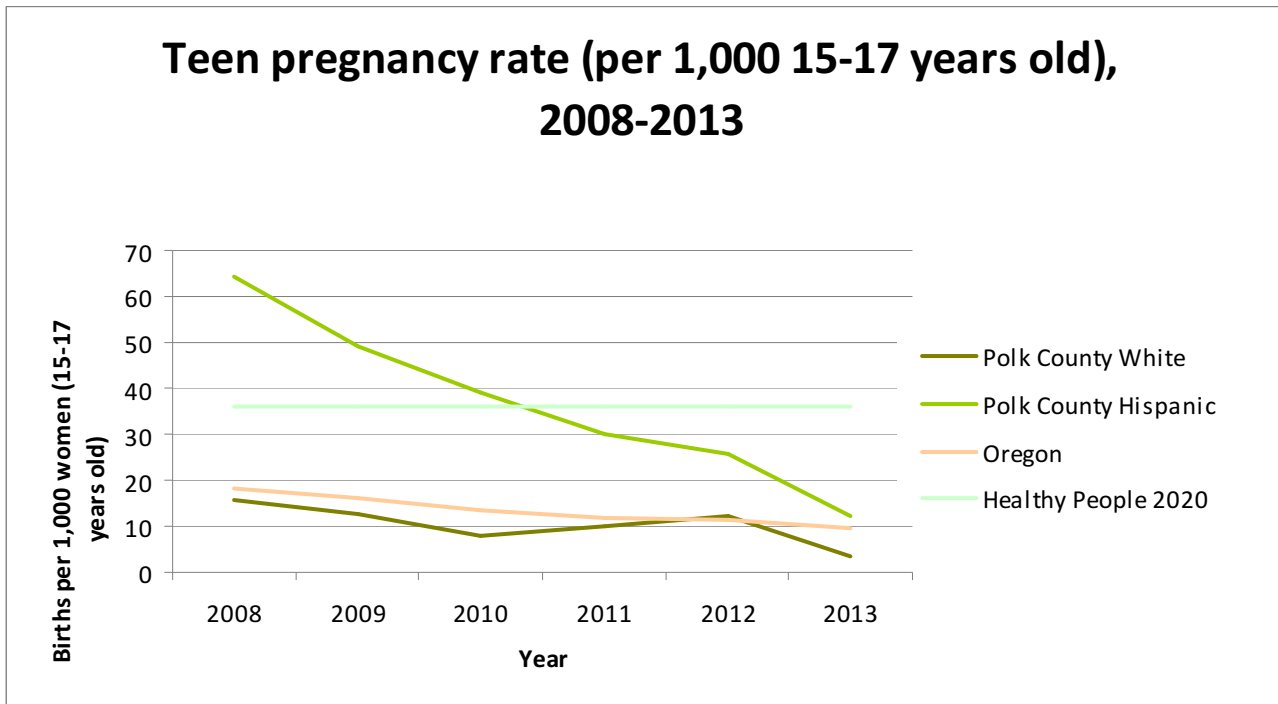
**Modifiable Risk Factors-Teen Obesity:** Obesity in children and teens is defined as a person who has a BMI that is above the 95<sup>th</sup> percentile for children and teens of the same age and sex. Teens that are obese are more likely to become obese adults. Obesity is linked to other chronic diseases such as diabetes, heart disease and colon cancer.

There is no Healthy Teens survey for Polk County. There was a sufficient sample size; however, the percentage of sampled students who participated in the survey was low. A report for this Polk County may not be representative of the county as a whole.

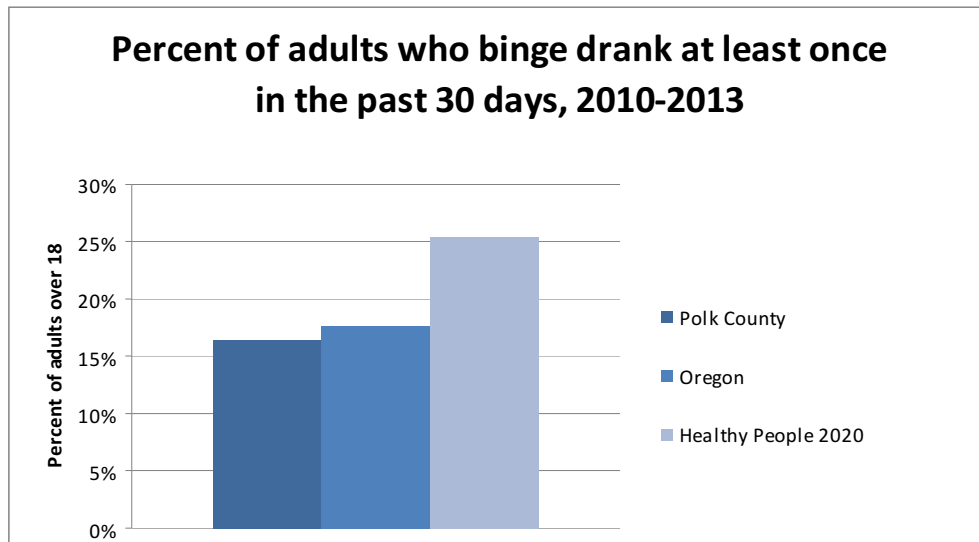
<http://public.health.oregon.gov/BirthDeathCertificates/Surveys/OregonHealthyTeens/results/Pages/2013.aspx>

**Modifiable Risk Factors-Teen Pregnancy:** Teen childbearing has consequences for the parents, their child and society. The teen mother is “less likely to finish high school, more likely to rely on public assistance; more likely to be poor as an adult; and more likely to have children who have poorer educational behavioral, and health outcomes over the course of their lives than do kids born to older parents.”<sup>44</sup> As mentioned earlier in this document, income and educational attainment are linked to access to health care and opportunities the nutrition and physical activity necessary to achieve and maintain health.

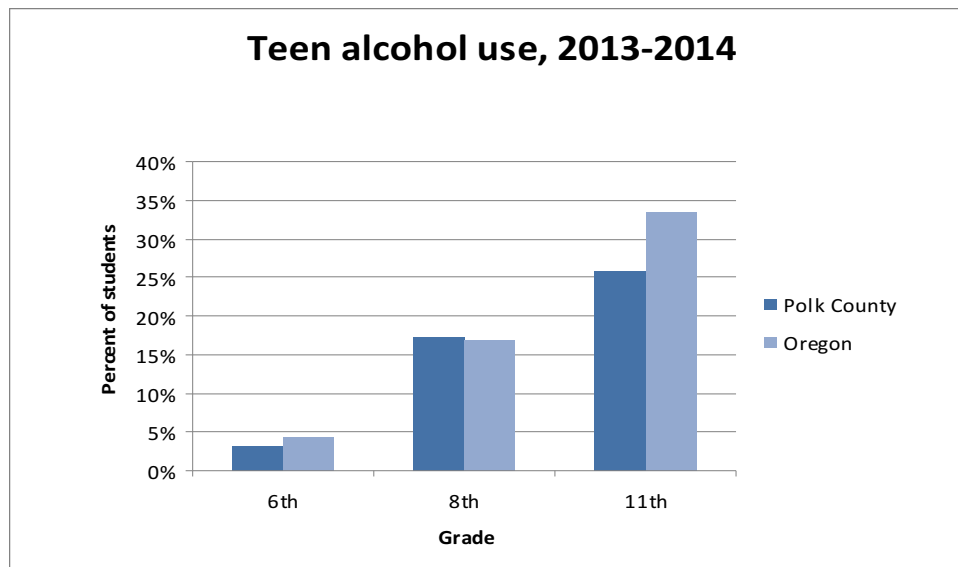
Teen pregnancy has been decreasing since 2008. Polk County teens between the ages of 15-17 who identify as Hispanic are more likely to have a child than Polk County teens who identify as White. Teen mothers are less likely to have graduated from high school and are more likely to live below the federal poverty level which is associated with poor health outcomes. Polk County and Oregon teen pregnancy rates have already met the Healthy People 2020 goal (36.2 per 1,000)<sup>33,36</sup>.



**Modifiable Risk Factors-Adults who binge drink:** The CDC defines binge drinking as five or more drinks for men and four or more drinks for women on one occasion. In the short term, binge drinking may result in vomiting, loss of sensory perception, and blackouts. In the long term, alcohol abuse is associated with a higher risk of traffic accidents, injuries, employment problems, family and interpersonal problems, liver cirrhosis and liver cancer. Binge drinkers were also found, by the CDC, to be more likely than non-binge drinkers to report alcohol-impaired driving<sup>45</sup>. Slightly fewer adults in Polk County reported binge drinking at least once in the past 30 days than Oregon adults<sup>46</sup>. Both Polk County and the state have achieved the Healthy People 2020 goal<sup>47</sup>.

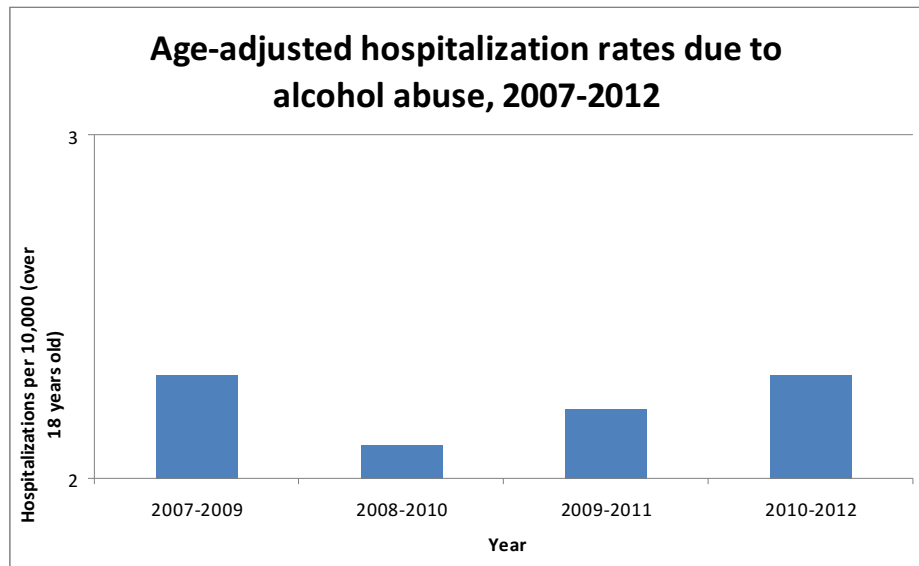


**Modifiable Risk Factors-Teens who drink alcohol:** The National Institute on Alcohol Abuse and Alcoholism reports that adolescents who begin drinking at a young age are more likely to develop alcohol dependence than those who begin drinking at 21. Alcohol consumption is associated with other high risk behaviors like drunk driving and unsafe sexual activity<sup>48</sup>. Polk County and Oregon share similar rates for those in 6<sup>th</sup> and 8<sup>th</sup> grades, however Polk County 11<sup>th</sup> graders are lower than the state average for having at least one drink in the previous 30 days.



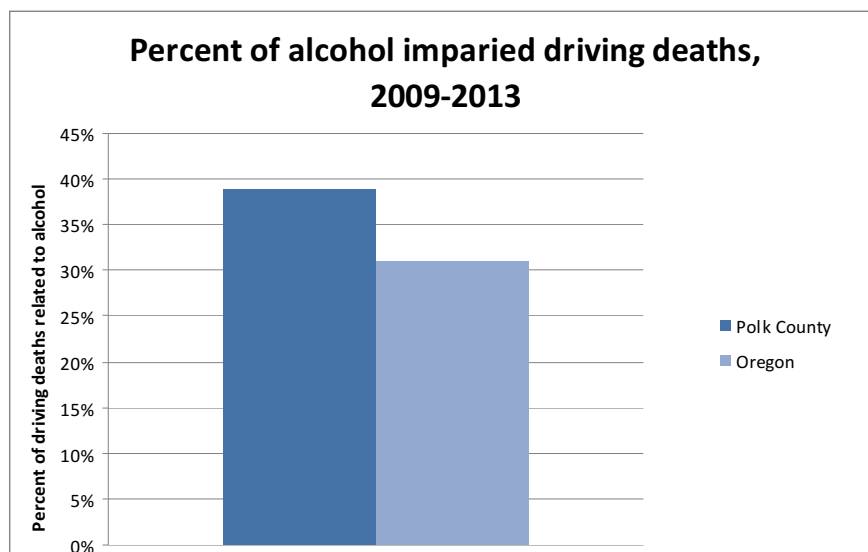
## Modifiable Risk Factors-Age-Adjusted Hospitalization Rates due to

**Alcohol Abuse:** This rate shows hospitalization due to “alcohol abuse” which includes alcohol dependence syndrome, nondependent alcohol abuse, alcoholic psychoses, excessive blood level of alcohol, and fetal alcohol syndrome. Excessive alcohol use (eight or more drinks per week for women and 15 or more drinks per week for men) or binge drinking (four or more drinks during a single occasion for women and five or more drinks on a single occasion for men) can lead to increased risk of health problems like liver disease and/or unintentional injuries<sup>45</sup>. In Polk County, hospitalization rates have remained stable since 2007<sup>49</sup>.

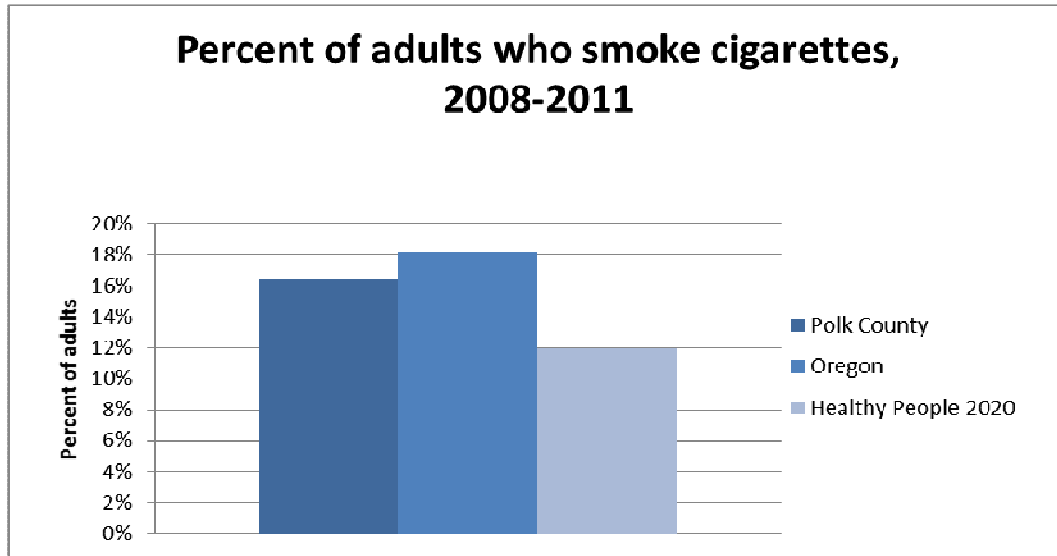


## Modifiable Risk Factors-Percent of Alcohol Impaired Driving Deaths:

Alcohol impaired driving deaths are more likely to involve young adult drivers (21-24) than older drivers (25 and older). Community based approaches to alcohol control and prevention of alcohol impaired driving along with sobriety checkpoints and ignition interlocks for people with a history of impaired driving are effective measures to prevent injuries and deaths from drunk driving.<sup>50</sup> A higher percentage of Polk County driving deaths are related to alcohol than Oregon driving deaths<sup>49</sup>.



**Modifiable Risk Factors-Adults who smoke cigarettes:** According to the Centers for Disease Control and Prevention, “smoking harms nearly every organ of the body, causing many diseases and affecting the health of smokers in general”<sup>51</sup>. Slightly fewer adults in Polk County smoke cigarettes than in Oregon as a whole. Smoking cigarettes increases risk for various types of cancer and chronic diseases. Polk County has not yet achieved the Healthy People 2020 goal for adults who smoke<sup>46,47</sup>.

