

Community Health Assessment 2023

Buchanan County, Iowa

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Introductory Letter and Acknowledgements

September 2023

Dear Buchanan County Resident:

We are pleased to share the 2023 Buchanan County Community Health Assessment with you. On behalf of the Buchanan County Board of Health, we hope you find this health assessment helpful in planning and responding to the needs of our county. We would personally like to thank Walden University Master of Public Health student Natalie Webster, and Doctor of Public Health candidate Lindley Sharp, for their work in the development of the 2023 Buchanan County Community Health Survey and Community Health Assessment report.

This report summarizes the key findings from the March 1-April 15, 2023, community health survey and secondary data sources, including the State of Iowa, United States (US) government department and agencies, and other key sources.

Following the community assessment, a Buchanan County Community Health Improvement Plan will be developed. This plan provides a template to assist Buchanan County Public Health and our stakeholders with implementing strategies that address these top five health priorities:

- Chronic Disease Prevention and Management
- Alcohol and Drug Use
- Mental Health
- Communicable Disease Prevention
- Protect Against Environmental Hazards

We hope you find this document useful and welcome any comments and suggestions you may have for improving the health of Buchanan County.

Sincerely,



Rhonda Jasper, RN,
Chair
Buchanan County Board of Health



Tai Burkhart, MPH, BSN, RN,
Director
Buchanan County Public Health Department

Recommend Citation:

Buchanan County Public Health. (2023). Community health assessment 2023: Buchanan County, Iowa
[www.buchanancounty.iowa.gov/Public_Health/CHA-HIP/Community Health Assessment 2023.pdf](http://www.buchanancounty.iowa.gov/Public_Health/CHA-HIP/Community%20Health%20Assessment%202023.pdf)

2023 Community Health Survey

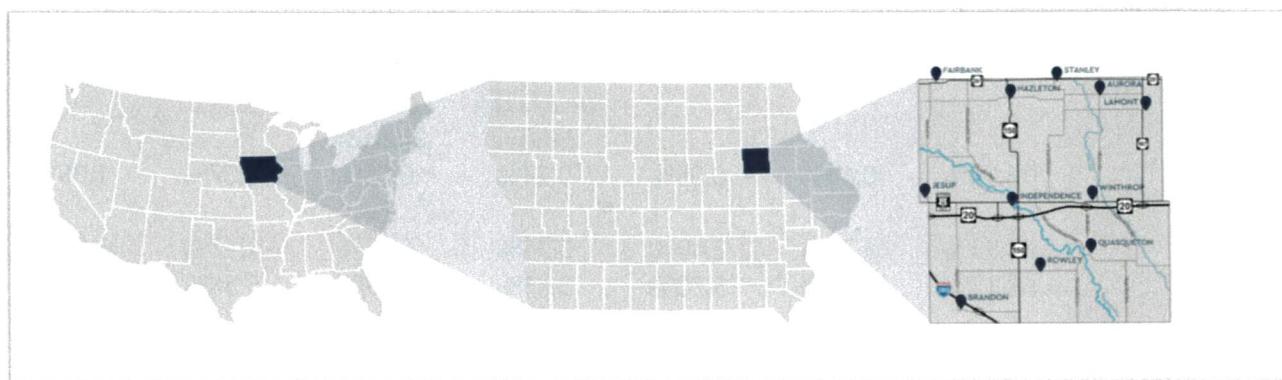
From March 1, 2023, to April 15, 2023, Buchanan County Public Health collected primary data from Buchanan County residents to learn what areas respondents felt should be a top community health priority. Table 1 shows the results of the community health survey. The Buchanan County Community Health Survey results and secondary data in this report closely match the health problems that exist and are most prevalent in Iowa. To learn more about Iowa's top health issues, please visit <https://hhs.iowa.gov/healthy-iowans>.

Table 1. Top Health Problems in Buchanan County

Rank	Topic	Percent of Respondents Identifying Topic as a Community Health Priority
1	Obesity	54.00%
2	Limited or No Access to Mental Health Services	45.97%
3	Substance Abuse	33.10%
4	Aging (arthritis, hearing/vision loss, dementia, etc.)	30.60%
5	Poor Nutrition or Limited Access to Healthy Food	19.40%
6	Heart Disease/Stroke/High Blood Pressure	16.94%
7	Lack of Transportation to Health Facilities and/or Inadequate Disability Accommodations	16.10%
8	Cancer	15.30%
9	Diabetes	12.90%
10	Infectious Diseases	12.09%
11	Limited or No Access to Specialty Care (OBGYN, Vision Center, Chiropractor)	6.50%
12	Limited or No Access to Dental Care	4.80%
13	Injuries (Falls, Car Accidents, Drowning, etc.)	2.40%
14	Affordable Housing	0.80%
15	Limited or No Access to Child Care	0.80%

County Profile

Buchanan County is located in Northeast Iowa and is home to over 20,565 residents who live in a 571.08 square mile area (US Census Bureau [USCB], n.d.a). Buchanan County is comprised of the communities Aurora, Brandon, Fairbank, Hazleton, Independence, Jesup, Lamont, Quasqueton, Rowley, Stanley, and Winthrop, making it the 32nd most populated county in Iowa. Buchanan County is a rural county (outside urban cores of 10,000 or more population). Approximately 68.5% of the population lives in a low population-density area of 500 or fewer people per square mile and less than 2,500 people (County Health Rankings & Roadmaps, n.d.). The population density for Buchanan County is estimated at 36 persons per square mile, which is less than the national average population density of 93 persons per square mile (SparkMap, n.d.).



Buchanan County Economic Development, n.d.

Demographics

Age

The largest age group in Buchanan County is individuals aged 5-17, followed by the 65+ population and individuals aged 55-64. The median age of all persons in Buchanan County is 39.2, which trends older than the state and national median age of 38.3 and 38.4, respectively (SparkMap, n.d.). Table 2 shows the percent of the population by age in Buchanan County compared to Iowa and the US.

Table 2. Total Population by Age Groups, Percent

Area	Age 0-4	Age 5-17	Age 18-24	Age 25-34	Age 35-44	Age 45-54	Age 55-64	Age 65+
Buchanan County	6.65%	19.71%	6.82%	10.88%	12.66%	11.71%	13.82%	17.74%
Iowa	6.12%	17.23%	9.97%	12.42%	12.35%	11.70%	13.22%	17.00%
United States	5.89%	16.62%	9.20%	13.76%	12.87%	12.63%	12.99%	16.04%

SparkMap, n.d.

Gender

According to SparkMap (n.d.), the percentage of males residing in Buchanan County is 49.67%; the female population is 50.33%. Table 3 shows how Buchanan County compares to Iowa and the US.

Table 3. Gender by Geographical Area

Area	Male	Female	Male, Percent	Female Percent
Buchanan County	10,230	10,368	49.67%	50.33%
Iowa	1,590,001	1,589,089	50.01%	49.99%
United States	163,206,615	166,518,866	49.50%	50.50%

SparkMap, n.d.

Race

Of all the population in Buchanan County, the percentage of the white population is 96.94%. Table 4 reports the percentage of the population by race alone. Similarly, for the population in Buchanan County, when looking at ethnicity alone, 98.23% is non-Hispanic, and 1.77% of the population is Hispanic or Latino (SparkMap, n.d.).

Table 4. Total Population by Race Alone, Percent

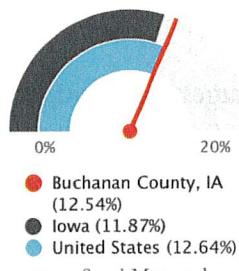
Area	White	Black	Asian	Native American or Alaska Native	Native Hawaiian or Pacific Islander	Some Other Race	Multiple Race
Buchanan County	96.94%	0.64%	0.05%	0.24%	0.08%	0.07%	1.98%
Iowa	87.93%	3.74%	2.49%	0.34%	0.13%	1.47%	3.89%
United States	68.17%	12.55%	5.70%	0.83%	0.19%	5.58%	6.99%

SparkMap, n.d.

Population with Any Disability

The percentage of the total civilian non-institutionalized population with a disability in Buchanan County is 12.54% or 2,560 individuals. For children under five years of age, hearing and vision difficulties are used to determine disability status. For children between 5 and 14, disability status is determined by hearing, vision, cognitive, ambulatory, and self-care difficulties. Individuals aged 15 and older are considered to have a disability if they have difficulty with any of the six difficulty types: hearing, vision, cognitive, ambulatory, self-care, and independent living (USCB, n.d.b.).

Figure 1.
Population with a Disability, Percent

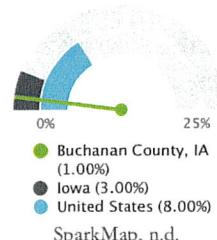


SparkMap, n.d.

Population with Limited English Proficiency

The inability to speak English well creates barriers to healthcare access, provider communication, and health literacy/ education. Of the Buchanan County population aged five and older, 1%, or 218 individuals, identified speaking English less than "very well" in the American Community Survey, 2017-2021 (SparkMap, n.d.).

Figure 2.
Population Age 5+ with Limited English Proficiency, Percent



SparkMap, n.d.

Veteran Population

Throughout Buchanan County's history, many men and women from our population have answered the call to uniformed service, and these individuals continue to lead in our communities once they are out of uniform. Nationwide, approximately 200,000 men and women transition out of active-duty service and return to civilian life. This adjustment requires Veterans and their families to reorient their lives across many domains, including employment, finances, housing, social support, and health. The indicator table below (Table 5) reports the percentage of veterans by age group.

Table 5. Buchanan County Veteran Population by Age Group, Percent

Report Area	Age 18-34	Age 35-54	Age 55-64	Age 65-74	Age 75+
Buchanan County	1.34%	5.38%	5.69%	20.15%	19.72%
Iowa	1.84%	5.01%	6.78%	15.81%	19.89%
United States	2.02%	4.96%	7.45%	14.29%	19.10%
SparkMap, n.d.					

