

2016 Community Health Needs Assessment

Bollinger County, Missouri

This assessment will identify the health needs of the residents of Bollinger County, Missouri, and those needs will be prioritized and recommendations will be made for programs to be implemented to meet these needs.

 **SAINT FRANCIS
HEALTHCARE SYSTEM**

Medicine to the Highest Power

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Executive Summary

Saint Francis Healthcare System, a not-for-profit hospital, conducted this Community Health Needs Assessment (CHNA).

Community Health Needs Assessment Process and Requirements

A CHNA must be conducted every three years by not-for-profit hospitals in order to comply with federal tax-exemption requirements under the Affordable Care Act. Following the CHNA, the hospital must adopt an implementation strategy to meet the community health needs identified through the assessment. It must report how it is addressing the needs identified in the CHNA and provide a description of needs that are not being addressed with the reasons why such needs are not being addressed. The ultimate purpose of the CHNA is to improve community health.

The Community Health Needs Assessment process consists of the following steps:

1. Define the community served by the hospital facility
2. Identify the partners and individuals representing the broad interests of the community
3. Gather available data and current assessments
4. Develop and conduct primary research
5. Aggregate primary and secondary research
6. Identify and prioritize the health needs in your community
7. Develop and implement a strategy to address the identified priority health issues
8. Widely disseminate the CHNA

Community Profile

Bollinger County is located in southeast Missouri with a mostly rural population of 12,394. Whites comprise 97.6% of the total population and the county has a higher percentage of the older population, age 55+ than does the state of Missouri. 80% of Bollinger County residents 25 years and over have graduated from high school, with only 15.4% going on to receive a post-secondary degree. The unemployment rate was 5.6% in 2015, which was higher than Missouri's 5%. Bollinger County has 22% of residents in poverty with about 18% of the population uninsured. Bollinger County does not have a hospital; however, it does have a county Health Center, a federally qualified health center, emergency services, a community counseling center, and long-term care facilities. The community profile chapter also includes social, economic, and community health programs.

Health Outcomes

The Health Outcomes chapter contains information on mortality, including leading causes of death, cancer incidence, chronic disease, and infant mortality, and on morbidity, including obesity, diabetes, infectious disease, and health status at birth. The chapter also contains information on mental health and preventable hospitalizations. The leading causes of death in Bollinger County are:

- Heart Disease
- All Cancers (Malignant Neoplasms)
- Smoking-Attributable
- All Injuries and Poisonings
- Lung Cancer

Health Behaviors

The chapter on Health Behaviors is comprised of information on diet and exercise, tobacco use, substance abuse, maternal health, and prevention and screening. In Bollinger County, 33% of residents are physically inactive, 25% smoke cigarettes, and the food environment index is 6.8 out of 10.

Health Measures

The chapter on Health Measures includes data regarding causes of death for children and adolescents, teen substance abuse, teen pregnancy, and the health of senior citizens. The main causes of death for children and adolescents are unintentional injuries and motor vehicle accidents; however, as a cause of death for adolescents, the rates for unintentional injuries, motor vehicle accidents, and suicide in Bollinger County are all higher than the state rate. Teen cigarette use and chewing tobacco use is also an area for concern as the county rank is much higher than the state rank.

Primary Research

One focus group was held in Bollinger County. A list of the tentative questions asked can be found below. A summary of this focus group is included in Chapter 6.

1. What do people in this community do to stay healthy? How do people get information about health?
2. In this group's opinion, what are the serious health problems in your community? What are some of the causes of these problems?
3. What keeps people in your community from being healthy?
4. What could be done to solve these problems?
5. Is there any group not receiving enough Healthcare? If so, why?
6. Of all the issues we have talked about today, what issues do you think are the most important for your community to address?

42 surveys by Bollinger County residents were completed. The survey was very extensive and consisted of four different sections. The survey demographics were representative of Bollinger County's population.

1. Demographics: Multiple choice questions to collect information about the population of the county.
2. Social and Economic Factors: Multiple choice questions to collect information regarding the population's education, employment, and income status.
3. Health Behaviors: Questions to collect information on the behaviors correlated to health of adults and children in the county.
4. Medical Care and Services: Multiple choice, short answer, and ranked questions to collect information regarding Healthcare access, health status, insurance coverage, and opinions on health issues.

Summary of Findings

The Summary of Findings chapter simply summarizes the needs determined by the assessment and how those needs were determined.

Key Findings

The following lists represent the key findings of this Community Health Needs Assessment by type of need:

Health Needs

- Adult Obesity
- Child Obesity
- Cancer
 - Lung Cancer
 - Prostate Cancer
- Mental Illness
- Stress
- Coronary Obstructive Pulmonary Disease
- Diabetes
- High Blood Pressure
- Smoking-attributable hospitalizations
- Alzheimer’s Disease
- Injuries and Poisonings
- Unintentional Injuries, motor vehicle accidents
 - Child Health
 - Adolescent Health

Behavioral Needs

- Street Drug and Prescription Drug Abuse
- Alcohol Abuse
- Smoking
 - Smoking during pregnancy
 - Students smoking cigarettes and chewing tobacco
- Smokeless Tobacco
- Teen Pregnancy
- Health & Preventative Practices
 - Current smoking, no leisure-time activity, obesity, high blood pressure, high cholesterol, diabetes, no mammogram, no Pap smear, no sigmoidoscopy or colonoscopy

Community Needs

- | | |
|----------------------------|--|
| • Healthcare Affordability | • Secondhand Smoke |
| • Transportation | • Ability to Afford Prescribed Medications |
| • Job Availability | • Allergies |
| • Unemployment | • Recreation Opportunities |
| • Literacy | • Injuries at work |

Priority Needs

Prioritization Process

The priorities MICA used different criteria measurements to rank the diseases, which are listed and briefly explained below. Additional information can be found on the Missouri Department of Health and Senior Services Priority MICA.

- **Amenability to Change:** the scientific knowledge of known community interventions that have been shown to prevent or reduce a given disease.
- **Community Support:** determined by the user of the current level of support in the community to address the disease (community opposition, no interest, some interest, or organized support)
- **Death Trend Statistically Significant:** measures the urgency of the disease depending on whether the death rate is increasing or decreasing over time.
- **Disability Burden:** the number of years lived with disability taken from the Revised Global Burden of Disease 2002 Estimates.
- **Hospital Days of Care:** measures the severity of a disease and its potential impact on financial resources from the cost of hospital care and time unavailable from normal duties.
- **Number of Deaths:** measures the severity of a disease.
- **Number of Deaths under Age 65:** measures the severity of a disease.
- **Number of Hospitalizations and ER Visits:** measures the magnitude of the disease.
- **Racial Disparity for ER Visits:** measures the rate of racial disparity from ER visits because of barriers for care due to lack of insurance does not affect emergency rooms as much (uses the primary minority population in Missouri, African-Americans).
- **Racial Disparity for Deaths:** the ratio of the African-American age-adjusted death rate for a specific disease divided by the Caucasian age-adjusted death rate for the same disease.
- **Prevalence/Incidence:** Prevalence is the number of people who have the disease at a specific point in time. Incidence is the number of new people who get the condition during a specific time period.

Using all of the above criteria, the Priorities MICA ranked selected diseases and conditions. Using just the “Amenability to Change”, “Community Support” and “Prevalence/Incidence” criteria, the Priorities MICA ranked selected risk factors. These rankings were also considered in determining the priority needs discovered from research in this assessment.

The top five ranked diseases and conditions from the Priorities MICA for Bollinger County included:

1. Heart Disease
2. Motor Vehicle Accidents
3. Chronic Obstructive Pulmonary Disease (COPD)
4. Lung Cancer
5. Diabetes

The top five ranked risk factors included:

1. Mothers being overweight
2. Obesity (>30 BMI)
3. No exercise/sedentary lifestyle
4. Smoking
5. No mammography age 40 and older

Members of the CHNA Team analyzed survey data focus group data, and secondary data in the report to prioritize the community health needs for each county. The priority needs were first identified by the primary research or what the community finds most important. These high priority needs were then validated by the secondary research – looking at the community’s statistics and trends against the state’s statistics and trends.

Top 5 Priority Health Needs (and Associated Behavioral Needs)

1. Obesity (Adult & Children)
2. Cancer
3. COPD
4. Mental Illness
5. Drug Abuse

Chapter 1: Community Health Needs Assessment Introduction and Methods

Community Health Needs Assessment Description

A community health needs assessment (CHNA) is a systematic process involving the community, to identify and analyze community health needs and assets in order to prioritize these needs, and to plan and act upon unmet community health needs.

Value of a Community Health Needs Assessment to the Community

- ✓ To share the assessment process and findings with the county residents and to educate local residents, healthcare providers and students regarding pressing health problems
- ✓ To empower community members to act on issues of concern
- ✓ To identify emerging issues, to provide data for deciding programmatic/organizational decisions and to plan effective, collaborative interventions to promote better health
- ✓ To advocate for community change with politicians and other local decision-makers
- ✓ To promote collaboration and partnership among community members and groups
- ✓ To furnish a baseline by which to monitor changes
- ✓ To serve as a reference point and a historical perspective for future assessments
- ✓ To provide a resource for activities such as writing grant applications
- ✓ To serve as a model for other counties who are planning an assessment

Source: North Carolina Public Health Community Health Assessment Guide Book

Community Health Needs Assessment Requirements

A CHNA must be conducted every three years by not-for-profit hospitals in order to comply with federal tax-exemption requirements under the Affordable Care Act. The CHNA for Saint Francis Medical Center must be completed by June 30, 2016. The CHNA must take into account input from persons who represent the broad interests of the community served by the hospital facility, including those with special knowledge of or expertise in public health and it must be made widely available to the public. Following the CHNA, the hospital must adopt an implementation strategy to meet the community health needs identified through the assessment, and it must report how it is addressing the needs identified in the CHNA and provide a description of needs that are not being addressed with the reasons why such needs are not being addressed. The ultimate purpose of the CHNA is to improve community health.

The documentation of the CHNA must include the following information:

1. A description of the community served by the hospital facility and how it was determined
2. A description of the process and methods used to conduct the assessment, including:
 - a. A description of the sources and dates of the data and other information used in the assessment, including primary and secondary sources
 - b. The analytical methods applied to identify community health needs
 - c. Information gaps that affect the hospital's ability to assess the community's health needs

- d. If a hospital collaborates with other organizations in conducting a CHNA, the report should then identify all of the community organizations that collaborated with the hospital
 - e. If a hospital contracts with one or more third parties to assist in conducting a CHNA, the report should also disclose the identity and qualifications of the third parties
3. A description of the approach used to plan, develop and conduct the assessment and how the hospital organization took into account input from individuals who represent the broad interests of the community served by the hospital facility, including:
 - a. A description of when and how the organization consulted with these individuals (whether through meetings, focus groups, interviews, surveys, written correspondence, etc.)
 - b. Community leaders who were consulted and/or collaborated in the planning and implementation process
 - c. Justification of why data sources were used and selected
 - d. Justification of the approach for primary data collection
 - e. Explanation of successful and unsuccessful approaches to seek broad-based community input, especially underserved or high-risk groups within the community
 - f. If the hospital takes into account input from an organization, the written report should identify the organization and provide the name and title of at least one individual in that organization who consulted with the hospital
 - g. Identification of any individual providing input who has special knowledge of or expertise in public health, and the report should list those people by name, title, affiliation and include a brief description of the individual's special knowledge or expertise
4. A prioritized description of all the community health needs identified through the CHNA, as well as a description of the process and criteria used in prioritizing such health needs
 - a. Priorities identified through primary and secondary data
 - b. Other processes used to rank priorities
5. A description of the existing healthcare facilities and other resources within the community available to meet the community health needs identified through the CHNA

Implementation Strategy Requirements

The IRS guidance specifies that the CHNA results must be used to develop an implementation strategy that must be adopted by the hospital. The implementation strategy is defined as a written plan that addresses each of the community health needs that were identified through the assessment. Each hospital organization must meet the requirement to adopt an implementation strategy separately with respect to each hospital facility it operates. The Treasury and IRS expect the implementation strategy to:

1. Describe how the hospital facility plans to meet the health need; or
2. Identify the health need as one the hospital facility does not intend to meet and explains why the hospital facility does not intend to meet the health need.

In describing how a hospital facility plans to meet a health need identified through a CHNA, the implementation strategy must tailor the description to the particular hospital facility, taking into account its specific programs, resources and priorities. The implementation strategy should also describe any planned collaboration with governmental, nonprofit or other healthcare organizations, including related organizations, in meeting the health need.

The IRS will allow hospital organizations to develop implementation strategies for their hospital facilities in collaboration with other organizations, including related organizations, other hospital organizations, for-profit and government hospitals, and state and local agencies, such as local health centers. If a hospital does collaborate with other organizations in developing an implementation strategy, the strategy should identify all the organizations with which the hospital collaborated.

The implementation strategy is considered to be adopted on the date the implementation strategy is approved by an authorized governing body of the hospital organization. The authorized governing body means:

1. The governing body of the hospital organization (i.e, board of directors, board of trustees or equivalent controlling body);
2. A committee of the governing body, which may be comprised of any individuals permitted under state law to serve on such committee, to the extent the committee is permitted by state law to act on behalf of the governing body; or
3. To the extent permitted under state law, other parties authorized by the governing body of the hospital organization to act on its behalf by following procedures specified by the governing body in approving an implementation strategy.

The hospital organization must adopt an implementation strategy to meet the community health needs identified in a CHNA by the end of the same taxable year in which it conducts that CHNA.

Community Health Needs Assessment Process

The Community Health Needs Assessment process should consist of the following steps:

1. Define the community served by the hospital facility
2. Identify the partners and individuals representing the broad interests of the community
 - a. Individuals with special knowledge or expertise in public health
 - b. Federal, tribal, regional, state, local health or other departments or agencies, with current data or other information relevant to the health needs of the community served by the hospital facility
 - c. Leaders, representatives or members of medically underserved, low-income and minority populations, as well as populations with chronic disease needs
3. Gather available data and current assessments
4. Develop and conduct primary research
5. Aggregate primary and secondary research
6. Identify and prioritize the health needs in your community
7. Develop and implement a strategy to address the identified priority health issues
8. Widely disseminate the CHNA

Defining “Community”

Saint Francis Healthcare System made the decision to define “community” as its primary service area, which consists of four counties: Cape Girardeau, Bollinger, Scott and Stoddard. The primary service area is based on the number of inpatient discharges from each of these four counties. Saint Francis Medical Center has 58.15% of its patients come from these four counties and 5.46% come from Bollinger County. This information is provided by the Hospital Industry Data Institute (HIDI), which is founded by the Missouri Hospital Association. Since each county differs greatly from one another in terms of demographics, Healthcare providers, education, etc. Four separate, written assessment reports will be created and made available to the public identifying specific needs per county.

Identifying Partners and Individuals Representing the Broad Interests of the Community

The individuals representing the broad interests of Bollinger County included involving people from the following organizations when the primary research was conducted:

- Cross Trails Medical Center
- Twin City Pharmacy
- Meadow Heights School District
- Leopold R-III School District
- Bollinger County Health Center
- Bollinger County Public Library

Efforts were made to include at-risk, targeted populations and principle-specialty areas that are served by the hospital and present within the community, such as the medically underserved, low-income persons, minority groups and those with chronic disease needs on their willingness to participate.

Gather Available Data and Current Assessments

Secondary data is existing data that is collected by someone else for a purpose other than the one being pursued. Secondary research was obtained from various credible sources and is included in this written assessment report. Some areas that were researched include demographics, the physical environment, social factors, the economy, the transportation system, the education system, and the Healthcare system. The assessment also includes existing health status and public health data. Examples of the data sources used are as follows:

- U.S. Census Bureau
- Missouri Department of Health and Senior Services
- Missouri Department of Elementary and Secondary Education
- Missouri Economic Research and Information Center (MERIC)
- U.S. Bureau of Labor Statistics
- Centers for Disease Control and Prevention
- University of Wisconsin's County Health Rankings
- Missouri Department of Mental Health
- Annie E. Casey Foundation Kids Count Data Center
- Other local websites

More specific information on what data sources were used for can be found in Appendix E.

Develop and Conduct Primary Research

Primary data is data collected specifically for the purpose of answering project-specific questions. Primary data should be collected after the gathering and initial review of secondary data and should add breadth, depth and qualitative information to the secondary data. Primary research was obtained in the county through individual public surveys and focus groups.

Public Surveys

Surveys provide a flexible means of assessing a representative sample of the population to gather information about attitudes and opinions, as well as measure behaviors and population characteristics. The individual survey used was created by the Community Health Needs Assessment Researcher and can be found in Appendix A. Advantages of surveying for individual responses include:

- Obtaining direct feedback from clients, key informants and target populations about specific issues
- Developing public awareness problems
- Building a consensus for solutions or actions
- Comparing the self-reported incidence and prevalence with more objective data sources
- Improving perception of quality of local Healthcare services
- Improving perception on the need of specific services either in existence or under consideration

Focus Groups

Group surveys in the form of focus groups were also conducted. A focus group is defined as people who possess certain similar characteristics that are assembled as a group to participate in a focused discussion to help understand the topic of interest. The questions asked in each focus group can be found in Appendix B and a list of all focus group participant information can be found in Appendix C. Data was collected from the focus groups primarily through note taking. A writing exercise was also handed out and completed regarding each participant’s top five serious issues.

Aggregate Primary and Secondary Research

The survey was created through Survey Monkey. Most participants chose to fill out the survey on paper, so the Community Health Needs Assessment Researcher at Saint Francis Healthcare System then entered each survey into the Survey Monkey database. Following the entry of all surveys, the data was then analyzed through Survey Monkey’s analyzing tools. The survey data will be presented and discussed in Chapter 6 – Primary Research of this report. The information that was collected from the focus groups will also be presented and discussed in Chapter 6 – Primary Research of this report.

Identify and Prioritize the Health Needs in the Community

From the analysis of this research, community needs were determined based on what the community finds most important and by what the community is most lacking that could have an impact on the health of its citizens. These needs were predominantly determined by the primary research – what the community finds most important – along with tying that information into what the secondary research confirms – looking at the community’s statistics and trends against the state’s statistics and trends.

Develop and Implement a Strategy to Address the Identified Priority Health Issues

Saint Francis Healthcare System will decide what needs will be addressed and how those needs will be addressed. From this, an implementation plan will be created and executed.

Widely Disseminate the CHNA

The CHNA is not considered “conducted” until the written report is made widely available to the public. Fulfilling the “widely available” requirement requires the following:

1. Posting the CHNA on a website that clearly informs users that the document is available and provides instructions for downloading.
2. The document is posted in a format that exactly reproduces the image of the report when accessed, downloaded, viewed and printed.
3. Allows individuals with Internet access to access, download, view and print the report without the use of special hardware or software.
4. The hospital or other organization distributing the report will provide the direct website address to individuals who request a copy of the report.
5. The CHNA must remain widely available to the public until the next CHNA for that hospital is conducted and made widely available.

Chapter 2: Community Profile

Background Information for Bollinger County

Bollinger County was officially organized in 1851 and is located in Southeast Missouri. The county was named after George Frederick Bollinger, who persuaded 20 families to leave North Carolina in 1799 to settle in the region immediately to the west of Cape Girardeau, Missouri. Bollinger County is known for being the home to “Missouri’s Dinosaur,” the hadrosaur, which was discovered at a dig near Glen Allen. The county has a population of 12,394 and is bordered by Cape Girardeau County to the east, Perry County to the north, Stoddard County to the south, and Madison and Wayne Counties to the west. The land area of Bollinger County is 621 square miles. The major routes running through Bollinger County include highways 34, 72 and 51. The city of Marble Hill is the largest and only city in the county and also holds the county seat. Other smaller villages in the county include: Sedgewickville, Zalma, and Glenallen.

There are eight ZIP codes in Bollinger County, which are listed below:

Table 1: ZIP Codes in Bollinger County

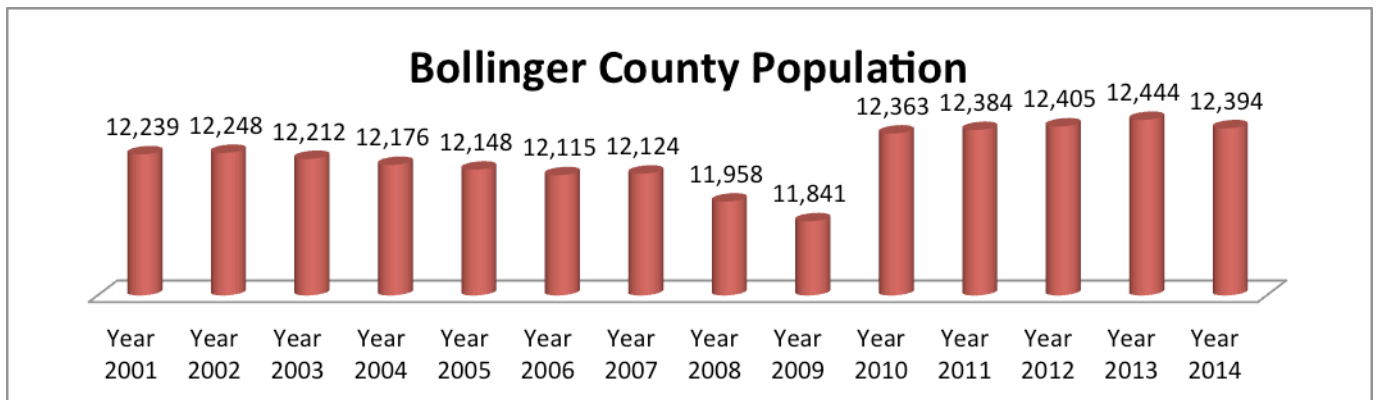
ZIP Code	City	ZIP Code	City
63662	Patton	63764	Marble Hill
63750	Gipsy	63781	Sedgewickville
63751	Glenallen	63782	Sturdivant
63760	Leopold	63787	Zalma

Demographic Characteristics

Population Growth

According to the U.S. Census Bureau, in 2014, Bollinger County had an estimated population of 12,394. The population in Bollinger County has increased 0.3% since 2010, compared to 1.2% for the state of Missouri.

