BOLLINGER COUNTY
HEALTH CENTER

2012 COMMUNITY HEALTH ASSESSMENT

NOVEMBER, 2012
(REVISED JANUARY, 2013)
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Section 1: POPULATIONS AT RISK

A. Demographics

Bollinger County is located in Southeast Missouri and was officially organized in 1851, formed from portions of Wayne, Stoddard, and Cape Girardeau Counties. The county is named in honor of Colonel George Frederick Bollinger.

Marble Hill is both the county seat and the largest city in Bollinger County. In 2010, the county consisted of 617.91 square miles in land, with 0 square miles of water.

Population and Age Distribution

As of the 2010 census, Bollinger’s population was 12,363, an increase of 2.8% since 2000. During this same time frame, Missouri’s population increased 7%. The population density in 2010 was 20.0 persons per square mile, compared to the State average of 87.1 people per square mile.

Table 1.1 compares the annual growth of Bollinger County to the State during the years of 2000 to 2010.

Table 1.1

<table>
<thead>
<tr>
<th>Estimated Population: 2000-2010 for Bollinger County</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year</strong></td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>2000</td>
</tr>
<tr>
<td>2001</td>
</tr>
<tr>
<td>2002</td>
</tr>
<tr>
<td>2003</td>
</tr>
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<td>2006</td>
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<tr>
<td>2007</td>
</tr>
<tr>
<td>2008</td>
</tr>
<tr>
<td>2009</td>
</tr>
<tr>
<td>2010</td>
</tr>
</tbody>
</table>

Source: DHSS Population MICA
Over a ten year period (2000 to 2010), Bollinger experienced a slight population increase of 2.8% compared to the state’s 7.0% change, as shown in Table 2.1.

Table 2.1

**Population Change 2000 - 2010**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bollinger</td>
<td>12,029</td>
<td>12,363</td>
<td>334</td>
<td>2.8%</td>
</tr>
<tr>
<td>Missouri</td>
<td>5,595,211</td>
<td>5,988,927</td>
<td>393,716</td>
<td>7.0%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, Census 2010

During 2005-2009, the age distribution of people in Bollinger County (under 44) was slightly below the state’s percentages. However, beginning with people age 45 to 64 and 65+, we see an increase that is higher than Missouri’s rates. Table 3.1 shows the population by age categories.

Table 3.1

<table>
<thead>
<tr>
<th>Age</th>
<th>Bollinger Number</th>
<th>% of Total</th>
<th>Missouri Number</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 15</td>
<td>11511</td>
<td>19.1</td>
<td>5888272</td>
<td>20</td>
</tr>
<tr>
<td>15 to 24</td>
<td>7642</td>
<td>12.7</td>
<td>4213514</td>
<td>14.3</td>
</tr>
<tr>
<td>25 to 44</td>
<td>14837</td>
<td>24.7</td>
<td>7805865</td>
<td>26.4</td>
</tr>
<tr>
<td>45 to 64</td>
<td>16995</td>
<td>28.2</td>
<td>7628272</td>
<td>25.8</td>
</tr>
<tr>
<td>65 and over</td>
<td>9201</td>
<td>15.3</td>
<td>3986027</td>
<td>13.5</td>
</tr>
<tr>
<td>All ages</td>
<td>60186</td>
<td>100%</td>
<td>29521950</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: DHSS MICA
Racial Diversity

The population of Bollinger County is primarily white, non-Hispanic. As of the 2010 census, the makeup of the county is 97.9% white, 0.3% African American, 0.6% American Indian & Alaska Native, 0.2% Asian, 0.8% Hispanic, and 0.8% claiming two or more races. Table 4.1 compares the racial diversity of Bollinger County to Missouri using 2010 Census Data.

Table 4.1

<table>
<thead>
<tr>
<th>2010 Race &amp; Ethnicity for Bollinger County &amp; Missouri by Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bollinger County</td>
</tr>
<tr>
<td>White</td>
</tr>
<tr>
<td>African American</td>
</tr>
<tr>
<td>American Indian &amp; Alaska Native</td>
</tr>
<tr>
<td>Asian</td>
</tr>
<tr>
<td>Multiracial</td>
</tr>
<tr>
<td>Hispanic</td>
</tr>
</tbody>
</table>

Source: US Census, Quick Facts

Households and Income

According to the 2006-2010 American Community Survey, Bollinger County has an estimated 4,807 households, with an average household size of 2.57 persons compared to 2.45 for the state of Missouri. The average family size for Bollinger County residents was 3.12 persons per household. Table 5.1 compares household types between Bollinger County and the state of Missouri. While percentages are close in most categories, Bollinger County is 3.6% lower than the state average of 7.3% of households headed by females with no husband. Also, Bollinger has slightly more seniors (65+) that are the household head as compared to the state.

