



Community Health Status Assessment

Boone County, Missouri

Prepared August 2013 by: Sarah Rainey, Epidemiology, Planning and Evaluation Supervisor
Columbia/Boone County Department of Public Health and Human Services
1005 West Worley, Columbia, MO 65203
T: 573-874-7355 E: health@GoColumbiaMO.com



Public Health
Prevent. Promote. Protect.

Columbia/Boone County
Public Health & Human Services

This page intentionally left blank.

Executive Summary

The Community Health Status Assessment (CHSA) is one of four assessments completed as part of the MAPP Process (Mobilizing for Action through Planning and Partnerships). The CHSA provides quantitative information on community health conditions and answers the questions “How healthy is the community?” and “What does the health status of the community look like?”

A team of community members with experience in data collection and analysis worked together to identify data that best represented the health status of Boone County, Missouri. The data used for this assessment came from data sources such as the U.S. Census, Community Commons, Missouri Department of Health and Senior Services, Centers for Disease Control and Prevention, and the County Health Rankings and Roadmaps. When possible, county level data was used to compare against state and national data and analyzed by race, sex, and gender to give a clearer picture of the community.

Overall, Boone County is a healthy community with many health and community resources, well-educated residents, and a stable economy. The 2013 County Health Rankings and Roadmaps rank Boone County sixth out of 115 counties in Missouri for overall health outcomes.

Although good health outcomes and behaviors are prominent in Boone County, there are still gaps to be addressed. Disparities were identified between racial and socioeconomic groups within income, education, birth outcomes, sexually transmitted diseases, chronic diseases, and health outcomes. For some of these issues, the gap is markedly wide. With other indicators including obesity, child obesity, drug abuse, and mental health, limited information is available at the local level.

The information in the CHSA, along with the three other MAPP assessments, will be used by community teams to identify strategic indicators and to develop the Community Health Assessment and Community Health Improvement Plan.



Table of Contents

EXECUTIVE SUMMARY	3
CHARTS AND GRAPHS	6
DEMOGRAPHIC CHARACTERISTICS	8
POPULATION AND CHARACTERISTICS	8
AGE	10
HOUSEHOLDS AND FAMILIES	12
RACE AND ETHNICITY	13
NATIVITY AND LANGUAGE	14
GEOGRAPHIC MOBILITY	15
LANGUAGE	15
SOCIOECONOMIC AND EDUCATION CHARACTERISTICS	17
INCOME	17
EMPLOYMENT	21
EDUCATION	24
POVERTY	28
HEALTH INSURANCE COVERAGE	30
HOUSEHOLDS AND HOUSING	31
HEALTH RESOURCES	33
HEALTH CARE FACILITIES	33
HOSPITALIZATION UTILIZATION AND STATISTICS	34
HEALTH CARE RESOURCES	34
COLUMBIA/BOONE COUNTY PUBLIC HEALTH AND HUMAN SERVICES	35
LONG-TERM CARE AND ASSISTED LIVING FACILITIES	36
QUALITY OF LIFE	37
PARKS AND RECREATION	37
THE ARTS	37
TRANSPORTATION	38
EDUCATION OPPORTUNITIES	38
VOTERS	39
CHILD SERVICES AND CHILDCARE	39
HOMELESSNESS	40
CRIME	42
HEALTH BEHAVIORS	44
OBESITY	44
FOOD AND NUTRITION	45
WOMEN, INFANTS, CHILDREN (WIC)	47



FOOD ACCESS	47
TOBACCO USE	48
PHYSICAL ACTIVITY	49
CHRONIC DISEASE	49
OTHER RISK FACTORS	50
SOCIAL AND MENTAL HEALTH	51
ADULT MENTAL HEALTH	51
YOUTH MENTAL HEALTH	51
SUBSTANCE USE AND ABUSE IN BOONE COUNTY	51
DOMESTIC VIOLENCE	53
DISABILITIES	53
MATERNAL AND CHILD HEALTH	54
PREGNANCY AND BIRTH CHARACTERISTICS	54
BIRTH OUTCOMES	55
INFANT MORTALITY	57
DEATH, ILLNESS, AND INJURY	58
LEADING CAUSES OF DEATH	58
SUICIDE	59
ACCIDENTAL DEATHS	60
CANCER	60
MOTOR VEHICLE DEATHS	60
HOMICIDE	60
YEARS OF POTENTIAL LIFE LOST	61
INJURY	61
COMMUNICABLE DISEASES AND CONDITIONS	62
TUBERCULOSIS (TB)	62
RABIES	63
ENTERIC ILLNESS	63
VACCINE PREVENTABLE	63
OUTBREAKS	63
INFLUENZA	64
COMMUNICABLE DISEASE	65
SEXUALLY TRANSMITTED DISEASE	66
ACKNOWLEDGEMENTS	67
WORKS CITED	68

Charts and Graphs

Figure 1: Population/Percent Change

Figure 2: Percent Population Increase for Boone County and Missouri

Figure 3: 2000-2010 Population Increase for Boone County and Missouri

Figure 4: Population Increase of Boone County Communities

Figure 5: Median Age, Boone County, 2010

Figure 6: Age Distribution for Boone County and Missouri, 2010

Figure 7: Boone County and Missouri Population by Age Group, 2010

Figure 8: Types of Households, Boone County, 2012

Figure 9: Population/Race, Boone County and Missouri, 2010

Figure 10: Population Race/Ethnicity, Boone County 1990, 2000, 2010

Figure 11: Percent Foreign-born, Boone County, 2007-2011

Figure 12: Percent Foreign-born Population by Race, Boone County, Missouri, United States, 2007-2011

Figure 13: Geographic Mobility of Residents, Boone County, 2012

Figure 14: Languages Spoken in Linguistically Isolated Households, Boone County, 2007-2011

Figure 15: Most Frequently Spoken Language, Boone County, 2007-2011

Figure 16: Median Household Income by Year, Boone County, Missouri, United States, 2002-2011

Figure 17: Median Household Income by Race, Boone County, 2005-2009, 2006-2010, 2007,2011

Figure 18: Median Household Income by Race, Missouri, 2005-2009, 2006-2010, 2007-2011

Figure 19: Median Household Income with Comparison by Race, Boone County, Missouri, United States, 2005-2009, 2006-2010, 2007-2011

Figure 20: Median Household Income, Boone County by Community, 2007-2011

Figure 21: Per Capita Income by Year, Boone County, 2005-2012

Figure 22: Unemployment Rates by Year, Boone County, Missouri, United States, 2005-2012

Figure 23: Top Job Categories, Columbia

Figure 24: Average Unemployment by Race, Ethnicity, Missouri, United States, 2011

Figure 25: Average Unemployment Rate by Age, Missouri, United States, 2011

Figure 26: Educational Attainment for Population 25 Years and Over, Boone County, 2012

Figure 27: Median Earnings by Education Attainment 25 Years of Age or Greater, Boone County, 2012

Figure 28: Poverty Rate by Educational Attainment 25 Years of Age or Greater, Boone County, 2012

Figure 29: Dropout Rates by School District by Year, Boone County, 2009-2013

Figure 30: Dropout Rate by Race/Ethnicity, Columbia, 2013

Figure 31: Four Year Graduation Rates for Boone County Districts, 2011-2013

Figure 32: Four Year Graduation Rates by Race, Columbia School District, 2013

Figure 33: Federal Poverty Guidelines, 2013

Figure 34: Monthly Federal Poverty Guidelines by Percent of Poverty Level, 2013

Figure 35: Percent Living in Poverty, Boone County, 2012

Figure 36: Students Eligible for Free and Reduced Lunch, Boone County School Districts, Missouri, 2009-2013