Figure 1: Bollinger County Population

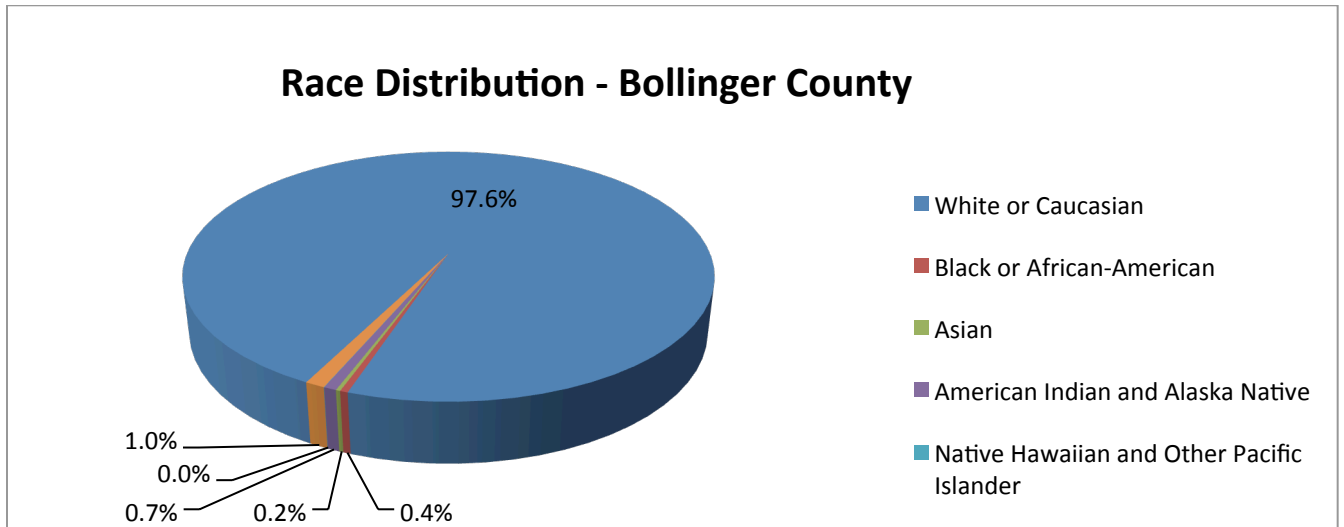


Source: U.S. Census Bureau, Population Estimates

Race

The race distribution of Bollinger County is not as diverse as Missouri. The majority of the population in Bollinger County is white or Caucasian at 97.6%, whereas only 83.5% of Missouri's population is white or Caucasian.

Figure 2: Race Distribution-Bollinger County

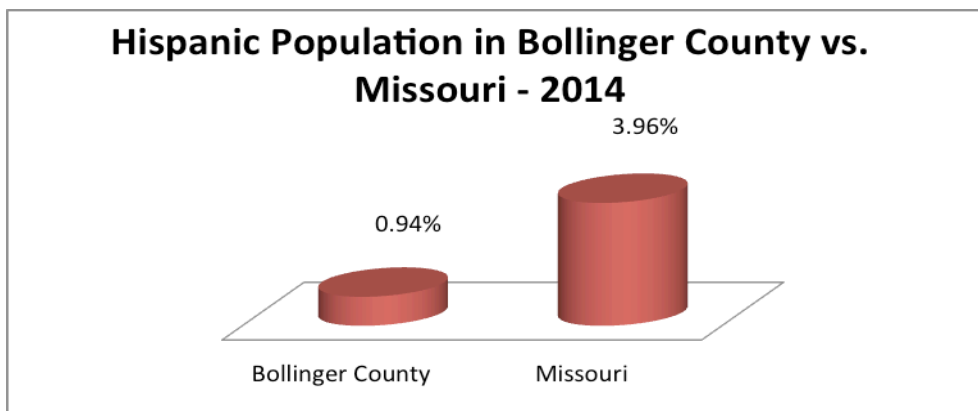


Source: U.S. Census Bureau, QuickFacts

Ethnicity

The Hispanic population percentage (0.94%) in Bollinger County is far below that of the state of Missouri (3.96%).

Figure 3: Hispanic Population in Bollinger County vs. Missouri - 2014



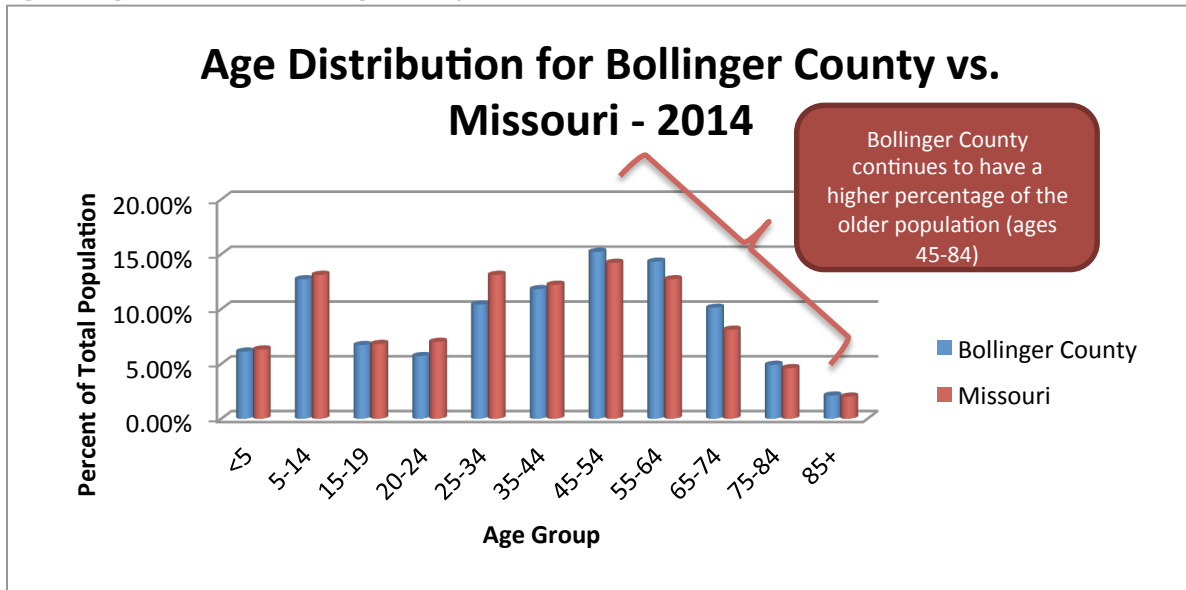
Source: U.S. Census Bureau, Quickfacts

Age Distribution

Figure 4 shows that Bollinger County continues to have a greater percent of the older population than the state of Missouri. The percent of people ages 45 to 84 in Bollinger County is 44.5%, up from 39.6% in Missouri.

- 16.6% of Bollinger County's population is 18 years or younger.
- 17.1% of Bollinger County's population is 65 years or older.

Figure 4: Age Distribution for Bollinger County vs. Missouri–2014

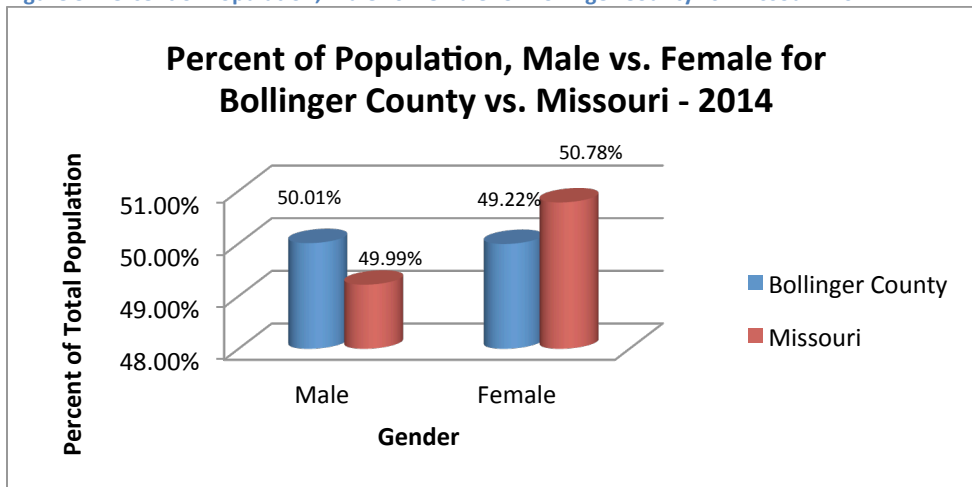


Source: U.S. Census Bureau, Quickfacts

Gender

The percentage of males in Bollinger County is slightly higher than that of Missouri, meaning the percent of females is slightly lower. However, they remain relatively close to 50%.

Figure 5: Percent of Population, Male vs. Female for Bollinger County vs. Missouri–2014

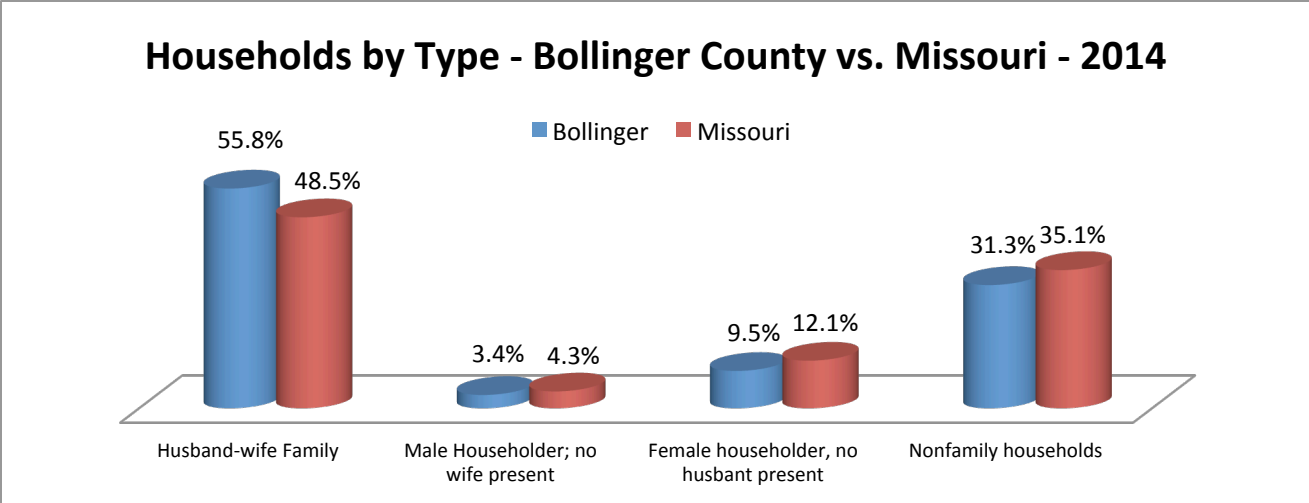


Source: U.S. Census Bureau, Population Estimates

Household/Family Configuration

- Bollinger County sits just below Missouri for the percent of male householders, female householders and nonfamily households.
- The percentage of husband-wife families in Bollinger County is much higher at 55.8% compared to 48.5% in the state of Missouri.

Figure 6: Households by Type - Bollinger County vs. Missouri 2014

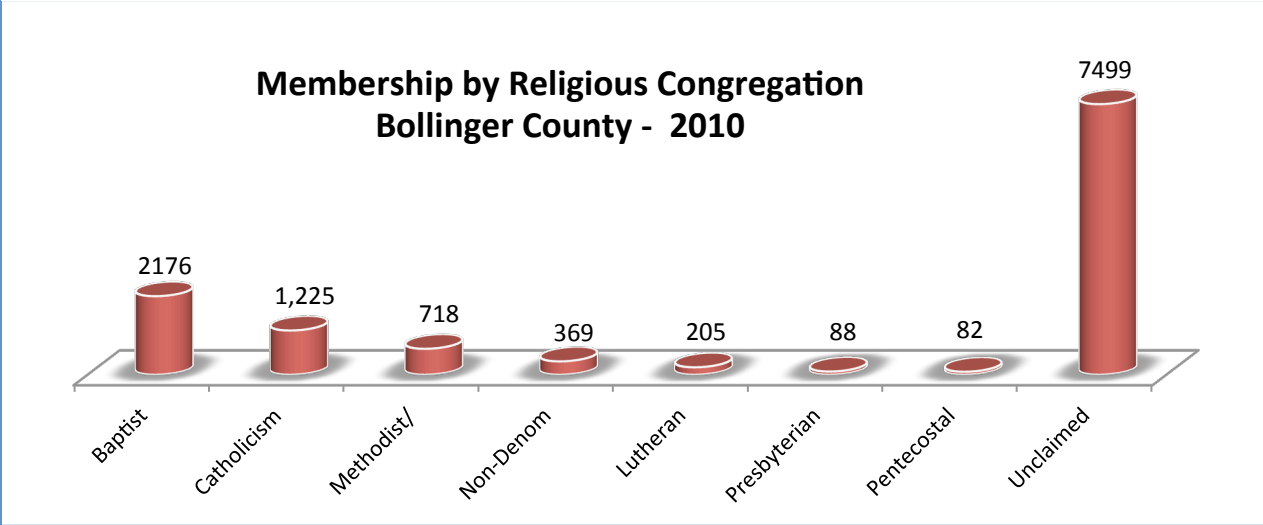


Source: U.S. Census Bureau, QuickFacts

Religion

The following figure shows the membership by religious congregation in Bollinger County using the last available data collection from the Association of Religion Data Archives in 2010. Membership is counted as congregational adherents which include all full members, their children, and others who regularly attend services. Nearly 40% of Bollinger County’s population belongs to a religious congregation.

Figure 7: Membership by Religious Congregation—2010—Bollinger County



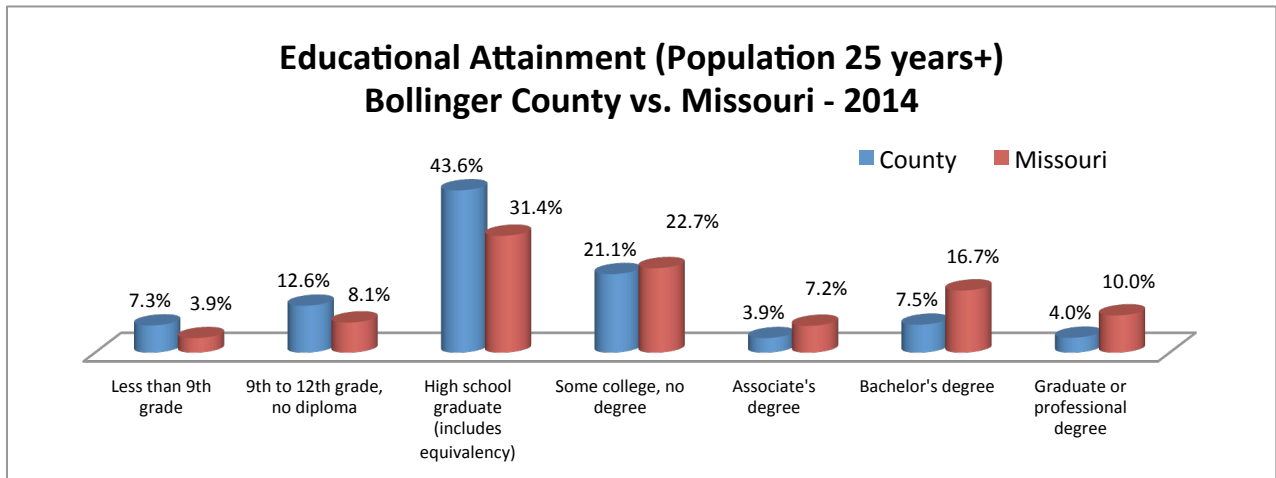
Source: Association of Religion Data Archives

Social Characteristics

Education

Just fewer than 20% of Bollinger County did not graduate high school, almost double the state average of 12%. The remaining 80% graduated high school; however, only 15.4% received a postsecondary degree.

Figure 8: Educational Attainment (Population 25 years+) – Bollinger County vs. Missouri - 2014

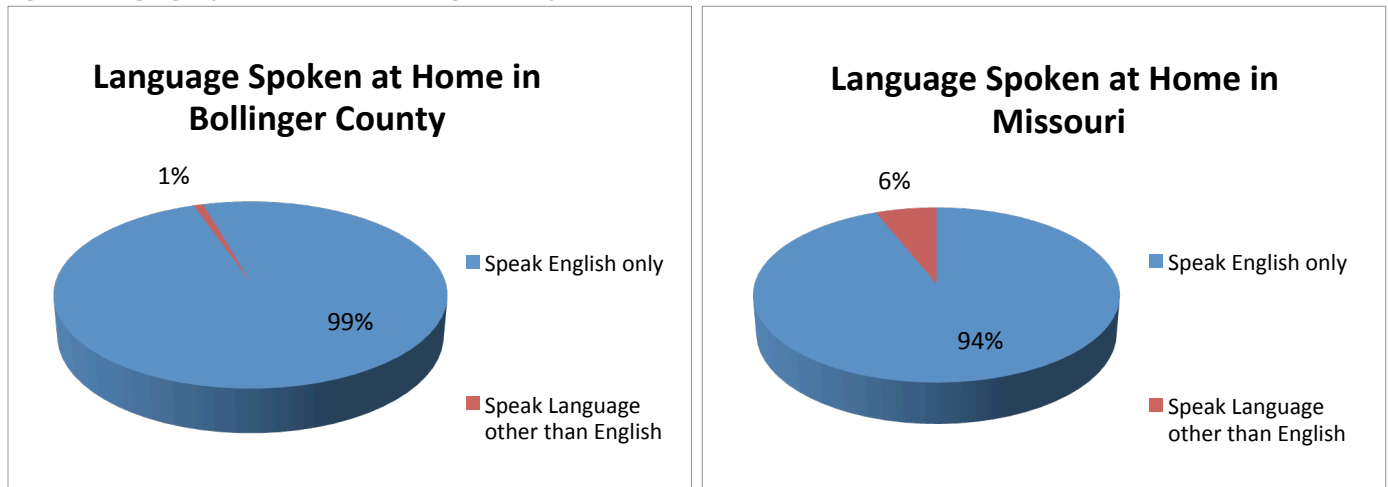


Source: U.S. Census Bureau, American FactFinder

Language

Figure 9 shows that Bollinger County has a higher percent of their population that speaks only English at home than Missouri does by 5%.

Figure 9: Language Spoken at Home in Bollinger County and Missouri



Source: Source: U.S. Census Bureau, American FactFinder

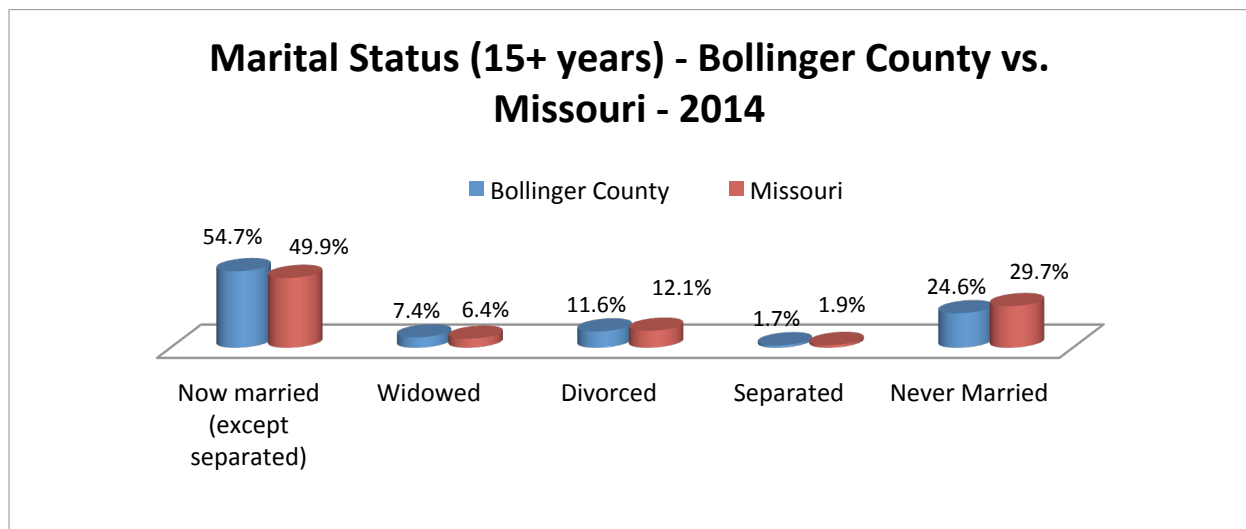
Literacy

According to the National Center for Education Statistics' 2003 Assessment of Adult Literacy, the estimated percentage of those ages 16 and older considered to be lacking basic prose literacy skills in Bollinger County is 11%, compared to 7% for Missouri.

Marital Status

There was 54.7% of the population age 15 years or older married (except separated), greater than the average for Missouri of 49.9%. Another 24.6% of Bollinger County's population had never been married, which is about 5% fewer than the state of Missouri's average.

Figure 10: Marital Status (15+ years) - Bollinger County vs. Missouri - 2014



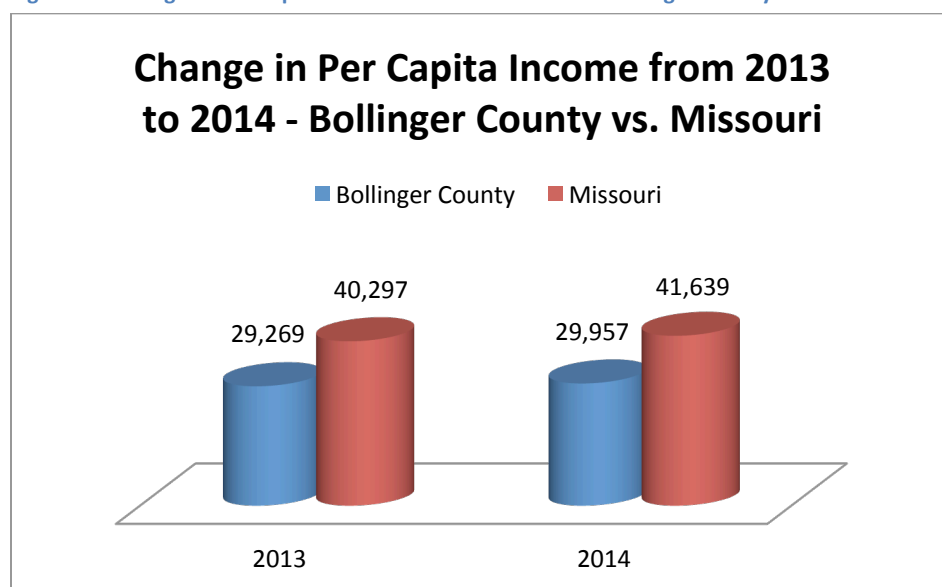
Source: U.S. Census Bureau, American FactFinder

Economic Characteristics

Income

According to the U.S. Census Bureau, the median household income in Bollinger County in 2011 was \$38,565, compared to \$45,231 for the state of Missouri. Below, Figure 11 shows the per capita income. In 2014, the per capita income rose in both the county and Missouri. However, the overall per capita income in Bollinger County is now just over \$11,000 less than that in Missouri.