Table 5.1

Types of Households in Bollinger County, 2006-2010

<table>
<thead>
<tr>
<th>Household Category</th>
<th>Bollinger</th>
<th>Missouri</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married couple family with children</td>
<td>21.8%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Female householder, no husband,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With children</td>
<td>3.7%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Male householder, no wife, with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td>1.6%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Householder living alone</td>
<td>26.4%</td>
<td>28.5%</td>
</tr>
<tr>
<td>Householder 65 years and over</td>
<td>12.3%</td>
<td>10.0%</td>
</tr>
</tbody>
</table>

Source: American Communities Survey 2006-2010
Education and Poverty

Education

The level of educational attainment and poverty are indicators for economic and health risks. Bollinger County residents have a higher poverty rate than the state and less educational attainment. However, according to Kids Count 2011, Bollinger’s dropout rate (2.2%) for grades 9-12 is below the 2006/2010 average of 3.5% for Missouri. Table 6.1 shows gaps between rates for Missouri and Bollinger County

Educational Attainment 2006 – 2010

Table 6.1

<table>
<thead>
<tr>
<th>Education</th>
<th>Bollinger</th>
<th>Missouri</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;9th grade</td>
<td>12%</td>
<td>4%</td>
</tr>
<tr>
<td>High School Graduate</td>
<td>75.1%</td>
<td>86.2%</td>
</tr>
<tr>
<td>Some College</td>
<td>15.8%</td>
<td>22.0%</td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td>6.0%</td>
<td>15.8%</td>
</tr>
<tr>
<td>Graduate or Professional Degree</td>
<td>4.1%</td>
<td>8.2%</td>
</tr>
</tbody>
</table>

Source: American Communities Survey 2006-2010

Poverty

Bollinger’s poverty rate of 19.7%, for all people, is above the Missouri average of 14.0% for the period 2006-2010. Table 7.1 illustrates the sizable percentage margin between Bollinger and the state in all categories. However, the greatest margin of almost 20% is found among families headed by females.

According to the U.S. Census Bureau, in 2010, 21 million people lived in working-poor families. This means almost 9.6% of all families living below 100% of poverty have at least one family member working. The Feeding America network (Hunger in America 2010, Feeding America, February 2010) provides the following working poor facts:

- Female-headed households were more than twice as likely to be among the working poor as male-headed households in 2008.
- Families with at least one member working at least half a year and who had children were 4 times more likely to live in poverty.
- Thirty-nine percent of adults served by Feeding America had completed high school with no further education beyond high school.
- Thirty-four percent of households served by Feeding America have had to choose between paying for food and paying for medical care.
- Sixty-five percent of working families that received SNAP were single-parent families.
Table 7.1

Poverty Rates 2006-2010

<table>
<thead>
<tr>
<th>Category</th>
<th>Bollinger</th>
<th>Missouri</th>
</tr>
</thead>
<tbody>
<tr>
<td>All People</td>
<td>19.7%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Under 18 years</td>
<td>27.6%</td>
<td>19.3%</td>
</tr>
<tr>
<td>Children 5 to 17 years</td>
<td>24.2%</td>
<td>17.1%</td>
</tr>
<tr>
<td>18 to 64 years</td>
<td>16.1%</td>
<td>12.9%</td>
</tr>
<tr>
<td>65 years and older</td>
<td>20.9%</td>
<td>9.3%</td>
</tr>
<tr>
<td>Married couple families</td>
<td>9.9%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Families with female</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Householder, no husband</td>
<td>51.6%</td>
<td>30.8%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2006-2010 American Community Survey

Another effect of poverty and low income is seen by the number of children receiving free and reduced price lunches. From 2006-2010, Bollinger County has remained way above the state in the number of children receiving free and reduced lunches, as seen in Figure 1.1.

Figure 1.1

Percent Eligible for Free & Reduced Price Lunch

Source: Kids Count, 2011
Employment/Unemployment

From July, 2010 to July, 2012, Bollinger’s unemployment rate has remained slightly higher than the state rate, as shown in Table 8.1. Of the county’s top four employment categories, 21.8% work in education, healthcare, and social services; 18.9% in manufacturing; 12.7% in construction; and 11.0% in retail trade. The median household income from 2006-2010 was $33,938, compared to $46,262 for the state.

According to the 2006-2010 American Community Survey, the average commute for Bollinger County residents was 33-minutes compared to 23.2 minutes for the state.

Table 8.1

<table>
<thead>
<tr>
<th>Month/Year</th>
<th>Bollinger</th>
<th>Missouri</th>
</tr>
</thead>
<tbody>
<tr>
<td>July, 2010</td>
<td>9.5%</td>
<td>9.3%</td>
</tr>
<tr>
<td>July, 2011</td>
<td>8.7%</td>
<td>8.6%</td>
</tr>
<tr>
<td>July, 2012</td>
<td>8.0%</td>
<td>7.2%</td>
</tr>
</tbody>
</table>

Source: U.S Bureau of Labor Statistics

Disabled Populations

The Table 9.1 shows that Bollinger County has a high proportion of disabled persons, as compared to the state. A disability may include physical, mental, and/or emotional impairments.