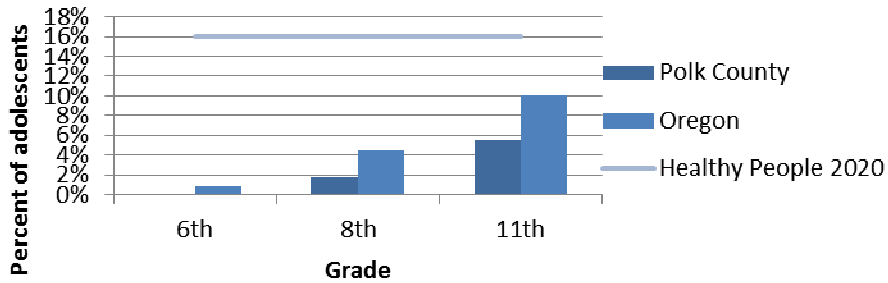


**Modifiable Risks-Teens who smoke cigarettes:** Nine out of 10 smokers first tried smoking by age 18. Youth are more likely to smoke if their peers and/or parents also smoke. There are biological and genetic factors that may make it more likely for youth to become regular smokers, for example, there is evidence that youth may feel dependent on nicotine sooner than adults. Personal perceptions that tobacco is a tool for coping with stress or for controlling weight are related to youth tobacco use. A few other factors that affect youth tobacco use include, lack of skills to resist peer pressure to smoke, lower education, and exposure to tobacco advertising<sup>52</sup>.

Teen cigarette use increases between 6<sup>th</sup> grade and 11<sup>th</sup> grade. Polk County 6<sup>th</sup> graders reported no cigarette use in the last 30 days. Polk County 8<sup>th</sup> graders are less likely to have smoked a cigarette in the past 30 days than Oregon 8<sup>th</sup> graders and Polk County 11<sup>th</sup> graders are more likely to have smoked a cigarette in the past 30 days than Oregon 11<sup>th</sup> graders<sup>53</sup>. Polk County and Oregon have achieved the Healthy People 2020 goal for adolescent cigarette use<sup>54</sup>.

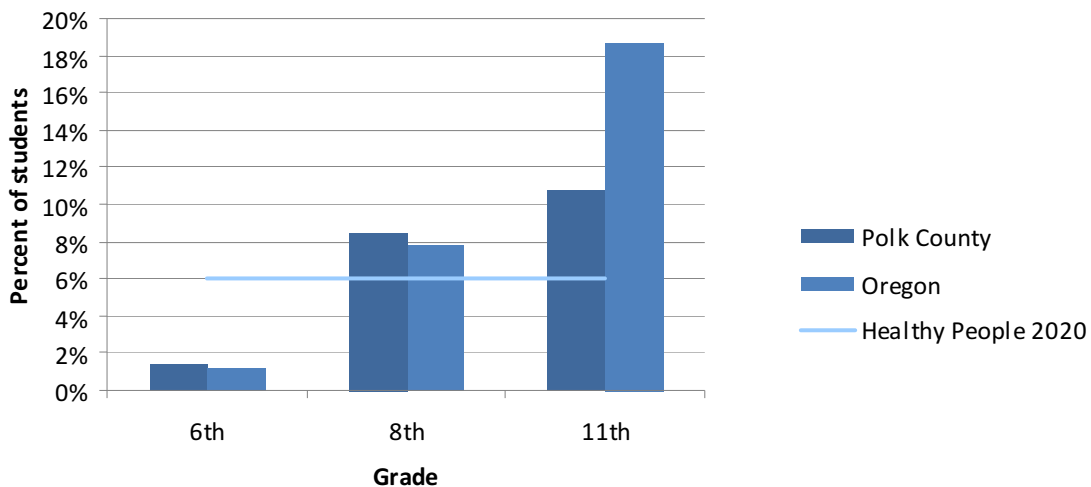


### Percent of adolescents who have smoked a cigarette in the past 30 days by grade, 2013-2014



**Modifiable Risk Factors-Teens who use marijuana:** In youth, illicit drug use is associated with heavy alcohol use, tobacco use, violence, and other delinquent behaviors. The CDC warns that marijuana intoxication can distort perception, and impair problem solving, learning, and memory. Chronic marijuana use can lead to addiction, which may interfere with family, school, work and recreational activities. A higher percentage of Polk County teens report using marijuana in the last 30 days than Oregon teens in all grade levels, with the exception of 11<sup>th</sup> grade<sup>53</sup>. Polk County and Oregon sixth graders have achieved the Healthy People 2020 goal but eighth and eleventh graders have not<sup>54</sup>.

### Percent of students who used marijuana in the past 30 days by grade, 2013-2014



**Marijuana in Polk County:** Oregon’s Medical Marijuana Program tracks individuals who have medical marijuana cards as well as their caregivers; marijuana growers and marijuana grow sites. The administrative rules and legal information govern who can have a card, grow, and dispense marijuana. It is likely that these numbers will change dramatically in the upcoming year with the legalization of recreational marijuana<sup>55</sup>.

Marijuana by numbers: July 2015
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1,123 patients
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781 growers
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599 grow sites
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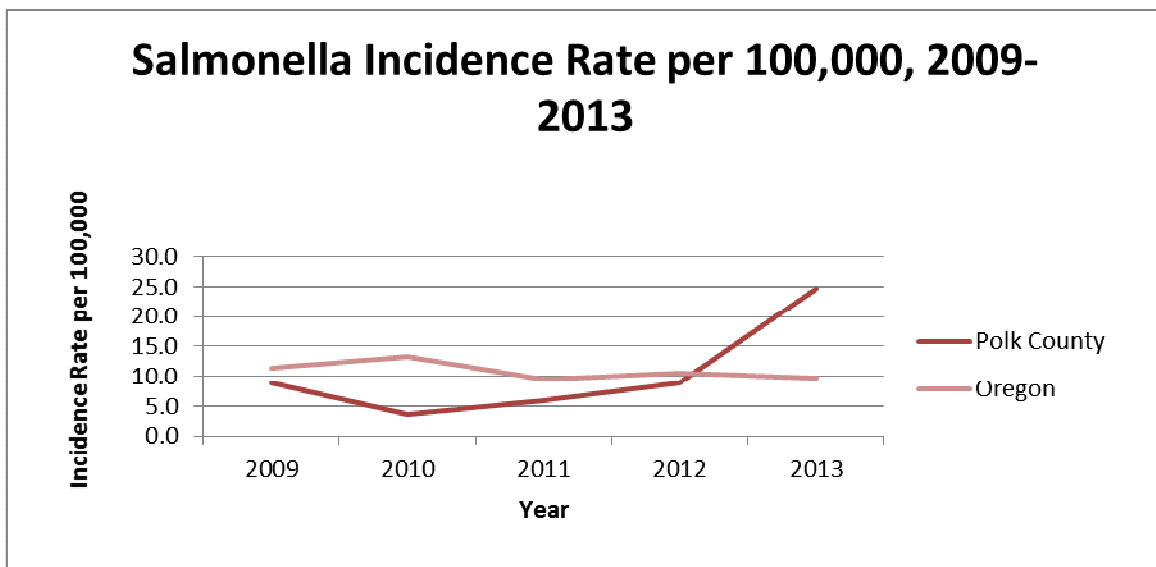
# Communicable Disease

Communicable or infectious diseases differ from chronic diseases because they can pass from human to human. Globally, there has been a reduction in infectious disease mortality over the last century due largely to immunization, but also, clean drinking water and food regulations. Despite these advances, infectious disease remains a major cause of illness, disability and death. Diseases such as hepatitis, flu, and tuberculosis remain leading causes of death in the United States and account for substantial spending on health related consequences of having these diseases. For each birth cohort in the United States, childhood vaccine series save 33,000 lives, prevent 14 million cases of disease, reduce direct health care costs by \$9.9 billion and save \$33.4 billion in indirect costs. Unfortunately, about 42,000 adults and 300 children die each year in the United States from vaccine preventable diseases. Disease-specific information in this section comes from the Control of Communicable Diseases Manual reference used by public health departments across the nation<sup>56</sup>.

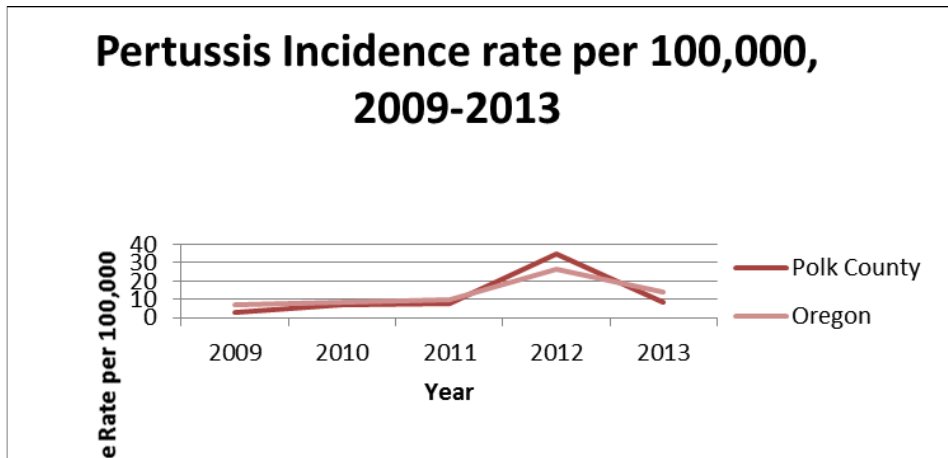
## Key Communicable Disease Findings for Polk County:

- Syphilis rates in Oregon have increased dramatically while remaining stable in Polk County since 2011.
- Immunization rates for 2 years olds is slightly lower than the state average.

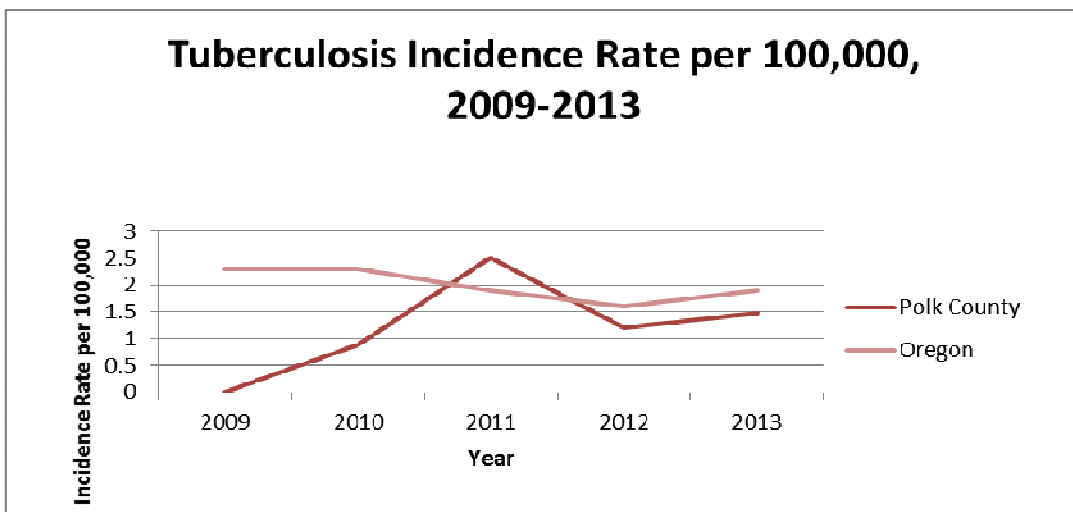
**Salmonella Incidence Rate:** Salmonella is a bacterium that can be found in birds, pigs, cows, and reptiles as well as animal products such as eggs. In the United States humans usually get salmonella from food that was not cooked completely, or food that was contaminated during preparation, and less often from food contaminated by a sick person. The bacteria can also be passed through contact with infected animals or their environments. The Salmonella incidence rate may show the relative safety of food stuffs in Polk County. The Salmonella incidence rate for Polk County was slightly lower than the Oregon rates, until 2013 when it spiked<sup>57</sup>.



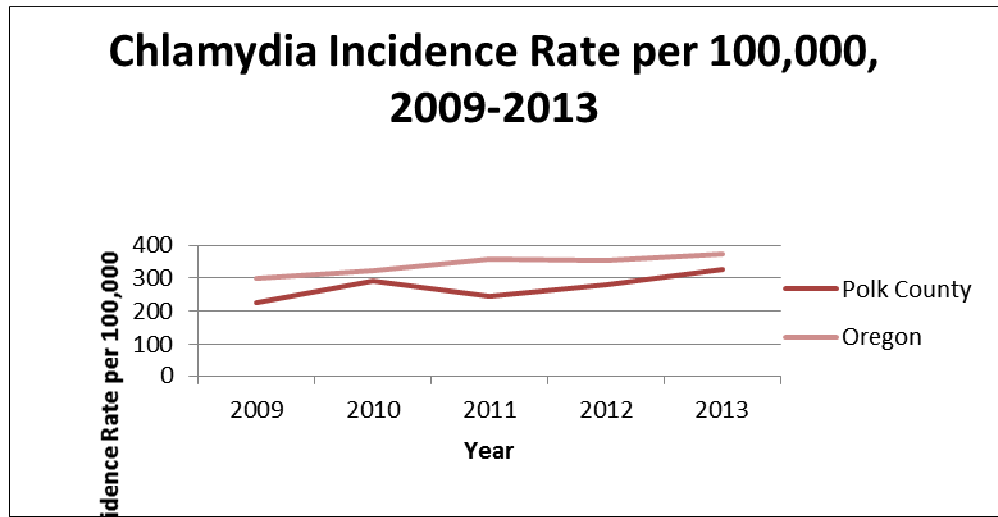
**Pertussis Incidence Rate:** Pertussis, also known as Whooping Cough is caused by bacteria that infect the respiratory track. Pertussis can result in serious illness and sometimes death, especially in infants younger than six months. In older persons who have been vaccinated, the illness may be milder. Pertussis is considered a vaccine-preventable disease and a complete vaccine series is recommended for young children. As immunity may wane or decrease over time, a one-time booster dose is recommended for persons who are middle-school aged or older<sup>56</sup>. Polk County has been experiencing an increase in pertussis cases since 2009<sup>57</sup>. Pertussis is prevented by ensuring proper vaccination in the population. Increasing pertussis incidence may indicate poor coverage of the vaccinations that prevent pertussis (DTaP and Tdap).



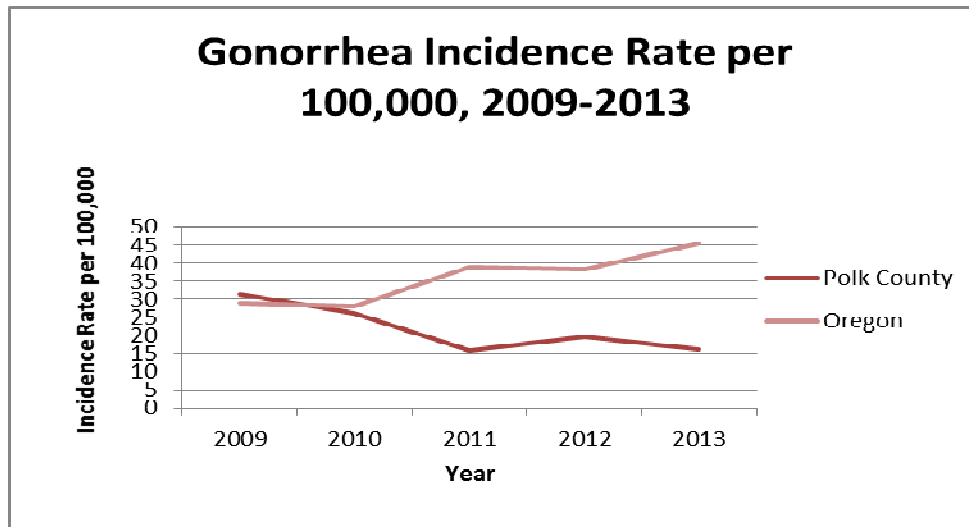
**Tuberculosis Incidence Rate:** Tuberculosis often called TB is a bacterial disease that can occur in various organs of the body. Whether a person is contagious depends upon the site of their disease. TB disease most commonly affects the lungs, which means that the person with TB may spread the infection to others through coughing. Tuberculosis requires treatment with antibiotics and can lead to death if not treated<sup>56</sup>. Polk County and Oregon tuberculosis incidence rates have remained relatively steady since 2010. In 2011, Polk County had a higher tuberculosis incidence rate (2.5 per 100,000) than Oregon (1.9 cases per 100,000), however since 2011, the Polk County rate has remained below the state<sup>57</sup>.