Figure 11: Change in Per Capita Income from 2013 to 2014 - Bollinger County vs. Missouri

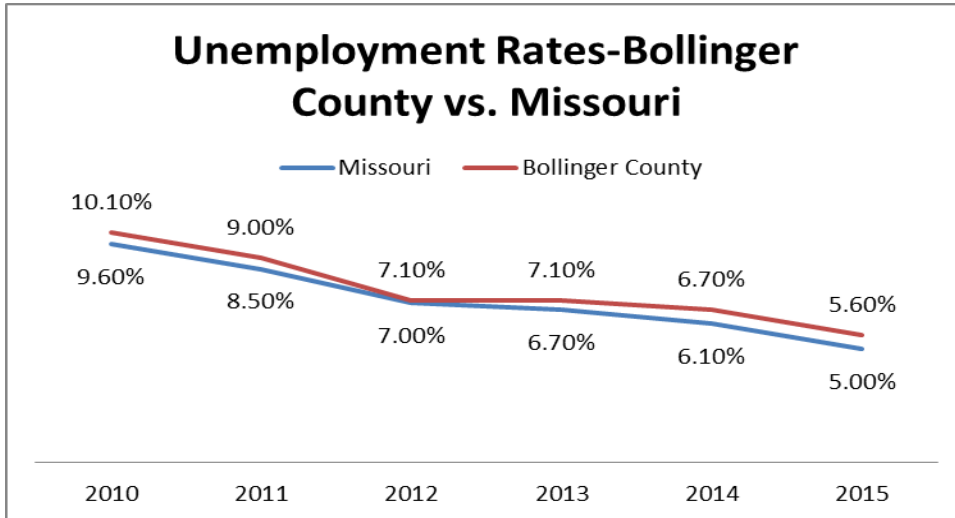


Source: MERIC

Employment

The unemployment rate in Bollinger County has been declining in the last five years. Since December 2011, the unemployment rate has declined by about 2.7%. The unemployment rate in Bollinger County is 1.0% higher than in Missouri.

Figure 12: Unemployment Rates for Bollinger County vs. Missouri



Source: MERIC

Poverty

According to the U.S. Census Bureau, the percent of people living below the poverty level in Bollinger County was 22% compared to 15.6% in the entire state of Missouri in 2014. Bollinger County had a significantly greater percent below poverty level than Missouri in the Black or African-American population and the Hispanic or Latino origin population. In the other populations, shown below, the percent of people below poverty level in Bollinger County still amounted to close to 10% above the population in Missouri as a whole.

Table 2: Percent below Poverty Level by Category in 2014

Category	Bollinger County	Missouri
All people	22.0%	15.6%
Under 18 years	31.9%	21.5%
18-64 years	20.2%	14.9%
65+ years	14.9%	9.0%
White	21.7%	12.9%
Black or African-American	100.0%	29.3%
Hispanic or Latino Origin	70.0%	26.5%
Less than high school graduate	38.2%	27.8%
Unemployed	43.5%	34.7%

Source: U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) and American FactFinder

Medicaid/MO HealthNet

According to the Missouri Department of Health and Human Services, in 2015, Missouri had 1,056,204 residents eligible for MO HealthNet. Bollinger County had 3,045 residents eligible. Population estimates for 2015 have not been determined; however, the population of Bollinger County a year prior was estimated to be 12,394. Using this estimate, the percent of Bollinger County residents eligible for MO HealthNet was approximately 25%.

Table 3: Number of Bollinger County Residents Eligible for MO HealthNet

	Caucasian	Black/African-American	All Races
	Number	Number	Number
Under 1	43	2	84
1 to 4	339	4	377
5 to 14	836	3	855
15 to 17	231	2	237
18 to 19	85	2	88
20 to 24	127	0	134
25 to 44	499	8	529
45 to 64	433	7	456
65 and over	276	1	285
All ages	2,869	29	3,045

Source: Missouri Department of Health and Human Services, MICA 2015

The Missouri Department of Social Services shows a list of 33 HealthNet providers in Bollinger County, some of which include:

Table 4: Missouri HealthNet Providers in Bollinger County

Provider Name	Specialty
SEMO EMS Inc.	Ambulance Service – Ground
Woodland R-IV	Audiology (School Based)
Bollinger County Health Center	Case Management
Beussink, Courtney L., DDS LLS Marble Hill Medical Clinic, LLC	Clinic
Bollinger County Health Center	County Public Health Clinics
Beussink, Courtney L. Milde, Louis M.	Dentist – General
Twin City Pharmacy, Inc.	DME – Medical Supply Company
Cross Trails Medical Center	PQHC Provider
Doyle, Edward J.	General/Family Practice
Woodland Hills-A Stonebridge Community	Hospitals and Nursing Homes
Twin City Pharmacy, Inc.	Long Term Care PHCY Control Dose Delivery Sys.
Regency Management, Inc. and VIP Industries	MRDD Waiver Program – Private
Matthews, Suzanne Raye	Nurse Practitioner – OB, PEDS, Family Practice
Cobb, Teresa J., OTR	Occupational Therapist
Dianas Boarding Home 1 and 2 Heritage Hills LLC Marble Hill Assisted Living	Personal Care Agency
Twin City Pharmacy, Inc.	Pharmacy – Drug and Department Stores
Wyatt, Catherine M., LPT	Physical Therapist
Marble Hill Medical Clinic	Rural Health Clinic – Independent
Garner, Sarah E., SLP	Speech Therapist

Source: Missouri Department of Social Services, Missouri HealthNet Provider Search

Free/Reduced-Price Lunches

The Missouri Department of Elementary & Secondary Education gives information regarding meal patterns of the National School Lunch Program. Listed is the minimum credible serving for each food category and the amounts served at each grade level. For the lunch meal pattern, there is a calorie range from 550-650 calories for grades K-5, 600-700 for grades 6-8 and 750-850 for grades 9-12. Offerings for students participating in athletics are also available including after-school snacks offered by the National School Lunch Program and after-school snacks and meals offered by the Child and Adult Care Food Program. Schools located in low-income areas offer the food for free, whereas others may be required to pay the reduced price or full amount based on income level.

According to the Missouri Hunger Atlas, the Percent Eligible and Participating in the National School Lunch Program at 87.6% for the county and 82.5% for the state for a performance indicator and 58.9% in the county and 52.1% in the state for a need indicator. Table 5 shows the enrollment in the Free/Reduced Price Lunch Program in Bollinger County.

Table 5: Students Enrolled in Free/Reduced-Price Lunch in Bollinger County

Students Enrolled in Free/Reduced-Price Lunch in Bollinger County			
Year	Number	Percent	Missouri Percent
2013	1,073	57.8%	49.8%
2012	1,083	58.0%	49.4%
2011	1,004	55.0%	47.7%
2010	1,057	56.5%	46.8%
2009	989	53.8%	43.6%
2008	995	52.0%	42.0%

Source: KIDS COUNT data center, The Annie E. Casey Foundation, Family and Community Trust

*See Federal Register Pages about changes occurring with New Meal Patterns and Regulations.

Hunger and Food Uncertainty

The Missouri Hunger Atlas from 2013 uses three Need Indicators to establish food uncertainty levels. Bollinger County has 14%, compared to Missouri's 13.9% for "Percent Households Food Uncertain" maintaining an average ranking. For "Percent Household with Children Food Uncertain" Bollinger County has 25.5% with Missouri at 23%, putting the county into a very high ranking. Bollinger County has 5.7%, the same percentage as Missouri, for "Percent Households Food Uncertain with Hunger" with an average ranking.

Women, Infants, and Children (WIC) Participation

According to the Missouri Hunger Atlas from 2013, there were 494 monthly WIC participants; 375 of the participants being infants/children (5 years and younger). There were 84.1% infants/children under the age of 5 who were eligible for the WIC program in Bollinger County and 68.5% eligible for Missouri.

Housing

In 2014, according to the U.S. Census Bureau, it was estimated that Bollinger County had 5,846 housing units, with 81.9% of these units being occupied. About 75.9% of these units were single-detached. The median value of housing units in Bollinger County was \$96,800. Also, 54 homes lacked plumbing facilities, 75 homes lacked complete kitchen facilities and 120 homes lacked telephone services.

Transportation

Bollinger County's main source of public transportation is the Southeast Missouri Transportation Service, Inc. (SMTS) in Fredericktown. SMTS is one of Missouri's largest non-profit transportation providers, offering "door-to-door transportation to everyone in 20 Missouri counties".

Healthcare System

Access to Healthcare

Access to healthcare is a broad concept that tries to capture accessibility to needed primary care, healthcare specialists and emergency treatment. While having health insurance is a crucial step toward accessing the different aspects of the healthcare system, health insurance by itself does not ensure access. It is also necessary to have comprehensive coverage, providers that accept the individual's health insurance, relatively close proximity of providers to patients, and primary care providers in the community. There are additional barriers to access in some populations due to lack of transportation to providers' offices, lack of knowledge about preventive care, long waits to get an appointment, low health literacy and inability to pay the high deductible of many insurance plans and/or co-pays for receiving treatment.

Through the U.S. Department of Health & Human Services, the Health Resources and Services Administration Data Warehouse determines if areas are Health Professional Shortage Areas. Bollinger County is considered to be a Health Professional Shortage Area (HPSA) in mental health, primary care and dental health. Each shortage area may be classified as geographic, population or facilities. Geographic means they do not have enough providers in a county or service area. Population means there are not enough providers that are low income or Medicaid eligible. Facilities means there are not enough providers that are federally qualified health centers, or state or federal prisons. Bollinger County is an HPSA Geographic for mental health and primary care, last updated in 2011 and 2014. They are an HPSA Population in dental health, last updated in 2011.

Uninsured Population

According to the County Health Rankings for Missouri, in 2015, 18% of Bollinger County's population was uninsured and 16% of Missouri's population was uninsured. This measures the estimated percent of population below the age of 65 with no health insurance.

Healthcare Providers

Hospitals

There are no hospitals located in Bollinger County.

Family Practices

According to the University of Wisconsin's Population Health Institute and the Robert Wood Johnson Foundation's County Health Rankings, Bollinger County has a primary care physician ratio of 12,382:1, whereas Missouri has a ratio of 1,439:1.

Cross Trails Medical Center is the first of four clinics and is located in Marble Hill. It is a federally qualified health center and a community health center. Primary medical services and dental services are provided at this clinic, with new services continually being added. Primary services include:

- Preventive Care
- Diabetes program

- Chronic Disease Management
- Pediatric Care
- Women’s Healthcare
- Show-Me Healthy Women program
- Adult Care
- Geriatric Care
- Evidence-Based Care

Other programs and services provided by Cross Trails Medical Center include:

- Behavioral Health
- Weight and Diet Management
- Low-Cost Pharmaceutical Program
- Social Services Referrals
- Dental and Oral Health Referrals
- Self-Management Support
- On-site Laboratory Services

Mental Health

According to the University of Wisconsin’s, Population Health Institute and the Robert Wood Johnson Foundation’s County Health Rankings, Bollinger County has a mental health provider ratio of 3,123:1, whereas Missouri has a ratio of 632:1.

Community Counseling Center is a private, not-for-profit behavioral health organization, accredited by the Commission on Accreditation of Rehabilitation Facilities International and certified by the Missouri Department of Mental Health. They provide treatment, support, and seek recovery for those with mental illnesses.

Dentists

According to the University of Wisconsin’s, Population Health Institute and the Robert Wood Johnson Foundation’s County Health Rankings, Bollinger County has a dentist ratio of 6,245:1, whereas Missouri has a ratio of 1,920:1.

Cross Trails Medical Center is a medical center that provides dental care. Preventative services provided include cleanings, fluoride applications, sealants, X-rays and exams. Routine care includes restorations, minor surgical procedures, dentures, oral screenings, fillings, root canals, and crowns and bridges. For other more complex services, patients are referred to a specialist.

First Street Dental is a family practice with Dr. Mark Milde providing care and is located in Marble Hill.

Other

There are two chiropractor locations in Bollinger County, **Woodland Chiropractic** and **Bollinger County Chiropractic**, which are both located in Marble Hill. There is just one pharmacy in Bollinger County, **Twin City Pharmacy Inc.**, also located in Marble Hill.

Community Health Resources/Services

The Bollinger County Health Center can provide information, education, resources and several services regarding public health, environmental health, and disaster and emergency management. Bollinger County Health Center also offers some of the following programs and services:

- Arthritis Foundation Exercise Classes
- Nutrition and health education classes as requested
- Carbon monoxide screenings for pregnant women
- Through SCRIPT, smoking-cessation classes for pregnant women and other support initiatives.
- Breast-feeding Peer Counselor Program
- Safe Cribs for Missouri
- Child Care Health Consultation
- Immunizations and flu vaccinations available at the Health Center

In 2014, Bollinger County started using Vaxcare. This program allows Bollinger County Health Center to provide vaccinations to children and adults who are insured or pay out-of-pocket. The Bollinger County Health Center also received the Immunization Awareness and Access Initiative in 2014. This is a four year grant that will cover immunizations for children and adults who are unable to pay. It will also allow the county to educate residents. Other education services provided include HEAL, Smokebusters, and Chronic Disease Self-Management Programs.

Emergency Services

The Bollinger County EMS in Marble Hill provides ambulance services for Bollinger County. There are three fire departments located in Bollinger County. Marble Hill Fire Department and Scopus Rural Volunteer Fire Department are both located in Marble Hill. Patton Volunteer Fire & Rescue is located in Patton. The Missouri Ambulance Reporting System provides an updated EMS Report

Long-Term Care Facilities

There are six long-term care facilities in Bollinger County shown below in Table 6.

Table 6: Long-term Care Facilities in Bollinger County

Facility	City
Diana’s Boarding Home 1 and Diana’s Boarding Home 2	Marble Hill
El Nathan, Inc.	Marble Hill
Heritage Hills LLC	Patton
J & J Residential Care Facility II	Marble Hill
Mary’s Ranch, Inc.	Marble Hill
Woodland Hills-A Stonebridge Community	Marble Hill

Source: Senior Care Homes

Chapter 3: Health Outcomes

Mortality

Leading Causes of Death

According to the Missouri Department of Health & Senior Services, Bollinger County had a higher rate of death from most of the causes listed in Table 7 below. Bollinger County had a much higher rate than Missouri for deaths caused by motor vehicle accidents. However, the county was much lower in other causes such as liver disease, homicide, HIV/AIDS and alcohol/drug-induced deaths.

Table 7: Leading Causes of Death in Bollinger County, 2003-2013

Cause of Death	Bollinger County		Compared to Missouri Rate	Missouri Rate
	Events	Rate		
All Causes	1447	900.6	Higher	837.3
Heart Disease	436	271.8	Higher	216.7
All Cancers (Malignant Neoplasms)	343	198.8	Higher	188.9
Lung Cancer	118	65.8	Higher	58.7
Breast Cancer	20	12	Lower	13.6
Chronic Lower Respiratory Disease	98	59.1	Higher	50.3
Stroke/Other Cerebrovascular Disease	69	43.8	Lower	47.8
Total Unintentional Injuries	68	49.4	Higher	47.5
Motor Vehicle Accidents	40	31.8	Higher	16.4
Alzheimer's Disease	49	32.3	Higher	25.8
Diabetes Mellitus	37	21.6	Lower	22
Pneumonia and Influenza	36	23.3	Higher	20.3
Kidney Disease (Nephritis and Nephrosis)	48	29.7	Higher	18.1
Suicide	21	15	Higher	13.7
Septicemia	16	9.8	Lower	11.5
Chronic Liver Disease and Cirrhosis	7	3.8	Lower	7.5
Homicide	4	2.9	Lower	7.2
HIV/AIDS	0	0	Lower	1.9
Smoking-Attributable (estimated)	287	169	Higher	145.2
Alcohol/Drug-Induced	12	8.3	Lower	20.2
All Injuries and Poisonings	99	71.8	Higher	70.5
Firearm	17	11.8	Lower	13.2
Injury at Work	6	3.3	Higher	1.7

Mortality rates are per year per 100,000 population and are age-adjusted to the U.S. 2000 standard population.

Source: Missouri Department of Health & Senior Services

Cancer

Table 8 shows the top ten cancer incidence sites in Bollinger County. Together, males and females had the highest percent of lung and bronchus cancer. However, females' highest incidence occurred through breast cancer and males through prostate cancer. Female breast cancer incidence did result in the second highest incidence rate for both sexes combined as well.

Table 8: Bollinger County, Top Ten Cancer Incidence Sites, 2008-2012

	Cancer Site	Bollinger County Percent
All Sexes	Lung and Bronchus	20.99
	Female Breast	11.88
	Prostate	11.05
	Colon and Rectum	10.50
	Urinary Bladder	5.52
	Thyroid	4.97
	Non-Hodgkin Lymphoma	3.59
	Corpus and Uterus, NOS	3.31
	Oral Cavity and Pharynx	2.76
	Melanoma of the Skin	2.76
	Cancer Site	Percent
Females	Female Breast	22.60
	Lung and Bronchus	19.77
	Thyroid	9.60
	Colon and Rectum	9.04
	Corpus and Uterus, NOS	5.65
	Non-Hodgkin Lymphoma	5.08
	Melanoma of the Skin	3.95
	Ovary	3.95
	Pancreas	3.39
	Kidney and Renal Pelvis	3.39
	Cancer Site	Percent
Males	Prostate	23.24
	Lung and Bronchus	22.16
	Colon and Rectum	11.89
	Urinary Bladder	7.03
	Non-Hodgkin Lymphoma	4.86
	Oral Cavity and Pharynx	3.78
	Kidney and Renal Pelvis	3.24
	Pancreas	-
	Thyroid	-

Source: Missouri Cancer Registry and Research Center, Top Ten Cancer Incidence Sites, Missouri County-level Data

According to the Missouri Cancer Registry and Research Center, Bollinger County had 73 cases, a cancer incidence rate of 487, for all sites. This is greater than Missouri’s incidence rate of 436.6, with 30,179 cases of cancer in any site.

Chronic Disease

Table 9 shows a comparison of chronic diseases for Bollinger County and Missouri. It shows the deaths, hospitalizations and ER visits caused by each of the chronic diseases. In 2012, there were a total of 4,408 emergency room visits in Bollinger County, a rate of 383.4 compared to the state rate of 394.17.

Table 9: Chronic Diseases – Bollinger County vs. Missouri

Chronic Disease	Data Years	No. of Events - Bollinger	Bollinger Rate	Missouri Rate
Heart Disease				
Deaths	2002-2012	433	272.3	223.6
Hospitalizations	2008-2012	890	117	129.8
ER Visits	2008-2012	698	11	14.3
Ischemic Heart Disease				
Deaths	2002-2012	321	201.3	151.2
Hospitalizations	2008-2012	318	40.8	41.6
ER Visits	2008-2012	25	0.3	0.7
Stroke/Other Cerebrovascular Disease				
Deaths	2002-2012	67	43.2	49.8
Hospitalizations	2008-2012	229	29.9	29.3
ER Visits	2008-2012	51	0.7	0.8
All Cancers (Malignant Neoplasms)				
Deaths	2002-2012	347	204.6	191.1
Hospitalizations	2008-2012	278	35.5	34.6
Colorectal Cancer				
Deaths	2002-2012	39	23.8	18.1
Hospitalizations	2008-2012	31	4	4.4
Colon and Rectum Cancer (SEER)				
Deaths	2002-2012	39	23.8	17.9
Lung Cancer				
Deaths	2002-2012	121	68.9	59.4
Hospitalizations	2008-2012	49	5.9	4.6
Breast Cancer				
Deaths	2002-2012	20	12.1	13.9
Hospitalizations	2008-2012	5	0.6*	1.7
Cervical Cancer				
Deaths	2002-2012	4	2.4*	1.4
Hospitalizations	2008-2012	0	0.0*	0.6
Prostate Cancer				
Deaths	2002-2012	22	13.9	8.4
Hospitalizations	2008-2012	38	4.4	2.5
Diabetes Mellitus				
Deaths	2002-2012	38	22.5	22.5
Hospitalizations	2008-2012	72	11	17.8
ER Visits	2008-2012	73	1.2	1.8

Chronic Obstructive Pulmonary Disease Excluding Asthma				
Deaths	2002-2012	90	55.2	48.5
Hospitalizations	2008-2012	235	30.6	23.6
ER Visits	2008-2012	293	4.4	5.7
Asthma				
Deaths	2002-2012	2	1.2*	1.2
Hospitalizations	2008-2012	47	7.5	13.1
ER Visits	2008-2012	96	1.8	5.3
Smoking-Attributable (Estimated)				
Deaths	2002-2012	284	170.2	146.9
Arthritis/Lupus				
Deaths	2002-2012	0	0.0*	3.3
Hospitalizations	2008-2012	271	34.3	41.7
ER Visits	2008-2012	707	12.1	9.9

Source: Missouri Department of Health and Senior Services

Death rates are per year per 100,000 population and are age-adjusted to the U.S. 2000 standard population.

Hospitalization rates are per year per 10,000 population and are age-adjusted to the U.S. 2000 standard population.

ER visits are per year per 1,000 population and are age-adjusted to the U.S. 2000 standard population.

*Fewer than 20 events in numerator; rate is unstable.

Years of Potential Life Lost

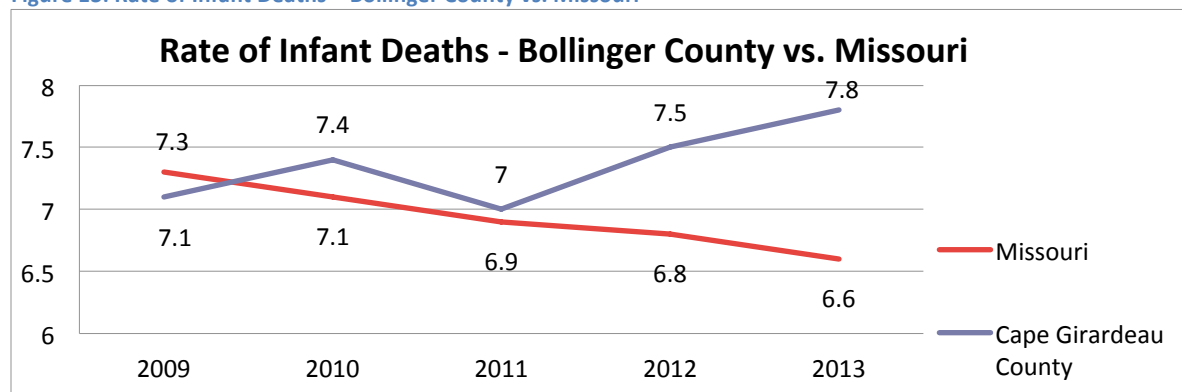
The Missouri Department of Health & Senior Services describes the years of potential life lost (YPLL) statistic as an estimate of the number of lives lost due to premature death (before age 75). A younger death corresponds to more years of potential life lost.