Social & Economic Factors

Economic and social factors affect how well and long we live. These factors include income, education, employment, community safety, and social support. For example, a living wage shapes opportunities for housing, education, childcare, food, and medical care. Additionally, without a network of support and a safe community, families cannot thrive. Communities that are cut off from investments or have experienced discrimination have fewer social and economic opportunities. These gaps disproportionately affect people of color and living in rural areas.

Education

Educational Attainment

Adults with higher educational levels live healthier and longer lives compared to less educated peers. Adults with higher academic levels report better general health, fewer chronic conditions, and fewer functional limitations and disability (Zajacova & Lawrence, 2018). Table 6 shows the educational attainment of Buchanan County for the population 25 years of age and over.

Table 6. Buchanan County Education Attainment

	Estimate	Percent
Total	13,763	
Less than 9 th grade	375	2.7%
9 th to 12 th grade, no diploma	484	3.5%
High school graduate (includes equivalency)	4,825	35.1%
Some college, no degree	3,154	22.9%
Associate's degree	1,976	14.4%
Bachelor's degree	2,099	15.3%
Graduate or professional degree	850	6.2%

Iowa Data Center, n.d.

Disconnected Youth

Disconnected youth, also called opportunity youth, are teenagers and young adults ages 16 to 24 who are neither working nor in school (US Department of Agriculture [USDA], n.d.). Disconnected youth face difficulties supporting themselves and are more likely to rely on government support and be involved in criminal activity. Risk factors for disconnected youth include household income, minority, and immigration status, parent education level, involvement in foster care or the juvenile system, and community characteristics (USDA, n.d.). Data from the American Community Survey showed Buchanan County ranking as one of the highest counties in the state with disconnected youth aged 16-19 for the years 2017-2021.

Table 7. Disconnected Youth

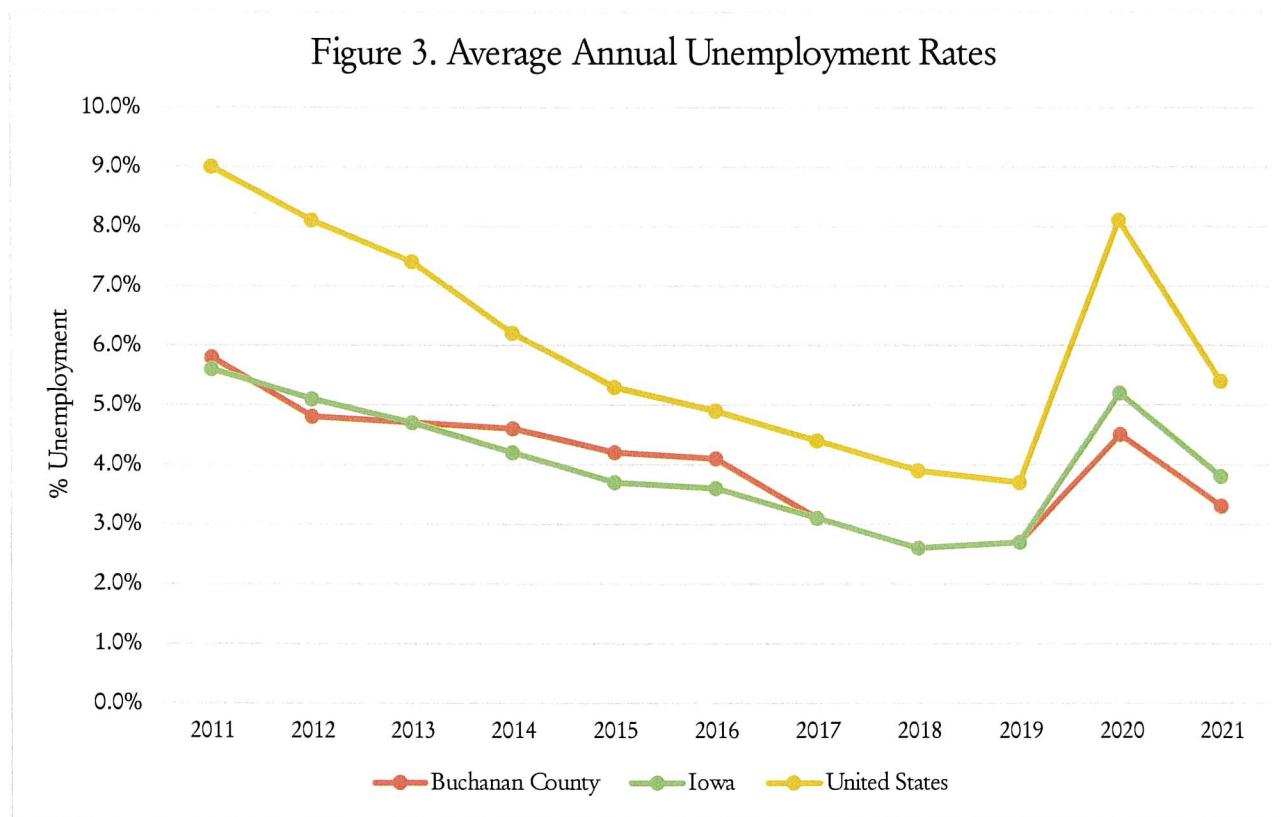
Buchanan County	Iowa	United States
13%	6%	7%

Employment

According to the USCB (n.d.c.), of the 15,811 working-age population, 10,640 individuals were included in the labor force. The labor force participation rate for Buchanan County is 67.29%, which is higher than the state labor force participation rate of 66.84%, and the national labor force participation rate of 63.11%.

Unemployment Rate

The US Department of Labor, Bureau of Labor Statistics for April 2023, showed the unemployment rate for Buchanan County was 2.2% for the civilian non-institutionalized population aged 16 and older (non-seasonally adjusted). The unemployment rate for the same population in Iowa was 2.3% and 3.1% for the U.S. Figure 3 shows the annual unemployment trends for Buchanan County, Iowa, and the US for 2011-2021. The figure does not show a significant unemployment trend for Buchanan County in the report years for this measure.



Income

Based on the 5-year American Community Survey estimates for 2017-2021, the median household income for Buchanan County was \$71,024. This median household income includes the income of the householder and all individuals 15 and older, whether they are related to the householder or not. Table 8 shows both the average and median household incomes for Buchanan County.

Table 8. 2017-2021 Average and Median Household Incomes

Report Area	Total Household	Average Household Income	Median Household Income
Buchanan County	7,787	\$82,576	\$71,024
Iowa	1,275,893	\$84,948	\$65,429
United States	124,010,992	\$97,196	\$69,021
SparkMap, n.d.			

The median household income varies considerably by race and ethnicity of the householder. For example, in Buchanan County, the median household income for Non-Hispanic Whites is \$73,009 compared to \$65,625 for Blacks, \$46,250 for American Indians or Alaska Natives, and \$20,368 for a householder of Multiple Race (SparkMap, n.d.). The percent of households by household income levels is displayed in Table 9.

Table 9. 2017-2021 Households by Household Income Levels, Percent

Report Area	Under \$25,000	\$25,000-\$49,999	\$50,000-\$99,999	\$100,00-\$199,999	\$200,000+
Buchanan County	16.00%	19.04%	35.85%	26.08%	3.02%
Iowa	16.63%	21.22%	33.03%	23.37%	5.75%
United States	17.18%	19.60%	29.63%	24.14%	9.46%
SparkMap, n.d.					

Poverty Profile

The Federal Poverty Level (FPL) is a yearly measure of income used to determine eligibility for specific programs and benefits such as Medicaid and the Children's Health Insurance Program. The FPL varies by household size and state. Table 10 reports the percentage of the total Buchanan County population living in households at incomes at various FPL thresholds.

Table 10. FPL Profile

Report Area	50% or Less	51%-100%	101%-150%	151-200%	201%-500%	Over 500%
Buchanan County	3.24%	4.79%	5.70%	10.59%	51.33%	24.35%
Iowa	4.99%	6.02%	7.79%	8.54%	45.10%	27.56%
United States	5.78%	6.85%	8.11%	8.47%	40.25%	30.54%
SparkMap, n.d.						

Poverty and Children

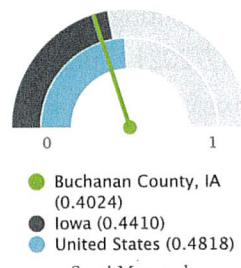
In Buchanan County, 517, or 9.59% of children aged 0-17, live in households with income below the 100% FPL. Poverty creates barriers to accessing health services, healthy food, and other necessities contributing to poor health status. The federal National School Lunch Program operates in public and nonprofit private schools and residential childcare institutions. It is a solution to addressing hunger and nutrition to qualifying students in families with income under 185% (reduced lunch prices) or under 130% (free lunch) of the FPL. According to the National Center for Education

Statistics: 2020-2021, 926 or 27.3% of students were eligible for free or reduced-price lunches, which is lower than the state and national average.

Income Inequality

The Gini index measures income inequality and summarizes income dispersion across the entire income distribution. The Gini coefficient ranges from 0 to 1, where 0 indicates perfect equality (where every household receives an equal share), and 1 indicates perfect inequality (where only one household receives all the income) (USCB, n.d.d.). The values indicated in Figure 4 factor for 7,787 households in Buchanan County with a Gini index score of 0.4024.

Figure 4.
Gini Index Value



Gender Pay Gap

According to the US Department of Labor (2023), women are not paid as much as men, even when working full time and year around. Nationwide, women, on average, are paid 83.7% of what men are paid. This inequity is greater for Black and Hispanic women. In Buchanan County, women earned an average of \$0.80 for every \$1.00 men made in annual income. In Iowa, women earned \$0.78 for every \$1.00 men earned; in the US, women earned \$0.81 for every \$1.00 men made in annual income (County Health Rankings & Roadmaps, n.d.).