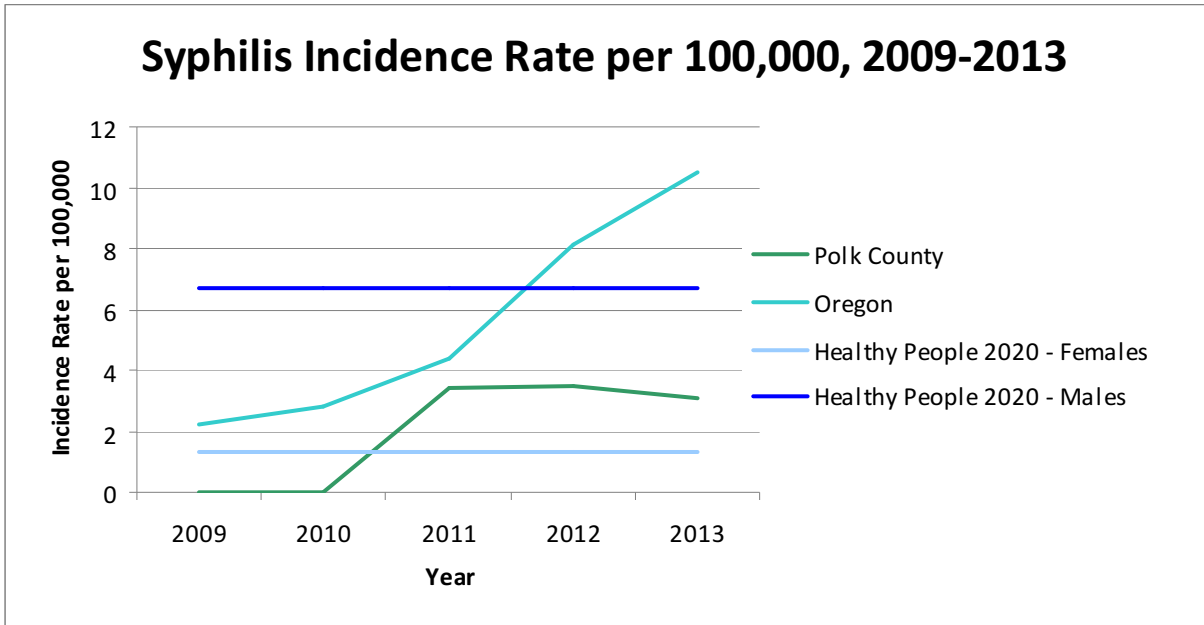
**Chlamydia Incidence Rate:** Chlamydia is a sexually transmitted bacterial infection that often causes no symptoms. If untreated in women, the infection can lead to infertility and other problems. Infection during pregnancy can result in eye and lung infections in the newborn<sup>56</sup>. Polk County has a lower Chlamydia incidence rate than Oregon<sup>57</sup>.



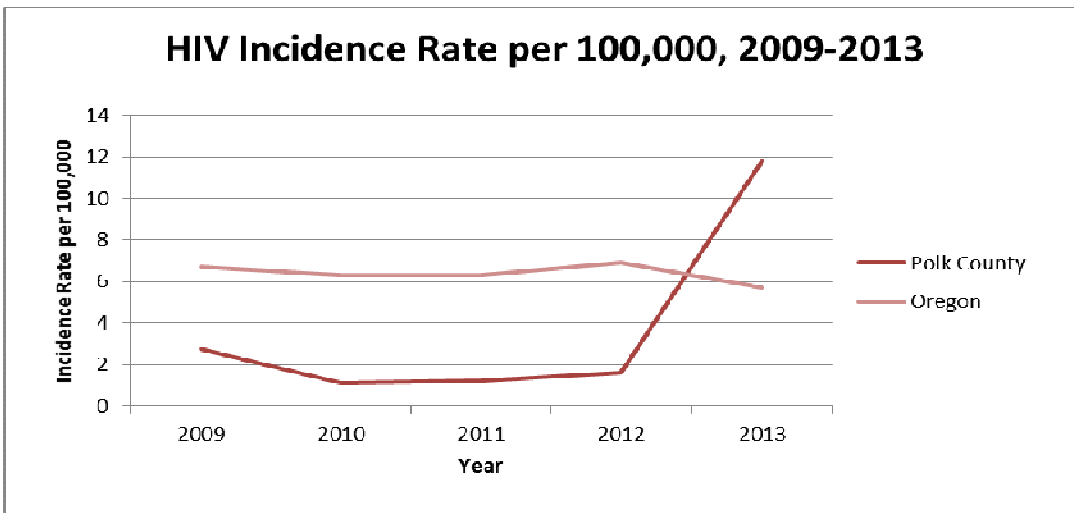
**Gonorrhea Incidence Rate:** Gonorrhea is a bacterial infection that is usually transmitted sexually. Untreated infection in men and women can lead to complications, including infertility. Risk of HIV infection is increased when a person is already infected with gonorrhea<sup>56</sup>. Polk County has a lower Gonorrhea incidence rate than Oregon<sup>57</sup>.



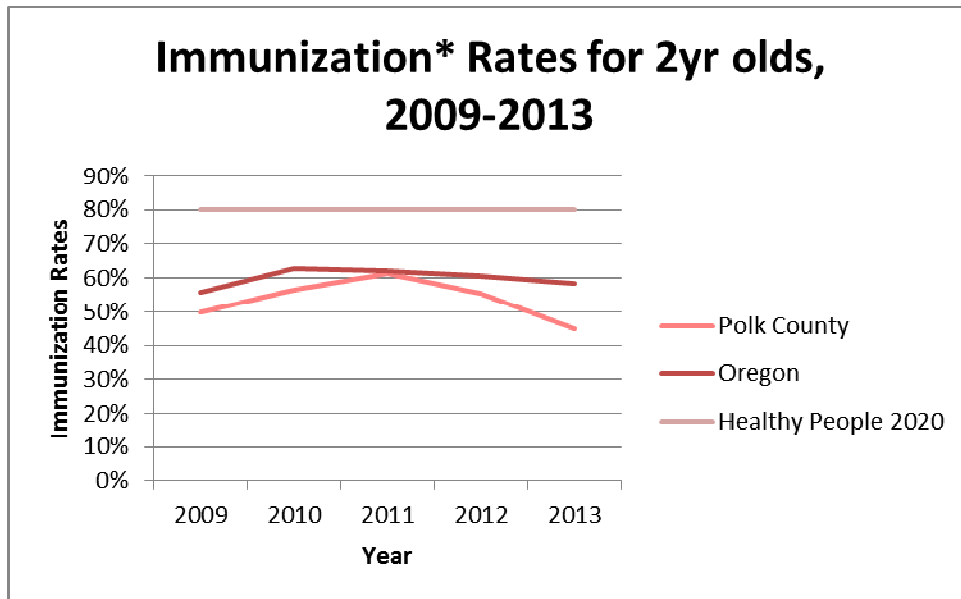
**Syphilis Incidence Rate:** Syphilis is a sexually transmitted bacterial infection. The illness progresses in stages. Pregnant women may transmit the infection to their fetus with a high risk that the baby will be stillborn or have other serious health problems. Persons who are not treated may develop late stage syphilis, including problems with the nervous system<sup>56</sup>. Syphilis incidence rates for both Polk County and the state of Oregon have been increasing since 2010. The goal of Healthy People 2020 is to lower the incidence of Syphilis to 1.3 cases per 100,000 for females and 6.7 cases per 100,000 for males<sup>57,58</sup>. Neither Polk County nor Oregon have achieved the Healthy People 2020 goal. The number of cases were too small to breakdown by gender while maintaining confidentiality.



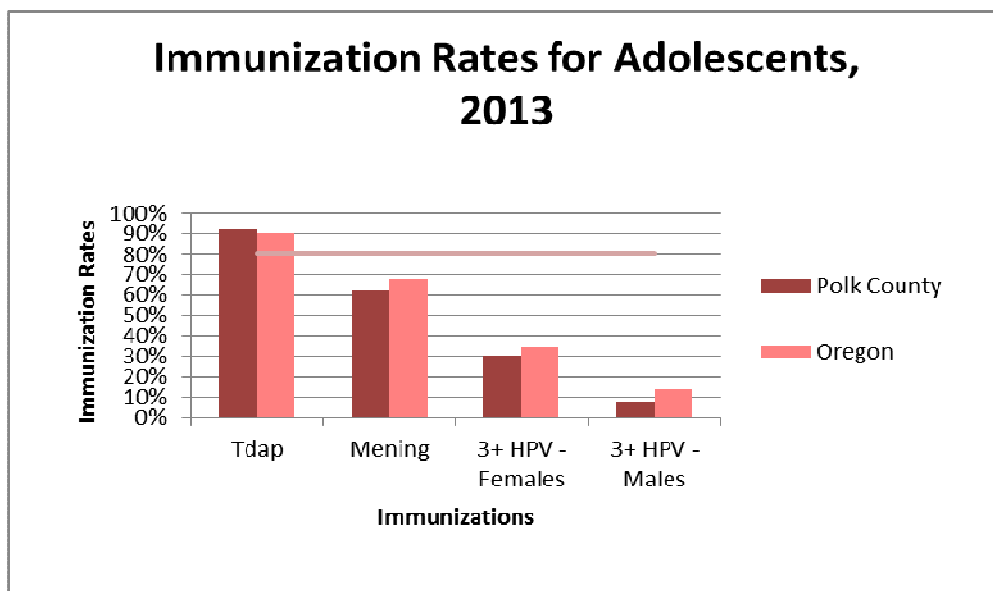
**HIV Incidence Rate:** HIV is a virus that attacks specific cells in the immune system. Over time, HIV can destroy so many of these cells that the body cannot fight off other diseases. At that point, HIV infection leads to AIDS. At this time there is no safe, effective cure for HIV so once you have become infected, you will have HIV for life<sup>56</sup>. The incidence rate for HIV for both Polk County and the state of Oregon was steadily decreasing over the last few years. In 2013, Polk County had a higher HIV incidence rate (11.8 per 100,000) than Oregon (5.7 per 100,000)<sup>57</sup>.



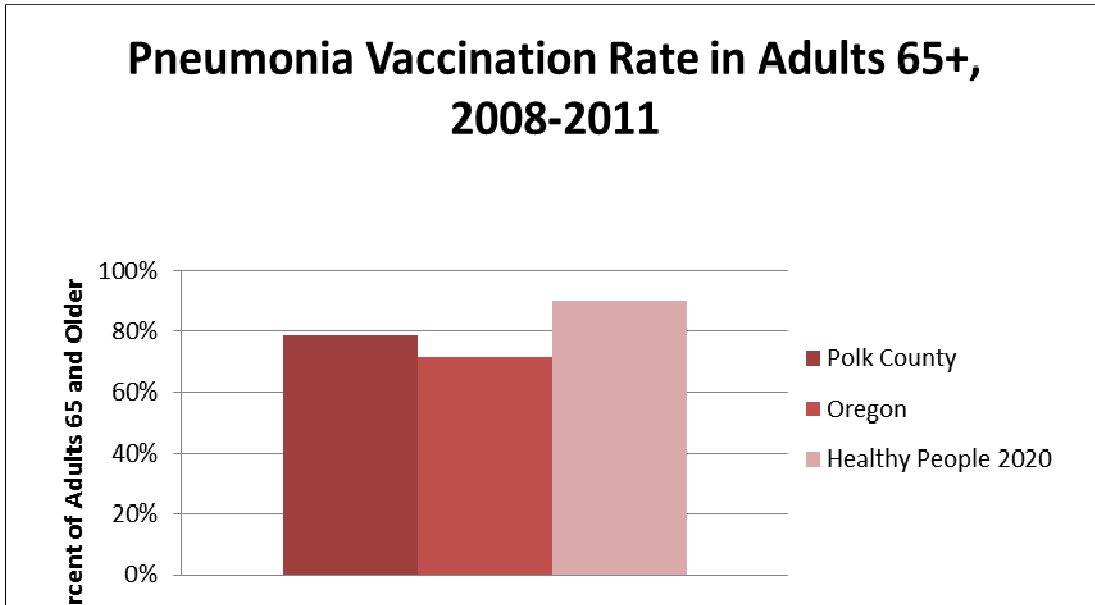
**Immunization Rates:** Oregon requires certain immunizations for children in school and child care. The purpose of the immunization requirements is to protect the children who cannot be vaccinated due to medical reasons through what is called “herd immunity”. Herd immunity results when enough people in a community have been immunized to prevent the disease from spreading after a contagious person has entered the community and exposed people<sup>59</sup>. Immunization rates for two year old children in Polk County are lower than in Oregon. Neither Polk County nor Oregon has reached the Healthy People 2020 goal. Two year olds are considered to have a complete vaccination record with: 4 doses of DTaP, 3 doses of IPV, 1 dose of MMR, 3 doses of Hib, 3 doses of HepB, 1 dose of Varicella and 4 doses of PCV. This series of vaccinations protect children from diphtheria, tetanus, pertussis, polio, measles, mumps, rubella, haemophilus influenza type b, hepatitis B, chicken pox and pneumonia <sup>60,61</sup>.



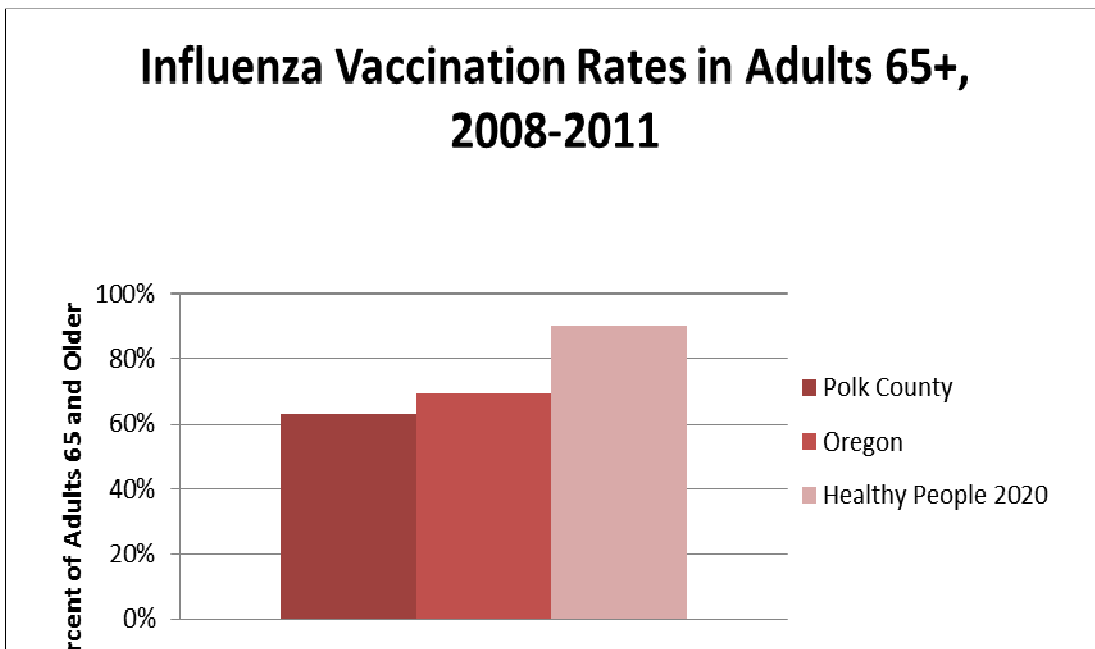
Adolescents are considered to have a complete vaccination record with: 1 dose Tdap, 1 dose MCV, and 3 doses HPV. This series of vaccinations protects adolescents against tetanus, diphtheria, pertussis, meningitis, and human papillomavirus. Polk County typically has lower adolescent vaccination rates, with the exception of Tdap. Both Polk County and Oregon have achieved the Healthy People goal for the adolescent Tdap vaccine rate but have not achieved the Healthy People goal for the meningococcal or HPV vaccines<sup>60,61</sup>.