According to the Missouri Department of Health & Senior Services, in 2013, Missouri had a combined 459,648 years of potential life lost. Alone, Bollinger County had 1,017 years of potential life lost. Per 100,000 population, that equates to 8,145 years of potential life lost in Missouri and 8,754 years of potential life lost in Bollinger County.

Infant Mortality

The rate of infant deaths increased drastically from 2012 to 2013. However, since Bollinger County's highest infant death rate in the last five years of data (9.3 in 2009), the rate has decreased below the Missouri rate.

Figure 13: Rate of Infant Deaths – Bollinger County vs. Missouri



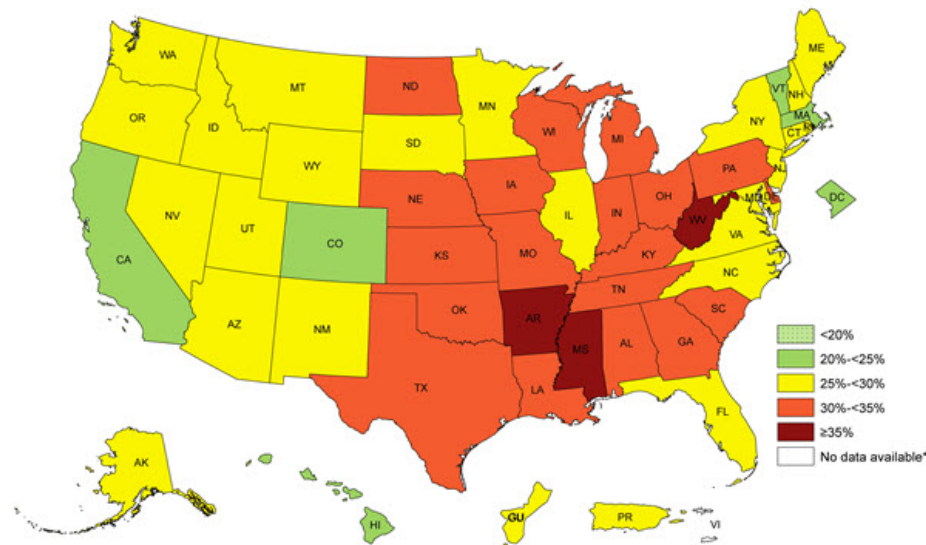
Source: Annie E. Casey Foundation Kids Count Data Center

Morbidity

Obesity and Overweight

According to the Centers for Disease Control and Prevention, more than one-third of the adults in the United States are obese, which can lead to several other chronic conditions including heart disease, stroke, Type 2 diabetes and certain types of cancer. In 2011, the Behavioral Risk Factor Surveillance System, CDC presented the prevalence estimates for obesity in the picture below. This shows that Missouri had an obesity prevalence between 30% to <35%. Obesity is measured when a person has a body mass index (BMI) greater than or equal to 30 kg/m² and has shown to be a concern across the United States.

Figure 14: Obesity Prevalence Map, 2014



Source: Centers for Disease Control and Prevention – Data, Trends, and Maps

According to the County Health Rankings developed by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, Bollinger County has a 38.6% prevalence of obesity compared to 30.2% in Missouri. Bollinger County has a high prevalence of obesity, which may be caused by a lack of exercise and physical activity along with a poor diet.

Diabetes

According to the Centers for Disease Control and Prevention, diabetes is the leading cause of kidney failure, nontraumatic lower-limb amputations, and new cases of blindness among adults in the United States and it is also a major cause of heart disease and stroke. Other complications that can be caused by diabetes include: hypertension, eye problems, kidney disease, nervous system disease, amputations, dental disease and complications of pregnancy.

Diabetes is a group of diseases marked by high levels of blood glucose resulting from defects in insulin production, insulin action, or both. Diabetes can lead to serious complications and premature death, but people with diabetes, working together with their support network and their healthcare providers, can take steps to control the disease and lower the risk of complications. There is more than one type of diabetes:

- *Type 1 diabetes* was previously called insulin-dependent diabetes mellitus (IDDM) or juvenile-onset diabetes. Type 1 diabetes develops when the body's immune system destroys pancreatic beta cells, the only cells in the body that make the hormone insulin that regulates blood glucose. To survive, people with Type 1 diabetes must have insulin delivered by injection or a pump. This form of diabetes usually strikes children and young adults, although disease onset can occur at any age. In adults, Type 1 diabetes accounts for approximately 5% of all diagnosed cases of diabetes. Risk factors for Type 1 diabetes may be autoimmune, genetic or environmental. There is no known way to prevent Type 1 diabetes. Several clinical trials for preventing Type 1 diabetes are currently in progress or are being planned.
- *Type 2 diabetes* was previously called noninsulin-dependent diabetes mellitus (NIDDM) or adult-onset diabetes. In adults, Type 2 diabetes accounts for about 90% to 95% of all diagnosed cases of diabetes. It usually begins as insulin resistance, a disorder in which the cells do not use insulin properly. As the need for insulin rises, the pancreas gradually loses its ability to produce it. Type 2 diabetes is associated with older age, obesity, family history of diabetes, history of gestational diabetes, impaired glucose metabolism, physical inactivity and race/ethnicity. African-Americans, Hispanic/Latino Americans, American Indians and some Asian Americans and Native Hawaiians or other Pacific Islanders are at particularly high risk for Type 2 diabetes and its complications. Type 2 diabetes in children and adolescents, although still rare, is being diagnosed more frequently among American Indians, African-Americans, Hispanic/Latino Americans and Asians/Pacific Islanders.
- *Gestational diabetes* is a form of glucose intolerance diagnosed during pregnancy. Gestational diabetes occurs more frequently among African-Americans, Hispanic/Latino Americans, and American Indians. It is also more common among obese women and women with a family history of diabetes. During pregnancy, gestational diabetes requires treatment to optimize maternal blood glucose levels to lessen the risk of complications in the infant.
- *Other types* of diabetes result from specific genetic conditions (such as maturity-onset diabetes of youth), surgery, medications, infections, pancreatic disease and other illnesses. Such types of diabetes account for 1% to 5% of all diagnosed cases.

According to the County Health Rankings developed by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, Bollinger County has a 12% prevalence of diabetes, whereas the state of Missouri has a 11% prevalence.

Infectious Disease

The Missouri Department of Health and Senior Services' Bureau of Communicable Disease Control and Prevention put out an Annual Communicable Disease Surveillance Report summarizing the different communicable diseases reported across Missouri in 2012. The diseases that were reported in Bollinger County are described below.

Hepatitis C is a contagious liver disease that results from infection with the Hepatitis C virus. It can range in severity from a mild illness lasting a few weeks to a serious, lifelong illness. Hepatitis C is usually spread when blood from a person infected with the Hepatitis C virus enters the body of someone who is not infected. Today, most people become infected with the Hepatitis C virus by sharing needles or other equipment to inject drugs. Before 1992, when widespread screening of the blood supply began in the United States, Hepatitis C was also commonly spread through blood transfusions and organ transplants. Hepatitis C can be either "acute" or "chronic." Acute Hepatitis C virus infection is a short-term illness that occurs within the first 6 months after someone is exposed to the Hepatitis C virus. For most people, acute infection leads to chronic infection. Chronic Hepatitis C is a serious disease that can

result in long-term health problems, or even death. There is no vaccine for Hepatitis C. The best way to prevent Hepatitis C is by avoiding behaviors that can spread the disease, especially injection drug use. Bollinger County had eight cases of Hepatitis C, Chronic Infection reported in 2012.

Tuberculosis (TB) is a disease caused by the bacterium called *Mycobacterium tuberculosis*. The bacteria can attack any part of your body, but it usually attacks the lungs. TB is spread through the air from one person to another. The bacteria are expelled into the air when a person with TB disease of the lungs or throat coughs, sneezes, speaks or sings. These bacteria can stay in the air for several hours, depending on the environment. People who become infected with TB bacteria usually have had very close, day-to-day contact with someone who has TB disease (e.g., a family member, friend or close co-worker). In most people who become infected, the body is able to fight the bacteria to stop them from growing. The bacteria become inactive, but they remain alive in the body and can become active later. This is called latent TB infection (LTBI). These people do not have symptoms of TB disease, and they cannot spread TB to others. According to the Bureau of Communicable Disease Control and Prevention's Communicable Disease Surveillance 2012 Annual Report, Bollinger County had one case of tuberculosis in 2012.

Other communicable diseases that were reported in Stoddard County in 2012 include:

- Animal Bites: 7 cases
- Campylobacteriosis (often foodborne illness): 4 cases
- Cryptosporidiosis: 1 case
- E. Coli Shiga Toxin Positive: 1 case
- Ehrlichiosis & Anaplasmosis: 3 cases
- Giardiasis: 2 cases
- Hepatitis B Chronic Infection: 2 cases
- Rabies Post Exposure Prophylaxis: 3 cases
- Rocky Mountain Spotted Fever: 4 cases
- Salmonellosis: 3 cases
- Strep Pneumoniae, Drug-Resistant: 1 case
- Tick-borne Disease: 7 cases

Bollinger County Health Center also receives surveillance from day cares, schools, a long term care facility, and a medical provider on illnesses and diseases seen. The Bollinger County Health Center reported some of the communicable diseases seen in 2014. **Varicella (chicken pox)** reported higher than in past years, along with more cases of **shigellosis**. Bollinger County also had 3 skunks positive for **rabies**, with this discovery came investigations for potential human exposure as rabies in humans is usually fatal.

HIV/AIDS

HIV is the human immunodeficiency virus that can lead to acquired immune deficiency syndrome (AIDS). There are two types of HIV, HIV-1 and HIV-2. However, unless otherwise noted, when referring to HIV in the United States, HIV-1 is the type being referred. Both types damage a person's body by destroying CD4+ T cells, which are crucial to helping the body fight diseases. According to the Mayo Clinic, potential signs and symptoms vary depending on the stage of HIV. Within a month or two, infected people usually develop flu-like symptoms, which may last for a few weeks. Signs and symptoms of this may include fever, headache, muscle aches and joint pain, rashes, sore throat and swollen lymph glands. During this primary HIV infection, the amount of the virus in the bloodstream is high, causing more efficient spreading of the virus. This is particularly dangerous because the virus often goes unnoticed in

this stage. Throughout stages of HIV infection, many other signs and symptoms may occur including fever, fatigue, swollen lymph nodes, diarrhea, weight loss, oral yeast infection and shingles.

Everyone who has been infected with HIV should see a healthcare provider experienced with treating HIV infection on a regular basis. Medications received can slow down destruction of the immune system, improve overall health and may even decrease chances of spreading the virus. If the virus goes unnoticed and untreated, the HIV infection can lead to association with many diseases such as cardiovascular disease, kidney disease, liver disease and cancer. Mayo Clinic also stated that without treatment for HIV infection, the disease usually develops into AIDS in about 10 years and leading to many otherwise rare diseases. Signs and symptoms of this stage may include soaking night sweats, recurring fever, chronic diarrhea, persistent white spots or unusual lesions on your tongue/mouth, persistent and unexplained fatigue, weight loss and skin rashes or bumps.

According to AIDSvu, with information from the U.S. Centers for Disease Control and Prevention's (CDC) national HIV surveillance database, Missouri had 11,737 people living with HIV/AIDS, with 222 deaths. In 2013, there were 482 new diagnoses of the virus. The CDC showed that Bollinger County had an HIV Care Region of 12,490 people in 2013, but there was no further specific information listed.

Other Sexually Transmitted Diseases

Sexually transmitted diseases (STDs) is a term used to describe more than 20 different infections that are transmitted through exchange of semen, blood and other body fluids; or by direct contact with the affected body areas of people with STDs. Sexually transmitted diseases are also called venereal diseases. STDs can have very painful long-term consequences, as well as immediate health problems.

They can cause:

- birth defects
- blindness
- bone deformities
- brain damage
- cancer
- heart disease
- infertility and other abnormalities of the reproductive system
- mental retardation
- death

Some of the most common sexually transmitted diseases are described below as defined by the Centers for Disease Control and Prevention along with the number of cases reported in Bollinger County by the Missouri Department for Health and Senior Services' HIV/AIDS Surveillance System STD by County report.

Syphilis is a sexually transmitted disease caused by the bacterium *Treponema pallidum*. It has often been called "the great imitator" because so many of the signs and symptoms are indistinguishable from those of other diseases. In 2015, Bollinger County had zero cases of syphilis reported.

Gonorrhea is a sexually transmitted disease caused by *Neisseria gonorrhoeae*, a bacterium that can grow and multiply easily in the warm, moist areas of the reproductive tract, including the cervix (opening to the womb), uterus (womb) and fallopian tubes (egg canals) in women, and in the urethra (urine canal) in women and men. The bacterium can also grow in the mouth, throat, eyes and anus.

Gonorrhea is a very common infectious disease. In 2015, Bollinger County had three cases of gonorrhea reported.

Chlamydia is a common sexually transmitted disease caused by the bacterium, *Chlamydia trachomatis*, which can damage a woman's reproductive organs. Even though symptoms of chlamydia are usually mild or absent, serious complications that cause irreversible damage, including infertility, can occur "silently" before a woman ever recognizes a problem. Chlamydia also can cause discharge from the penis of an infected man. Chlamydia is the most frequently reported bacterial sexually transmitted disease in the United States. Under-reporting is substantial because most people with chlamydia are not aware of their infections and do not seek testing. Also, testing is not often done if patients are treated for their symptoms. In 2015, Bollinger County had 16 cases of chlamydia reported.

Health Status at Birth

The health status at birth can be indicated by outcomes including low birth weight, very low birth weight and gestational age. The concept is called "healthy start" according to the University of Wisconsin's Robert Wood Johnson Foundation.

Low Birth Weight

The County Health Rankings use low birth weight, which is less than 2,500 grams to help determine health status at birth. Having a low birth rate is used because it affects the maternal exposure to health risks and the infant's current and future morbidity. It also affects the premature mortality risk. Low birth weight has shown to increase chances of developmental and growth problems, cardiovascular disease risk later in life and respiratory conditions. Cognitive problems have also been affected by low birth weights, such as cerebral palsy, as well as visual auditory and intellectual impairments. The County Health Rankings show that 6.9% of Bollinger County's births had low birth weights in 2015. This is less than the 8.0% of low birth weights in Missouri.

Preterm Deliveries

According to CDC, preterm birth is the birth of an infant before 37 weeks of pregnancy. Being the greatest contributor to infant death, it is also common, having affected 1 in 10 births in the United States in 2014.

The Annie E. Casey Foundation KIDS COUNT data center showed that 12% of births were preterm in 2009 through 2012 and 11% were preterm in 2013. The Missouri Department of Health and Human Services reported 79 preterm births in Bollinger County and 47,443 in Missouri from 2008-2012.

Birth Defects

According to the CDC and the National Birth Defects Prevention Network, birth defects occur in about 3% of live births. The Missouri Department of Health and Human Services reported 42 birth defects in Bollinger County from 2008-2012.

Health Status

The County Health Rankings lists three factors to a person's health status:

1. Poor or fair health – A self-reported health status that is a general measure of health-related quality of life in a population.
2. Poor physical health days – A measure taken from how many days during the past 30 days a person's health was not good.

3. Poor mental health days – A measure taken from how many days during the past 30 days a person’s mental health was not good.

Poor or fair health was 18% in Bollinger County compared to 16% in Missouri in 2015. Missouri’s percentage has remained at 16% since 2010; however, Bollinger County has seen a decreasing percentage from their 22% in 2010.

In 2015, the average amount of **poor physical health days** in Bollinger County was 5.4 days and in Missouri it was 3.7 days. This explains responses to how many days in the past 30 days people considered their health to be poor and shows that the amount of poor physical days in Bollinger County was significantly higher than that in Missouri.

Poor mental days includes the number of days people felt they had poor mental health in the past 30 days. Poor mental health may include stress, depression, emotional problems, etc. In 2015, the average number of poor mental health days was 3.1 days in Bollinger County and a similar 3.8 days in Missouri. This number has significantly decreased for Bollinger County from when it was 4.5 days of poor mental health in 2010.

Mental Health

The Missouri Department of Mental Health completed Community Epidemiological Profiles for each county in June 2015 and explains that people who struggle with mental illness have an increased risk for homicide, suicide and accidents. They also have a higher risk for chronic conditions such as cardiovascular and respiratory diseases and substance abuse disorders. According to Bollinger County’s Community Epidemiological Profile, there were 486 residents who received treatment for serious mental illness at publicly funded facilities in 2014. There were 56 of those residents with adjustment disorder, 69 with anxiety disorder, 67 with impulse control disorder, 257 with mood disorder and 67 with psychotic disorder. It was also reported that of students in 6th through 12th grade in Bollinger County, 8.8% had considered suicide, 6.8% had a plan and 1.4% actually attempted the plan and resulted in injury. There was one suicide by a Bollinger County resident in 2013. More specific data on mental health is limited at the local level.

Preventable Hospitalizations

According to the County Health Rankings, Bollinger County had 84 preventable hospital stays compared to Missouri’s 65 preventable hospital stays in 2015. Preventable hospital stays is defined as the number of hospital stays for ambulatory-care sensitive conditions per 1,000 Medicare enrollees.

The Missouri Department of Health & Senior Services (MICA) indicated that Bollinger County had a higher rate than Missouri in the following diagnostic categories: angina, bacterial pneumonia, chronic obstructive pulmonary, dental conditions, hypoglycemia, immunization preventable and kidney/urinary infections.

Table 10: Preventable Hospitalizations 2013 – Bollinger County vs. Missouri

Diagnosis	Bollinger County		Missouri	
	Number	Rate	Number	Rate
Angina	1	1.3*	199	0.3
Asthma	7	7.2*	5,390	10.5
Bacterial Pneumonia	21	17.9	8,960	16.0
Cellulitis	11	9.2*	7,221	13.6
Chronic Obstructive Pulmonary	20	14.7	6,359	10.1
Congenital Syphilis	0	*	4	0*
Congestive Heart Failure	10	7.5*	5,620	9.0
Convulsions	2	2.6*	1,497	2.9
Dehydration – volume depletion	25	20.9	16,236	29.3
Dental Conditions	4	3.8*	539	1.1
Diabetes	7	6.2*	7,095	13.4
Epilepsy	5	5.0*	3,037	5.9
Failure to thrive	0	*	234	0.5
Gastroenteritis	4	3.3*	1,775	3.3
Hypertension	2	1.8*	1,455	2.6
Hypoglycemia	1	0.8*	69	0.1
Immunization preventable	2	2.6*	55	0.1
Kidney/Urinary Infection	10	9.4*	3,845	7.1
Nutritional Deficiencies	5	3.0*	2,090	3.5
Pelvic Inflammatory Disease	0	*	393	0.8
Severe ENT Infections	1	1.0*	737	1.5
Tuberculosis	0	*	38	0.1
Total for Selection	138	118.3*	72,848	131.5

Source: Missouri Department of Health & Senior Services, MICA

Rates per 10,000, Age Adjustment Uses Year 2000 Standard Population

Areas marked with red show a higher rate in Bollinger County than Missouri.

Chapter 4: Health Behaviors

Diet & Exercise

According to the University of Wisconsin's Population Health Institute and the Robert Wood Johnson Foundation's County Health Rankings, there are 33% of Bollinger County residents who are physically inactive, compared to 26% in Missouri. Physically inactive was determined in the rankings by the percent of people 20 years or older who reported no leisure-time activity. There was 26% of Bollinger County that had adequate access to exercise opportunities which is well below the 77% of the population in Missouri that has access. The County Health Rankings also gave Bollinger County a food environment index of 6.8, with 0 being the worst and 10 being the best. This is just below that of Missouri at 7.0.

Tobacco Use

Adult smoking prevalence is the estimated percent of the adult population that currently smokes every day or "most days" and has smoked at least 100 cigarettes in their lifetime. The 25% percent of adults who were current smokers in Bollinger County was just above the 23% of smokers in Missouri according to the County Health Rankings. This not only causes concern for disease development in smokers, but also for nonsmokers through secondhand smoke.

Substance Abuse

Substance abuse includes excessive use of any drug such as alcohol, narcotics, illicit drugs, prescription drugs, etc. The Missouri Department of Mental Health created a behavioral health profile for Bollinger County in 2015. Using data from 2010 through 2012, it was determined that in the Southeast Region, 32.1% used cigarettes in the last 30 days, 47.9% had alcohol with 23.7% having five or more drinks on a single occasion in the last 30 days, and 4.1% used marijuana in the last 30 days. Another 4.8% abused pain relievers and 2.8% used other illicit drugs in the last 30 days, which were both higher than the state abuse percentage.

According to the behavioral health profile, Bollinger County had 6 alcohol-related and seven drug-related hospitalizations in 2012 with another 10 alcohol related and 8 drug-related ER visits. In 2013, there were 18 crashed-related to alcohol use resulting in 14 injuries. There were also 48 DWI arrests, six liquor law violations and 74 drug-related arrests in the county in 2013.

Methamphetamine has been problematic for Missouri, yet the number of lab seizures in the state has decreased from 2,788 in 2004 to 1,045 in 2014. Comparatively, Bollinger County had no methamphetamine lab seizures in 2014, whereas there were 21 lab seizures in 2004. In 2014, 86 Bollinger County residents were admitted into Substance Abuse Treatment Programs; 39 of these admissions were due to alcohol and 18 were due to marijuana.

Maternal Health

Prenatal Care

In 2015, the Missouri Department of Health and Human Services created Bollinger County Prenatal Profile. According to this profile, in 2013, all residents of Bollinger County received prenatal care if applicable. However, there was 29.9% who received late care in the 2nd or 3rd trimester of pregnancy. This was higher than Missouri's 24.3%. A rate of 70.1% received care beginning in the first trimester,

just below Missouri’s rate of 74.5%. There was also a rate of 13.6% for those who received inadequate care (<5 visits for a 37-week pregnancy or <8 visits for a pregnancy lasting longer than 37 weeks), compared to a rate of 15.6% for Missouri.

