2018

Natrona County Community Health Status Report

Wyoming Medical Center

CASPER-NATRONA COUNTY HEALTH DEPARTMENT

prevent promote protect

Community Health Status Report 2018

An Epidemiologic Description of the Health Status and Mortality Experience of Natrona County Residents

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Sponsored by:
Casper-Natrona County Health Department
and
Wyoming Medical Center

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Message from Local Health Department Director

The World Health Organizations (WHO) defines individual health as, "...a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity". Similarly, the health of the community at-large depends on social and environmental factors, such as environmental conditions, access to healthcare, housing, employment status, transportation, and socioeconomics. These broad categories of community health factors can be defined as social determinants of health.

The WHO defines social determinants of health as, "the conditions in which people are born, grown, live, work, and age".

We are pleased to share Natrona County's 2018 Community Health Status Report. This report is the first step in our community-focused, data-driven Community Health Needs Assessment. The report examines a broad range of community health indicators for Natrona County and presents the data so that it can be used in community health improvement planning, programming, and evaluation.

In this report, it is apparent that the health of Natrona County residents can be improved. We have significant health challenges in relation to maternal health, children's health, suicide, substance use/abuse (including tobacco and alcohol), mental health, and sexually transmitted-infections. Notably, these challenges will not be able to be solved by clinical care alone. We must implement interventions that require broader participation from the health/public health system, require deeper collaboration, and are focused on all factors that influence health, including the social determinants of health.

Our next steps include gathering qualitative data and information for our constituency to garner what health factors are most important to them, and then utilize that data for creating a Community Health Improvement Plan (CHIP) based on the results of this comprehensive assessment. We hope that this document will be the first step in helping our community make informed choices, set relevant priorities, and improve the health of Natrona County.

Kelly N Weidenbach, DrPH, MPH

Executive Director, Casper-Natrona County Health Department

Message from Natrona County Health Officer

As Natrona County Health Officer, I experience, firsthand, many layers of health and wellness in our county. It is clear to me that the most important challenge, above all the many individual issues facing our county such as smoking, obesity, and perinatal care is access to primary healthcare. In Wyoming, as is the case nationally, there is a shortage of primary care providers. When coupled with unaffordable insurance, there are many people that simply are not able or willing to enter the system.

Participation in regular health care evaluation leads to increased immunization rates, better utilization of mental health services, more focus on preventative medicine, and naturally better treatment of primary medical problems such as heart disease and diabetes. This, in turn, decreases healthcare costs for all. It will enable citizens to achieve wellness to the point that they may resume or continue working, allow them to be better able to care for their children and family, and sets a good example for children in terms of the role regular healthcare maintenance should have and need to get throughout their lives.

As a county and state, we must continue to explore options to allow access to primary medical services that is both available and affordable. This will benefit families and society tremendously and needs to be a major priority for the state of Wyoming.

Public health departments are often the initial entry points for the underserved. These people often have little or no access to general screening, mental and physical assessments, and the many interventions available. Often, potentially serious problems can be identified and individual plans designed. An active public health department can improve poor health outcomes for the very population often at greatest risk. Additionally, effective programs addressing many areas of basic health will attract people of varied socioeconomic and educational backgrounds, broadening the positive changes in the overall health of the county.

Mark Dowell, MD

Natrona County Health Officer

METHODOLOGY

Community Health Needs Assessment Process

The Casper-Natrona County Health Department and Wyoming Medical Center have asked a broad network of community partners to help them create, implement, and sustain innovative programs that address complex community-wide health issues. This work begins with a collaborative, community-focused project aimed at assessing the overall health of our community in Natrona County through a Community Health Needs Assessment (CHNA) process. To complete the CHNA process, our organizations chose to use an evidence-based methodology called Mobilizing Action for Planning and Partnerships (MAPP).

MAPP is a community-driven, strategic planning process for improving community health. MAPP is a framework that helps communities apply strategic thinking to prioritize health issues facing a community and helps to identify resources to address these health issues (NACCHO 2018). The MAPP process includes four health-focused assessments. This report addresses the first MAPP assessment, the Community Health Status Assessment (CHSA). The Community Health Status assessment identifies priority community health and quality of life issues. The CHSA answers questions like, "How healthy are our residents?" and "What does the health status of our community look like?" The CHSA assures that we select locally-appropriate health indicators, provide data analyses to advance what we know about the health of our community, and disseminate our findings.

The National Association of City and County Health Officials (NACCHO), through the CHSA resource recommendations, advises that communities undergoing a CHNA using MAPP should look at health indicators that include demographics, socioeconomic characteristics, health resource availability, quality of life, behavioral risk factors, environmental health indicators, social and mental health, maternal and child health, death, illness and injury, infectious disease, and other sentinel events. The results of the CHSA enable community partners to prioritize health issues in the community that we collectively want to address and subsequently formulate a Community Health Improvement Plan (CHIP) to work on programs that improve the community's health.

Overarching Community Goals

The overarching purpose of the CHNA and CHIP in Natrona County are to:

- Create a plan that can guide and measure the work of our health care and public health systems in Natrona County.
- To improve residents' health status, increase their life spans, and elevate their overall quality of life.
- To reduce health disparities among residents.
- To increase accessibility of preventive services for all community residents.

Compliance

Additionally, the CHNA and CHIP are conducted to assure compliance for both Wyoming Medical Center and for Casper-Natrona County Health Department.

- Hospital compliance for IRS Form 990, Schedule H Compliance: For non-profit hospitals, a CHNA also serves to satisfy certain requirements of IRS reporting, pursuant to provisions of the Patient Protection & Affordable Care Act of 2010.
- Public Health Accreditation: Through various standards and measures it is expected that accredited health departments participate fully in a needs assessment and improvement planning process.

Data Collection and Analyses

We used a robust methodology for identifying relevant community health indicators. There are a number of resources that provide lists of health indicators recommended for use during a Community Health Needs Assessment (CHNA) process. We chose indicators most commonly used nationally for CHNAs, and then we continued to dig deeper into local data that we had to further characterize our community's health. Nationally-recognized lists of health indicators used for the CHSA process, include:

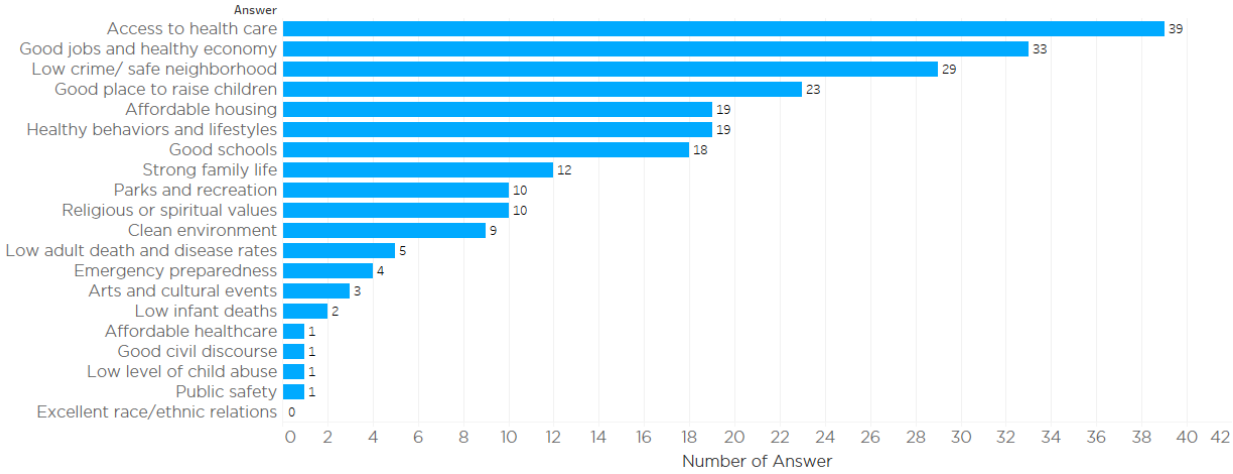
- U.S. Centers for Disease Control and Prevention. *Community Health Assessment for Population Health Improvement: Resource for Most Frequently Recommended Health Outcomes and Determinants*, Atlanta, GA: Office of Surveillance, Epidemiology, and Laboratory Services, 2013. (https://stacks.cdc.gov/view/cdc/20707).
- University of Wisconsin's and Robert Wood Johnson Foundation's County Health Rankings (http://countyhealthrankings.org/).
- Community Health Status Indicators (http://www.communityhealth.hhs.gov).
- CDC Wonder (http://wonder.cdc.gov).

This CHSA is a living document. The Casper-Natrona County Health Department will continue to update this report annually and will disseminate to community partners. We hope to continue to improve the use of health outcome and health determinant data that is specific to Natrona County to help plan for new health/public health services and to evaluate existing services in the Natrona County Community. The majority of data presented in this report is secondary data, data collected by government entities, to monitor the occurrence of health outcomes. The sources of data are clearly identified throughout this report. Qualitative data in this report was collected through 5 listening sessions that were held around Natrona County in August and September of 2018. There was primary data collected through the Natrona County Health Assessment Survey. This survey was available in paper format and through an online survey.

Primary Data Sources

During the months of August and September, surveys were distributed to community members and stakeholders to provide input for this assessment. The surveys were collected during listening sessions, stakeholder meetings, and an online survey. There was a total of 80 responses.
The survey asked the individuals to name the three most important factors for a healthy community (Figure 1), the three most important health problems in our community (Figure 2), and the three most important risky behaviors in our community (Figure 3).

Figure 1: What do you think are the three most important factors for a healthy community?

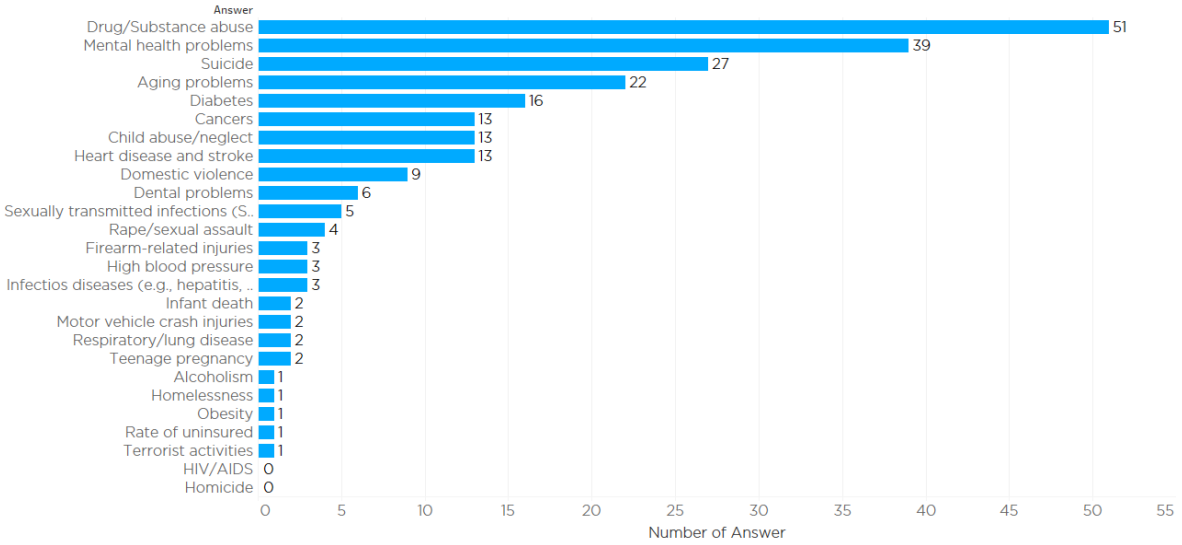


Source: Natrona County Community Health Assessment Survey, 2018

The top 5 chosen important factors for a healthy community

- Access to health care
- Good jobs and healthy economy
- Low crime/ safe neighborhood
- Good place to raise children
- Affordable housing

Figure 2: What do you think are the three most important health problems in our community?

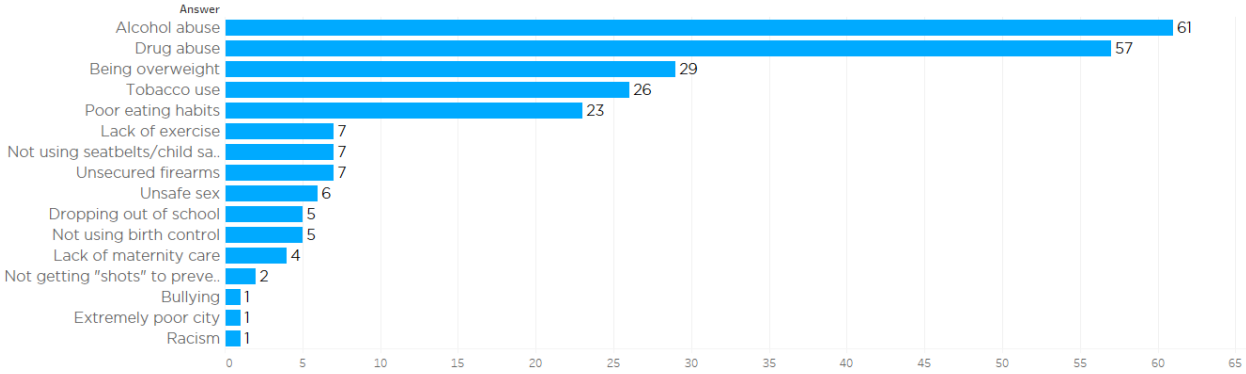


Source: Natrona County Community Health Assessment Survey, 2018

The top 5 chosen important factors for health problems in our community

- Drug/Substance abuse
- Mental health problems
- Suicide
- Aging problems
- Diabetes

Figure 3: What do you think are the three most important risky behaviors in our community?



Source: Natrona County Community Health Assessment Survey, 2018

The top 5 chosen important factors for risky behaviors in our community

- Alcohol abuse
- Drug abuse
- Being overweight
- Tobacco use
- Poor eating habits

Natrona County Listening Sessions

Casper Natrona County Health Department in partnership with Wyoming Medical Center held listening sessions around Natrona County during August and September of 2018. There were 5 listening sessions held in central Casper, North Casper, Evansville, Edgerton/Midwest, Mills, and one session with the youth of Pathways Innovation Center in Casper.
Based on community input, Figure 4 depicts the components of a health community.

Figure 4: What makes a healthy community?

Source: Natrona County Community Listening Sessions, 2018

Figure 5: What makes a healthy community response

Source: Natrona County Community Listening Sessions, 2018

During the listening sessions, community members were asked what they thought their community was lacking. Figure 6 demonstrates the pattern of responses. The more frequently the subject was mentioned, the larger and bolder it is displayed.

Figure 6: What is Natrona County Lacking?

Source: Natrona County Community Listening Sessions, 2018

The most common areas that Natrona County is lacking:

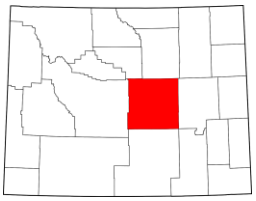
- Access to affordable healthcare
- Access to affordable insurance
- Access to affordable nutrition
- Access to affordable/safe housing
- Access to transportation

NATRONA COUNTY OVERVIEW

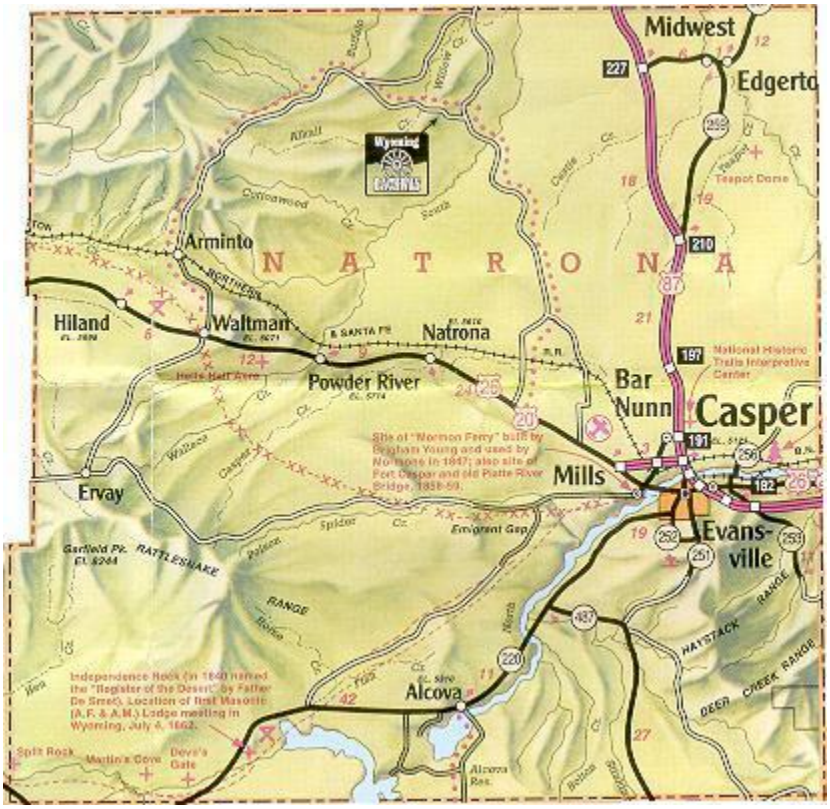
History and Geography

Natrona County is the second most populous county in Wyoming with a population of 82,178. Legislature of the Wyoming territory created Natrona County on March 19, 1888 and it was organized in 1890. The name Natrona comes from the deposits of natron found in the area. The county seat is in Casper, Wyoming which is also the largest city located in Natrona County and is the second most populous city in the State of Wyoming.

Figure 7: Map of Natrona County



Natrona County



Source: https://everycounty.org/2013/10/04/wyoming-natrona-county/, https://en.wikipedia.org/wiki/Natrona_County,_Wyoming

General Population Characteristics

- Natrona County is home to 82,178 individuals.
- Natrona County represents 14.19% of Wyoming's population, and has 15.4 people per square mile.
- Natrona County's population grew by 8.2% from 2010 to 2018.
- The majority of the population is between the ages of 20 and 64 years.

Household Characteristics

- The majority of households are family households with a married couple.

Source: U.S. Census Bureau, 2010 Census
County Health Rankings

Table 1: General Natrona County Population Characteristics

Demographic Characteristics of Natrona County Residents	
General Characteristics	
Total Population, Census, 2010	75,450
Median Age (years)	36.8
% 19 and under years	26.60%
% 20-64 years	60.90%
% ≥ 65 years	12.50%
% Male	50.50%
% Female	49.50%
Race/Ethnicity	
% American Indian/ Alaska Native	0.80%
% Asian	0.60%
% Black/ African American	0.80%
% Native Hawaiian/Other Pacific	0.00%
% White	89.10%
% Other Races	0.10%
% Two or More Races	1.60%
% Hispanic/Latino (of any race)	6.90%
Household Characteristics	
Average Household Size	2.41
Average Family Size	2.94
Total Households	30,616
Family Households	19,714
Nonfamily Households	10,902
Family Households with Children (<18 years old)	8,800
Married Couple Households with Children	5,738
Female Householder with Children	2,084
Male Householder with Children	978

Employment

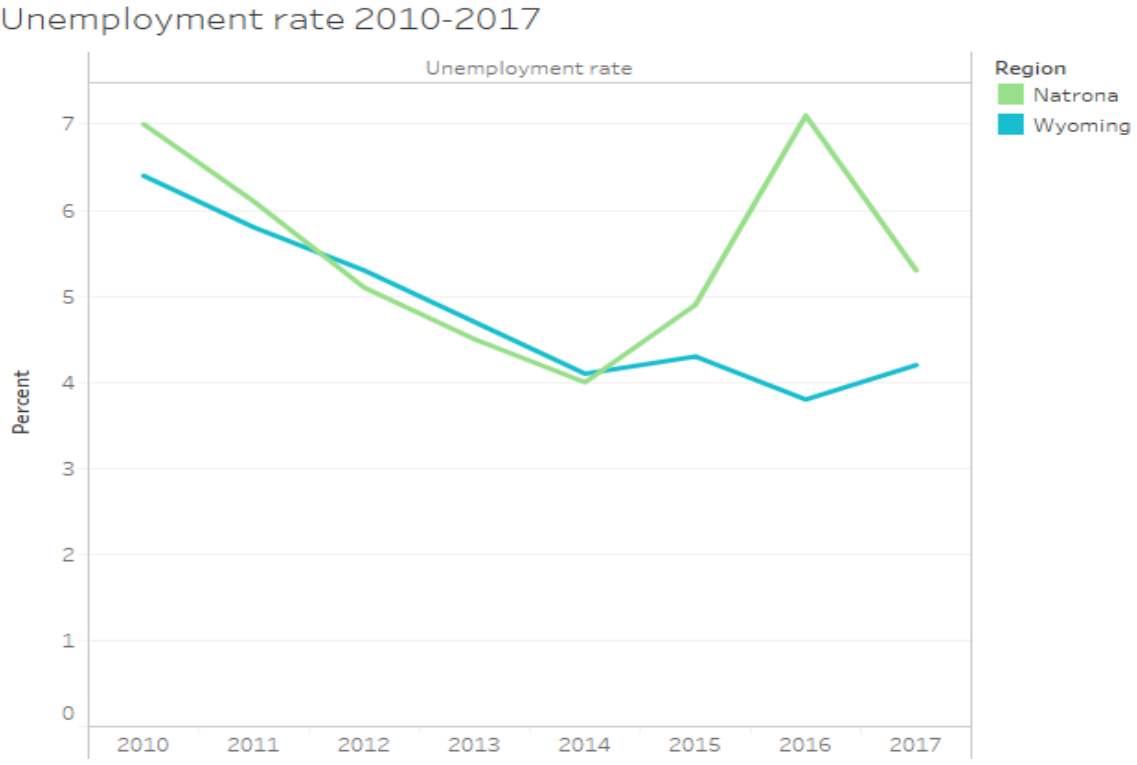
- Unemployment in Natrona County is higher than the state rate and has been since 2015.
- The median household income is lower than the state average household income.
- The percentage of persons in poverty is below the state percentage.