Figure 37: Percent Uninsured by Income Groups, Boone County, 2012

Figure 38: Uninsured Status, Boone County, 2012

Figure 39: Housing Units, Boone County, 2012

Figure 40: Selected Housing Characteristics, Boone County, Missouri, 2012

Figure 41: Selected Hospital Utilization Statistics, Boone County, 2012

Figure 42: Licensed Primary Care Providers, Boone County, 2012



- Figure 43: Licensed Dentists, Boone County, 2012
- Figure 44: Columbia/Boone County PHHS Employees/1000 Compared to Total Number of Employees, 2004-2012
- Figure 45: Licensed Nursing Home Beds, Boone County, 2012
- Figure 46: Nursing Home Beds to Population Ratio, Boone County, Missouri. 2012
- Figure 47: Total of Homeless Individuals in Boone County, 2008-2012
- Figure 48: Sheltered Homeless Sub-Populations as a Rate of All Sheltered Homeless Individuals in Boone County, 2008-2012
- Figure 49: Unsheltered Homeless Sub-Populations as a Rate of All Unsheltered Homeless Individuals in Boone County, 2008-2012
- Figure 50: Violent Crime Count by Year, Columbia, Boone County, 2004-2012
- Figure 51: Property Crime County by Year, Columbia, Boone County, 2004-2012
- Figure 52: Rate per 100,000 of Violent Crimes, Columbia, Boone County, 2004-2012
- Figure 53: Rate per 100,000 of Property Crimes, Columbia, Boone County, 2004-2012
- Figure 54: Boone County Data, Missouri Food Atlas, 2013
- Figure 55: Percent of Eligible Participants Participating in Food Programs, Boone County, 2013
- Figure 56: Five Year Trend of WIC Enrollment, Boone County, 2009-2013
- Figure 57: Tobacco Use, Boone County, 2005-2011
- Figure 58: Chronic Disease Hospitalization Rates per 10,000 by Race, Boone County, 2007-2011
- Figure 59: Chronic Disease Emergency Room Visit Rates per 100,000 by Race, Boone County, 2007-2011
- Figure 60: Chronic Disease Death Rates per 100,000 by Race, Boone County, 2007-2011
- Figure 61: Number of People Injured/Killed in Alcohol and Drug Related Crashes, Boone County, 2011
- Figure 62: Hospital and Emergency Room Visits Related to Drugs and Alcohol, Boone County 2008-2010
- Figure 63: Police Reports Related to Drugs and Alcohol, Boone County, 2008-2010
- Figure 64: Live Births per 100,000, Boone County, Missouri, 2000, 2010
- Figure 65: Adolescent Pregnancy Rate per 1,000, Boone County, 2002-2010
- Figure 66: Adolescent Pregnancy Rate per 1,000, Missouri, 2002-2010
- Figure 67: Low and Very Low Birth Weight Births, Boone County, Missouri, 2006-2010
- Figure 68: Low Birth Weight Infants per 100 live Births, Boone County, Missouri, 2006-2010
- Figure 69: Very Low Birth Weight Infants per 100 Live Births, Boone County, Missouri, 2006-2010
- Figure 70: Infant Mortality Rate per 100,000, Boone County, Missouri, 2000-2010
- Figure 71: Leading Causes of Death by Age Group, Boone County, 2002-2011
- Figure 72: Leading Cause of Death in Boone County By Race, 2001-2011
- Figure 73: Death Rates per 100,000 Compared by Race, Boone County, 2002-2011
- Figure 74: Death Rate From Cancer by Type, Boone County, 2002-2011
- Figure 75: Years of Potential Life Lost Rate per 100,000, Boone County, 2011
- Figure 76: Rate per 100,000 of Tuberculosis Disease, Boone County, Missouri, 2008-2012
- Figure 77: Influenza Cases by Season, Boone County, 2008-2012
- Figure 78: Case Counts for Selected Diseases by Year, Boone County, 2008-2012
- Figure 79: Case Counts of Animal Bites by Year, Boone County, 2008-2012
- Figure 80: STD by Case Count and Rate per 100,000, Boone County, 2012
- Figure 81: STD Rates per 100,000 by Race, Boone County, 2012
- Figure 82: STD Rates by Age Group and Race, Boone County, 2012

Demographic Characteristics

Population and Characteristics

Boone County is centrally located in the state of Missouri and covers 685.41 square miles. According to the 2010 U.S. Census, the population of the county was 162,642 with a population density of 237.30 persons/square mile. Between 2000 and 2010, the population of the county increased 20.07%, making it the seventh most populous of Missouri's counties (U.S. Census, 2010).

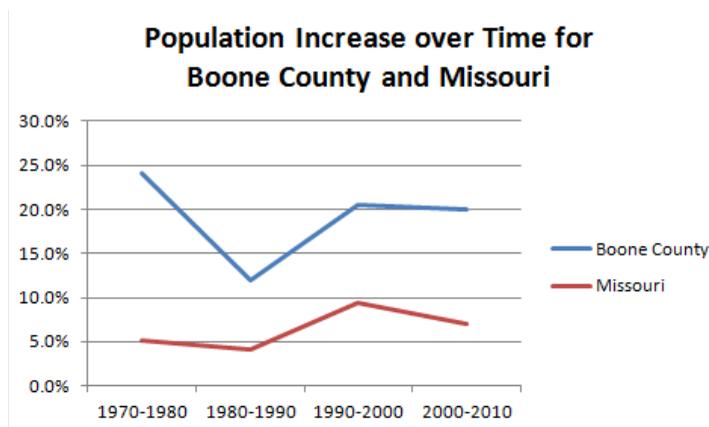
FIGURE 1: POPULATION/PERCENT CHANGE

	1990 CENSUS POPULATION	2000 CENSUS POPULATION	2010 CENSUS POPULATION	PERCENT CHANGE FROM 2000 TO 2010
Boone County, Missouri	112,379	135,454	162,642	20.07%
Missouri	5,117,073	5,595,211	5,988,927	7.04%
United States	248,709,873	281,421,906	308,745,538	9.71%

(U.S. Census)

The population increase in Boone County was nearly three times greater than the state population increase during the same time period. As Figure 2 shows, population increase is not a new trend in Boone County. For the last 40 years, Boone County had percentage increases during every 10 year period well above the state average.

FIGURE 2: PERCENT POPULATION INCREASE FOR BOONE COUNTY AND MISSOURI

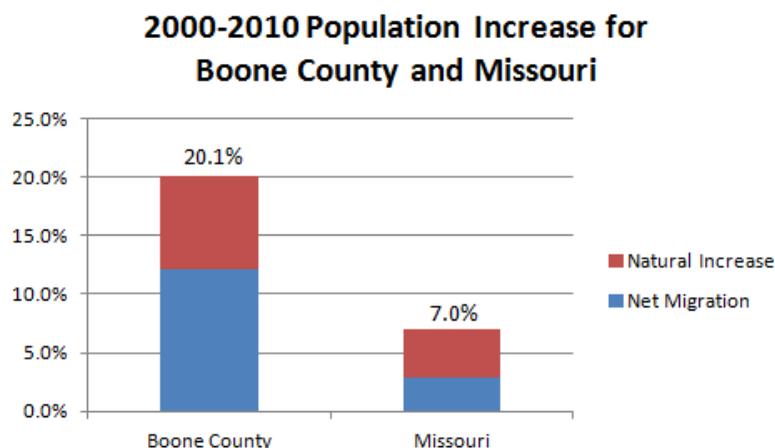


(Missouri Department of Health and Senior Services, 2013)



Boone County's increase was fueled by both natural increase and net migration. Natural increase (births minus deaths) was estimated to have increased by approximately 10,660 persons, while migration into the county accounted for approximately 16,520 persons. As Figure 3 demonstrates, about 60% of Boone County's population increase was a result of migration as opposed to only 40% increase of the state population.

FIGURE 3: 2000-2010 POPULATION INCREASE FOR BOONE COUNTY AND MISSOURI



(U.S. Census Bureau; Missouri Department of Health and Senior Services)

There are 10 incorporated cities in Boone County: Ashland, Centralia, Columbia, Hallsville, Harrisburg, Hartsburg, McBaine, Pierpont, Rocheport, and Sturgeon. Approximately 73% of Boone County residents live in a city/town. The largest city is Columbia, the county seat, with a population of 108,500 (U.S. Census, 2010). Over two-thirds (66.7%) of the county population reside inside the city limits of Columbia. Centrally located in Boone County, Columbia is located on Interstate 70 with Kansas City 125 miles to the west and St. Louis 125 miles to the east.

Located in the northern part of the county, Centralia is the second largest community with a population of 4,027. Ashland, located in the southern part of the county, is the third largest town with a population of 3,707. Hallsville, in northern Boone County, is the fourth largest with a total of 1,491. The remaining six communities, (Sturgeon, Harrisburg, Rocheport, Hartsburg, Pierpont and McBaine) each have less than 1,000 persons (U.S. Census, 2010).