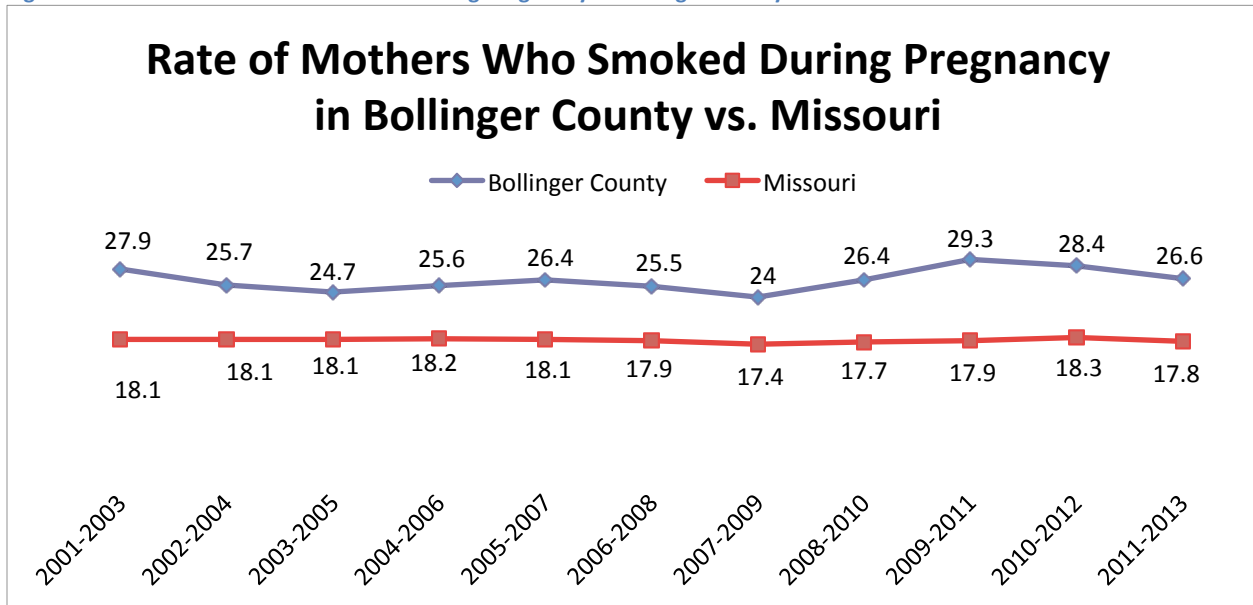
Smoking During Pregnancy

Women who smoke during pregnancy put themselves and their unborn babies at risk for other health problems. Dangers of smoking during pregnancy include:

- Higher risk for miscarriage
- Premature birth or low birth weight
- Birth defects, such as cleft lip or cleft palate
- Infant death
- Problems with the placenta, which is the source of the baby’s food and oxygen during pregnancy
- Higher risk for Sudden Infant Death Syndrome

According to the Missouri Department of Health and Human Services there were 32 accounts recorded of mothers smoking during pregnancy, a rate of 26.6% in the county, which was well above the rate of 17.8% for Missouri. The figure below shows the rate of mothers who smoke during pregnancy in Bollinger County compared to Missouri from 2001 to 2013. This shows that the rate is consistently higher in Bollinger County. The county’s decreasing trend changed when it started increasing again from 2008 to 2011.

Figure 15: Rate of Mothers who Smoked During Pregnancy in Bollinger County vs. Missouri



Source: Missouri Department of Health and Senior Services, Community Data Profiles

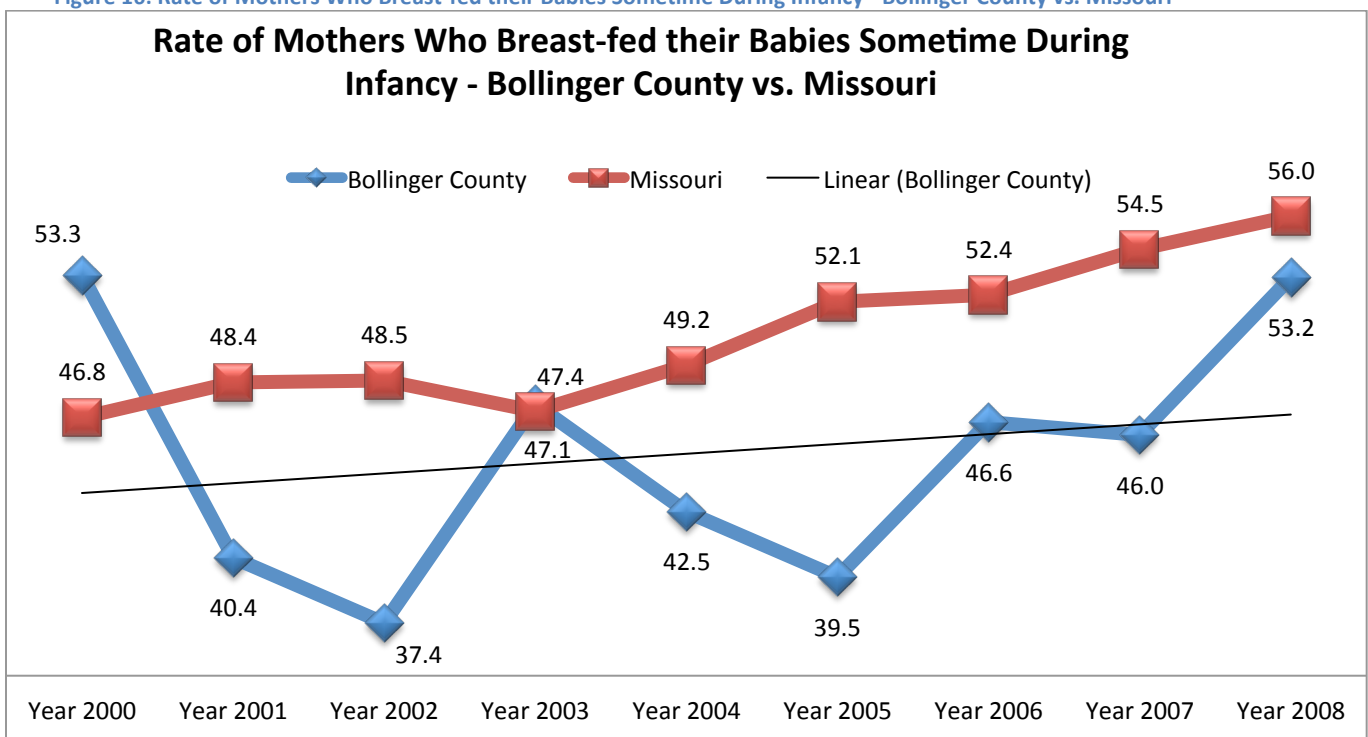
Breast-feeding

According to the Centers for Disease Control and Prevention, both babies and mothers gain several benefits from breast-feeding. Breast milk is easy for infants to digest and has antibodies that can protect them from bacterial and viral infections. Infant’s risks of becoming an overweight child decreases with each month of breast-feeding. Also, women who breast-feed may have lower rates of certain breast and ovarian cancers. Breast-feeding can also save mother’s money by spending less money on formulas for their babies.

In a report completed by the Robert Wood Johnson Foundation and Trust for America’s Health, research found many other benefits of breast-feeding for the child and the mother. For the child: reduced risk of ear, skin, stomach and respiratory infections, diarrhea, sudden infant death syndrome, necrotizing enterocolitis, and other bacterial and viral infections; and in the longer term, reduced risk of obesity, Type 1 and 2 diabetes, asthma, celiac disease, inflammatory bowel disease and childhood leukemia. For the mother: quicker loss of pregnancy weight, prevention of postpartum bleeding and reduced risk of breast cancer, ovarian cancer, Type 2 diabetes and postpartum depression.

The following figure shows the rate of mothers with infants on the Women, Infants, and Children (WIC) program who breastfed their babies sometime during infancy. Information has not been updated from 2008, but throughout 2000-2008, Bollinger County had a higher rate in the year 2000, but then dropped off and remained lower than the state rate except for in 2003, when it was slightly above the state rate. Overall, the rate for Bollinger County has trended upwards for those nine years.

Figure 16: Rate of Mothers Who Breast-fed their Babies Sometime During Infancy - Bollinger County vs. Missouri



Source: Missouri Department of Health and Senior Services, MICA, WIC Infant

Prevention & Screening

Health screenings are an important part of maintaining good health, especially as you get older. Many deaths could be prevented if people got simple, regular health screenings as recommended by their doctor. Health screenings can detect problems early on, when chances for successful treatment are greatest. For example, heart disease is the leading cause of death in Missouri, but people who routinely have their blood pressure and cholesterol checked, and treated if necessary, may improve their chances of preventing and controlling conditions that could cause a heart attack. When a person gets the health screenings recommended, they are taking simple but very important steps toward a better quality of life and quite possibly, a longer life.

Preventative Practices

The table below shows that Bollinger County had fewer residents seeking health and preventative practices than Missouri in several of the categories. However, the county was also better than the state in several categories. Comparisons can be seen below:

Table 11: 2011 Prevalence of Health & Preventative Practices - Bollinger County vs. Missouri

Indicator	Bollinger County Prevalence %	Compared to Missouri %	Missouri Prevalence %*
Did not get medical care in past 12 months	5.6	Better	9.0
Current cigarette smoking	27.1	Worse	23.1
No leisure-time physical activity	31.4	Worse	23.7
Less than 5 fruits and vegetables per day	86.6	Better	87.5
Overweight (25.0-29.9 BMI)	29.4	Better	34.5
Obese (≥ 30 BMI)	38.6	Worse	30.1
Ever had high blood pressure-among those who have had it checked	39.6	Worse	34.4
Ever had blood cholesterol checked-age 35 and older	88.5	Better	89.5
Ever told had high cholesterol-among 35+ who have had it checked	51.4	Worse	44.8
Ever told had diabetes	17.9	Worse	10.7
Never had a mammogram-women age 40 and older	11.7	Worse	9.9
No mammogram or clinical breast exam in last year-women age 40 and older	33.1	Worse	30.5
Never had a pap smear-women age 18 and older	8.7	Worse	7.5
No Pap smear in last 3 years-women age 18 and older	33.3	Worse	26.4
Never had a blood stool test-men and women age 50 and older	64.3	Better	66.1
No blood stool test in last year-men and women age 50 and older	88.2	Better	90.4
Never had a sigmoidoscopy or colonoscopy-men and women age 50 and older	32.8	Better	33.8
No sigmoidoscopy or colonoscopy in past 10 years-men and women 50 and older	38.2	Worse	38.0

Source: Missouri Department of Health and Senior Services, Community Health Profiles, Health and Preventative Practices

*Weighted Percent: The proportion (usually a percentage) of a population that has a defined risk factor, disease, or condition at a particular point in time.

Diabetes

According to the Diabetes Fact Sheet, Missouri, 2015 from the Missouri Department of Health and Senior Services, diabetes mellitus is a chronic disease that occurs when the pancreas does not produce insulin or the body cannot use the insulin effectively. Uncontrolled diabetes results in elevated blood sugar, causing serious damage to many body organs. Diabetes can be prevented through eating less fat and more fiber-rich foods, increasing physical activity, keeping your body weight normal (BMI between 15.5 and 24.9), and by following your doctor's indications on medications and having screenings.

According to the County Health Ranking in 2015, 12% of Bollinger County residents over the age of 20 were diagnosed with diabetes, whereas 11% of Missouri residents were diagnosed.

Chapter 5: Health Measures

Child and Adolescent Health

Causes of Death – Children

Table 12: Causes of Death in Children Ages 1-14, 2002-2012

	Bollinger County Rate	Missouri Rate
All causes	11.8*	21.2
Total Unintentional Injuries	7.9*	7.6
Motor Vehicle Deaths	3.9*	3.6
All Cancers (Malignant Neoplasms)	0.0*	2.2
Birth Defects	0.0*	1.7
Homicide	0.0*	2.0
Heart Disease	0.0*	0.9

Source: Missouri Department of Health and Senior Services, Child Health

*Fewer than 20 events in numerator, rate is unstable

Causes of Death – Adolescents

Table 13: Causes of Death in Adolescents Ages 15-19, 2002-2012

	Bollinger County Rate	Missouri Rate
All causes	82.8*	73.5
Total Unintentional Injuries	72.5*	38.6
Motor Vehicle Deaths	72.5*	30.0
Homicide	0.0*	12.3
Suicide	10.4*	8.50
All Cancers (Malignant Neoplasms)	0.0*	2.90
Heart Disease	0.0*	1.70

Source: Missouri Department of Health and Senior Services, Child Health

*Fewer than 20 events in numerator, rate is unstable

Teen Substance Abuse and Smoking

The 2015 Status Report on Missouri's Substance Use and Mental Health completes a Missouri Student Survey through 12th grade. In Bollinger County:

- 50.3% of youth believed it was easy to obtain alcohol and 41.5% had friends who drank alcohol in the past 12 months.
- 49.7% of youth believed it was easy to obtain cigarettes and 31.3% had friends who smoked in the last 12 months.
- 21.9% of youth believed it was easy to obtain marijuana and 19.9% had friends who used marijuana in the last 12 months.
- 11% of youth believed it was easy to obtain other illicit drugs including cocaine, LSD, methamphetamine, club drug, etc. and 5.5% had friends use these types of drugs in the last 12 months.

The table below shows the use of substances in Bollinger County and Missouri by students in the last 30 days from the Missouri Student Survey.

Table 14: Percent of Students who used Substances in the Past 30 Days - Bollinger County & Missouri

Substance	Bollinger County	Missouri
Alcohol	9.7	13.9
Alcohol, Binge (5+ drinks in one occasion)	8.8 (2012 data)	9.7 (2012 data)
Cigarettes	9.7	8.1
Chewing Tobacco	10.2	5.0
Marijuana	3.5	7.6
Inhalants	0.7	1.1
Prescription Medications not prescribed for the student	3.5	3.7
Over-the-counter medications for non-medical use	1.4	1.6

Source: 2015 Status Report on Missouri’s Substance Use and Mental Health, Missouri Student Survey

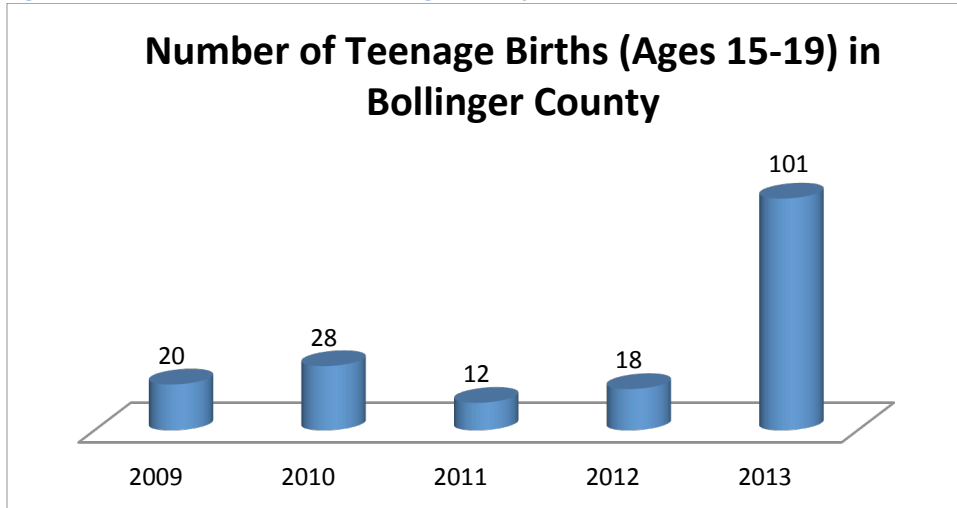
Teen Pregnancy

Teen pregnancy can be associated with poor prenatal care and preterm delivery. Pregnant teens are more likely than older women to receive late or no prenatal care, have gestational hypertension and anemia and achieve poor maternal weight gain. They are also more likely to have a preterm delivery and low birth weight, which increases the risk of child developmental delay, illness and mortality. According to the CDC, teen pregnancy and births cause considerable social and economic costs through both immediate and long-term impacts on the teens and their parents. The CDC listed the following impacts teen births have on costs and education:

- In 2010, teen pregnancy and childbirth accounted for at least \$9.4 billion in costs to U.S. taxpayers for increased healthcare and foster care, increased incarceration rates among children of teen parents, and lost tax revenue because of lower educational attainment and income among teen mothers.
- Pregnancy and birth are significant contributors to high school dropout rates among girls. Only about 50% of teen mothers receive a high school diploma by 22 years of age, versus approximately 90% of women who had not given birth during adolescence.
- The children of teenage mothers are more likely to have lower school achievement and drop out of high school, have more health problems, be incarcerated at some time during adolescence, give birth as a teenager and face unemployment as a young adult.

Figure 17 shows the number of births to teenagers in Bollinger County. It remained around 20 to 30 births until 2013, when there were 101 teen births in the county.

Figure 17: Number of Teen Births in Bollinger County, 2009-2013



Source: Annie E. Casey Foundation Kids Count Data Center, Family and Community Trust

Senior Health

Missouri Senior Report

The Missouri Department of Health and Senior Services and the University of Missouri Office of Social and Economic Data Analysis (OSED) generated a Missouri Senior Report in 2013 to inform state and local audiences about the contributions and needs of seniors in Missouri. Some of the findings from that report are found below.

Cost Burdened by Housing

The U.S. Department of Housing and Urban Development considers families who pay more than 30 percent of their income for housing as “cost burdened.” Often, these families may struggle paying for necessities such as food, clothing, transportation and medical care. Many seniors live off of fixed incomes, making them susceptible to being cost burdened by housing.

In Bollinger County, the percent of seniors that are cost burdened by housing was 21.3% in 2011, up from 19.3% in 2008. This percent is still lower than the state percent at 29.4%.

Transportation

Transportation needs are measured through whether a senior citizen has a valid driver’s license, obtained through the Missouri Department of Revenue. It is important to remember that the availability and access to public transit systems may play a role as well.

In Bollinger County, 87.8% of seniors had a Missouri driver’s license, down from 89.7% in 2008. The state had 88.6% of seniors with a driver’s license in 2011.

Safety

Seniors are at risk of becoming victims of property and violent crimes. They are also at an increased risk of suffering financial exploitation, accidents and abuse if they are physically or psychologically vulnerable.

Bollinger County had 19.6% of seniors that faced crime and abuse per 1,000 persons. This decreased from 26.5% in 2008 and is well below the 27.4% for the state.

Healthcare Access

Having reliable and convenient access to primary care increases the ability of seniors to live independently. Data regarding the amount of primary care physicians per 1,000 seniors is limited for recent years and was last reported in 2008.

In 2008, Bollinger County had a rate of 1.1 primary care physicians per 1,000 seniors. This increased from 0.5 in 2004, but is well below the state rate of 13.1.

Quality of Life

Quality of life is important in helping seniors be productive and live in economic security. The Missouri Senior Report used the U.S. Census Bureau, OSEDA ACS Estimates and Social Services to collect data determining senior quality of life. The table below identifies several quality of life factors.

When compared to the state, there was a much higher percentage of seniors living in poverty in Bollinger County. The state had just 8.2% of seniors in poverty with the average income of senior households being \$46,767 compared to 14.6% of seniors in poverty with the average income of senior households being \$32,383 in Bollinger County. Suitably, just 11.6% of seniors in the county had a college education and 18.2% of seniors in Missouri had a college education.

Table 15: Quality of Life

Quality of Life	Measure
Senior Owner-Occupied Housing, 2011	80.5%
Seniors Living in Families, 2011	70.3%
Median Value of All Owned Housing, 2011	\$92,590
Seniors in Poverty, 2011	14.6%
Percent Age 60+ Receiving SNAP, 2011	7.2%
Average Income of Senior Households, 2011	\$32,383
Seniors with a College Education, 2011	11.6%

Source: Missouri Senior Report, 2013

Health and Wellness

The Missouri Senior Report looks at seven indicators for long-term health and wellness that can be influenced by preventative practices and public health interventions. Although these indicators ranked slightly above and below the state, they were all relatively similar to state measures. Table 16 shows the seven indicators for senior health and wellness.

Table 16: Health and Wellness

Health and Wellness	Measure
No Exercise, 2011	32.1%
No Sigmoidoscopy or Colonoscopy, 2011	38.6%
High Blood Pressure, 2011	65.7%
Obesity, 2011	28.1%
Smoking, 2011	13.6%
No Mammography, 2011	57.0%
High Cholesterol, 2011	52.8%

Source: Missouri Senior Report, 2013

Chapter 6: Primary Research

Focus Groups

Methodology

A focus group for Bollinger County was held on January 28, 2016, at the Bollinger County Health Center in Marble Hill, Missouri. Nine participants were present from various organizations throughout Bollinger County.

The focus group process began with the Community Health Needs Assessment Team and/or some community members compiling a list of potential participants and then inviting those participants to the focus group via email, letter, phone call or in person. The event took approximately an hour and was held over lunch. Members of the Community Health Needs Assessment Team hosted the event, with one member serving as moderator and another member as the primary note-taker/recorder of the entire event.

Materials that were provided to the group included a participant consent form, a participant information form, a checklist exercise and a list of tentative questions asked. The participant information form asked for each participant's name, company/organization, job title, credentials, education, affiliations and experience – not all forms were filled out completely, but some of the information collected can be found in Appendix C. The checklist exercise asked the participants to choose their top five concerns from a list the Community Health Needs Assessment Team created. The results of that exercise are provided in the Checklist Exercise section following the question summaries ahead.

The tentative questions asked by the moderator are listed below. Prompts were also used to get more detailed answers from the groups and to help the group along if they were not providing much information. The moderator did their best to ask all questions and to stay on track with the topics, but in some cases the group wandered off track and not all questions were answered completely.

1. What do people in this community do to stay healthy? How do people get information about health?
2. In this group's opinion, what are the serious health problems in your community? What are some of the causes of these problems?
3. What keeps people in your community from being healthy?
4. What could be done to solve these problems?
5. Is there any group not receiving enough healthcare? If so, why?
6. Of all the issues we have talked about today, what issues do you think are the most important for your community to address?

The following questions are the questions that were actually asked in the Bollinger County focus group and a summary of all the responses to those questions:

Question 1: What does your community do to stay healthy?

According to the focus group participants, one of the more popular ways people stay healthy and active is by walking. The walking trail at the park is in a central location and very convenient for people in town. Many other outdoor recreational activities such as hiking, camping, fishing, trail riding and more are popular in the community. There are also facilities free of charge to the public including Leopold

High School and First Baptist Church. Leopold High School has a walking lap and weight room that the public is free to use and First Baptist Church has exercise equipment that is free for the public to use. Other activities that residents are involved in to stay active include sports teams such as a new gymnastics class and volleyball, arthritis class and day care exercises. Water aquatics classes have been cancelled because the city pool shut down.

Nutrition at schools, a past concern, was discussed. Most schools in the county do not have salad bars, but offer healthy food options such as sunflower seed butter and allow students to have seconds in order to meet caloric needs. They are also still performing Presidential Fitness tests and other physical fitness tests at schools to help increase student activities and health.

Access to healthy food was a past concern for Bollinger County and still is. However, the local grocery store just got a newly improved produce section, they have a farmer's market on Saturday mornings and there is a Community Garden available through the Missouri Extension Office. Participants of the focus group did make a note that the Community Garden is not always consistent, and is better some years than others.