Table 2: Natrona County Economic Indicators

Economic Indicators		
	Natrona	Wyoming
Unemployment Rate, 2016	7.10%	5.30%
Median Household Income, 2016	$56,983.00	$59,143.00
% Population employed 16 years and over	69.20%	67.20%
Persons in poverty	10.70%	11.30%
Children in poverty	11.00%	12.00%

Source: County Health Rankings
U.S. Census Bureau

Figure 8: Changes in Unemployment, Natrona County, 2010-2017



Source: Bureau of Labor Statistics

Education

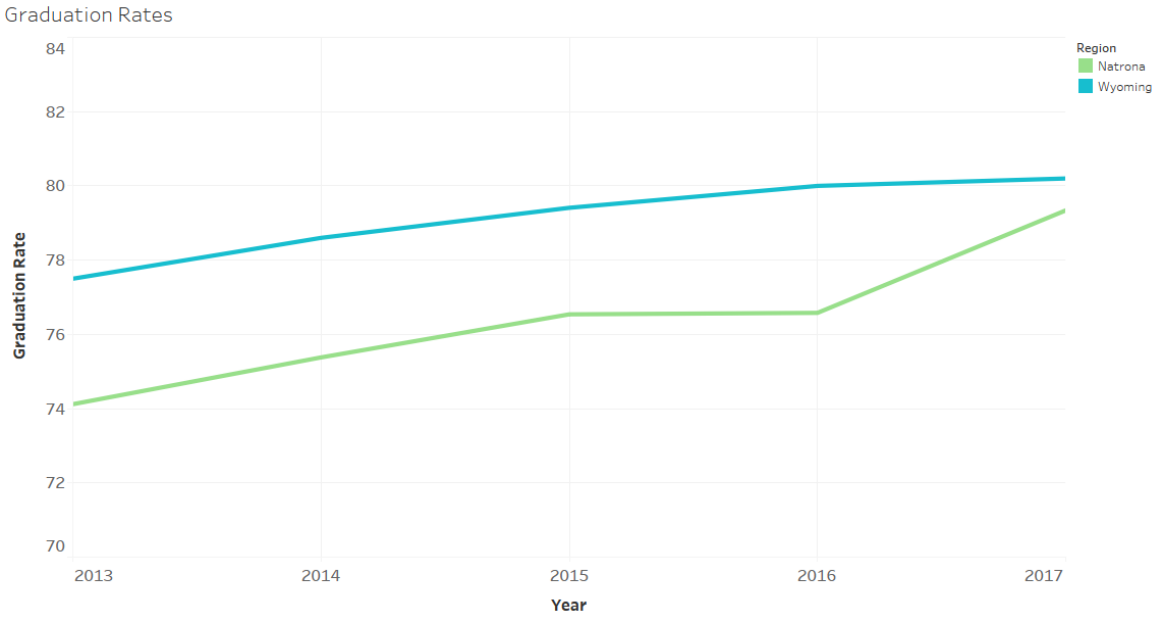
- Table 3 provides details on the number of elementary, middle, and high schools in Natrona County, as well as total enrollment, percent of students that qualify for free or reduced lunches, graduation rate, and education attainment for adults.
- Natrona County has a total of 32 schools with a total enrollment of 12,597 students. 39% of enrolled students qualify for free or reduced lunches.
- Natrona County's graduation rate is 79.34% and has been rising.

Table 3: Natrona County Education 2017-2018 School Year

Natrona County Education Information, 2017-2018 School Year		
Total Number of Schools	Elementary	22
	Middle	6
	High	4
Total Enrollment		12,597
% Students Qualifying for Free/Reduced Lunch		39%
2017 Graduation Rate		79.34%
Education Attainment		
No Degree		5.90%
High school		33.90%
Some college		36.70%
Bachelor's		14.30%
Post-grad		9.20%

Sources: U.S. Census Bureau, Natrona County School District

Figure 9: Graduation Rates, Natrona County, 2013-2017



Source: Natrona County School District

HEALTH CARE ACCESS

Access to health care relies on financial coverage and access to providers in the area. Being uninsured negatively affects the access to health care. Individuals without insurance are less likely to receive regular medical care and are more likely to go without any care.

- 14% of Natrona residents are uninsured.
- 16.7% of Natrona residents report being in fair or poor health

Table 4: Natrona County and Wyoming Insurance Coverage

Insurance		
	Wyoming	Natrona
% Uninsured	13.00%	14.00%
% Medicare	16.80%	17.30%
% Medicaid	14.6%	16.4%

Source: County Health Rankings
Centers for Medicare and Medicaid Services
Wyoming Department of Health

The amount of health services available in the community is an indicator of access to health care.

Table 5: Natrona County Health Care Resources

Provider Rates for Natrona County and Wyoming		
	Natrona	Wyoming
Primary care physicians, ratio of population to primary care physicians	1,390:1	1,500:1
Dentists, ratio of population to primary care physicians	1,370:1	1,560:1
Mental health providers, ratio of population to primary care physicians	270:1	330:1

Source: County Health Rankings

Table 6: Number of Licensed Healthcare Facilities and Beds for Natrona County

Number of Licensed Healthcare Facilities and Licensed Beds for Natrona County		
Facility Type	Number of Licensed Facilities	Number of Licensed Beds
Assisted Living Facilities	5	425
Ambulatory Surgical Center	4	N/A
Boarding Homes	1	26
End Stage Renal Dialysis Centers	2	25
Federally Qualified Health Centers	3	N/A
Home Health Agency	9	N/A
Hospitals	3	251
Hospice Facility	2	18
Nursing Homes	3	432

Source: Wyoming Department of Health Healthcare Licensing and Surveys

LEADING CAUSES OF DEATH

Leading Cause of Mortality

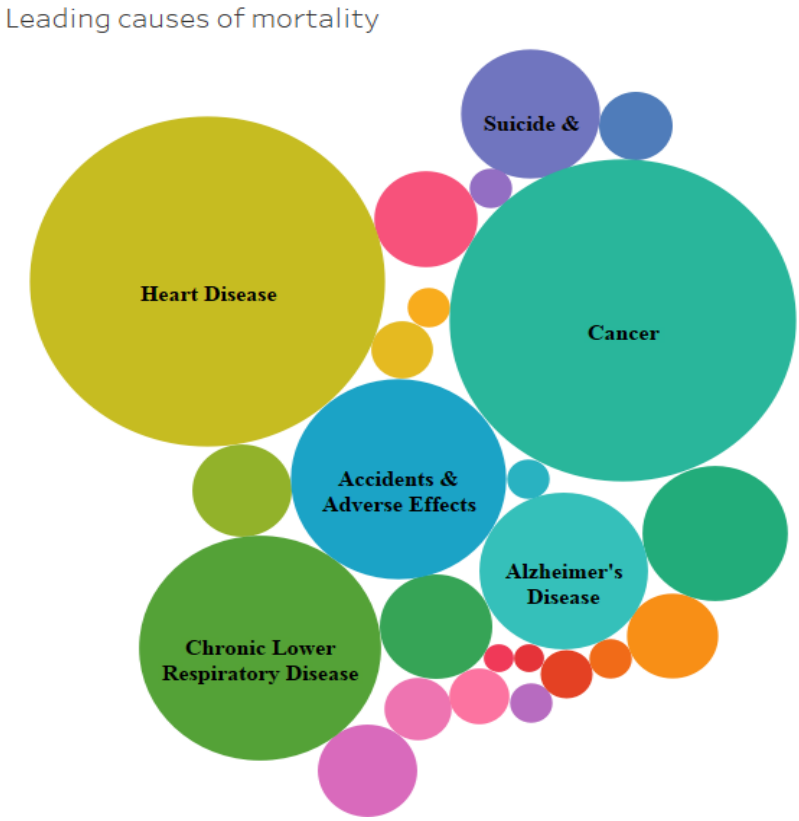
- Heart disease and cancer are the leading causes of death in Natrona County.
- From 2011-2015, the average deaths per year caused by heart disease is 150 deaths.

Table 7: Natrona County Leading Causes of Death, 2011–2015

Leading Causes of Death for Natrona County Residents, 2011-2015
Heart Disease
Cancer
Chronic Lower Respiratory Disease
Accidents & Adverse Effects
Alzheimer's Disease
Suicide

Source: National Institute on Minority Health and Health Disparities

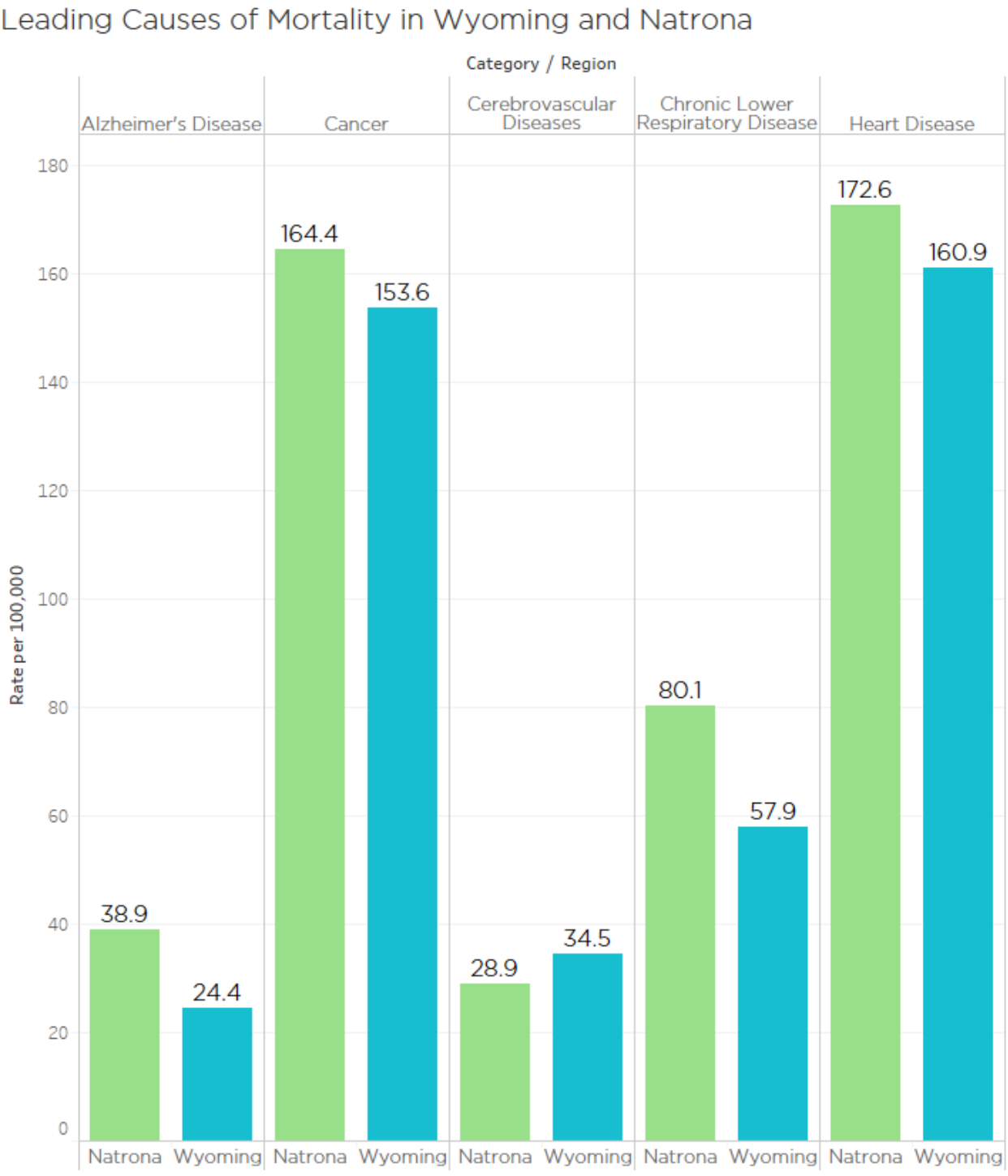
Figure 10: Leading Causes of Mortality, Natrona County, 2011–2015



Source: National Institute on Minority Health and Health Disparities

Natrona County has higher rates in 4 out of 5 of the leading causes of mortality compared to Wyoming state rates.

Figure 11: Leading Causes of Mortality for Wyoming and Natrona County, 2011-2015, Rate per 100,000

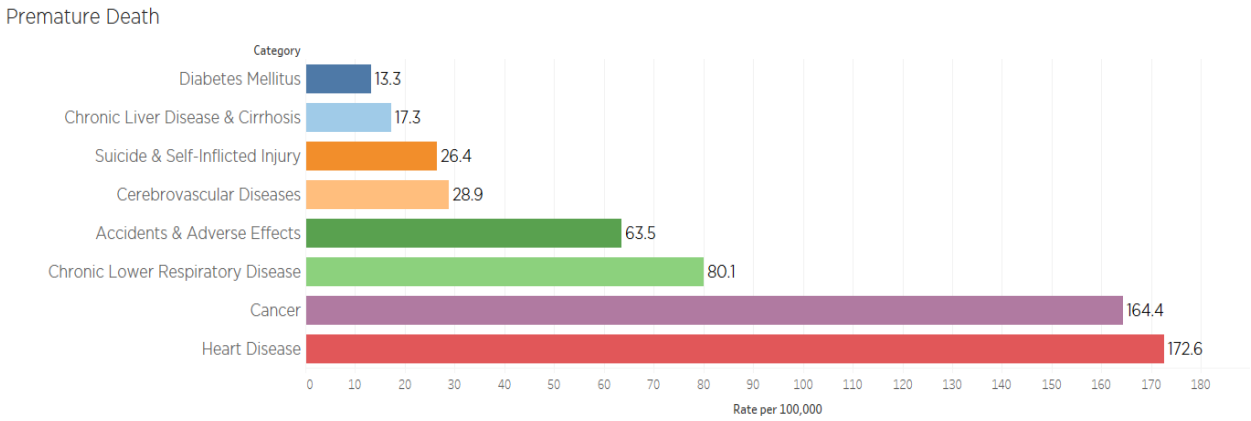


Source: National Institute on Minority Health and Health Disparities

Leading Causes of Premature Deaths

- The top 5 leading causes of premature death in Natrona County are cancer, heart disease, chronic lower respiratory disease, accidents & adverse effects, and cerebrovascular diseases.
- Premature death is considered death occurring before the age of 75.

Figure 12: Causes of Premature Death, Natrona County, 2011-2015, Rate per 100,000



Source: National Institute on Minority Health and Health Disparities

CHRONIC DISEASE

"Heart disease, stroke, cancer, type 2 diabetes, obesity, and arthritis are among the most common, costly, and preventable of all health problems" according to the U.S. Centers for Disease Control and Prevention (US CDC Chronic Disease Overview). Many of these chronic conditions can be prevented or lessened through health behaviors. Health behaviors that put individuals at risk for these chronic conditions are referred to as risk behaviors. The most common risk behaviors are poor nutrition, tobacco use, excessive alcohol use, and lack of physical activity.

Cardiovascular Disease

Heart disease is the leading cause of death in Natrona County (HDPulse). According to the American Heart Association, in 2016, cardiovascular disease cost the United States $555 billion dollars (Healthmetricsheart.org). This cost includes medical treatment for high blood pressure, coronary heart disease (CHD), congestive heart failure (CHF), stroke, atrial fibrillation (Afib), and other heart diseases. Cardiovascular disease (CVD) includes all diseases of the heart and blood vessels. Modifiable risk factors for CVD include physical inactivity, tobacco use, diet, alcohol use, high cholesterol, hypertension, and obesity. Family history, a nonmodifiable risk factor, may make an individual more susceptible to CVD.

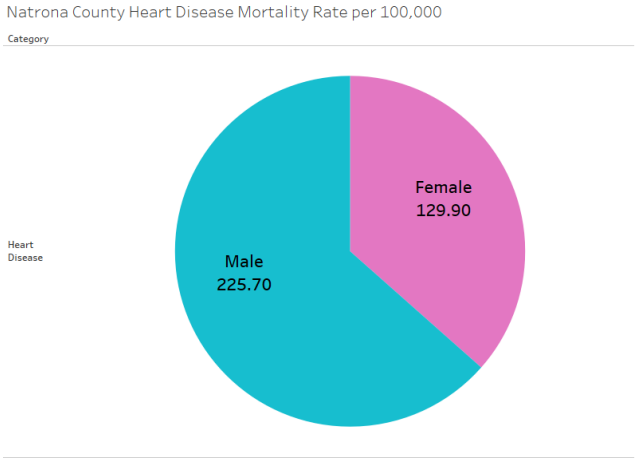
Natrona County has a higher rate than Wyoming and the United States for heart disease mortality. Natrona County has a rate of 172.6 per 100,000 population.

Figure 13: Heart Disease Mortality, Natrona County, Wyoming and United States, 2011-2015, Rate per 100,000

Source: National Institute on Minority Health and Health Disparities

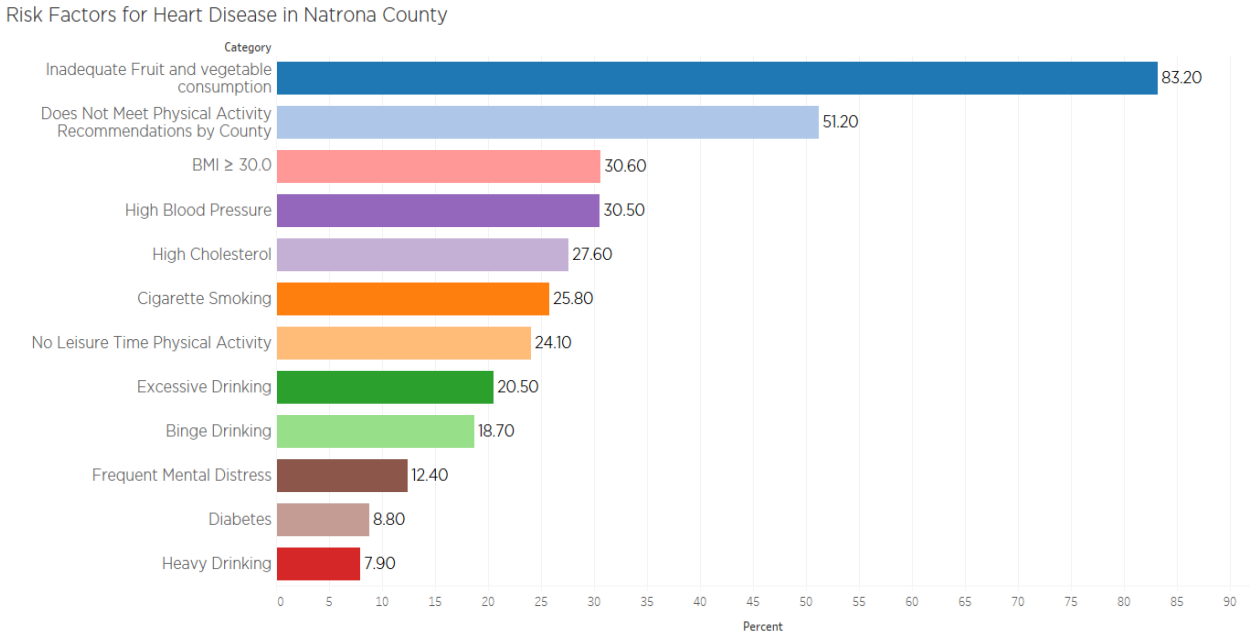
- When comparing genders, males have a higher risk than females for heart disease.
- A body mass index (BMI) of 30 or over is considered obese; 46.8 percent of Natrona are considered obese according to the Wyoming BRFSS.
- 30.5% of Natrona have high blood pressure and 27.6% have high cholesterol.

Figure 14: Heart Disease Mortality by Gender, Natrona County, 2011-2015



Source: National Institute on Minority Health and Health Disparities

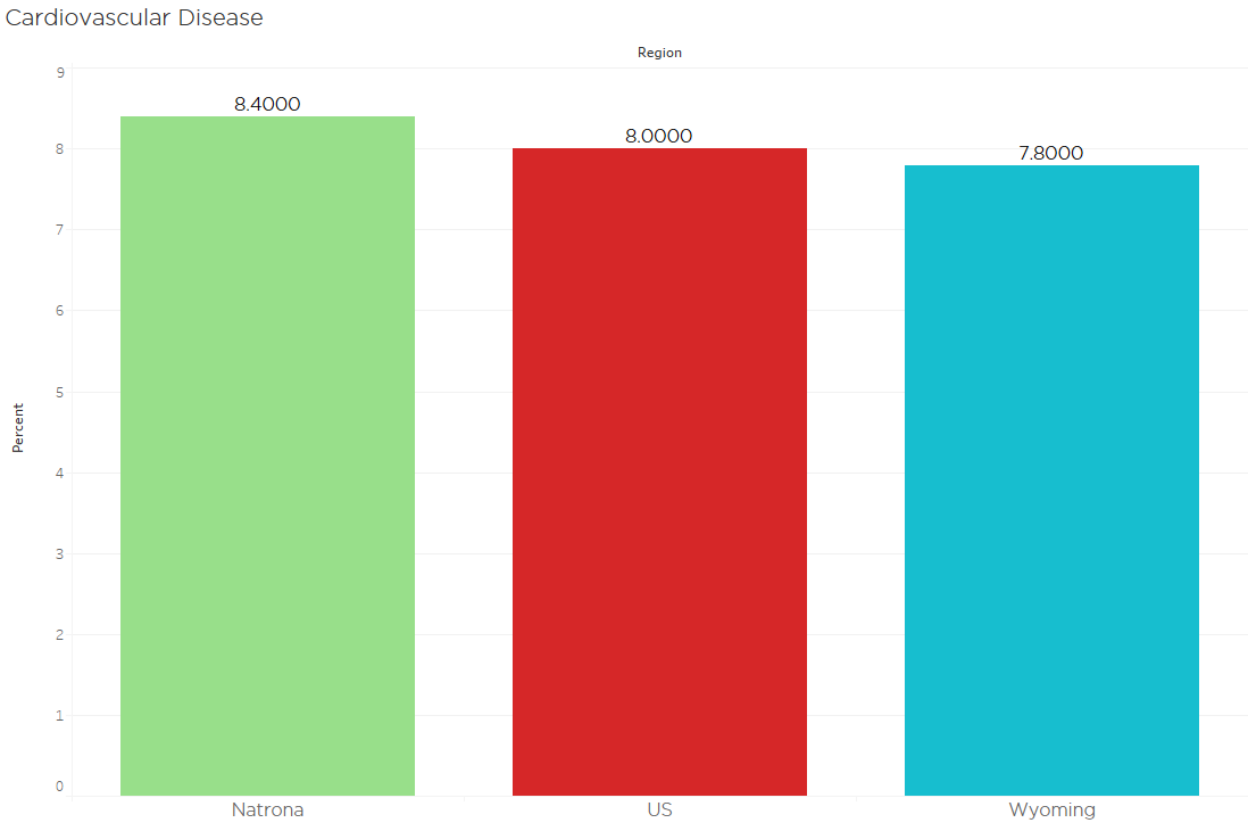
Figure 15: Heart Disease Risk Factors Among Natrona County Adults, 2015



Source: 2015 Wyoming BRFSS

- 8.4% of Natrona County adults report having coronary heart disease, angina, a heart attack, or stroke. 7.8% of Wyoming adults report CVD and 6.4% of United States adults report CVD.