Table 9.1

<table>
<thead>
<tr>
<th>Disability of Persons By Age, 2000</th>
<th>Number</th>
<th>Bollinger</th>
<th>MO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disabled Persons Over 5 Years of Age</td>
<td>2,700</td>
<td>24.1 %</td>
<td>19.0 %</td>
</tr>
<tr>
<td>Disabled Persons Over 65 Years of Age</td>
<td>838</td>
<td>49.0 %</td>
<td>42.6 %</td>
</tr>
<tr>
<td>Persons 16-64 with work disability</td>
<td>1,052</td>
<td>14.1 %</td>
<td>10.8 %</td>
</tr>
</tbody>
</table>

Source: Office of Social and Economic Development
Crime

According to “Sperling’s BestPlaces,” violent crime in Bollinger County, on a scale from 1 to 10 is a 3 (low crime). Violent crime is composed of four offenses: murder and non-negligent manslaughter, forcible rape, robbery, and aggravated assault.

Property crime, on a scale of 1 to 10 is a 5 (low crime). Property crime includes the offenses of burglary, larceny-theft, motor vehicle theft, and arson. In Bollinger County, property offenses are the most prevalent crime, followed by theft and burglary.

Table 10.1

<table>
<thead>
<tr>
<th>Crime</th>
<th>Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violent Crimes</td>
<td>15</td>
</tr>
<tr>
<td>Murder</td>
<td>0</td>
</tr>
<tr>
<td>Rape</td>
<td>1</td>
</tr>
<tr>
<td>Robbery</td>
<td>3</td>
</tr>
<tr>
<td>Aggravated Assault</td>
<td>11</td>
</tr>
<tr>
<td>Burglary</td>
<td>40</td>
</tr>
<tr>
<td>Theft</td>
<td>51</td>
</tr>
<tr>
<td>Motor Vehicle Theft</td>
<td>9</td>
</tr>
<tr>
<td>Arson</td>
<td>8</td>
</tr>
<tr>
<td>Property Offenses</td>
<td>108</td>
</tr>
</tbody>
</table>

Source: Missouri Crime Statistical Analysis Center
Access to Care and Coverage

Coverage

Access to care may be characterized by medical care coverage and service availability. Bollinger’s access to medical care has not been impacted as greatly as other rural areas, due to the number of health resources that neighbor the county. According to Community Health Status Indicators 2009, there were 2,001 uninsured individuals under age 65 in Bollinger County. Using this 2009 data, Bollinger County has 18% of its population under age 65 uninsured, compared to 15% for Missouri. Bollinger County is considered a medically underserved area with 8.3 physicians and dentists per 100,000 populations, according to Community Health Status Indicators 2009.

Transportation

Bollinger County’s stats for commuting to work are closing in line with Missouri percentages. Workers 16 and over make up 81.2% of those who drove a vehicle alone, compared to 80.7% for Missouri. Carpooling is 11.3% for Bollinger and 10.3% for Missouri. Mass transportation serves less than 1% for Bollinger residents and 1.5% for the state. Because most households have access to a vehicle, distance traveled for health care is not as great of a challenge as it is in most rural areas, where residents must travel out of the county and a much greater distance.

Mental Health

From 1994 to 2009, Bollinger County’s rate of emergency room visits for mental disorders has consistently remained below the state rates, despite a continuous increase from 1996-1998 to 2006-2008, as demonstrated in Figure 2.1. In state fiscal year 2011, 258 residents of Bollinger County received treatment for serious mental illness at publicly funded facilities, with mood disorders being the most common diagnosis category. Mood disorders include mania, major depression, and bipolar disorder. Anxiety and psychotic disorders were the next most common diagnosis category.

In Southeast Missouri, 20% of those 18 and older had serious psychological distress. Missouri estimates that 19.1% of the population aged 18-25 and 12% of those 26+ have had serious psychological distress.
Bollinger County students (6th-12th grade) were asked about their mental health. 13.0% had considered suicide in the last year, 9.8% made a plan, and 2.8% actually attempted, resulting in an injury. In 2009, one resident committed suicide. Nation-wide, males are about four times more likely to commit suicide than females.