FIGURE 4: POPULATION INCREASE OF BOONE COUNTY COMMUNITIES

	2010 POPULATION	2000 CENSUS POPULATION	PERCENT INCREASE
Ashland	3,707	1,869	98.3%
Centralia	4,027	3,774	6.7%
Columbia	108,500	84,531	28.4%
Hallsville	1,491	978	52.5%
Harrisburg	266	184	44.6%
Hartsburg	103	108	-4.6%
McBaine	10	17	-41.2%
Pierpont	76	xx	xx
Rocheport	239	208	14.9%
Sturgeon	872	944	-7.6%

(U.S. Census Bureau)

As Figure 4 shows, many communities have seen large increases since the 2000 Census. Ashland saw the largest increase, nearly doubling in population (98.3%) from 2000-2010. Hallsville, Harrisburg and Columbia all saw population increases larger than the county overall. Centralia’s population increase of 6.7% was near the state average (7.0%). Hartsburg, McBaine and Sturgeon had a reduction in population between the two census periods. Pierpont was incorporated after the 2000 Census.

Age

FIGURE 5: MEDIAN AGE, BOONE COUNTY, 2010

BOONE COUNTY MEDIAN AGE = 29.5	MISSOURI MEDIAN AGE = 37.9
--	--------------------------------------

(U.S. Census, 2010)

The age distribution (Figure 6) for Boone County is also markedly different than the state as a whole. In Boone County, 20.9% of the population is between the ages of 18-24, as compared to 9.8% of the state. The age distribution is impacted by several colleges and universities which are located in Boone County, including the University of Missouri, the largest university in the state. The 25-44 age group is also slightly larger for Boone County compared to Missouri (26.6% vs. 25.4%). Boone County has a smaller percentage of residents 65 years and older than the state of Missouri.

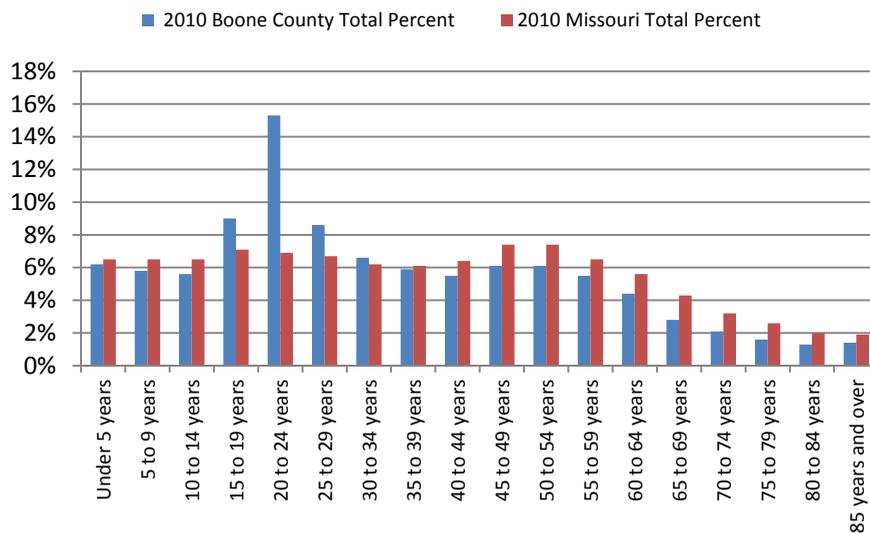


FIGURE 6: AGE DISTRIBUTION FOR BOONE COUNTY AND MISSOURI, 2010

	BOONE COUNTY		MISSOURI	
Under 18	34,251	21.1%	1,425,436	23.8%
18-24	34,058	20.9%	589,264	9.8%
25-44	43,324	26.6%	1,524,083	25.4%
45-64	35,937	22.1%	1,611,850	26.9%
65-84	12,779	7.9%	724,515	12.1%
85 and over	2,293	1.4%	113,779	1.9%
TOTAL	162,642	100%	5,988,927	100%

(U.S. Census)

FIGURE 7: BOONE COUNTY AND MISSOURI POPULATION BY AGE GROUP, 2010



(Profile of General Population and Housing Characteristics, 2010)

Columbia was named the “4th Best Small Metro City to Successfully Age In” by the Milken Institute Report Best Cities for Successful Aging (Chatterjee, 2012). This ranking was due in part to the youthful population which provides a large working-age population and strong tax base that helps support services for seniors.

Households and Families

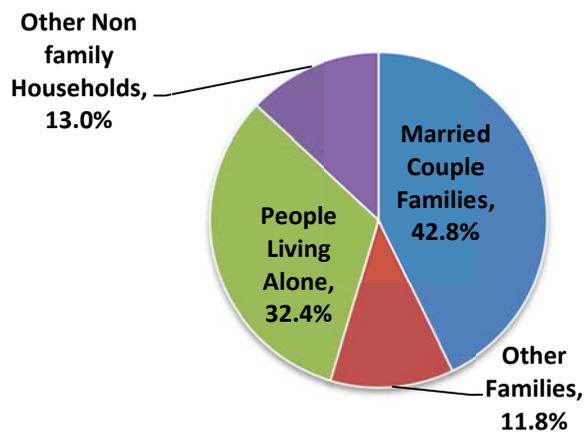
In 2012 there were 66,360 households in Boone County with an average household size of 2.4 people.

Families made up 55% of the households. This includes both married couple families (43%) and other families (12%). Of other families, 4% are female head of household with minor age children and no partner present.

Non-family households made up 45% of all households in Boone County. The majority of the non-family households were people living alone. The remainder were adults living in households in which no one was related to the householder.

In Boone County, 26% of all households have one or more people under the age of 18; 16% of all households have one or more people 65 years and older.

FIGURE 8: TYPES OF HOUSEHOLDS, BOONE COUNTY, 2012



(American Community Survey, 2012)

Among persons 15 and older, 42.0% are currently married, 4.2% are widowed, and 8.5% are divorced (American Community Survey, 2012).



Race and Ethnicity

Whites and black/African-Americans compose the two largest racial groups in Boone County and in Missouri. The percentage of whites in both Boone County and Missouri is 82.8% (Profile of General Population and Housing Characteristics: 2010). In percentage terms, the African-American population is slightly smaller in Boone County compared to Missouri (9.3% in Boone vs. 11.6% in Missouri). In contrast, the Asian population is over twice the percentage in Boone County compared to Missouri. Other race groups are similar in size between Boone County and Missouri. Slightly more persons identify as belonging to multiple race groups in Boone County compared to the state overall (2.8% vs 2.1%).

FIGURE 9: POPULATION/RACE, BOONE COUNTY AND MISSOURI, 2010

	BOONE COUNTY		MISSOURI
	NUMBER	PERCENTAGE	PERCENTAGE
White, Alone	134,621	82.8%	82.8%
African-American, Alone	15,111	9.3%	11.6%
Asian, Alone	6,144	3.8%	1.6%
American Indian, Alone	624	0.4%	0.5%
Native Hawaiian or other Pacific Islander, Alone	93	0.1%	0.1%
Some other race, Alone	1,476	0.9%	1.3%
Two or more races	4,573	2.8%	2.1%

(Profile of General Population and Housing Characteristics, 2010)

FIGURE 10: POPULATION RACE/ETHNICITY, BOONE COUNTY, 1990, 2000, 2010

	1990	2000	2010
White	89.0%	85.4%	82.8%
African-American	7.5%	8.5%	9.3%
Asian/Pacific Islander	3.0%	3.0%	3.8%
American Indian/Alaska Native	0.4%	0.4%	0.4%
Other race or multiracial	0.4%	2.6%	3.7%
Hispanic or Latino*	1.1%	1.8%	3.0%

(Profile of General Population and Housing Characteristics, 2010)