Living Wage

A living wage is the minimum income necessary for an individual or family to meet their basic needs of food, housing, and other essential needs such as clothing. The goal of a living wage is to allow individuals and families to afford a standard of living without government subsidies. Based on data from 2022, the hourly wage needed to cover the basic household expenses, plus all relevant taxes for a household of one adult and two children in Buchanan County, is \$41.59 (Living Wage Calculator, n.d.).

Family & Social Support

Single Parent Households

The percentage of children living in a single-parent household is a measure from the 2017-2021 American Community Survey. The percentage of children in single-parent households in Buchanan County during the period was 12%, 21% for the State of Iowa, and 25% for the US. Mortality (the number of deaths in a population) and morbidity (the rate of disease in a population) are higher among lone parents, and all-cause mortality is higher in children of single-parent households. Nationwide, policies and programs that are scientifically supported to improve family and social support, including early childhood home visiting programs, group-based parenting programs, and nurse-family partnerships.

Black/White Residential Segregation

The residential segregation of black and white residents is linked to poor health outcomes, increased mortality, various reproductive, chronic, and infectious diseases, and other conditions. Individuals in segregated neighborhoods are more likely to live in poor-quality housing and have higher exposure to environmental toxins. The dissimilarity index ranges from 0 to 100, with lower values representing less residential segregation and higher values representing more segregation. From 2017-2021, Buchanan County had a residential segregation index of 73 for black and white residents compared to 62 for Iowa and the US.

Childcare Cost Burden and Childcare Centers

When childcare is affordable and accessible, it increases the opportunities for parents or guardians to pursue further education, participate in work to earn income and gain access to healthcare and retirement benefits to support the household. The US Department of Health and Human Services considers childcare affordable when the expense consumes less than 7-10% of the household income. When much of a paycheck goes toward childcare expenses, households face difficult trade-offs to meet basic needs. For 2021 and 2022, households in Buchanan County spent an average of 26% of their income on childcare for two children. This compares to 26% for Iowa and 27% for the US. Additionally, in Buchanan County, there were 7 childcare centers per 1,000 children under five from 2010-2022. For Iowa and the US, there were 8 and 7 (respectively) childcare centers per 1,000 children under age five during the same timeframe.

Community Safety

Unintentional Injury (Accident)

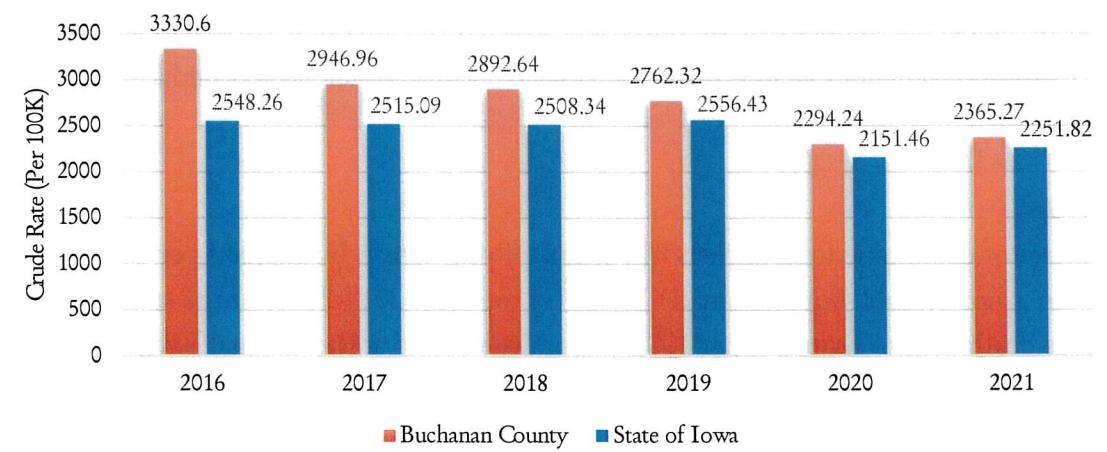
Unintentional injuries or accidents are injuries that were not planned. These injuries can occur in a short period (within seconds or minutes), a harmful outcome was not sought, or the outcome was a result of physical energy in the environment or normal body function that was blocked by external means (i.e., drowning). Unintentional injury prevention efforts occur in the following areas throughout Iowa, including Buchanan County: home safety, traffic safety, and safe communities.

Falls

Falls are the leading injury-related death among Iowans aged 65 and older (Iowa Tracking Portal, n.d.a.). From 2009-2019, the rate of deaths from falls in older Iowans increased steadily. The data from 2011-2021 for fall-related injury deaths is suppressed¹ for the count of deaths, crude rate (per 100K), and age-adjusted rate (per 100k).

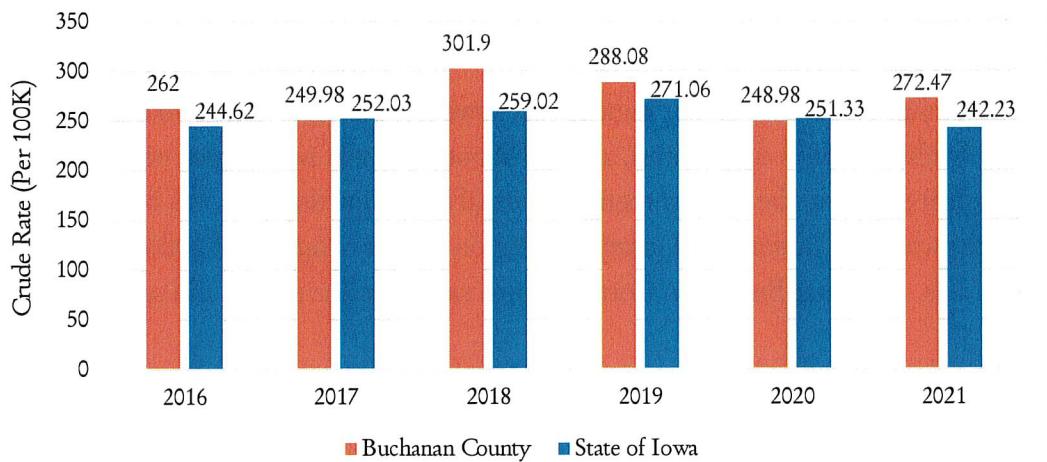
Figure 5 shows a time trend for the crude rate (per 100K) of emergency room visits, including a diagnosis code for unintentional fall-related injury for all age groups, gender, and race for Buchanan County and Iowa. In addition, Figure 6 shows a time trend for the crude rate (per 100K) of fall-related hospitalizations for unintentional falls for all age groups, gender, and race.

Figure 5. Fall Related Injury Emergency Department (ED) Visits Time Trend



¹ Data suppression happens for several different reasons. It may be suppressed to prevent the identification of individuals from a small group or those with unique characteristics, for statistical computation reasons (i.e., when number of cases used to calculate rates are small, they tend to have poor reliability), legislation that prohibits the release of state or county-level data to outside entities, etc. (CDC, n.d.a).

Figure 6. Fall Related Hospitalizations Time Trend



Motor Vehicle Crash Deaths

Nationwide, motor vehicle crashes are one of the leading causes of death. Deaths from motor vehicle crashes may result from poorly designed roads, impaired drivers, or unsafe weather conditions. In 2021, the National Highway Traffic Safety Administration (n.d.) found 3,522 people were killed by distracted driving. In Buchanan County, there were nine deaths from motor vehicle crashes per 100,000 people. This compares to 11 deaths (Iowa) and 12 deaths (US) from motor vehicle crashes per 100,000 people during 2014-2020.

Intentional Injuries

Intentional injuries are injuries that are purposely inflicted and are often associated with violence. Types of intentional injuries include domestic violence, sexual assault, aggravated assault, homicide, and suicide.

Homicides

The number of deaths due to homicides (the killing of one human by another) per 100,000 population is not available for Buchanan County for the years 2014-2020. At the state level, there were three deaths due to homicide per 100,000 population, and at the national level, there were six deaths due to homicide per 100,000 population for the period 2014-2020.

Suicides

Suicide is an important measure of the mental health of a county's population. Suicide impacts the emotional and mental health of surviving family, friends, and loved ones. It also has a significant economic impact on the US. The number of deaths from self-inflicted injuries per 100,000 (age-adjusted) population is reported in Table 11.

**Table 11. Suicides
Deaths per 100,000 Population (Age-Adjusted)**

Buchanan County	14
Iowa	16
United States	14

County Health Rankings & Roadmaps, n.d.

- *Firearm Fatalities*

In the U.S., most firearm fatalities are the result of suicides (63%) and homicides (33%). Suicide is strongly associated with the availability of household guns, and state-level rates of gun ownership are significantly associated with firearm and overall homicide rates. From 2016-2020 there were ten deaths due to firearms per 100,000 people in Buchanan County and the State of Iowa, and there were 12 deaths due to firearms per 100,000 people in the US.

Juvenile Arrests

Youth who are arrested are disproportionately higher at facing morbidity and mortality. Juvenile arrests result from many factors, from local laws, community, and family support to individual behaviors. Strategies that work to reduce juvenile arrests include alcohol outlet density restrictions, school or community setting mentoring programs, community policing, and a variety of behavioral therapies. In Buchanan County, there were 23 juvenile delinquency court cases per 1,000 youths in 2019 (County Health Rankings & Roadmaps, n.d.). This compares to a rate of 37 per 1,000 in Iowa and 24 per 1,000 in the US.