Figure 16: Adults Reporting Cardiovascular Disease, Natrona County, Wyoming, and United States, 2015



Source: 2015 Wyoming BRFSS

Cancer

Cancer is a disease that occurs when the body's cells divide without stopping. These cells then invade surrounding tissues creating different types of cancer. The cancer cells can spread to other parts of the body through the lymphatic system or the blood. This spread is called metastasize. According to the American Institute for Cancer Research "1/3 of most common cancers in the US could be prevented". Preventable cancers include; breast, colorectal, endometrial, esophageal, gallbladder, kidney, liver, lung, mouth, pharyngeal and laryngeal, ovarian, pancreatic, prostate, and stomach (National Cancer Institute).

Table 8: Incidence of Common Cancers, Natrona County and Wyoming, 2011-2015

Type of Cancer	Age-Adjusted Incidence (per 100,000)	
	Natrona County	Wyoming
Breast (Female only)	118.98	112.51
Prostate	97.76	102.87
Lung	54.44	44.36
Colorectal	34.84	33.24

Source: Wyoming Department of Health Wyoming Cancer Program

- Natrona County has higher incidence of lung and colorectal cancers than the incidence among Wyoming residents.
- Natrona County has higher incidence of breast and prostate cancers than the incidence among Wyoming residents.

Table 9: Mortality of Common Cancers, Natrona County and Wyoming, 2011-2015

Type of Cancer	Age-Adjusted Mortality (per 100,000)	
	Natrona County	Wyoming
Breast (Female only)	19.48	18.55
Prostate	19.32	16.02
Lung	38.44	35.04
Colorectal	13.47	13.18

Source: Wyoming Department of Health Wyoming Cancer Program

- Natrona County has higher mortality of breast, prostate, lung, and colorectal cancers than the incidence among Wyoming residents.

Table 10: Percentage of Cancers Diagnosed in Late Stage, Natrona County and Wyoming, 2011–2015

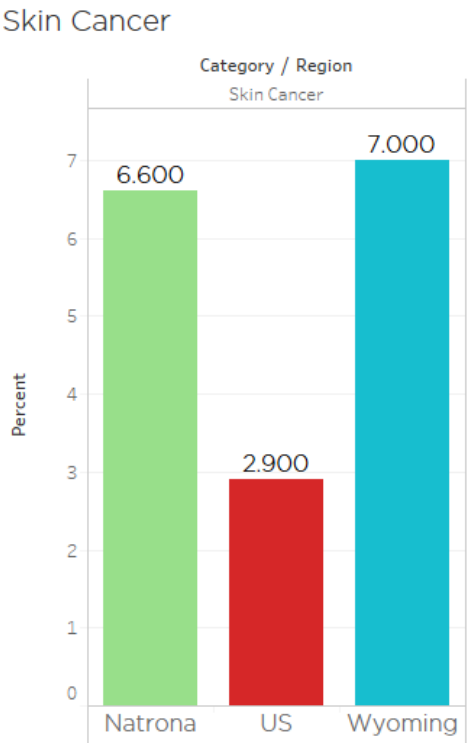
Type of Cancer	Percent of Cancers Diagnosed in Late Stage	
	Natrona County	Wyoming
Breast (Female only)	25.8%	27.8%
Colorectal	52.0%	51.0%

Source: Wyoming Department of Health Wyoming Cancer Program

- Improved screening for colorectal cancer would improve early detection and diagnosis for patients with colorectal cancer, and would ultimately improve patient outcomes.

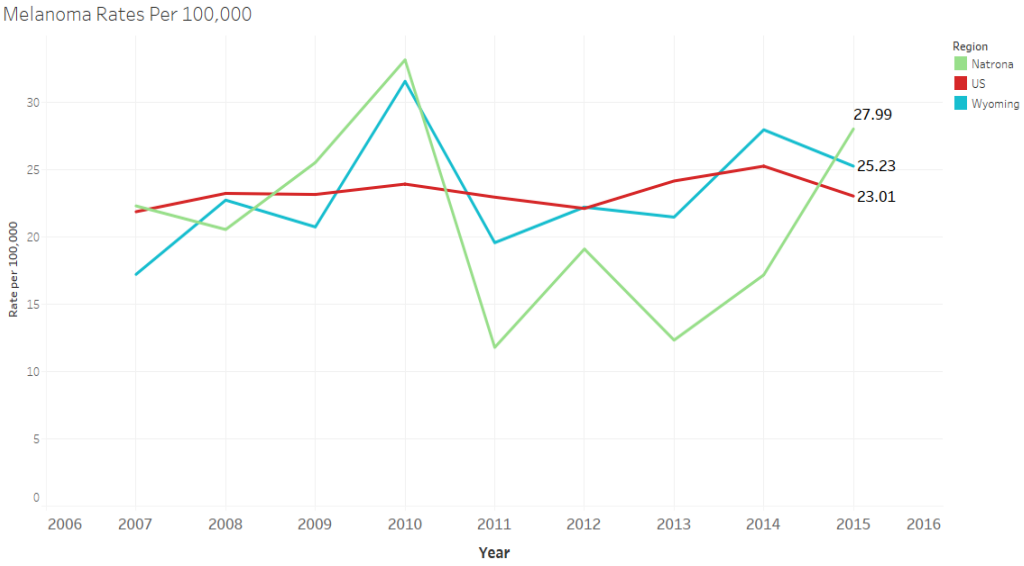
- 6.6% of Natrona County adults report skin cancer while 2.9% of United States adults report skin cancer.
- Natrona County and Wyoming melanoma rates have been sporadic but consistently above the national rate.

Figure 17: Skin Cancer, Natrona County, Wyoming and United States, 2015



Source: 2015 Wyoming BRFSS

Figure 18: Melanoma Rates, Natrona County, Wyoming, and United States, 2006-2016



Source: Wyoming Department of Health Chronic Disease and Maternal Child Health Epidemiology Unit

- Individuals with fair skin are more prone to developing melanoma. Wyoming's population is predominantly white increasing the state and county odds of having a higher melanoma rate.
- Living at higher elevation also increases the risk of developing melanoma. Natrona County's elevation is 5,604 feet.

Table 11: Cancer Screening Habits, Natrona County, Wyoming and United States for 2012, 2014, and 2016.

Cancer Screening Indicators			
	Natrona County	Wyoming	US Median 2016
Women age 40 and older who report not having a mammogram within the past two years	38.6	39.0	27.5
Wyoming women with intact cervix-uteri who report not having a Pap smear within the past three years	23.8	33.2	28.1
Wyoming adults age 50 and older reporting never having a colonoscopy or sigmoidoscopy	59.8	65.2	70.4

Source: 2015 Wyoming BRFSS, Wyoming Department of Health Wyoming Cancer Program

- Indicators for cancer screening for breast, cervical, and colorectal cancer in Natrona County are higher than state averages; however, we could specifically improve rates of mammography for women aged 40 and older.

Table 12: Natrona County and Wyoming Routine care

Percent of Adults Reporting Routine Care	Natrona	Wyoming
Did not have a routine checkup in the past 2 years.	26.80%	24.90%
Female Medicare enrollees ages 67-69 that receive mammography screening	55.00%	56.00%

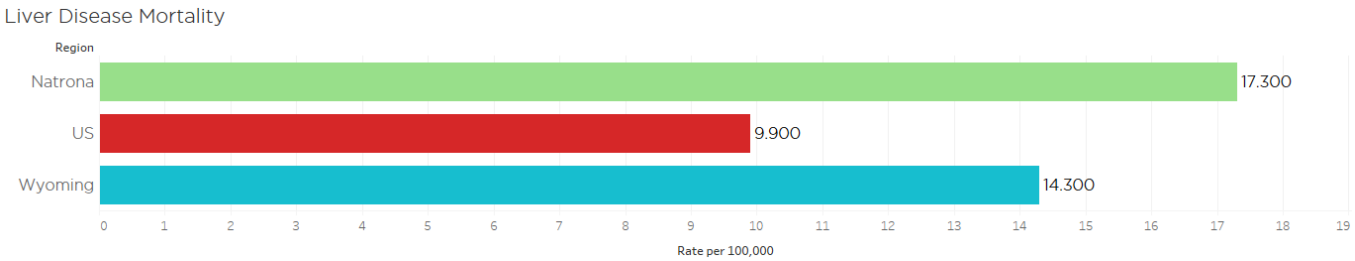
Source: 2015 Wyoming BRFSS, County Health Rankings

Natrona County follows closely with the percentage of adults who report not having a routine checkup in the past 2 years. 19.7% of United States adults report they did not have a routine checkup in the past 2 years.

Liver Disease

Liver disease can be caused by excessive drinking overtime. Liver disease caused by alcohol is called alcoholic liver disease. Alcoholic liver disease is a term that encompasses fatty liver, alcoholic hepatitis, and chronic hepatitis with liver fibrosis or cirrhosis. Natrona County chronic liver disease and cirrhosis mortality is 52 per 100,000 population which is higher than Wyoming's rate of 42.8 per 100,000 population and United States' rate of 30 per 100,000 population.

Figure 19: Chronic liver disease and cirrhosis mortality, Natrona County, Wyoming, and United States, 2011–2015



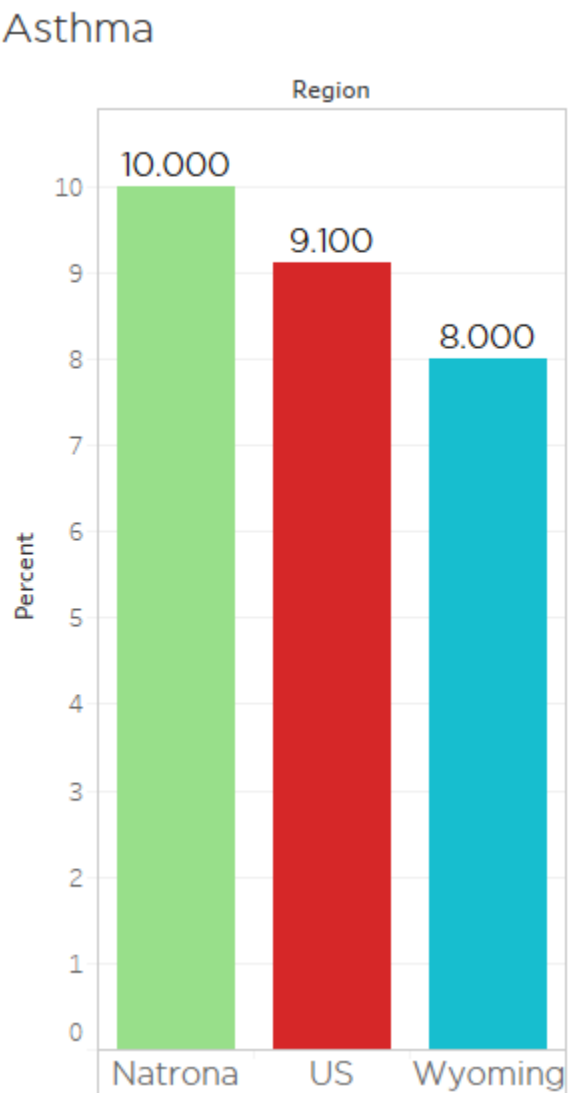
Source: National Institute on Minority Health and Health Disparities

Asthma

Asthma is a chronic respiratory disease that involves the airways in the lungs. These airways allow air to enter and exit the lungs. Asthma causes the airways to become inflamed, swollen, and causes the muscles around the airways to tighten when asthma is triggered. Triggers for asthma may include exercise, allergies, pollution, smoke, fumes, gases, and dust.

- Natrona has a higher rate of adults reporting having asthma. 10% of Natrona County adults report having asthma.
- Risk factors for asthma include: family history, having another allergic condition, being overweight, being a smoker, exposure to secondhand smoke, exposure to exhaust fumes or other types of pollution, exposure to occupational triggers.

Figure 20: Adults reporting having ever been told by a doctor they have asthma, Natrona County, Wyoming, and United States, 2015



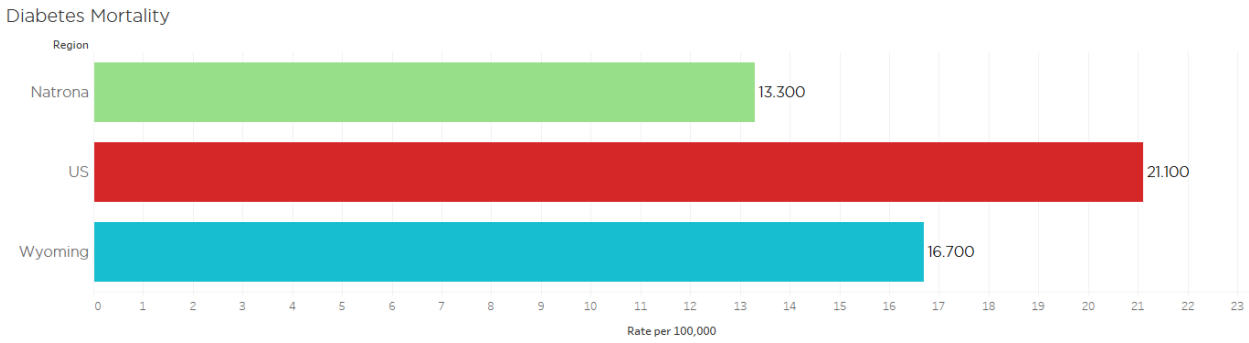
Source: 2015 Wyoming BRFSS

Diabetes

Diabetes mellitus results from the body's inability to produce and/or use insulin made by the pancreas. It causes elevated blood sugar levels. Diabetes can lead to additional health problems; heart disease, blindness, kidney failure, and lower extremity amputations. There are 4 categories of diabetes. Type 1 diabetes is a chronic condition in which the pancreas cannot produce sufficient insulin. Type 2 diabetes is a chronic condition that affects the way the body uses glucose. Prediabetes is a condition in which blood sugar is elevated but not elevated enough to be type 2 diabetes. Gestation diabetes is elevated blood sugar levels in pregnant women.

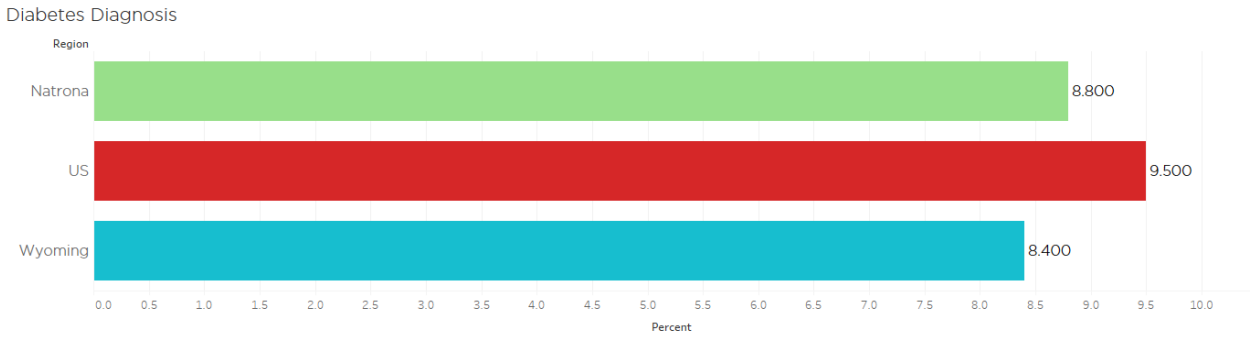
- Diabetes mortality rate in Natrona is significantly lower than the national rate of 64.2 per 100,000 population. Natrona County diabetes mortality rate is 40.7 per 100,000 population.
- Natrona continues to stay below national percentage of adults who report they were told by a doctor they have diabetes. 8.8% of Natrona County adults report a diabetes diagnosis.

Figure 21: Diabetes mortality, Natrona County, Wyoming, and United States, 2011-2015



Source: National Institute on Minority Health and Health Disparities

Figure 22: Adults reporting diabetes diagnosis, Natrona County, Wyoming, and United States, 2015



Source: 2015 Wyoming BRFSS

Overweight/Obesity

Overweight and obesity are terms used to describe a weight that is not considered healthy. Overweight is considered an individual with a body mass index of 25-29.9. Obesity is having a body mass index 30 or higher. Risks associated with being overweight or obese include:

- Coronary heart disease
- Type 2 diabetes
- Cancer
- High blood pressure
- High cholesterol
- Stroke
- Liver and gallbladder disease
- Sleep apnea and respiratory problems
- Osteoarthritis
- Gynecological problems

Factors that contribute to being overweight or obese are caloric intake, environment, activity levels, genetics, and medication.

In Natrona County

- 31% of Adults report being obese
- 24.1% of adults report no leisure time physical activity.
- In Natrona County, there are only 13 grocery stores per 100,000 compared to 63 grocery stores per 100,000 in Wyoming's best county for access to grocery stores.
- In Natrona County, there are 84 fast food restaurants per 100,000 compared to 25 fast food restaurants per 100,000 in Wyoming's best county for fast food access.

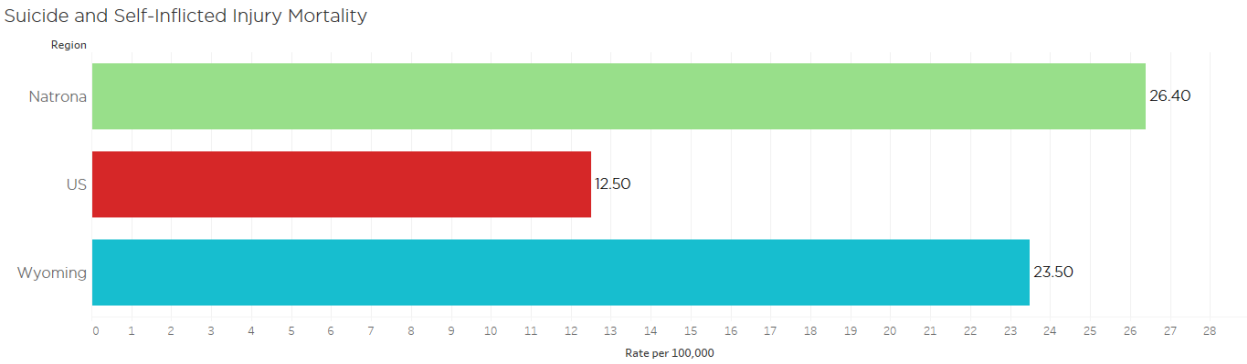
Source: County Health Rankings, 2015 Wyoming BRFSS, National Initiative for Children's Health Quality

SUICIDE

Suicide is a serious public health problem that can have lasting harmful effects on individuals, families, and communities. While its causes are complex and determined by multiple factors, the goal of suicide prevention is simple: Reduce factors that increase risk (i.e. risk factors) and increase factors that promote resilience (i.e. protective factors).
Suicide is the 10th leading cause of death in the United States. It was responsible for 44,193 deaths in 2015. In 2015, 9.8 million American adults reported seriously thinking about suicide, 2.7 million made a plan, and 1.4 million attempted suicide.

- Suicide rates are high in Natrona County compared to the national and state rates.

Figure 23: Suicide Rates for United States, Wyoming, and Natrona County 2011-2015



Source: National Institute on Minority Health and Health Disparities

Table 13: Suicide Risk Factors

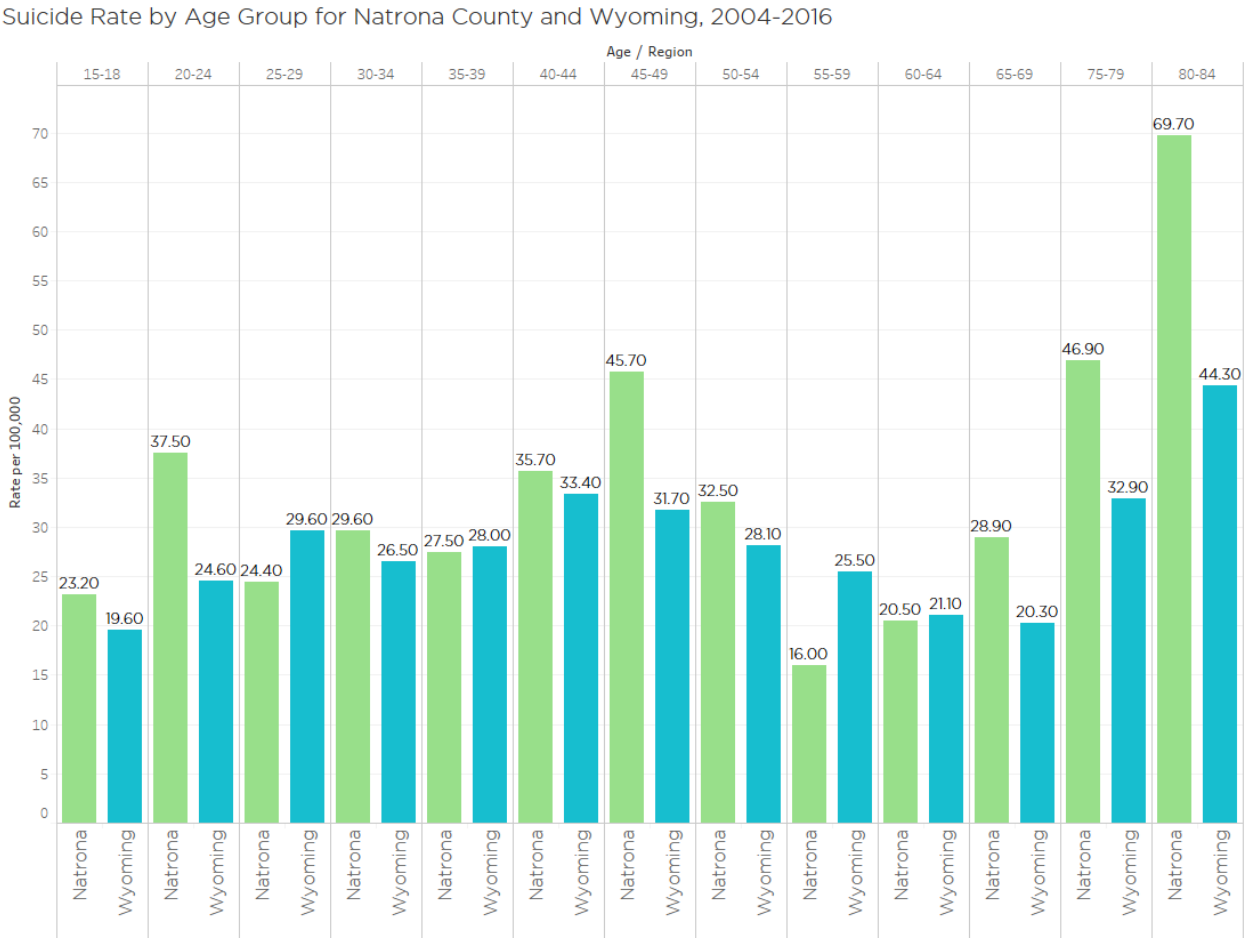
Suicide Risk Factors
Drinking
Mental Disorder/Distress
Chronic Health Conditions
Self & Family History of Self Harm

- 18.7% of Natrona County residents reported binge drinking, 20.5% of Natrona County residents reported excessive drinking, and 7.9% of Natrona County residents reported heavy drinking.