**Pneumonia Vaccination Rate in Adults 65+:** Older adults are at higher risk for pneumonia related health complications so two different pneumonia vaccines, given one year apart are recommended for this age group by the Centers for Disease Control. Polk County adults ages 65 and older are more likely than Oregon adults 65+ to receive a pneumonia vaccine. Polk County and Oregon pneumonia vaccine rates have yet to reach Healthy People 2020 goals<sup>60,61</sup>.



**Influenza Vaccination Rate in Adults 65+:** Older adults are at higher risk for influenza related health complications and CDC recommends an annual Fluzone high-dose vaccine for this age group. Polk County adults ages 65 and older are slightly less likely than Oregon adults 65+ to receive an influenza vaccine. Polk County and Oregon influenza vaccine rates have not reached Healthy People 2020 goals yet<sup>60,61</sup>.





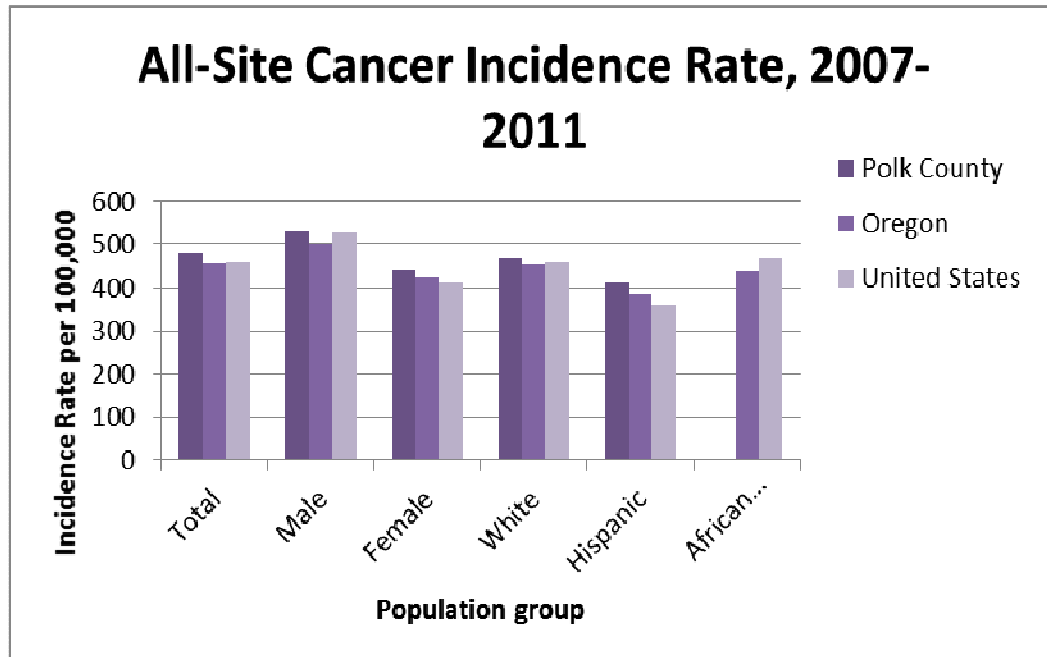
# Chronic Disease

Chronic disease is responsible for 7 out of every 10 deaths and accounts for 86% of the nation's health care costs each year. Chronic disease includes diseases that are long term and many times are not transmissible from human to human. Chronic disease examples include but are not limited to: cancer, diabetes, heart disease, arthritis, and asthma <sup>62</sup>.

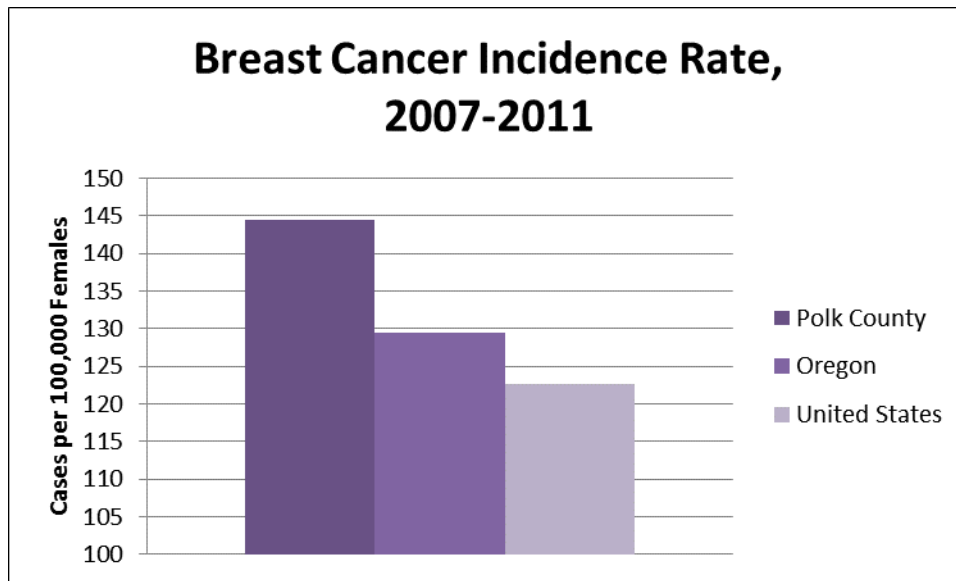
## Key Chronic Disease Findings for Polk County:

- The breast cancer incidence rate is higher in Polk County than the state.
- The prostate cancer rate in Polk County is higher than the state, racial and ethnic disparities exist in Polk County.
- The Age-Adjusted hospitalization rate due to diabetes has steadily increased since 2007.

**All Site Cancer Incidence Rate:** Increased risk of cancer is associated with increased age, alcohol abuse, tobacco use or exposure to tobacco smoke, exposure to radiation, exposure to carcinogenic substances such as arsenic, benzene and asbestos in the environment, chronic inflammation due to infections, or abnormal immune reactions, exposure to hormones, immunosuppression, contraction of certain viruses, and obesity. Polk County residents of all groups (overall, male, female, White, Hispanic) except African American/Black are more likely to be diagnosed with cancer than Oregon and United States residents<sup>63</sup>. The total cancer incidence rate for Polk County is higher than that of the United States.

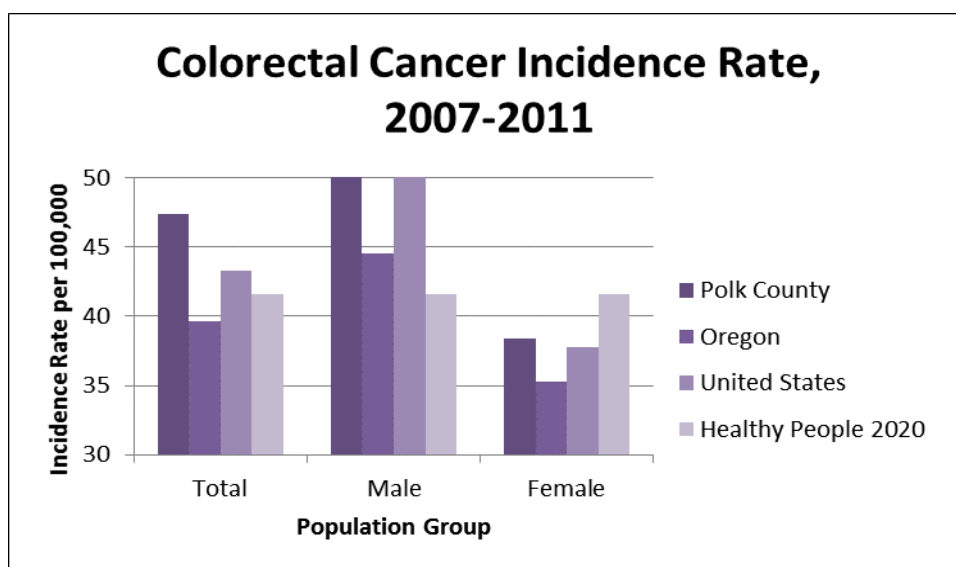


**Breast Cancer Incidence Rate:** The Polk County breast cancer incidence rate is higher than the Oregon and United States rates <sup>63</sup>.



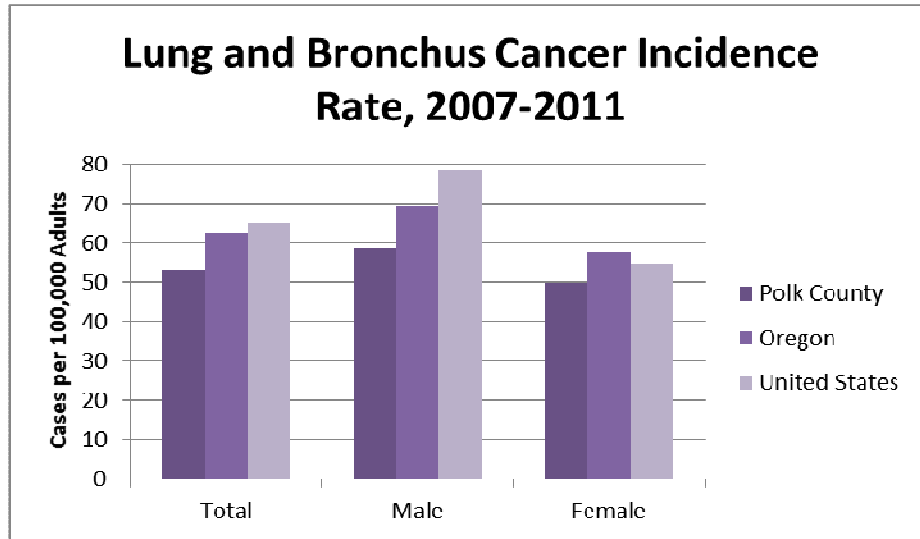
**Colorectal Cancer Incidence Rate:** Increased colorectal cancer incidence is associated with: increased age, personal history of colorectal cancer, having an inflammatory intestinal condition like Crohn’s disease, family history of colorectal cancer, eating a low fiber, high fat diet, having a sedentary lifestyle, having diabetes, being obese, smoking cigarettes, heavy alcohol use and radiation therapy for a different type of cancer.

Women are less likely to get colorectal cancer than men <sup>63</sup>. Over the past five years the United States, Oregon and Polk County have seen a decrease in the incidence of colorectal cancer. This may be due to increased screening for colorectal cancer or mitigation of other factors that increase the risk of developing colon cancer. One or more of these risk factors may be more common in the Polk County population than in the Oregon population contributing to the higher incidence of colorectal cancer in Polk County.



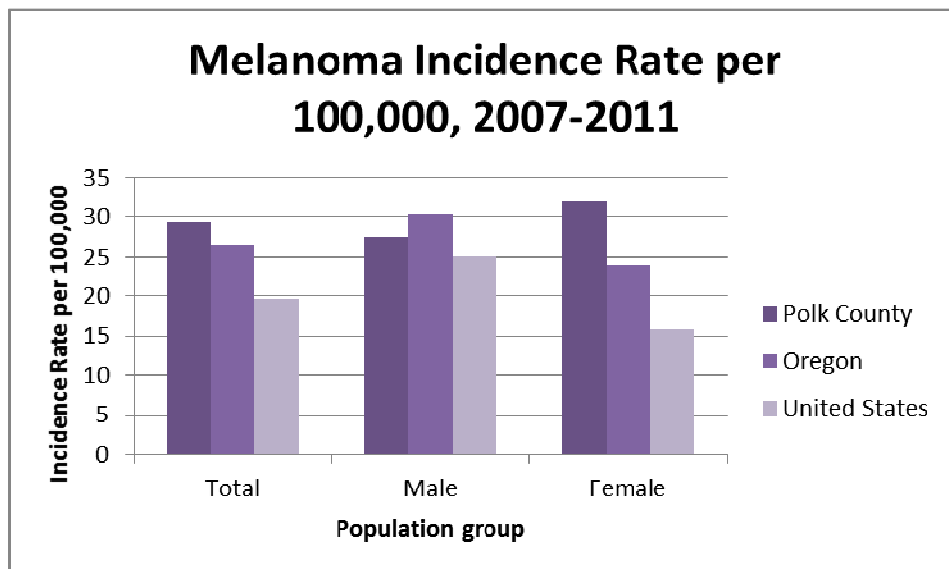
\* Due to a lack of data, Polk County was unable to break this down by race and ethnicity.

**Lung Cancer Incidence Rate:** Polk County residents are less likely to develop lung cancer than Oregon and United States residents. Men are more likely to develop lung cancer than women<sup>63</sup>. Smoking cigarettes, exposure to secondhand smoke, exposure to radon gas, exposure to asbestos and other chemicals such as arsenic, chromium and nickel, and having a family history of lung cancer can increase an individual's risk of developing lung cancer.

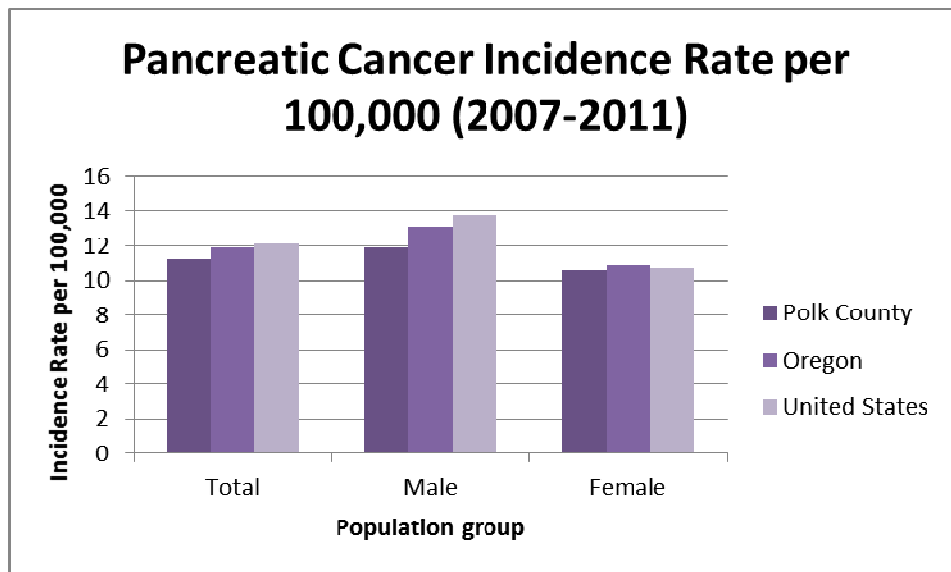


\* Due to a lack of data, Polk County was unable to break this down by race and ethnicity

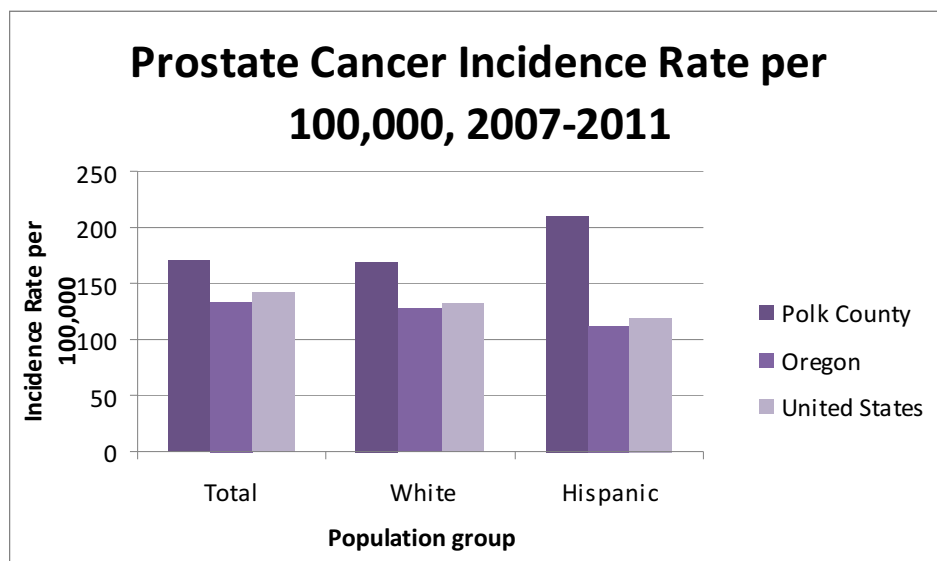
**Melanoma Incidence Rate:** Melanoma is a type of skin cancer. Factors that may increase a person's risk of melanoma are: having fair skin, a history of one or more severe blistering sunburns, exposure to ultraviolet light, living closer to the equator or at a higher elevation, having many moles, having a family history of melanoma, and having a weakened immune system. Polk County residents are more likely than Oregon and United States residents to develop skin cancer. Females in Polk County are more likely to develop skin cancer than males<sup>63</sup>.