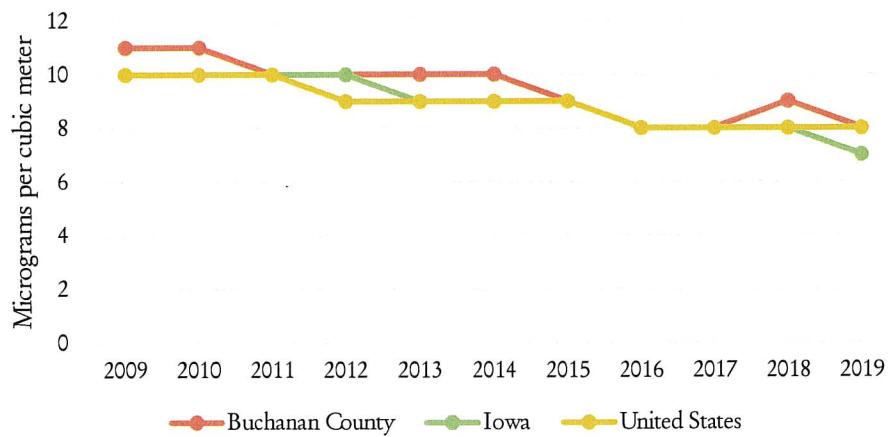
Physical Environment

The air we breathe, the water we drink, the homes we live in, and the modes of transportation we utilize impact our health. Air pollution is associated with higher asthma and lung disease rates and increases the risk of premature death. Contaminated water sources can lead to illness, infections, and increased cancer risks.

Air Quality

Particle pollution, or particulate matter, is particles in the air such as dust, dirt, soot, smoke, and tiny drops of liquid (Iowa Tracking Portal, n.d.b.). Fine particulate matter (PM2.5) is a concern for people's health when levels in the air are high because the diameter of PM2.5 is so small, which makes it easier to get into deep parts of the lungs and people's blood. According to County Health Rankings & Roadmaps (n.d.), the PM2.5 trends have improved in Buchanan County, as displayed in Figure 7.

Figure 7. Particulate Matter
Average Daily Density of Fine Particulate Matter



Climate

Temperature, precipitation, and extreme weather events can impact the health of populations by increasing the number of persons who experience heat stress, have worsening respiratory and cardiovascular diseases, worsening allergies and asthma, and increase food-, water-, and animal-borne diseases (Iowa Tracking Portal, n.d.c.). High-heat days increase the risk of heat rashes, cramps, heat exhaustion, and stroke. Figure 8 shows a time trend of the number of high-heat days in which there was a temperature at or above 95 degrees Fahrenheit and the number of days in which there was an overnight low temperature at or above 70 degrees Fahrenheit. Like temperature, precipitation levels can impact health in many ways, such as flooding and drought. Figure 9 represents the total precipitation in inches recorded in Buchanan County annually.

Figure 8. Buchanan County High Heat Days Time Trend

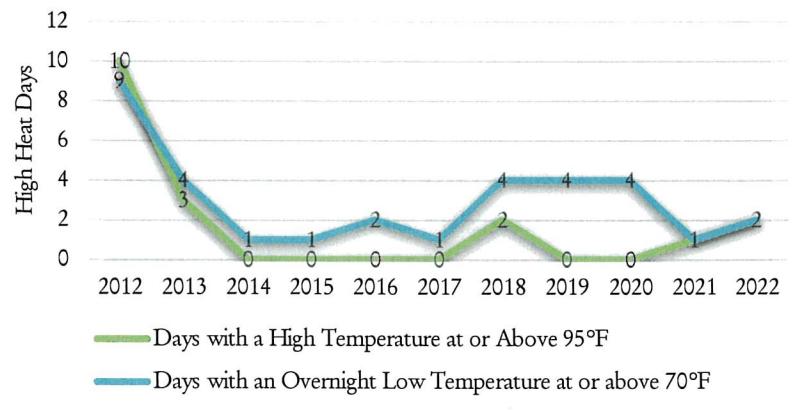
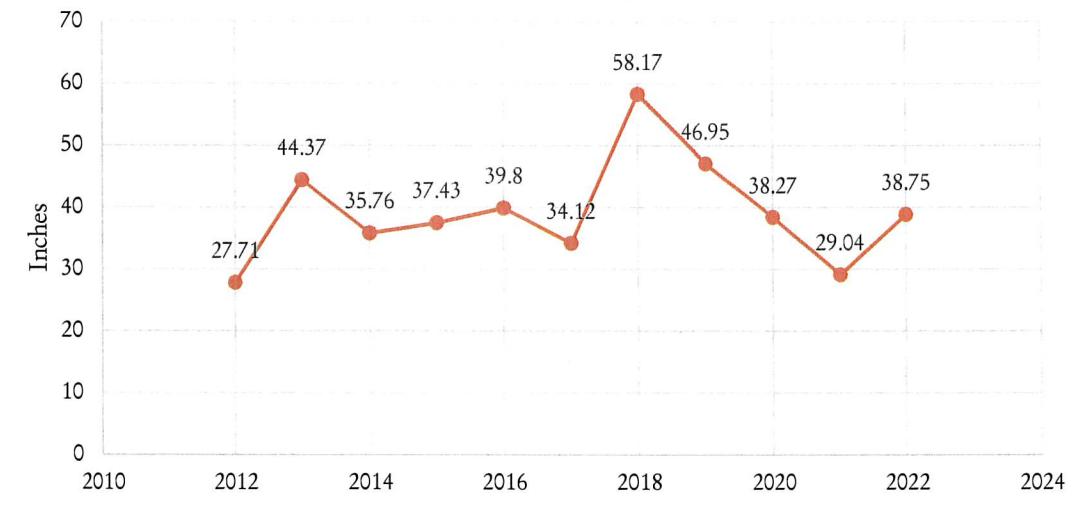


Figure 9. Total Precipitation in Inches



Private Well Water

Private water wells supply water to households in Buchanan County that Public Water Systems do not serve. The Iowa Department of Natural Resources Private Well program provides regulatory oversight of private wells in Iowa. Ensuring the safety of drinking water is essential to prevent illness, birth defects, and death. It also helps to minimize other health problems such as nausea, lung and skin irritation, cancer, kidney, liver, and nervous system damage. In Iowa, it is recommended that private water wells be tested for nitrate and coliform bacteria yearly, as these tests are indicators of other water quality or well problems. Additionally, the Grants to Counties program, managed by Buchanan County Environmental Health, allows for arsenic testing to better understand the extent of arsenic in Iowa's groundwater. The measures bulleted below show the number of types and tests conducted on private water wells, the number of tests with elevated levels, and the percent of elevated tests for 2015-2020 in Buchanan County and the State of Iowa.

- **Arsenic Testing 2016-2020**
 - Buchanan County: Total tests: 610; Elevated tests: 109; Percent elevated tests: 17.86%
 - Iowa Total tests: 16,114; Elevated tests: 2,500; Percent elevated tests: 15.51%
- **Nitrate Testing 2015-2020**
 - Buchanan County: Total tests: 1,008; Elevated tests: 99; Percent elevated tests: 9.82%
 - Iowa Total test: 36,019; Elevated tests: 4,826; Percent elevated tests: 13.40%
- **Total Coliform Bacteria Testing 2015-2020**
 - Buchanan County: Total test: 1,322; Elevated tests: 480; Percent elevated tests: 36.30%
 - Iowa Total tests: 44,361; Elevated tests: 14,514; Percent elevated tests: 32.72%
- **Fecal Coliform Bacteria Testing 2015-2020**
 - Buchanan County: Total test: 47; Elevated tests: 1; Percent elevated tests: 2.13%
 - Iowa Total tests: 1,656; Elevated tests: 94; Percent elevated tests: 5.68%

Public Drinking Water

Most Iowans rely on public water systems as their water source. The US Environmental Protection Agency (EPA) regulates Iowa's public drinking water systems. Ten select contaminants are tested for in public drinking water supplies, including arsenic, atrazine, di(2-ethylhexyl) phthalate (DEHP), haloacetic acids (HAA5), nitrate, radium, tetrachloroethene (PCE), trichloroethene (TCE), trihalomethanes (TTHM), and Uranium. According to County Health Rankings & Roadmaps (n.d.), data from 2016-2023 shows that at least one community water system in Buchanan County reported a health-based drinking water violation in 2018.

Radon

Radon is an invisible, odorless, radioactive gas naturally released from rocks, soil, and water. Radon can enter our homes and other buildings through small cracks or holes and builds in the air.

Breathing in high levels of radon over time can cause lung cancer. All of Iowa is located in a "red" zone, indicating that Iowans have a very high potential for elevated levels of radon gas. According to the US EPA, approximately 7 in 10 homes contain radon concentrations above the radon action level of 4 picoCuries/Liter (pCi/L). It is recommended that Iowan's test for radon in their homes every two years or after renovating their home.

Severe Housing Problems

Living in homes that are safe and free from physical hazards and harmful exposures is crucial for good health. High housing costs, overcrowding, and low-quality home equipment and systems (heating, plumbing, air conditioning, etc.), are just a few of the issues that can impact health. From 2015-2019, 11% of households in Buchanan County experienced at least one of the outlined housing problems. This compares to 12% of households in Iowa and 17% of households in the US experiencing a severe housing problem during the same period (County Health Rankings & Roadmaps, n.d.).

Transportation

Transportation impacts our health in many different ways. Emissions from vehicles contribute to outdoor air pollution, people who drive to work are less likely to reach daily recommended activity levels, and lack of access to public transportation can impact how individuals access medical treatment. According to County Health Rankings & Roadmaps (n.d.), 80% of Buchanan County's workforce drove alone to work from 2017-2021. This compares to 79% and 73% of Iowa and the US workforce driving alone to work, respectively. It was also reported during the same timeframe that 32% of Buchanan County workers drive alone to work with commutes that are more than 30 minutes each way (County Health Rankings & Roadmaps, n.d.). Long commute measures for Iowa were 21% of workers and 37% of workers in the US from 2017-2021.

Clinical Care

Clinical care relates to direct medical treatment or testing of patients. Access to affordable, quality health care can prevent disease and lead to early disease detection.