Figure 2.1  **ER Visits for Mental Disorders** *(Source: DHSS MICA, Emergency Room Visits)*
Barriers to Care in Bollinger County

SoutheastHEALTH and Saint Francis Medical Center released a Community Health Needs Assessment for Bollinger County in January of 2013. The assessment contained the following community needs findings that may represent barriers:

- Lack of health care education
- Health care affordability
- Health care availability—primary care for senior citizens and specialty care
- Access to health care specialists—especially Orthopedics for Medicaid patients
- Access to health foods
- Public Transportation
- Unemployment
- Racism
- Highway safety—motor vehicle accidents
- Nursing home care
- Emergency preparedness
- Elder daycare
- Education—high percentage of residents that did not graduate from high school
- High poverty rate—including senior citizens
- High public assistance participation—WIC, Medicaid, Food Stamps/SNAP, and Free/Reduced Lunch Program

When the population of Bollinger County is analyzed, several groups of people are more likely to be affected by barriers than the general population. The following groups are most affected by barriers:

- Less than high school education
- Low socioeconomic status
- Children
- No insurance, underinsurance, or high deductible
- No transportation
- Elderly
- Disabled
- Minority, multi-ethnic
- Unemployed or unskilled
- Single parent households
### Populations Affected

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Special Population Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of health care education</td>
<td>Less than a high school education, low socioeconomic status, children</td>
</tr>
<tr>
<td>Health care affordability</td>
<td>No insurance, underinsurance, or high deductibles</td>
</tr>
<tr>
<td>Health care availability</td>
<td>Low socioeconomic status, no transportation</td>
</tr>
<tr>
<td>Access to health care specialists</td>
<td>Elderly population, disabled</td>
</tr>
<tr>
<td>Access to healthy foods</td>
<td>No transportation, low socioeconomic status, children</td>
</tr>
<tr>
<td>Public Transportation</td>
<td>No transportation, low income</td>
</tr>
<tr>
<td>Unemployment</td>
<td>Less than high school education, unskilled labor force, low socioeconomic status</td>
</tr>
<tr>
<td>Racism</td>
<td>Minority, multi-ethnic</td>
</tr>
<tr>
<td>Highway safety</td>
<td>Low socioeconomic status, minor drivers</td>
</tr>
<tr>
<td>Nursing home care</td>
<td>Elderly, disabled</td>
</tr>
<tr>
<td>Emergency preparedness</td>
<td>Low socioeconomic status, disabled</td>
</tr>
<tr>
<td>Elderly Daycare</td>
<td>Elderly, disabled</td>
</tr>
<tr>
<td>Education</td>
<td>Elderly, low socioeconomic status</td>
</tr>
<tr>
<td>High poverty rate</td>
<td>Unemployed, disabled, single parent household, low socioeconomic status, children</td>
</tr>
<tr>
<td>High public assistance participation</td>
<td>Low income, low socioeconomic status</td>
</tr>
</tbody>
</table>

### Behavioral Risk Factors

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Bollinger County Weighted%*</th>
<th>State of Missouri Weighted %*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not get medical care</td>
<td>8.9%</td>
<td>7.5%</td>
</tr>
<tr>
<td>Current cigarette smoking</td>
<td>27.6%</td>
<td>23.2%</td>
</tr>
<tr>
<td>No leisure-time physical activity</td>
<td>32.0%</td>
<td>25.3%</td>
</tr>
<tr>
<td>Less than 5 fruits &amp; vegetables per day</td>
<td>76.6%</td>
<td>76.1%</td>
</tr>
<tr>
<td>Obese (&gt;=30 BMI)</td>
<td>29.7%</td>
<td>29.1%</td>
</tr>
<tr>
<td>Current high blood pressure</td>
<td>23.8%</td>
<td>19.6%</td>
</tr>
<tr>
<td>Has high cholesterol – age 35 and older</td>
<td>28.2%</td>
<td>20.2%</td>
</tr>
<tr>
<td>Never had a mammogram – women age 40+</td>
<td>11.7%</td>
<td>8.7%</td>
</tr>
<tr>
<td>Never had a blood stool test – men &amp; women age 50+</td>
<td>60.9%</td>
<td>58.5%</td>
</tr>
<tr>
<td>Never had a sigmoidoscopy or colonoscopy – men</td>
<td></td>
<td></td>
</tr>
<tr>
<td>And women age 50+</td>
<td>43.3%</td>
<td>36.6%</td>
</tr>
</tbody>
</table>

*Source: DHSS, Community Health Profiles, Health & 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.*
Preventable Hospitalizations

Under the ICD-9 codes, MICA defines preventable hospitalizations as those “diagnoses for which timely and effective outpatient care can help to reduce the risks of hospitalization by either preventing the onset of an illness or condition, controlling an acute episodic illness or condition, or managing a chronic disease or condition.” Those communities where very limited access to primary care exists have a tendency to have higher rates of preventable hospitalizations.

Because hospitalizations tend to be considerably more costly than outpatient care, than often preventable hospitalizations are used as markers to measure the efficiency of our health care system. As communities are able to estimate the number and cost of excess preventable hospitalizations, than these estimates can help in identifying potential cost savings associated with improving primary care and reducing the number of hospitalizations.

The four most common causes of preventable hospitalizations in Bollinger County are pneumonia, COPD, dehydration, and kidney/urinary infection, as shown in Table 11.1. From 2005-2009, Bollinger’s rates exceed those of the state in all categories.