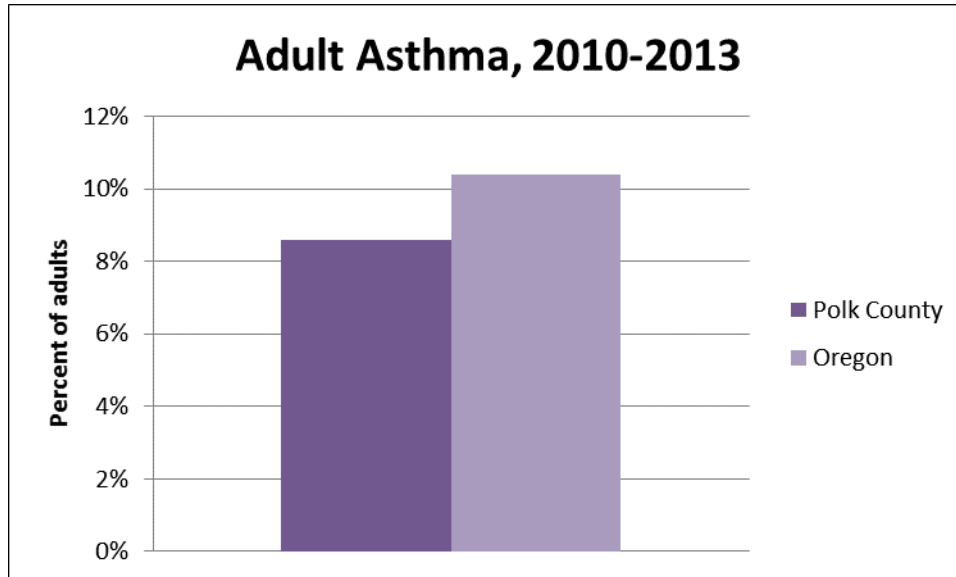
**Pancreatic Cancer Incidence Rate:** Risk factors for pancreatic cancer are obesity, pancreatitis, diabetes, family history of pancreatic cancer and tobacco use. Polk County residents are about as likely to develop pancreatic cancer and Oregon and United States residents. Males are more likely to develop pancreatic cancer than females <sup>63</sup>.



**Prostate Cancer Incidence Rate:** Polk County residents are more likely to have prostate cancer compared to the rates for Oregon and the United States. Individuals who identify as White in Polk County are less likely to have prostate cancer than those who identify as Hispanic <sup>63</sup>.

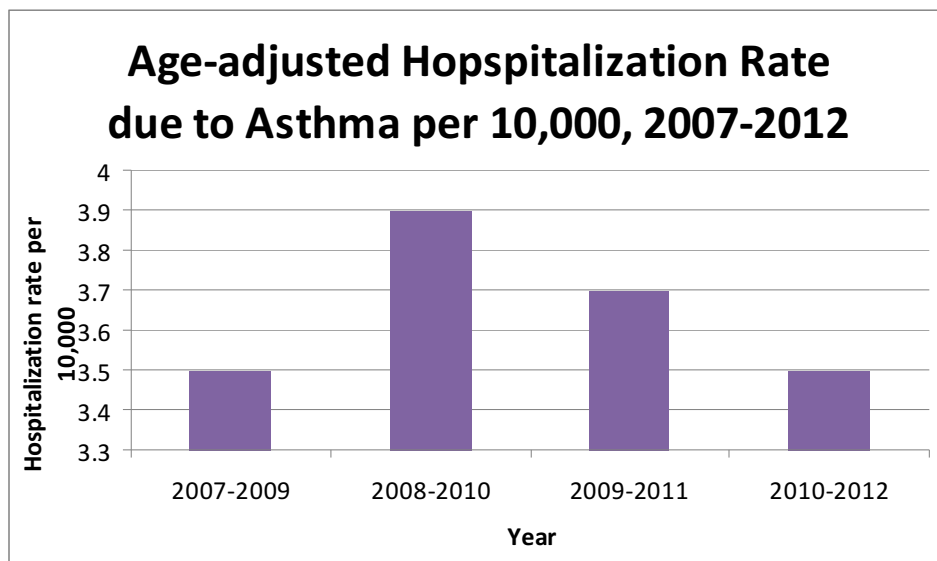


**Asthma Prevalence:** Asthma is a disease that affects the lungs and causes wheezing, breathlessness, chest tightness and coughing. Asthma can be controlled by taking proper medications and avoiding activities that cause asthma attacks. According to the National Heart, Lung and Blood Institute, the exact cause of asthma is not known, but may be partly genetic and attacks may be triggered by things in the air such as tobacco smoke. Polk County residents are less likely to have asthma than Oregon residents<sup>64</sup>.

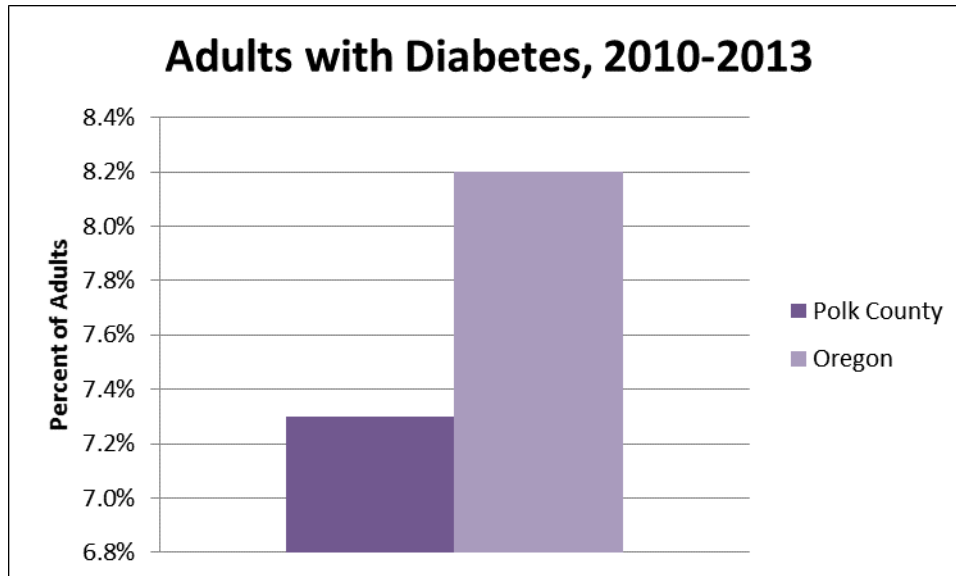


**Age-Adjusted Hospitalization Rate Due to Asthma:** Decreasing hospitalization rates for asthma in a community may indicate decreasing numbers of people living with asthma or that those living with asthma are better managing their condition so that hospitalization is not required.

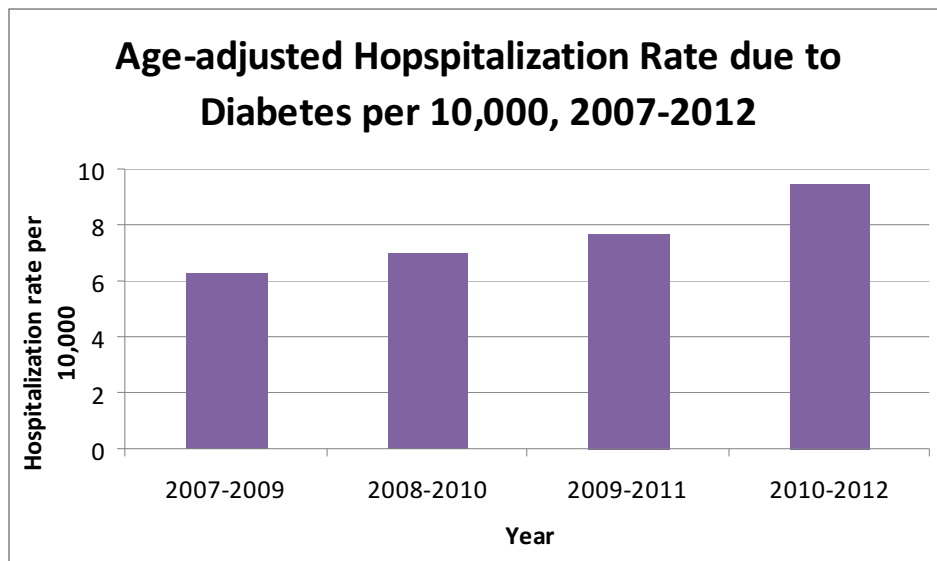
The age-adjusted hospitalization rate for asthma has decreased slightly in Polk County since 2010. The most recent data shows a hospitalization rate of 3.5 per 10,000 over the age of 18<sup>65</sup>.



**Diabetes Prevalence:** Diabetes is a leading cause of death in the United States. Having diabetes places a person at higher risk for heart disease and strokes. Often people do not realize they have diabetes and if diabetes is not controlled it can cause damage to the kidneys and eyes. Fewer adults in Polk County have diabetes than in Oregon <sup>64</sup>.

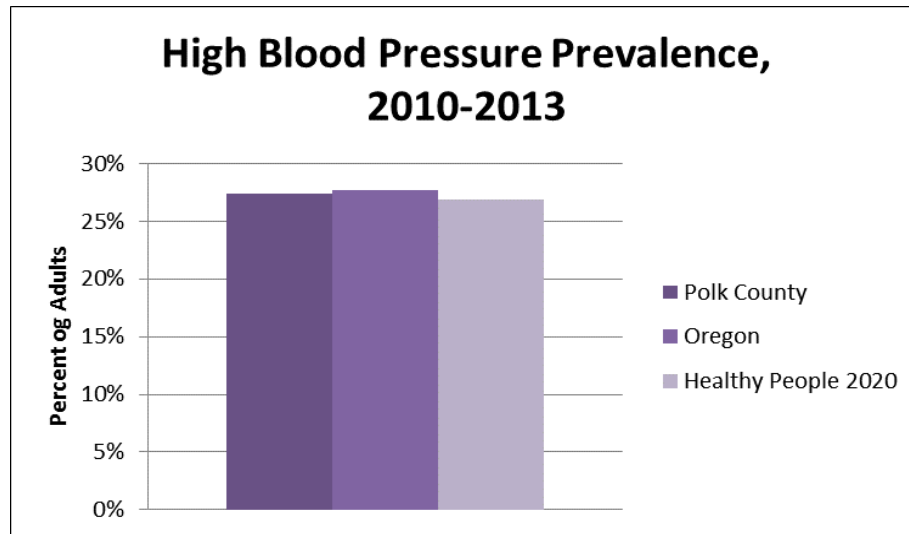


**Age-Adjusted Hospitalization Rate due to Diabetes:** This rate can indicate increasing diabetes prevalence in the community as well as increasing rates of uncontrolled diabetes. The age-adjusted hospitalization rate for diabetes in Polk County has been increasing since 2007<sup>65</sup>.



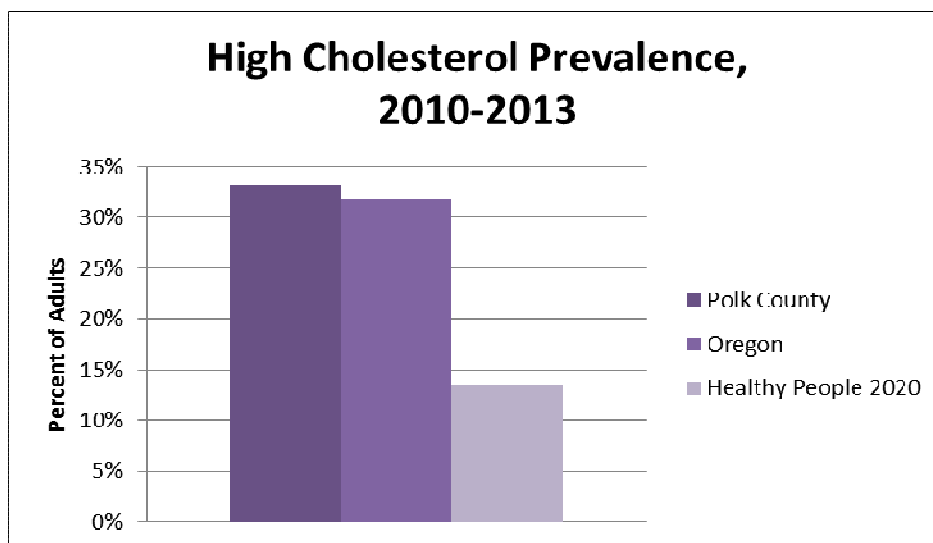
**High Blood Pressure Prevalence:** Chances of developing high blood pressure are increased by being obese, living a sedentary lifestyle, using tobaccos, eating a high sodium diet, not consuming enough vitamin D or potassium, drinking too much alcohol, high stress levels, and certain chronic conditions. Having high blood pressure can increase a person’s chances of heart attack, stroke, aneurysm, heart failure, kidney failure, vision loss, and trouble with memory.

Polk County and Oregon have about the same prevalence of high blood pressure. Neither Polk County nor Oregon has achieved the Healthy People 2020 goal<sup>66,67</sup>.

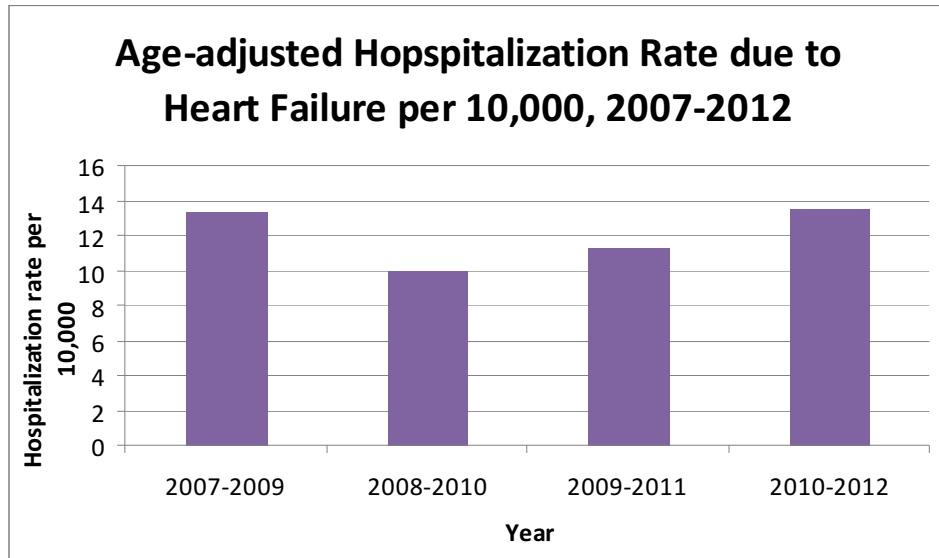


**High Cholesterol Prevalence:** Risk factors for high cholesterol are genetic makeup, sedentary lifestyle, obesity, an unhealthy diet, smoking cigarettes, large waist circumference, and diabetes. Having high cholesterol can increase chances of heart attack and stroke.