- 12.4% of Natrona County residents reported frequent mental distress and 12.3% of Natrona County residents report frequent physical distress.

Source: 2015 Wyoming BRFSS

Figure 24: Suicide Rate by Age Group for Natrona County and Wyoming, 2004-2016



Source: Wyoming Department of Health Injury Prevention Program

- The age group 80-84 has the highest suicide rate in Natrona County, 69.7 per 100,000. This rate is higher than the Wyoming age group 80-84 suicide rate of 44.3.

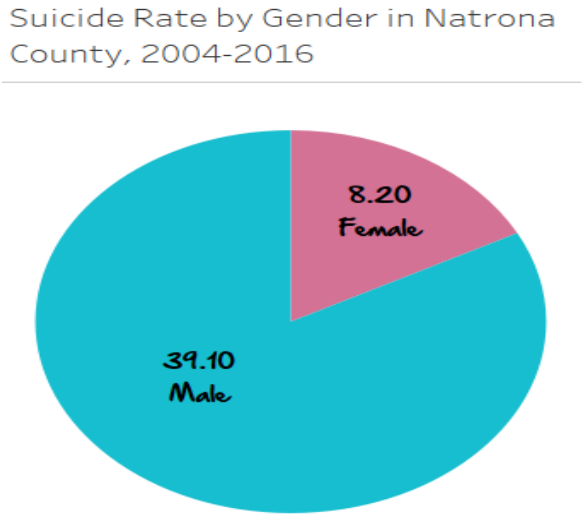
- Ages 50-54 years has the highest suicide count from 2004-2016 in Natrona County.

Table 14: Suicide Rate and Count for Natrona County and Wyoming, 2004-2016

Suicide Rates by Age Groups for Natrona County and Wyoming			
	Natrona County		Wyoming
Age Group	Crude Rate	Count	Crude Rate
15-18 years	23.2	15	19.6
20-24 years	37.5	26	24.6
25-29 years	24.4	18	29.6
30-34 years	29.6	20	26.5
35-39 years	27.5	17	28
40-44 years	35.7	22	33.4
45-49 years	45.7	31	31.7
50-54 years	32.5	24	28.1
55-59 years	16	11	25.5
60-64 years	20.5	11	21.1
65-69 years	28.9	11	20.3
75-79 years	46.9	11	32.9
80-84 years	69.7	13	44.3

Source: Wyoming Department of Health Injury Prevention Program

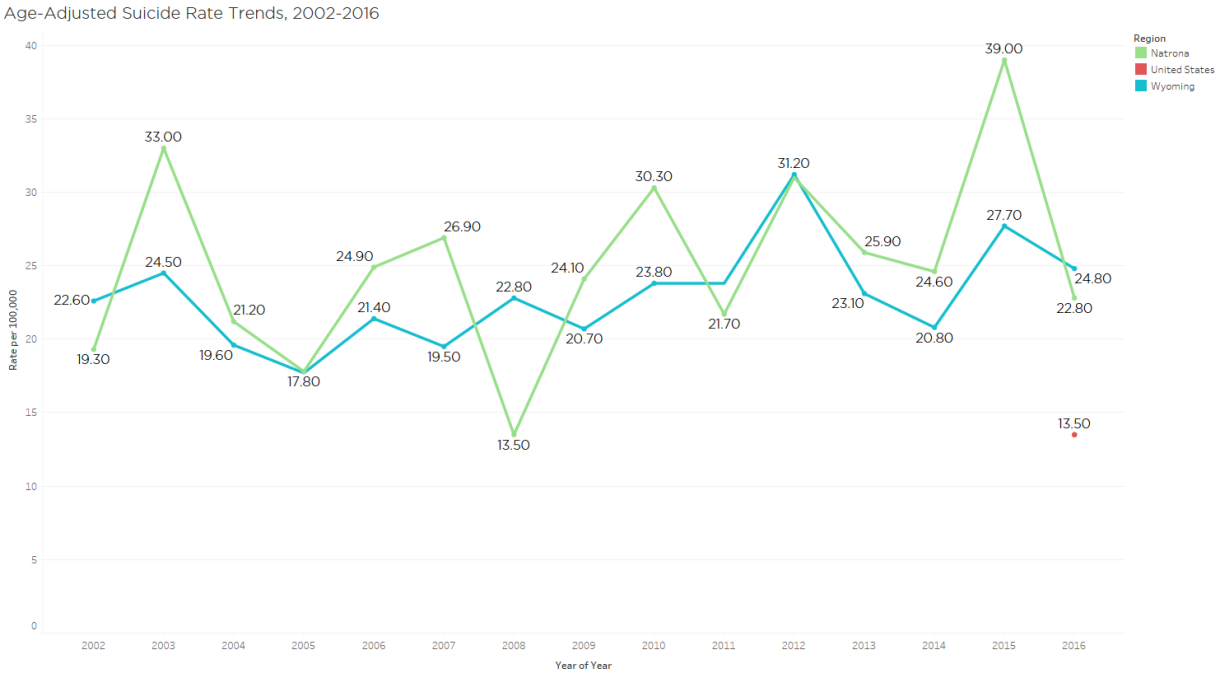
Figure 25: Suicide Rate by Gender in Natrona County, 2004-2016



Source: Wyoming Department of Health Injury Prevention Program

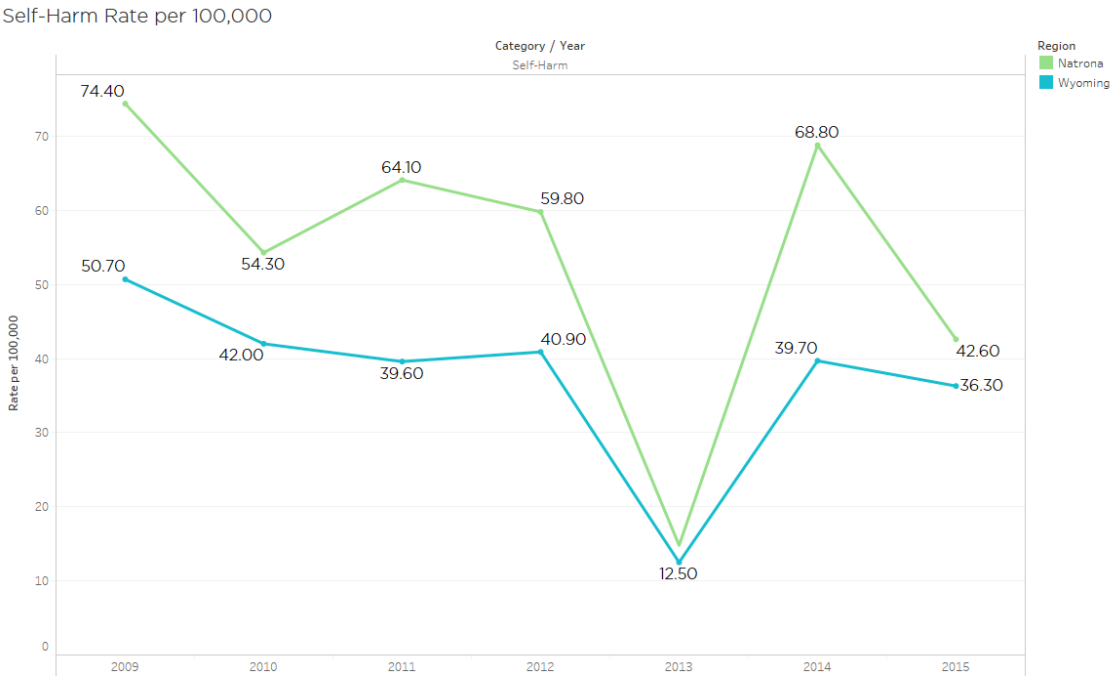
- Males in Natrona County have a higher suicide rate than females. Males have a rate of 39.10 per 100,000 for suicide while female's rate is 8.2 per 100,000.
- Natrona County suicide rate was recently below Wyoming's rate in 2016 with an age-adjusted rate of 22.8 per 100,000.
- Natrona County's 10-year age-adjusted suicide rate is 24.9 per 100,000. This rate is above the 10-year age-adjusted suicide rate for Wyoming that is at 23 per 100,000.
- Natrona County and Wyoming are both above the 2016 United States age-adjusted suicide rate. The United States age-adjusted suicide rate for 2016 was 13.5.

Figure 26: Age-Adjusted Suicide Rate Trends in Natrona County and Wyoming, 2002-2016



Source: US Centers for Disease Control and Prevention, Wyoming Department of Health Injury Prevention Program

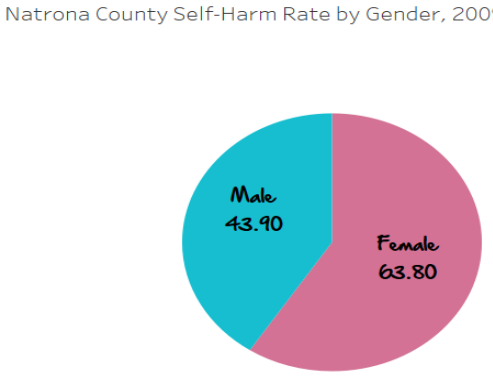
Figure 27: Self-Harm Rate per 100,000 for Natrona County and Wyoming, 2009-2015



Source: Wyoming Department of Health Injury Prevention Program

- Natrona County continually stays above the Wyoming rate of self-harm. In 2015 the Natrona County self-harm rate was 42.6 per 100,000.

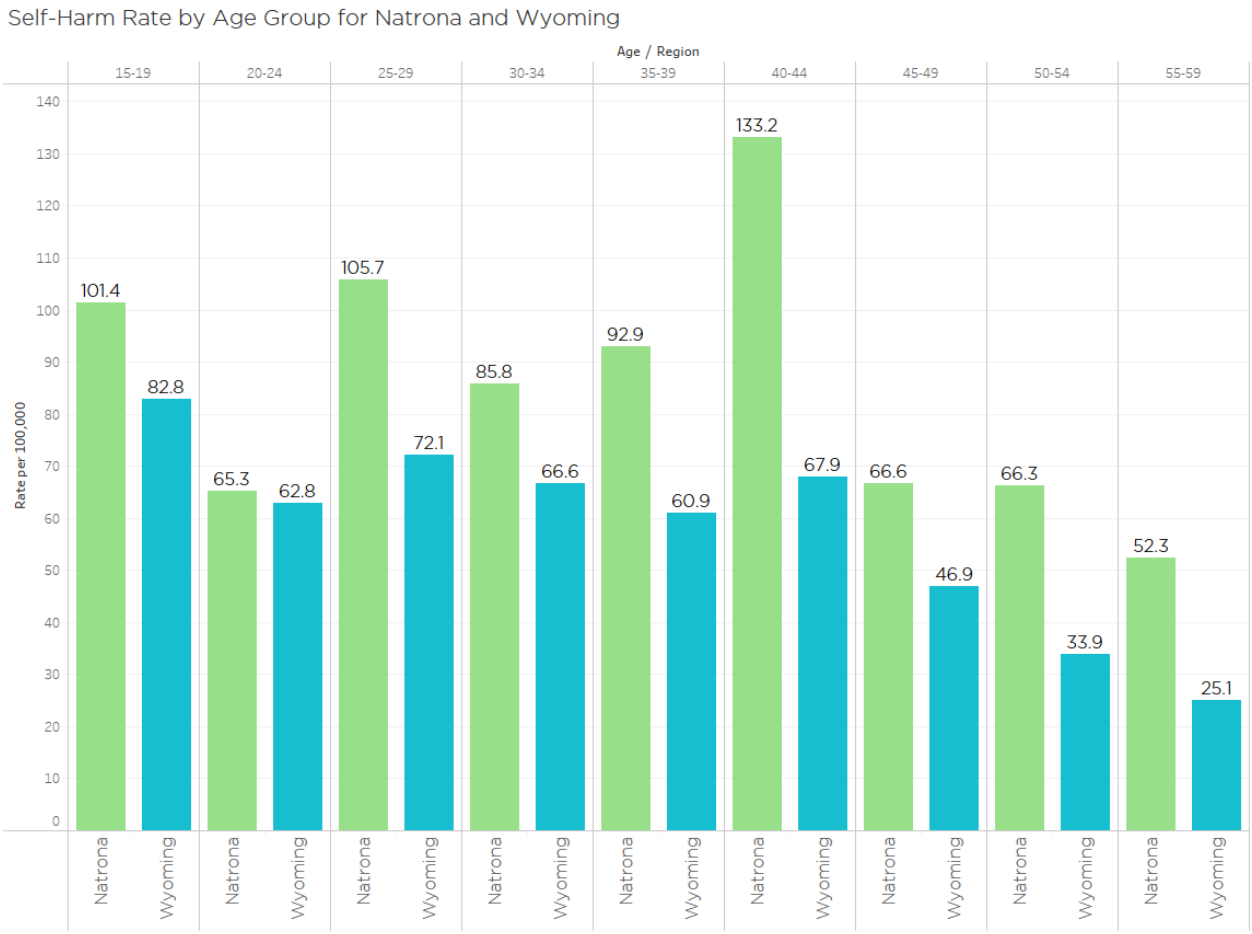
Figure 28: Natrona County Self-Harm Rate by Gender, 2009-2015



Source: Wyoming Department of Health Injury Prevention Program

- Natrona County Females have a higher rate of self-harm than males. These rates are based off of data collected from 2009-2015.

Figure 29: Self-Harm Rate by Age Group for Natrona and Wyoming, 2009-2015



Source: Wyoming Department of Health Injury Prevention Program

- Individuals aged 40-44 years have a higher rate of self-harm in Natrona County.
- All of the self-harm age groups for Natrona County have a higher rate than Wyoming self-harm rates.

ALCOHOL AND TOBACCO USE

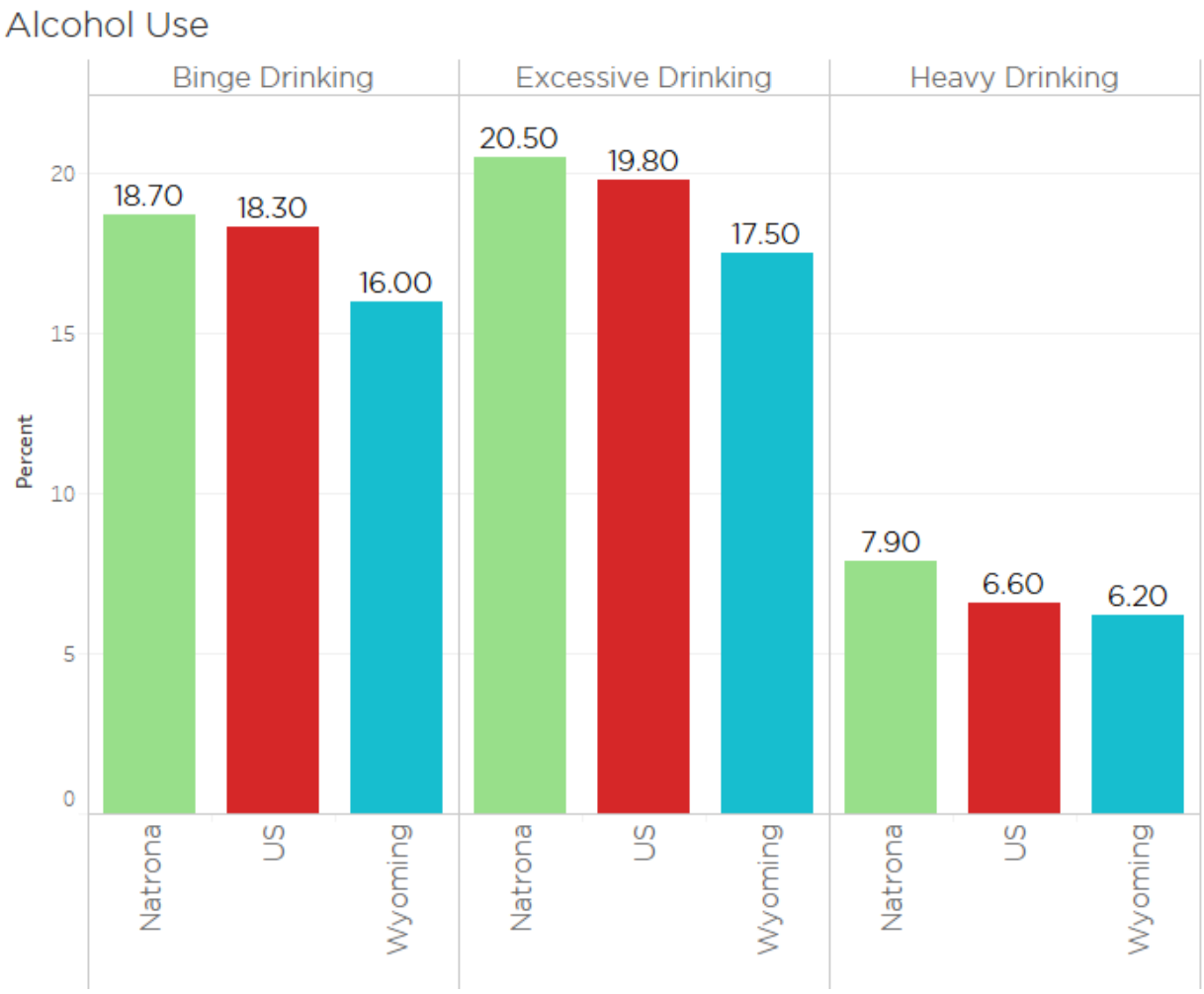
Excessive alcohol use overtime can lead to complications. Alcohol depresses the central nervous system which affects speech, muscle coordination, and vital centers of the brain. Binge drinking can cause life-threatening conditions such as coma or death. Drinking too much alcohol overtime can lead to:

- Liver disease
- Digestive problems
- Heart problems
- Diabetes complications
- Eye problems
- Birth defects
- Bone damage
- Neurological complications
- Weakened immune system
- Increased risk of cancer

In Natrona County, 18.7% of adults report binge drinking. 16% of Wyoming adults and 18.3% of United States adults report binge drinking. Binge drinking is considered men reporting having 5 or more drinks on an occasion at least once in the past 30 days and women reporting 4 or more drinks on an occasion in past 30 days.

Source: 2015 Wyoming BRFSS

Figure 30: Adult Alcohol Use, Natrona County, Wyoming, and United States, 2015



Source: 2015 Wyoming BRFSS

- Natrona County has a higher percentage of adults who report binge drinking and heavy drinking than the United States and Wyoming.
- Heavy drinking is men who report drinking more than 60 drinks of alcohol in the past 30 days, or women reporting drinking more than 30 drinks in the past 30 days.
- 7.9% of Natrona County adults report heavy drinking.
- Excessive drinking is adults who reported binge drinking or heavy drinking. 20.5% of Natrona County adults reported excessive drinking.

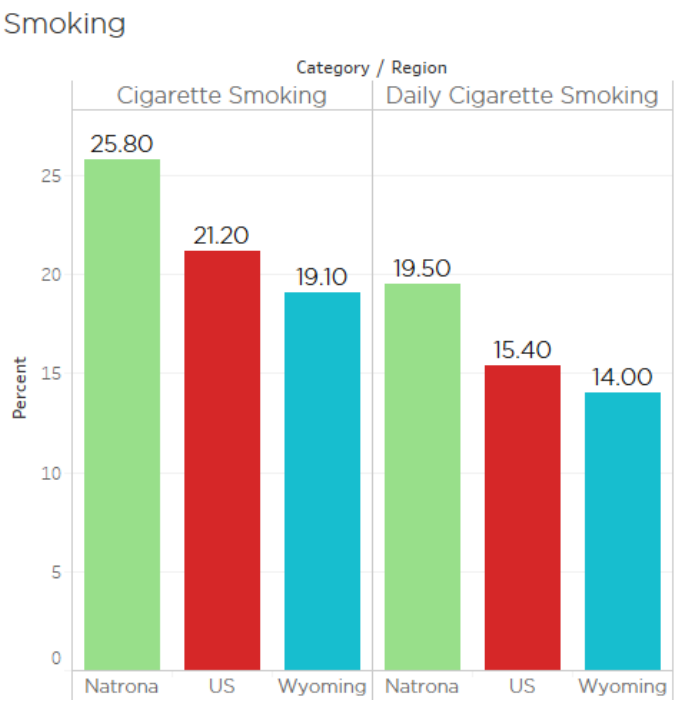
Smoking

Smoking harms nearly every organ in the body. Smoking can be responsible for many cancers and health problems that include:

- Lung disease
- Heart and blood vessel disease
- Stroke and cataracts
- Pregnancy problems including an increased risk of Sudden Infant Death Syndrome (SIDS)

Smoking also causes harm to those surrounding an individual who smokes. More than 480,000 deaths annually (including secondhand smoke) are caused by smoking in the United States. In Natrona County 19.5% of adults report being a current smoker that smokes cigarettes every day compared to 14% of Wyoming adults reporting being a current smoker.