Table 11.1

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Bollinger</th>
<th>Rate</th>
<th>Missouri</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial pneumonia</td>
<td>120</td>
<td>21.1%</td>
<td>53,425</td>
<td>19.9%</td>
</tr>
<tr>
<td>Chronic obstructive pulmonary</td>
<td>68</td>
<td>10.6%</td>
<td>29,675</td>
<td>10.1%</td>
</tr>
<tr>
<td>Dehydration - volume depletion</td>
<td>203</td>
<td>36.4%</td>
<td>95,335</td>
<td>35.4%</td>
</tr>
<tr>
<td>Kidney/Urinary infection</td>
<td>49</td>
<td>9.4%</td>
<td>21,983</td>
<td>8.4%</td>
</tr>
<tr>
<td><strong>Total for Selection</strong></td>
<td><strong>440</strong></td>
<td><strong>77.5</strong></td>
<td><strong>200,418</strong></td>
<td><strong>73.7</strong></td>
</tr>
</tbody>
</table>

Source: DHSS MICA, rates are per 10,000 and age adjusted
Emergency Room Visits

The indicators for emergency room visits show that respiratory infections and bone/connective tissue/muscle conditions are the leading cause for residents going to the emergency room. Arthritis and related joint disorders, which fall under the category of bone/connective tissue/muscle, is the third leading cause of ER visits.

Figure 3.1

Bollinger County ER Visits, 2009

Source: DHSS MICA
Chronic Diseases

According to the Robert Woods Johnson Foundation County Health Rankings, 20% of Bollinger County residents reported having “poor or fair” health, compared to 16% for the state. As a result, residents used 5.5 health days compared to Missouri’s 3.6.

Table 12.1 shows from 2006-2010; Bollinger County saw heart disease emerge as the leading cause of death, followed by cancer as the number two killer. This trend is consistent with Missouri.

Table 12.1

<table>
<thead>
<tr>
<th>Leading Causes of Death 2006-2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disease</td>
</tr>
<tr>
<td>----------------------------------</td>
</tr>
<tr>
<td>Heart Disease</td>
</tr>
<tr>
<td>Cancer</td>
</tr>
<tr>
<td>Kidney Disease</td>
</tr>
<tr>
<td>Alzheimer’s Disease</td>
</tr>
<tr>
<td>Chronic Lower Respiratory Disease</td>
</tr>
<tr>
<td>Pneumonia and Influenza</td>
</tr>
<tr>
<td>Essential Hypertension</td>
</tr>
</tbody>
</table>

Source: DHSS MICA, rates are per 100,000 and age adjusted

Table 13.1 shows that injuries are the leading cause of death for ages 15-44, compared to cancer and heart disease for ages 45-65+. Most of the injuries are due to motor vehicle accidents.

Table 13.1

<table>
<thead>
<tr>
<th>Causes of Death</th>
<th>Ages 15 – 24</th>
<th>Ages 25 – 44</th>
<th>Ages 45 – 64</th>
<th>Ages 65+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injuries</td>
<td>64%</td>
<td>19%</td>
<td>*nrf</td>
<td>*nrf</td>
</tr>
<tr>
<td>Cancer</td>
<td>* nrf</td>
<td>14%</td>
<td>35%</td>
<td>20%</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>* nrf</td>
<td>14%</td>
<td>29%</td>
<td>42%</td>
</tr>
<tr>
<td>Suicide</td>
<td>12%</td>
<td>13%</td>
<td>*nrf</td>
<td>*nrf</td>
</tr>
</tbody>
</table>

Source: DHSS 2009 Community Health Status Indicators

*nrf = No report, fewer than 20 deaths
Heart Disease

Heart disease was found to be the leading cause of deaths in Bollinger County. Figure 4.1 shows the mortality rate, using three-year moving average rates. From 1991 through 2010, not once has Bollinger County been below the state rate. The Missouri rate trend shows a statistically significant decrease compared to Bollinger County rates.

Figure 4.1

Mortality Rates for Heart Disease

Source: DHSS County Profile
The bar graph, Figure 5.1, compares heart disease mortality rates of Bollinger County with those of Stoddard County. Here we see that Stoddard’s rates closely mirrors Missouri rates, while Bollinger rates exceed both.

Figure 5.1

1999-2009 Deaths by Heart Disease

Smoking attributable deaths are estimated based on smoker’s increase likelihood of dying of various diseases. For example, male smokers are 22 times more likely to die of lung cancer than male non-smokers (12 times for females). Smokers are about 10 times more likely to die of chronic airway obstruction than non-smokers. Figure 6.1 shows that for almost 20 years, Bollinger County has exceeded the state rates for deaths attributable to smoking.

