

2023 Jones County Community Health Assessment and Health Improvement Plan (CHA/CHIP)

December 5, 2023

Jones County Board of Health

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I. Executive Summary

At least every five years, local boards of health lead a community-wide discussion about their community's health needs and what subsequently must be done to address those needs. As this process was originally slated to be completed in 2021, the impacts of COVID-19 on communities and local departments of health lead the process to be deferred until 2023.

This document, Jones County's Community Health Needs Assessment (CHNA) and Health Improvement Plan (HIP), is the result of the community engagement and data analysis process. Qualitative and quantitative data were collected through a process of identifying data sources, as well as distributing and evaluating a community-wide perceptual survey. The statistical data and community input shaped the health improvement plan by identifying health concerns in the county, and the Jones County Board of Health used this information to prioritize the concerns. Priorities to be included in the health improvement plan were selected based on the largest differences or disparities in health behaviors or health outcomes as informed by the data collection and analysis process. The health improvement plan will be used to guide public health activities in the county for the next few years.

This document, including the Health Assessment and Health Improvement Plan, will be available on the Jones County website for the community to access.

II. Community Survey

The Jones County Board of Health, with assistance from community partner organizations, created and distributed a survey to community members to help identify health priorities in the community. The survey was emailed to groups and available on the public health page of the county website.

A total of 217 people responded to the survey between April 24, 2023 and June 11, 2023. Of the respondents, 199 live in Jones County, 17 work in Jones County (but do not live in Jones County), 1 did not live or work in Jones County (and was dropped), and 2 were dropped from the dataset after selecting all available options for race/ethnicity (and were subsequently deemed unreliable responses), leaving a final count of 197 resident-respondents. Summary statistics of respondents are available below. Survey questions and methodology are presented in Tables 1 through 8.

Table 1: Count of Community Health Needs Survey Respondents

	Live in Jones County	Does Not Live in Jones County	Total
Works in Jones County	98	17	115
Does Not Work in Jones County	101	1	102
Total	199	18	217

The following tables represent data collected from the responses of residents of Jones County (resident-respondents).

Table 2: Count and Percentage Distribution of Age of Resident-Respondents

Age	Count	Percent
18-35	22	11.17%
36-50	39	19.80%
51-56	69	35.03%
66+	67	34.01%
Total	197	100%

Table 3: County and Percentage Distribution of Gender of Resident-Respondents

Gender	Count	Percent
Female	134	68.02%
Male	60	30.46%
Prefer not to say	3	1.52%
Total	197	100%

Table 4: Age by Gender Distribution of Resident-Respondents

Age/Gender	Female	Male	Prefer not to Say	Total
18-35	18	4	0	22
36-50	29	9	1	39
51-56	49	20	0	69
66+	38	27	2	67
Total	134	60	3	197

Table 5: Count and Percentage Distribution of Income of Resident-Respondents

Household Income	Count	Percent
Less than \$10,000	5	2.54%
\$10,000-25,000	17	8.63%
\$25,000-50,000	37	18.78%
\$50,000-75,000	47	23.86%
More than \$75,000	91	46.19%
Total	197	100%

Table 6: Responses to Question “Would you be willing to attend an upcoming community meeting regarding local EMS and ambulance services in Jones County?”

	Count	Percent
Yes	26	13.20%
Maybe	85	43.15%
No	86	43.65%
Total	197	100%

Table 7: Responses to Question “Does your local EMS have any challenges with recruiting and maintaining staff?”

	Count	Percent
Yes	58	29.44%
Unsure	128	64.97%
No	11	5.58%
Total	197	100%

Table 8: Responses to Question “Have you considered volunteering for your local EMS service?”