Uninsured

The lack of health insurance impacts health status. The percentage of the Buchanan County population without health insurance for the years 2017-2021 was 6.07% or 1,238 persons. The rate of uninsured persons in Buchanan County is greater than the state average of 4.86% but lower than the US average of 8.77%. Tables 12 and 13 show a breakdown of the uninsured population by race and age group.

Table 12. Uninsured Population by Race

Report Area	Non-Hispanic White	Black or African American	Native American or Alaska Native	Asian	Native Hawaiian or Pacific Islander	Some Other Race	Multiple Race
Buchanan County	5.79%	3.42%	26.67%	36.36%	0.00%	20.00%	17.73%
Iowa	3.82%	9.43%	13.62%	8.19%	20.01%	18.01%	8.19%
United States	5.97%	9.95%	19.32%	6.28%	11.15%	19.86%	11.99%

[Sparkmap](#), n.d.

Table 13. Uninsured Population by Age Group

Report Area	Under Age 18	Age 18-64	Age 65+
Buchanan County	7.88%	6.48%	1.91%
Iowa	2.88%	7.00%	0.33%
United States	5.30%	12.29%	0.80%

[Sparkmap](#), n.d.

Ratio of Population to Medical Providers

Access to care not only requires financial coverage but also access to medical providers. High rates of providers in an area are essential for preventative and primary care and, when needed, referrals to appropriate specialty care. Table 14 shows the ratio of primary care physicians, dentists, mental health providers, and other primary care providers (nurse practitioners, physician assistants, and clinical nurse specialists) per person in Buchanan County. For example, as shown in the table below, there was one primary care physician per 2,130 people in Buchanan County.

Table 14. Ratio of Population to Medical Provider Type

Provider Type	Ratio of Buchanan's to Provider Type	Ratio of Iowans to Provider Type	Ratio of Americans to Provider Type
Primary Care Physician	2,130:1	1,360:1	1,320:1
Dentists	2,959:1	1,430:1	1,380:1
Mental Health Providers	710:1	530:1	340:1
Other Primary Care Providers	1,290:1	800:1	810:1

County Health Rankings & Roadmaps, n.d.

Preventable Hospital Stays

Hospitalizations for ambulatory-care conditions (diagnoses such as acute illness or chronic conditions usually treatable in outpatient settings) is defined as quality outpatient care that is not accessible, thus resulting in hospital stays. This measure also represents a tendency to overuse emergency rooms and urgent care as a primary source of care (County Health Rankings & Roadmaps, n.d.). No significant long-term trends have been found in Buchanan County for preventable hospital stays. However, the trend has slightly improved from 2018-2020 (2018-2020) (County Health Rankings & Roadmaps, n.d.). In Buchanan County, outpatient treatment might have prevented 1,977 hospital stays per 100,000 people enrolled in Medicare in 2020. This compares better than 2,400 and 2,809 hospital stays per 100,000 people enrolled in Medicare for Iowa and the US in 2020, respectively.

Mammography Screening

From 2012-2020, there have been no significant trends in the percentage of female Medicare enrollees ages 65-74 that have received an annual mammography screening. Iowa has the 15th-highest rate of female breast cancer in the nation. According to the CDC (n.d.), the US Prevention Services Task Force recommends that women 50 to 74 receive a mammogram every two years. Women 40 to 49 should talk to their doctor, other healthcare provider, or health insurance plans about when to start and how often to get a mammogram.² For many women, mammograms are the best way to find breast cancer early, when it is easier to treat and before it is big enough to feel or cause symptoms. From 2012-2020 between 37%-43% of female Medicare enrollees received an annual mammography screening.

Vaccinations

Immunizations are a safe, effective way to protect from disease, cancers, and hospitalizations. Vaccines teach the immune system how to recognize and fight bacteria and viruses before an

² Mammogram screening guideline recommendations may vary by other professional organizations.

infection can occur (Iowa Public Health Tracking Portal, n.d.d). The Advisory Committee on Immunization Practices develops recommendations for routine administration of vaccines, along with timing, dosage, and contraindications for children, adolescents, and adults. Table 15 includes the percentage of children that received the recommended doses of vaccines by age 24 months (2 years old). Table 16 consists of the rate of adolescents receiving recommended vaccine doses 13-15 years of age. Table 17 shows the percentage of the Buchanan County and Iowa population that received the flu vaccine by age group.

Table 15. 2-Year-Old 4-3-1-3-3-1-4³ Immunizations by Census Population

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Buchanan County	67.1%	66%	66.1%	73.1%	71.5%	69.9%	63.5%	75.8%	65.3%	66.7%
Iowa	58.5%	63.9%	62.1%	67.7%	70.4%	72.9%	67.0%	75.9%	73.3%	70.1%

Iowa Public Health Tracking Portal, n.d.e.

Table 16. Adolescent 3-1-2-1-2⁴ Immunizations by Census Population

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Buchanan County	53.3%	61.3%	65.0%	73.1%	71.0%	80.0%	77.4%	82.5%	80.4%	80.4%
Iowa	34.9%	42.8%	52.9%	60.8%	69.1%	76.4%	78.2%	88.1%	89.2%	89.2%

Iowa Public Health Tracking Portal, n.d.f.

Table 17. Percent of Population Receiving Flu Vaccine by Age Group

Report Area/Age Group	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Buchanan County 6 months to 8 years	46.1%	51.6%	49.3%	38.0%	30.5%
Iowa 6 months to 8 years	53.9%	56.2%	54.3%	45.6%	39.7%
Buchanan County 9 to 17 years	24.9%	29.2%	27.9%	20.9%	17.9%
Iowa 9 to 17 years	33.3%	37.0%	37.0%	29.5%	26.9%
Buchanan County 18 to 49 years	21.7%	26.7%	24.7%	22.4%	20.4%
Iowa 18 to 49 years	23.6%	26.4%	28.3%	25.2%	23.6%
Buchanan County 50 to 64 years	37.1%	41.3%	43.5%	41.5%	39.2%
Iowa 50 to 64 years	39.2%	41.5%	45.8%	41.7%	39.9%
Buchanan County 65 + years	63.8%	65.6%	63.1%	61.9%	71.5%
Iowa 65 + years	63.6%	64.8%	45.2%	40.9%	69.4%

Iowa Public Health Tracking Portal, n.d.g.

³ 4-3-1-3-3-1-4 is the vaccine series of recommended doses of 4 DTaP, 3 Polio, 1 MMR, 3 Hib, 3 Hepatitis B, 1 Varicella, and 4 PCV.

⁴ 3-1-2-1-2 is the vaccine series of recommended doses of 3 Hepatitis B, 1 Meningococcal, 2 MMR, 1 Td/Tdap, and 2 Varicella.

The Human Papillomavirus (HPV) vaccine rates continue to increase in Iowa and Buchanan County. The HPV vaccine prevents infection by certain types of HPV and protects from HPV infections that can cause cancer later in life. According to the Iowa Public Health Tracking Portal (n.d.h.), the complete HPV vaccine series in 13-15-year-olds in Buchanan County (census population) increased from a 34.2% completion rate in 2015 to a 54.3% completion rate in 2022.

Healthy Behaviors

Healthy behaviors can improve or worsen the health of communities and individuals. Healthy behaviors include tobacco use, diet and exercise, alcohol and drug use, and sexual activity. Health behaviors are determined by the options available where people live, work, and play.

Tobacco Use

Tobacco remains the top preventable cause of death and disease in Iowans. Communities can reduce the harm of tobacco by eliminating health disparities, preventing youth and young adults from starting, reducing exposure to secondhand smoke, and helping individuals who are using tobacco products quit.

Adult and Youth Smoking/Nicotine Use

Behavioral Risk Factor Surveillance System (BRFSS) data from 2020 shows that 18% of adults in Buchanan County are current cigarette smokers, which is similar to the age-adjusted percentage of adults who are current smokers in Iowa (17%) and the US (16%). While not available at the county level, youth tobacco and e-cigarette data from the 2018 Iowa Youth Survey showed that 24% of 11th graders surveyed in Iowa used any tobacco product.

Diet and Exercise

A balanced diet and physical activity are crucial for health. Yet approximately only one-third of US adults engage in a minimum of 150 minutes of moderate physical activity per week and exceed the number of calories recommended for a healthy diet while eating insufficient servings of fruits and vegetables. This lack of physical activity and overconsumption of calories leads to obesity and other health conditions such as coronary heart disease, diabetes, and some cancers. It has also been shown to impact depression and age-related cognitive decline.

Adult Obesity

Obesity is reported as a body mass index (BMI) greater than or equal to 30kg/m². This chronic condition increases the risk of hypertension, heart disease, type 2 diabetes, chronic inflammation, mental illness, breathing problems, and some cancers. Environmental factors that impact obesity is the accessibility and affordability of foods rich in nutrients and the marketing of foods not rich in nutrients. In 2020, the percentage of adults (age 18 and older) with BMIs of 30kg/m² or greater was higher in Buchanan County (39%) and Iowa (37%) than in the US (32%).

Physical Inactivity

Adults need 150 minutes of moderate-intensity physical activity each week and two days of muscle-strengthening activity (Office of Disease Prevention and Health Promotion, 2018). Table 18 shows 2019 data based on adults aged 20 and older that reported no active leisure time in the past month.

Table 18. 2019 Past Month Physical Inactivity for Adults 20 and Older

Report Area	Population Age 20+	Adults Age 20+ with No Leisure Time Physical Activity	Adults Age 20+ with No Leisure Time Physical Activity, Percent
Buchanan County	15,220	4,018	25.2%
Iowa	2,338,989	532,286	21.9%
United States	239,878,217	54,200,862	22.0%
SparkMap, n.d.			

Access to Exercise Opportunities

Individuals who live closer to sidewalks/trails, parks, gyms/recreational facilities are more likely to exercise. Data from 2020 & 2022 showed that 66% of people living in Buchanan County live near a park or recreational facility. For Iowa, 79% lived near a park or recreation facility and 84% of the US.