Figure 6.1

Mortality Rates for Smoking-Attributable (estimated)

Source: DHSS MICA, Leading Cause of Death Indicators (rates are per 100,000 & age-adjusted)
Cancer

Bollinger’s three most common forms of cancer are breast, colon, and lung cancer. While breast cancer rates are below the state rates, Bollinger County far exceeds Missouri rates for both colon and lung cancer.

Table 14.1

<table>
<thead>
<tr>
<th>Site</th>
<th>Number</th>
<th>Rate</th>
<th>Number</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>47</td>
<td>52.3</td>
<td>25,336</td>
<td>66.4</td>
</tr>
<tr>
<td>Colon, rectum and recto sigmoid</td>
<td>43</td>
<td>51.9</td>
<td>19,125</td>
<td>49.5</td>
</tr>
<tr>
<td>Lung and bronchus</td>
<td>91</td>
<td>100.6</td>
<td>30,710</td>
<td>79.4</td>
</tr>
<tr>
<td><strong>Total for Selection</strong></td>
<td><strong>181</strong></td>
<td><strong>204.8</strong></td>
<td><strong>75,171</strong></td>
<td><strong>195.3</strong></td>
</tr>
</tbody>
</table>

Source: DHSS MICA Cancer Registry, rates are per 100,000 and age adjusted
Life Expectancy

The County Health Rankings created by the Robert Wood Johnson Foundation and the University of Wisconsin’s Population Health Institute measure premature death by the years of potential life lost before age 75 (YPLL). Every death occurring before the age of 75 contributes the total number of years of potential life lost, so someone that dies at age 25 contributes 50 years of life lost to the county’s YPLL.

According to the 2009 Community Health Status Indicators, residents living in Bollinger County have an average life expectancy of 74.9 years, compared to 75.6 for Missouri, and 76.5 for all U.S. counties.

Figure 7.1

**AVERAGE LIFE EXPECTANCY**

Source: 2009 Community Health Status Indicators
Injury Profile

Unlike many areas of the state, Bollinger County has low rates overall for unintentional injuries. However, motor vehicle accidents stand out as the leading cause for unintentional injury deaths and hospitalizations. **Motor vehicle deaths (excludes those not traffic-related) account for a rate of 30.3 compared to 18.16 for the state; and 14.9 for hospitalizations compared to 11.04 for Missouri. See Figures 8.1 and 9.1. Falls are a distant second to motor vehicle accidents in unintentional deaths. In fact, the number of events in all other categories is fewer than 20, meaning those rates are unstable.

Figure 8.1

**Unintentional Injury Deaths, 1999-2009**

Source: DHSS MICA, rates are per 100,000 and age adjusted

Figure 9.1

**Hospitalizations: Total Unintentional Injury, 1999-2009**

Source: DHSS MICA, rates are per 10,000 and age adjusted
From 2005-2009, Bollinger County’s rates for intentional injury has remained below Missouri rates for both assault and self-injury.

Table 15.1

<table>
<thead>
<tr>
<th>Injuries: Intentional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year=2005-2009</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Injuries Location: All Injury Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bollinger County</td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>Intent</td>
</tr>
<tr>
<td>Assault</td>
</tr>
<tr>
<td>Self-Injury</td>
</tr>
</tbody>
</table>

Source: DHSS MICA Injury (rate per 100,000)

Probable cause child abuse/neglect has been a problem in Bollinger County for some time. Figure 10.1 shows that Bollinger’s rates abuse have been up and down, and as of 2009 they are on the rise again. High rates for child abuse go hand-in-hand with out-of-home placement. According to the 2011 Kids Count Data Book, Bollinger has a rate of 8.2 (4.4 state) for out-of-home placement, and ranks 106 out of 115 for child abuse and neglect.

Figure 10.1

Child Abuse/Neglect, 2000-2009

Source: DHSS Child Health Profile, rates are per 1,000 children under age 18
Environment

According to Sperliing’s BestPlaces to live, Bollinger County’s air quality and water quality are better than the United States. Air quality is based on ozone alert days and number of pollutants in the air, as reported by the EPA, and water quality is based on EPA using 15 indicators. The superfund index is based on the number and impact of EPA Superfund pollution sites in the county, including spending on the cleanup efforts. On a scale of 100, Table 15.1 illustrates that Bollinger County is a good place to live.