	Count	Percent
Yes	18	9.14%
No	179	90.86%
Total	197	100%

III. County Profile

1. Demographics

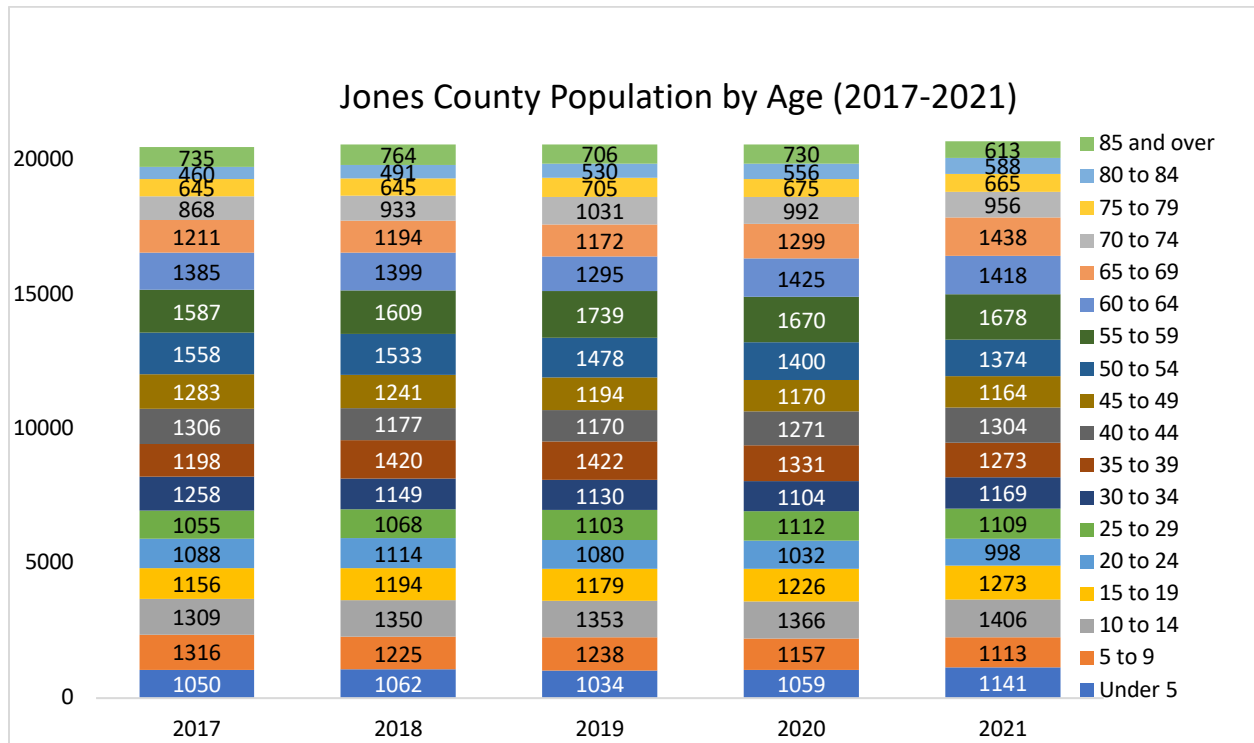


Figure 1: Jones County Population by Age (2021)¹

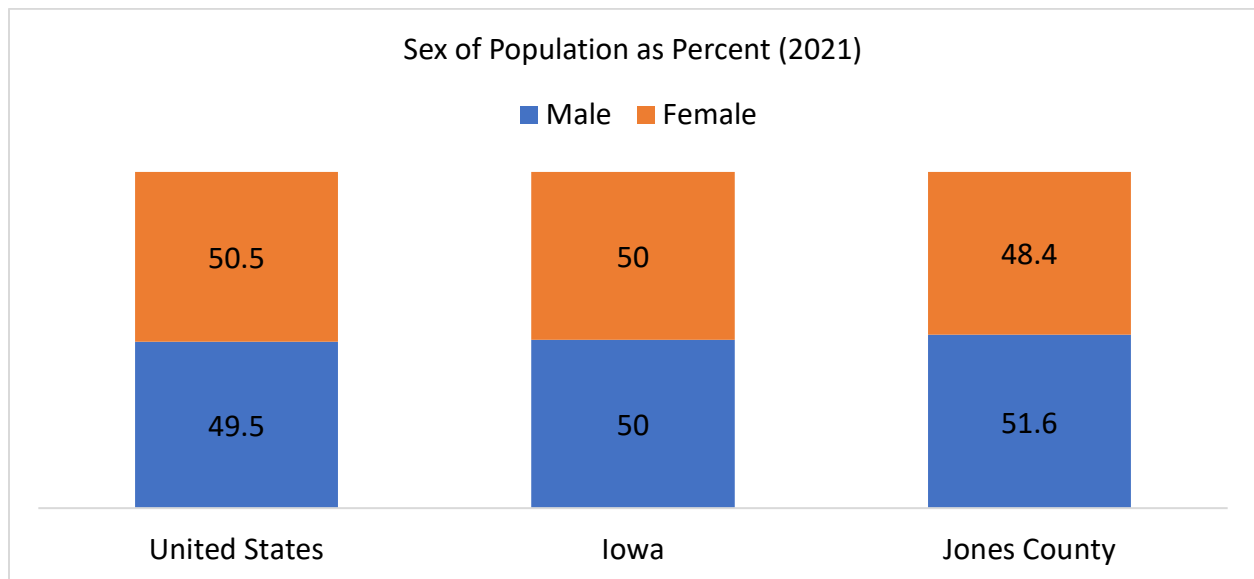


Figure 2: Sex of Population as Percent (2021)¹

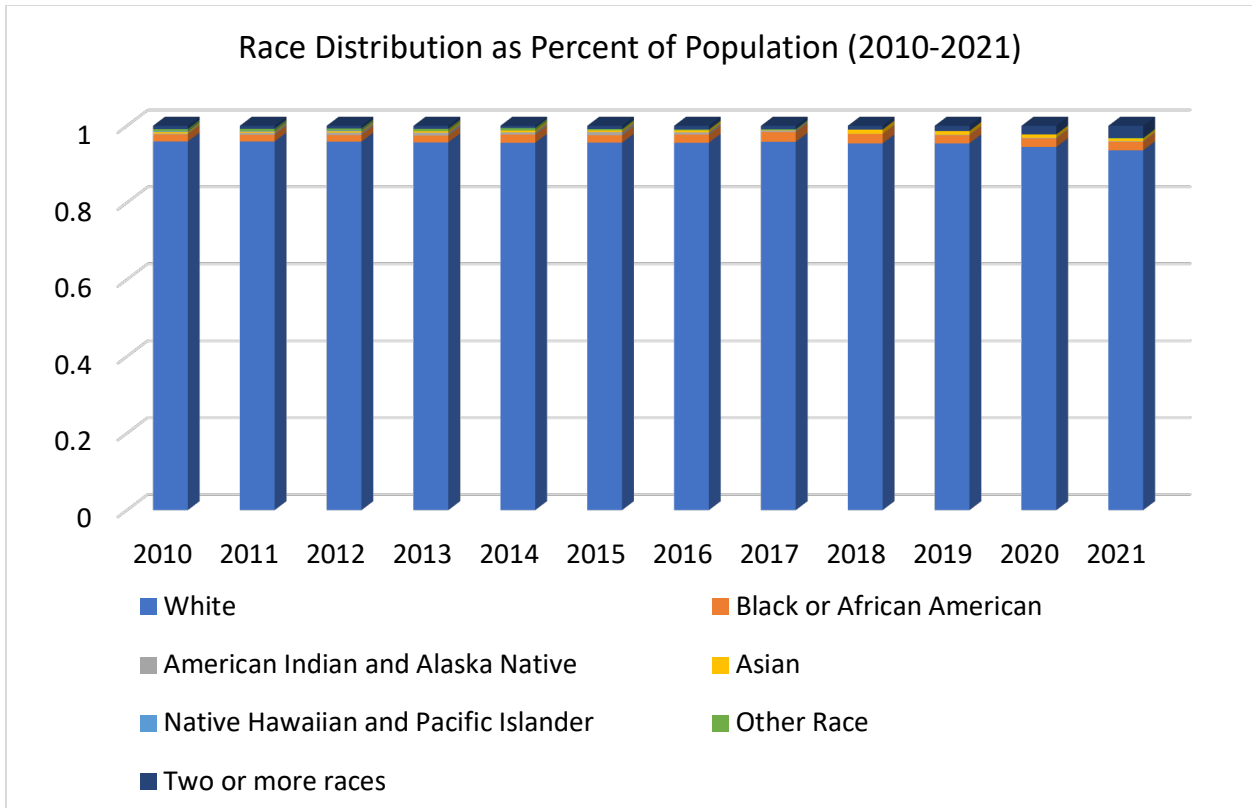


Figure 3: Race Distribution as Percent of Population (2010-2021)¹

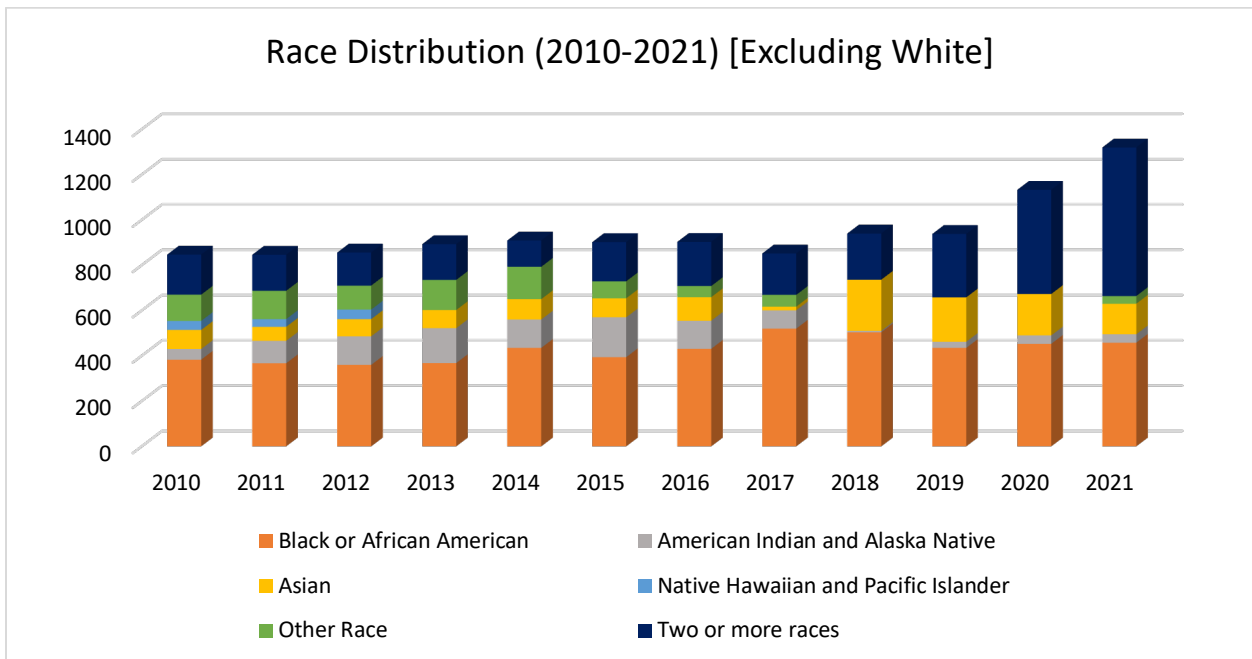


Figure 4: Race Distribution (2010-2021) [Excluding White]¹

2. Economics

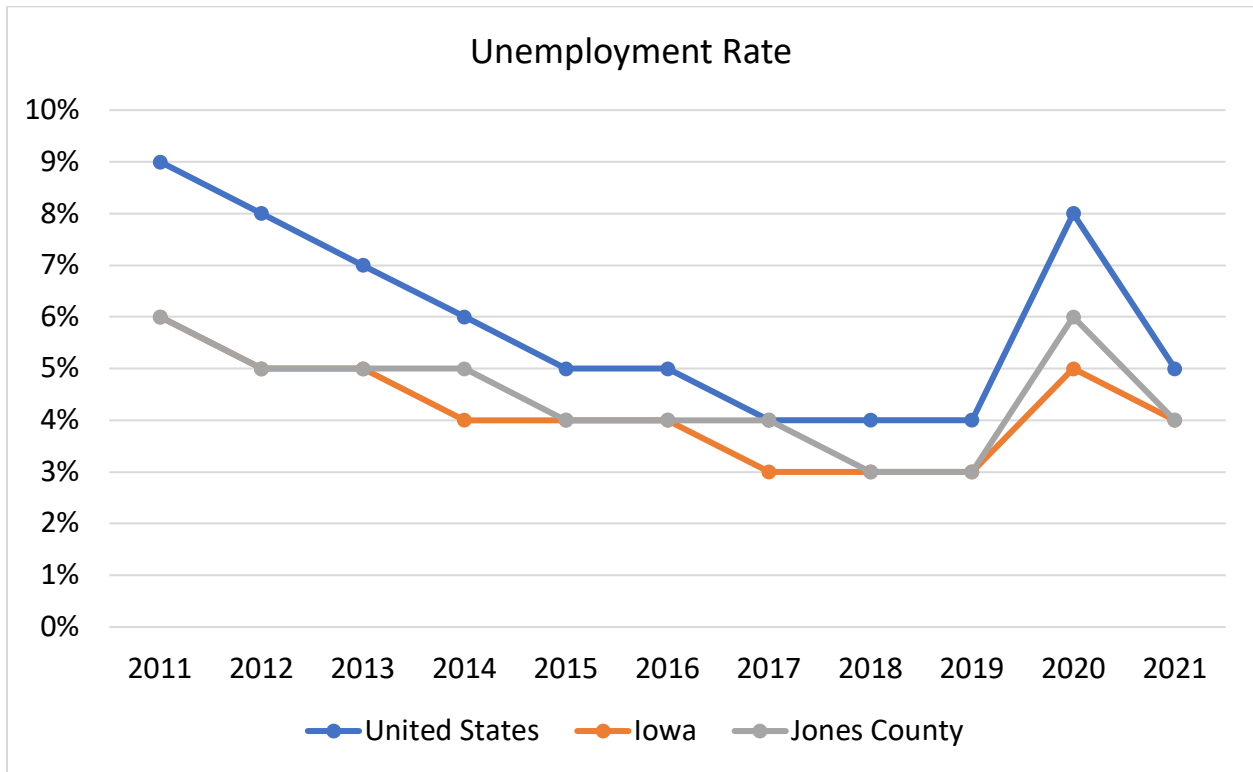


Figure 5: Unemployment Rate in the United States, Iowa, and Jones County (2011-2021)²

Table 9: Percent of Population by Income Bin (2022) [United States, Iowa, and Jones County]¹

	United States	Iowa	Jones County
Less than \$10,000	5.5%	4.3%	4.3%
\$10,000-\$14,999	3.7%	3.6%	3.2%
\$15,000-\$24,999	6.8%	7.5%	7.4%
\$25,000-\$34,999	7.3%	7.4%	8.1%
\$35,000-\$49,999	10.7%	12.2%	13.5%
\$50,000-\$74,999	16.2%	18.4%	19.9%
\$75,000-\$99,999	12.8%	14.2%	19.6%
\$100,000-\$149,999	16.9%	17.3%	13.7%
\$150,000-\$199,999	8.7%	7.8%	6.5%
\$200,000 or more	11.5%	7.3%	3.8%

IV. General Health Status

In 2023, Jones County ranked 10 out of 99 Iowa counties overall, and in the upper quartile (75-100th percentile) with respect to health outcomes and in the lower middle quartile (25-50th percentile) in health factors (what influences the health of the county).² Approximately 12% of Jones County residents reported fair or poor health, which is the same as the state and national average. However, Jones County residents reported more physically unhealthy days (2.9 days) within a 30-day period compared to the state average (2.8 days), but lower than the national average (3.0 days).² Table 10 shows the top causes of death in Jones County in 2022, with heart disease being the leading cause of death in the county.

Table 10: Leading Causes of Death in Jones County (2022)³

Cause of Death	Death AAR (per 10k)
Diseases of Heart	14.58
Malignant Neoplasms (Cancer)	10.26
Chronic Lower Respiratory Diseases	5.30
Accidents (unintentional injuries)	5.14
Intentional self-harm (suicide)	4.27
Cerebrovascular diseases	4.07
Alzheimer's disease	3.69
Diabetes mellitus	2.46

V. Promote Healthy Living

1. Physical Activity, Nutrition, and Obesity

Physical activity, nutrition, and managing a healthy body weight are important factors in chronic illness and disease prevention.⁴ The National Heart, Lung and Blood Institute (NHLBI) states achieving a good exercise regimen and managing healthy body weight can prevent heart disease, type II diabetes, lung complications and certain cancers.⁴

Physical Activity

The NHLBI emphasizes factors that affect a healthy weight, which include genetics, metabolism, and individual habits and behaviors. These personal habits and health behaviors, including positive behaviors such as adopting a regular exercise routine or opting for healthier snack choices, can improve health outcomes, whereas smoking and physical inactivity are known to lead to poor health outcomes.

The Cleveland Clinic recommends 30 mins of walking per day to reduce the risk of cardiovascular disease by lowering LDL cholesterol (“bad cholesterol”) levels. When exercising, the body releases endorphins, a hormone that reduces cortisol levels and LDL cholesterol. Daily walking also promotes weight loss by burning on average 200 calories per 30 minutes of movement.⁵ Physical activity such as a daily walk also helps to lower blood sugar, is relatively safe on joints, and can improve the immune system through increased blood flow.⁵

The majority of people living in Jones County who responded to the 2023 Community Health Needs Assessment survey report having access to home workout opportunities, a public gym, or have access to parks or trails. Home gyms were reported as the primary form of physical activity for resident respondents. The parks and trails system was cited as the second most common outlet for physical activity for resident respondents. Resident respondents report walking/running as their primary form of exercise, supplementing with seasonal activities such as golf and swimming. Reported and observed barriers include personal motivation to exercise and inability to partake in outdoor activities due to weather during cold seasons.

Nutrition

Good nutrition is important to the growth and development of children, and a healthful diet also helps Americans reduce their risks for many health conditions, including overweight and obesity, malnutrition, iron-deficiency anemia, heart disease, high blood pressure, dyslipidemia (poor lipid profiles), type 2 diabetes, osteoporosis, oral disease, constipation, and some cancers.⁶

The Dietary Guidelines for Americans recommends adults eat 2.5-4 cups of vegetables per day and 1.5-2.5 cups of fruit per day.⁷ Daily, fewer than 1 in 10 adults and children eat the recommended quantity of vegetables and fewer 1 in 7 adults and 4 in 10 children eat enough fruit.⁸

In Iowa, 40.4% of adults ate fruit less than once per day and 22.7% ate vegetables less than once per day in 2019.⁹ Fruit and vegetable consumption has worsened in Iowa since 2017, when 35.6% ate fruit less than once per day and 19.3% ate vegetables less than once per day.⁹ Benefits of consuming the recommended amounts of fruit and vegetables include boosting immunity, supporting healthy bones, lowering risk of chronic conditions, and aiding in digestive health.¹⁰

Food insecurity, or the lack of access or availability of food at times, is a factor in poor nutrition. Food insecurity puts an individual at greater risk for conditions such as obesity and can lead to developmental deficits in children who are food insecure.¹¹ Feeding America reports that in 2021, approximately 1,550 residents of Jones County (7.5% of the population) experienced food insecurity. Within the HACAP food reservoir (which includes Benton, Cedar, Iowa, Johnson, Jones, Linn, and Washington Counties), the larger area food insecurity rate was 7% in 2021.¹² Tables 11 and 12 describe food insecurity through a number of metrics from 2016 through 2020, with Table 11 being specific to Jones County and Table 12 capturing the State of Iowa.

The average cost for a meal in Jones County was \$3.44 in 2021, which is the same as the state average in the year. Jones County had a lower average cost per meal in 2021 compared to surrounding counties, Johnson County being \$3.97 per meal, Linn County being \$3.83 per meal, and Dubuque County being \$3.88 per meal.¹²

The Iowa Department of Health and Human Services reports that between 2018 and 2020, 6.9% of Iowa households experienced some form of food insecurity, which is an improvement from the 2015-2017 period when 9.2% of households experienced food insecurity.¹³ The Food Bank of Iowa reports that in Jones County, there are more than 25 food pantries between those located at schools, churches and private pantries.¹⁴ While offering food assistance services, the Food Bank of Iowa also helps residents to determine eligibility for and assists with enrolling in SNAP and WIC programs.¹⁴ In 2020, there were a total of 64,368 WIC participants in the State of Iowa, with 248 (about 0.4% of state enrollees¹) residing in Jones County.^{9,15}

¹ Jones County accounts for about 0.7% of the population in the State of Iowa.¹

Table 11: Jones County Food Insecurity Data¹²

Year	Number of Food Insecure People	Food Insecurity Rate	Average Cost per Meal	Below SNAP Threshold (160% FPG)	Between 160% - 185% FPG	Above other nutrition program threshold (185% FPG)	Number of Food Insecure Children	Child Food Insecurity Rate	Income at or below 185% FPG	Income above 185% FPG
2016	2,320	11.3%	\$2.84	50%	6%	44%	750	16.9%	61%	39%
2017	2,160	10.6%	\$2.78	52%	5%	44%	690	15.5%	61%	39%
2018	1,820	8.9%	\$2.94	58%	6%	36%	620	13.9%	70%	30%
2019	1,670	8.1%	\$3.04	56%	3%	41%	550	12.6%	68%	32%
2020	1,610	7.8%	\$3.15	58%	4%	38%	540	12.3%	70%	31%

Table 12: State of Iowa Food Insecurity Data¹²

Year	Number of Food Insecure People	Food Insecurity Rate	Average Cost per Meal	Below SNAP Threshold (160% FPG)	Between 160% - 185% FPG	Above other nutrition program threshold (185% FPG)	Number of Food Insecure Children	Child Food Insecurity Rate	Income at or below 185% FPG	Income above 185% FPG
2016	360,540	11.5%	\$2.72	53%	4%	43%	115,890	15.9%	57%	43%
2017	341,890	10.9%	\$2.70	52%	5%	43%	111,520	15.3%	58%	42%
2018	305,100	9.7%	\$2.79	53%	5%	42%	102,190	13.9%	63%	37%
2019	297,800	9.4%	\$2.88	53%	4%	43%	94,260	13.1%	68%	32%
2020	229,500	7.3%	\$3.05	62%	5%	33%	80,160	11.0%	75%	25%