In addition to being healthy through activity, the community has options for health check-ins and screenings. The public library hosts doctor appointment follow-ups that people can take advantage of. Also, the Bollinger County Health Center provides many health screenings such as blood pressure for free and cholesterol for a small charge. There are also prenatal assessments and Mom's Smoking Cessation classes. Although they do offer youth tobacco smoking-cessation classes, there is yet to be a general adult class. Bollinger County also received the HEAL Grant, which the Bollinger County Health Center uses to host classes for shopping healthy on a budget and create family-friendly workstations. There are currently 13 family-friendly businesses in the county.

Question 2: What are some of the serious health problems in the community?

Several health issues were discussed including heart disease and hypertension, diabetes, hyperlymphadema, coronary obstructive pulmonary disease, cancer, alcohol abuse and street drug and prescription drug abuse. As some issues were just mentioned, some struck prominence through discussion.

Participants of the focus group related coronary obstructive pulmonary disease to the high rate of smoking in Bollinger County. They also stated that street drug, prescription drug and alcohol abuse were extremely problematic in the community. Whereas Saint Francis Medical Center offers TeleHealth, the service is not yet available in Bollinger County. The people simply do not know who to call if they discover they have a problem with drugs or alcohol. One participant also stated that selling drugs is a problem and others then agreed. A participant stated that the Medicaid database identifies hydrocodone as the number one drug abused in the county.

Overall, participants agreed that people in the community tend to diagnose themselves instead of receiving professional advice. People diagnose themselves and then wait as long as possible to be seen by a doctor and treated which increases the seriousness of their health concern.

Question 3: Where do people go for basic healthcare needs?

Basic healthcare needs are often properly taken care of by going to walk-in clinics at Bollinger County Health Center, where there may be referrals to Cross Trails Medical Center. However, it was agreed that most people go straight to the emergency room for any health concern, no matter how basic, because

they know they will be treated even if they are unable to pay. Many participants emphasized how many people go to the emergency room. Other facilities mentioned included the Perryville Emergency Room, Fredericktown facilities and Cross Trails Medical Center in Advance.

Question 4: What are some barriers to receiving healthcare?

The group had opinions on two major barriers to receiving healthcare. The first was transportation. The Southeast Missouri Transport Service (SMTS) was widely discussed. There is an extra cost of \$10 for rural areas, which are a great portion of Bollinger County, and makes transportation extremely expensive. SMTS requires a three-to-five-day warning of use, which is sometimes unfeasible in emergency situations. It also stops running after 2 pm, causing many issues with finding transportation home from doctor appointments. The last concern with the public transportation system was that seniors are supposed to be able to use it free of charge, yet some were being charged leading to confusion about senior pricing. In all, the entire transportation system sounded as though it was lacking according to participants.

The second barrier was the cost. There are high co-payments and deductibles when people have insurance that they are still unable to afford. There are also many people who are uninsured. These high costs cause people to go to the doctor the first time, see a huge bill that scares them away and causes them to stop making the effort to receive healthcare. They believed the healthcare exchange has become tremendously costly and does not cover the basics such as immunizations and flu clinics. It was decided that between the cost of seeking care and the issue of transportation, people in the community stop seeking healthcare.

Question 5: How would you prioritize the needs in the community? What needs are the most important?

When participants were asked which issues were the most important, they mentioned three issues. The first was drug and alcohol use. The young adults and teenagers are severely abusing alcohol and drugs, which then carries on to other generations and makes it challenging to improve this issue in the community. The second was smoking, which is also related to chronic obstructive pulmonary disease and lung cancer. One participant mentioned how many are switching to the use of e-cigarettes. However, there are no real known effects of these because of how new they are. Their use could result in negative effects. The last issue was obesity since many are obese and this leads to many other chronic diseases often seen in Bollinger County, such as chronic heart failure.

1. Drug and Alcohol Abuse
2. Smoking
3. Obesity

Other Notes:

Mental health was a concern of some of the participants, but they seemed enthusiastic and hopeful that the community counseling trailer moved into a larger facility. They also mentioned single parenting with multiple children is common in the community, and ends up becoming a barrier to healthcare.

Checklist Exercise

The table below summarizes the Checklist Exercise that was handed out in the focus group held in Bollinger County. The concerns are ranked from the highest concern to the lowest. Alcohol/drug use was most commonly chosen as the greatest concern, followed by overweight adults and smoking/smokeless tobacco tied as the second most commonly chosen concern.

Table 17: Bollinger County Checklist Exercise

Issue	Occurrence
Alcohol/Drug Use	9
Overweight Adults	8
Smoking/Smokeless Tobacco	8
Healthcare Affordability	5
Overweight Children	4
Transportation (Public)	3
Cancer	3
Mental Illness	3
Sexually Transmitted Infections	1
Highway Safety	1
Teen Pregnancy	1
Job Market	1

Surveys

Survey Layout and Design

The Community Health Needs Assessment Survey was a questionnaire-style, self-administered survey, available only to voluntary participants at certain locations. Survey Monkey was used to administer the surveys. However, most participants chose to take the survey on paper.

The survey was designed to collect data on health beliefs, health behaviors, access to and utilization of Healthcare services, and concerns about community health issues. The survey consists of four different sections:

1. Demographics
2. Social and Economic Factors
3. Health Behaviors
4. Medical Care and Services

Methodology

A total of 49 surveys were completed by Bollinger County residents, with a few surveys having some unanswered questions. Survey Monkey analysis takes into consideration the number of actual responses for each question. The survey sample was not a random sample, but more of a targeted sample to ensure that certain populations were surveyed. Also, some of the questions asked in the survey had an option of choosing multiple answers, which means that not all of the questions have answers that are mutually-exclusive, so some of the total percentages will not add up to 100 percent.

The process for conducting these surveys involved traveling to the county’s healthcare facilities and community businesses and asking participants face-to-face to complete the survey, or allowing the facility to hand out surveys on their own basis. A challenge was finding community residents who would volunteer to participate in the survey. Questions were not verbally asked to the participants, but help was offered if the participant had questions about the survey.

Participants

Key Characteristics

- 100% are women
- 67.35% are married
- 95.92% are White/Caucasian
- 59.18% have 3 to 5 people living in their household
- 43.75% have a high school diploma, but no post-secondary degree
- 12.5% have a two-year or four-year college degree
- 25% are employed full-time
- 26.19% have an annual income between \$25,000 and \$49,999

Demographics

The tables below show certain demographic characteristics of the survey participants in Bollinger County, including the survey respondents' gender, marital status, age, education level, race/ethnicity, employment status and lifestyle health factors.

Table 18: Gender

Gender?		
Answer Options	Response Percent	Response Count
Male	0.0%	0
Female	100.0%	49
<i>answered question</i>		49
<i>skipped question</i>		0

Table 19: Marital Status

Marital Status?		
Answer Options	Response Percent	Response Count
Single/Not Married	18.4%	9
Married	67.3%	33
Divorced	6.1%	3
Widowed	4.1%	2
Living with Partner	2.0%	1
Other	2.0%	1
<i>answered question</i>		49
<i>skipped question</i>		0

Table 20: Race/Ethnicity

What is your race/ethnicity?		
Answer Options	Response Percent	Response Count
Asian or Pacific Islander	0.0%	0
Black or African-American	0.0%	0
Hispanic or Latino	2.0%	1
Native American	2.0%	1
White or Caucasian	95.9%	47
Other	0.0%	0
<i>answered question</i>		49
<i>skipped question</i>		0

Table 21: Race/Ethnicity of Children in Home

What is the race/ethnicity of any children currently living in your home?		
Answer Options	Response Percent	Response Count
Asian or Pacific Islander	0.0%	0
Black or African-American	0.0%	0
Hispanic or Latino	4.2%	2
Native American	2.1%	1
White or Caucasian	83.3%	40
Other	2.1%	1
I have no children living in my home currently.	10.4%	5
<i>answered question</i>		48
<i>skipped question</i>		1

Table 22: How many people currently live in your household?

How many people currently live in your household?		
Answer Options	Response Percent	Response Count
1-2	18.4%	9
3-5	59.2%	29
6 or more	22.4%	11
<i>answered question</i>		49
<i>skipped question</i>		0

Table 23: How many adults age 65 or older currently live in your household?

How many adults age 65 or older currently live in your household?		
Answer Options	Response Percent	Response Count
0	93.9%	46
1-2	6.1%	3
3-5	0.0%	0
6 or more	0.0%	0
<i>answered question</i>		49
<i>skipped question</i>		0

Table 24: How many children under 18 years of age currently live in your household?

How many children under 18 years of age currently live in your household?		
Answer Options	Response Percent	Response Count
0-1	38.8%	19
2-3	38.8%	19
3-5	18.4%	9
6 or more	4.1%	2
<i>answered question</i>		49
<i>skipped question</i>		0

Table 25: Health and Lifestyle Factors

Select all of the following that describe your home or household:		
Answer Options	Response Percent	Response Count
More than one working smoke detector	87.8%	43
Carbon monoxide detector	32.7%	16
Food is put back into the refrigerator within two hours after a meal	95.9%	47
Septic Tank	69.4%	34
Pets (dog, cat, reptiles, etc.)	61.2%	30
Family fire safety plan/evacuation plan	61.2%	30
Children know how to dial 911 in case of emergency	38.8%	19
Children know their phone number and address	30.6%	15
Have one or more types of aerobic (cardiovascular) exercise equipment	18.4%	9
Internet access	61.2%	30
Provide care for an older adult	0.0%	0
Children under 13 are supervised in non-school hours	65.3%	32
	<i>answered question</i>	49
	<i>skipped question</i>	0

Social and Economic Factors

The tables below show certain social and economic factors in Bollinger County, including the survey respondents’ education level, employment status and annual household income.

Table 26: Education Level

What is your highest level of education?		
Answer Options	Response Percent	Response Count
Never graduated high school	10.4%	5
High school diploma	43.8%	21
GED	12.5%	6
Currently attending or have some college	20.8%	10
Two-year college degree	2.1%	1
Four-year college degree	10.4%	5
Graduate-level degree or higher	0.0%	0
	<i>answered question</i>	48
	<i>skipped question</i>	1

Table 27: Employment Status

What is your employment status? (check all that apply)		
Answer Options	Response Percent	Response Count
Employed full-time	25.0%	12
Employed part-time	22.9%	11
Full-time student	2.1%	1
Part-time student	2.1%	1
Full-time homemaker	14.6%	7
Retired	4.2%	2
Unemployed more than one year	10.4%	5
Unemployed less than one year	14.6%	7
Unemployed due to disability or illness	8.3%	4
	<i>answered question</i>	48
	<i>skipped question</i>	1

Table 28: Annual Household Income

What is your annual household income?		
Answer Options	Response Percent	Response Count
Less than \$5,000	14.3%	6
\$5,000-\$14,999	11.9%	5
\$15,000-\$24,999	21.4%	9
\$25,000-\$49,999	26.2%	11
\$50,000-\$74,999	16.7%	7
\$75,000-\$99,999	2.4%	1
\$100,000 or higher	2.4%	1
Does not apply	4.8%	2
<i>answered question</i>		42
<i>skipped question</i>		7

Table 29: Health Information Sources

What sources do you use to obtain most of your health-related information? (check all that apply)		
Answer Options	Response Percent	Response Count
Family	58.3%	28
Friends	33.3%	16
Doctor/Nurse/Pharmacist	91.7%	44
Newspaper/Magazines/Television	4.2%	2
Health Center	47.9%	23
Church	4.2%	2
School	6.3%	3
Internet	27.1%	13
Other	2.1%	1
<i>answered question</i>		48
<i>skipped question</i>		1

Health Behaviors

The tables below show information regarding the health behaviors of adults and their children in Bollinger County.

Table 30: Adult Health Behaviors

In the following section, respond with how often YOU do the following *(N/A = does not apply to you):				
Answer Options	Almost Always	Sometimes	Never	Response Count
Exercise at a moderate pace at least 30 minutes per day, 5 days per week	7	29	12	48
Consume more than 3 alcoholic beverages per day (female) or more than 5 per day (male)	0	2	46	48
Smoke cigarettes	12	5	31	48
Are exposed to second hand smoke at home or at the workplace	6	15	27	48
Chew tobacco	0	0	48	48
Use illegal drugs (marijuana, cocaine, methamphetamine, etc.)	0	0	48	48
Get a flu shot each year	17	17	14	48
Practice safe sex (use of condom or other barrier method)	18	7	16	41
Get enough sleep every night (7-9 hours)	13	32	2	47
<i>answered question</i>				48
<i>skipped question</i>				1

- Most survey respondents in Bollinger County reported that they sometimes exercise the recommended amount, and 25% reported that they never exercise the recommended amount.
- There were also 25% of the respondents who reported that they almost always smoke cigarettes, but most said they were not exposed to secondhand smoke at the home or workplace.

Table 31: Child Health Behaviors

In the following section, how often do any children CURRENTLY living in your home do the following?*(N/A = does not apply to them)					
Answer Options	Almost Always	Sometimes	Never	N/A*	Response Count
Participate in at least 1 hour of physical activity every day	28	9	1	10	48
Are exposed to secondhand smoke in the home	2	10	28	9	49
Get a flu shot each year	23	13	2	9	47
Practice safe sex (condom or other barrier methods)	1	0	4	43	48
Get enough sleep each night (7-9 hours)	36	3	0	9	48
<i>answered question</i>					49
<i>skipped question</i>					0

- Respondents of the survey reported that most of their children almost always get one hour of physical activity every day, are not exposed to secondhand smoke in the home, get a flu shot annually and get enough sleep every night.

Medical Care and Services

The tables below show information regarding the medical care and services received in Bollinger County, including the survey respondents' insurance type, insurance coverage, doctor's visits, access to care and health problems within the community.

Table 32: Insurance

What kinds of insurance do you (and/or your family) have currently? (check all that apply)		
Answer Options	Response Percent	Response Count
Health	87.8%	43
Dental	51.0%	25
Vision	44.9%	22
Do not have insurance	16.3%	8
<i>answered question</i>		49
<i>skipped question</i>		0

- Most respondents had health insurance, about half of them had dental, and less than half had vision insurance.
- There were 16.3% of survey respondents in Bollinger County who did not have insurance, just under the 18% uninsured indicated by the County Health Rankings.

Table 33: Health Insurance Type

What type of health insurance do you (and/or your family) have currently?		
Answer Options	Response Percent	Response Count
Self-insured	2.0%	1
Employer provided	32.7%	16
Medicare	10.2%	5
Medicaid or MC+	42.9%	21
VA/CHAMPUS	2.0%	1
Other	2.0%	1
Do not know	0.0%	0
Do not have health insurance	8.2%	4
<i>answered question</i>		49
<i>skipped question</i>		0

- The majority had Medicaid or MC+ as their health insurance, followed by about 32% having employer-provided insurance.
- Another 8% reported not having insurance. This is skewed from the previous question due to human error while taking the survey or differences in coverage for different family members.

Table 34: Insurance Coverage

If anyone living in your household does not have insurance, who is NOT currently covered?		
Answer Options	Response Percent	Response Count
Entire family	6.1%	3
At least one adult	22.4%	11
All adults	8.2%	4
Child(ren) age 6 or older	0.0%	0
Child(ren) less than age 6	4.1%	2
Does not apply	59.2%	29
<i>answered question</i>		49
<i>skipped question</i>		0

- There were 22% that said at least one adult in their family was not covered and another 8% that said no adults were covered by insurance.

Table 35: Health Status

What is your current health status?		
Answer Options	Response Percent	Response Count
Poor	2.0%	1
Fair	12.2%	6
Good	49.0%	24
Very Good	28.6%	14
Excellent	8.2%	4
<i>answered question</i>		49
<i>skipped question</i>		0

- 85.8% reported that their health was good, very good, or excellent, with only 14.2% stating their health was not good.

Table 36: Routine Doctor's Visit

When was your last routine doctor's visit?		
Answer Options	Response Percent	Response Count
Within the last 12 months	69.4%	34
Within the last 13-18 months	6.1%	3
Within the last 19-24 months	2.0%	1
Between 2 and 5 years	14.3%	7
Over 5 years ago	0.0%	0
Never had a routine visit	8.2%	4
<i>answered question</i>		49
<i>skipped question</i>		0

- Most respondents had a routine doctor’s visit within the last year. However, 8.2% reported never having a routine doctor’s visit.

Table 37: How many days have you been too sick to work or carry out your usual activities during the past 30 days?

How many days have you been too sick to work or carry out your usual activities during the past 30 days?		
Answer Options	Response Percent	Response Count
None	73.5%	36
1-2 days	18.4%	9
3-5 days	6.1%	3
6-10 days	0.0%	0
More than 10 days	2.0%	1
<i>answered question</i>		49
<i>skipped question</i>		0

- Most respondents stated that they have not missed any days of work or usual daily activities in the last month. Those who had missed work appeared to have missed just 1-2 days or 3-5 days.

Table 38: Have you ever had health issues due to any of the following?

Have you ever had health issues due to any of the following? (check all that apply)		
Answer Options	Response Percent	Response Count
Alcohol abuse	0.0%	0
Lack of pregnancy care	2.0%	1
Stress	28.6%	14
Drug abuse/addiction	2.0%	1
None of the above	73.5%	36
<i>answered question</i>		49
<i>skipped question</i>		0

- Respondents primarily had health issues due to stress in their lives.
- A couple respondents reported having issues with pregnancy care or drug abuse or addiction.

Table 39: If ever pregnant, did you receive prenatal care?

If ever pregnant, did you receive prenatal care?		
Answer Options	Response Percent	Response Count
Yes	93.9%	46
No	0.0%	0
Not sure	4.1%	2
Does not apply	2.0%	1
<i>answered question</i>		49

skipped question	0
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Table 40: Where do you go for routine healthcare?

Where do you go for routine healthcare? (check all that apply)		
Answer Options	Response Percent	Response Count
Physician's Office	81.3%	39
Hospital Emergency Room	10.4%	5
Health Center Clinic	10.4%	5
Urgent Care Center	10.4%	5
Chiropractor	8.3%	4
Community Clinic	12.5%	6
Eye Doctor	22.9%	11
Dentist	22.9%	11
Other	4.2%	2
Do not seek healthcare	12.5%	6
answered question		48
skipped question		1

Table 41: How often are you able to visit a doctor when necessary?

How often are you able to visit a doctor when necessary?		
Answer Options	Response Percent	Response Count
Always	69.4%	34
Sometimes	10.2%	5
Seldom	16.3%	8
Never	4.1%	2
answered question		49
skipped question		0

Table 42: If you answered seldom or never to the previous question, please choose why you were not always able to visit a doctor when necessary:

If you answered seldom or never to the previous question, please choose why you were not always able to visit a doctor when necessary:		
Answer Options	Response Percent	Response Count
No insurance	31.3%	5
Too expensive/unaffordable	18.8%	3
Could not get an appointment	0.0%	0
Lack of transportation	31.3%	5
Doctor is too far away/inconvenient location	6.3%	1
Other	12.5%	2
answered question		16
skipped question		33

- People who were able to visit a doctor when necessary were told to skip the question from Table 42. Of the people who responded, having no insurance and no transportation were the top two concerns. Cost was the next most important issue related to their ability to visit a doctor.

Table 43: What are the top three challenges for you and your household when receiving healthcare?

What are the top three challenges for you and your household when receiving healthcare?		
Answer Options	Response Percent	Response Count
Top Challenge	100.0%	25
Second Challenge	68.0%	17
Third Challenge	40.0%	10

<i>answered question</i>	25
<i>skipped question</i>	24

- Many people chose not to answer the question in Table 43. However, of those who responded, the top challenges for receiving healthcare included:
 - Transportation
 - Cost/Affordability
 - No Insurance/Unaffordable Insurance
 - Finding doctors that accept Medicaid
 - Scheduling and Hours

Table 44: Select any of the following preventative measures you have had in the last year:

Select any of the following preventative measures you have had in the last year (check all that apply):		
Answer Options	Response Percent	Response Count
Mammogram	15.6%	7
Pap smear	73.3%	33
Glaucoma test	15.6%	7
Flu shot	42.2%	19
Colon/rectal examination	0.0%	0
Blood pressure check	75.6%	34
Skin cancer reading	2.2%	1
Prostate cancer digital screen	0.0%	0
Prostate cancer PSA blood screen	0.0%	0
Cholesterol screen	17.8%	8
STD (Sexually Transmitted Disease) screening	31.1%	14
Vision screening	53.3%	24
Hearing screening	24.4%	11
Cardiovascular screening	6.7%	3
Bone density test	6.7%	3
Dental exam	44.4%	20
Diabetes	15.6%	7
	<i>answered question</i>	45
	<i>skipped question</i>	4

- In this question, respondents recounted preventative screenings and tests they have had done in the last year. Notable results include that just 15.6% received mammograms, 42.2% received a flu shot, 75.8% received a blood pressure check, 2.2% received a skin cancer reading, 17.8% received a cholesterol screen, 44.4% received a dental exam and 15.6% received a diabetes screening.

Table 45: Are both you and any children living in your household up-to-date on your immunizations?

Are both you and any children living in your household up-to-date on your immunizations?		
Answer Options	Response Percent	Response Count
Yes	81.6%	40
No	2.0%	1
I am up-to-date, but my children are not	4.1%	2
I am not up-to-date, but my children are	8.2%	4
Do not know	4.1%	2
<i>answered question</i>		49
<i>skipped question</i>		0

- Most respondents reported that both they and their children were up-to-date on immunizations. There were 2% who answered that they were not up-to-date.
- 8.2% responded that their children were up-to-date, but they were not and 4.1% responded that their children were not up-to-date, but they were.
- Another 4.1% were not sure if they or their children were up-to-date on their immunizations.

Table 46: Where do the children currently living in your home go for routine healthcare?

Where do the children currently living in your home go for routine healthcare? (check all that apply)		
Answer Options	Response Percent	Response Count
Physician's Office	72.9%	35
Hospital Emergency Room	16.7%	8
Health Center Clinic	14.6%	7
Urgent Care	20.8%	10
Chiropractor	2.1%	1
Community Clinic	8.3%	4
Eye Doctor	14.6%	7
Dentist	29.2%	14
Other	4.2%	2
Does not apply	12.5%	6
<i>answered question</i>		48
<i>skipped question</i>		1

- Most people reported that their children go to the physician’s office, the dentist and urgent care.
- The next most common places used for seeking children’s healthcare were the hospital emergency room, health center clinics and the eye doctor.