Table 16.1

<table>
<thead>
<tr>
<th>Health</th>
<th>Bollinger</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality (100=best)</td>
<td>96.8</td>
<td>82.8</td>
</tr>
<tr>
<td>Water Quality (100=best)</td>
<td>79</td>
<td>55</td>
</tr>
<tr>
<td>Superfund Sites (100=best)</td>
<td>89</td>
<td>71</td>
</tr>
</tbody>
</table>

Source: Sperling’s BestPlaces
Section 2: Bollinger County Health System

A. Health Programs and Services

Chiropractic Physicians

- Woodland Chiropractic

Dental Offices

- Cross Trails Medical Center
- Milde Mark DDS PC

Food Assistance

- Marble Hill Food Pantry
- New Salem Baptist Church Food Pantry
- East Missouri Action Agency
- Bollinger County Health Center, WIC Program
- Missouri Department of Social Services, SNAP
- Marble Hill Senior Nutrition Center
- Salvation Army
- Southeast Missouri Mobile Food Pantry
- Summer Food Program

Emergency Personnel

- Bollinger County Ambulance
- Bollinger County Police Department
- Bollinger County Fire Department
- Marble Hill Police Department
- North County Fire District
- Leopold Volunteer Fire Department
- Zalma Fire District

Licensed Child Care Providers

- Family Home
  - Rumohr
  - Hoesli
  - Abbi’s Place, LLC
  - James
  - Hotop
  - Bohnsack
  - Beal
  - Simmers
• Facility
  o Marla’s Country Critters Daycare
  o East Missouri Action Agency
  o Meadow Heights R-II School District
  o First Baptist Church Learning Center

Long Term Care Facilities

• Diana’s Boarding Home
• Heritage Hills
• Mary’s Ranch
• Woodland Hills

Maternal, Child, and Family Wellness

• Building Blocks
• Missouri Mentoring Partnership
• East Missouri Action Agency
• Educare
• Headstart
• Parents as Teachers
• Positive Education Parenting Program
• Missouri Children’s Division
• Bollinger County Health Center, WIC Program

Medical Centers

• Cross Trails Medical Center

Public Transportation

• Southeast Missouri Transit System
B. Public Health Capacity

Since June 1959, Bollinger County Health Center has provided public health services to the residents of Bollinger County. By partnering with the Missouri Department of Health and Senior Services and other agencies, additional funds are contracted to expand the scope of services offered.

Public health interventions have increased the life expectancy of Americans. Bollinger County Health Center has utilized many of these interventions and continues to do so today.

Services included:

Communicable Disease Control

- **Vaccine Preventable Diseases**
  - Adult and child vaccination
  - Seasonal flu vaccination
  - Pneumonia and Shingles vaccination

- **Surveillance and follow-up of specific communicable diseases that are reportable by Missouri law**
  - Screening for tuberculosis infection
  - Follow-up and monitoring of active TB cases and Latent TB Infection
  - Investigation and follow-up of food-borne illnesses and other communicable diseases
  - An active surveillance tool is used to assess reported symptoms of existing illness for potential health threats/outbreaks. This is part of a statewide surveillance system

- **Sexually Transmitted Diseases**
  - Educational material and information regarding prevention
  - STD testing

- **Environmental Public Health**
  - Routine inspections are conducted of food establishments, daycare centers, and hotels/motels to ensure public safety and prevent food-related illnesses
  - Information related to private water systems, sewage and environmental issues/questions
  - Issues sewage permits

Bioterrorism and Emergency Response

- The LPHA is actively involved in planning for all hazards, natural and manmade
- Bollinger County Medical Reserve Corp/Citizens Corp Council is active in CERT training as well as providing assistance when an event occurs.
Chronic Disease Control

- **Show Me Healthy Women Program** offers breast and cervical cancer screening and detection services for women age 35 – 64 who do not have health insurance, have Medicaid or Medicare and who meet income guidelines.
- **WISEWOMAN** is an extension of the SMHW program encouraging a healthy lifestyle.
- **Screenings** for early detection of hypertension, diabetes, and heart disease are available every Wednesday. Clinics are held monthly at the Marble Hill Nutrition Center, Hickory Hills, and at the Patton Saddle Club. *Blood pressure checks and blood glucose tests are provided free of charge. Cholesterol screening is available for a fee.*
- **Nutrition education and information** is available. Special events to increase awareness and motivate individuals to make healthier lifestyle choices are planned throughout the year.
- **In cooperation with the Bureau of Chronic Disease**, MODHSS, a walking trail is located in Marble Hill to increase individual opportunity for physical activity in a safe and comfortable environment.
- **In cooperation with the Arthritis Foundation**, Exercise classes are offered at the Senior Citizen Nutrition Center three days a week and at the City Pool during the summer.
- **Smokebusters**, a tobacco prevention program, is currently implemented in three Bollinger County schools.

Maternal Child and Family Health

- **Special Supplemental Nutrition Program for Women, Infants and Children, (WIC)** is offered throughout the month at the main office with satellite clinics monthly in Zalma and Patton
- **Breastfeeding Peer Counselors** educate WIC prenatal clients on breastfeeding issues as well as offer support to breastfeeding mothers.
- **Pregnancy Testing**
- **Hearing and Vision Testing**
- **Day Care Consultation** to childcare providers on health and safety issues
- **Lead Screening**
  - Educational material and information regarding prevention
  - Screening for elevated blood levels (age Appropriate)
  - Case Management
- **Prenatal Case Management**

Vital Records

- The Local Health Agency Administrator is the Local Registrar for Vital Records as described by Law
- Registers all county birth and death events
- Missouri birth and death certificates are available for a fee
- Assistance with obtaining certificates from other states
Section 3: Community Inventory of Strengths, Concerns, and Resources

In 2012, members of the Bollinger County Children and Youth Issues Committee and Bollinger County Health Center made a list of Community Strengths, Concerns, and Resources. Participants created the inventory using qualitative data gleaned from living and working in the community.