Adult Overweight & Obesity

The CDC defines an adult being overweight or obese if the individual's body weight is higher than what is considered healthy in relation to height.¹⁶ The World Health Organization declares obesity as an epidemic with over 4 million people dying each year due to complications from obesity.¹⁷ Overweight and obese individuals can develop comorbidities, like being at increased risk for chronic conditions including hypertension, coronary artery disease, Type II diabetes, stroke, gallbladder disease, sleep apnea, and cancer.¹⁸

Iowa State University has produced a health profile (subtitled “Data for Decisionmakers”) for counties in Iowa, including Jones County. The health profile for Jones County reported a slight decrease in rates of adult obesity between 2019 and 2020, with rates of 40.3% in 2019 and 37.3% in 2020. The state as a whole experienced an increase in rates of adult obesity between 2019 and 2020, with rates of 34.3% in 2019 and 37.2% in 2020.¹⁹

Table 13: Rates of Obesity in Adults in Jones County and the State of Iowa²⁰

Adults	2014	2015	2016	2017	2018	2019	2020	2021
Jones	28.5%	30.6%	31.7%	37.6%	37.6%	39.5%	37.6%	35%
Iowa	30.9%	32.1%	32%	36.4%	35.3%	33.9%	36.5%	--

2. Mental Health and Mental Illness

Mental health, as defined by the World Health Organization, is “a state of mental well-being that enables people to cope with the stresses of life, realize their abilities, learn well and work well, and contribute to their community.”²¹ Mental illness is defined by the American Psychiatric Association as “health conditions involving changes in emotion, thinking or behavior... [and] can be associated with distress and/or problems functioning in social, work or family activities.”²²

In February 2021 (after almost a year of living around COVID-19), NAMI Iowa (National Alliance on Mental Illness) reports 42.4% of Iowans reported experiencing anxiety or symptoms of depression, and 25% reported being unable to access mental health treatment such as therapy or counseling. Almost 3 in 5 (58.1%) 12–17-year-olds with depression had not received any mental health services in the past year.²³

The Iowa Department of Health and Human Services reported in March 2021 the state as a whole had a total of 712 staffed inpatient psychiatric beds. Available beds increased slightly

from 747 in November 2017 to 750 in January 2019 and decreased to its final 712 in March of 2021, accounting for facility closures, the opening of new facilities, and changes in capacity within facilities. No inpatient psychiatric beds are available as of March 2021 in Jones County, with the closest beds being located in Linn County (Cedar Rapids).²⁴

According to the Community Health Needs Assessment survey data, 92% of Jones County resident respondents who reported seeing a medical provider in the last 12 months indicated they were asked about their mental health during their medical visit. There are not many federal or state regulated requirements for mental health screenings by primary care providers so most address the conversation during routine physicals and wellness exams. The American Academy of Family Physicians (AAFP) has supported integration of primary care and mental health services. The AAFP encourages primary care providers to lead discussions about their patients' mental health and to assist with connecting patients to mental health providers if necessary.²⁵

A barrier to accessing mental health services is the lack of local resources and providers such as psychiatrists and Licensed Clinical Social Workers practicing in the county. Table 14 describes the number of providers in the county and state and the ratio of residents to providers. The difficulty in accessing services due to a lack of providers is substantiated by these data, as 0.2-0.3% of providers in the state practice in Jones County (which makes up about 0.7% of the state's population.¹)

Table 14: Statistics of Mental Health Providers in Jones County¹⁹

Year	2019	2020	2021	2022
Providers in Jones County	10	11	14	19
County Population per Provider	2074	1880	1473	1095
Providers in Iowa	4928	5197	5555	6001
State Population per Provider	640	607	569	532
Percent of State Providers in County	0.20%	0.21%	0.25%	0.32%

3. Addictive Behaviors (Substance Use)

Tobacco

Each year approximately 443,000 premature deaths can be attributed to smoking. Cigarette smoking is identified as a cause of various cancers, cardiovascular disease, and respiratory conditions, as well as low birthweight and other adverse health outcomes.²⁶ In Jones County,

19% of adults age 18 and older self-report currently smoking, compared to 17% of adults in the State of Iowa and 16% of adults nationally.²

Preventing tobacco use among youth is critical to ending the tobacco epidemic in the United States, as tobacco use is started and established primarily during adolescence. Since 2014, use of e-cigarettes has been the most commonly used tobacco product among youth. In 2023, about 9 in 10 middle and high-school students who use tobacco products report using flavored e-cigarettes in the past 30 days, up from about 8 in 10 in 2021.²⁷ Nationwide, current use of electronic cigarettes increased among middle school students from 3.9% in 2014 to 4.6% in 2023. In high school students, 10.0% reported electronic cigarette use in 2023, which is down from 13.4% in 2014. Currently, about 1.1% of middle school students and 1.9% of high school students smoke regular cigarettes.²⁷

In Iowa and Jones County, data on use of electronic cigarettes was gathered for the first time during the 2014 Iowa Youth Survey. According to the 2014 survey, 7% of eleventh graders in Jones County and 11% of eleventh graders in Iowa reported using electronic cigarettes. The 2021 survey shows an increase since 2014, with 11% of eleventh graders in Jones County and 13% of eleventh graders in Iowa reported using e-cigarettes in the past 30 days. Use of e-cigarettes in 2021 by eleventh graders in the County and State is about five times higher than other forms of tobacco use, which were used by 1% to 3% of the students.²⁸

Among students trying to quit smoking or using e-cigarettes in 2021, about 50% of eleventh graders in the county and state stopped using e-cigarettes for one or more days in an attempt to quit and about 40% of eleventh graders in the county and state stopped smoking regular cigarettes for one or more days in an attempt to quit.²⁸

Alcohol

Excessive drinking is a risk factor for a number of adverse health outcomes such as alcohol poisoning, hypertension, acute myocardial infarction, sexually transmitted infections, unintended pregnancy, fetal alcohol syndrome, sudden infant death syndrome, suicide, interpersonal violence, and motor vehicle crashes.²⁹ More than 140,000 deaths are attributed annually to excessive drinking, and deaths from excessive drinking shorten the person's life by an average of 26 years.³⁰ The economic costs of excessive alcohol consumption in 2010 were estimated at \$249 billion, or \$2.05 per drink.³¹ Iowa has the second highest rate of male binge drinking in the country (barely behind North Dakota) with 28.7% of adult men engaging in binge drinking. The rate of women engaging in binge drinking is near the average of the country with 14.4% of adult women engaging in binge drinking.³²

Recent data for Jones County has been suppressed from the 2021 Iowa Behavioral Risk Factor Surveillance System (BRFSS) survey due to low survey counts or large confidence intervals. Aggregated data from the 2018-2021 surveys indicate that about 16.44% of adults in Jones County engage in binge drinking. In the aggregated data, Jackson County had the highest rates of adult binge drinking at 27.19%.³³ While this data doesn't quite line up with the CDC's BRFSS data, any amount of binge drinking in the population is an issue.

Among youth in the United States, alcohol is the most commonly used and abused drug, and excessive drinking is responsible for more than 4,300 deaths among underage youth each year.³⁰ The 2021 High School Youth Risk Behavior Survey indicates about 21.9% of Iowa highschoolers and 22.7% of highschoolers currently drink alcohol. Among eleventh graders who participated in the Iowa Youth Survey, about 15% in Jones County and 18% in the state had at least one drink in the past 30 days.²⁸

Illicit Drugs

According to the 2021 High School Youth Risk Behavior Survey, out of high schoolers in Iowa, 21.4% have ever used cannabis, 12.1% currently use cannabis, 5.2% have ever used synthetic cannabis, and 9.3% have ever used prescription pain medication outside of how it was prescribed. Each of these percentages are lower than the national statistics—out of high schoolers nationally, 27.8% have ever used cannabis, 15.8% currently use cannabis, 6.5% have ever used synthetic cannabis, and 12.2% have ever used prescription pain medication outside of how it was prescribed. The 2021 Iowa Youth Survey reports that 13% of Jones County eleventh graders have ever used cannabis (16% state-wide), 5% of Jones County eleventh graders have used cannabis in the last 30 days (8% state-wide), 7% of Jones County eleventh graders have sniffed glue or huffed gases in order to get high in the last 30 days (2% state-wide), 2% of Jones County eleventh graders have used mushrooms in the last 30 days (2% state-wide), and 1% of Jones County eleventh graders have used cocaine, methamphetamines, other amphetamines, heroin or prescription opioids for non-medical reasons, or MDMA in the last 30 days (1% state-wide).²⁸

4. Chronic Conditions

A chronic condition is an illness or disease process that requires medical attention for longer than a year. The majority of these conditions in the United States stem from poor health behaviors or unhealthy environments such as smoking, exposure to secondhand smoke, inadequate nutrition, physical inactivity and excessive alcohol use and include poor outcomes such as heart disease, diabetes and various cancers.³⁴

The Institute for Health Metrics and Evaluation (IHME) assessed all 3142 U.S counties and provided the following 2014 metrics for Jones County. Combined in male and female populations, ischemic cardiac disease (heart disease) had an incidence of 286.5 per 100k residents, which is below the Iowa and U.S national averages. Cerebrovascular disease (stroke) had an incidence of 80.1 per 100k residents, again below Iowa and U.S. national averages. Tracheal, bronchus and lung cancers had an incidence of 97.3 per 100k residents. Rates of breast cancer and melanoma (a form of skin cancer) in Jones County were also below Iowa and national averages.³⁵ County Health Rankings, a project of the University of Wisconsin Population Health Institute, reports 9% prevalence of diabetes in the adult population in the county in 2023 (same as state and national prevalence).²

5. Older Adults

Prioritizing healthy living in the older adult population is essential to preventing chronic illness with age and slowing progression of existing conditions with which an older adult may be living. Healthy behaviors for older adults include staying active, smoking cessation, restricting alcohol consumption, and including cognitive learning into daily routines.³⁶ As our older adult population continues to increase, recognizing and slowing progression of Alzheimer’s disease or related dementias is important in maintaining healthy older adult populations and improving quality of life for older adults. In 2021, 21% of the population was 65 or older, which is 17% of the population in Iowa and 16% of the population in the United States.³⁷

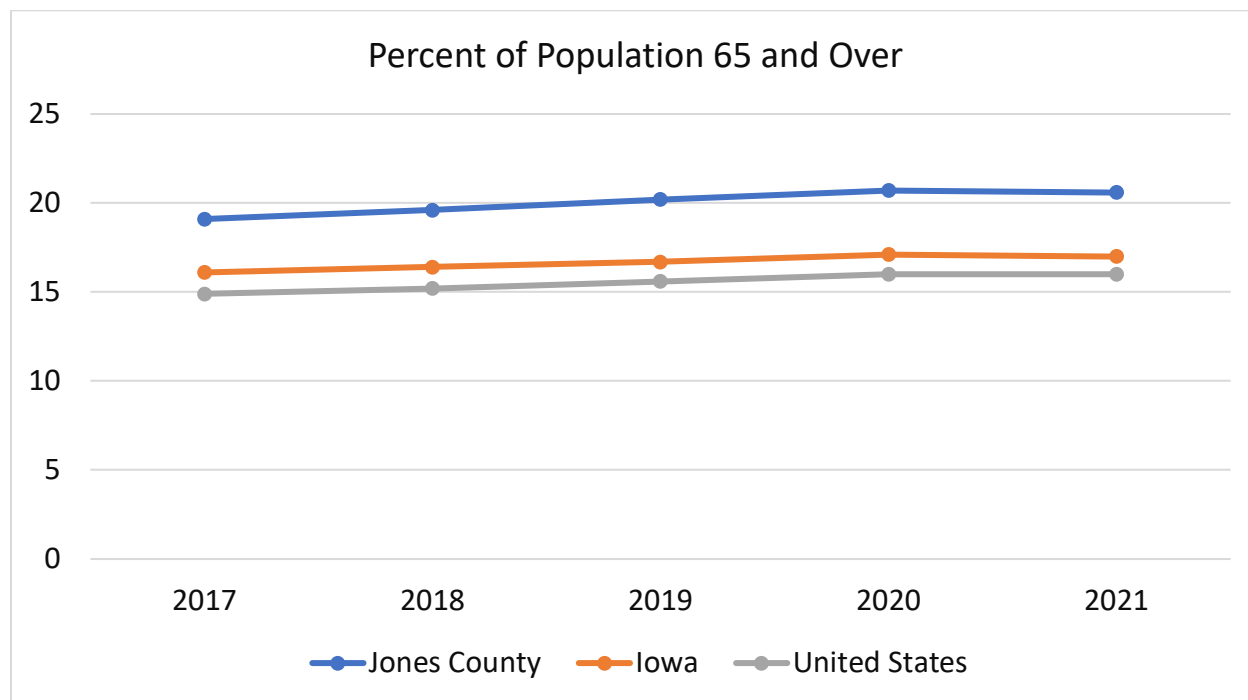


Figure 6: Percent of Population 65 and Over (2017-2021)¹

Heritage Area Agency on Aging offers many programs to support the aging population in Jones County such as caregiver education and support, an elder rights program, and nutrition and wellness services. For example, Heritage offers communal meals in Anamosa, Monticello, and Wyoming that provide nutrition, socialization, and education on wellness topics.³⁸ Jones County Public Health maintains funds for the Home Health Assistance Program, a last-resort funding program which assists with payment for home health services designed to prevent unnecessary institutionalization.³⁹

6. Oral Health

Proper oral health is essential for tooth longevity and preventing gum and tooth decay. Proper oral hygiene is also crucial in being able to speak clearly, eat food, and impacts self-esteem through confidence to express emotions.⁴⁰ Oral disease affects nearly 3.5 billion people (world population is about 7.9 billion) and tooth decay from untreated oral disease has become a common health condition addressed by the Global Burden of Disease 2019.⁴¹

According to a 2016 study, 30% of Iowans reported not seeing a dentist in the last year and 17% report losing teeth to tooth decay and gum disease.⁴² In 2020, Jones County had 51 residents seek emergency medical attention due to oral health and the state of Iowa had 274 total cases. The Iowa Department of Public Health notes the cost of preventative care is a driving factor in the progression of tooth decay and gum disease. As of 2021, Jones County has 8 dentists which averages to about 2,600 patients per provider.¹⁹ County Health Rankings indicates that Iowa has about 1,430 residents per provider and the country has about 1,380 residents per provider.² Table 15 reports trends in providers and population over time.