Figure 31: Cigarette Smoking, Natrona County, Wyoming, and United States, 2015



Source: 2015 Wyoming BRFSS

- Cigarette smoking is defined as an adult reporting having smoked at least 100 cigarettes in their lifetime and are currently smoking every day or some days. In Natrona County, 25.8% of adults report cigarette smoking.
- Daily cigarette smoking is defined as adults reporting currently smoking cigarettes every day. 19.5% of Natrona County adults report daily cigarette smoking.
- Natrona county is above the United States' and Wyoming percentage of adults who report cigarette smoking and daily cigarette smoking

BEHAVIORAL AND MENTAL HEALTH

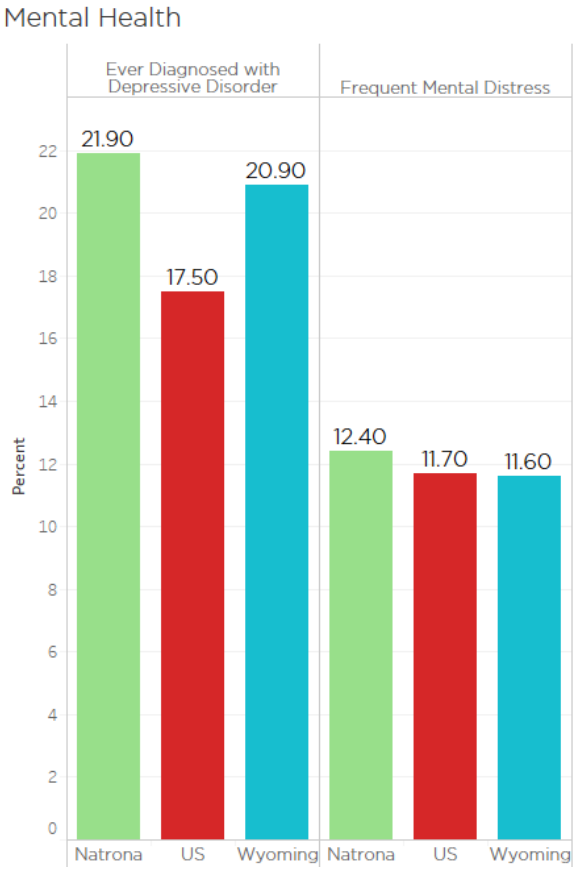
Mental and physical health are equally important components of overall health. Mental illness, especially depression, increases the risk for many types of physical health problems, particularly long-lasting conditions like stroke, type 2 diabetes, and heart disease. Similarly, the presence of chronic conditions can increase the risk for mental illness. Mental illnesses are among the most common health conditions in the United States.

- 1 in 5 Americans will experience a mental illness in a given year.
- 1 in 5 children, either currently or at some point during their life, have had a seriously debilitating mental illness.
- 1 in 25 Americans lives with a serious mental illness, such as schizophrenia, bipolar disorder, or major depression.

- Natrona has a higher percentage of adults reporting having been told they had a depressive disorder than the United States' and Wyoming's percentage of adults reporting ever being diagnosed with a depressive disorder.

- 21.9% of Natrona County adults report being diagnosed with a depressive disorder and 12.4% of adults in Natrona County report their mental health was not good for 14 or more of the past 30 days.

Figure 32: Self-Reported Mental Health Outcomes, Natrona County, Wyoming, and United States, 2015



Source: 2015 Wyoming BRFSS

MATERNAL AND CHILD HEALTH

Maternal and child health (MCH) focuses on the health and wellbeing concerning women, children, and families. MCH monitors access to appropriate prenatal and well-child care, infant mortality prevention, emergency medical services, injury prevention, newborn screening, and services to children with special health care needs. Wyoming receives the Maternal and Child Health Services Title V Block Grant. With this grant Wyoming outlines seven priority needs:

- Prevent infant mortality
- Improve breastfeeding duration
- Improve access to and promote use of effective family planning
- Reduce and prevent childhood obesity
- Promote preventive and quality care for children and adolescents
- Promote healthy and safe relationships in adolescents
- Prevent injury in children

Pregnancy

Regular prenatal visits help the health care provider identify potential health problems early and take steps to manage them. Health risks that may occur during pregnancy:

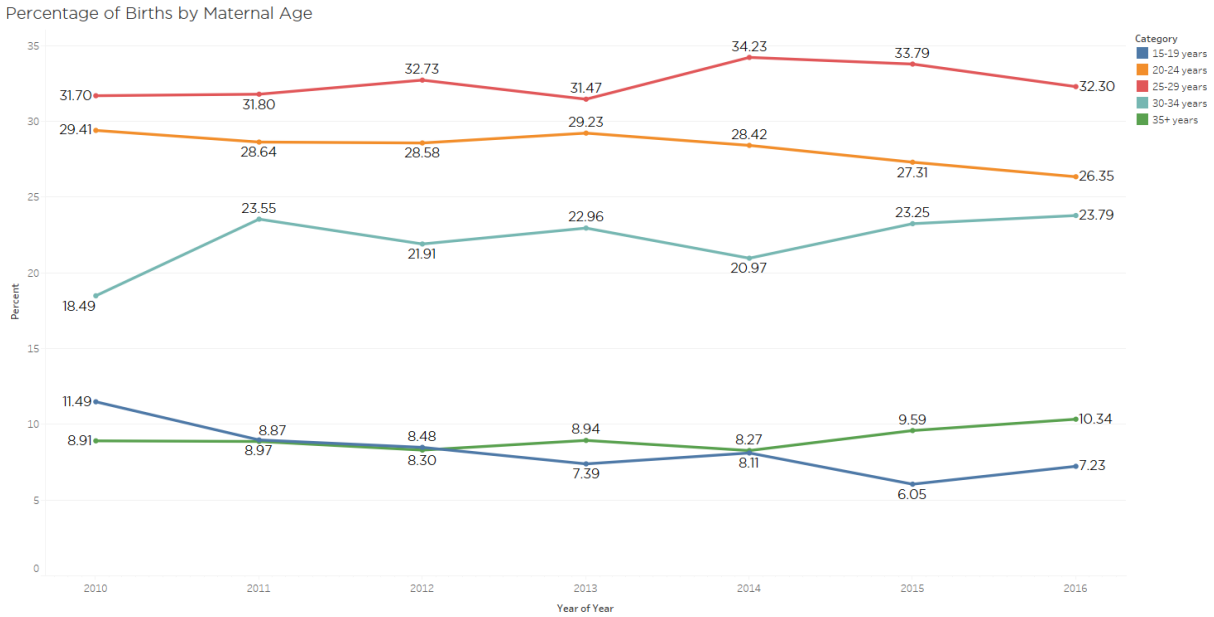
- Iron deficiency anemia
- Gestational diabetes
- Depression and anxiety
- Fetal problems
- High blood pressure related to pregnancy
- Infections
- Hyperemesis gravidarum
- Miscarriage
- Placenta previa
- Placental abruption
- Preeclampsia
- Preterm labor
- Sexually transmitted infections
- Tobacco use and alcohol abuse
- Inadequate nutrition
- Unhealthy weight

Pregnancy and infant health risks may be reduced with proper care before pregnancy, during pregnancy, and between pregnancies.

- Most babies are born to women age 25-29 years in Natrona County
- Teen births have decreased from 2010 to 2016 in Natrona County

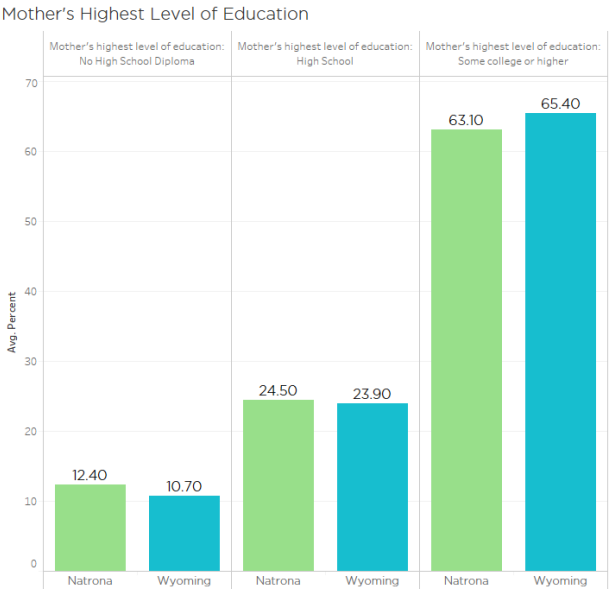
- Advanced maternal age births have increased from 2010 to 2016 in Natrona County

Figure 33: Percentage of Births by Maternal Age for Natrona County, 2010-2016



Source: Wyoming Department of Health Maternal and Child Health Epidemiology Unit

Figure 34: Mother's Highest Level of Education, Natrona County and Wyoming, 2006-2016



- In 2016, 12.4% of babies were born to mothers with no high school diploma or GED in Natrona County.
- Most babies are born to mothers with a highest level of education being some college or higher.

Source: Wyoming Department of Health Maternal and Child Health Epidemiology Unit

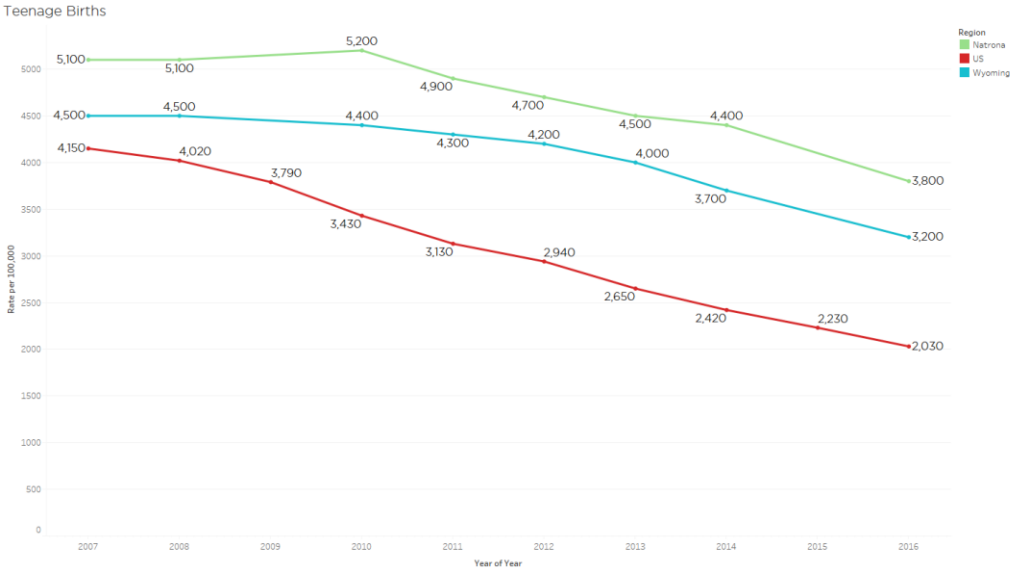
Teen Pregnancy

The US Centers for Disease Control and Prevention ranks Wyoming as the 11th state for teen pregnancies. County Health Rankings reports Wyoming with a birth rate of 32 per 1,000 female population age 15-19. Natrona County has a teen birth rate of 38 per 1,000 female population age 15-19. Trends indicate that teen birth rates are lowering for the United States, Wyoming, and Natrona County. There is no clear reason as to why the teen birth rates are declining, evidence suggests these declines are due to more teens abstaining from sexual activity and more teens who are sexually active are using birth control that in previous years.

Less favorable socioeconomic conditions, such as low education and low income levels of a teen's family may contribute to high teen birth rates. Teens in child welfare systems are at higher risk of teen pregnancy and birth than other groups.

Teenage pregnancy and childbearing bring social and economic costs. In 2010, teen pregnancy and childbirth accounted for at least $9.4 billion in costs to U.S. taxpayers for increased health care and foster care, increased incarceration rates among children of teen parents, and lost tax revenue because of lower educational attainment and income among teen mothers. Pregnancy and birth are contributors to high school dropout rates.

Figure 35: Teen Birth rates per 100,000, Natrona County, Wyoming and United States, 2007-2016



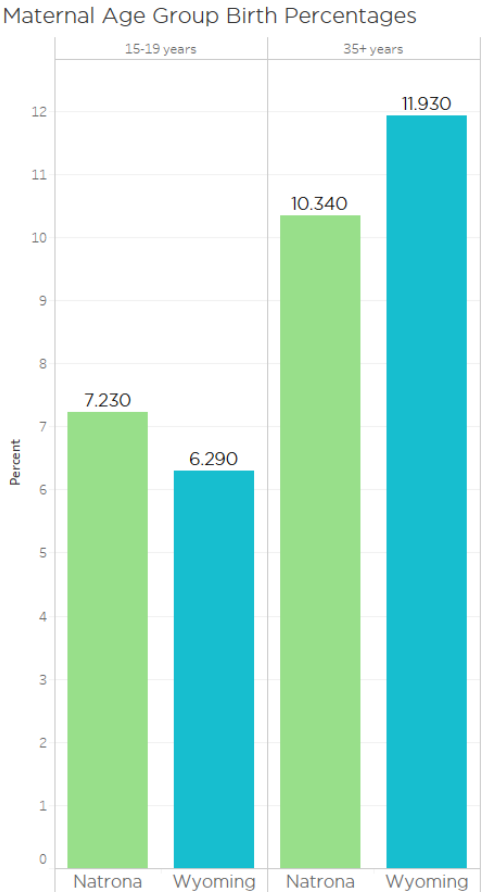
Source: [County Health Rankings]

Advanced Maternal Age

Pregnancy at 35+ years is considered advanced maternal age. Having a baby during advanced maternal age introduces increased health risks. Older women are more likely to have preexisting health problems and are more likely to develop health problems during pregnancy. The risk of having a child with birth defects caused by missing, damaged, or extra chromosomes is increased in older women. The risk of having a baby with chromosome problem is 1 in 525 at age 20 years; 1 in 385 at age 30 years; 1 in 200 at 35 years; and 1 in 65 at age 40 years. Older women are at higher risk of having a multiple pregnancy that can result in serious problems, including preterm birth, preeclampsia, fetal growth problems, and gestational diabetes.

- 10.34% of Natrona County births in 2016 were to women with a maternal age of 35+ years.
- The percentage of babies born to mothers age 35+ years in Natrona has continually increased over the past few years. In 2010 only 8.91% of births were to women age 35+ years in Natrona County.

Figure 36: Percentage of Births by Maternal Age Group, Natrona County and Wyoming, 2016



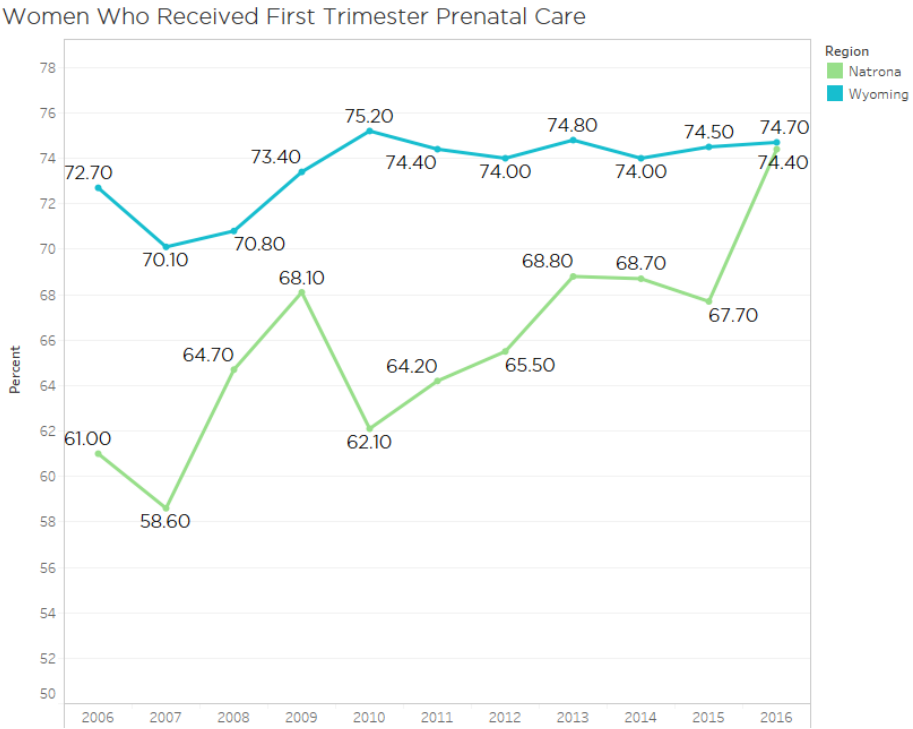
Source: Wyoming Department of Health

Prenatal Care

Prenatal care can help keep baby and mother healthy during pregnancy. Babies who are born to mothers who did not receive proper prenatal care are three times more likely to have a low birth weight and five times more likely to die than those born to mothers who do get care. Early detection and treatment to health problems that can arise during pregnancy can happen with regular prenatal checkups. These checkups can also prevent other health problems. Initial prenatal visit should occur at 10-12 weeks of gestation. Visits will continue every 4-6 weeks through 34 weeks' gestation. The visits will increase to every 2 weeks through 37 weeks' gestation and then weekly after 38 weeks' gestation.

- In 2016, 74.4% of women reported receiving first trimester prenatal care in Natrona County.
- The percentage of women who receive first trimester prenatal care has increased from 2006 to 2016.
- The Healthy People 2020 goal is that 77.9% of women receive first trimester care.

Figure 37: Percentage of Women Who Receive First Trimester Care, Natrona County and Wyoming, 2006-2016

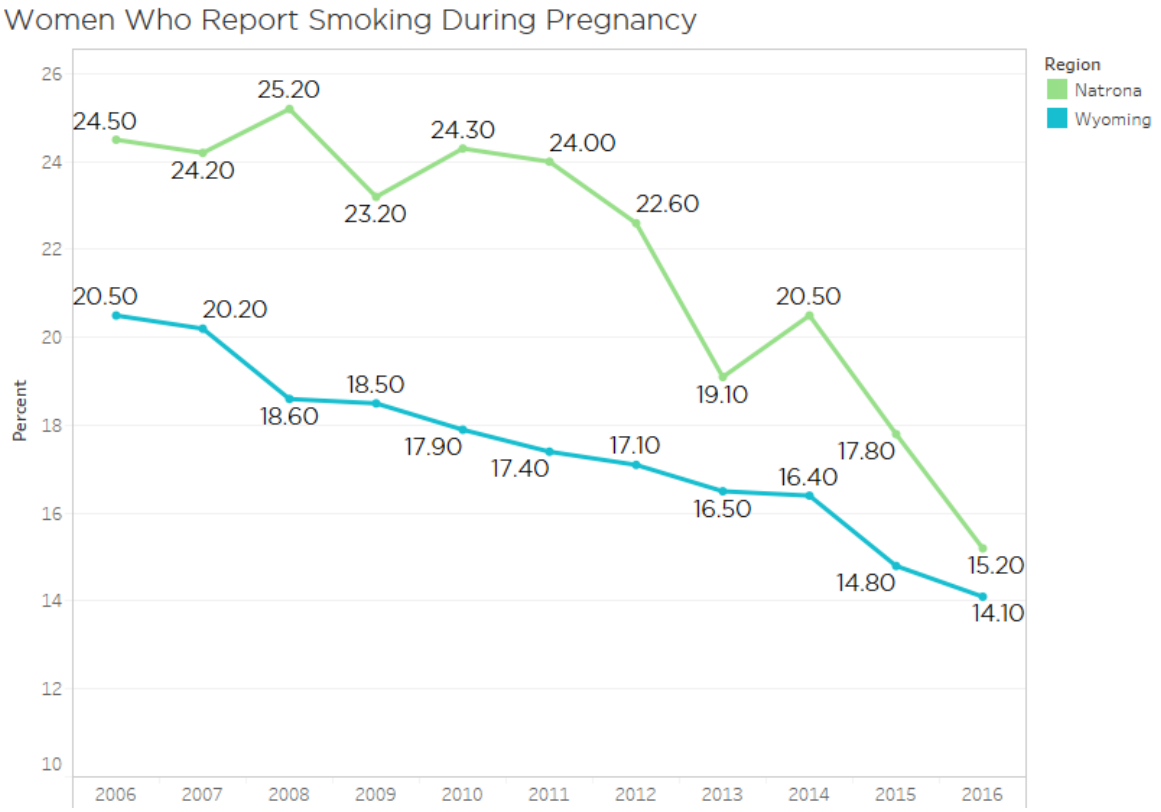


Source: Wyoming Department of Health Maternal and Child Health Epidemiology Unit

Smoking During Pregnancy

Smoking causes cancer, heart disease, and other major health problems. Smoking during pregnancy causes additional problems, including premature birth, certain birth defects, and infant death. Women who smoke during pregnancy increase the risk of miscarriage, problems with the placenta, premature birth, low birth weight, sudden infant death syndrome, and birth defects.

Figure 38: Women Who Report Smoking During Pregnancy, Natrona County and Wyoming, 2006-2016

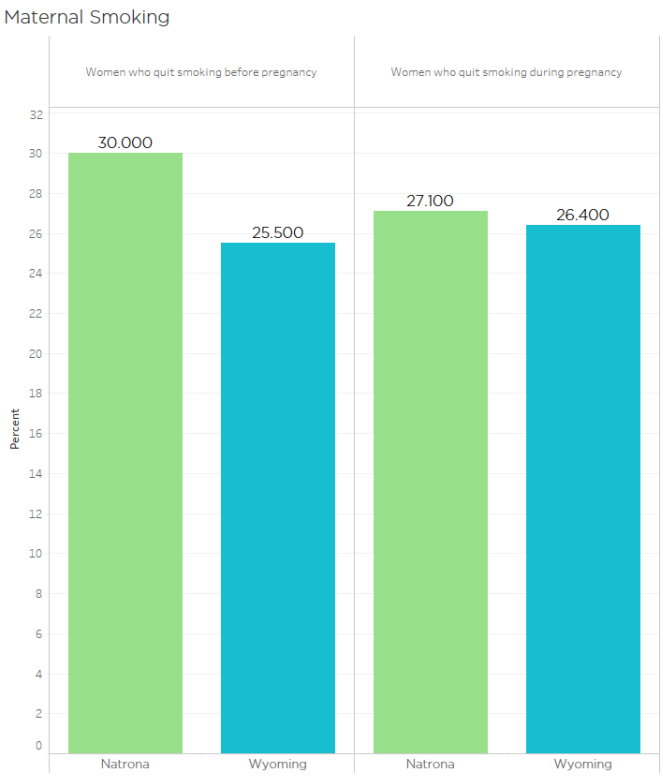


Source: Wyoming Department of Health Maternal and Child Health Epidemiology Unit

- Annual percentages of Natrona County women who report smoking during pregnancy show a decline from 2006 to 2016.
- In 2016, 15.2% of women reported smoking during pregnancy in Natrona County. This percentage is higher than the State which reports 14.1% of women smoked during pregnancy.
- The Healthy People 2020 objective is to have 98.6% of pregnant women abstaining from cigarette smoking.

- In 2016, 27.1% of Natrona County women reported quitting smoking during pregnancy.
- 30% of women reported quitting smoking before pregnancy in Natrona County.