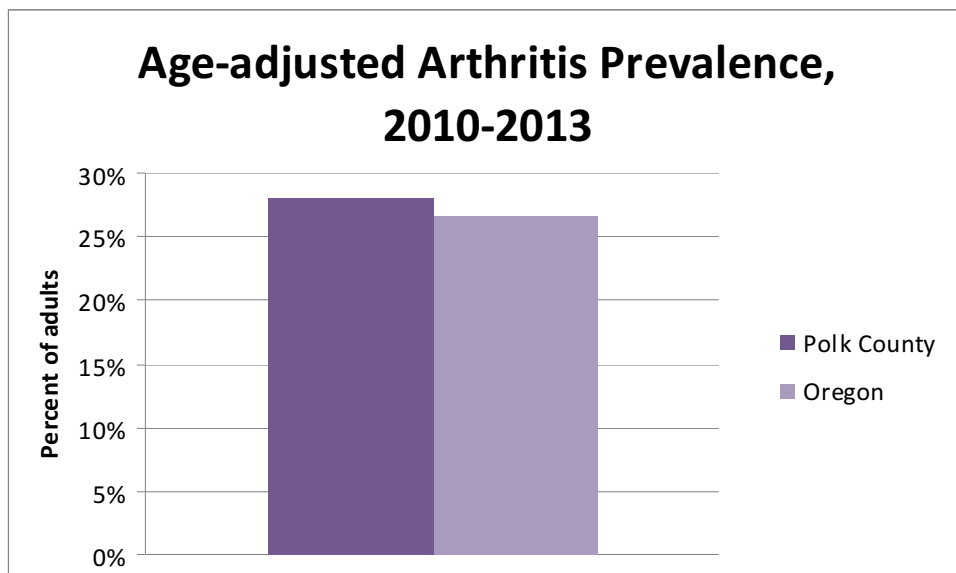
Polk County has a higher proportion of adults with high cholesterol than Oregon as a whole. Neither Polk County nor Oregon has achieved the Healthy People 2020 goal<sup>66,67</sup>.



**Age-Adjusted Hospitalization Rate Due to Heart Failure:** When a person has heart failure their heart does not do a good job of pumping blood to their organs, or around their body. This may cause a backup of fluids in the lungs or cause swelling in the legs and feet. Other health conditions such as diabetes, high blood pressure and previous heart attack may lead to heart failure<sup>65</sup>.

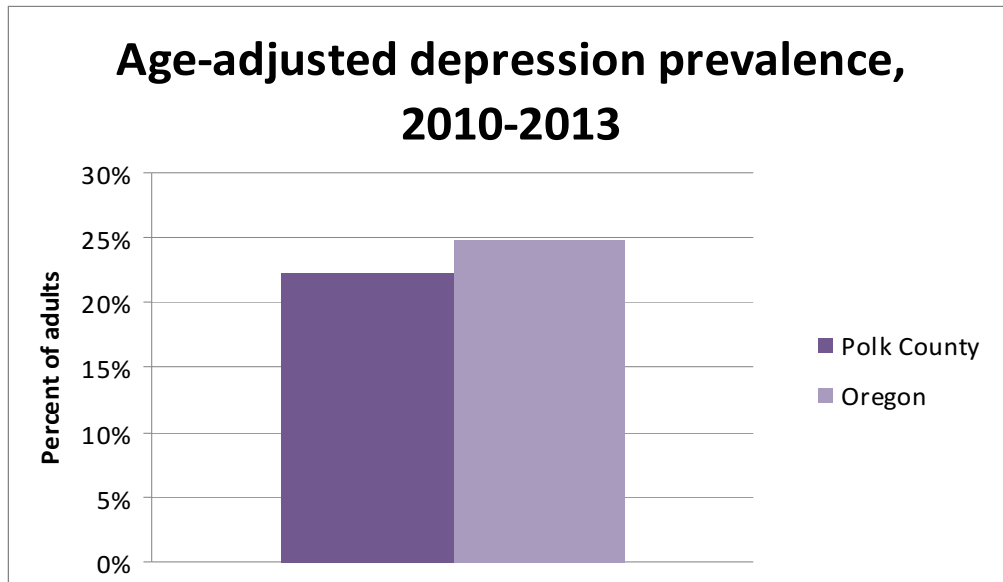


**Arthritis Prevalence:** Arthritis is a chronic condition that can affect quality of life, the ability to work and the ability to carry out the basic activities of daily living. Arthritis commonly occurs with other chronic conditions such as diabetes, heart disease, and obesity. Interventions to manage arthritis pain can help to reduce functional limitations and encourage people to be more physically active. Polk County has a larger proportion of adults with arthritis than Oregon<sup>68</sup>.

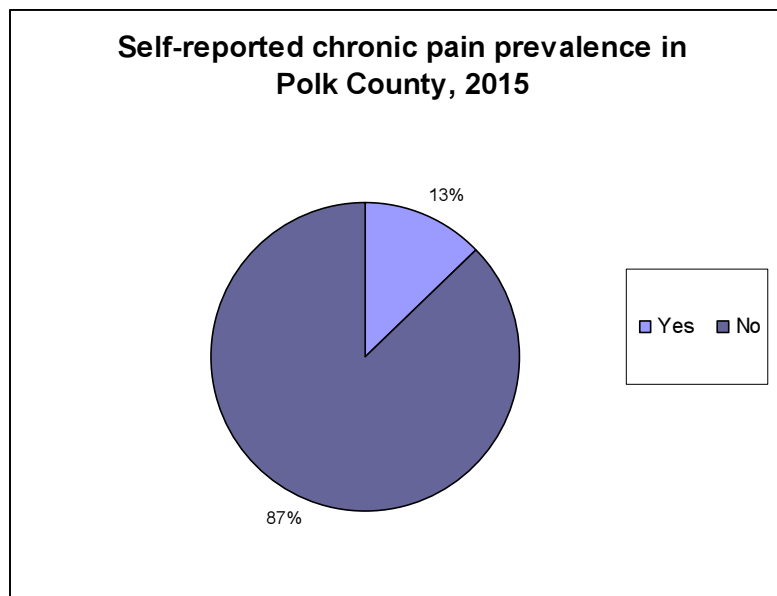




**Depression Prevalence:** Mental health and physical health are closely connected. Depression may affect a person’s ability to participate in healthy lifestyle behaviors such as physical activity, and chronic diseases that affect a person’s ability to participate in daily activities may increase risk for developing depression. Polk County has a smaller proportion of adults with depression than Oregon <sup>69</sup>.



**Chronic Pain Prevalence:** There is evidence that chronic pain can have a negative impact on a person health, including their sleep, thought processes, mood, mental health, heart health, sexual function and general quality of life. The community members surveyed about chronic disease 13% of community members reported having chronic pain <sup>17</sup>.



# Polk County Says

## Partner and Community Survey Themes:

When asked what the top health concern in Polk County was providers of health and social services listed mental health issues, access to affordable health care and obesity as their main concerns. When asked what the top health concern in Polk County was community members listed obesity, vaccination rates and access to affordable health care as their main concerns.

Top Health Issues in Polk County	
Polk County Health and Social Service Partners <sup>41</sup>	Polk County Community Members <sup>15</sup>
1. Mental Health Issues	1. Obesity
2. Access to Affordable Health Care	2. Vaccination Rates
3. Obesity	3. Access to Affordable Health Care

Partners	Polk	Percent
Business	0	0.00%
Community Based Organization	5	12.50%
Community Health	1	2.50%
Resident	2	5.00%
Education	8	20.00%
Faith	1	2.50%
Government	2	5.00%
Medical Care	4	10.00%
Mental Health Care	3	7.50%
Public Health	3	7.50%
Social Services	7	17.50%
Corrections	1	2.50%
Other	3	7.50%
<b>Total</b>	<b>40</b>	<b>100.00%</b>

City	Number	Percent
West Salem	5	12.50%
Dallas	17	42.50%
Falls City	3	7.50%
Independence	8	20.00%
Monmouth	4	10.00%
Multi-zip	3	7.50%
<b>Total</b>	<b>40</b>	<b>100.00%</b>

### What are the Most Common Barriers to Seeking Health Care?

- Lack of scheduling availability
- Lack of Mental Health Providers
- Childcare/Lack of Affordable Childcare
- Lack of Primary Care Providers
- Lack of Dental/Oral Health Care Providers
- Lack of Prevention Services
- Lack of Knowledge of Where to Seek Care
- High Cost of Treatment
- Lack of Knowledge of Public Health Services
- Number of Providers Accepting New Medicaid Patients
- Number of Providers Accepting New Medicare Patients
- Availability of Culturally Competent Care
- Lack of Access to Alcohol & Drug Treatment Services
- Shortage of Specialty Care
- Choose Not to go
- Transportation Issues

**What our partners had to say:**

*“Polk Co. residents nearly always need to travel for their care and are likely to have more difficulty accessing specialty care; transportation may be a significant barrier as well as finances, personal investment in health and lack of education/understanding about health and potential interventions.”*

*“Availability to providers of all types is the biggest barrier to health care in the more rural areas such as Falls City.”*

*“Most people are under insured for dental care.”*

*“Free diabetes education and nutrition education would be wonderful to offer community members - prevention of disease as opposed to scrambling to treat disease”*

**What the community had to say:**

*“The distance to certain health necessities such as prenatal care and pediatric services is costly not only in time but also money. Would be nice to have more satellite services nearby and reputable ones too! Frustrating to have so few grocery options, when trying to feed my family healthy meals we really have to be creative at the grocery store with coupons and deals, or planning well in advance to go to Salem for a big trip and find freezer space so that we don't have to spend quite as much money at the local grocery store to get our healthy essentials. I can certainly see why some families stick with processed options or have little fresh food because it is so expensive, especially out here.”*

*“As with anywhere we would benefit from some kind of low income gym membership/support team.”*

*“Need more bicycle-safe paths so more folks can commute to work.”*

*“Transportation is a major obstacle in getting to/from community activities. Not enough recreational activities for families.”*

*“High school kids are uninformed about sex. Most are unaware that PCPH exist and can help them.”*

*“The county health department was a great place to have children immunized”*

*“There seems to be a lot of help. This is the first time I've needed assistance and I was very pleasantly surprised by the resources that were available to me.”*

# Edgewater Community

This data was collected from a focus group of the Edgewater Community made up of 11 participants ages 25-74 with varying races and ethnicities. The participants were volunteers and were given a \$5 gift card for their participation.

## Healthcare Themes and Main Points

- Access to care is great
- Many clinics and dental services available.
- No pediatrician
- Family clinic/practice is timely.
- Transient population- defecation/ Urination in yards
- Syringes/Needles
- Skin infections from pool in community.

## Recommendations to improve the Edgewater Community:

- Establish neighborhood watch program
- Bike/ walking bridge to Union across Wallace
- More vendor fairs
- Edgewater decorations
- More police presence
- Wide speed bumps and traffic circles in certain areas
- Art walks
- Need for transportation
- Port-a Potties on Edgewater strip that transient population could access at night

*“Sense of part of a community”*

*“The area is changing for the better”*

*“Established community”*

*“We love West Salem”*



# West Valley Hospital Community

This data was collected from a focus group of 13 clinical and non-clinical staff of the West Valley Hospital. The participants were picked by hospital administrators and given \$5 gift cards for their participation. The majority of the staff were residents of Polk County. The focus group was led by WVH Clinical Director and OHSU nursing student

## Themes and Main Points

- Mental Health
  - Limited number of providers and services
  - Providers and services offered are filled
- Limited Family Practice providers
  - This is not enough providers for the size of the population
    - Not enough physicians take OHP
    - Few providers that take pain patients
- Lack of Health care services for infants, children, and pregnant women
  - There are no pediatricians or specialty physicians for children
  - Polk County lacks a birthing center
    - There is a need for pre and postnatal providers
    - There are lay midwives assisting with births in Polk County

## Recommendations to improve the West Valley Hospital Community

- Have a health fair with many of the partners and practices together-who is the audience of the health fair?
- Youth and family activities
  - Boys and girls club
  - Skate parks
  - Sports activities
  - Parks
  - Sidewalks and bike paths
- A central location for health information, services, and events for the community-like the 211?

*“The hospital does the health fairs time to time... let’s go where the [public goes] with a health fair and actually put together some booths, displays; let people know what’s really out there.”*

*“There is very very limited resources for mental health.”*

*“Transportation is a huge issue for these people to try to get to [services]. Transportation would be one of the big things that should be taken care of to help these people get to [services].”*



# Morrison and HALO Community

This data was collected from a focus group of 9 students from Morrison High school and Halo non-tradition school. The participants were at risk teens that were selected by the guidance counselor at the schools. Each participant was given a \$5 gift card for their participations.

## Themes and Main Points

- Positive
  - Not a lot of crime/homelessness
  - Many resources available
  - Strengthened community
  - Mental health care is strong and available
- Negative
  - Increased rates of teenage pregnancy
  - Dependency issues (drugs & alcohol)
  - Gambling
  - Lack of outlets/activity centers in the community
  - Lack of preventative services

## Recommendations to improve the Morrison and HALO Community:

- Need for a greater sexual health education within the school systems
- An outlet for the youth available throughout all seasons
- More advertising for all health resources
- Access to community garden
- Create the ability to easily obtain contraception
- Provide healthier options for cheaper price

*“If someone reached out to me and told me just that they cared”*

*“I think the community could benefit from more information on health”*

*“Sex education has fallen out of schools they don’t really teach that anymore and they don’t talk about it and we’re seeing that more and more”*



# Community Assets and Gaps

The following assets and gaps were identified during two community forums and four focus groups. Attendees were presented with preliminary demographic, socioeconomic, access and health data from the assessment and were then asked to provide feedback about what was working in their community and what could be improved. This data was collected at West Valley Hospital on July 8, 2015 and Henry Hill July 14, 2015.