Table 15: Dentists in Jones County (2018-2021)¹⁹

	2018	2019	2020	2021
County Providers	9	9	9	8
County Population per Provider	2305	2298	2291	2601
State Providers	2105	2173	2203	2231
State Population per Provider	1499	1452	1436	1431
Percent of State Providers in County	0.43%	0.41%	0.41%	0.36%

Tooth decay is the most common chronic condition seen in American children and oral care becomes the main service lacking in school-aged children.⁴² The Iowa Department of Public Health's program I-Smile @ School serves children during school hours with limited time out of the classroom. This preventative program allows for early detection and prevention of cavities

and tooth decay in adolescents. Jones County has an I-Smile coordinator located in Iowa City with the Johnson County Public Health Department. Through this program, the Iowa Department of Public Health reports meeting the Healthy People 2020 goals of reducing instances of tooth decay to 25.9% in 6-9 years old and increasing instances of sealants on permanent molars in the same age group.⁴²

Healthy People 2030 includes goals that are aimed at reducing tooth decay and improving access to oral health care services.⁴³ The Iowa Department of Public Health completed a school dental screening audit for the 2020-2021 school year. Jones County had 193 valid screening certificates and 162 of those students had no concerns regarding their dental health. 30 of those students required dental care and 1 student required urgent dental care.¹⁹

7. Maternal & Child Health

Maternal Health

The Office of Disease Prevention and Health Promotion states proper maternal health care before, during and after pregnancy can ensure the mother and infant's health.⁴⁴ Healthy People 2030 has a focus of preventing pregnancy complications and maternal death. Ensuring mothers have the appropriate access to prenatal and postnatal care will aid in achieving this goal.

Infant Health: Mortality

The leading cause of infant death is congenital abnormalities with the second leading cause being disorders related to premature birth and low birth weight. From 2018-2022, the State of Iowa's infant mortality rate was 4.62 deaths per 1,000 live births. Jones County's infant mortality rate from 2018-2022 was lower than the state's rate at 3.09 deaths per 1,000 live births. County Health Rankings indicates nationwide infant mortality rates are around 6 deaths per 1,000 live births, indicating the state and county have better outcomes than the country as a whole. Infant and maternal mortality is often related to race and ethnicity² with White non-Hispanic women experiencing lower rates of infant and maternal mortality. Because Iowa has a higher proportion of White non-Hispanic residents than the country on average, the difference in infant mortality rates can be linked to outcomes influenced by racial and ethnic makeup of the state and county.

Preterm & Low Birth Weight

Premature birth (short gestation) and low birth weight are the second leading cause of infant mortality and can otherwise lead to long-term complications.⁴⁵ In 2022, the State of Iowa had

² Race and Ethnicity are not the causes of poor outcomes, they are observable characteristics that can instrument for historical mistreatment of non-white populations in the United States. See (Race as Biology is Fiction)¹⁰³

2,938 premature births, with 15 being reported in Jones County, accounting for 0.5% of state premature births (Jones County has about 0.7% of Iowa's population).⁴⁵

The State of Iowa reported 655 infants born with low birth weight but met full-term gestation. Aggregated very low birth weight data is available for Jones County is not available, with 1.8 very low weight births per 1,000 live births. The county did report data for infants born at a very low birth rate, which is an infant born weighing less than 3.3 pounds. The State of Iowa reported 308 infants born at very low birth weight between 2018-2022.⁴⁶ Infants born at low birth weight have higher risks of experiencing chronic conditions such as diabetes, heart disease, obesity and intellectual and developmental disabilities.⁴⁷

Breastfeeding

The National Institute of Child Health and Human Development recommends breastfeeding as an essential part of nutrition for infants and can aid in immune system enhancement and prevent many common childhood illnesses.⁴⁸ The National Institute of Child Health and Human Development suggests breastfeeding may reduce rates of allergic diseases, asthma, obesity and Type II diabetes and may increase cognitive development. Between 2018 and 2019, 82.6% of Jones County mothers started by breastfeeding their infants, with the overall state breastfeeding initiation rate being 82.6%.⁴⁹

8. Adolescent Health

Physical Health

In Jones County, 21.8% of the population is under 18, a lower percentage than Iowa (23.3%) and the United States as a whole (22.5%).¹ Several family practice offices exist in Wyoming and Monticello, with a larger family medicine practice located at Jones Regional Medical Center in Anamosa. Indiscriminate of age groups, County Health Rankings reports a ratio of 2,950 residents per primary care physician in Jones County, more than double the ratio in Iowa (1360:1) and in the United States (1310:1). Jones County also has a high ratio of residents to other primary care providers (Nurse Practitioners, Physician Assistants, etc.) with 2,310 residents per provider, more than 2.8 times higher than the ratio in Iowa (800:1) and in the United States (810:1).²

The National Survey of Children's Health collects data on a variety of metrics every year, including estimates of overweight or obesity in children ages 10-17. Table 16 reports estimates of rates of overweight or obesity in children 10-17 in the sample, measured as BMI at or above the 85th percentile. The data show some trends including an increase during 2020 and 2021,

but the confidence intervals for the samples (Iowa specifically) are too wide to draw causal conclusions or analyze trends.⁵⁰

Table 16: Rates of Childhood Obesity (ages 10-17) in Iowa and the United States

Children 10-17	2016	2017	2018	2019	2020	2021	2022
Iowa	29.9%	33.2%	35.8%	31.2%	--	34.2%	32.3%
United States	31.1%	30.7%	30.8%	31.2%	33.1%	33.9%	31.8%

In 2020, 14.4% of WIC-enrolled children nationally between 2-4 years of age were considered obese. National disparities in obesity rates are prevalent in Hispanic (17.4%) and American Indian or Alaska Native (18.4%) populations. Data from 2020 shows a national decrease in obesity rates over time in WIC-participating children ages 2-4 since 2010 when the average was 15.9%. Children ages 2-4 in Iowa have not seen parallel decreasing trends, as rates of obesity in WIC-enrolled Iowa children increased from 13.4% to 14.4% between 2010 and 2020.⁵¹ While an increase toward the national mean is not cause for alarm, the obesity rates should continue to be monitored closely to recognize and prevent disparities.

Mental Health

Adverse childhood experiences (ACEs) are traumatic events that occur during adolescence. They can involve physical or sexual abuse, living in a home with substance abuse, experiencing food insecurity or homelessness, and more. These traumatic events can cause stress that can have long-term impacts on brain development and the child's future responses to stressful or traumatic events. ACEs increase a child's potential for substance abuse problems of their own and increase the risk of developing a chronic condition or mental illness in adulthood.⁵² The CDC reports that experiencing ACEs can reduce life expectancy by up to 20 years. Students who have had four or more ACEs are 3.4 times more likely to experience academic failure than students who experienced zero ACEs. These students are also 4.9 times more likely to be absent from school and 6.9 times more likely to have behavioral issues.⁵³

While difficult, experiencing ACEs can be prevented, and when avoided, decreases the risk for developing a chronic condition. Reducing occurrences of smoking or drinking alcohol can improve education and employment potential in children who have experienced ACEs.⁵² The Central Iowa ACEs Steering Committee reports that as of 2020, 63.7% of Iowans reported having experienced at least one form of child abuse, neglect, or some other significant stressor in the home growing up.⁵³ The ACE 360 Commission divided the state into six regions; the region which includes Jones County ranked highest in the state with 18.8% of adults reporting having experienced four or more types of ACEs during adolescence.⁵³

For adolescent mental health, the area is served by the Iowa Department of Health and Human Services Mental Health/Disability Services of the East Central region. Your Life Iowa is a free and confidential hotline [call: (855) 581-8111 or text: (855) 895-8398] that offers support and helps connect those in need with resources for mental health, substance abuse, or gambling. Mobile Crisis Outreach is also provided by the Iowa Department of Health and Human Services, but is face-to-face service staffed with trained mental health professionals. It's important to note that these services are not made specifically for children, which can create even more barriers for adolescents who are seeking help for mental health concerns. The Jones County Community Partnership for Protecting Children (CPPC) is a community-based approach to prevent child abuse and neglect; the organization aims to improve welfare processes systems and policies to better serve those in need.

9. Clinical Preventative Services

Clinical preventive services include annual exams, immunizations and screening tools used to detect health conditions early, reduce harmful or risky health behaviors and promote health education and awareness.⁵⁴ Cancers such as breast, colorectal and cervical are common in the United States and all three have screening tools (mammograms, colonoscopies, and Pap smears, respectively) that can detect abnormalities early and prevent severe cases of disease (or even prevent the disease from occurring at all). The CDC has developed the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) specifically aimed at early detection and helping residents locate local screening centers. Of residents who responded to the Community Health Needs Assessment survey, 83 of 197 (42%) reported they or their child was screened for cancer in the last 12 months.

As mentioned in the section on Adolescent Health, Jones County has a ratio of 2,950 residents per primary care physician, more than double the ratio in Iowa (1360:1) and in the United States (1310:1). Jones County also has a high ratio of residents to other primary care providers (Nurse Practitioners, Physician Assistants, etc.) with 2,310 residents per provider, more than 2.8 times higher than the ratio in Iowa (800:1) and in the United States (810:1).² Jones Regional Medical Center is designated as a critical access hospital and boasts its “[specialization] in 24-hour emergency care, lab and radiology, inpatient hospital visits and nursing care; outpatient surgeries and clinics; counseling; and rehabilitation.”⁵⁵ While expanding access to telemedicine may improve access to counseling or routine check-ins with providers, many preventative screenings require an in-person visit for scans, bloodwork, or other procedures.

10. Sexual & Reproductive Health

Family Planning

Readily available family planning services increase the chances of people having the desired number of children and also provide support on timing between pregnancies. Family planning services also help prevent unwanted pregnancy by offering birth control options for those not desiring pregnancy.⁵⁶ The State of Iowa joined the PRAMS (Iowa Pregnancy Risk Assessment Monitoring System) project in 2011, which surveyed Iowa mothers. In 2020, 18% of Iowa mothers said their pregnancy was unintended and 56% of mothers stated they were using a moderately effective form of birth control during the postpartum period.⁵⁷ The Iowa Department of Public Health does offer free and low-cost family planning services for eligible Iowans, with the closest cities offering these services being Cedar Rapids, Iowa City and Dubuque. Maquoketa, Vinton and Independence also have women's health services clinics.

Teen Pregnancy

Adolescent mothers are at an increased risk of poverty, malnutrition, pregnancy complications, mental health illness and substance abuse.⁵⁸ In addition to complications from pregnancy or childbirth, children of adolescent mothers are also at increased risk for physical, cognitive and emotional problems.⁵⁸

In Jones County, the teen birth rate has remained consistent since 2016 with a spike in 2019. In general, teen birth rates have been declining since 2008. From the Congressional Research Services, teenage pregnancy has been declining in rural and urban areas in recent years and increased use of contraception and decreased sexual activity could be two of the main driving factors in the decline.⁵⁹

Table 17: Teen Births in Jones County from 2016 to 2020.⁶⁰

	2016	2017	2018	2019	2020
Births age 15-19	8	6	8	11	8
State rank	56	75	60	25	46

Sexual Education

In the State of Iowa, several laws are in place that outline what public schools must entail for sexual education. Iowa code 256.11 states that from grades K-12, sexual health and education curriculum is taught in stages based on grade level of the student.