Table 47: Health Problems/Disease Diagnoses

Have you been diagnosed by a doctor with any of the following health problems or diseases? If you have NOT been diagnosed by a doctor with any of these health problems or diseases, please check the "No" box. If you have, please check any boxes that apply to your health problem or disease.						
Answer Options	No	Yes, but I am not taking any additional precautions or treatments regarding it.	Yes, I see a doctor.	Yes, I am taking medications or getting treatment.	Yes, I feel the disease is managed well.	Response Count
Diabetes	44	0	1	2	0	46
Stroke	46	0	0	0	0	46
Heart Disease	43	1	2	1	0	46
High Blood Pressure	38	0	2	5	1	45
Coronary Heart Failure	46	0	0	0	0	46
High Cholesterol	41	1	2	2	0	46
Cancer	46	0	0	0	0	46
Asthma	41	2	1	2	1	46
COPD (Chronic Obstructive Pulmonary Disease)	43	0	0	0	0	43
Kidney Disease	46	0	0	0	0	46
Obesity	44	0	2	0	0	46
Liver Disease	46	0	0	0	0	46
Arthritis	43	1	1	1	0	46
Migraine Headaches	36	4	4	1	0	45
Depression	34	5	4	3	0	46
Bipolar Disorder	39	4	2	1	0	46
Sleep Disorders	39	4	2	1	0	46
Hepatitis	44	0	1	0	1	46
Tuberculosis	46	0	0	0	0	46
Epilepsy/Seizure Disorder	43	1	1	0	0	45
Lupus	45	1	0	0	0	46
Sickle Cell Anemia	46	0	0	0	0	46
Glaucoma	46	0	0	0	0	46
Gonorrhea	46	0	0	0	0	46
HIV/AIDS	45	0	0	0	1	46
Dental Health Problems	41	3	2	0	0	46
Hearing Disorders	46	0	0	0	0	46
Eye/Vision Problems	33	2	9	0	3	46
Sinus Problems	37	4	4	1	1	45
Memory Loss	44	1	1	0	0	46
<i>answered question</i>						46
<i>skipped question</i>						3

- About 17% reported having high blood pressure.
- 26% reported being diagnosed with depression, 41% of those diagnosed were not taking any additional precautions regarding treatments for it.
- 11% were diagnosed with dental health problems and 30% diagnosed with eye/vision problems.

Table 48: If you have been diagnosed by a doctor with cancer, please provide the type of cancer(s).

If you have been diagnosed by a doctor with cancer, please provide the type of cancer(s). *Write N/A if you have not been diagnosed with cancer.	
Answer Options	Response Count
N/A	47
<i>answered question</i>	47
<i>skipped question</i>	2

- There were no cases of cancer in the respondents of this survey.

Table 49: If you have been diagnosed by a doctor with cancer, or are a cancer survivor, please rate your satisfaction with the below statements.

If you have been diagnosed by a doctor with cancer, or are a cancer survivor, please rate your satisfaction with the below statements.*Select N/A if you have not been diagnosed with or survived cancer.						
Answer Options	Very Dissatisfied	Dissatisfied	Satisfied	Very Satisfied	N/A	Response Count
Waiting time for treatment	0	0	0	0	46	46
Communication with doctors and healthcare professionals	0	0	0	0	46	46
Education on diagnosis	0	0	0	0	46	46
Fair access to health services	0	0	0	0	46	46
Insurance coverage	0	0	0	0	46	46
Waiting time for treatment	0	0	0	0	46	46
Travel time/time off work	0	0	0	0	45	45
<i>answered question</i>						46
<i>skipped question</i>						3

Table 50: How often do you travel outside of your county for medical care?

How often do you travel outside of your county for medical care?		
Answer Options	Response Percent	Response Count
Always	30.4%	14
Sometimes	13.0%	6
Seldom	6.5%	3
Never	50.0%	23
<i>answered question</i>		46
<i>skipped question</i>		3

- Half of the respondents reported never traveling outside of the county for medical care.

- Out of the other 50%, 30.4% reported always traveling outside of their county for care. Table 51 below shows that most people travel outside the county for medical and doctor appointments, hospitalizations and vision appointments.

Table 51: If you travel outside of your county for medical care, what services do you seek?

If you travel outside of your county for medical care, what services do you seek? (check all that apply)		
Answer Options	Response Percent	Response Count
Medical/doctor appointments	43.5%	20
Outpatient treatment	10.9%	5
Hospitalization	28.3%	13
Dental appointments	19.6%	9
Laboratory or other tests	19.6%	9
Orthopedic appointments	6.5%	3
X-rays, MRIs, etc.	19.6%	9
Vision appointments	28.3%	13
Other	4.3%	2
Do not travel outside of the county for medical care	47.8%	22
answered question		46
skipped question		3

Table 52: If you travel outside of your county for medical care, why?

If you travel outside of your county for medical care, why? (check all that apply)		
Answer Options	Response Percent	Response Count
Services not available in my county	31.8%	14
Better quality elsewhere	20.5%	9
Recently moved to this county	2.3%	1
Local doctors are not covered by insurance	2.3%	1
Closer to work/home	6.8%	3
Too hard to get an appointment with a local doctor	9.1%	4
Do not travel outside of the county for medical care	50.0%	22
Less expensive healthcare services offered elsewhere	0.0%	0
answered question		44
skipped question		5

- Major reasons people traveled outside of the county for medical care were that services were not provided in their county or were of better quality elsewhere.

Table 53: Community Health Problems

In this final section, please choose how much of a problem you think each item listed is for the county where you live. Do you think it is a serious problem, a moderate problem, not a problem at all, or are you not sure about this issue in your county?					
Answer Options	Serious Problem	Moderate Problem	Not a Problem	Not Sure	Response Count
Ability to Afford Prescribed Medications	10	17	15	4	46
Affordable Healthcare	15	11	13	7	46
Available Healthcare	9	9	22	6	46
Alcohol/Drug Use	18	10	10	8	46
Allergies	9	14	15	8	46
Ambulance Services	5	11	21	9	46
Asthma/Respiratory Disorders	1	16	15	14	46
Eating Disorders	2	11	17	16	46
Cancer	8	15	13	10	46
Emergency Preparedness	5	8	19	14	46
Fire Protection	3	11	21	11	46

Firearms	2	6	25	13	46
Fitness Levels	7	15	15	9	46
Healthcare Quality	6	9	19	12	46
Heart Disease	4	12	14	16	46
High Blood Pressure/Stroke	5	12	13	16	46
HIV/AIDS	3	5	17	21	46
Infant Health	2	8	18	18	46
Infectious Diseases (meningitis, hepatitis, etc.)	4	4	16	21	45
Job Availability	17	21	7	2	46
Job Security	14	16	7	8	45
Mental Illness	5	13	12	16	46
Overweight Adults	12	16	10	8	46
Overweight Children	9	16	12	10	46
Prenatal Health	8	7	17	14	46
Recreation Opportunities	11	12	15	8	46
Secondhand Smoke	14	16	11	5	46
Services for Disabled	7	9	15	15	46
Smokeless Tobacco	11	12	8	15	46
Smoking	16	17	5	8	46
Stress	13	17	8	8	46
Teen Pregnancy	11	12	6	17	46
Unemployment	19	16	7	4	46
<i>answered question</i>					46
<i>skipped question</i>					3

- The table above shows how survey respondents weighed health problems in the community. These responses were opinions of the people, not factual.
- The top ten health problems described as either a serious problem or a moderate problem included (the number in parenthesis represents the total number of people who stated it was a serious or moderate problem):
 1. Job Availability (38) with 17 people saying it was a serious problem.
 2. Unemployment (35) with 19 people saying it was a serious problem.
 3. Smoking (33) with 13 people saying it was a serious problem.
 4. Secondhand Smoke (30) with 14 people saying it was a serious problem.
 5. Stress (30) with 13 people saying it was a serious problem.
 6. Alcohol/Drug Use (28) with 18 people saying it was a serious problem.
 7. Overweight Adults (28) with 12 people saying it was a serious problem.
 8. Ability to Afford Prescribed Medications (27) with 10 people saying it was a serious problem.
 9. Affordable Healthcare (26) with 15 people saying it was a serious health problem.
 10. Overweight Children (25) with 9 people saying it was a serious health problem.

Chapter 7: Summary of Needs

Using the Data to Determine Needs

The secondary data is used to compare Bollinger County to Missouri by examining quantitative data such as percentages, rates and trends. If Bollinger County ranks worse than the state or a negative trend is occurring, then a need is presented. The primary data is qualitative and takes in consideration the thoughts and opinions of people in the community. If a consensus arises about a concern, then a need is established.

Secondary Data

After a review of the secondary research found in Chapters 2-5, it can be determined that Bollinger County does not do very well compared to the state of Missouri in many areas, so there are many areas of concern. The following describes the findings from the secondary data.

Education: Bollinger County had higher percentages of people who have less than a 9th grade education, have not received a high school diploma, or have only a high school diploma than the state does. Bollinger County also had less people that have continued on to education beyond high school and received post-secondary degrees than the state does.

Income: Bollinger County had a per capita income of \$29,957 which was about \$11,000 less than the state.

Employment: The unemployment rate of 4.9% in Bollinger County was 1% higher than the rate in Missouri.

Poverty: Bollinger County had a poverty rate of 22%, which is above the Missouri poverty rate of 15.6%.

Free/Reduced Lunches: Bollinger County's rate of students enrolled in free/reduced lunches reached 57.8% in 2013, higher than the 49.8% in Missouri.

Hunger and Food Uncertainty: Bollinger County has a greater percentage of "Percent Households with Children Food Uncertain" and "Percent Households Food Uncertain" than the state according to The Missouri Hunger Atlas from 2013.

Healthcare Providers:

- There are no hospitals in Bollinger County.
- Bollinger County has a **primary care physician ratio** of 12,382:1 whereas Missouri has a ratio of 1,439:1.
- Bollinger County has a **mental health provider ratio** of 3,123:1 whereas Missouri has a ratio of 632:1.
- Bollinger County has a **dentist ratio** of 6,245:1 whereas Missouri has a ratio of 1,920:1.

Leading Causes of Death: Bollinger County had a higher rate of all causes combined than the state. Separately, the county had a higher rate of death due to heart disease, all cancers combined, lung cancer, chronic lower respiratory disease, total unintentional injuries, motor vehicle accidents, Alzheimer's disease, pneumonia and influenza, kidney disease, suicide, smoking-attributable, all injuries

and poisonings and injury at work than Missouri. The only causes that the county had a lower rate of included breast cancer, strokes/other cerebrovascular diseases, diabetes mellitus (by 0.4%), septicemia, chronic liver disease and cirrhosis, homicide, HIV/AIDS and firearms.

Cancer: Bollinger County had a higher rate of cancer incidence in 2011 than the state. There were 73 cases in the county for an incidence rate of 487. Missouri had 30,179 total cases for a rate of 436.6.

Chronic Disease: Bollinger County had higher rates for many of the chronic disease categories of death, hospitalizations and ER visits than the state, including:

- Deaths for heart disease, ischemic heart disease, all cancers, colorectal cancer, colon and rectum cancer, lung cancer, cervical cancer, prostate cancer, chronic obstructive pulmonary disease excluding asthma and smoking-attributable disease. Bollinger had the same rate of deaths from diabetes mellitus and asthma as the state did.
- Hospitalizations from stroke/other cerebrovascular disease, all cancers, lung cancer, prostate cancer, and chronic obstructive pulmonary disease.
- ER visits from all cancers, chronic obstructive pulmonary disease, and arthritis/lupus.

Years of Potential Life Lost: Per 100,000 people, Missouri had 8,145 years of potential life lost. Bollinger lost an additional 609 years of potential life than Missouri with 8,754 years lost.

Obesity: Bollinger County had a much higher prevalence of obesity with 38.6% of the population obese compared to 30.2% in Missouri.

Diabetes: Bollinger County has a 12% prevalence of diabetes, whereas Missouri has below that with an 11% prevalence.

Health Status at Birth: The County Health Rankings show that 6.9% of Bollinger County's births were **low birth weights** in 2015. This is less than the 8.0% of low birth weights in Missouri.

Health Status:

- **Poor or fair health** was 18% in Bollinger County compared to 16% in Missouri in 2015.
- The average amount of **poor physical health days** in Bollinger County was 5.4 days and in Missouri it was 3.7 days.

Preventable Hospitalizations:

- Bollinger County had 84 preventable hospital stays compared to Missouri's 65 preventable hospital stays in 2015. Preventable hospital stays is defined as the number of hospital stays for ambulatory-care sensitive conditions per 1,000 Medicare enrollees.
- Bollinger County has a higher rate than Missouri in the following diagnostic categories: angina, bacterial pneumonia, chronic obstructive pulmonary, dental conditions, hypoglycemia, immunization preventable and kidney/urinary infections.

Diet and Exercise:

- 7% more Bollinger County residents (33%) than Missouri residents (26%) are physically inactive.
- There was 26% of Bollinger County that had adequate access to exercise opportunities which is well below the 77% of the population in Missouri that has access.
- The County Health Rankings also gave Bollinger County a food environment index of 6.8, with 0 being the worst and 10 being the best. This is just below that of Missouri at 7.0.

Tobacco Use: There are 2% more residents in Bollinger County (25%) that smoke than in Missouri (23%).

Maternal Health:

- Bollinger County had a rate of 29.9 of women who received late **prenatal care** in the 2nd or 3rd trimester of pregnancy. This rate was higher than Missouri’s rate of 24.3.
- Bollinger County had a rate of 26.6 for mothers who **smoked during pregnancy**, well above the 17.8 rate for Missouri.

Preventative Practices: Several indicators were used to test preventative practices used by people in the community. Bollinger County had a worse prevalence than the state for the following indicators: current cigarette smoking, no leisure-time physical activity, obesity, ever had high blood pressure – among those who have had it checked, ever told had high cholesterol– among those 35+ who have had it checked, ever told had diabetes, never had a mammogram for women ages 40 and older, never had a Pap smear for women ages 18 and older, and no sigmoidoscopy or colonoscopy in the past 10 years for men and women 50 years and older.

Senior Health:

In Bollinger County,

- 87.8% of seniors have a **Missouri driver’s license**, down from 89.7% in 2008. The state had 88.6% of seniors with a driver’s license in 2011.
- There was a rate of 1.1 **primary care physicians per 1,000 seniors**. This increased from 0.5 in 2004, but is well below the state rate of 13.1.
- 14.6% of **seniors lived in poverty**, compared to just 8.2% of seniors living in poverty in the state.
- The **average income of senior households** was \$32,383, which was below the Missouri average of \$46,767.
- 11.6% of seniors had a **college education** compared to the 18.2% of seniors in Missouri with a college education.

Primary Data

After a review of the primary research results found in Chapter 6, it can be determined that Bollinger County has many areas of concern. The following lists the findings from the primary data, including the community surveys, focus groups and checklist exercise completed at the focus groups. The issues were determined as a concern if the focus group participants were in agreement about the issue and/or if more than 50% of survey participants classified the issue as a moderate to serious problem.

Health Problems determined by primary research include:

- Adult Obesity
- Child Obesity
- Cancer
- Mental Illness
- Stress
- Coronary Obstructive Pulmonary Disease
- Diabetes
- High Blood Pressure

Behavioral Problems determined by primary research include:

- Street Drug and Prescription Drug Abuse
- Alcohol Abuse
- Smoking
- Smokeless Tobacco
- Teen Pregnancy

Community Problems determined by primary research include:

- Healthcare Affordability
- Transportation
- Job Availability
- Unemployment
- Secondhand Smoke
- Ability to Afford Prescribed Medications
- Allergies
- Recreation Opportunities
- Communicating health and transportation opportunities

Conclusion

This Community Health Needs Assessment is the product of a completed process of finding secondary data, performing primary research and presenting those findings. This compiled information will allow Saint Francis Healthcare System to create an implementation strategy designed to meet some particular needs that are specific to the Bollinger County community.

Appendix A: 2016 CHNA Community Health Needs Assessment Survey



2016 Community Health Needs Assessment Survey

Please take a few minutes to complete this survey. You will be providing information needed to identify and prioritize community health concerns in your community. The information will be used to analyze and discover where improvements can be implemented to create a healthier environment for you and your family by Saint Francis Healthcare System and other hospitals.

Please respond to this survey if you are at least 18 years of age. Do not include your name or any identifiers on the survey. We only need one survey per household. All survey respondents will remain anonymous.

If you are filling this out on paper, please return it to the Saint Francis Healthcare System Marketing Department or call (573) 331-3218 for any questions.

1. What is your 5 digit zip code?

2. Gender?

- Male
 Female

3. Marital Status?

- Single/Not Married
 Married
 Divorced
 Widowed
 Living with Partner
 Other

4. What is your race/ethnicity?

- Asian or Pacific Islander
- Black or African American
- Hispanic or Latino
- Native American
- White or Caucasian
- Other

5. What is the race/ethnicity of any children currently living in your home?

- Asian or Pacific Islander
- Black or African American
- Hispanic or Latino
- Native American
- White or Caucasian
- Other
- I have no children living in my home currently.

PHYSICAL ENVIRONMENT

6. How many people currently live in your household?

- 1-2
- 3-5
- 6 or more

7. How many adults age 65 or older currently live in your household?

- 0
- 1-2
- 3-5
- 6 or more

8. How many children under 18 years of age currently live in your household?

- 0
- 2-3
- 3-5
- 6 or more

9. Select all of the following that describe your home or household:

- More than one working smoke detector
- Carbon monoxide detector
- Food is put back into the refrigerator within two hours after a meal
- Septic Tank
- Pets (dog, cat, reptiles, ect.)
- Family fire safety plan/evacuation plan
- Children know how to dial 911 in case of emergency
- Children know their phone number and address
- Have one or more types of aerobic (cardiovascular) exercise equipment
- Internet access
- Provide care for an older adult
- Children under 13 are supervised in non-school hours

SOCIAL AND ECONOMIC FACTORS

10. What is your highest level of education?

- Never graduated high school
- High school diploma
- GED
- Currently attending or have some college
- Two-year college degree
- Four-year college degree
- Graduate-level degree or higher

11. What is your employment status? (check all that apply)

- Employed full-time
- Employed part-time
- Full-time student
- Part-time student
- Full-time homemaker
- Retired
- Unemployed more than one year
- Unemployed less than one year
- Unemployed due to disability or illness

12. What is your annual household income?

- Less than \$5,000
- \$5,000-\$14,999
- \$15,000-\$24,999
- \$25,000-\$49,999
- \$50,000-\$74,999
- \$75,000-\$99,999
- \$100,000 or higher
- Does not apply

13. What sources do you use to obtain most of your health related information? (check all that apply)

- Family
- Friends
- Doctor/Nurse/Pharmacist
- Newspaper/Magazines/Television
- Health Department
- Church
- School
- Internet
- Other

HEALTH BEHAVIORS

14. In the following section, respond with how often YOU do the following:

*(N/A = does not apply to you)

	Almost Always	Sometimes	Never
Exercise at a moderate pace at least 30 minutes per day, 5 days per week	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Consume more than 3 alcoholic beverages per day (female) or more than 5 per day (male)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smoke cigarettes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are exposed to second hand smoke at home or at the workplace	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chew tobacco	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use illegal drugs (marijuana, cocaine, methamphetamine, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Get a flu shot each year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Practice safe sex (use of condom or other barrier method)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Get enough sleep every night (7-9 hours)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. In the following section, how often do any children CURRENTLY living in your home do the following?

*(N/A = does not apply to them)

	Almost Always	Sometimes	Never	N/A*
Participate in at least 1 hour of physical activity every day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are exposed to secondhand smoke in the home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Get a flu shot each year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Practice safe sex (condom or other barrier methods)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Get enough sleep each night (7-9 hours)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

MEDICAL CARE AND SERVICES

16. What kinds of insurance do you (and/or your family) have currently? (check all that apply)

- Health
- Dental
- Vision
- Do not have insurance

17. What type of health insurance do you (and/or your family) have currently?

- Self-insured
- Employer-provided
- Medicare
- Medicaid or MC+
- VA/CHAMPUS
- Other _____
- Do not know
- Do not have health insurance

18. If anyone living in your household does not have insurance, who is NOT currently covered?

- Entire family
- At least one adult
- All adults
- Child(ren) age 6 or older
- Child(ren) less than age 6
- Does not apply

19. What is your current health status?

- Poor
- Fair
- Good
- Very Good
- Excellent

20. When was your last routine doctor's visit?

- Within the last 12 months
- Within the last 13-18 months
- Within the last 19-24 months
- Between 2 and 5 years
- Over 5 years ago
- Never had a routine visit

21. How many days have you been too sick to work or carry out your usual activities during the past 30 days?

- None
- 1-2 days
- 3-5 days
- 6-10 days
- More than 10 days

22. Have you ever had health issues due to any of the following? (check all that apply)

- Alcohol abuse
- Lack of pregnancy care
- Stress
- Drug abuse/addiction
- None of the above

23. If ever pregnant, did you receive prenatal care?

- Yes
- No
- Not sure
- Does not apply

24. Where do you go for routine health care? (check all that apply)

- Physician's Office
- Hospital Emergency Room
- Health Department Clinic
- Urgent Care Center
- Chiropractor
- Community Clinic
- Eye Doctor
- Dentist
- Other
- Do not seek health care

25. How often are you able to visit a doctor when necessary?

- Always
- Sometimes
- Seldom
- Never

26. If you answered seldom or never to the previous question, please choose why you were not always able to visit a doctor when necessary:

- No insurance
- Too expensive/unaffordable
- Could not get an appointment
- Lack of transportation
- Doctor is too far away/inconvenient location
- Other

27. What are the top three challenges for you and your household when receiving healthcare?

Top Challenge

Second Challenge

Third Challenge

28. Select any of the following preventative measures you have had in the last year (check all that apply):

- Mammogram
- Pap smear
- Glaucoma test
- Flu shot
- Colon/rectal examination
- Blood pressure check
- Skin cancer reading
- Prostate cancer digital screen
- Prostate cancer PSA blood screen
- Cholesterol screen
- STD (Sexually Transmitted Disease) screening
- Vision screening
- Hearing screening
- Cardiovascular screening
- Bone density test
- Dental exam
- Diabetes

29. Are both you and any children living in your household up-to-date on your immunizations?

- Yes
- No
- I am up-to-date, but my children are not
- I am not up-to-date, but my children are
- Do not know

30. Where do the children currently living in your home go for routine health care? (check all that apply)

- Physician's Office
- Hospital Emergency Room
- Health Department Clinic
- Urgent Care
- Chiropractor
- Community Clinic
- Eye Doctor
- Dentist
- Other
- Does not apply

31. Have you been diagnosed by a doctor with any of the following health problems or diseases? If you have NOT been diagnosed by a doctor with any of these health problems or diseases, please check the "No" box. If you have, please check the any boxes that apply to your health problem or disease.