## Assets

- Strong Policy Work
  - Low uninsured rate
  - Schools
    - Healthy food
    - Keep Physical Education
    - Mental health counselors
  - Farmers market accepts food stamps
  - Smoking
    - New E-cigarette law for youth and Indoor Clean Air Act
    - No smoking in public
    - Western Oregon University smoke free
    - Checking IDs
    - Anti-smoking with kids in car
    - No smoking at bus stops
    - Tax on cigarettes
- Community Health Education
  - Tobacco Advisory Group
  - Mental Health
    - Trauma Informed Care with physical health
    - Decreased stigma
    - Suicide prevention
- Health Care System
  - Willamette Valley Community Health has coordinated physical and behavioral health assessments for members
  - Coordinated Care Organization depression screening aligned with metrics
  - School-Based Health Centers
  - Oregon Child Development Coalition /Ages & Stages Questionnaires in pre-school program
  - Willamette Valley Hospice depression support groups
  - Collaborative Assessment and Management of Suicidality
  - Access to Oregon Health Plan prenatal care
  - School based health center
  - Primary home care assignments prenatal care
  - Central Health and Wellness Center
  - TripLink
- Additional Supports
  - 5210 program
  - James 2 Kitchen produce give away
  - Marion-Polk food share “Better Box” program

- Food Bank healthy food
- Tobacco
  - Increased no-smoking businesses and organizations
  - Sting Operations for youth purchasing tobacco products
  - Quit-line and other free resources available
- Mental Health
  - County mental health crisis teams
  - Employee Assistance Programs resources
  - County Jail diversion program
- Prenatal social services/support services
- Teen pregnancy programs (Dallas and Central High)
- Built Environment
  - Dallas Aquatic Center
  - Community parks/recreation
  - Community Gardens

### **Gaps**

- Enforcement of Laws Related to Health
- Smoking
  - Enforcement of public smoking laws
  - Policy for city parks and community spaces
  - Policy for Oregon Health Plan participants
- Policy
  - Programs
    - Better promotion of 5210
    - “Healthy Choice” food stamps
    - Replicate Yamhill County CCO “Snack”
    - Employer-based wellness at work
    - Mental illness advocacy (similar to CASA: Child, Adolescent and Family Mental Health)
    - Adult and Family program (similar to Women Infants and Children)
    - Campaign against school bullying
    - No team sports available in schools
    - Variety in gym classes
    - Subsidized fee system for school sports
  - Mental Health
    - Reduce stigma
    - School age screening for depression
    - Mental health benefits with care
  - Tobacco
    - Implement tobacco retail licensing
    - Increase tobacco tax
    - E-cigarette tax/policy clarification
    - Limit who can see tobacco
  - Physical Education classes pre-K – 12
  - Anti fast food campaign
  - Citizen Alien Waived Emergent Medical (access to prenatal, not just emergency care for undocumented women)
- Community Health Education
  - Cooking/nutrition



- In schools
    - Culturally specific
    - On food stamps
    - General healthy recipes
  - Smoking/tobacco
    - Dangers of E-cigarettes
    - School based education
    - Smoking prenatal/during pregnancy
    - Cessation
  - Prenatal
    - School based education
    - Where to access care
    - How to access contraception
    - Spouse education
  - Health classes for seniors and youth
  - Depression discussion in schools
- Health Care System
  - Mental Health
    - More providers
    - Cultural and linguistically appropriate care
    - Prevention programs
    - Refer to providers, not just RX
    - Identify reasons for no shows to appointments
    - Misdiagnosis and/or self diagnosis of depression (vs. anxiety disorders or other issues)
    - Identify organic/biological/genetic depression versus situational depression
  - Prenatal/Women's health
    - No prenatal providers in Polk County
    - Health center for Hispanic population
    - Free clinic for Independence
    - More women's health providers
    - Specialized prenatal care
    - Collaboration of prenatal resources
    - Continued care through prenatal resources
    - Birthing classes
  - Work with insurance, providers, employers to promote smoking cessation/medication support
  - Enhancement of mental health benefits in private insurance plans
  - Better access to care for private insurance
  - Training for primary care providers
  - Post partum care
  - Prioritize identification of persons needing help in tobacco cessation
- Additional Supports
  - Transportation
    - Exercise facilities
    - Mental health clinics
    - Prenatal appointments
    - Prenatal services
    - Grocery stores
  - "Encouragement" of family outdoor and active time

- After school activities (sport programs) for lower income families
- Boys and Girls Club
- Scholarships/ improved access to exercise facilities
- 24/7 crises services for mental health
- Tobacco alternative stress reduction classes
- Educate more providers on Tobacco Quit Line, not just MDs
- Locate prenatal care providers
- Infant basic care need supplies
- Under 20 Prenatal outreach
- Women Infants Children – more money for fresh fruits (instead of jarred baby food)
- Built Environment
  - Safe walking trails, paths, sidewalks
  - Bike lanes, bike boulevards
  - Monmouth grocery store
  - Increase community gardens
  - Access to athletic facilities
  - Sports Complex
- Community Support
  - Social groups/support groups
    - Walking
    - Spouse recognizing and dealing with depression
    - Student depression
    - Parenting and reproductive health
    - Peer tobacco conversations (youth)
    - Pregnant tobacco outreach
    - First time parents, partnered with mentor parents
    - Balancing life
  - Better access to healthy choices
  - Sports are too expensive
  - Adult “after-school” exercise options
  - Decreased use of electronics
  - Elementary school field trips to farmers market
- Data
  - Identify/analyze how school districts contract and make school lunch decisions

# MAPP Methodology

Community Health and Community Health Needs Assessments are documents that the local public health system utilizes to learn about the health of the community at large. They help the local public health system to identify factors that contribute to health risks and poorer health outcomes as well as the resources available to improve community health status.

## **Phase 1: Partnership Development**

In order to create a comprehensive community health assessment, a community health assessment steering committee was formed including representation from two local health departments, the local coordinated care organization, the three local hospitals, and various health and social service entities assembled and agreed upon a national assessment model, Mobilizing for Action through Planning and Partnerships (MAPP).

The Community Health Assessment Steering Committee met as needed for a period of about one year (September 2014-September 2015) working through the MAPP process from organization of the process to publication of the final health assessment.

At the first meeting the group reviewed the MAPP process including the purpose of each assessment and how the group planned to complete each assessment. Based on the chosen methodology for each assessment, the group created a time line for the completion of each of the four MAPP assessments, and the comprehensive community health assessment.

## **Phase 2: Visioning**

Next the group decided upon a shared vision for the process believed to lead the local health departments to our shared vision of a healthy community: “Marion Polk Community Health Assessment Steering Committee will ensure the community health assessment represents the whole community by looking at the broad definition of health including community systems and built environment.”

## **Phase 3: Community Health Status Assessment**

Based on the time line the group started with the Community Health Status Assessment. The purpose of this assessment is to determine the community’s health status by using valid and reliable data systems. In order to complete this assessment, the Community Health Steering Committee used the data dashboard, paid for by the local hospitals. This section of the Salem Health website provides access to the most up to date health indicator data available for both counties involved in this assessment. In order to manage the vast amount of health indicators contained in the data dashboard, the Steering Committee grouped the indicators into over arching categories: Demographics, Socioeconomics, Access to Care, Maternal/Child Health, Environmental Health, Health Behaviors, Injury Prevention/Safety, Chronic Disease, and Communicable Disease. Next, Steering Committee members distributed a survey via Survey Monkey to staff (including the health departments’ governing entity), community partners, and community members to rank the indicators and determine which indicators should be included in each

category in the health assessment. Based on the feedback from about 300 survey respondents, the Steering Committee finalized the health indicators that appear in the final health assessment.

### Phase 3: Community Themes & Strengths Assessment

Next, the group turned its attention to the Community Themes & Strengths Assessment. The purpose of this assessment is to find out what is important to the community, how does the community perceive its quality of life, and what assets exist that can be used to improve community health. The Steering Committee developed two different surveys, one for community partners and one for community members, using the surveys from the 2011 Marion County Health Assessment as a starting point.

The Partner Survey included eight questions and provided an open ended opportunity to identify the top three health issues that most adversely affect their community, the top five factors that affect community health, the top five environmental health issues, the top health five areas to focus funding, the top five barriers residents encounter when seeking health care and a demographic question relating to the population sector they serve. Based on this feedback, interviews were completed to identify specific areas of need in the top ranked factors, environmental issues and funding interests. Between Marion and Polk counties there were 160 responses, representing business, community-based organization, community health organizations, education, faith, government, medical care, mental health care, public health, social services and corrections sectors.

Top five factors adversely affecting community health			
Polk		Marion	
1. Lack of Jobs	27.50%	1. Poverty	30.60%
1. Poverty	27.50%	2. Lack of Jobs	11.10%
3. Access to Healthcare	12.50%	2. Unemployment	11.10%
4. Homelessness	10.00%	4. Addiction	9.30%
5. Addiction	7.50%	5. Access to Healthcare	8.30%

Top five environmental factors that most adversely affect our community			
Polk		Marion	
1. Mold	19.00%	1. Food Deserts	24.00%
2. Food Deserts	16.70%	2. Meth Labs	13.50%
2. Meth Labs	16.70%	3. Mold	12.50%
4. Second Hand Smoke	14.30%	4. Herbicides/Insecticides	8.70%
5. Quality of Drinking Water	9.50%	4. Migrant Camp Safety	8.70%

Based on this information from partners, interviews were completed to find out more about mold in housing and meth labs in Marion County. To find out more about mold, key informant interviews were scheduled with: Salem Housing Authority, a farm worker housing development, and ARCHES. These entities generally work with low income populations, immigrants, undocumented residents, and homeless individuals. The housing authority estimated that about 1% of their low income population live in houses with mold. The houses with mold were generally built before 1976. Housing Authority stated that, on occasion, in these old homes landlords cannot afford to get rid of the mold and/or residents cannot afford heat in the winter to keep the house dry and free of mold. The migrant housing development reported no issue with mold. ARCHES reported that about 5-10% of their population served live in houses with mold. Some of the mold problems were significant enough to cause relocation of the resident. Mold seems to occur in areas where the income level is lower, particularly the northeast region of Marion County.

Seizing meth labs are uncommon in the Marion County region, decreasing to only 1 or 2 per year according to the Marion County Sheriff's Office. However, some partners felt that the number of meth seizures per year does not accurately reflect meth activity in the county.

Top areas to focus resources			
Polk		Marion	
1. Mental Health	35.90%	1. Mental Health	32.00%
2. Maternal & Child Health	20.50%	2. Maternal & Child Health	22.30%
3. Primary Care	15.40%	3. Community Prevention Activities	10.70%
4. Overweight & Obesity	7.50%	4. Substance Abuse	7.80%
4. Substance Abuse	7.50%	5. Primary Care	4.90%

Based on the shared interest in focusing resources on mental health and maternal/child health services key informant interviews were completed to explore what specific areas of mental health and maternal/child health services were most in need of resources. Key informants at the Early Learning Hub, Inc. voiced concern that there is not enough funding focus on prenatal and post-partum care in particular. Both interviewees said that access to these services was improving in Marion County but a major concern is transportation to access these services, particularly for low-income women and their families.

In terms of mental health, interviews were completed with Project ABLE, the Canyon Crisis Center in Stayton and a counselor working in the Woodburn School District. In particular, due to the lack of rural mental health care providers, transportation services to mental health care is where these interviewees thought resources should be focused.

Top 5 Barriers to Accessing Health Care Services			
Polk		Marion	
1. Lack of Mental Health Providers	15.40%	1. Lack of Mental Health Providers	24.30%
1. Transportation Issues	15.40%	2. High cost of treatment	13.50%
3. Lack of Knowledge of Where to Seek Care	10.30%	3. Number of providers accepting new Medicaid patients	9.90%
3. High Cost of Treatment	10.30%	4. Lack of access to alcohol & drug treatment	8.10%
3. Lack of Knowledge about Public Health	10.30%	5. Childcare/lack of affordable care & transportation issues (each)	7.20%

Based on these findings, a couple of key informant interviews were completed to inquire about the high cost of treatment and why it was included in this top five barrier list. The most common report was, based on type of insurance coverage, not all services physicians recommended are covered, and when recommended services are not covered, many times they are too costly for patients. The interviewees said that these high cost issues are concentrated in the Oregon Health Plan, Medicaid, Medicare population, but apply to people with private insurance plans as well.

The survey for community members consisted of 21 questions, and included questions about health status, access to care, chronic disease, nutrition and physical activity behaviors, community safety and access and emergency preparedness, as well as demographic and socioeconomic information. The survey was available in both English and Spanish. It was determined that to achieve a 99% confidence level Marion County would need to collect about 2,000 surveys and Polk County would need to collect 500 surveys. Surveys were distributed via email and paper copies. A distribution list of 53 sites across Marion County and about 25 sites in Polk County, including churches, libraries and health centers were established. Each site could decide whether to distribute the survey electronically or via paper copies. If they selected electronic distribution they were provided with a link to a survey to share with clients. If they selected paper surveys, they were given a certain number of surveys, pencils and a box to collect the completed surveys. Health Department staff drove to each site and collected the surveys. In order to ensure representation from all parts of Marion and Polk counties, surveys were distributed to cities based on the percentage of the county population that city represents. For example, Woodburn makes up about 9% of the Marion County population, so 9% of the Marion County surveys were distributed to sites around Woodburn. The survey remained open for about one month, until enough surveys were collected to assure confidence in findings. All paper surveys were manually entered into the online survey link by Health Department staff to merge the paper and electronic survey data. Responses that were left blank were removed from the data set. Results from this survey appear throughout this assessment.

### Phase 3: Forces of Change Assessment

The purpose of this assessment is to discuss trends, factors and/or events that are or will influence health and the quality of life in the community. The Forces of Change Assessment was conducted with United Way, Salem Health staff, Marion County Health Advisory Board, Polk County Health Advisory Board and the Willamette Valley Community Health Clinical Advisory Panel. United Way, Salem Health, and Willamette Valley Community Health serve both Marion and Polk counties. The Forces of Change Assessments were conducted by

Health Department staff in all locations except for Salem Health. Notes were transcribed and grouped according to common themes. Common themes from both counties are identified below. County specific information is included throughout the assessment. All of the groups were asked the same questions.

1. What has occurred since 2012 that may affect our local health system?
  - Significant changes in access to health care services: The Affordable Care Act/Medicaid Expansion/Coordinated Care Organization development, integration of mental and physical health care services, not enough providers to keep up with increasing insured population
  - New Partnerships: Silverton Health and Legacy, Salem Health and Oregon Health and Sciences University
  - Change in health insurance plans: Rise in high deductible insurance plans, increasing copays and deductibles
  - Increasing population diversity: Minority and elderly populations increasing
2. What may occur in the next 5 years that will affect our local health system?
  - Marijuana Legalization
  - 2016 Election and pending changes in the Affordable Care Act policy
  - Increasing number of people dual-eligible (Medicaid & Medicare)
  - Increasing elderly population
  - Increasing population diversity and therefore medical needs
  - Retirement of physicians and not enough general practitioners to fill their spots
  - Public Health Reform
  - Transition to International Classification of Diseases-10 (ICD-10)
  - Earthquake
3. Are there any trends occurring that will have an impact on health in our community?
  - Legalization of marijuana
  - Increase in e-cigarette use and availability
  - Retail companies offering health care services in stores (CVS, Walmart, etc.)
  - Increasing obesity rates
  - Increasing prescription drug costs as well as out of pocket health care expenses
  - Increasing drug use
  - Increasing Sexually Transmitted Disease rates
4. What situations/factors are occurring that impact health locally, regionally, nationally, and globally?
  - Marijuana legalization
  - Debate over Genetically Modified Organisms (GMOs)
  - Technology that allows people to more closely monitor personal health behaviors (fitbits, phone apps, etc.)
  - Increased use of electronic cigarettes, especially in teens
  - 2016 election
  - Uber and other on demand transportation services
  - Social media
  - Changing population, living longer, increasing burden of chronic disease

- Climate change
  - Poverty
  - Electronic Health Records
  - Consolidation of insurance companies
  - Increasing prescription drug costs
5. What may occur/has occurred that may pose a barrier to achieving our shared vision?
- Lack of trust and transparency between entities involved in the local health systems
  - Lack of communication
  - Fear of change
  - Future legislation regarding health care and health care services
  - Lack of health equity
  - Lack of funding for services
  - Natural disaster
  - Inequality in access to healthy foods
  - Shift from local to regional focus
  - Lack of providers
  - Lack of quality, affordable childcare
  - Lack of quality, affordable housing
  - Decreasing vaccination rates
  - Lack of access to services in rural areas

### **Phase 3: Local Public Health System Assessment**

This assessment answers the question, how are the 10 essential public health services being provided to our community and what are the components, activities, competencies, and capacities of our local health system. An additional document contains this information. It is located here:

<http://www.co.marion.or.us/NR/rdonlyres/204E69C6-1E74-414C-98A6-77182BB947A5/52829/20131118MarionPolkHealthcareAccessAssessmentFINALv.pdf>

### **Phase 4: Identify Strategic Issues**

In order to identify strategic issues, five community forums were scheduled, three in Marion County, and two in Polk County. At each of these forums, data collected during Phase 3 of the MAPP framework was presented to attendees. The attendees were then asked to provide information about the health of their community. They were asked to define health, to provide thoughts about what was going well concerning health in their community, what was could be going better concerning health in their community, and what, if anything, they would change to increase the health of their community. This information was used to identify health priorities to focus on in the Community Health Improvement Plan, as well as gaps in services that need to be addressed by the local public health system .

**Phase 5: Formulate Goals and Strategies & Phase 6: The Action Cycle are contained in the Community Health Improvement Plan.**



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## Glossary

**Age-Adjusted Rates:** Age-adjusted rates allow you to compare event rates between two communities that have very different age distributions by standardizing both populations to the United States census population. This allows us to rule out that the difference in rates is due to age distribution in the community.