In Iowa, the majority of sexual education is addressed in grades 9-12. 85.6% of secondary schools taught students benefits of remaining abstinent.⁶¹ 86.5% of secondary schools report teaching how to access valid and reliable information, products, and services related to HIV, other STDs, and pregnancy.⁶¹ 85.5% of schools reported teaching about preventive care that is necessary to maintain reproductive and sexual health.⁶¹ 69.2% of secondary schools reported how to correctly use a condom and 81.6% reported teaching about methods of contraception other than condoms.⁶¹

VI. Prepare, Respond, and Recover from Emergencies

1. Communication

Communication Networks and Risk Communication

Communication surrounding potential and actual emergencies is a key step in emergency preparedness and response. Alert Iowa is a free service that provides voice or text alerts to phone numbers and emails.⁶² As this service is free, it is a good tool to provide widespread communication in an emergency. Jones County is identified as a high-risk area for natural disasters such as tornadoes and hail.

2. Planning and Response

Emergency Planning & Emergency Response

Emergency medical services (EMS) are facing a crisis nationwide due to poor funding and staffing shortages. In response to the CHNA survey question “Does your local EMS and ambulance service have any challenges in recruiting and maintaining staff?” 31.1% (68) of respondents answered “yes”, and 63.1% (137) indicated that they were “unsure.” In follow up questions, 29 respondents said they would be interested in attending a meeting regarding EMS, and 20 indicated they have considered volunteering for their local EMS.

Until recently, EMS has not been considered an essential service in Iowa, and therefore received limited state funding. However, in June 2021, a bill was signed into law allowing Iowa counties to deem EMS an essential service.⁶³ In the November 8, 2022 election, Jones County residents voted in favor of an essential funding referendum (70.8% yes), allowing an ad valorem property tax of 35 cents per \$1000 (0.00035%) to support the funding of EMS services.⁶⁴ Taking this step demonstrates community recognition of the importance of emergency services and shows the commitment Jones County is making to support this essential service.

Table 18: Community Health Needs Assessment Questions on Emergency Medical Services

CHNA Question	Responses (n=197)
Does your local EMS have any challenges with recruiting and maintaining staff?	Yes 58 (29.44%) No 11 (5.58%) Unsure 128 (64.97%)
Would you be willing to attend an upcoming community meeting regarding local EMS and ambulance services in Jones County?	Yes 26 (13.3%) No 86 (43.65%) Maybe 85 (43.15%)
Have you considered volunteering for your local EMS service?	Yes 18 (9.14%) No 179 (90.86%)

3. Individual Preparedness

Community Preparedness

One of the most basic ways an individual can begin to prepare for an emergency is to get involved in their community.⁶⁵ By establishing connections with neighbors and others in the community, an individual can begin to build—and be—a support system in the case of disaster or emergency. Finding a place to connect with your community is a great first step in emergency preparedness. Emergency planning should also be conducted by families/households. According to the Federal Emergency Management Agency (FEMA), in 2022, 73% of respondents across the nation believe that a disaster is likely or very likely to impact their lives, and 69% are confident in their ability to prepare and believe in the impact of preparedness. Survey results showed that 45% of respondents feel prepared for an emergency, and 48% intend to prepare sometime in the future but have not started yet.⁶⁵ Table 19

All households should have a disaster plan in place, including shelter location, evacuation routes, and a safe meeting place. Basic emergency supplies to always have on hand include plenty of drinking water, non-perishable foods, flashlights and batteries, extra medications, cell phones with backup batteries, and a battery-operated or hand-crank powered emergency radio. A tool to assist with disaster planning at a household level is available at (jonescountyiowa.gov/emergency_management/preparedness).

Table 19: FEMA Questions and Positive Responses on Community Preparedness ⁶⁵

Survey Question	Positive Response
Get involved in your community	10%
Plan with neighbors	12%
Assemble or update supplies	33%
Save for a rainy day	36%
Make a plan	41%
Sign up for warnings and alerts	46%

VII. Strengthen Health Infrastructure

1. Financial Stability

Income

In 2021, Jones County the median household income in Jones County was lower than the median household income in the United States, with the median income in Jones County being \$63,279 while the median household income in the United States was \$69,021. Average income per capita in Jones County was \$31,062, while the average income per capita in the United States was \$37,638. Although Jones County's median household income and income per capita are less than the national median, Jones County has a smaller percentage of residents living in poverty at 10.5% compared to the United States which has about 11.5% of residents living in poverty.⁶⁶ Those that live in poverty are at increased risk for developing mental illnesses, risk of chronic diseases, risk of mortality, and have a lower life expectancy.⁶⁷ For members of the Jones County community in need of financial assistance can apply for emergency assistance for rent and utilities by filling out an application that can be found on the county website.⁶⁸

Employment

From 2017 to 2021, 62.1% of people 16 years old and older from Jones County were in the civilian workforce. The State of Iowa has a higher percentage of those 16 years old and older in the civilian workforce at 66.8%. The 2021 unemployment rate of Jones County in was 4.5% compared to the state unemployment rate of 4.2%.² Unemployment is known to have negative effects on a person, as unemployment can induce depression, anxiety, low self-esteem and demoralization. Unemployment can also cause physical issues like high blood pressure, stroke, heart attack, heart disease and arthritis.⁶⁹

2. Education

Education is vital in helping individuals become successful. It helps develop critical thinking skills, logic, decision making, and people skills to promote better job opportunities and improve health outcomes.⁷⁰ From 2017 to 2021, it is estimated that 94.7% of people 25 years and older in Jones County have completed at least a high school education, while the State of Iowa had a lower education completion percentage of 92.8%. Nationally, 88.9% of people 25 and over have at least a high school education. Over the same period and in the same group, 21.7% of Jones County residents have a bachelor's degree or higher, 29.7% of residents in the state have a bachelor's degree or higher, and 33.7% of residents nationally have a bachelor's degree or higher.⁶⁶

Jones County has two colleges: Carlson College of Massage Therapy located in Anamosa and a Kirkwood Community College regional county center in Monticello.⁷¹ Seven school districts operate within Jones County: Anamosa Community School District, Midland Community School District, Monticello Community School District, Olin Community School District, Lisbon Community School District, Mount Vernon Community School District, and West Dubuque Community School District.⁷² From 2020-2021 the graduation rate from all Jones County High Schools was 93.3%, while the dropout rate in the same time frame was 1.3%.⁷³

3. Housing

In 2022, 8,887 housing units were occupied in Jones County. Of those 8,887 units, 79.3% were owned in Jones County, while 71.6% of Iowans owned their homes. The median value of a home from 2017-2021 in Jones County was \$146,400. The state median from 2017-2021 was \$160,700.⁶⁶

Severe housing problems is a prevalent issue across the county. Four specific issues help classify severe housing problems: overcrowding, high housing costs, lack of kitchen facilities, and lacking plumbing facilities. The table below shows the trend of severe housing problems in Jones County, Iowa, and the United States. In 2023 it was estimated that 11% of households in Jones County have at least 1 out of 4 of these severe housing problems while 12% of Iowans had at least 1 out of 4 of the housing issues. The United States from 2018 to 2023 consistently has a higher percentage of severe housing problems than Iowa and Jones County.²

Table 20: Percentages of Households Facing Severe Housing Problems (2018-2023)²

	2018	2019	2020	2021	2022	2023
United States	19%	18%	18%	18%	17%	17%
Iowa	12%	12%	12%	12%	12%	12%
Jones County	9%	8%	9%	10%	12%	11%

4. Food Systems and Food Security

Food security means having the physical and economic means to access enough food to sustain a constructive and healthy life. Food insecurity, the opposite of food security, can be the result of poverty and can have long-term negative effects on families.⁷⁴ Food security can be measured by a food environment index. County Health Rankings looks at proximity to healthy food and income. Jones County, in 2023, has a food environment index of 8.7 while the national index value is 7. Table 21 shows Jones County and Iowa have a higher food environment index value than the United States over the same time period.² For more information on food insecurity, see section V.1 on nutrition.

Table 21: Food Environment Index by Year²

	2018	2019	2020	2021	2022	2023
Jones County	8.2	8.2	8.2	8.6	8.8	8.7
Iowa	8.2	8.2	8.2	8.5	8.4	8.6
United States	7.7	7.7	7.6	7.8	7.8	7.0

5. Access to Health Care

Insurance

If a person does not have health insurance, it creates a large barrier to accessing health care. In 2022, 5.6% of Jones County residents under the age of 65 were without insurance while 9.3% of United States residents under the age of 65 were without insurance.⁶⁶ At the age of 65, most people in the United States become eligible for the federally funded and managed Medicare health insurance plan.

Facilities and Providers

Jones County has several places to access primary care including several UnityPoint clinics, Eastern Iowa Health Center, Cascade Family Health Center, MercyCare Medical Clinic, and Grand River Medical Group. Tables 22 and 23 show the ratios of residents to primary care and mental health providers in Jones County.

Table 22: Primary Care Physicians in Jones County (2017-2020)¹⁹

	2017	2018	2019	2020
County Providers	9	8	7	7
County Population per Provider	2282	2593	2954	2945
State Providers	2293	2326	2343	2331
State Population per Provider	1372	1357	1347	1357
Percent of State Providers in County	0.39%	0.34%	0.30%	0.30%

Table 23: Mental Health Providers in Jones County (2019-2022)¹⁹

	2019	2020	2021	2022
County Providers	10	11	14	19
County Population per Provider	2074	1880	1473	1095
State Providers	4928	5197	5555	6001
State Population per Provider	640	607	569	532
Percent of State Providers in County	0.20%	0.21%	0.25%	0.32%

Jones County has one hospital, UnityPoint Health-Jones Regional Medical Center, located in Anamosa, the county seat and most populated town. Jones Regional Medical Center is designated as a Critical Access Hospital, and provides routine services, inpatient care, and some surgeries. There are 15 different specialties/areas of care practiced at Jones Regional Medical Center, which include internal medicine, cardiothoracic surgery, emergency medicine, neonatology, obstetrics and gynecology, orthopedic surgery, pediatric hospital medicine, pediatrics, physical medicine and rehabilitation, surgical wound care, critical care medicine, diagnostic radiology, hospice and palliative care, and interventional radiology.⁵⁵

VIII. Prevent Epidemics and the Spread of Disease

1. Immunization and Mitigation

Immunizations

Vaccinations are known to be the most effective tool used to prevent infectious diseases. It is a goal for the state of Iowa that 90% of the population is immunized [1]. Table 24 shows the trend of immunizations in 2-year-olds from 2017 through 2022 from the Immunization Registry Information System (IRIS). In 2022, the Polio vaccine had the highest rate of inoculation at 91.7% while the DTaP vaccine had the lowest rate of inoculation at 82.9%. In 2022, 78.3% of two-year-olds from Jones County received all of the recommended immunizations while 70.9% of two-year-olds who received those same immunizations in Iowa.⁷⁵

Table 24: Percent of Jones County 2-Year-Olds Receiving Recommended Vaccinations (2017-2022)⁷⁵

Immunization	2017	2018	2019	2020	2021	2022
1 MMR	85.4%	93.1%	88.0%	92.6%	89.0%	85.3%
1 Varicella	82.0%	91.7%	85.9%	89.3%	88.5%	85.3%
3 Hep B	86.9%	89.7%	88.0%	91.7%	88.1%	90.3%
3 Hib	88.8%	90.2%	90.2%	93.0%	89.4%	89.9%
3 Polio	89.8%	90.7%	91.3%	95.5%	91.6%	91.7%
4 DTaP	82.0%	83.3%	82.1%	87.6%	85.9%	82.9%
4 PCV	80.1%	84.8%	84.8%	90.5%	85.9%	84.3%
4-3-1-3-3-1-4 Series	70.9%	78.4%	75.0%	80.2%	79.3%	78.3%

Table 25 shows the trend of immunizations in adolescents in Jones County by IRIS population from 2017 to 2022. Hepatitis B vaccine was the only vaccine that met the goal of 90% of the population receiving immunizations. Overall, only 78.4% of adolescents received all of the recommended immunizations.⁷⁶

Table 25: Percent of Jones County Adolescents (13-15 years old) Receiving Recommended Vaccinations (2017-2022)⁷⁶

Immunization	2017	2018	2019	2020	2021	2022
1 Meningococcal	77.5%	83.9%	83.2%	87.1%	86.4%	85.0%
1 Td/Tdap	82.4%	85.7%	83.8%	87.7%	86.9%	86.0%
2 MMR	81.2%	85.3%	87.1%	89.4%	89.0%	89.4%
2 Varicella	76.6%	83.2%	86.4%	89.2%	88.6%	89.3%
3 Hep B	84.7%	88.5%	89.0%	91.6%	90.4%	91.0%
3-1-2-1-2 Series	64.8%	72.7%	72.7%	79.4%	79.1%	78.4%

Table 26 shows the percentage of immunizations in adults in Jones County by IRIS population from 2018 to 2022. The percentage of immunizations in adults in 2022 has increased considerably from 2021. The percentage of adults immunized is considerably less than the percentage of adolescents immunized.⁷⁷

Table 26: Percent of Jones County Adults Receiving Recommended Vaccinations (2018-2022)⁷⁷

Immunization	2018	2019	2020	2021	2022
1 Tdap- Age 19-64	31.0%	30.7%	29.9%	27.3%	50.2%
HepA Complete- Age 19-49	7.9%	9.5%	11.0%	12.8%	14.6%
HepB Complete- Age 19-59	24.8%	26.7%	28.6%	30.7%	32.6%
HPV Complete- Age 19-26	29.2%	33.4%	37.6%	41.8%	45.5%
Zoster Complete- Age 50+	2.9%	8.2%	14.6%	19.5%	23.4%

2. Sexually Transmitted Infections

Sexually transmitted infections are a public health concern nationwide. According to the CDC, 1 in 5 people in the US has an STI, costing nearly \$16 billion in direct lifetime medical costs.⁷⁸ The impacts of sexually transmitted infections (STIs) are not limited to the symptoms of the disease.