* Hispanic or Latino may be of any race

Nativity and Language

FIGURE 11: PERCENT FOREIGN-BORN, BOONE COUNTY, 2007-2011

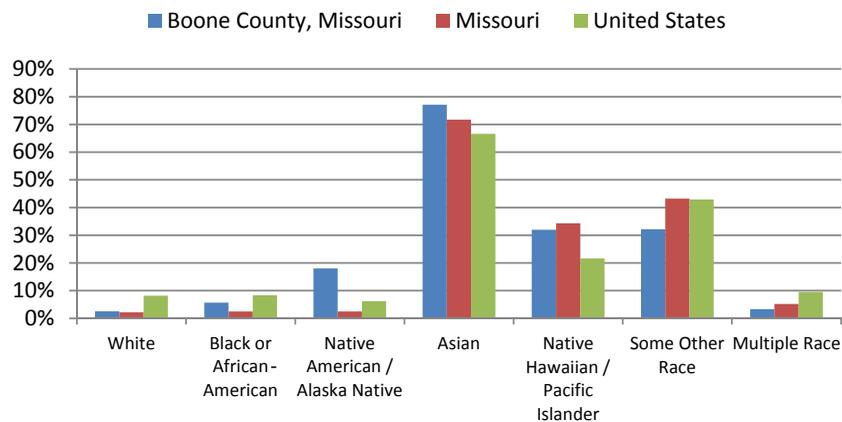
REPORT AREA	TOTAL POPULATION	TOTAL FOREIGN-BORN POPULATION	FOREIGN-BIRTH POPULATION, PERCENT OF TOTAL POPULATION
Boone County, Missouri	160,628	9,818	6.11%
Missouri	5,955,802	227,595	3.82%
United States	306,603,776	39,268,838	12.81%

(American Community Survey, 2007-2011)

The U.S. Census considers anyone that is not a U.S. citizen or a U.S. national as foreign-born including those born outside of the United States who have become citizens. Ninety-four percent of the people living in Boone County in 2012 were native residents of the United States with 62% of these residents born in Missouri.

In 2012, six percent of the people living in Boone County were foreign-born. This is approximately twice the percentage for Missouri, but half of what is seen in the United States. Foreign-born residents of Boone County come from different parts of the world, with the largest populations of foreign-born being Asian.

FIGURE 12: PERCENT FOREIGN-BORN POPULATION BY RACE, BOONE COUNTY, MISSOURI, UNITED STATES, 2007-2011



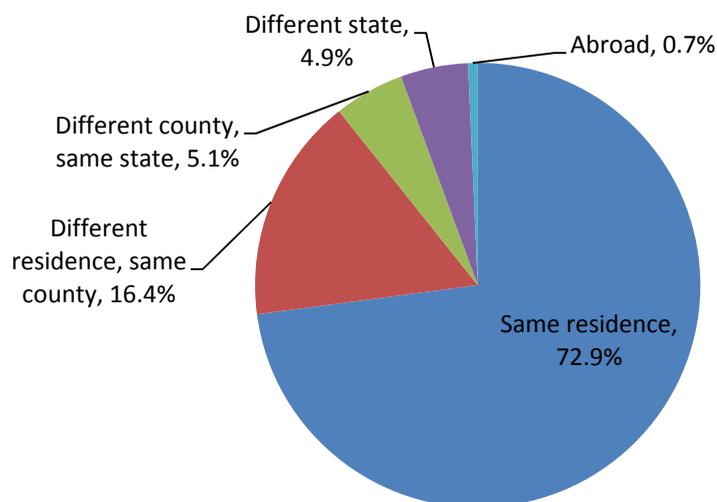
(American Community Survey, 2007-2011)



Geographic Mobility

In 2012, 73% of the people in Boone County one year of age or older were living in the same residence for at least one year. Residents in Columbia are somewhat more mobile, with 66% living in the same residence as they reported living in one year earlier.

FIGURE 13: GEOGRAPHIC MOBILITY OF RESIDENTS, BOONE COUNTY, 2012



(American Community Survey, 2012)

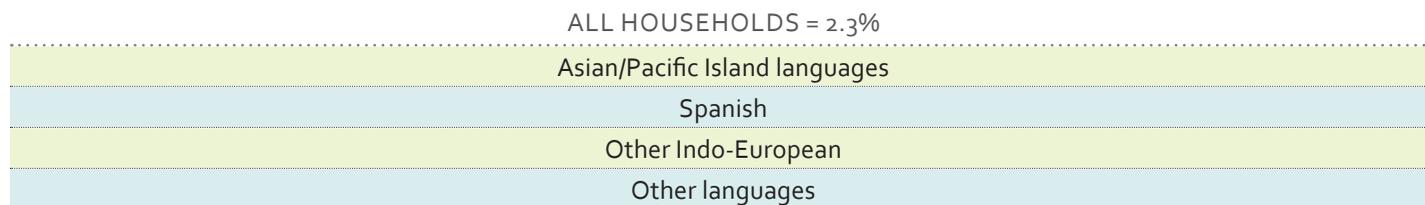
Language

The U.S. Census defines linguistically isolated households as those where no member of the household age 14 or older speaks English "very well." This could also be described as a household where everyone over 14 has trouble speaking English. Not being able to communicate due to language barriers can hamper access to employment, education, medical care, and social services.

Boone County has a fairly low percentage, 2.3%, of linguistically isolated households compared to the U.S. number of 4.7%. However, Boone County is slightly above the Missouri percentage of 1.3%. Figure 14 outlines the most common languages spoken in Boone County households that are linguistically isolated (American Community Survey, 2007-2011).

Language (continued)

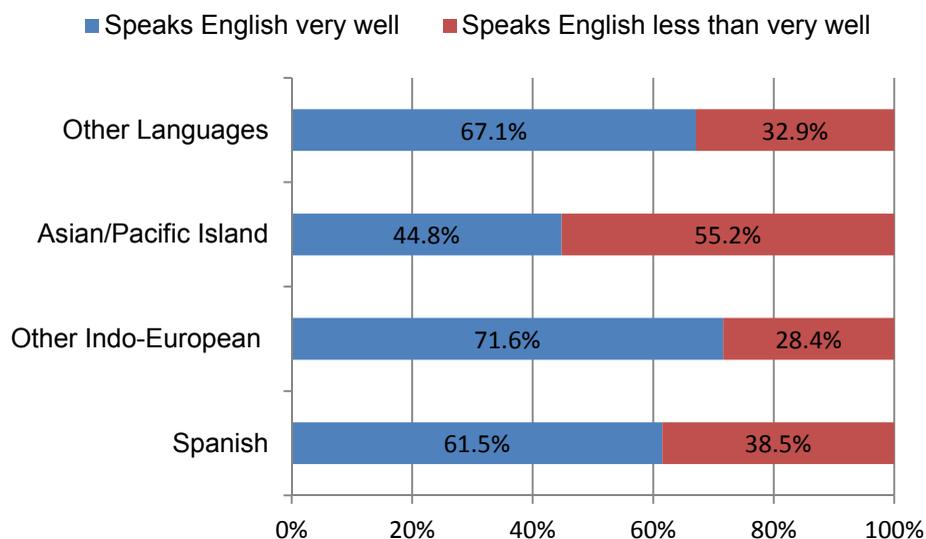
FIGURE 14: LANGUAGE SPOKEN IN LINGUISTICALLY ISOLATED HOUSEHOLDS, BOONE COUNTY, 2007-2011



(American Community Survey, 2007-2011)

While not officially considered linguistically isolated, there are also households in Boone County that live with limited English proficiency. These households may also have difficulties because of a limited ability to speak English fluently. Figure 15 outlines the most frequently spoken languages in those households. The same barriers to education, jobs, social services, and health care may apply to these households.

FIGURE 15: MOST FREQUENTLY SPOKEN LANGUAGE, BOONE COUNTY, 2007-2011



(American Community Survey, 2007-2011)



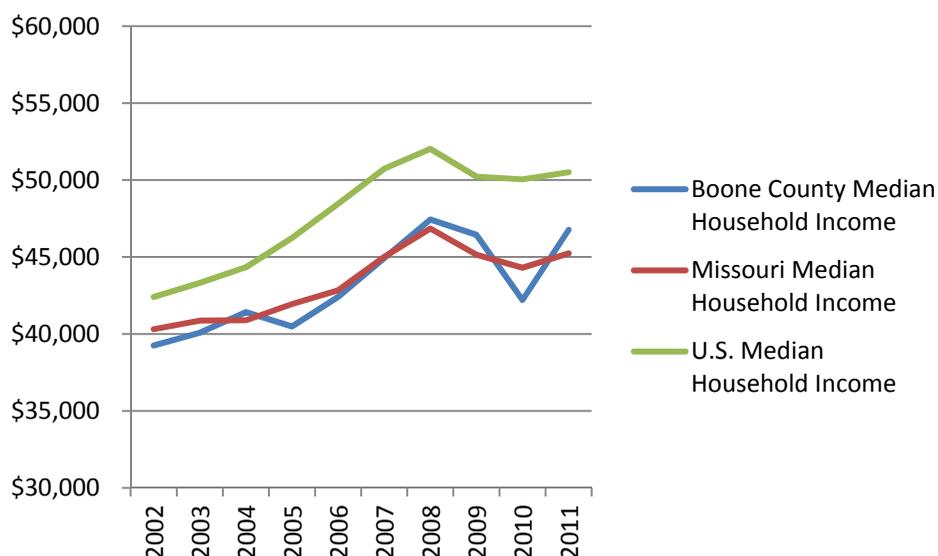
Socioeconomic and Education Characteristics

Income

Median household income is the most widely used measure of income. Median is a good predictor of household income because it is less impacted by the income highs and lows and divides the income distribution into two equal parts, one-half falling below and one-half above the median. Median income can define the ability of a household to have access to affordable housing, health care, higher education opportunities, and food.