	No	Yes, but I am not taking any additional precautions or treatments regarding it.	Yes, I see a doctor.	Yes, I am taking medications or getting treatment.	Yes, I feel the disease is managed well.
Diabetes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stroke	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heart Disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High Blood Pressure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coronary Heart Failure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High Cholesterol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cancer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Asthma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COPD (Chronic Obstructive Pulmonary Disease)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kidney Disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Obesity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liver Disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arthritis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	No	Yes, but I am not taking any additional precautions or treatments regarding it.	Yes, I see a doctor.	Yes, I am taking medications or getting treatment.	Yes, I feel the disease is managed well.
Migraine Headaches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Depression	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bipolar Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sleep Disorders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hepatitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tuberculosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Epilepsy/Seizure Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lupus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sickle Cell Anemia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Glaucoma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gonorrhea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HIV/AIDS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dental Health Problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hearing Disorders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eye/Vision Problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sinus Problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Memory Loss	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

32. If you have been diagnosed by a doctor with cancer, please provide the type of cancer(s)?

*Write N/A if you have not been diagnosed with cancer.

33. If you have been diagnosed by a doctor with cancer, or are a cancer survivor, please rate your satisfaction with the below statements.

*Select N/A if you have not been diagnosed with or survived cancer.

	Very Dissatisfied	Dissatisfied	Satisfied	Very Satisfied	N/A
Waiting time for treatment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communication with doctors and healthcare professionals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Education on diagnosis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fair access to health services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insurance coverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waiting time for treatment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Travel time/time off work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

34. How often do you travel outside of your county for medical care?

- Always
- Sometimes
- Seldom
- Never

35. If you travel outside of your county for medical care, what services do you seek? (check all that apply)

- Medical/doctor appointments
- Outpatient treatment
- Hospitalization
- Dental appointments
- Laboratory or other tests
- Orthopedic appointments
- X-rays, MRIs, etc.
- Vision appointments
- Other
- Do not travel outside of the county for medical care

	Serious Problem	Moderate Problem	Not a Problem	Not Sure
Infant Health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Infectious Diseases (meningitis, hepatitis, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Job Availability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Job Security	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mental Illness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overweight Adults	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overweight Children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prenatal Health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recreation Opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Secondhand Smoke	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Services for Disabled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smokeless Tobacco	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smoking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teen Pregnancy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unemployment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix B: Focus Group Questions

Community Health Needs Assessment Focus Group Questions

1. What do people in this community do to stay healthy? How do people get information about health?
2. In this group's opinion, what are the serious health problems in your community? What are some of the causes of these problems?
3. What keeps people in your community from being healthy?
4. What could be done to solve these problems?
5. Is there any group not receiving enough healthcare? If so, why?
6. Of all the issues we have talked about today, what issues do you think are the most important for you community to address?

Appendix C: Focus Group Participant Information

Bollinger County Public Library

- Director, BA

Bollinger County Health Center

- Administrative Office Support Assistant, BSBA
- Public Health Nurse, RN, AA Degree, 28 years as a Public Health Nurse

Southeast Missouri State University

- Student Nurse, BS, Intern with Bollinger County Health Center

Leopold R-III School District

- Superintendent, 19 years working at Leopold's School District
- School Nurse, BSN, RN

Meadow Heights School District

- Secondary Principal, 16 years working in public education

Twin City Pharmacy

- Pharmacist

Cross Trails Medical Center

- Family Nurse Practitioner, FNP-BC

Appendix D: Data Comparison

Some of the significant secondary information statistics were pulled and used as a comparison between the last Community Health Needs Assessment and the current assessment done by Saint Francis Healthcare System.

Key Participant Characteristics

Table 54: Key Survey Participation Characteristics - 2013 and 2014

	2013 Assessment	2016 Assessment
Gender	80% were women	100% were women
Race	A mere 7.69% were a race other than White or Black	95.92% were White/Caucasian
Married	59% were married	67.35% are married
Education	56.25% had at least some college, while 9.38% did not finish high school	43.75% have a high school diploma, but no post-secondary degree. 12.5% have a two-year or four-year college degree
Income	44% had a household income less than \$25,000	26.19% have an annual income between \$25,000 and \$49,999
Employment	60% were employed at least part-time, 27% were retired and 9% were considered unemployed	25% are employed full-time
Size of Households	58% lived in households with one or two members	59.18% have 3 to 5 people living in their household

Access to Healthcare Services

In the past assessment, Bollinger County was considered a primary healthcare shortage area by the Health Resources and Services Administration.

From the primary research done in 2012 and 2013, 10.77% of Bollinger County residents did NOT have insurance, 87.69% had health insurance, 47.69% had dental insurance and 30.77% had vision insurance.

Bollinger County is currently considered to be a Health Professional Shortage Area (HPSA) in mental health, primary care and dental health. Each may be classified as geographic, population or facilities. Geographic means they do not have enough providers in a county or service area. Population means there are not enough providers that are low income or Medicaid eligible. Facilities means there are not enough providers that are federally qualified health centers or state or federal prisons. Bollinger County is a HPSA Geographic for mental health and primary care, last updated in 2011 and 2014. They are a HPSA Population in dental health, last updated in 2011.

Missouri HealthNet/Medicaid

Table 55: Medicaid Comparison

2013		2015	
Missouri	Bollinger County	Missouri	Bollinger County
863,339	2,578	969,120	2,921

Source: Department of Health and Human Services

Changes in Healthcare Providers in Bollinger County

Table 56: Healthcare Provider Comparison

	2012	2015
Hospitals	No Hospitals	No Hospitals
Primary Care	Cross Trails Medical Center	Cross Trails Medical Center
Mental Care	Cross Trails Medical Center- Social Worker for Counseling Community Counseling Center	Cross Trails Medical Center- Social Worker for Counseling Community Counseling Center
Dental Care	12,554:1 Ratio Cross Trails Medical Center First Street Dental	6,245:1 Ratio Cross Trails Medical Center • Dental Hygienists: 1 • Dentists: 1 First Street Dental

*Source: University of Wisconsin's Population Health Institute and the Robert Wood Johnson Foundation's County Health Rankings

Leading Causes of Death

Heart disease and cancers are leading causes of death in both time periods.

Table 57: Leading Causes of Death Comparison

Cause of Death	Bollinger County 1999-2009		Missouri 1999-2009	Bollinger County 2003-2013		Missouri 2003-2013
	Rate	Compared to Missouri Rate	Rate	Rate	Compared to Missouri Rate	Rate
All Causes	939.0	Higher	871.5	900.6	Higher	837.3
Heart Disease	328.1	Higher	245.6	271.8	Higher	216.7
All Cancers (Malignant Neoplasms)	213.1	Higher	197.7	198.8	Higher	188.9
Smoking- Attributable (estimated)	170.3	Higher	152.2	65.8	Higher	58.7
Lung Cancer	69.8	Higher	61.4	12	Lower	13.6
All Injuries and Poisonings	66.7	Lower	67.0	59.1	Higher	50.3
Chronic Lower Respiratory Disease	49.1	Higher	48.7	43.8	Lower	47.8

Stroke/Other Cerebrovascular Disease	48.0	Lower	54.9	49.4	Higher	47.5
Total Unintentional Injuries	47.5	Higher	45.0	31.8	Higher	16.4
Diabetes Mellitus	25.7	Higher	23.8	32.3	Higher	25.8
Motor Vehicle Accidents	31.1	Higher	18.6	21.6	Lower	22
Kidney Disease (Nephritis and Nephrosis)	23.7	Higher	17.2	23.3	Higher	20.3
Alzheimer's Disease	22.1	Higher	21.9	29.7	Higher	18.1
Pneumonia and Influenza	18.6	Lower	23.1	15	Higher	13.7
Breast Cancer	13.0	Lower	14.6	9.8	Lower	11.5
Septicemia	13.7	Higher	11.5	3.8	Lower	7.5
Suicide	13.0	Higher	12.9	2.9	Lower	7.2
Firearm	10.4	Lower	12.7	0	Lower	1.9
Alcohol/Drug-Induced	8.8	Lower	16.4	169	Higher	145.2
Chronic Liver Disease and Cirrhosis	7.8	Higher	7.3	8.3	Lower	20.2
Injury at Work	4.3	Higher	2.0	71.8	Higher	70.5
Homicide	2.0	Lower	7.1	11.8	Lower	13.2
HIV/AIDS	0.0	Lower	2.3	3.3	Higher	1.7

Source: Missouri Department of Health and Human Services

*Red Highlighted Areas represent Bollinger County Rates that increased since 1999-2009.

Cancer

Table 58: Cancer Incidence Comparison

	Cancer Site	Percent in 2004-2008	Percent in 2008-2012
	All Sexes	Lung and Bronchus	21.20
Female Breast		11.46	11.88
Prostate		11.17	11.05
Colon and Rectum		10.89	10.50
Urinary Bladder		5.44	5.52
Thyroid		5.16	4.97
Non-Hodgkin Lymphoma		5.16	3.59
Corpus and Uterus, NOS		2.87	3.31
Oral Cavity and Pharynx		2.87	2.76
Melanoma of the Skin		2.58	2.76
Females			Percent
	Female Breast	23.95	22.60
	Lung and Bronchus	20.96	19.77
	Colon and Rectum	10.78	9.04
	Thyroid	7.19	9.60
	Corpus and Uterus, NOS	5.99	5.65
	Non-Hodgkin Lymphoma	4.79	5.08
	Melanoma of the Skin	-	3.95
	Ovary	-	3.95
	Pancreas	-	3.39
	Kidney and Renal Pelvis	-	3.39
Males		Percent	
	Prostate	21.43	23.24
	Lung and Bronchus	21.43	22.16
	Colon and Rectum	10.99	11.89
	Urinary Bladder	8.24	7.03
	Non-Hodgkin Lymphoma	5.49	4.86
	Oral Cavity and Pharynx	3.30	3.78
	Pancreas	3.30	-
	Thyroid	3.30	-
Kidney and Renal Pelvis	-	3.24	

Source: Missouri Cancer Registry and Research Center, Top Ten Cancer Incidence Sites, Missouri County-level Data

*Red Highlighted Areas represent Bollinger County Rates that increased since 1999-2009.

Chronic Disease Rates

Table 59: Chronic Disease Comparison

	Data Years	Bollinger Rate	Missouri Rate	Data Years	Bollinger Rate	Missouri Rate
Heart Disease						
Deaths	1999-2009	328.2	245.6	2002-2012	272.3	223.6
Hospitalizations	2005-2009	159.6	152.38	2008-2012	117	129.8
ER Visits	2005-2009	14	12.95	2008-2012	11	14.3
Ischemic Heart Disease						
Deaths	1999-2009	215.6	170.32	2002-2012	201.3	151.2
Hospitalizations	2005-2009	58.1	55.25	2008-2012	40.8	41.6
ER Visits	2005-2009	0.9	0.82	2008-2012	0.3	0.7
Stroke/Other Cerebrovascular Disease						
Deaths	1999-2009	48	54.92	2002-2012	43.2	49.8
Hospitalizations	2005-2009	35.6	30.37	2008-2012	29.9	29.3
ER Visits	2005-2009	0.8	0.79	2008-2012	0.7	0.8
All Cancers (Malignant Neoplasms)						
Deaths	1999-2009	213.1	197.7	2002-2012	204.6	191.1
Hospitalizations	2005-2009	50.1	39.07	2008-2012	35.5	34.6
Colorectal Cancer						
Deaths	1999-2009	28.4	19.39	2002-2012	23.8	18.1
Hospitalizations	2005-2009	6.1	4.89	2008-2012	4	4.4
Colon and Rectum Cancer (SEER)						
Deaths	199-2009	28.4	19.25	2002-2012	23.8	17.9
Lung Cancer						
Deaths	1999-2009	69.9	61.41	2002-2012	68.9	59.4
Hospitalizations	2005-2009	6.6	5.18	2008-2012	5.9	4.6
Breast Cancer						
Deaths	1999-2009	13	14.55	2002-2012	12.1	13.9
Hospitalizations	2005-2009	2.3*	2.2	2008-2012	0.6*	1.7
Cervical Cancer						
Deaths	1999-2009	2.0*	1.41	2002-2012	2.4*	1.4
Hospitalizations	2005-2009	1.5*	0.79	2008-2012	0.0*	0.6
Prostate Cancer						
Deaths	1999-2009	16.4	9.1	2002-2012	13.9	8.4
Hospitalizations	2005-2009	5.5	7.78	2008-2012	4.4	2.5
Diabetes Mellitus						
Deaths	1999-2009	25.7	23.78	2002-2012	22.5	22.5
Hospitalizations	2005-2009	15.6	17.32	2008-2012	11	17.8
ER Visits	2005-2009	1.4	1.7	2008-2012	1.2	1.8
Chronic Obstructive Pulmonary Disease Excluding Asthma						
Deaths	1999-2009	49.1	47.38	2002-2012	55.2	48.5
Hospitalizations	2005-2009	32.8	23.22	2008-2012	30.6	23.6
ER Visits	2005-2009	6.3	5.41	2008-2012	4.4	5.7

Asthma						
Deaths	1999-2009	0.0*	1.3	2002-2012	1.2*	1.2
Hospitalizations	2005-2009	10.5	13.41	2008-2012	7.5	13.1
ER Visits	2005-2009	2	5.12	2008-2012	1.8	5.3
Smoking-Attributable (Estimated)						
Deaths	1999-2009	170.3	152.23	2002-2012	170.2	146.9
Arthritis/Lupus						
Deaths	1999-2009	0.0*	3.55	2002-2012	0.0*	3.3
Hospitalizations	2005-2009	31.7	41.01	2008-2012	34.3	41.7
ER Visits	2005-2009	12.2	8.67	2008-2012	12.1	9.9

Death rates are per year per 100,000 population and are age-adjusted to the U.S. 2000 standard population.

Hospitalization rates are per year per 10,000 population and are age-adjusted to the U.S. 2000 standard population.

ER visits are per year per 1,000 population and are age-adjusted to the U.S. 2000 standard population.

*Fewer than 20 events in numerator; rate is unstable.

Source: Missouri Department of Health and Senior Services

Obesity

From the 2013 Assessment: According to the County Health Rankings developed by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, 35% of Bollinger County residents are obese compared to 31% of Missouri residents.

Currently, according to the County Health Rankings developed by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, Bollinger County has a 38.6% prevalence of obesity compared to 30.2% in Missouri.

Table 60: Obesity Comparison

Percent of Obesity in Bollinger County Residents	
2013	2015
35%	38.6%

Tobacco Use

Adult smoking prevalence is the estimated percent of the adult population that currently smokes every day or “most days” and has smoked at least 100 cigarettes in their lifetime. According to the County Health Rankings developed by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, 27.6% of Bollinger County residents smoke cigarettes compared to 24% of Missouri residents.

The 25% percent of adults who were current smokers in Bollinger County was just above the 23% of smokers in Missouri according to the County Health Rankings. This not only causes concern for disease development in smokers, but also for nonsmokers through secondhand smoke.

Table 61: Smoking Comparison

Percent of Smokers in Bollinger County Residents	
2013	2015
27.6%	25%

Domestic Violence

Table 62: Domestic Violence Comparison

Victim/Offender Relationship	Bollinger 2009	Bollinger 2012
Spouses	3	11
Former Spouses	0	3
Couples w/Child(ren) in Common	1	1
Blood Relatives	6	6
People Related Through Marriage	0	0
People Who live Together	5	3
People Who Lived Together in the Past	0	3
Social Relationship	0	2
Total	15	29
Rate per 100,000 Population	128.2	233.7

Source: Missouri State Highway Patrol’s Crime in Missouri Report

Primary Data

The following lists the findings from the primary data, including the community surveys, focus groups and checklist exercise completed at the focus groups from both the 2013 assessment and the current 2016 assessment. The issues were determined as a concern if the focus group participants were in agreement about the issue and/or if more than 50% of survey participants classified the issue as a moderate to serious problem.

Table 63: Primary Data Problem Comparison

	2013	2016
Health Problems	<ul style="list-style-type: none"> • Diabetes • High blood pressure/strokes • Heart disease • Overweight adults • Overweight children • Cancer • Mental illness • Asthma/Respiratory disorders • Allergies 	<ul style="list-style-type: none"> • Adult Obesity • Child Obesity • Cancer • Mental Illness • Stress • Coronary Obstructive Pulmonary Disease • Diabetes • High Blood Pressure
Behavioral Problems	<ul style="list-style-type: none"> • Smoking • Smokeless Tobacco • Poor Diet • No Exercise • Drug/Alcohol Use (especially adolescents with prescription drugs and alcohol) • Eating disorders 	<ul style="list-style-type: none"> • Street Drug and Prescription Drug Abuse • Alcohol Abuse • Smoking • Smokeless Tobacco • Teen Pregnancy
Community Problems	<ul style="list-style-type: none"> • Hunger (children/adolescents) • Lack of Healthcare Education • Child Abuse and Neglect • Domestic Violence • Healthcare Affordability • Healthcare Availability • Access to Healthcare Specialists (especially Orthopedics for Medicaid patients) • Access to Healthy Foods • Teen Pregnancy • Transportation (public) • Unemployment • Mosquitos • Job Availability • Job Security • Crime • Housing Affordability • Racism • Child Care/Day Care • Secondhand Smoke • Recreation Opportunities • Highway Safety • Law Enforcement • Nursing Home Care • Emergency Preparedness • Elder Day Care 	<ul style="list-style-type: none"> • Healthcare Affordability • Transportation • Job Availability • Unemployment • Secondhand Smoke • Ability to Afford Prescribed Medications • Allergies • Recreation Opportunities • Communicating health and transportation opportunities

Appendix E: Sources of Information

Table 64: Sources

Measure	Source	Year
Population	U.S. Census Bureau (Population Estimates)	2014
Race	U.S. Census Bureau (QuickFacts, American Community Survey 5-Year Estimates)	2010-2014
Ethnicity	U.S. Census Bureau (QuickFacts, American Community Survey 5-Year Estimates)	2014
Hispanic Population	U.S. Census Bureau (QuickFacts, American Community Survey 5-Year Estimates)	2014
Age Distribution	U.S. Census Bureau (QuickFacts)	2014
Percent of Population, Male vs. Female	U.S. Census Bureau (Population Estimates)	2014
Household/Family Configuration	U.S. Census Bureau (QuickFacts)	2014
Religion	Association of Religion Data Archives	2010
Education Attainment	U.S. Census Bureau (American FactFinder)	2014
Language Spoken at Home	U.S. Census Bureau (American FactFinder, American Community Survey 5-Year Estimates)	2014
Literacy	National Center for Education Statistics	2003
Marital Status	U.S. Census Bureau (American Factfinder)	2014
Income	MERIC (missourieconomy.org)	2013-2014
Unemployment	MERIC	2010-2015
Poverty	U.S. Census Bureau, Small Area Income and Poverty Estimates	2010-2014
Medicaid/MO HealthNet	Missouri Department of Health and Human Services, MICA	2015
HealthNet Providers	Missouri Department of Health and Human Services, Missouri HealthNet Provider Search	Current
Free/Reduced Lunches	The Annie E. Casey Foundation, KIDS COUNT data center, Family and Community Trust	2013
Hunger and Food Uncertainty	Missouri Hunger Atlas	2013
WIC Participation	Missouri Hunger Atlas	2013
Housing	U.S. Census Bureau (QuickFacts)	2014
Healthcare Providers	County Health Rankings (University of Wisconsin's Population Health Institute, The Robert Wood Johnson Foundation)	2015
Mortality	Missouri Department of Health & Senior Services	2003-2013
Cancer	Missouri Cancer Registry and Research Center	2008-2012
Chronic Disease	Missouri Department of Health & Senior Services	2002-2012
Years of Potential Life Lost	Missouri Department of Health & Senior Services	2013
Infant Mortality	The Annie E. Casey Foundation, KIDS COUNT data center, Family and Community Trust	2009-2013
Obesity and Overweight	County Health Rankings (University of Wisconsin's Population Health Institute, The Robert Wood Johnson Foundation)	2015

Diabetes	County Health Rankings (University of Wisconsin's Population Health Institute, The Robert Wood Johnson Foundation)	2015
Infectious Disease	Missouri Department of Health & Senior Services Bureau of Communicable Disease Control and Prevention, Annual Communicable Disease Surveillance Report	2012
HIV/AIDS	CDC, National HIV Surveillance Database	2013
Other Sexually Transmitted Diseases	Missouri Department for Health & Senior Services' HIV/AIDS Surveillance System STD by County Report	2015
Low Birth Weight	County Health Rankings (University of Wisconsin's Population Health Institute, The Robert Wood Johnson Foundation)	2015
Preterm Deliveries	The Annie E. Casey Foundation, KIDS COUNT data center, Family and Community Trust	20019-2012
	Missouri Department of Health & Human Services	2008-2012
Birth Defects	National Birth Defects Prevention Network Missouri Department of Health & Senior Services	2008-2012
Health Status	County Health Rankings (University of Wisconsin's Population Health Institute, The Robert Wood Johnson Foundation)	2015
Mental Health	Missouri Department of Mental Health, Community Epidemiological Profiles	June 2015
Preventable Hospitalizations	County Health Rankings (University of Wisconsin's Population Health Institute, The Robert Wood Johnson Foundation)	2015
	Missouri Department of Health & Senior Services (MICA)	2013
Diet & Exercise	County Health Rankings (University of Wisconsin's Population Health Institute, The Robert Wood Johnson Foundation)	2015
Tobacco Use	County Health Rankings (University of Wisconsin's Population Health Institute, The Robert Wood Johnson Foundation)	2015
Substance Abuse	Missouri Department of Mental Health, Behavioral Health Profile 2015	2015
Prenatal Care	Missouri Department of Health & Senior Services, 2015 Prenatal Profile	2013
Smoking During Pregnancy	Missouri Department of Health & Senior Services, Community Data Profiles	2001-2013
Breast-feeding	Missouri Department of Health & Senior Services (MICA), WIC Infant	2000-2008
Preventative Practices	Missouri Department of Health & Senior Services, Community Health Profiles, Health and Preventative Practices	2011
Child and Adolescent Health: Causes of Death for Children and Adolescents	Missouri Department of Health & Senior Services, Child Health	2002-2012
Teen Substance Abuse and	Missouri Student Survey, Status Report on Missouri's	2015

Smoking	Substance Use and Mental Health	
Teen Pregnancy	The Annie E. Casey Foundation, KIDS COUNT data center, Family and Community Trust	2009-2012
Senior Health	Missouri Senior Report (Missouri Department of Health & Senior Services, University of Missouri Office of Social and Economic Data Analysis (OSED))	2013

Some other sources for general information include:

- Centers for Disease Control and Prevention (CDC)
- AIDSvU
- Mayo Clinic
- Missouri Department of Elementary & Secondary Education
- Trust for America’s Health
- Other local websites
 - Bollinger County Health Center