Figure 39: Maternal Smoking, Natrona County and Wyoming, 2016



Source: Wyoming Department of Health Maternal and Child Health Epidemiology Unit

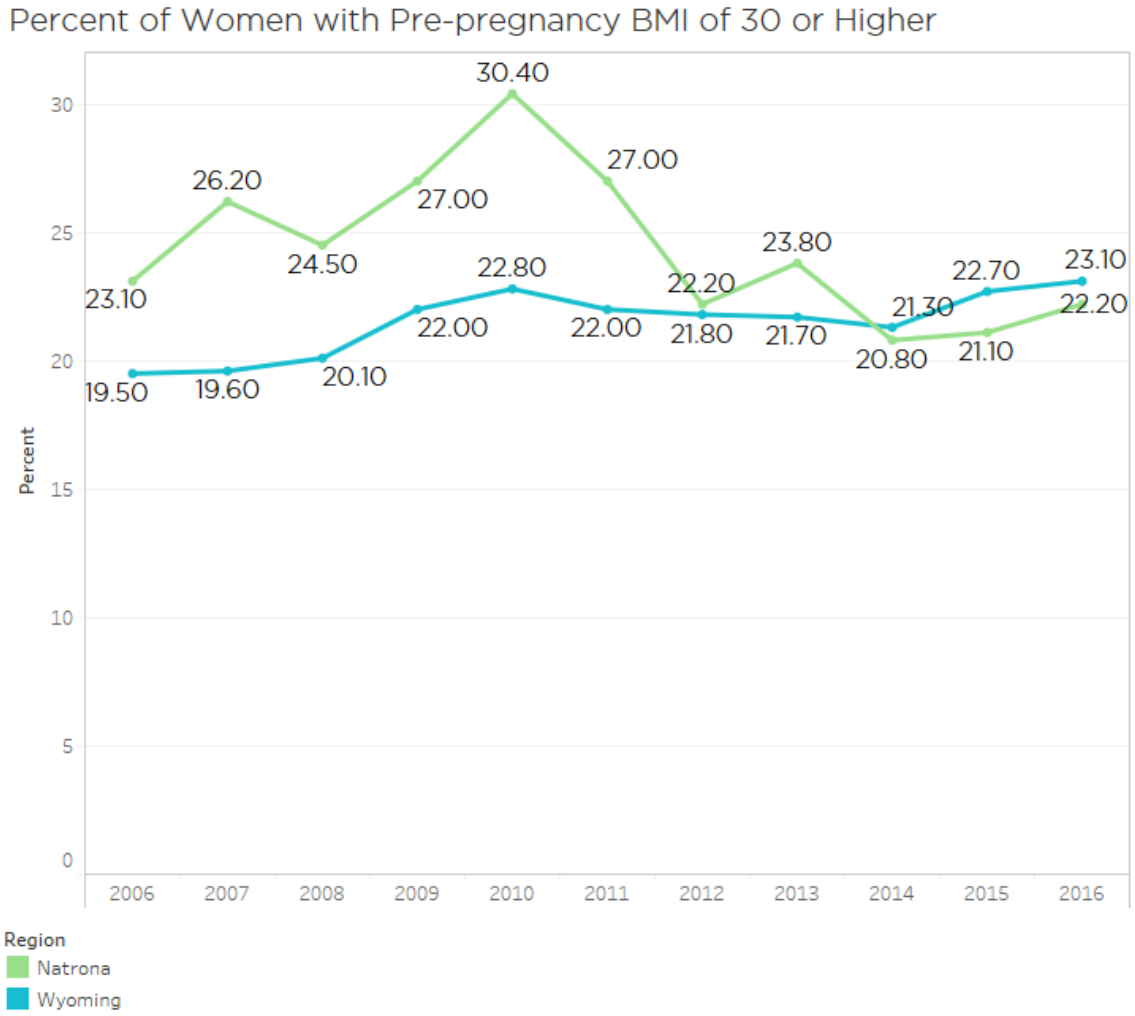
When a woman quits smoking during pregnancy:

- Her baby will get more oxygen, even after just one day of not smoking.
- There is less risk that her baby will be born too early.
- There is a better chance that her baby will come home with her from the hospital.
- She will be less likely to develop heart disease, stroke, lung cancer, chronic lung disease, and other smoke-related diseases.

Maternal Obesity

Maternal obesity can create negative outcomes for both women and fetuses. Maternal risks include gestational diabetes and preeclampsia. The fetus has an increased risk for stillbirth and congenital anomalies. Children born to women who are obese have a risk of future obesity, heart disease, and diabetes.

Figure 40: Maternal Obesity, Natrona County and Wyoming, 2006-2016



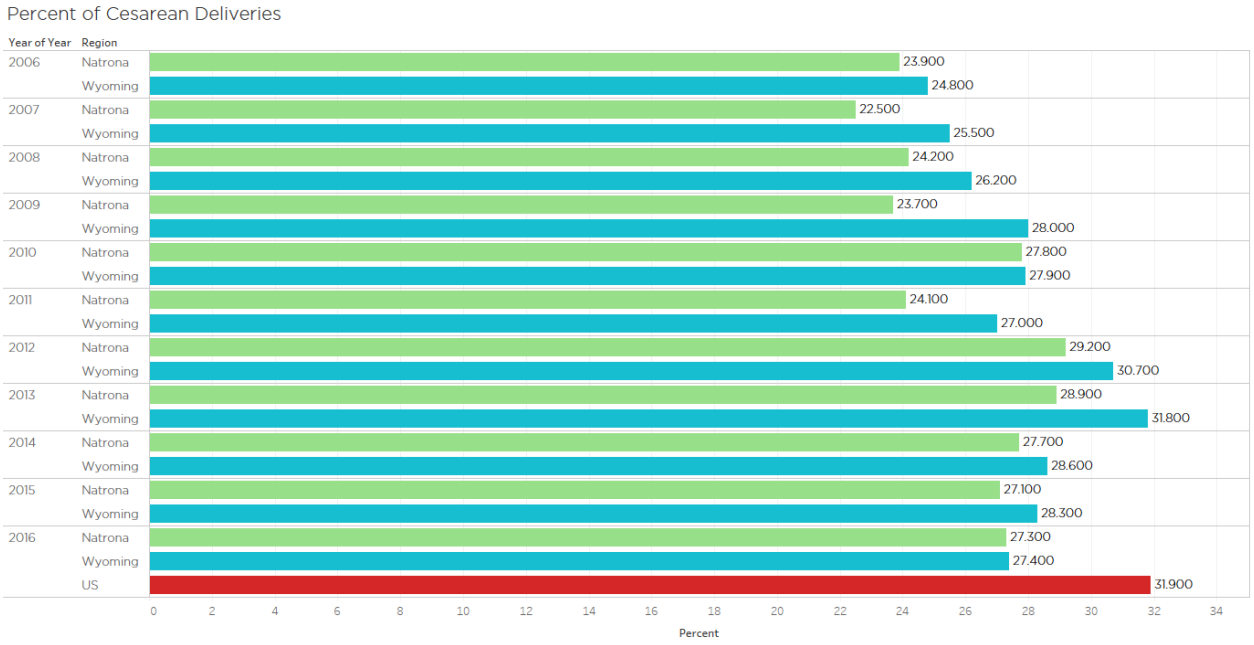
Source: [Wyoming Department of Health Maternal and Child Health Epidemiology Unit]

- In 2016, 22.2% of women in Natrona County reported having a pre-pregnancy BMI of 30 or higher.
- Maternal obesity has decreased in Natrona County from its peak in 2010.

Cesarean Delivery

Birth by cesarean increases risks for both mother and baby. The mother is more susceptible to infection, hemorrhage or increased blood loss, injury to organs, adhesions, extended hospital stay, extended recovery time, reactions to medications, risk of additional surgeries, and maternal mortality. Increased risks for the baby include; premature birth, breathing problems, low APGAR scores, and fetal injury.

Figure 41: Percent of Cesarean Deliveries, Natrona County, Wyoming, and United States 2006-2016



Source: Wyoming Department of Health Maternal and Child Health Epidemiology Unit

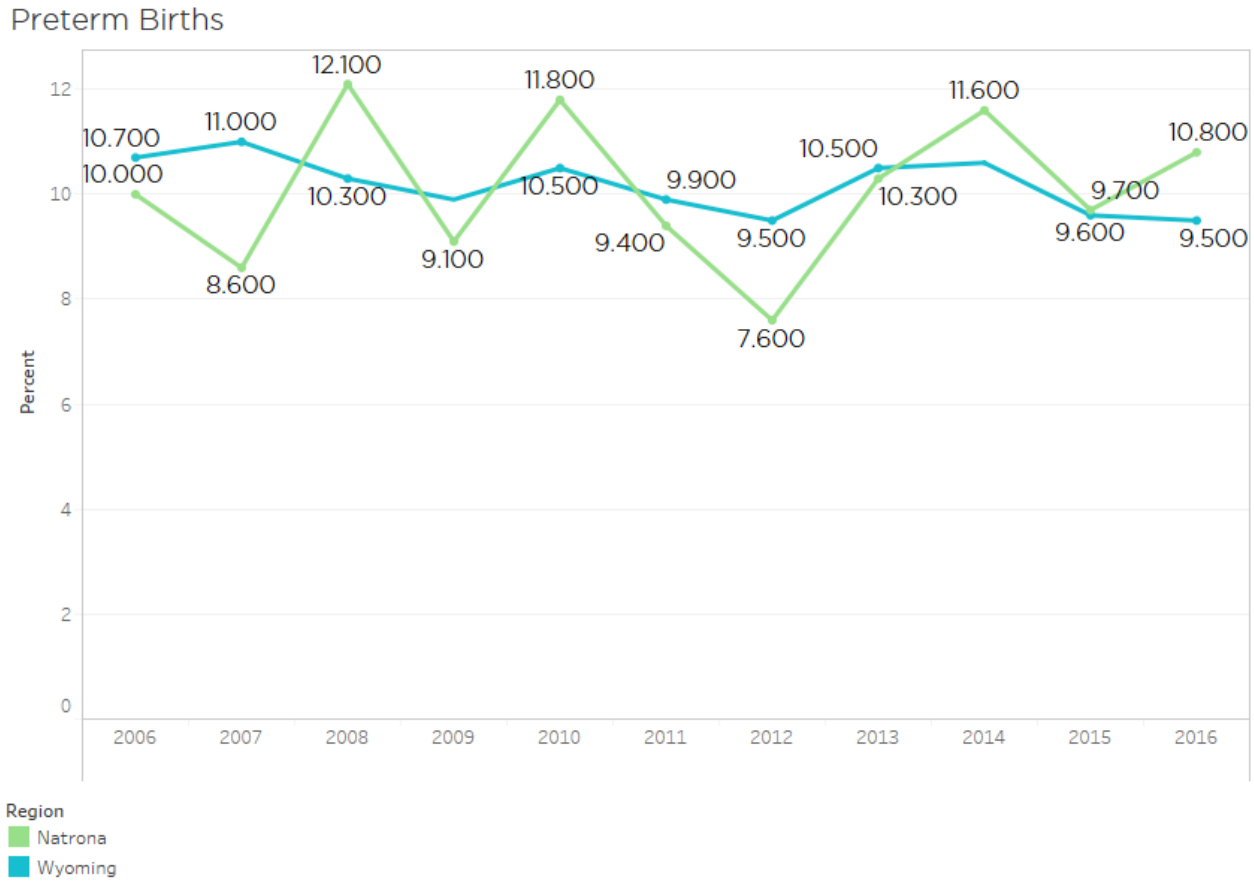
- Natrona County continuously stays below National and Wyoming's percentages for cesarean deliveries. In 2016, US cesarean delivery percentage was 31.9%, Wyoming was 27.4%, and Natrona County was 27.3%. HP 2020 goal is to reduce to 23.9% for low-risk females with no prior cesarean birth.
- The rate of performed cesareans have decreased since 2012 in Natrona County and Wyoming.

Preterm Births

A preterm birth is when a baby is born before 37 weeks of pregnancy. In 2016, preterm birth affected about 1 of every 10 infants born in the United States. Preterm births come with risks to the baby;

- Breathing problems
- Feeding difficulties
- Cerebral palsy
- Developmental delay
- Vision problems
- Hearing Problems

Figure 42: Preterm Births Born Before 37 Weeks' Gestation, Natrona County and Wyoming, 2006-2016.



Source: Wyoming Department of Health Maternal and Child Health Epidemiology Unit

- Natrona County preterm births have been sporadic with a recent increase to 10.8% of births being preterm. The HP 2020 goal is 9.4%.

- Natrona County reached a low percentage of preterm births in 2012 with 7.6% of births being preterm.

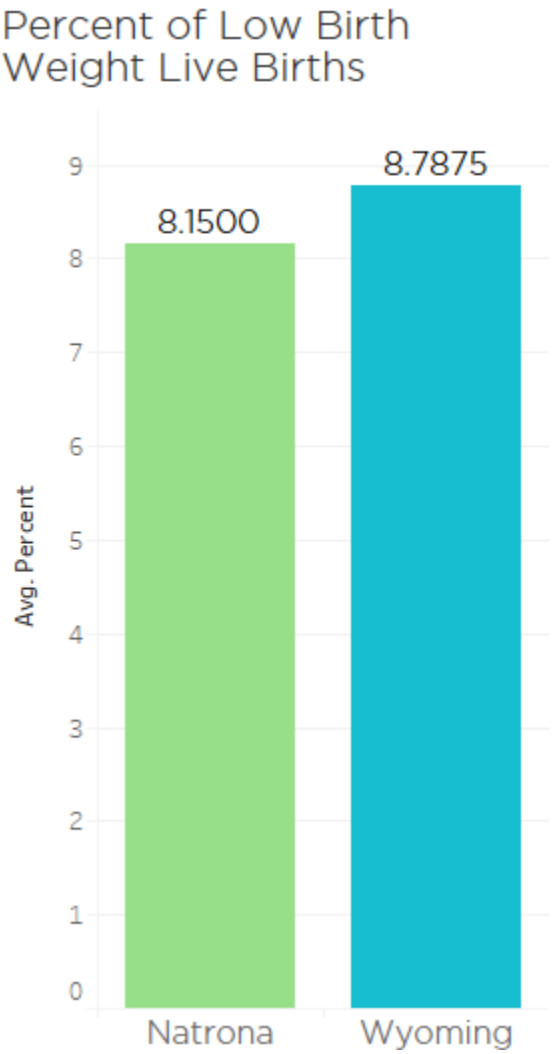
Low Birth Weight

Low birth weight is a term used for an infant that is born weighing less than 2,500 grams (5 pounds, 8 ounces). Low birth weight children are more prone to death and disability than their counterparts. Factors that may contribute to low birth weight; gestational age, smoking during pregnancy, alcohol use during pregnancy, maternal weight at conception, pregnancy induced hypertension/pre-eclampsia, congenital anomalies, and other genetic factors.

- 9% of babies born in Natrona County had a low birth weight from 2010 to 2016. HP 2020 goal is 7.8%.

- 12% of babies born to Black women were considered a low birth weight in Natrona County from 2010 to 2016.

Figure: 43: Low Birth Weight, Natrona County and Wyoming, 2001-2016



Source: County Health Rankings

Infant Mortality

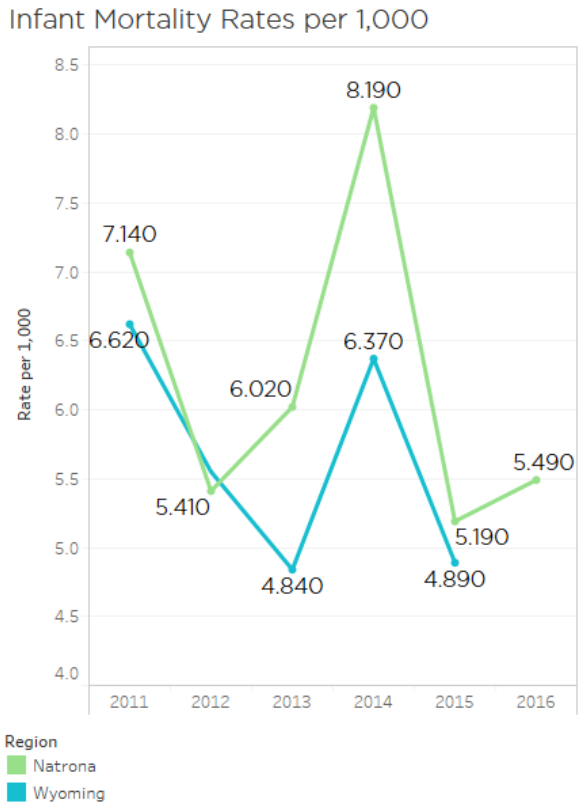
Infant mortality is the death of an infant before his or her first birthday. The infant mortality rate is the number of infant deaths for every 1,000 live births. Leading causes of infant mortality in Wyoming:

- Newborn affected by premature rupture of membranes
- Extreme immaturity
- Other preterm infants
- Sudden infant death syndrome (SIDS)
- Accidental suffocation and strangulation in bed

The Healthy People 2020 are 10-year national objectives for improving the health of all Americans. The Healthy People 2020 goal for infant mortality is reducing the rates for each state to 6.0 infant deaths per 1,000 live births.

- 27 states have met the Healthy People 2020 goal for infant mortality with Wyoming being one of the states.
- Natrona continuously has a higher infant mortality rate than Wyoming.
- In 2016, the infant mortality rate was 5.49 per 1,000 live births. This meets the Healthy People 2020 goal of 6.0 infant deaths per 1,000 live births.

Figure 44: Infant Mortality Rates, Natrona County and Wyoming, 2016



Source: US Centers for Disease Control and Prevention, Wyoming Department of Health

Childhood Immunizations

Children in the United States routinely get vaccines that protect them from more than a dozen diseases such as measles, polio, tetanus, diphtheria, and pertussis (whooping cough). These vaccines help make the person immune to serious diseases without getting sick first. Vaccines work best when they are given at certain ages.

- Most vaccines in Natrona County are close to or have met the Healthy People 2020 objective.
- Natrona County consistently has a higher immunization coverage rate than Wyoming.

Table 15: Immunization Coverage, Natrona County, 2018

Immunization Coverage for Ages 24 to 35 months			
Immunization	Natrona County	Wyoming	Healthy People 2020
Dtap- 4 doses	80%	65%	90%
Polio- 3 doses	93%	77%	90%
MMR- 1 dose	88%	79%	90%
HIB- 3 doses	88%	75%	90%
Hep B- 3 doses	93%	76%	90%
Varicella- 1 dose	87%	78%	90%
Pneumococcal- 4 doses	80%	64%	90%
Series completion	76%	59%	80%
Hep A- 2 doses	37%	43%	85%
Rotavirus- Up to date	89%	77%	80%

Source: Wyoming Department of Health Immunization Unit

Human Papillomavirus (HPV)

Human papilloma virus is the most common sexually transmitted infection in the United States. Some health effects cause by HPV can be prevented by the HPV vaccines. The HPV vaccine is safe and effective. The vaccine can protect against diseases (including cancers) caused by HPV when given in the recommended age groups. The DC recommends 11 to 12 year olds get two doses of HPV vaccine to protect against cancers caused by HPV.

- Natrona County has a HPV coverage of only 29%. The Healthy People 2020 objective is to reach 80% coverage.
- The vaccination is administered more to 13 to 17 year olds in Natrona County.

Table 16: HPV Coverage, Natrona County and Wyoming, 2018

Up to Date HPV Coverage			
Age group	Males	Females	Overall Rate
11-12 Years	4%	2%	3%
13-17 Years	9%	18%	14%
Up to Date HPV Coverage 13-17 Years of Age			
	Natrona County	Wyoming	Healthy People 2020
HPV-UTD completion	29%	27%	80%

Source: Wyoming Department of Health Immunization Unit

Table 17: Child Population, 2010 and Number of Licensed Childcare and Capacity for Natrona County, 2018

Children Population, 2010	
Age	Population
Under 5 years	5,377
5 to 9 years	4,976
Total	10,353
Available Licensed Child Care in Natrona County, 2018	
Licensed Facilities	97
Licensed Facility Capacity	3,498

Source: US Census Bureau, Natrona County Department of Family Services

- Available licensed childcare facility capacity is fewer than the Natrona County child population that benefits from childcare.

Youth Risk Behaviors

Health-risk behaviors are often established during adolescence and extended into adulthood. Engaging in healthy behaviors contribute to the prevention of chronic disease.

Youth Obesity

Childhood overweight is defined as a BMI at or above the 85th percentile and below the 95th percentile for children and teens of the same age and sex. Childhood obesity is defined as a BMI at or above the 95th percentile for children and teens of the same age and sex. Behaviors that influence excess weight gain include eating high-calorie, low-nutrient foods and beverages, not getting enough physical activity, sedentary activities such as watching television or other screen devices, medication use, and sleep routines.

Obesity during childhood can have a harmful effect on the body in a variety of ways. Children who have obesity are more likely to have:

- High blood pressure and high cholesterol
- Increased risk of impaired glucose tolerance, insulin resistance, and type 2 diabetes
- Breathing problems, such as asthma and sleep apnea
- Joint problems and musculoskeletal discomfort
- Fatty liver disease, gallstones, and gastro-esophageal reflux

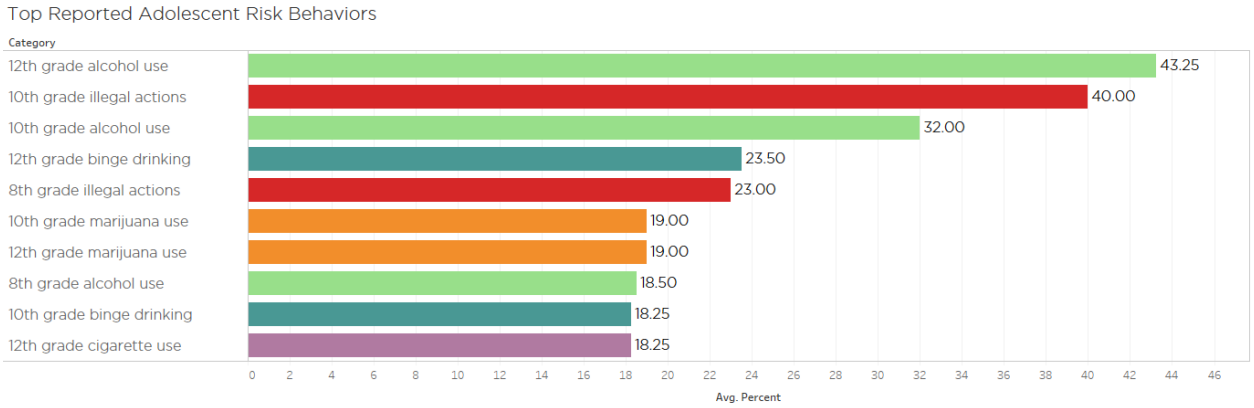
Childhood obesity is also related to:

- Psychological problems such as anxiety and depression
- Low self-esteem and lower self-reported quality of life
- Social problems such as bullying and stigma

Alcohol and Other Drug Use

Alcohol and other drug use among our nation's youth remains a major public health problem. Substance use and abuse can increase the risk for injuries, violence, HIV infection, and other diseases.