Figure 16 shows the median income of all households in Boone County as compared to Missouri and the United States, where Boone County consistently lags behind the U.S. The dip shown for 2010 Boone median household income highlights the impact of the recession.

FIGURE 16: MEDIAN HOUSEHOLD INCOME BY YEAR, BOONE COUNTY, MISSOURI, UNITED STATES, 2002-2011



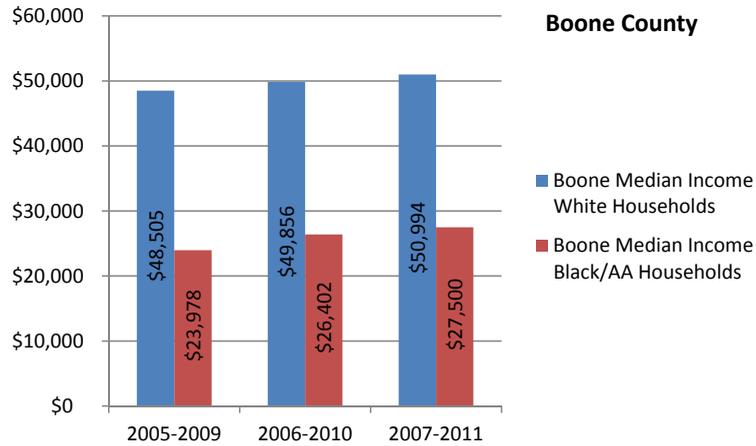
(U.S. Census Bureau: Small Area Income and Poverty Estimates [SAIPE])

Figure 16 was produced using one year U.S. Census data from the Small Area Income and Poverty Estimates (SAIPE). While the one year data is a good tool for seeing current trends, it does tend to have a higher rate of error. The next three graphs, Figures 17, 18, and 19, show median household income from the five-year U.S. Census data reports. Although the decline of 2010 is not shown as it is in Figure 16, the income is a more accurate picture of the actual dollar amounts due to the smaller margin of error.

Figures 17 and 18 highlight the disparity of income between white households and black/African-American households. This is seen not only in Boone County, but also Missouri. However, the gap is much wider in Boone County.

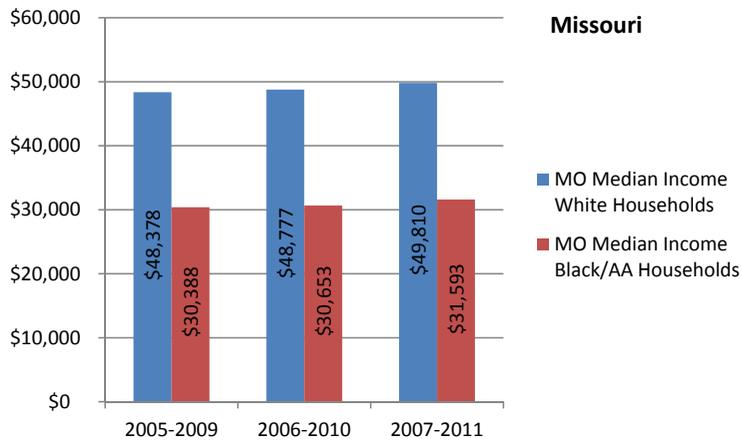
Income (continued)

FIGURE 17: MEDIAN HOUSEHOLD INCOME BY RACE, BOONE COUNTY, 2005-2009, 2006-2010, 2007-2011



(American Community Survey)

FIGURE 18: MEDIAN HOUSEHOLD INCOME BY RACE, MISSOURI, 2005-2009, 2006-2010, 2007-2011

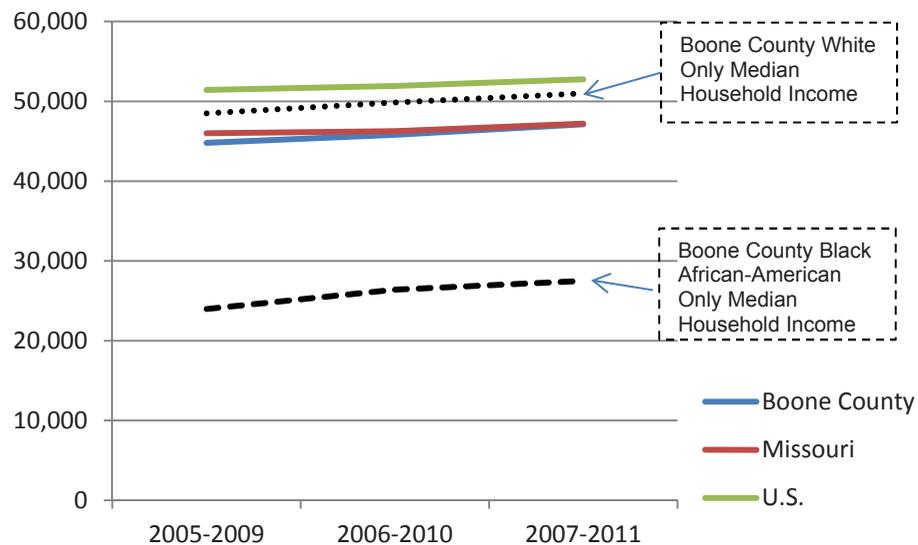


(American Community Survey)



Income (continued)

FIGURE 19: MEDIAN HOUSEHOLD INCOME WITH COMPARISON BY RACE, BOONE COUNTY, MISSOURI, UNITED STATES



(American Community Survey)

Figure 19 highlights the differences between the white and the black/African-American median household earnings. According to the 2007-2011 American Community Survey, for every \$1.00 earned by a white household in Boone County, a black household earns 54 cents.



Income (continued)

FIGURE 20: MEDIAN HOUSEHOLD INCOME, BOONE COUNTY BY COMMUNITY, 2007-2011

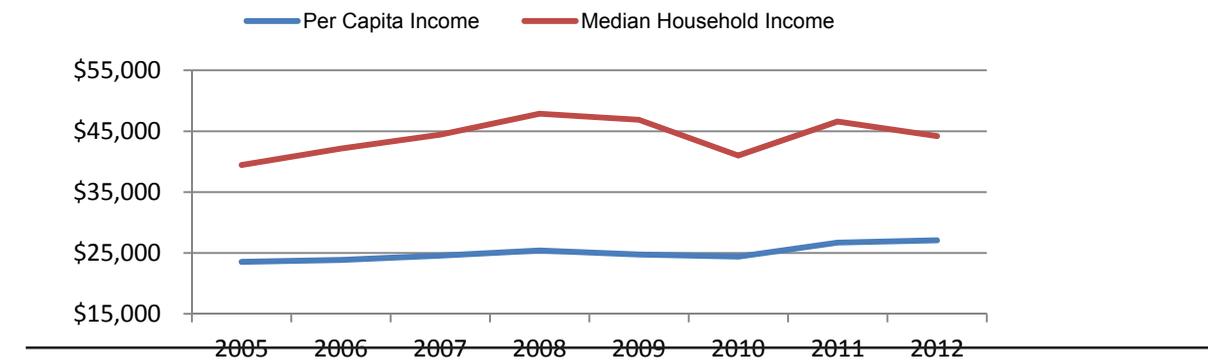
CITY	NUMBER OF HOUSEHOLDS	MEDIAN INCOME HOUSEHOLD
Ashland	1,543	\$57,467
Centralia	1,584	\$41,875
Columbia	42,388	\$43,102
Hallsville	677	\$42,981
Harrisburg	127	\$56,042
Hartsburg	67	\$33,977
McBaine	18	\$33,750
Pierpont	31	\$97,969
Rocheport	75	\$36,563
Sturgeon	377	\$37,250
Boone County	63,790	\$47,123
Missouri	2,354,104	\$47,202

(American Community Survey, 2007-2011)

Figure 20 highlights the difference in median household incomes in the 10 Boone County communities. Communities with a low number of households may have a higher margin of error.