Food Insecurity

Food insecurity is a household's limited or uncertain access to adequate food. Food insecurity is categorized as either low food security or very low food security. According to data from 2020 County Health Rankings & Roadmaps (n.d.), Buchanan County and Iowa had 7% of our population lacking adequate access to food. Furthermore, 3% of low-income people in Buchanan County in 2019 did not live near a grocery store, limiting their ability to access healthy food easily (County Health Rankings & Roadmaps, n.d.).

Alcohol and Drug Use

Substance use disorders can involve alcohol, illicit drugs, or prescription drugs. Opioid use disorders have become more problematic in recent years across the nation. Substance use disorders are linked to many health problems and can lead to overdoses and death. Effective prevention and treatments are needed to prevent substance use disorder and decrease morbidity and mortality rates.

Excessive Drinking

Binge drinking is the most common excessive alcohol use in the US. One in six US adults binge drinks, with 25% doing so at least weekly (CDC, n.d.b.). Excessive drinking is associated with several health problems, such as unintentional injuries (motor vehicle crashes, falls, alcohol poisoning), sexually transmitted diseases, unintended pregnancy and poor pregnancy outcomes, fetal alcohol spectrum disorders, chronic diseases, cancer, etc. (CDC, n.d.b.). 2020 BRFSS data showed that in Buchanan County, 27% of adults reported binge or heavy drinking. This compares to 25% of Iowa adults and 19% of US adults in the same year.

Alcohol-Impaired Driving Deaths

Alcohol-impaired driving deaths are a trend where Buchanan County is getting better. From 2016-2020, 18% of motor vehicle crash deaths involved alcohol. This compares to 27% of motor vehicle crash deaths involving alcohol in Iowa and the US from 2016-2020.

Drug Overdoses

Death from drug poisoning is a nationwide issue and is the leading cause of injury-related mortality in the US (Iowa Public Health Tracking Portal, n.d.i.). Statewide emergency department unintended drug overdoses include the number of Buchanan County residents admitted to the hospital. From 2018-2022, the average number of drug overdose visits per year was 32.8.

Sexual Activity

High-risk sexual activity, such as unsafe sex and higher numbers of lifetime sexual partners, can lead to sexually transmitted infections (STIs) and unplanned pregnancies.

Sexual Transmitted Infections

Across the nation, rates of syphilis, gonorrhea, and chlamydia infections have been increasing. Young people, gay and bisexual men, are at the highest risk for STIs, which can have reproductive health implications, especially for young women (County Health Rankings & Roadmaps, n.d.). HPV causes almost all cervical and anal cancers; some STIs (such as HIV and herpes) cannot be cured. Table 19 shows chlamydia and gonorrhea cases by year in Buchanan County.

Table 19. Buchanan County New STI Cases by Year												
Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Chlamydia	33	46	46	50	40	58	58	76	79	61	65	58
Gonorrhea	7	3	5	8	2	4	11	30	27	20	16	4

Iowa Public Health Tracking Portal, n.d.j.

Teen Births

Early childbearing has been associated with adverse health, social disadvantages, and social adversity outcomes for the mother and child. In Buchanan County, there were ten teen births per 1,000 females ages 15-19, 16 teen birth per 1,000 in Iowa, and 19 teen births per 1,000 in the US. The years of data used for this measure were 2014-2020.

Health Outcomes

Health outcomes are influenced by many of the health factors throughout this assessment. Health outcomes tell us how long people live on average within communities and tell us how much physical and mental health people experience. Health outcomes include length of life and quality of life.

Length of Life

Length of life is the time between birth and death that we measure to reveal what might have led to early death. Improving community-level factors that shape our health can influence the length of life. Length of life includes premature deaths and life expectancy.

Premature Death

From 2018-2020, 5,000 years of life were lost to deaths of people under age 75 (per 100,000 people) in Buchanan County (County Health Rankings & Roadmaps, n.d.), which was lower than the years of life lost to death in Iowa and the US. The leading causes of death in Buchanan County for individuals under age 75 are outlined in Table 20.

Table 20. Buchanan County Leading Causes of Death Under Age 75

Leading Cause of Death	Deaths	Age-Adjusted Rate per 100,000
Malignant neoplasms (Cancer)	68	79.9
Diseases of heart	43	50.2
Accidents (Unintentional injuries)	20	33.3
Chronic lower respiratory diseases	16	Unreliable
Cerebrovascular diseases	11	Unreliable

Life Expectancy and Premature Age-Adjusted Mortality

Life expectancy is the average number of years a person can expect to live. Premature age-adjusted mortality is defined as the number of deaths among residents under age 75 per 100,000 population (County Health Rankings & Roadmaps, n.d.).

- From 2018-2020 the average life expectancy in Buchanan County was 79.7 years, just over a year higher than that of Iowa and the US.
- The premature age-adjusted mortality for Buchanan County from 2018-2020 was 310 deaths per 100,000 people aged 75 or younger.

Child Mortality and Infant Mortality

Child mortality is measured as the number of deaths among residents under age 18 per 100,000 population. Infant mortality is calculated as the number of infant deaths (within one year of age) per 1,000 live births.

- From 2017-2020, data for child mortality is unavailable for Buchanan County.
- From 2014-2020, data for infant mortality is unavailable for Buchanan County.

Quality of Life

Quality of life signifies the well-being of a community and the importance of emotional, mental, physical, and social health throughout life. Quality of life data tells a story of how people perceive their health.

Poor or Fair Health

Poor or fair health is a self-reported health status measure of an individual's health-related quality of life. According to 2020 BRFSS data, in Buchanan County, 11% of adults reported to be in fair or poor health. This compares to 12% fair or poor health in Iowa and US adults.

Poor Physical and Mental Health Days

Table 21. Average Number of Poor Physical and Mental Health Days in the Past 30 Days

	Buchanan County	Iowa	United States
Poor Physical Health Days	2.7	2.8	3.0
Poor Mental Health Days	4.3	4.4	4.4

County Health Rankings & Roadmaps, n.d.

Frequent Physical and Mental Distress

2020 BRFSS data reported frequent physical and mental distress. These two measures result from poor physical and mental health days. Frequent physical distress emphasizes information on the percentage of individuals experiencing more chronic or severe physical health issues. Frequent mental distress emphasizes the percentage of individuals experiencing chronic or severe mental health issues. Table 22 displays these two indicators as the percentage of adults reporting 14 or more days of poor physical or mental health per month.

Table 22. Percent of Poor Physical and Mental Health Distress Days per Month

	Buchanan County	Iowa	United States
Frequent Physical Distress	8%	8%	9%
Frequent Mental Distress	14%	14%	14%

County Health Rankings & Roadmaps, n.d.

Low Birthweights

Low birthweight is infants weighing less than 2,500 grams (around 5 lbs., 8 oz) at birth. Low birthweights are tracked because this information is a valuable indicator of maternal health, nutrition, healthcare delivery, and poverty, to name a few. According to the National Center for Health Statistics (n.d.) datasets, Iowa had a low birthweight rate 6.84 from 2014-2020. Within the report area of Buchanan County during this period, 104 (5.0%) infants were born with low birth weight (SparkMap, n.d.).

Diabetes Prevalence

The prevalence of type 2 diabetes is of public health concern in the US. Over 30 million Americans have diabetes (about 1 in 10), and 90%-95% have type 2 diabetes. Type 2 diabetes affects many major organs, such as the heart, blood vessels, nerves, eyes, and kidneys. Preventing diabetes and managing diabetes is crucial in lowering the risk of health complications and other medical

conditions. The number of adults diagnosed with type 2 diabetes in Buchanan County has grown between 2004 to 2019. According to the National Center for Chronic Disease Prevention and Health Promotion (2019), 8.6% of the adult population ages 20 and older in Buchanan County has been diagnosed with diabetes (Table 23). When looking at the Medicare Fee-for-Service population with diabetes in Buchanan County, the percentage of Buchanan County beneficiaries with diabetes is approximately 25.4%, compared to Iowa at 24.0% and the US at 27.0%.

Table 23. Percentage of Buchanan County Adults 20+with Diagnosed Diabetes (Age-Adjusted)			
Report Area	Population Age 20+	Adults Aged 20 + with Diagnosed Diabetes	Adults Aged 20 + with Diagnosed Diabetes, Age-Adjusted Rate
Buchanan County	15,152	1,591	8.6%
Iowa	2,336,892	226,251	8.4%
United States	239,919,249	24,189,620	9.0%

SparkMap, n.d.

HIV Prevalence

Human immunodeficiency virus (HIV) is a virus that infects and destroys cells of the immune system, which makes a person more prone to easily developing other infections and diseases. The prevalence of HIV serves as a marker for community environments that lead to unsafe intravenous drug use, unprotected sex, lack of HIV treatment therapies, or lack of HIV prevention medicines (County Health Rankings & Roadmaps, n.d.). The prevalence of HIV in Buchanan County is reported as a rate per 100,000 population over age 13. This data reflects a person living with diagnosed HIV infection at the end of the latest reporting year (2020) or a person living with an infection ever classified as stage 3 (acquired immunodeficiency syndrome [AIDS]) at the end of the latest reporting year (SparkMap, n.d.). This data is displayed in Table 24.

Table 24. Buchanan County HIV Prevalence			
Report Area	Population Age 13 +	Population with HIV/AIDS	Population with HIV/AIDS, Rate per 100,000 Population
Buchanan County	17,460	9	51.5
Iowa	2,646,459	2,940	111.1
United States	277,596,976	1,054,159	379.7

SparkMap, n.d.