STIs can have long-lasting impacts by damaging the reproductive system, including pregnancy complications, fertility issues, and chronic pain.⁷⁹ Screening, testing, and treating are necessary steps to contain the spread of STI. However, only 22 (sample n=216) Jones County respondents reported that in the last year, either they or their child (or both) were screened for STIs or HIV. Only 26% of those surveyed reported they have received any HPV, sexual health, or HIV education in the past 10 years.

*Table 27: Case Incidence of STIs in Jones County and Iowa (2022)⁷⁹ [*case rate data unavailable]*

	Jones County	Iowa
Chlamydia	59 (284 per 100,00)	14,633 (458 per 100,000)
Gonorrhea	8*	4,466 (140 per 100,000)
Syphilis	3*	877 (27 per 100,000)

The case rate data above only reflects reported cases and may not paint a clear picture of the disease burden of sexually transmitted infections. STIs such as chlamydia and gonorrhea can be asymptomatic, so individuals may be infected but never receive treatment that would lead to a diagnosis.⁷⁹ Additionally, data for many other STI's such as HPV, herpes, and genital warts is not available for Jones County, likely due to low incidence.

3. HIV and AIDS

Rates of HIV/AIDS are relatively low in Jones County, with no case rate data available. 2021 data from the CDC shows that in Iowa there were 124 new diagnoses of HIV, with a one-year incidence of 4.6 cases per 100,000 residents.⁸⁰

Although the disease burden of HIV/AIDS is not a pressing issue in Jones County, there are resources available for individuals that may be affected by the disease. The Iowa Department of Health and Human Services HIV/ AIDS program works with local health departments and other community services to provide resources such as HIV counseling, testing, treatment, and other supports.⁸¹ Free HIV counseling and testing is available at several sites in surrounding counties. Information on free HIV testing as well as free condoms can be found at the Jones County Public Health website. (jonescountyiowa.gov/public_health/sexual_health/)

IX. Protect Against Environmental Hazards

1. Drinking Water

Clean drinking water is a public health issue worldwide. Exposure to contaminants such as bacteria or chemicals in water can occur not only by drinking it, but also by eating food prepared with contaminated water, absorbing contaminants through the skin, or through the respiratory system when inhaling droplets.⁸² Although it is recommended to test private well water annually, less than 7% of Iowa's private well owners test their well water, and even fewer follow the yearly recommendation. Only 11% of Jones County residents responding to the CHNA survey indicated they had tested their private well water within the last 12 months. Basic water tests include bacteria, nitrate, arsenic, and manganese; additional testing may be indicated based upon additional factors such as well depth, location and construction.⁸³

Table 28: 2020 Jones County Private Well Water Testing⁸⁴

2020 Jones County Private Well Water Testing	Tested	Positive	Percent Positive
Arsenic	0	na	na
Coliform	125	27	21.6%
Fecal coliform	8	0	0%
Nitrate	93	12	12.9%

2. Lead

Lead can be found in a variety of sources including old paint (before 1978, higher risk before 1950), water pipes, toys and jewelry, some candies and traditional home remedies, certain jobs and hobbies, and near airports due to aviation gas.⁸⁵ Iowa has one of the highest concentrations of lead risk housing, with 26% of housing stock built before 1950.⁸⁶ No safe blood lead level has been identified for children, and lead poisoning can cause permanent damage to the brain and central nervous system, inhibit growth and development, cause learning and behavior problems, as well as hearing and speech problems.⁸⁷

Although 25% of respondents to the CHNA reported they had minors living in their home, only 3% reported they had their home tested for lead levels. This may not be an area of concern, however, as long as minors have blood lead levels drawn at recommended intervals based on assessed lead exposure risk. As shown in Table 29, Jones County is above the state average for pediatric blood lead testing.⁸⁸

Table 29: Percent of children tested for lead in 2021⁸⁸

	1 year old	2 years old	3 years old
Jones County	77%	46%	13%
State of Iowa	71%	39%	10%

The State of Iowa has set a goal to test blood lead levels for 75% of 1- and 2-year-olds. Risk factors for childhood lead poisoning in Jones County in 2021 are 67% living in house built before 1979, and 10% below the poverty level. In Iowa, 961 children had confirmed elevated blood levels in 2021.⁸⁸

3. Radon

Radon is a cancer-causing, radioactive gas that is naturally occurring in Iowa.⁸⁹ The Environmental Protection Agency (EPA) considers the entire state of Iowa at high risk for radon gas in homes.⁹⁰ It is recommended that all homes below the third level get tested for radon. There is no established safe level of radon, but homeowners should have their home fixed if levels exceed 4 pCi/L.⁸⁹ In tests performed by Air Chek, Inc, the average indoor radon levels in Jones County was 5.9 pCi/L. 47% of tests in Jones County showed results of at least 4 pCi/L.⁹¹ Only 13 respondents (14%) of the Jones County CHNA survey indicated that they had radon testing done in their homes in the last 12 months. Educating the public about the need for radon testing and resources for mitigation is an opportunity for improvement within Jones County.

4. Air Quality

Inhalable particles and ground level ozone are two measures of air quality tracked by the State of Iowa and regulated by the Environmental Protection Agency (EPA). Particulate matter measuring 2.5 micrometers or smaller (PM 2.5) is inhalable and causes the greatest potential for health problems, particularly respiratory complications, as they enter the lungs and potentially the bloodstream.⁹²

Jones county does not monitor fine particulate matter, but two of its surrounding counties (Linn and Clinton) have air quality monitoring sites. Both counties show monitored levels well below the National Ambient Air Quality Standards (NAAQS) for PM 2.5 in 2022.⁹³ Likewise, no monitored data is available for ground level ozone for Jones County, but Linn and Clinton both show 0 days over NAAQS for ground level ozone in 2022. Air quality data collected in 2023

through October 1st show Linn County exceeded NAAQS for PM 2.5 5 days and ozone 12 days, while Clinton County exceeded PM2.5 4 days and ozone 13 days.⁹⁴

Since 2015, all 99 Iowa counties have been designated by the Environmental Protection Agency (EPA) as “attainment areas,” demonstrating 3 years of monitored data showing ground-level ozone and PM 2.5, below the latest NAAQS.⁹²

X. Prevent Injury and Violence

1. Unintentional Injuries

Unintentional injuries are described as injuries that are not deliberately imposed and happen without intentional harm.⁹⁵ In the United States in 2021 there were 25.5 million emergency department visits for unintentional injuries. That same year there were 224,935 mortalities related to unintentional injuries, making unintentional injuries the 4th leading cause of death in the United States in 2021.⁹⁶ Death rates related to unintentional injuries in the US are rising.⁹⁷

Unintentional injury is the leading cause of death of people under 35 in Iowa. It is the 5th leading cause of death for Iowans of all ages and was the 4th leading cause in Jones County in 2021.⁹⁸ Tables 30 and 31 show the top 10 causes of death in Jones County and Iowa.

Unintentional injury is shown to be a leading cause of death from 2017 to 2022. The death rates related to unintentional injury in Jones County are shown to be consistently higher through the years when compared to death rates in Iowa per 10,000 residents.⁹⁸

*Table 30: Top Causes of Death in Jones County (2017-2022) [Rates per 10k, * indicates suppressed value]⁹⁸*

Cause of Death	2017	2018	2019	2020	2021	2022
Diseases of Heart	15.3	16.1	21.1	13.1	20.5	14.6
Malignant neoplasms (Cancer)	16.7	15.1	14.5	12.1	15.2	10.3
Chronic lower respiratory diseases	3.7	3.7	6.7	3.7	6.7	5.3
Cerebrovascular Disease	2.5	2.1	2.8	3.4	2.3	4.1
Accidents (unintentional injuries)	4.0	3.9	3.5	3.7	4.6	5.1
Alzheimer's Disease	3.4	3.0	2.3	4.2	2.6	3.7
Diabetes	1.5	*	*	1.6	1.8	2.5
Influenza and pneumonia	*	3.0	*	*	2.0	*
Hypertension	*	*	*	*	*	*
Suicide	*	*	*	2.6	*	4.3

*Table 31: Top Causes of Death in Iowa (2017-2022) [Rates per 10k, * indicates suppressed value]⁹⁸*

Cause of Death	2017	2018	2019	2020	2021	2022
Diseases of Heart	18.2	17.6	18.4	18.1	18.5	18.6
Malignant neoplasms (Cancer)	16.9	16.4	16.0	15.6	15.5	15.6
Chronic lower respiratory diseases	4.9	4.5	4.6	4.0	4.0	4.1
Cerebrovascular Diseases	3.5	3.5	3.4	3.3	3.3	3.3
Accidents (unintentional injuries)	4.3	4.0	4.2	4.5	4.7	5.0
Alzheimer's Disease	3.8	3.4	3.1	3.3	2.7	3.0
Diabetes	2.4	2.3	2.2	2.6	2.5	2.5
Influenza and pneumonia	1.4	1.7	1.4	1.4	0.9	1.2
Hypertension	1.0	1.1	1.0	1.2	1.3	1.2
Suicide	1.5	1.5	1.6	1.7	1.7	1.8

A leading cause of unintentional injury related emergency department visits in Iowa are falls. People that are 65 years or over are the age group that experience the highest numbers of emergency department visits related to falls. Table 32 compares the amount of emergency department related falls in Iowa and Jones County in 2022. Jones County's crude rate is slightly higher than the State of Iowa's crude rate.⁹⁹

Table 32: Emergency Department Visits for Falls in Iowa and Jones County (2022)⁹⁹

Iowa		Jones County	
Count of ED visits	72,693	Count of ED visits	530
Crude rate (per 100k)	2,336.49	Crude rate (per 100k)	2,622.72
Age adjusted rate (per 100k)	2,129.92	Age adjusted rate (per 100k)	2,315.11

2. Intentional Injuries

Suicide is intentional injury to oneself with the intent to end their life. People are more at risk for committing suicide if they have experienced other types of violence like child abuse, bullying, or sexual violence.¹⁰⁰ There is a lack of data on suicides rates in Jones County. There is no data on suicides in Jones County from 2016 to 2019. Five suicides were reported in 2020 and there is no data for 2021.¹⁰¹

The Iowa Public Health Tracking Portal shows that there is suppressed data on homicides in Jones County from 2000 to 2023. There are no values listed in the Iowa Public Health Tracking Portal table that presents data on homicides in Jones County.¹⁰²

XI. Health Improvement Plan

The goals, objectives, and strategies to address in each of the selected health priorities are outlined below. Jones County Public Health will work with a variety of community partners to implement the strategies and meet the objectives.

- I. Priority 1: Physical Activity, Nutrition, and Overweight & Obesity
 - a. Goal 1: By 2026, increase physical activity levels among Jones County residents.
 - i. Objective 1: Increase the number of opportunities to exercise
 1. Strategy 1: Ensure public parks and recreation spaces are clean and safe for all age groups and ability levels
 2. Strategy 2: Develop a resource to help community members find physical activity opportunities available for all fitness levels, ages, and cost.
 - b. Goal 2: By 2026, decrease food insecurity rates to 7% or less.
 - i. Objective 1: Reduce the child food insecurity rate to 7% or less.
 1. Strategy 1: Ensure children who experience food insecurity are receiving meals at school through free/reduced-price lunch programs
 2. Strategy 2: Partner with local organizations to ensure that children who experience food insecurity have access to meals when school is not in session.
 - ii. Objective 2: Reduce the overall food insecurity rates to 7% or less.
 1. Strategy 1: Directly help or guide to resources people who are eligible for food assistance programs and need help accessing the program.
 2. Strategy 2: Connect people experiencing food insecurity to food banks and similar community organizations.
- II. Priority 2: Addictive Behaviors (Substance Use)
 - a. Goal 1: By 2026, decrease the percentage of the adult population that currently smokes.
 - i. Objective 1: Reduce cigarette smoking by adults from 19% to or below the state average of 17%.
 1. Strategy 1: Emphasize the health risks of smoking and benefits of quitting.
 2. Strategy 2: Support efforts to increase the smoking age and/or place further restrictions on access to tobacco products.
 - b. Goal 2: By 2026, decrease the percentage of teens and high-schoolers who smoke or use e-cigarettes.
 - i. Objective 1: Reduce e-cigarette use to less than 7% (as measured by the habits of 11th-graders) and ensure they do not switch to using tobacco cigarettes.