**Incidence Rate:** Describes the rate at which new illness enters the population over a specified time ((# of new cases of X)/(total population-those who cannot get disease X))

**Mortality Rate:** Describes the rate of death in a community over a specified time ((# of deaths)/(total population))

**Prevalence Rate:** Describes the burden of new and old cases of a specific disease over a specified time ((# of new cases + # of old cases)/(population))

**Healthy People 2020:** Healthy People provides science-based, ten year national objectives for improving the health of all Americans. Healthy People establishes benchmarks and monitors progress over time to: encourage collaboration across communities and sectors, empower individuals to make informed health decisions and measure the impact of prevention activities. Its mission is to: identify nationwide health benchmarks, increase public awareness and understanding of the determinants of health, disease and disability and the opportunities for progress, provide measurable objectives and goals that are applicable at national, state and local levels, engage multiple sectors to take actions to strengthen policies and improve practices that are driven by the best available evidence and knowledge, and to identify critical research, evaluation and data collection needs. Its overarching goals are to: attain high-quality, longer lives free of preventable disease, disability, injury and premature death, achieve health equity, eliminate disparities and improve the health of all groups, create social and physical environments that promote good health for all, and promote quality of life, healthy development and healthy behaviors across all stages of life.

# References

- <sup>1</sup> United States Census Bureau: Polk County Oregon. (2010). <http://quickfacts.census.gov/qfd/states/41/41053.html>
- <sup>2</sup> Oregon Blue Book. (2011). <http://bluebook.state.or.us/default.htm>
- <sup>3</sup> City Data: 97304 Zip Code Detailed Profile (2013). <http://www.city-data.com/zips/97304.html>
- <sup>4</sup> United States Census Bureau: American Community Survey (2012).  
<http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>
- <sup>5</sup> United States Census Bureau: American Community Survey 1-Year Estimates Demographic and Housing Estimates.  
[http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_13\\_1YR\\_DP05&prodType=table](http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_1YR_DP05&prodType=table)
- <sup>6</sup> United States Census Bureau: State & County QuickFacts. (2013). <http://quickfacts.census.gov/qfd/states/41000.html>
- <sup>7</sup> United States Census Bureau: American Community Survey 5-Year Estimates Language Spoken at home by ability to speak English for the Population 5 years and over. (2009-2013). <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>
- <sup>8</sup> United States Census Bureau: American Community Survey 1-Year Estimates Veteran Status.  
[http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_13\\_1YR\\_S2101&prodType=table](http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_1YR_S2101&prodType=table)
- <sup>9</sup> United States Census Bureau: American Community Survey 1-Year Estimates Selected Economic Characteristics (2013).  
<http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>
- <sup>10</sup> United States Census Bureau: American Community Survey 1-Year Estimates Households & Families (2013).  
[http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_13\\_1YR\\_S1101&prodType=table](http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_1YR_S1101&prodType=table)
- <sup>11</sup> United States Census Bureau: American Community Survey 1-Year Estimates Selected Social Characteristics (2013).  
[http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_13\\_1YR\\_DP02&prodType=table](http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_1YR_DP02&prodType=table)
- <sup>12</sup> Kids Count Data Center: Cohort Graduation Rate (2014). <http://datacenter.kidscount.org/data/tables/7185-cohort-graduation-rate?loc=39&loct=2#detailed/5/5356-5378/false/1120,1024,937,809,1374/any/14227>
- <sup>13</sup> Kids Count Data Center: 3<sup>rd</sup> grade reading proficiency. (2012). <http://datacenter.kidscount.org/data/Bar/2551-3rd-grade-reading-proficiency?loc=39&loct=5#5/5369/false/1249/any/5306>
- <sup>14</sup> Mid-Willamette Valley Community Action Agency, Community Resource Program. (2014). 2014 Homeless County Report: Marion & Polk Counties. <http://www.mwvcaa.org/CRP/2014%20Homeless%20Count%20Report.pdf>
- <sup>15</sup> Oregon Health Authority Adult Behavioral Risk Surveillance System Selected Topics by County, 2006-2009.  
[http://public.health.oregon.gov/BirthDeathCertificates/Surveys/AdultBehaviorRisk/county/Documents/0811/GenHealthNAA\\_0811.pdf](http://public.health.oregon.gov/BirthDeathCertificates/Surveys/AdultBehaviorRisk/county/Documents/0811/GenHealthNAA_0811.pdf)
- <sup>16</sup> Oregon Health Authority. (2015). Impacts of the Affordable Care Act on Health Insurance Coverage in Oregon: County Results/Statewide Update.
- <sup>17</sup> Polk County Health Department Community Themes and Strengths Community Survey Results. (2011 & 2015).
- <sup>18</sup> Oregon Public Health Assessment Tool. Injury Mortality. <https://ophat.public.health.oregon.gov>
- <sup>19</sup> Healthy People 2020. 2020 Topics and Objectives: Injury and Violence Prevention.  
<http://www.healthypeople.gov/2020/topicsobjectives2020/default>
- <sup>20</sup> Oregon State Police-Law Enforcement Data Systems. Oregon Annual Uniform Crime Reports.  
[http://www.oregon.gov/OSP/CJIS/Pages/annual\\_reports.aspx](http://www.oregon.gov/OSP/CJIS/Pages/annual_reports.aspx)
- <sup>21</sup> Oregon Department of Human Services: Children, Adults and Families Division: 2013 Child Welfare Data Book. (2014).  
<http://www.oregon.gov/dhs/abuse/docs/2013%20Data%20Book.pdf>
- <sup>22</sup> Healthy People 2020. 2020 Topics and Objectives: Maternal, Infant & Child.  
<http://www.healthypeople.gov/2020/topicsobjectives2020/default>
- <sup>23</sup> Oregon Public Health Assessment Tool. Age-Adjusted Mortality. <https://ophat.public.health.oregon.gov>
- <sup>24</sup> Salem Health (2014). Alzheimer's Disease or Dementia: Medicare Population.  
<http://www.salemhealth.org/about/community/community-health-needs-assessment> (viewed on 10/28/15)
- <sup>25</sup> Mayo Clinic. (2015). Diseases and Conditions: Emphysema-Definition. <http://www.mayoclinic.org/diseases-conditions/emphysema/basics/definition/con-20014218> (Viewed 8/24/15).
- <sup>26</sup> CDC (2015). Basics about Diabetes. <http://www.cdc.gov/diabetes/basics/diabetes.html> (viewed on 10/28/15)
- <sup>27</sup> National Center for Chronic Disease Prevention and Health Promotion. (2015). Stroke Facts. <http://www.cdc.gov/stroke/facts.htm> (Viewed 10/28/15).
- <sup>28</sup> Heart Disease. (2015, August 5). Retrieved August 19, 2015, from <http://www.cdc.gov/heartdisease/index.htm>
- <sup>29</sup> U.S. Department of Health and Human Services. The Surgeon General's Call to Action to Prevent Skin Cancer. Washington, DC: U.S. Dept of Health and Human Services, Office of the Surgeon General; 2014.

- <sup>30</sup> Questions to Ask Your Doctor About Colorectal Cancer. (2014, February 26). Retrieved August 18, 2015, from [http://www.cdc.gov/cancer/colorectal/basic\\_info/screening/questions.htm](http://www.cdc.gov/cancer/colorectal/basic_info/screening/questions.htm)
- <sup>31</sup> CDC (2015). What are the risk factors for lung cancer? [http://www.cdc.gov/cancer/lung/basic\\_info/risk\\_factors.htm](http://www.cdc.gov/cancer/lung/basic_info/risk_factors.htm) viewed on 10/28/15
- <sup>32</sup> Breast Cancer. (2015, July 27). Retrieved August 18, 2015, from <http://www.cdc.gov/cancer/breast/>
- <sup>33</sup> Oregon Public Health Assessment Tool. Birth Risk Factors. <https://ophat.public.health.oregon.gov>
- <sup>34</sup> National Institutes of Health; Eunice Kennedy Shriver National Institute of Child Health and Human Development. (2013). What are the factors that put a pregnancy at risk? <https://www.nichd.nih.gov/health/topics/high-risk/conditioninfo/pages/factors.aspx> (Viewed 10/19/2015).
- <sup>35</sup> Low Birth weight and the Environment. (2014, June 6). Retrieved August 18, 2015, from <http://ephtracking.cdc.gov/showRbLBWGrowthRetardationEnv.action>
- <sup>36</sup> Healthy People 2020. 2020 Topics and Objectives: Maternal, Infant & Child. <http://www.healthypeople.gov/2020/topicsobjectives2020/default>
- <sup>37</sup> County Health Rankings & Roadmaps: Building a Culture of Health, County by County. (2014). 2014 County Health Rankings National Data. <http://www.countyhealthrankings.org/app/oregon/2015/measure/factors/124/data>
- <sup>38</sup> Healthy People 2020. 2020 Topics and Objectives: Environmental Health. <http://www.healthypeople.gov/2020/topicsobjectives2020/default>
- <sup>39</sup> Oregon Health Authority Adult Behavioral Risk Surveillance System Selected Topics by County, 2010-2013. [http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORCountyBRFSS\\_screenings.pdf](http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORCountyBRFSS_screenings.pdf)
- <sup>40</sup> Healthy People 2020. 2020 Topics and Objectives: Cancer. <http://www.healthypeople.gov/2020/topics-objectives/topic/cancer/objectives>
- <sup>41</sup> Oregon Health Authority Adult Behavioral Risk Surveillance System Selected Topics by County, 2010-2013. [http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORCountyBRFSS\\_screenings.pdf](http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORCountyBRFSS_screenings.pdf)
- <sup>42</sup> Healthy People 2020. 2020 Topics and Objectives: Cancer. <http://www.healthypeople.gov/2020/topics-objectives/topic/cancer/objectives>
- <sup>43</sup> American Cancer Society. (2014). American Cancer Society Guidelines for the Early Detection of Cancer: Colon Cancer. <http://www.cancer.org/healthy/findcancerearly/cancerscreeningguidelines/american-cancer-society-guidelines-for-the-early-detection-of-cancer> (Viewed 8/24/15).
- <sup>44</sup> The Office of Adolescent Health, U.S. Department of Health and Human Services. (2015, July 8). Retrieved August 19, 2015, from <http://www.hhs.gov/ash/oah/adolescent-health-topics/reproductive-health/teen-pregnancy/index.html>
- <sup>45</sup> CDC (2015). Alcohol and Public Health. <http://www.cdc.gov/alcohol/index.htm> (viewed on 10/20/15)
- <sup>46</sup> Oregon Health Authority (2015). Health risk and protective factors among Oregon adults, by county, 2010-2013. [http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORCountyBRFSS\\_riskfactors.pdf](http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORCountyBRFSS_riskfactors.pdf) (viewed on 10/28/15).
- <sup>47</sup> Healthy People 2020. 2020 Topics and Objectives: Substance Abuse. <http://www.healthypeople.gov/2020/topics-objectives/topic/substance-abuse> (Viewed 8/6/15).
- <sup>48</sup> National Institute on Alcohol Abuse and Alcoholism. Underage Drinking. <http://www.niaaa.nih.gov/alcohol-health/special-populations-co-occurring-disorders/underage-drinking> (viewed on 10/29/15)
- <sup>49</sup> Salem Health (2015). Community Dashboard, Age-Adjusted Hospitalization Rate due to Alcohol Abuse: Time Series. <http://www.salemhealth.org/about/community/community-health-needs-assessment> (viewed on 10/28/15).
- <sup>50</sup> Healthy Communities Institute: Salem Health. (2015). County Health Rankings, 2009-2013. Marion County Snapshot: Alcohol Impaired Driving Deaths. <http://www.salemhealth.org/about/community/community-health-needs-assessment/marion-county-community-snapshot> (Viewed 10/5/15).
- <sup>51</sup> CDC (2014). Basic Information. [http://www.cdc.gov/tobacco/basic\\_information/index.htm](http://www.cdc.gov/tobacco/basic_information/index.htm) (viewed 8/18/15).
- <sup>52</sup> CDC (2014). Youth and Tobacco Use. [http://www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/youth\\_data/tobacco\\_use/](http://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/) (viewed 8/18/15).
- <sup>53</sup> Oregon Health Authority. Student Wellness Surveys 2013-2014 Counties. [https://oregon.pridesurveys.com/dl.php?pdf=Polk\\_Co\\_2014.pdf&type=county](https://oregon.pridesurveys.com/dl.php?pdf=Polk_Co_2014.pdf&type=county)
- <sup>54</sup> Healthy People 2020. 2020 Topics and Objectives: Tobacco Use. <http://www.healthypeople.gov/2020/topics-objectives/topic/tobacco-use/objectives>
- <sup>55</sup> Oregon Health Authority: The Oregon Medical Marijuana Program. (2015). Statistical Snapshot July, 2015. [http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/MedicalMarijuanaProgram/Documents/ed-materials/ommp\\_stats\\_snapshot.pdf](http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/MedicalMarijuanaProgram/Documents/ed-materials/ommp_stats_snapshot.pdf) (Viewed 10/28/15).
- <sup>56</sup> Oregon Health Authority. Annual Communicable Disease Summary Index. <http://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/DiseaseSurveillanceData/AnnualReports/Pages/arpt.aspx>
- <sup>57</sup> Oregon Public Health Assessment Tool. Age-Adjusted Communicable Disease Rates. <https://ophat.public.health.oregon.gov>
- <sup>58</sup> Healthy People 2020. Topics and Objectives: Sexually transmitted diseases. <http://www.healthypeople.gov/2020/topics-objectives/topic/sexually-transmitted-diseases/objectives>

- 
- <sup>59</sup> CDC (2015). Vaccines and Immunizations. <http://www.cdc.gov/vaccines/about/terms/glossary.htm#commimmunity> (viewed on 10/30/15)
- <sup>60</sup> Oregon Health Authority. Oregon Immunization Data and Reports. <http://public.health.oregon.gov/PreventionWellness/VaccinesImmunization/Pages/research.aspx>  
Healthy People 2020. Topics and Objectives: Immunization and Infectious Diseases. <http://www.healthypeople.gov/2020/topics-objectives/topic/immunization-and-infectious-diseases>
- <sup>61</sup> Healthy People 2020. Topics and Objectives: Immunization and Infectious Diseases. <http://www.healthypeople.gov/2020/topics-objectives/topic/immunization-and-infectious-diseases>
- <sup>62</sup> CDC (2015). Chronic Disease Prevention and Health Promotion. <http://www.cdc.gov/chronicdisease/> (viewed on 10/30/15).
- <sup>63</sup> National Cancer Institute State Cancer Profiles. (2007-2011). <http://statecancerprofiles.cancer.gov/incidencerates/>
- <sup>64</sup> Oregon Health Authority Adult Behavioral Risk Surveillance System Selected Topics by County, 2010-2013. [http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORCountyBRFSS\\_diseases.pdf](http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORCountyBRFSS_diseases.pdf)
- <sup>65</sup> Salem Health Community Dashboard. Age-adjusted hospitalization rates (2015). <http://www.salemhealth.org/about/community/community-health-needs-assessment/polk-county-community-snapshot>
- <sup>66</sup> Oregon Health Authority Adult Behavioral Risk Surveillance System Selected Topics by County, 2010-2013. [http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORCountyBRFSS\\_riskfactors.pdf](http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORCountyBRFSS_riskfactors.pdf)
- <sup>67</sup> Healthy People 2020. Topics and Objectives: Heart Disease and Stroke. <http://www.healthypeople.gov/2020/topics-objectives/topic/heart-disease-and-stroke/objectives>
- <sup>68</sup> Oregon Health Authority Adult Behavioral Risk Surveillance System Selected Topics by County, 2010-2013. [http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORCountyBRFSS\\_diseases\\_nuadults.pdf](http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORCountyBRFSS_diseases_nuadults.pdf)
- <sup>69</sup> Oregon Health Authority Adult Behavioral Risk Surveillance System Selected Topics by County, 2010-2013. [http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORCountyBRFSS\\_diseases.pdf](http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORCountyBRFSS_diseases.pdf)