Figure 45: Top Reported Adolescent Behaviors for Natrona County, 2010-2016

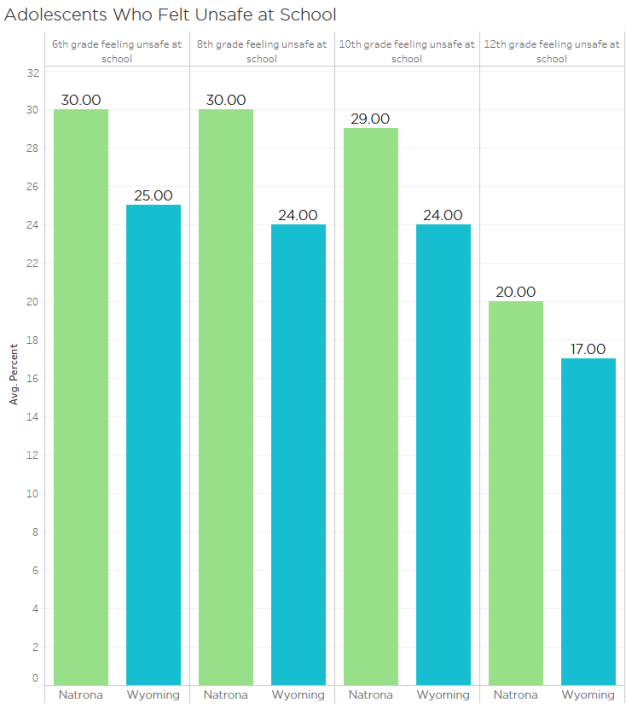


Source: WYSAC Prevention Needs Assessment 2016

According to the 2016 Prevention Needs Assessment (covering grades 6th-12th):

- 40% of 10th grade students report doing something illegal but were not caught.
- 39% of 12th grade students report alcohol use in the last 30 days.
- 32% of 12th grade students report doing something illegal but were not caught.
- Many of the students report not feeling safe at school as well as to and from school.
- 29% of 10th grade students report alcohol use in the last 30 days.

Figure 46: Adolescents Who Felt Unsafe at School, Natrona County and Wyoming, 2010-2016

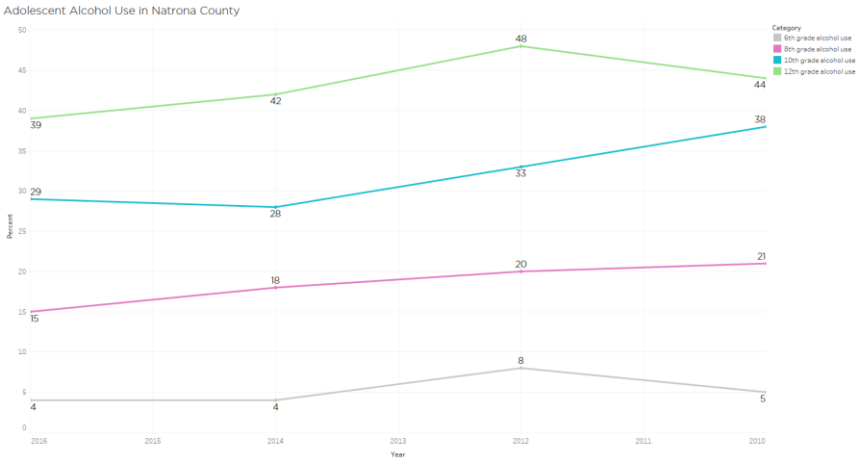


Source: WYSAC Prevention Needs Assessment, 2016

- Every grade has a high report of feeling unsafe at school some days, most days, or every day.
- In the 2016 Prevention Needs Assessment, 30% of 6th and 8th grade students reported feeling unsafe at school.
- 29% of 10th grade students report feeling unsafe at school and 20% of 12th grade students report feeling unsafe at school.
- These rates are higher than Wyoming reported rates.

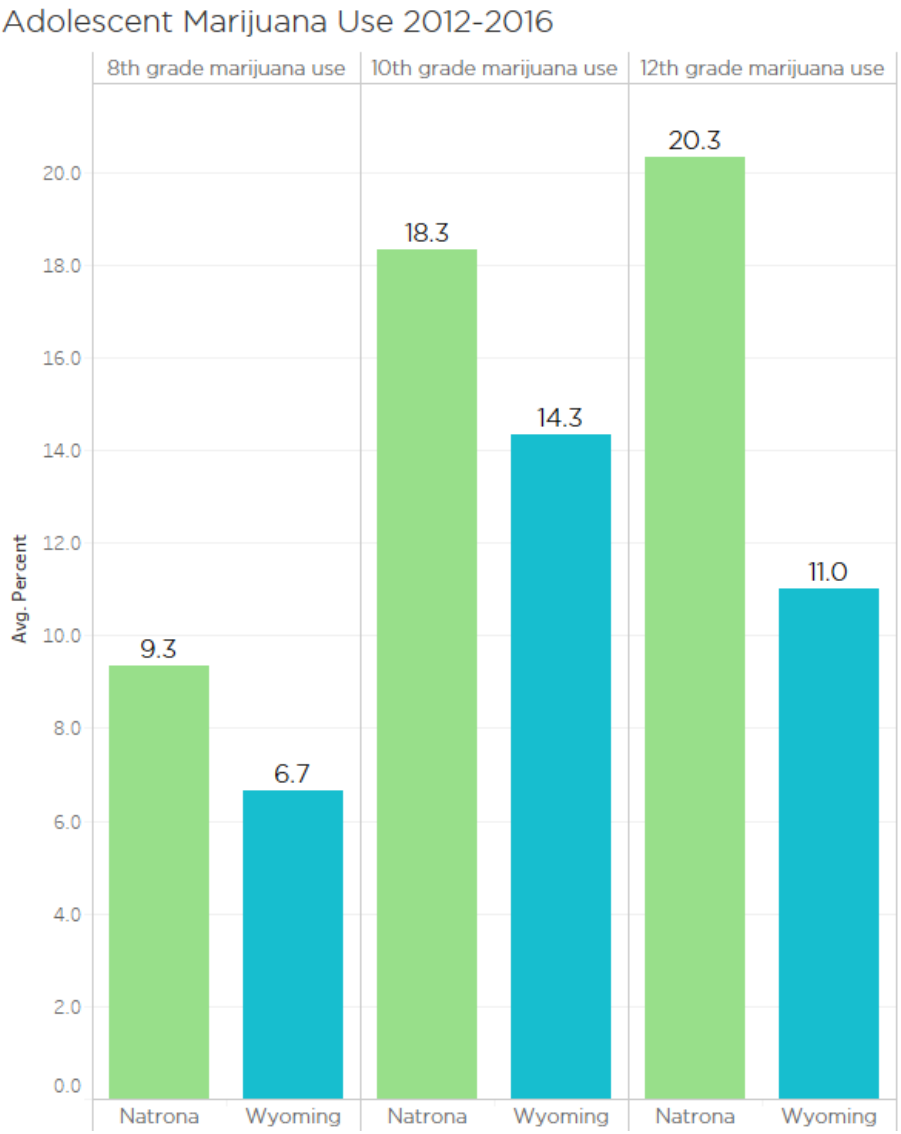
- There was a decrease in alcohol use for 12th grade students from 48% in 2012 to 39% in 2016.
- There is a steady decline in alcohol use for 8th grade students from 21% in 2010 to 15% in 2016.

Figure 47: Adolescent Alcohol Use in Natrona County, 2010-2016



Source: WYSAC Prevention Needs Assessment 2010-2016

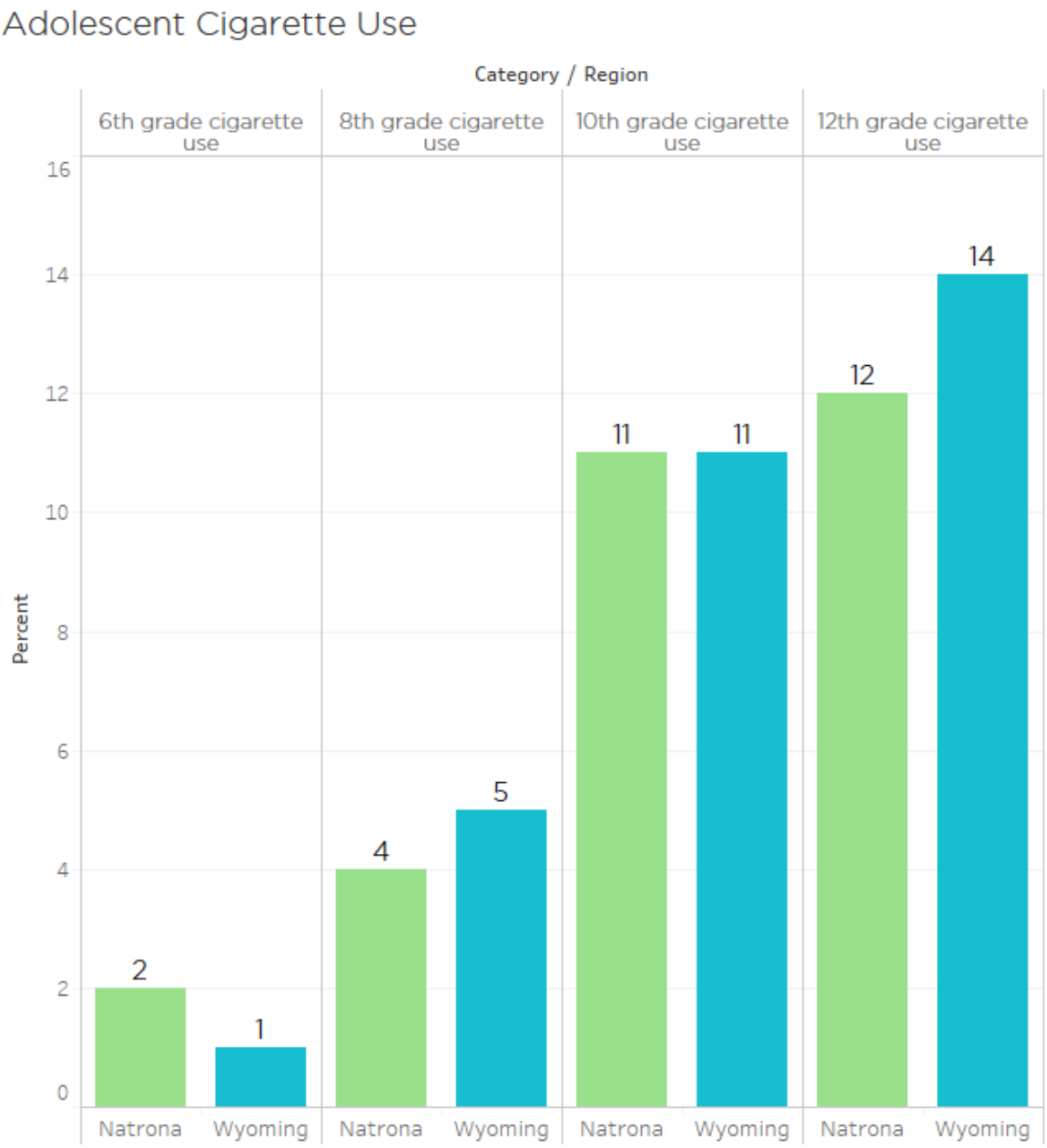
Figure 48: Adolescent Marijuana Use, Natrona County, 2012-2016



Source: WYSAC Prevention Needs Assessment, 2016

- The percent of Natrona County students who reported marijuana use in the past 30 days is higher than Wyoming.
- 8% of 8th grade students report using marijuana in the past 30 days in Natrona County.
- 23% of Natrona County 10th grade students report marijuana use in the past 30 days, this is higher than the 20% of 12th grade students who reported use in the past 30 days.

Figure 49: Adolescent Cigarette Use, Natrona County and Wyoming, 2016



Source: WYSAC Prevention Needs Assessment, 2016

- Natrona County has a higher reported cigarette use for 6th grade students at 2% than Wyoming at 1%.

- Natrona County has a lower cigarette use for 8th and 10th grade students than Wyoming.

INFECTIOUS DISEASE

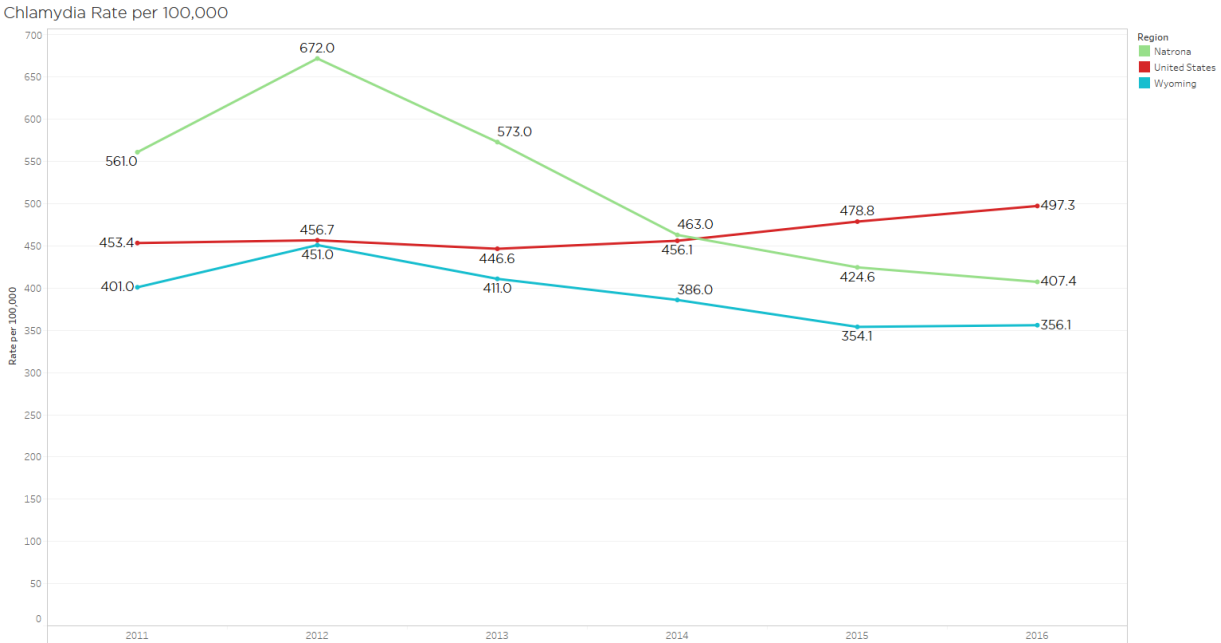
Reporting of certain disease and conditions is required by law (State Statute § 35-4-107) from both the attending healthcare provider/hospital and laboratory performing diagnostic testing.

Sexually Transmitted Infections (STIs)

Chlamydia
Chlamydia is a common STI that can infect both men and women. Sexually active young people are at a higher risk for getting chlamydia. This is due to behaviors and biological factors common among young people. It is suggested that sexually active women under 25 be tested annually for chlamydia. Chlamydia is considered a silent disease because most people do not have symptoms. If symptoms do occur, they may not appear for several weeks after infection.

- In recent years, Natrona County and Wyoming have lower incidence rates for chlamydia than the United States.
- Natrona has continued to have higher chlamydia rates than Wyoming since 2011. Natrona County chlamydia rate for 2016 was 407.4 per 100,000.

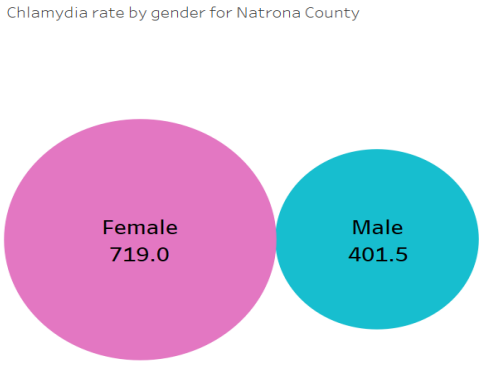
Figure 50: Chlamydia, Natrona County, Wyoming, and United States, 2011-2016



Source: Wyoming Department of Health Communicable Disease Unit, US Centers for Disease Control and Prevention

- Chlamydia rates are higher among women in Natrona County.
- Average female chlamydia rates are 719.0 per 100,000 from 2011 to 2014.
- Average male chlamydia rates are 401.5 per 100,000 from 2011 to 2014.

Figure 51: Chlamydia rate by gender for Natrona County, 2011-2014



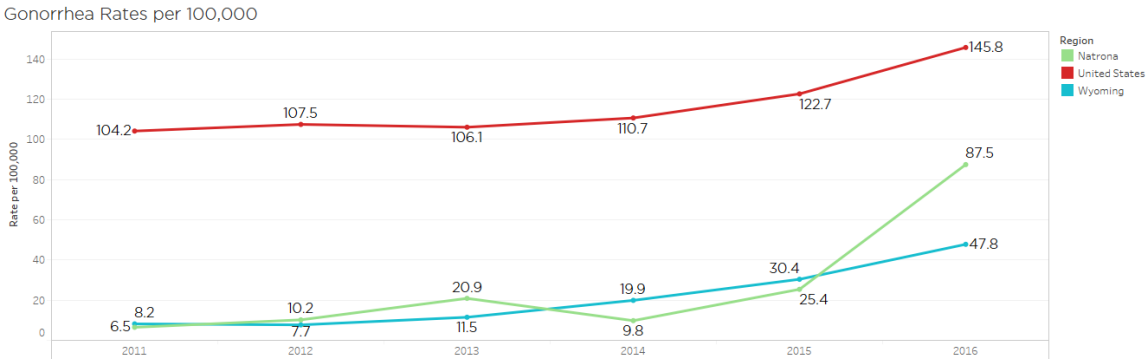
Source: Wyoming Department of Health Communicable Disease Unit

Gonorrhea

Gonorrhea is a sexually transmitted infection that can infect men and women. It is a very common infection among people ages 15-24 years. Gonorrhea can permanent damage if untreated. Women may develop pelvic inflammatory disease and men may develop a painful condition in the tubes attached to the testicles if gonorrhea is left untreated.

- Natrona County and Wyoming are well below the United State's gonorrhea incidence rates, but are rising in the past couple years.
- In 2016, Natrona has a gonorrhea incidence rate of 87.5 per 100,000 which is higher than Wyoming with an incidence rate of 47.8 per 100,000

Figure 52: Gonorrhea rates per 100,000, Natrona County, Wyoming, and United States, 2011-2016



Source: Wyoming Department of Health Communicable Disease Unit, US Centers for Disease Control and Prevention

Syphilis

Syphilis is a sexually transmitted infection (STI) caused by the bacterium *Treponema pallidum*. Syphilis can imitate the signs and symptoms of other conditions. The initial sign of syphilis is the appearance of chancre marks. If left untreated the late stages of syphilis can lead to damage to internal organs and may lead to death.

- In 2017, three cases of syphilis (2 late latent, 1 early latent) were reported among Natrona County residents.

Human Immunodeficiency Virus (HIV)

Human immunodeficiency virus (HIV) can lead to acquired immunodeficiency syndrome (AIDS). HIV is unlike other viruses as the body can not completely get rid of the virus even with treatment (About HIV/AIDS).

- From 2012 to 2016, there were 13 reported newly diagnosed HIV cases in Natrona County.
- The average newly diagnosed HIV case rate is 3.2 per 100,000 in Natrona county from 2012 to 2016.
- The number of newly diagnosed cases of HIV in Natrona County in 2017 was 17 (22% of the new cases diagnosed statewide). Natrona County has the third highest rate of new infections of HIV in the state.
- The prevalence of HIV in Natrona County in 2017 was 63.1 per 100,000. In Natrona County, there are 51 persons living with HIV/AIDS (26 with HIV, 25 with AIDS).
- To be diagnosed with AIDS, a person with HIV must have an AIDS-defining condition or have a CD4 count of less than 200 cells/mm^3 (regardless of whether the person has an AIDS-defining condition).

Tuberculosis

Tuberculosis is caused by a bacterium called *Mycobacterium tuberculosis.* Tuberculosis does not always show signs of infection, creating the two TB-related conditions: latent TB infection (LTBI) and TB disease. TB typically attacks the lungs but can attack any part of the body. If not treated properly, TB can be fatal (Basic TB Facts).

- In 2017, Natrona County had 7 documented latent tuberculosis infections and one active case of extrapulmonary tuberculosis. The 2017 active TB case was the first case of active tuberculosis in more than ten years.

Vaccine Preventable Illness

Vaccines are available for 18 dangerous diseases. These preventable diseases include: polio, measles, diptheria, pertussis, rubella, mumps, tetanus, and Haemophilus influenza type b (Hib). These diseases are all costly and can result in missed time from work or school, doctor's visits, hospitalizations, and possible death. Through vaccinations, immunity is created without suffering from the actual disease that vaccines prevent (Vaccines and Preventable Diseases).

- From 2012 to 2016 there have been no reported cases of mumps.
- There have been reported cases of Haemophilus influenzae every year since 2012.

Table 18: Vaccine preventable disease cases in Natrona County, 2011-2016

Vaccine Preventable Diseases (Cases), Natrona County, 2011-2016						
Disease	2011	2012	2013	2014	2015	2016
Haemophilus influenzae	0	2	3	1	3	1
Mumps	1	0	0	0	0	0
Neisseria meningitidis	0	0	1	0	0	0
Pertussis	0	1	9	12	4	0
Streptococcus pneumoniae	0	0	0	0	1	5

Source: Wyoming Department of Health Infectious Disease Epidemiology

Influenza

Influenza (flu) is a contagious respiratory illness. Serious outcomes of flu infection can result in hospitalization or death. Older populations, young children, and people with certain health conditions are at high risk of serious flu complications. It is important to get a flu shot annually as the viruses included in the vaccination change
(Influenza).

- Natrona County's influenza incidence rate for the 2016-2017 influenza season was 720.6 per 100,000, which was an increase from the previous 2015-2016 season with an incidence rate of 539.1 per 100,000.