References

- Buchanan County Economic Development Commission. (n.d.). *Buchanan County* [Picture].
<https://www.growbuchanan.com/>
- Centers for Disease Control and Prevention (n.d.a). *Suppression of rates and counts*.
https://www.cdc.gov/cancer/uscs/technical_notes/stat_methods/suppression.htm
- Centers for Disease Control and Prevention. (n.d.b.) *Binge drinking*.
<https://www.cdc.gov/alcohol/fact-sheets/binge-drinking.htm>
- Centers for Disease Control and Prevention. (n.d.c.) *What is breast cancer screening?*
https://www.cdc.gov/cancer/breast/basic_info/screening.htm
- Chen-Hoon, W. (2023). *5 fast facts: The gender wage gap*. <https://blog.dol.gov/2023/03/14/5-fast-facts-the-gender-wage-gap>
- County Health Rankings & Roadmaps. (n.d.). *Buchanan, Iowa*.
<https://www.countyhealthrankings.org/explore-health-rankings/iowa/buchanan?year=2023>
- Iowa Data Center. (n.d.). Social characteristics: *Buchanan County, Iowa*.
<https://www.iowadatacenter.org/index.php/quick-facts/county-quick-facts>
- Iowa Tracking Portal. (n.d.a). *Fall related death data*.
<https://tracking.idph.iowa.gov/Health/Injuries/Fall-Related-Injuries/Fall-Related-Deaths-Data>
- Iowa Tracking Portal. (n.d.b). *Air quality and health*.
<https://tracking.idph.iowa.gov/Environment/Air-Quality/Air-Quality-and-Health>
- Iowa Tracking Portal. (n.d.c). *Climate and health*.
<https://tracking.idph.iowa.gov/Environment/Climate/Climate-and-Health>
- Iowa Public Health Tracking Portal. (n.d.d). *Immunization in Iowa*.
<https://tracking.idph.iowa.gov/Health/Immunization>
- Iowa Public Health Tracking Portal. (n.d.e). *Children: Immunization data for 2-year-old*.
<https://tracking.idph.iowa.gov/Health/Immunization/Childhood-Immunizations/Childhood-Immunization-Data>
- Iowa Public Health Tracking Portal. (n.d.f). *Adolescents: 13-15-year-old immunization data*.
<https://tracking.idph.iowa.gov/Health/Immunization/Adolescent-Immunizations/Adolescent-Immunizations-Data>
- Iowa Public Health Tracking Portal. (n.d.g). *Influenza vaccine data*.
<https://tracking.idph.iowa.gov/Health/Immunization/Influenza-Vaccine/Influenza-Vaccine-Data>
- Iowa Public Health Tracking Portal. (n.d.h). *Human papillomavirus (HPV) vaccine data*.
<https://tracking.idph.iowa.gov/Health/Immunization/Human-Papillomavirus-Vaccine/Human-Papillomavirus-Vaccine-Data>
- Iowa Public Health Tracking Portal. (n.d.i). *Substance-involved mortality*.
<https://tracking.idph.iowa.gov/Health/Substance-Use-and-Misuse/Substance-Involved-Mortality>

- Iowa Public Health Tracking Portal. (n.d.). *Sexually transmitted diseases and health*.
<https://tracking.idph.iowa.gov/Health/Sexually-Transmitted-Diseases/Sexually-Transmitted-Diseases-and-Health>
- Living Wage Calculator. (n.d.). *Living wage calculation for Buchanan County, Iowa*.
<https://livingwage.mit.edu/counties/19019>
- National Center for Chronic Disease Prevention and Health Promotion. (2019). *Diabetes and obesity maps*. <https://www.cdc.gov/diabetes/data/center/slides.html>
- National Center for Health Statistics. (n.d.). *Percentage of babies born low birthweight by state: 2021*.
https://www.cdc.gov/nchs/pressroom/sosmap/lbw_births/lbw.htm
- National Highway Traffic Safety Administration. (n.d.). *Distracted driving*.
<https://www.nhtsa.gov/risky-driving/distracted-driving>
- Office of Disease Prevention and Health Promotion. (2018). *Physical activity guidelines for Americans: 2nd edition*. https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf
- SparkMap. (n.d.). *Community needs assessment*.
https://sparkmap.org/report/?REPORT=%7B%22style%22%3A%22sparkmap-free%2C%22location%22%3A%7B%22type%22%3A%22county%22%2C%22show_county%22%3Atrue%2C%22show_state%22%3Atrue%2C%22show_zip%22%3Afalse%2C%22show_tract%22%3Afalse%2C%22key%22%3A%22county%22%2C%22id%22%3A%5B%2219019%22%5D%2C%22name%22%3A%5B%22Buchanan%20County%2C%20IA%22%5D%7D%7D
- United States Census Bureau. (n.d.a). *QuickFacts: Buchanan County, Iowa; United States*.
<https://www.census.gov/quickfacts/fact/table/buchanancountyiowa,US/PST045222>
- United States Census Bureau. (n.d.b). *How disability data are collected from the American Community Survey*.
<https://www.census.gov/topics/health/disability/guidance/data-collection-acs.html>
- United States Census Bureau. (n.d.c.). *American community survey: S2301 | Employment status*.
<https://data.census.gov/table?q=S2301&g=050XX00US19019&tid=ACSST5Y2021.S2301>
- United States Census Bureau. (n.d.d.). *Gini index*. <https://www.census.gov/topics/income-poverty/income-inequality/about/metrics/gini-index.html>
- United States Department of Agriculture. (n.d.). *Vulnerable population: Disconnected youth*.
<https://www.nifa.usda.gov/sites/default/files/resource/disconnected-youth-fact-sheet-2017-08-11.pdf>
- Zajacova, A., & Lawrence, E. M. (2018). The relationship between education and health: Reducing disparities through a contextual approach. *Annual review of public health*, 39, 273–289.
<https://doi.org/10.1146/annurev-publhealth-031816-044628>

Buchanan County Public Health Community Health Improvement Plan

Buchanan County Public Health Community Health Improvement Plan		Year: 2023-2028	Sector: Public Health	
Goal: Reduce morbidity and mortality due to intentional injuries related to mental/brain health		Priority area: Mental/Brain Health		
			Target audience: All Buchanan County Residents Target reach: Approximately 21,000	
Lead responsibility: Public Health/Community Services		Justification: Buchanan County death from suicide rate is 14 per 100,000.		
Barriers: Community buy-in, financial & staff resources		Resources: Staff time, funding, community partnerships	Source of justification: Buchanan County Community Health Assessment (CHA), County Health Rankings & Roadmaps, n.d., BCPH tracking	
S-Short term I- Intermediate L- Long term	Objectives	Activity	Timeline	Baseline Information
L	Maintain deaths by suicide rates in Buchanan County less than the state average.	All community partners promote 988 phone number as an access point for behavioral health and crisis support.	Ongoing through June 30, 2028	See CHA, Table 11. BC rate 14, Iowa rate 16/100,000
L	Reduce stigma of mental health disorders by increasing the amount of awareness campaigns in Buchanan County.	BCPH and Other Community Partners provide public education/share information related to mental health through various platforms, including but not limited to social media and traditional media.	Ongoing through June 30, 2028	During FY23 BCPH posted/shared mental health awareness information 18 times on Facebook & shared 2 informational slides with Indytel & County Libraries.
S/L	Support mental health resources for first responders, law enforcement & healthcare staff.	Develop and sustain a Critical Incident Stress Management Team in Buchanan County in collaboration with county first responders, mental health & health care sectors	June 30, 2024 for team to be ready to provide interventions / ongoing	FY23 Team began with initial meetings, trainings and policy development
S/L	Support the development of a resource list for county residents, workers, & visitors to reference.	Develop and maintain a resource list for services in and around Buchanan County in partnership with BDF and other community partners	June 30, 2024 / ongoing maintenance	BDF currently maintains "Red Book" resource guide and county handout
Desired outcomes: Decrease the number of deaths by suicide and increase community members knowledge of available resources.				

Buchanan County Public Health Community Health Improvement Plan

Buchanan County Public Health Community Health Improvement Plan		Year: 2023-2028	Sector: Public Health	
Goal: Decrease the transmission of communicable disease in Buchanan County		Priority area: Communicable Disease		
		Target audience: All Buchanan County Residents Target reach: Approximately 21,000		
Lead responsibility: Public Health/Allen Family Planning/Primary Care Providers/Other Community Partners		Justification: 1) Child/adolescent immunization rates lower than that state average; 2) In 2022 there were 58 case of Chlamydia and 4 cases of Gonorrhea in Buchanan County.		
Barriers: Community buy-in, financial & staff resources		Resources: Staff time, funding, community partnerships	Source of justification: Buchanan County Community Health Assessment (CHA), Iowa HHS Tracking Portal, IRIS Reports	
S-Short term I- Intermediate L- Long term	Objectives	Activity	Timeline	Baseline Information
I/L	Increase access to Sexually Transmitted Infections (STI) testing in Buchanan County	Evaluate barriers for Buchanan County residents to access testing.	12-31-2024/ongoing	<ul style="list-style-type: none"> Currently Allen Family Planning provides services at BCHC 1 time/month. Testing can also be completed in Buchanan Co at Primary Care Providers offices. Otherwise travel to Waterloo or Cedar Rapids is required.
S/L	Provide information on awareness, prevention & testing for sexually transmitted infections	<ul style="list-style-type: none"> Communicate with community partners regarding the availability of condoms and other barriers at BCPH BCPH and Other Community Partners provide public education/share information related to sexual health & wellness through various platforms, including but not limited to social media, and traditional media. 	June 30, 2024 / ongoing	<ul style="list-style-type: none"> 4-1-23 to 6-30-23 Dispensed Products: 19 dental dams; 44 female condoms, 262 sachets of lubricant; 407 male condoms During FY23 BCPH posted/shared STI information 22 times and sent 7 informational slides to Indytel and libraries.