Per capita income (the total income of an area divided by the total population) is another way of examining the income of a community. Per capita income looks at individual income; therefore, it may not be a good representation of the income of a community. Per capita income calculations have noted exclusions, such as the number of dependents supported by an individual income and income distribution.

FIGURE 21: PER CAPITA INCOME BY YEAR, BOONE COUNTY, 2005-2012



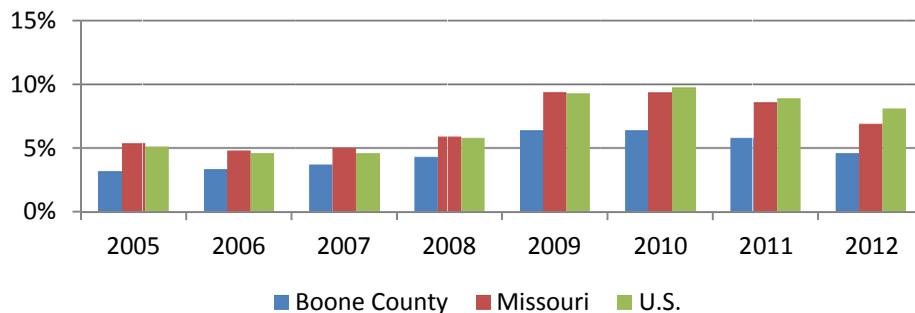
(U.S. Census Bureau)



Employment

According to the Missouri Economic Research and Information Center (MERIC), the July 2013 unemployment rate in Boone County was 5.5%, the fourth best in Missouri (MO Department of Labor & Industrial Relations). During this same time period, Missouri's unemployment rate was 7.1%. Boone County traditionally has an unemployment rate well below the national and state level, but was not immune to the increased unemployment rates seen in the last few years throughout the nation. The rates doubled from 2005 to 2009, but are currently in a decline. An increase in unemployment rates is notable for a community because of the increased need for social services including supplemental food programs, school lunch programs, low income housing, and affordable health care.

FIGURE 22: UNEMPLOYMENT RATES BY YEAR, BOONE COUNTY, MISSOURI, UNITED STATES, 2005-2012



(U.S. Bureau of Labor Statistics)

Despite the increases in unemployment in the area, Columbia remains a hub for jobs in central Missouri, attracting workers from all over the state. Sitting halfway between St. Louis and Kansas City on Interstate 70, Columbia draws workers from both metropolitan areas. In 2009, there were over 4,800 Columbia based employees from the St. Louis metro area and 2,300 from the Kansas City area (MERIC).

The largest industry sectors for employment in Columbia include "Health Care & Social Services" and "Educational Services." For those age 29 or younger, the top employers include "Accommodation & Food Services" and "Retail Trade."

Employment (continued)

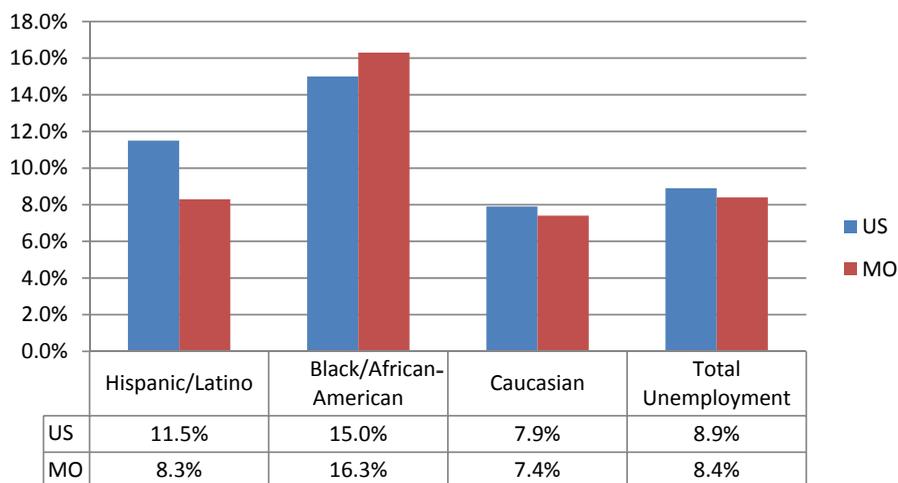
FIGURE 23: TOP JOB CATEGORIES, COLUMBIA

TOP COLUMBIA OCCUPATIONAL CATEGORIES	
1.	Health Care
2.	Education Services
3.	Retail Trade
4.	Accommodation and Food Services
5.	Public Administration

(Columbia Regional Economic Development Inc (REDI))

Unemployment statistics based on gender, age, and ethnicity are not collected at the county level. However, this information is tracked at state and national levels and is shown in Figures 24 and 25. Overall, black/African-Americans, Latinos, youth and adults with less than a high school diploma were more likely to be unemployed in 2011. Blacks were the only race with a higher unemployment rate in Missouri compared to the national average. Similarly, there was a higher rate of unemployment for young adults (age 16 to 19) in Missouri than in the nation (Jacqueline Schumacher, Policy Analyst, 2012).

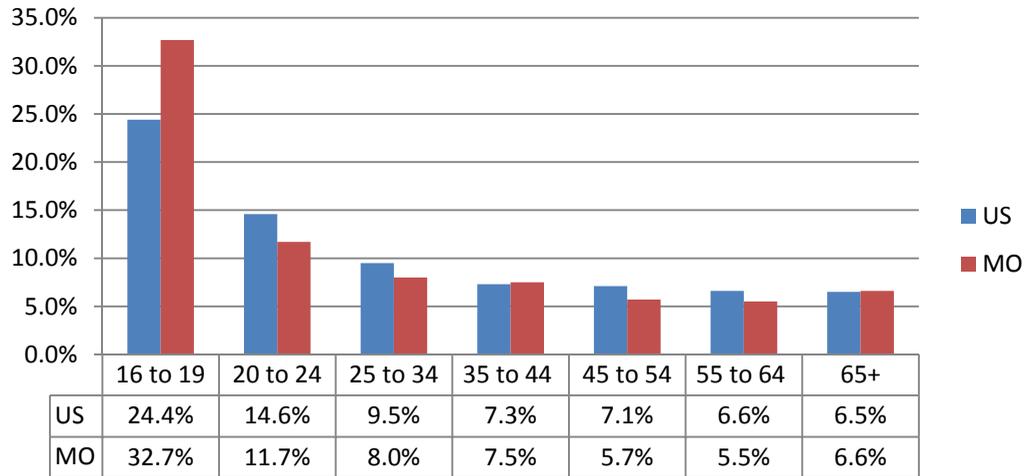
FIGURE 24: AVERAGE UNEMPLOYMENT BY RACE, ETHNICITY, MISSOURI, UNITED STATES, 2011



(Jacqueline Schumacher, Policy Analyst, 2012)

Employment (continued)

FIGURE 25: AVERAGE UNEMPLOYMENT RATE BY AGE, MISSOURI, UNITED STATES, 2011

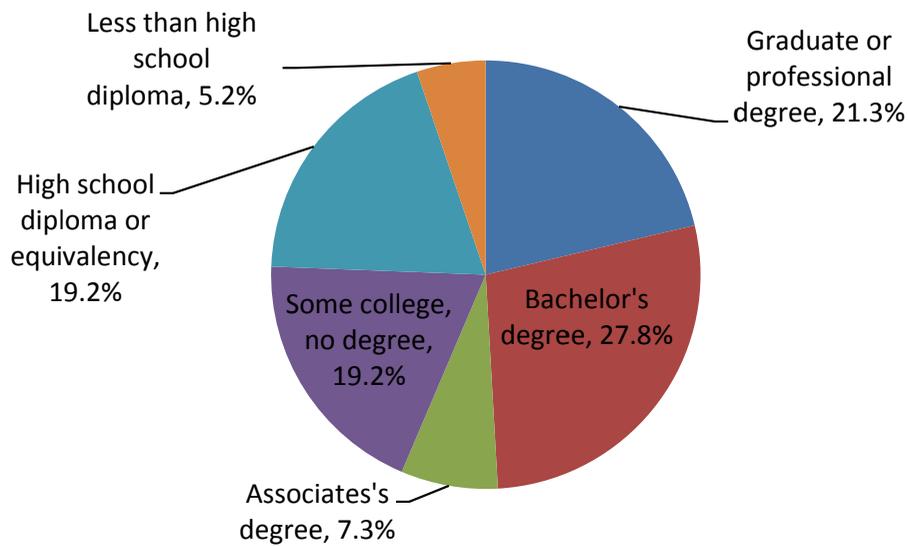


(Jacqueline Schumacher, Policy Analyst, 2012)