Pneumonia

Pneumonia is an infection of the lungs that can cause mild to severe illness in people of all ages. Vaccinations can prevent some types of pneumonia. Pneumonia is the leading infectious cause of death in children younger than 5 years old worldwide (Pneumonia).

- There were 6 reported cases of *Streptococcus pneumoniae* infection in Natrona County during 2015 and 2016.

Table 19: Vaccinations Given at Casper-Natrona County Health Department, 2017

Number of Vaccines Given by Local Health Department			
Pediatric		Adult	
Influenza	363	Influenza	1561
DTaP	49		
DTaP-HepB-IPV(Pediarix)	42	Zoster	40
DTaP-IPV	62	Rabies	9
HPV9	137	HPV9	39
Hep A	85	Hep A	114
Hep B	31	Hep B	136
HiB	39	HiB	2
IPV	50	IPV	4
MMR	143	MMR	97
Meningococcal	102	Meningococcal	20
PCV13	36	PCV13	57
PPV23	0	PPV23	29
Rotavirus	5	Yellow fever	15
Td	8	Td	10
TDaP	197	TDaP	330
Typhoid	8	Typhoid	60
Varicella	83	Varicella	32

Source: Casper-Natrona County Health Department

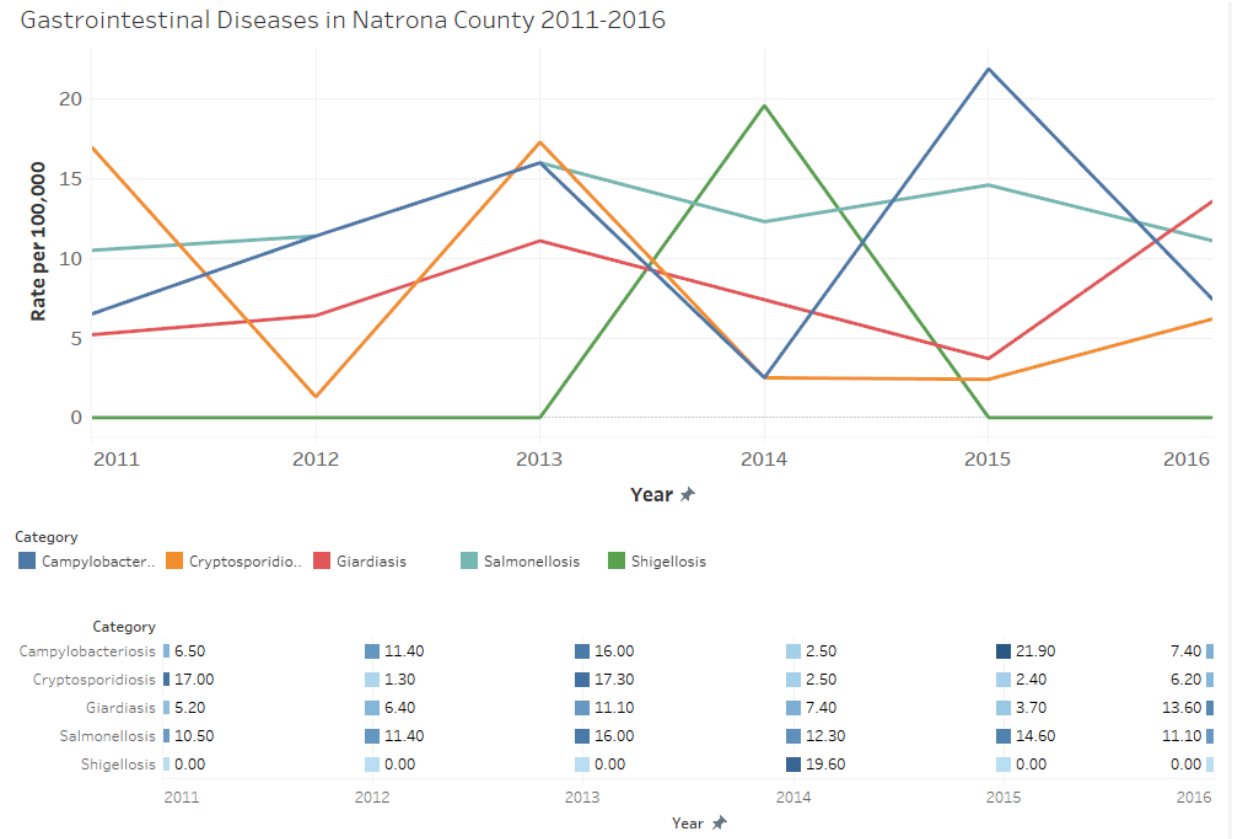
Gastrointestinal Disease

There are many different disease-causing germs that can contaminate foods and cause many different foodborne infections. Intestinal disease are infections that are commonly transmitted through consuming contaminated food. These diseases can also be spread through contact with water, animals, and other environmental sources. Since everyone doesn't go to the doctor when they are ill, they do not get testing and many intestinal diseases go unreported (Foodborne Illnesses and Germs).

Reported gastrointestinal diseases:

- Campylobacter
- Cryptosporidium
- Giardia
- Salmonella
- Shigella

Figure 53: Gastrointestinal Disease per 100,000 in Natrona County, 2011-2016



Source: Wyoming Department of Health Infectious Disease Epidemiology

- Salmonella cases have remained consistently present from 2011-2016.
- In 2016, there was an increase in Giardia.
- Shigellosis has remained minimal for a majority of 2011-2016.

ENVIRONMENTAL HEALTH

Environmental health is the science and practice of preventing human injury and illness and promoting well-being by identifying and evaluating environmental sources and hazardous agents; and limiting exposures to hazardous physical, chemical, biological agents in air, water, soil, food, and other environmental media or settings that may adversely affect human health.

The Environmental Public Health Section at Casper-Natrona County Health Department provides control and prevention of environmental health problems through surveillance, education, and enforcement.

Inspection and licensing of facilities

Table 20: Facility types, Number of Facilities, Number of Inspections in 2017

Licensing of Facilities and Inspections		
Facility	Number of Facilities	Number of Inspections
Body Art Establishments	15	19
Campgrounds	6	6
Food Facilities	454	959
Hotel/Motel	39	46
Pool/Spa	87	194
Childcare	98	129

Source: Casper-Natrona County Health Department

Table 21: Temporary Food Licenses, Natrona County by Year

Temporary Food Licenses by Year	
2013	56
2014	58
2015	53
2016	88
2017	111

Source: Casper-Natrona County Health Department

- The Environmental Health Program at Casper-Natrona County Health Department follows up and investigates complaints of any

licensed facility by the public. This may include, but is not limited to, possible foodborne illness, unsanitary conditions, spoiled, contaminated, or adulterated food, bed bugs, head lice, illnesses in daycares.
    - Environment Health also reviews of new and remodeled facilities to verify compliance with construction standards required by regulations.

- Small wastewater (septic system installation)
    - Through a delegation agreement with the Wyoming Department of Environmental Quality, the Environmental Health program at CNCHD provides site evaluation, design review, permitting and final inspections of installed septic systems, investigation, evaluation and permitting of replacement for failed septic systems.
    - Approximately 60 permits (new and replacement) are issued annually.
    - Provides consultation and record searches for property owners and realtors
    - Provides certification and licensing of septic system installers (n=34).

- GeoSMART GIS
    - Ongoing participation with the Natrona County Regional Geospatial Cooperative to provide public access to all licensed facilities are accessible through links on the geospatial maps.

- Epidemiologic investigation
    - Follow up and completed case interviews on reportable enteric diseases.
    - Investigate outbreaks, collect and ship clinical specimens to state health lab, perform environmental assessments of implicated facilities; food service operations, daycares, schools, and nursing homes.
    - Provide education on cleaning, sanitation, and limiting the spread of the disease.

- Lead Program
    - In January 2018, follow-up of reported elevated blood lead levels among Natrona County residents was transferred from the Wyoming Department of Health to Environmental Health at CNCHD. Epidemiologic interviews and educational handouts were developed and are utilized for persons with elevated blood lead levels. In addition to occupational exposures, there have been two pediatric cases and one adult case.

- Animal bite/Rabies prophylaxis
  - Patient follow-up of reported animal bites, coordinate prophylaxis when indicated
  - Number of bites reported by year in Natrona County, 2016:

Table 22: Number of reported animal bites in Natrona County, 2013–2017

Number of reported animal bites per year	
2013	207
2014	151
2015	233
2016	219
2017	134

Source: Casper-Natrona County Health Department

  - Number of Rabies Cases in Natrona County, 2012-2016:

Table 23: Rabies Cases in Natrona County, 2012–2016

Rabies Cases, Natrona County 2012-2016	
Rabies, animal	3
Rabies, human	0

Source: Casper-Natrona County Health Department

- Community inquiries/education
  - Housing inquiries regarding mold, bed bugs, insects, and unsanitary conditions, illegal dumping, garbage complaints, surfacing sewage.
  - Housing assessments for Department of Family Services.
  - Facility walk through and assessment with prospective buyers of either food facilities or childcare facilities.

Vector-borne Diseases

Vectors are living organisms that can transmit infectious diseases between humans or from animals to humans. Mosquitoes are the best known vector. Others include ticks, sandflies, fleas, triatomine bugs, and some freshwater aquatic snails (Vector-borne diseases).

Table 24: Reported Vector-borne Cases in Natrona County, 2012-2017

Reported Vector-borne Disease 2012-2017	
Reported Disease	Number of Reported Cases
Lyme Disease	1
Malaria	2
Rickettsiosis	1
Tularemia	2
West Nile Virus	9

Source: Wyoming Department of Health Infectious Disease Epidemiology Unit

AT-RISK POPULATIONS

At-risk individuals are people with access and functional needs that may interfere with their ability to access or receive medical care before, during, or after a disaster or emergency.

The 2013 Pandemic and All-Hazards Preparedness Reauthorization Act defines at-risk individuals as children, older adults, pregnant women, and individuals who may need additional response assistance.

Examples of these populations may include but are not limited to individuals with disabilities, individuals who live in institutional settings, individuals from diverse cultures, individuals who have limited English proficiency or are non-English speaking, individuals who are transportation disadvantaged, individuals experiencing homelessness, individuals who have chronic medical disorders, and individuals who have pharmacological dependency.

Table 25: At-Risk Populations, Natrona County

County Demographics	
2016 County Population	81,039
Population Under Age 18 (2015)	19,805
Population Age 65+ (2015)	10,765
County Socio-Economic Indicators	
Population Below Poverty Line	8,407
Homeless Population (Sheltered/Unsheltered-2016)	179/47
Persons with Specific Disability (2015)	
Persons with Hearing Difficulties	3,235
Persons with Visual Difficulties	2,418
Persons with Ambulatory Difficulties	4,799
Persons with an Independent Living Difficulty	2,966
Persons with a Cognitive Difficulty	3,332
Persons with Alzheimer's Diagnosis (2017)	1,077
Electricity and Oxygen Dependent (2017)	
Electricity Dependent Persons	1,713
Dialysis Patients	82
Oxygen Tank Dependent Persons	684
Oxygen Concentrator Dependent Persons	1,675
Ventilator Patients	57
Home Healthcare Clients	151

Source: Wyoming Health Department-Public Health Emergency Preparedness Unit

Food Insecurities

At risk populations may experience and suffer from food insecurities. According to Feeding America, an estimated 1 in 8 Americans were food insecure in 2016, equating to 42 million Americans including 13 million children (What Is Food Insecurity in America?).

- In 2015, Natrona County had a food insecurity rate of 12.9% compared to Wyoming's food insecurity rate of 12.3%.
- Natrona County experienced a 17.6% child food insecurity rate in 2015. Wyoming's child food insecurity rate was 16.9% in 2015.
- Natrona's and Wyoming's food insecurity rates are comparable to the United States food insecurity rate at 12.7% in 2015.
- In Natrona County during 2016-2017 there were 5,748 food stamp recipients (SNAP).
- In 2017, Natrona County WIC (Women, Infant, Children) had 1,383 participants.

Transportation

Residents may fall into the at-risk population category due to lack of transportation. Casper Area Transportation Coalition (CATC) is a transportation service that serves the Casper, Evansville, and Mills general public.

Table 26: Passengers Who Used Bus Services in Natrona County During Fiscal Year 2016-2017

Passengers Who Used Bus Services During Fiscal Year 2016-2017 in Natrona County		
Bus Service Type	Passenger Type	Number of Passengers
CATC	Elderly	3,463
CATC	Disabled	37,184
CATC	Total Passengers	46,523
The Bus	Elderly and Disabled	46,702
The Bus	Total Passengers	153,760

Source: CATC Executive Director- Marge Cole

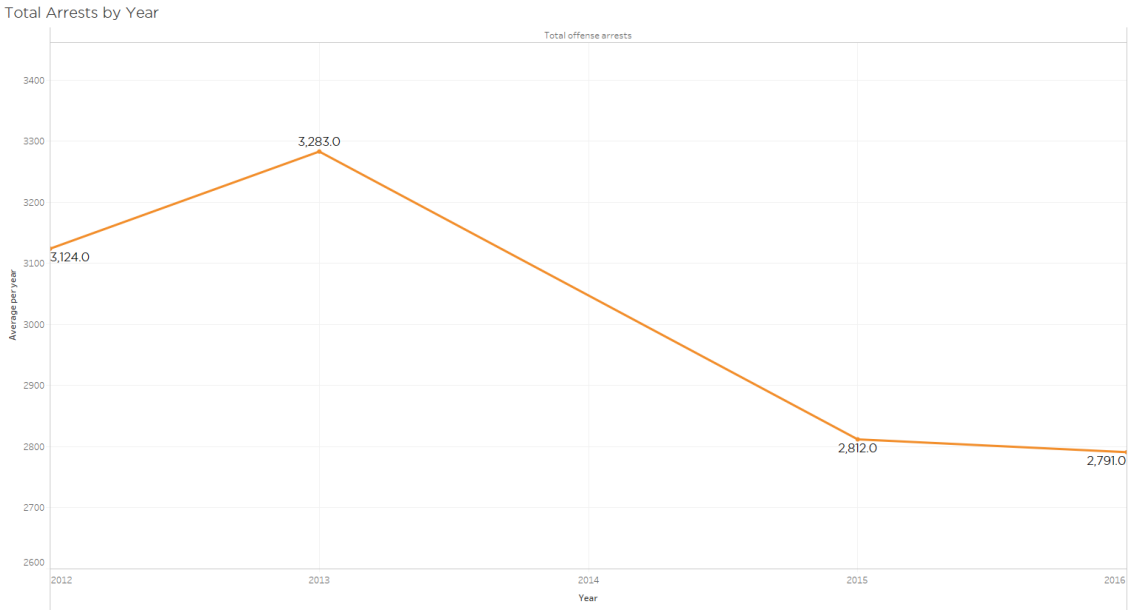
CRIME AND SAFETY

Crime and violence experienced by individuals living in a community is an important public health issue. People can be exposed to violence in many ways. They may be victimized directly, witness violence or property crimes in their community, or hear about crime and violence from other residents.

Violence can lead to premature death or cause non-fatal injuries. People who survive violent crime endure physical pain and suffering and may also experience mental distress and reduced quality of life. Children and adolescents exposed to violence are at risk for poor long-term behavioral and mental health outcomes regardless of whether they are victims, direct witnesses, or hear about crime. Children exposed to violence may also show increased signs of aggression starting in upper-elementary school. Children exposed to several types of violence over long periods of time are more likely to experience anxiety, depression, and behavioral problems compared to children with only moderate exposure to violence.

Addressing exposure to crime and violence as a public health issue may help prevent and reduce the harm to individual and community health and well-being.

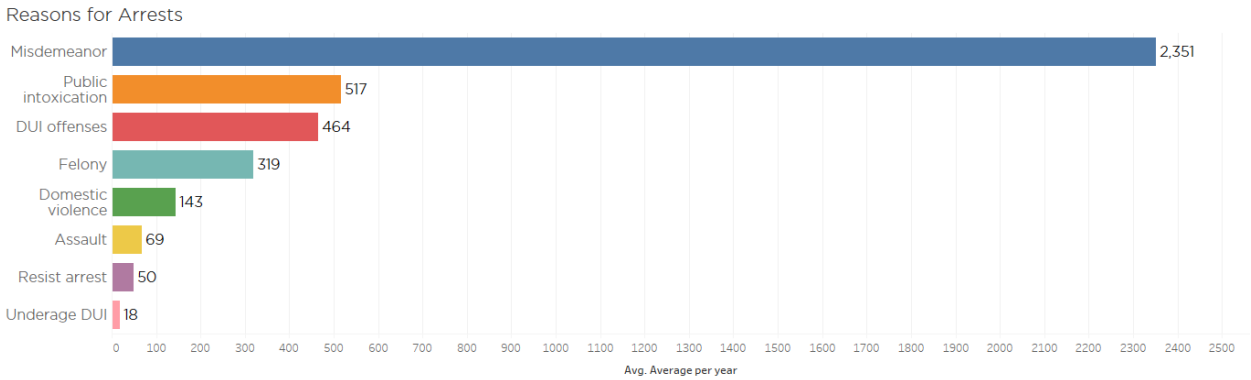
Figure 54: Total Arrests by Year, Natrona County, 2012-2016



Source: Wyoming Association of Sheriffs and Chiefs of Police

- Total arrests in Natrona County have been decreasing since 2013.

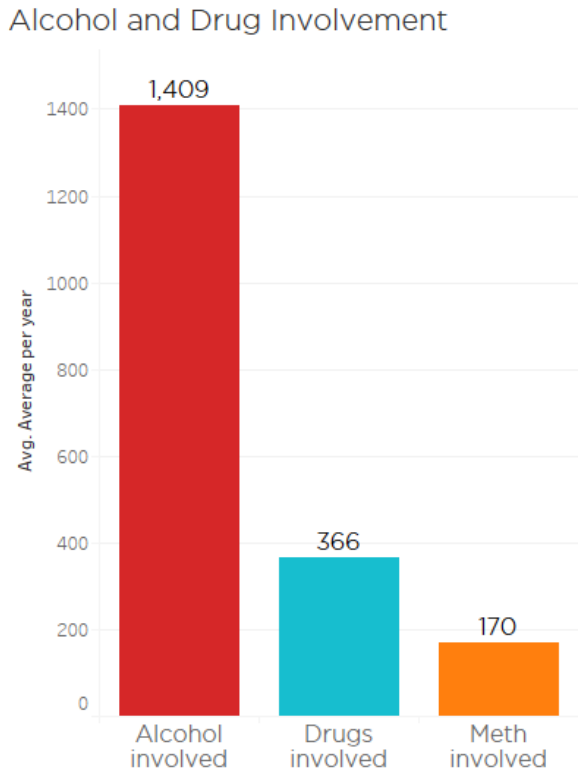
Figure 55: Reasons for Arrests, 2012-2016



Source: Wyoming Association of Sheriffs and Chiefs of Police

- Misdemeanors were the top reason for arrests from 2012 to 2016.
- Misdemeanors made up 78.3% of arrests made from 2012 to 2016

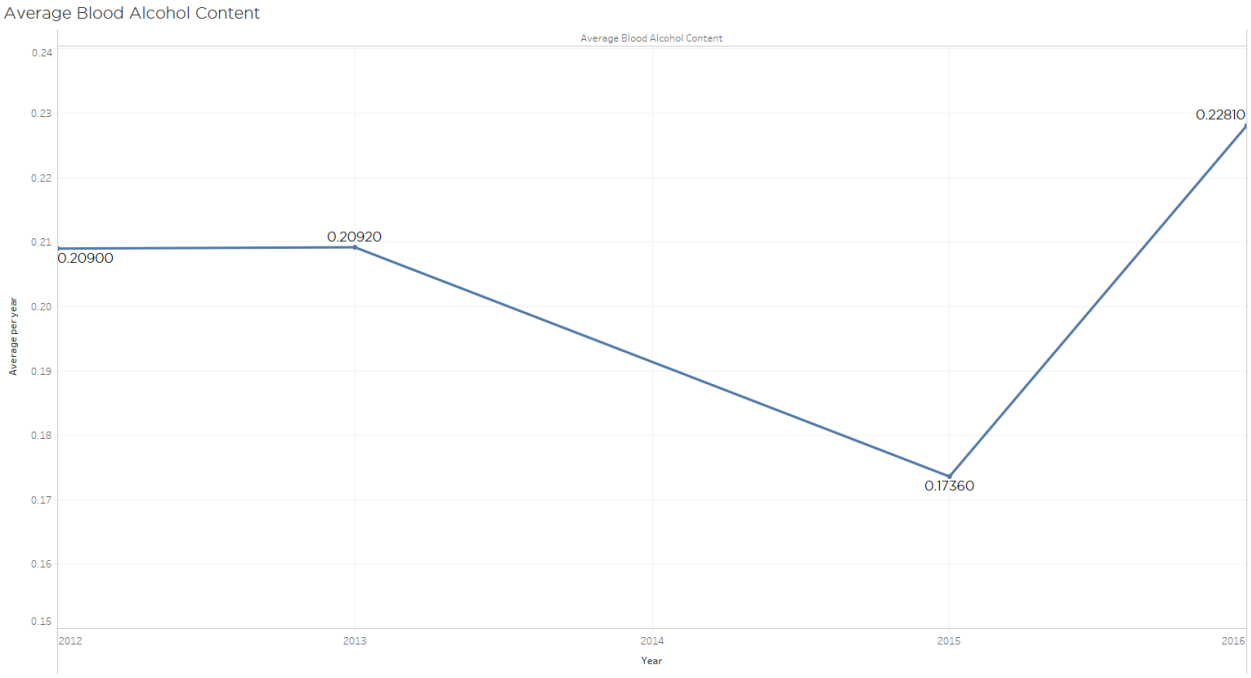
Figure 56: Alcohol and Drug Involvement, Natrona County, 2012-2016



Source: Wyoming Association of Sheriffs and Chiefs of Police

- An average of 1,409 arrests per year involved alcohol from 2012-2016.
- An average of 366 arrests per year involved drugs from 2012-2016.
- From 2012 to 2016, an average of 170 arrests per year involved meth.

Figure 57: Average Blood Alcohol Content, Natrona County, 2012-2016



Source: [Wyoming Association of Sheriffs and Chiefs of Police]

- The average blood alcohol content for arrests in 2016 that involved alcohol was .228.
- The average blood alcohol content significantly increased from 2015 to 2016.
- 2016 was the highest average blood alcohol levels seen from 2012 to 2016

APPENDIX

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