Strengths

- Strong tobacco policies in place at Zalma School District and Country Mart
- Smokebusters and All-Stars programs in schools
- Good county newspaper
- Many programs offered to community members: Parent’s as Teachers, Missouri Mentoring Program, Positive Education Parenting Program, WIC, Building Blocks, Food Pantry, School Backpack Program
- Active community groups: Community Caring Council, Children and Youth Issues, Lion’s Club, Friend’s of Bollinger County, Grassy Neighborhood Watch, Happy Old People
- Library, Museum, Playgrounds
- Access to medical care
- Strong religious community
- Many youth are active with sports or extracurricular activities
- Adult athletic opportunities
- Low crime rate
- Rural, self-sufficient mentality
- Recreation (swimming, hiking, climbing)
- Strong local food production and preservation
- Low cost of living

Concerns

- Low job availability in county
- Low paying jobs in county
- Long commute to work and school
- No college in county
- Low socioeconomic status
- Generational poverty and dependence on social programs
- Few positive recreation choices, especially for teens
- High underage drinking rates
- Community views underage drinking as a norm and ‘rite of passage’
- High teen pregnancy rates
- Family planning program cut
- High Meth use and production
• lenient police system
• growing trend in prescription drug abuse

Resources

• Library
• Museum
• Schools
• Churches
• Community and civic groups
• School activities, sports, and clubs
• Volunteer fire department
• Medical Center
• Local newspaper
• Police Department
• Programs
ACKNOWLEDGEMENTS

The Bollinger County Health Center would like to acknowledge and thank our many community partners for their support and input over the years. The completion of this community assessment involved many individuals and organizations. Sincere appreciation is given to the following community partners:

Community Caring Council
SEMO Cancer Control Coalition
Arthritis Foundation
Public Health Educators Coalition
Children & Youth Issues Committee
Bollinger County Citizen’s Corp
Fatality Review Board
SE Health Educators Coalition
Public Health Nurse Council
Childcare Health Consultant Advisory Board
Pool Meeting
Methodology

Data for the 2012 Community Health Assessment was collected from a variety of sources, both primary and secondary. Every effort was made to collect and present accurate and reliable information. Efforts were made to update charts and graphs with the most recent information available from reporting agencies. Rate calculations were based on the methods utilized by the Missouri Department of Health and Senior Services (DHSS) and population estimates provided by the U.S. Census Bureau. All charts and graphs presented in the Community Health Assessment were developed using the data collected from the reference sources.

REFERENCES

- Missouri Department of Health and Senior Services, Community Data Profiles
  www.dhss.mo.gov
- Missouri Department of Health and Senior Services, Missouri Information for Community Assessment (MICA)
  www.dhss.mo.gov/MICA
- U.S. Census Bureau
  http://factfinder.census.gov
- Missouri Kids Count, 2011
  http://oseda.missouri.edu/kidscount
- Missouri State Highway Patrol, Statistical Analysis Center and Uniform Crime Reporting Program
  http://www.mshp.dps.mo.gov/MSHPWeb
- Missouri Office of Social and Economic Data Analysis (OSEDA)
  http://www.oseda.missouri.edu
- Missouri Department of Social Services, Missouri Child Abuse/Neglect, 2009
  www.dss.mo.gov
- Missouri Department of Mental Health
  www.dmhl.state.mo.us
- U.S. Department of Health & Human Services, Community Health Status Indicators (CHSI 2009)
  www.hhs.gov
- Sperling’s BestPlaces
  http://www.bestplaces.net
Community Health Assessment Summary Findings for Bollinger County

Review of community health status indicators, reveal the following problems:

- Heart disease and cancer leading causes of mortality
- Respiratory infections and bone/connective tissue/muscle conditions are leading causes for ER visits
- Increase in ER visits due to arthritis & joint disorders
- High rate of preventable hospitalizations
- Increase in ER visits due to mental health
- High rate of Probable cause child abuse/neglect
- High rate of students enrolled in free/reduced lunch program
- High poverty rates
- Number of individuals uninsured
- Health professional shortage area

Review of Risk Factors reveals the following concerns:

- 19.7% poverty rate
- 56.5% students enrolled in free/reduced lunch
- 8% unemployment rate
- High number of motor vehicle accidents
- High number of uninsured individuals under age 65
- High number of Preventable Hospitalizations
- High percentage of Smoking-Attributable Deaths
- Increase rate of Child Abuse/Neglect