1. Strategy 1: Restrict sale of and access to e-cigarettes and support state policy that does the same.
 2. Strategy 2: Develop resources for teens to help them stop smoking or using e-cigarettes long-term.
- III. Priority 3: Prevent Epidemics and Spread of Disease
- a. Goal 1: By 2026, increase the number of residents who receive recommended vaccinations.
 - i. Objective 1: Increase the number of 2-year-olds receiving all recommended vaccinations to 85%, the number of adolescents who receiving all recommended vaccinations to 85%, and the number of adults eligible for HPV vaccination to 60% and Shingles vaccination to 30%.
 1. Strategy 1: Increase access to vaccinations by hosting public vaccination clinics.
 2. Strategy 2: Apply for grant funding and support policy that provides recommended vaccinations for people who are not insured.
 3. Strategy 3: Guide questioning parents/patients to reliable resources where concerns about vaccinations can be addressed.

XII. Contact Information

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XIII. References

1. U.S. Census Bureau. 2021 American Community Survey 5-year Estimates Data Profiles. U.S. Census Bureau. Accessed November 1, 2023. <https://data.census.gov/all?d=ACS+5-Year+Estimates+Data+Profiles>
2. University of Wisconsin Population Health Institute. Jones, IA - 2023 County Health Rankings. County Health Rankings & Roadmaps. Published 2023. Accessed November 7, 2023. <https://www.countyhealthrankings.org/explore-health-rankings/iowa/jones?year=2023>
3. Iowa Department of Health and Human Services. Top 10 Causes. Iowa Public Health Tracking Portal. Accessed November 17, 2023. <https://tracking.idph.iowa.gov/People-Community/Deaths/Top-Ten-Causes>
4. National Heart, Lung, and Blood Institute. Aim for a Healthy Weight. National Heart, Lung, and Blood Institute. Accessed October 31, 2023. https://www.nhlbi.nih.gov/health/educational/lose_wt/index.htm
5. Cleveland Clinic. The Health Benefits of Walking. healthessentials. Published March 29, 2023. Accessed October 31, 2023. <https://health.clevelandclinic.org/benefits-of-walking/>
6. U.S. Office of Disease Prevention and Health Promotion. Healthy People 2020. Published January 21, 2016. Accessed January 2016. healthypeople.gov
7. U.S. Department of Agriculture, U.S. Department of Health and Human Services. Dietary Guidelines for Americans, 2020-2025. Published online December 2020. Accessed October 31, 2023. https://www.dietaryguidelines.gov/sites/default/files/2020-12/Dietary_Guidelines_for_Americans_2020-2025.pdf
8. Division of Nutrition, Physical Activity, and Obesity, National Center for Chronic Disease Prevention and Health Promotion. Nutrition - Why It Matters. Centers for Disease Control and Prevention. Published January 25, 2021. Accessed October 31, 2023. <https://www.cdc.gov/nutrition/about-nutrition/why-it-matters.html>
9. Altarum, Iowa Department of Public Health Bureau of Nutrition and Physical Activity. BUREAU OF NUTRITION AND PHYSICAL ACTIVITY DATA REPORT 2020. Published online December 2021. Accessed October 31, 2023. https://hhs.iowa.gov/sites/default/files/portals/1/userfiles/94/bureau%20of%20npa/final_bnpadatareport2020.pdf
10. Division of Nutrition, Physical Activity, and Obesity, National Center for Chronic Disease Prevention and Health Promotion. Benefits of Healthy Eating. Centers for Disease Control and Prevention. Published May 16, 2021. Accessed October 31, 2023. <https://www.cdc.gov/nutrition/resources-publications/benefits-of-healthy-eating.html>
11. Office of Disease Prevention and Health Promotion, Office of the Assistant Secretary for Health, Office of the Secretary, U.S. Department of Health and Human Services. Food Insecurity. Healthy People 2030. Accessed October 31, 2023. <https://health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries/food-insecurity>

12. Feeding America. Food Insecurity among Overall (all ages) Population in Jones County. Feeding America. Accessed November 1, 2023. <https://map.feedingamerica.org/county/2021/overall/iowa/county/jones>
13. Iowa Department of Public Health Bureau of Nutrition and Physical Activity. Extent of Food Insecurity among Iowa WIC Participants in 2021. Published online October 2021. Accessed October 31, 2023. <https://hhs.iowa.gov/sites/default/files/portals/1/userfiles/204/food%20security/final%20food%20security%20survey%20report%202021.pdf>
14. Food Bank of Iowa. SNAP. Food Bank of Iowa. Accessed October 31, 2023. <https://foodbankiowa.org/find-food/snap/>
15. Altarum, Iowa Department of Public Health Bureau of Nutrition and Physical Activity. WIC PARTICIPANT DATA REPORT 2018-2020. Published online January 2022. Accessed October 31, 2023. https://hhs.iowa.gov/sites/default/files/portals/1/userfiles/142/csa%20information/wicparticipantdatareport2018-2020_final.pdf
16. Division of Nutrition, Physical Activity, and Obesity, National Center for Chronic Disease Prevention and Health Promotion. Defining Adult Overweight & Obesity. Centers for Disease Control and Prevention. Published June 3, 2022. Accessed October 31, 2023. <https://www.cdc.gov/obesity/basics/adult-defining.html>
17. World Health Organization. Obesity. World Health Organization. Accessed October 31, 2023. https://www.who.int/health-topics/obesity#tab=tab_1
18. Division of Nutrition, Physical Activity, and Obesity, National Center for Chronic Disease Prevention and Health Promotion. Health Effects of Overweight and Obesity. Centers for Disease Control and Prevention. Published September 24, 2022. Accessed October 31, 2023. <https://www.cdc.gov/healthyweight/effects/index.html>
19. Community and Economic Development, Iowa State University Extension and Outreach. Jones County Health Profile - Data for Decision Makers. Published online October 31, 2023. Accessed October 31, 2023. https://indicators.extension.iastate.edu/projects/DDMs/health/health_ddm_custom.php?countyFIPS5=19105&spot1=foodStampPerPerson&spot2=heartAttack&spot3=numberFoodStamps
20. Iowa Department of Public Health. Adult Obesity Data. Iowa Public Health Tracking Portal. Published 2022. Accessed 2022. <https://tracking.idph.iowa.gov/Health/Obesity/Adult-Obesity-Data>
21. World Health Organization. Mental Health. World Health Organization. Published July 17, 2022. Accessed October 31, 2023. <https://www.who.int/en/news-room/fact-sheets/detail/mental-health-strengthening-our-response>
22. American Psychiatric Association. What is Mental Illness? American Psychiatric Association. Published November 2022. Accessed November 7, 2023. <https://www.psychiatry.org/patients-families/what-is-mental-illness>

23. National Alliance on Mental Illness. Mental Health in Iowa. Published online February 2021. Accessed October 31, 2023. <https://nami.org/NAMI/media/NAMI-Media/StateFactSheets/IowaStateFactSheet.pdf>
24. Iowa Department of Health and Human Services. IOWA PSYCHIATRIC INPATIENT HOSPITAL PROGRAMS. Published online March 31, 2021. Accessed November 7, 2023. <https://hhs.iowa.gov/sites/default/files/Inpatient-Psychiatric-Bed-Program-Beds-Staffed-March-2021.pdf?011820222030>
25. American Academy of Family Physicians. Mental Health Care Services by Family Physicians (Position Paper). AAFP. Accessed October 31, 2023. <https://www.aafp.org/about/policies/all/mental-health-services.html>
26. University of Wisconsin Population Health Institute. County Health Rankings and Roadmaps. countyhealthrankings.org
27. Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion. Youth and Tobacco Use. Centers for Disease Control and Prevention. Published November 10, 2022. Accessed November 7, 2023. https://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/index.htm
28. Iowa Department of Public Health. 2021 Iowa Youth Survey County Report (Jones). Accessed November 7, 2023. https://iowayouthsurvey.idph.iowa.gov/Portals/20/IYS_Reports/2/abcc29ef-bfce-4a41-afa2-6b51ed0e3cf4.pdf
29. Centers for Disease Control and Prevention. Sociodemographic Differences in Binge Drinking Among Adults — 14 States, 2004. *MMWR*. 2009;58(12).
30. Division of Population Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention. Alcohol and Public Health. Centers for Disease Control and Prevention. Published October 25, 2022. Accessed November 7, 2023. <https://www.cdc.gov/alcohol/index.htm>
31. Sacks JJ, Gonzales KR, Bouchery EE, Tomedi LE, Brewer RD. 2010 National and State Costs of Excessive Alcohol Consumption. *Am J Prev Med*. 2015;49(5):e73-e79. doi:10.1016/j.amepre.2015.05.031
32. Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System (BRFSS) Prevalence Data (2011 to present). Centers for Disease Control and Prevention. Published September 25, 2023. Accessed November 7, 2023. <http://www.cdc.gov/brfss>
33. Iowa Department of Health and Human Services. Behavioral Risk Factor Surveillance System (BRFSS). Iowa Department of Health and Human Services. Accessed November 7, 2023. <https://hhs.iowa.gov/brfss>
34. National Center for Chronic Disease Prevention and Health Promotion. About Chronic Diseases. Centers for Disease Control and Prevention. Published July 21, 2022. Accessed November 1, 2023. <https://www.cdc.gov/chronicdisease/about/index.htm>

35. Institute for Health Metrics and Evaluation. County Profile: Jones County, Iowa. Published online 2016. Accessed November 1, 2023. https://www.healthdata.org/sites/default/files/files/county_profiles/US/2015/County_Report_Jones_County_Iowa.pdf
36. Chia F, Huang WY, Huang H, Wu CE. Promoting Healthy Behaviors in Older Adults to Optimize Health-Promoting Lifestyle: An Intervention Study. *Int J Environ Res Public Heal*. 2023;20(2):1628. doi:10.3390/ijerph20021628
37. U.S. Census Bureau. Census Reporter Profile for Jones County, IA. Census Reporter. Published 2021. Accessed November 1, 2023. <https://censusreporter.org/profiles/05000US19105-jones-county-ia/>
38. Heritage Area Agency on Aging. Heritage Area Agency on Aging. Accessed October 20, 2023. <https://www.heritageaaa.org/home>
39. Jones County Public Health. Jones County Home Health Assistance Program Guidelines for Agencies. Accessed October 20, 2023. https://www.jonescountyiowa.gov/files/public_health/jcph_home_health_assistance_funds_52051.pdf
40. National Institute of Dental and Craniofacial Research. Oral Health. National Institute of Dental and Craniofacial Research. Published October 2023. Accessed November 1, 2023. <https://www.nidcr.nih.gov/health-info/oral-hygiene>
41. World Health Organization. Oral Health. World Health Organization. Published March 14, 2023. Accessed November 1, 2023. <https://www.who.int/news-room/fact-sheets/detail/oral-health>
42. Iowa Department of Health and Human Services. Oral Health. Iowa Public Health Tracking Portal. Accessed November 1, 2023. <https://tracking.idph.iowa.gov/Health/Oral-Health>
43. Office of Disease Prevention and Health Promotion, Office of the Assistant Secretary for Health, Office of the Secretary, U.S. Department of Health and Human Services. Healthy People 2030. Healthy People 2030. Accessed November 8, 2023. <https://health.gov/healthypeople>
44. Office of Disease Prevention and Health Promotion, Office of the Assistant Secretary for Health, Office of the Secretary, U.S. Department of Health and Human Services. Pregnancy and Childbirth - Healthy People 2030. Healthy People 2030. Accessed November 8, 2023. <https://health.gov/healthypeople/objectives-and-data/browse-objectives/pregnancy-and-childbirth>
45. Iowa Public Health Tracking Portal, Iowa Department of Health and Human Services. Infant Mortality Data. Iowa Public Health tracking Portal. Accessed November 8, 2023. <https://tracking.idph.iowa.gov/People-Community/Reproduction-and-Birth/Infant-Mortality/Infant-Mortality-Data>
46. Iowa Department of Health and Human Services. Low Birthweight. Iowa Public Health Tracking Portal. Accessed November 8, 2023. <https://tracking.idph.iowa.gov/People-Community/Reproduction-and-Birth/Low-Birthweight>