Education

There is a clear connection between education, race, unemployment, poverty, and health outcomes. According to the 2012 American Community Survey, 94.8% of those living in Boone County were high school graduates or higher, and 49% had at least a bachelor's degree. Boone County has higher rates of residents 25 years and over with a bachelor's degree or higher (47.7%) than both Missouri (26.1%) and the United States (28.5%).

FIGURE 26: EDUCATIONAL ATTAINMENT FOR POPULATION 25 YEARS AND OVER, BOONE COUNTY, 2012



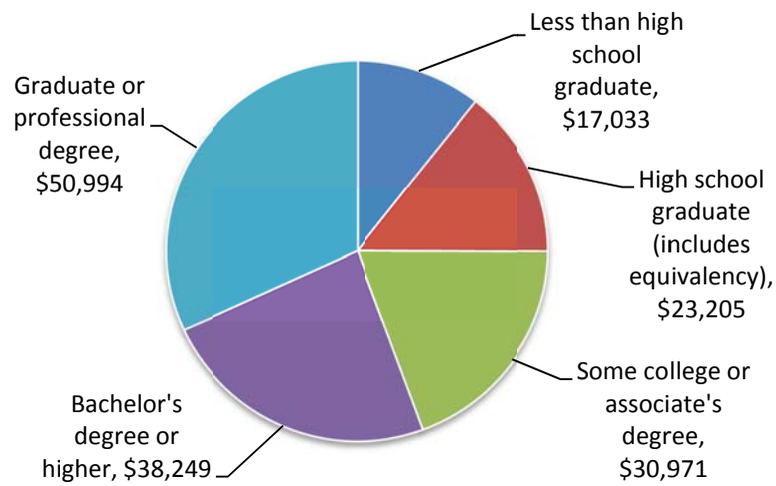
(American Community Survey, 2012)



Education (continued)

In Boone County, adults 25 years and older with a bachelor’s degree have median earnings one-and-a-half times that of adults with only a high school diploma, and twice those adults with less than a high school diploma.

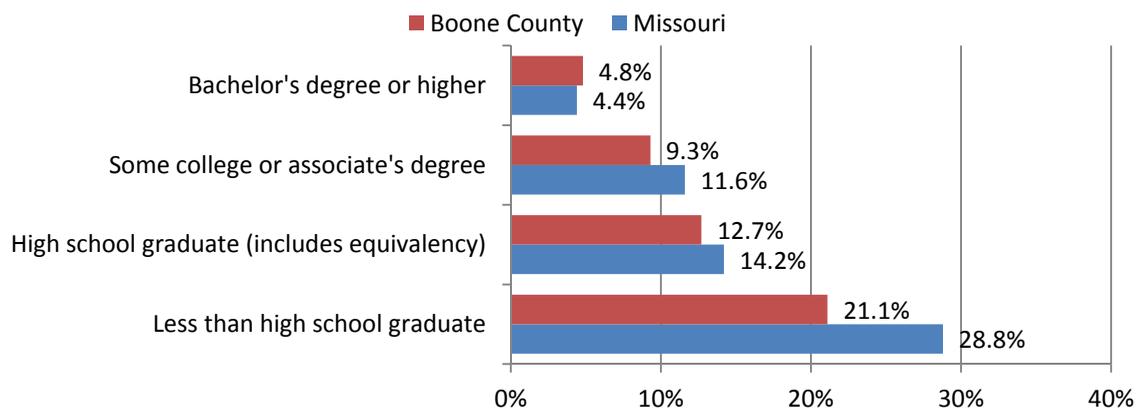
FIGURE 27: MEDIAN EARNINGS BY EDUCATIONAL ATTAINMENT 25 YEARS OF AGE OR GREATER, BOONE COUNTY, 2012



(American Community Survey, 2012)

Adults with a college degree are also less likely to live in poverty. In Boone County, the percentage of those with less than a high school diploma that live in poverty is actually less (21.1%) than for Missourians’ (28.8%).

FIGURE 28: POVERTY RATE BY EDUCATIONAL ATTAINMENT, BOONE COUNTY, 2012



(American Community Survey, 2012)

Education (continued)

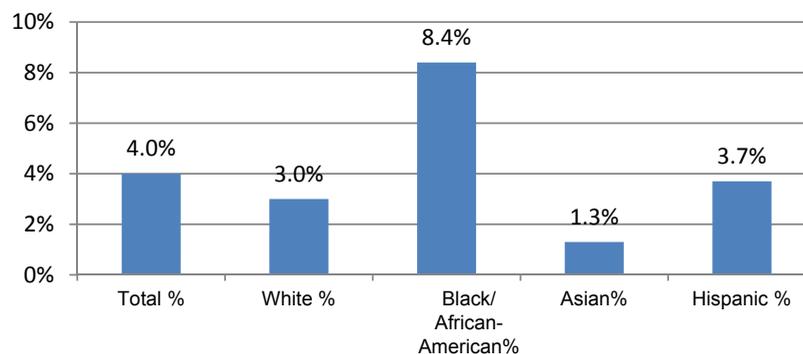
Other important education indicators include high school dropout rates and four-year graduation rates. In Boone County, these indicators are available by school district. There are six school districts in the county, ranging in size from 450 students (Sturgeon) to 17,000 students (Columbia).

FIGURE 29: DROPOUT RATES BY SCHOOL DISTRICT BY YEAR, BOONE COUNTY, 2009-2013

	2009	2010	2011	2012	2013
Centralia	3.6%	1.7%	2.5%	2.1%	1.7%
Columbia	4.2%	3.3%	3.1%	3.2%	4.0%
Hallsville	4.4%	2.8%	2.5%	1.7%	1.9%
Harrisburg	3.6%	0.0%	1.2%	2.3%	1.2%
Southern Boone	2.5%	2.0%	1.5%	1.1%	1.8%
Sturgeon	2.3%	3.4%	2.2%	0.8%	0.0%
Boone County	3.5%	3.1%	3.1%	2.9%	2.9%

(Missouri Department of Elementary and Secondary Education)

FIGURE 30: DROPOUT RATE BY RACE/ETHNICITY, COLUMBIA, 2013



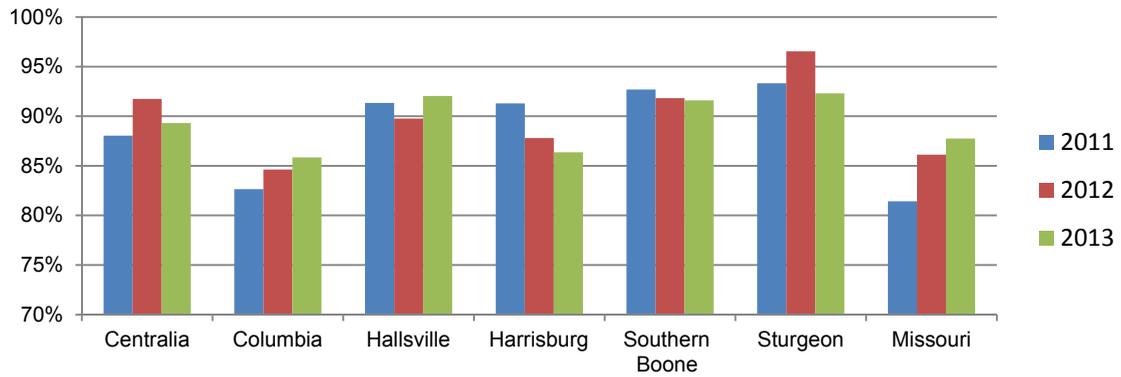
(Missouri Department of Elementary and Secondary Education)

Columbia tends to have higher dropout rates than the other school districts in Boone County. Figure 30 breaks down the Columbia dropout rate by race showing a black/African-American student is more than twice as likely as any other race to not graduate.