Buchanan County Public Health Community Health Improvement Plan

L	Improve vaccination rates for 2-year-old (4-3-1-3-3-1-4) by 5% by the year 2028	<ul style="list-style-type: none"> • BCPH and Other Community Partners provide public education/share information related to vaccines through various platforms, including but not limited to social media, and traditional media. • Continue outreach work with hard-to-reach populations to improve relationships and number of children receiving VFC vaccines. 	Ongoing through June 30, 2028	<ul style="list-style-type: none"> • See CHA, Table 15: 2022 Rate 66.7% • During FY23 BCPH posted/shared vaccine (all ages) information 17 times and sent 10 informational slides to Indytel and libraries. • BCPH schedules monthly visits to Amish community. Appointments can be scheduled as needed.
L	Improve vaccination rates for Buchanan County adolescents (3-1-2-1-2) by 3% by the year 2028	<ul style="list-style-type: none"> • BCPH and Other Community Partners provide public education/share information related to vaccines through various platforms, including but not limited to social media, and traditional media. • Continue to work with hard-to-reach populations to improve relationships and number of children receiving VFC vaccines. 	Ongoing through June 30, 2028	<ul style="list-style-type: none"> • See CHA, Table 16: 2022 Rate 80.4% • During FY23 BCPH posted/shared vaccine (all ages) information 17 times and sent 10 informational slides to Indytel and libraries. • BCPH schedules monthly visits to Amish community. Appointments can be scheduled as needed.
S/L	Support the development of a resource list for county residents, workers, & visitors to reference.	Develop and maintain a resource list for services in and around Buchanan County in partnership with BDF and other community partners	June 30, 2024 / ongoing maintenance	BDF currently maintains "Red Book" resource guide and county handout
Desired outcomes: Decrease communicable disease rates and increase vaccination rates in Buchanan County.				

Buchanan County Public Health Community Health Improvement Plan

Buchanan County Public Health Community Health Improvement Plan		Year: 2023-2028	Sector: Public Health	
Goal: Address behaviors which lead to chronic health conditions.		Priority area: Chronic Disease		
			Target audience: All Buchanan County Residents Target reach: Approximately 21,000	
Lead responsibility: Public Health/Hospital/Primary Care Providers/Other Community Partners		Justification: In 2020, the percentage of Buchanan County adults with BMIs of 30kg/m2 or greater was at 39%, Compared to 37% for Iowa and 32% for the US. 18% of Buchanan County adults are current smokers.		
Barriers: Community buy-in, financial & staff resources		Resources: Staff time, funding, community partnerships	Source of justification: Buchanan County Community Health Assessment (CHA), Behavioral Risk Factor Surveillance System (BRFSS)	
S-Short term I- Intermediate L- Long term	Objectives	Activity	Timeline	Baseline Information
L	Decrease the rate of Buchanan County adults with a BMI greater than 30mg/m ² at or below the state average by 2028.	<ul style="list-style-type: none"> Increase awareness of services in Buchanan County which assist with access to food, including low-income populations through various platforms. Work with ISU Extension, Independence Area Food Pantry, and Northeast Iowa Area Agency on Aging (NEI3A) to determine the best way to assess the need for food prep/cooking/other food related education to improve the health of Buchanan County residents. Participate with community meetings/groups which focus on improving the health of the population. Support and promote wellness activities in Buchanan County through social media, website and traditional media sources. 	Ongoing through June 30, 2028	<ul style="list-style-type: none"> During FY23 BCPH posted/shared food access information 6 times and sent 1 informational slide to Indytel and libraries. During FY23 BCPH was not involved in assessing needs for food prep/cooking education. BCPH currently participates with the following community groups: Cedar Valley Maternal Health Coalition, Interagency, Trails, B-Well, Buchanan County Volunteer Services Board During FY23 BCPH posted/shared physical activity & wellness activity information 34 times and sent 5

Buchanan County Public Health Community Health Improvement Plan

				informational slides to Indytel and libraries.
L	Decrease rate of Buchanan County adult who smoke to less than the state rate by 2028.	BCPH and Other Community Partners provide public education/share information related to smoking cessation through various platforms, including but not limited to social media, and traditional media.	Ongoing through June 30, 2028	See CHA, page 26. Buchanan County rate 18%, state rate 17%, US rate 16%.
L	Continue to provide use prevention education to Buchanan County youth related to nicotine, alcohol and drugs.	Pathways continue with evidence-based youth Life Skills (prevention) programs in Buchanan County Schools.	Ongoing through June 30, 2028	Pathways currently provides Life Skills program in Jesup, East Buchanan, & Independence schools.
S/L	Support the development of a resource list for county residents, workers, & visitors to reference.	Develop and maintain a resource list for services in and around Buchanan County in partnership with BDF and other community partners	June 30, 2024 / ongoing maintenance	BDF currently maintains "Red Book" resource guide and county handout
Desired outcomes: Improve Health Behaviors and decrease chronic condition rates for Buchanan County residents.				

Buchanan County Public Health Community Health Improvement Plan

Buchanan County Public Health Community Health Improvement Plan		Year: 2023-2028	Sector: Public Health	
Goal: Decrease the rates of substance use in Buchanan County			Priority area: Alcohol & Drug use	
			Target audience: All Buchanan County Residents Target reach: Approximately 21,000	
Lead responsibility: Public Health/Hospital/Pathways Behavioral Services/Other Community Partners		Justification: Excessive drinking in Buchanan County is nearly 10% higher than the national average. Iowa rates for opioid overdoses are on the rise.		
Barriers: Community buy-in, financial & staff resources		Resources: Staff time, funding, community partnerships	Source of justification: Buchanan County Community Health Assessment (CHA), County Health Rankings & Roadmaps, n.d.	
S-Short term I- Intermediate L- Long term	Objectives	Activity	Timeline	Baseline Information
S/L	Reduce the rates of overdoses in Buchanan County	<ul style="list-style-type: none"> Develop Narcan Use Tracking Document for Law Enforcement, EMS, schools and other entities willing to participate. Support the work of Buchanan County Substance Use Coalition & Buchanan County Opioid Settlement Funds Advisory Committee 	12-31-2023/ Ongoing through June 30, 2028	<ul style="list-style-type: none"> In 2022, Buchanan County Sheriff's Department gave 7 doses of naloxone. During FY23 BCPH took the lead in drafting the Action Plan for these funds.
L	Continue to provide use prevention education to Buchanan County youth related to alcohol and drugs.	<ul style="list-style-type: none"> Support the work of Buchanan County Substance Use Coalition by attending a minimum of 75% of meetings. Pathways continue with evidence-based youth Life Skills (prevention) programs in Buchanan County Schools. 	Ongoing through June 30, 2028	<ul style="list-style-type: none"> BCPH staff have attended the majority of the Substance Use Coalition meetings in FY23. Pathways currently provides Life Skills program in Jesup, East Buchanan, & Independence schools.
L	Reduce the rates of binge drinking reported in the Community Health	BCPH and Other Community Partners provide public education/share information related to excessive/binge		<ul style="list-style-type: none"> See CHA, page 27: Buchanan County rate 27%,

Buchanan County Public Health Community Health Improvement Plan

	Assessment at or below the state average by 2028	drinking through various platforms, including but not limited to social media, and traditional media.		state rate 25%, US rate 19%. <ul style="list-style-type: none">During FY23 BCPH did not posted/shared binge/excessive drinking information and sent no informational slide to Indytel and libraries.
S/L	Support the development of a resource list for county residents, workers, & visitors to reference.	Develop and maintain a resource list for services in and around Buchanan County in partnership with BDF and other community partners	June 30, 2024 / ongoing maintenance	BDF currently maintains "Red Book" resource guide and county handout
Desired outcomes: Reduced rates of alcohol and drug use among Buchanan residents				

Buchanan County Public Health Community Health Improvement Plan

Buchanan County Public Health Community Health Improvement Plan		Year: 2023-2028	Sector: Environmental Health	
Goal: Address environmental hazards in private homes and wells.		Priority area: Protect Against Environmental Hazards		
		Target audience: Private home and business owners		
		Target reach: Approximately 6,000 homes total, approximately 2,700 with private wells.		
Lead responsibility: Buchanan County Environmental Health (BCEH)	Justification: Increased levels of radon and drinking water contaminants can lead to acute and chronic health issues.			
Barriers: Funding, community awareness, lack of data (not all radon results are reported back to BCEH)	Resources: Staff time, Grants-to-Counties funding		Source of justification: Buchanan County Community Health Assessment	
S-Short term I- Intermediate L- Long term	Objectives	Activity	Timeline	Baseline Information
S/L	Address high radon levels in private homes and businesses in Buchanan County.	<ul style="list-style-type: none"> Sell 60 Short-term Radon Test Kits Identify common characteristics of homes and business with elevated radon levels utilizing GIS mapping. Provide education to Buchanan County residents related to radon levels and radon mitigation options. Connect home owners to possible resources to remedy radon issues. 	June 30, 2024 and ongoing through June 30, 2028	See CHA, page 21: No county level data available, Iowa has a high potential for elevated radon levels. Action should be taken for anything over 4picoCuries/Liter
S/L	Identify private wells in Buchanan County with increased levels of contaminants.	<ul style="list-style-type: none"> Collect 300 samples (using Grants-to-Counties funds) annually to test for Coliform, E.coli, Nitrate, Arsenic, & Manganese. Identify common characteristics of private wells with elevated contaminants through GIS mapping. Connect all home owners with contaminated wells to potential resources to remedy the issue. 	June 30, 2024 and ongoing through June 30, 2028	See CHA, page 20-21: For Buchanan County Arsenic 17.86% of total well tested were elevated; Nitrates 9.82% of test performed were elevated; Coliform 36.3% of tested samples were elevated.

Buchanan County Public Health Community Health Improvement Plan

	<ul style="list-style-type: none">• Support replacing contaminated wells with new wells by assisting with permitting process, provide reimbursement with Grants-to-Counties funds when allowed and available.		
Desired outcomes: Improved indoor air and private well water quality of homes in Buchanan County.			