47. March of Dimes. Low Birthweight. March of Dimes. Published June 2021. Accessed November 8, 2023. <https://www.marchofdimes.org/find-support/topics/birth/low-birthweight>
48. Office of Communication, Eunice Kennedy Shriver National Institute of Child Health and Human Development. What are the benefits of breastfeeding? Eunice Kennedy Shriver National Institute of Child Health and Human Development. Published July 27, 2018. Accessed November 8, 2023. <https://www.nichd.nih.gov/health/topics/breastfeeding/conditioninfo/benefits>
49. Division of Nutrition, Physical Activity, and Obesity, National Center for Chronic Disease Prevention and Health Promotion. Breastfeeding Initiation Rates by County or County Equivalent in Iowa. Centers for Disease Control and Prevention. Published November 15, 2021. Accessed November 8, 2023. <https://www.cdc.gov/breastfeeding/data/county/2018-2019/iowa.html>
50. Child and Adolescent Health Measurement Initiative. 2016-2022 National Survey of Children's Health (NSCH) data query. Data Resource Center for Child and Adolescent Health. Accessed November 7, 2023. www.childhealthdata.org
51. Division of Nutrition, Physical Activity, and Obesity, National Center for Chronic Disease Prevention and Health Promotion. Obesity Among Young Children Enrolled in WIC. Centers for Disease Control and Prevention. Published November 8, 2022. Accessed October 31, 2023. <https://www.cdc.gov/obesity/data/obesity-among-WIC-enrolled-young-children.html>
52. Office of the Associate Director for Communication, US Department of Health and Human Services. Adverse Childhood Experiences. Centers for Disease Control and Prevention. Published August 23, 2021. Accessed November 8, 2023. <https://www.cdc.gov/vitalsigns/aces/index.html>
53. Iowa ACES 360. How Iowans are reshaping systems and communities for children to thrive in response to Adverse Childhood Experiences (ACEs). Published online September 2020. Accessed November 8, 2023. <https://www.iowaaces360.org/uploads/1/0/9/2/10925571/acesreport2020.pdf>
54. Office of Population Affairs, Office of the Assistant Secretary for Health, U.S. Department of Health and Human Services. Clinical Preventative Services. Office of Population Affairs. Accessed November 1, 2023. <https://opa.hhs.gov/adolescent-health/physical-health-developing-adolescents/clinical-preventive-services>
55. UnityPoint Health. UnityPoint Health - Jones Regional Medical Center. UnityPoint Health. Accessed November 8, 2023. <https://doctors.unitypoint.org/location/unity-point-health-jones-regional-medical-center/LOC0000064079>
56. Office of Disease Prevention and Health Promotion, Office of the Assistant Secretary for Health, U.S. Department of Health and Human Services. Family Planning Workgroup. Healthy People 2030. Accessed November 1, 2023. <https://health.gov/healthypeople/about/workgroups/family-planning-workgroup>
57. Bureau of Family Health, Iowa Department of Health and Human Services. Unintended Pregnancy - Iowa Pregnancy Risk Assessment Monitoring System. Published online December 2021. Accessed November 1, 2023.

<https://hhs.iowa.gov/sites/default/files/portals/1/userfiles/171/2020%20unintend%20pregnancy%20fact%20sheet%20%20approved.pdf>

58. Hechtman L. Teenage Mothers and Their Children: Risks and Problems: A Review. *Can J Psychiatry*. 1988;34(6):569-575. doi:10.1177/070674378903400615

59. Tollestrup J, Fernandes-Alcantara A, Nicchitta I, Bryan S. *Teen Birth Trends: In Brief*. Congressional Research Service; 2022. Accessed November 1, 2023. <https://crsreports.congress.gov/product/pdf/R/R45184>

60. Eyes Open Iowa. ADOLESCENT SEXUAL HEALTH IN JONES COUNTY. Eyes Open Iowa. Accessed November 17, 2023. <https://www.eyesopeniowa.org/jones-county-factsheet>

61. SIECUS. Iowa's Sex Education Snapshot. SIECUS State Profiles. Published March 29, 2021. Accessed November 1, 2023. https://siecus.org/state_profile/iowa-fy21-state-profile/

62. Jones County Emergency Management. Alert Iowa is live in Jones County! Jones County Iowa. Accessed November 1, 2023. https://www.jonescountyiowa.gov/emergency_management/alert_iowa/

63. State of Iowa General Assembly. *Senate File 615*. Vol SF615.; 2021. Accessed November 1, 2023. <https://www.legis.iowa.gov/legislation/BillBook?ga=89&ba=sf615>

64. Jones County Iowa. General Election November 8, 2022. Jones County Iowa Elections. Published November 17, 2022. Accessed November 1, 2023. https://www.jonescountyiowaelections.gov/elections/info/general_election_2022_11_08/

65. Federal Emergency Management Agency, U.S. Department of Homeland Security. 2022 National Household Survey on Disaster Preparedness. Published online September 1, 2023. Accessed November 1, 2023. <https://fema-community-files.s3.amazonaws.com/2022-National-Household-Survey.pdf>

66. U.S. Census Bureau. QuickFacts Jones County, Iowa; Iowa; United States. Accessed November 8, 2023. <https://www.census.gov/quickfacts/fact/table/jonescountyiowa,IA,US/RTN131217>

67. Office of Disease Prevention and Health Promotion, Office of the Assistant Secretary for Health, Office of the Secretary, U.S. Department of Health and Human Services. Poverty - Healthy People 2030. Healthy People 2030. Accessed November 8, 2023. <https://health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries/poverty>

68. Jones County. General Assistance Application. Jones County Iowa. Accessed November 8, 2023. https://www.jonescountyiowa.gov/community_services/general_assistance_application/

69. Office of Disease Prevention and Health Promotion, Office of the Assistant Secretary for Health, Office of the Secretary, U.S. Department of Health and Human Services. Employment - Healthy People 2030. Healthy People 2030. Accessed November 8, 2023. <https://health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries/employment>

70. Abulencia C. Why is education important and how does it affect one's future? World Vision. Published August 29, 2023. Accessed November 8, 2023. <https://www.worldvision.ca/stories/education/why-is-education-important#:~:text=Education%20develops%20critical%20thinking,likely%20to%20secure%20better%20j>obs
71. CountyOffice.org. Colleges in Jones County, Iowa. CountyOffice.org. Accessed November 8, 2023. <https://www.countyoffice.org/ia-jones-county-colleges/>
72. Jones County. School Districts. Jones County Iowa. Accessed November 8, 2023. https://www.jonescountyiowa.gov/about/school_districts/
73. University of Iowa College of Public Health. Jones - Iowa Health Fact Book. Iowa Health Fact Book. Accessed November 8, 2023. <https://iowahealthfactbook.org/factbook/#/counties/Jones>
74. United States Agency for International Development. Agriculture and Food Security. USAID. Accessed November 8, 2023. <https://www.usaid.gov/agriculture-and-food-security>
75. Iowa Department of Health and Human Services. Children: Immunization Data for 2 Year-Old. Iowa Public Health Tracking Portal. Accessed November 17, 2023. <https://tracking.idph.iowa.gov/Health/Immunization/Childhood-Immunizations/Childhood-Immunization-Data>
76. Iowa Department of Health and Human Services. Adolescents: 13-15 Year-Old Immunization Data. Iowa Public Health Tracking Portal. Accessed November 17, 2023. <https://tracking.idph.iowa.gov/Health/Immunization/Adolescent-Immunizations/Adolescent-Immunizations-Data>
77. Iowa Department of Health and Human Services. Adult Immunizations Data. Iowa Public Health Tracking Portal. Accessed November 17, 2023. <https://tracking.idph.iowa.gov/Health/Immunization/Adolescent-Immunizations/Adult-Immunizations-Data>
78. National center for HIV, Vital Hepatitis, STD, and TB Prevention. CDC estimates 1 in 5 people in the U.S. have a sexually transmitted infection. Centers for Disease Control and Prevention. Published January 25, 2021. Accessed November 17, 2023. <https://www.cdc.gov/nchhstp/newsroom/2021/2018-STI-incidence-prevalence-estimates-press-release.html>
79. Iowa Department of Health and Human Services. Sexually Transmitted Diseases. Iowa Public Health Tracking Portal. Accessed November 17, 2023. <https://tracking.idph.iowa.gov/Health/Sexually-Transmitted-Diseases>
80. Division of HIV Prevention, National Center for HIV, Vital Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention. Basic Statistics. Centers for Disease Control and Prevention. Published May 22, 2023. Accessed November 17, 2023. <https://www.cdc.gov/hiv/basics/statistics.html>

81. Iowa Department of Health and Human Services. HIV/AIDS Program- Home. Iowa.gov. Accessed September 28, 2023. <https://hhs.iowa.gov/hivstihep/hiv>
82. Iowa Department of Health and Human Services. Private Well Water and Health. Iowa Public Health Tracking Portal. Accessed November 17, 2023. <https://tracking.idph.iowa.gov/Environment/Private-Well-Water/Private-Well-Water-and-Health>
83. IOWA DEPARTMENT OF NATURAL RESOURCES. PRIVATE WATER SUPPLY WELLS IN IOWA. IOWA DEPARTMENT OF NATURAL RESOURCES. Accessed November 17, 2023. <https://www.iowadnr.gov/Environmental-Protection/Water-Quality/Private-Well-Program#13901280-well-water-testing>
84. Iowa Department of Health and Human Services. About Private Well Data. Iowa Public Health Tracking Portal. Accessed November 17, 2023. <https://tracking.idph.iowa.gov/Environment/Private-Well-Water/About-Private-Well-Data>
85. National Center for Environmental Health, Division of Environmental Health Science and Practice. Sources of Lead Exposure. Centers for Disease Control and Prevention. Published January 5, 2023. Accessed November 17, 2023. <https://www.cdc.gov/nceh/lead/prevention/sources.htm>
86. United Health Foundation. AMERICA'S HEALTH RANKINGS® 2022 ANNUAL REPORT. Accessed November 17, 2023. <https://assets.americashealthrankings.org/app/uploads/allstatesummaries-ahr22.pdf>
87. National Center for Environmental Health, Division of Environmental Health Science and Practice. Health Effects of Lead Exposure. Centers for Disease Control and Prevention. Published September 2, 2022. Accessed November 17, 2023. <https://www.cdc.gov/nceh/lead/prevention/health-effects.htm>
88. Iowa Department of Health and Human Services. 2021 Iowa Lead Report Cards. Iowa.gov. Accessed September 28, 2023. https://hhs.iowa.gov/sites/default/files/idphfiles/2021-County-Lead-Report-Cards-2_0.pdf
89. United States Environmental Protection Agency. A Citizen's Guide to Radon. Published online 2016. Accessed November 17, 2023. https://www.epa.gov/sites/default/files/2016-12/documents/2016_a_citizens_guide_to_radon.pdf
90. Iowa Department of Health and Human Services. Radon. Iowa Department of Health and Human Services. Accessed November 17, 2023. <https://hhs.iowa.gov/public-health/radiological-health/radon>
91. Air Chek, Inc. About Radon Levels in Jones County. Radon Levels for Iowa. Published July 26, 2023. Accessed November 17, 2023. <https://county-radon.info/IA/Jones.html>
92. United States Environmental Protection Agency. Particulate Matter (PM) Basics. United States Environmental Protection Agency. Published July 11, 2021. Accessed November 17, 2023. <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics>

93. Iowa Department of Health and Human Services. Daily Fine Particulate Matter Levels. Iowa Public Health Tracking Portal. Accessed November 17, 2023. <https://tracking.idph.iowa.gov/Environment/Air-Quality/Fine-Particulate-Matter-Data/Daily-Fine-Particulate-Matter-Levels>
94. Iowa Department of Natural Resources. Iowa Exceedances of the National Ambient Air Quality Standards, 2023. Published online 2023. Accessed November 17, 2023. <https://www.iowadnr.gov/Portals/idnr/uploads/air/monitoring/2023%20NAAQS%20Exceedances.pdf>
95. State of Rhode Island Department of Health. Injury Prevention. State of Rhode Island Department of Health. Accessed November 17, 2023. <https://health.ri.gov/injury/>
96. National Center for Health Statistics. Accidents or Unintentional Injuries. Centers for Disease Control and Prevention. Published September 13, 2023. Accessed November 17, 2023. <https://www.cdc.gov/nchs/fastats/accidental-injury.htm>
97. Agency for Healthcare Research and Quality. 2022 National Healthcare Quality and Disparities Report. Published online October 2022. Accessed November 17, 2023. <https://www.ahrq.gov/sites/default/files/wysiwyg/research/findings/nhqrdr/2022qdr.pdf>
98. Iowa Department of Health and Human Services. Injuries in Iowa. Iowa Public Health Tracking Portal. Accessed November 17, 2023. <https://tracking.idph.iowa.gov/Health/Injuries>
99. Iowa Department of Health and Human Services. Fall Related ED Visits Data. Iowa Public Health Tracking Portal. Accessed November 17, 2023. <https://tracking.idph.iowa.gov/Health/Injuries/Fall-Related-Injuries/Fall-Related-Deaths-Data/Fall-Related-ED-Visits-Data>
100. National Center for Injury Prevention and Control. Facts About Suicide. Centers for Disease Control and Prevention. Published May 8, 2023. Accessed November 17, 2023. <https://www.cdc.gov/suicide/facts/index.html>
101. Iowa Department of Health and Human Services. Suicide. Iowa Public Health Tracking Portal. Accessed November 17, 2023. <https://tracking.idph.iowa.gov/People-Community/Deaths/Select-Causes/Suicide>
102. Iowa Department of Health and Human Services. Homicide. Iowa Public Health Tracking Portal. Accessed November 17, 2023. <https://tracking.idph.iowa.gov/People-Community/Deaths/Select-Causes/Homicide>
103. Smedley A, Smedley BD. Race as Biology Is Fiction, Racism as a Social Problem Is Real. *Am Psychol*. 2005;60(1):16-26. doi:10.1037/0003-066x.60.1.16