The four-year high school graduation rate looks at the percentage of freshmen students who graduate in four years with a traditional high school diploma. It allows rates to be compared across states. The Missouri Department of Secondary and Elementary Schools has collected this statistic since 2011. Figure 31 shows that Columbia consistently graduates fewer of its students in four years than the other Boone County districts. Of note, the Columbia school district is a much larger district than the others in Boone County. Sturgeon, the smallest district, has the lowest dropout rate and graduates the highest percentage of students.

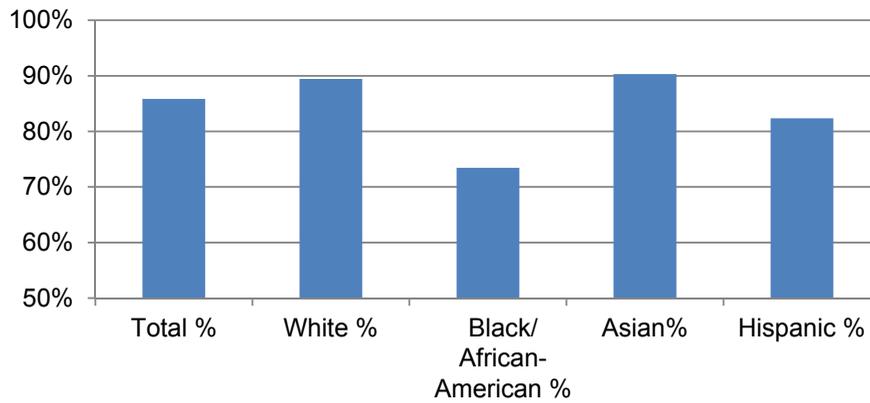
Education (continued)

FIGURE 31: FOUR YEAR GRADUATION RATES FOR BOONE COUNTY DISTRICTS, 2011-2013



(Missouri Department of Elementary and Secondary Education)

FIGURE 32: FOUR YEAR GRADUATION RATES BY RACE, COLUMBIA SCHOOL DISTRICT, 2013



(Missouri Department of Elementary and Secondary Education)

Poverty

According to U.S. Department of Health and Human Services, there are two slightly different versions of the federal poverty measure: poverty thresholds and poverty guidelines. Poverty thresholds, issued by the U.S. Census Bureau, are weighted statistical calculations that consider family size and age. Poverty guidelines, issued by the Department of Health and Human Services, vary by family size and are used to determine financial eligibility for certain programs. The poverty guidelines are often referred to as the Federal Poverty Level (FPL). The following figures are the 2013 U.S. Department of Health and Human Services poverty guidelines which were published in the Federal Register on January 24, 2013 (U.S. Department of Health and Human Services).

FIGURE 33: FEDERAL POVERTY GUIDELINES, 2013

PERSONS IN FAMILY/HOUSEHOLD	POVERTY GUIDELINE
1	\$11,490
2	\$15,510
3	\$19,530
4	\$23,550
5	\$27,570
6	\$31,590
7	\$35,610
8	\$39,630
For families/households with more than eight persons, add \$4,020 for each additional person.	

(U.S. Department of Health and Human Services)

FIGURE 34: MONTHLY FEDERAL POVERTY GUIDELINES BY PERCENT OF POVERTY LEVEL, 2013

SIZE OF FAMILY UNIT	100% OF POVERTY	135% OF POVERTY	150% OF POVERTY	200% OF POVERTY
1	\$958	\$1,293	\$1,437	\$1,772
2	\$1,293	\$1,745	\$1,940	\$2,392
3	\$1,628	\$2,197	\$2,441	\$3,012
4	\$1,963	\$2,650	\$2,945	\$3,632
5	\$2,298	\$3,102	\$3,447	\$4,251
6	\$2,633	\$3,555	\$3,950	\$4,871
7	\$2,968	\$4,006	\$4,452	\$5,491
8	\$3,302	\$4,458	\$4,953	\$6,108

(U.S. Department of Health and Human Services)

Poverty (continued)

In 2012, 19.1% of Boone County residents were living below the poverty level according to the 2012 American Community Survey. Figure 35 breaks down the percentage of the Boone County population living in poverty by age, race, and household (American Community Survey, 2012).

FIGURE 35: PERCENT LIVING IN POVERTY, BOONE COUNTY, 2012

FOR THE ESTIMATED 158,592 BOONE COUNTY RESIDENTS FOR WHOM POVERTY STATUS IS DETERMINED:

- 19.1% of Boone County residents live in poverty (30,258 of 158,592 residents)
- 16.9% of White Boone County residents live in poverty (22,355 of 132,172 residents)
- 25.0% of Black/African-American Boone County residents live in poverty (2,524 of 10,091 residents)
- 35.6% of Asian Boone County residents live in poverty (2,331 of 6,541 residents)
- 17.4% of Boone County male residents live in poverty (13,399 of 77,140 residents)
- 20.7% of Boone County female residents live in poverty (16,859 of 81,452 residents)
- 13.6% of Boone County children under 18 years live in poverty (4,578 of 33,750 residents)
- 22.8% of Boone County residents 18 to 64 years live in poverty (24,920 of 109,212 residents)
- 4.9% of Boone County residents 65 years and over live in poverty (760 of 15,630 residents)

(American Community Survey, 2012)

The number of participants receiving food stamps (SNAP benefits) is used as an indicator of a community's poverty burden. The 2013 Missouri Hunger Atlas estimates 21.6% of Boone County's total population are income eligible for SNAP with 19,525 of Boone County residents receiving SNAP benefits, or 11.8% of the total population.

Another indicator of poverty burden in a community is the number of students eligible for the Free and Reduced Lunch Program. The percentage of students eligible in each of the school districts in Boone County is less than in Missouri. Centralia has seen the largest increase in percentage since 2009, but is still has one of the lowest rates of all Boone County school districts.

Poverty (continued)

FIGURE 36: STUDENTS ELIGIBLE FOR FREE AND REDUCED LUNCH, BOONE COUNTY SCHOOL DISTRICTS, MISSOURI, 2009-2013

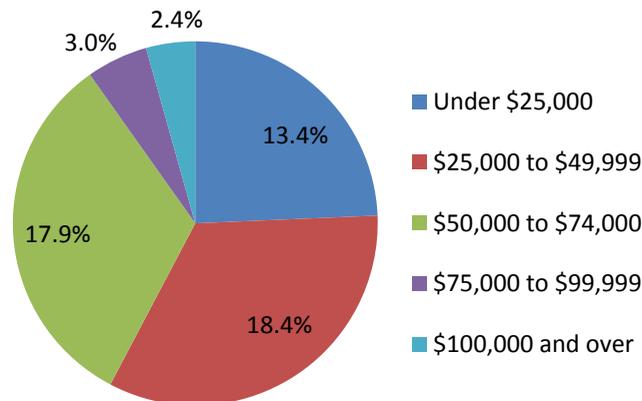
	2009	2010	2011	2012	2013
Missouri	43.7%	46.9%	47.8%	49.5%	49.9%
Columbia	36.0%	38.9%	38.9%	40.0%	39.6%
Centralia	26.5%	32.0%	33.7%	34.6%	34.5%
Hallsville	31.3%	33.4%	33.3%	34.0%	35.4%
Harrisburg	35.7%	41.3%	41.8%	44.0%	42.1%
Southern Boone	19.8%	19.8%	21.5%	22.2%	21.9%
Sturgeon	38.9%	40.3%	45.1%	43.8%	46.1%

(Missouri Department of Elementary and Secondary Education)

Health Insurance Coverage

Of Boone County residents age 65 years or less, 14.5% lack health insurance (Small Area Health Insurance Estimates [SAHIE]). The age group most likely to lack health care coverage is 18-39, with males more likely than females to be uninsured. According to the American Community Survey, residents over 65 are the most likely to have health insurance with over 99% being insured.

FIGURE 37: PERCENT UNINSURED BY INCOME GROUPS, BOONE COUNTY, 2012

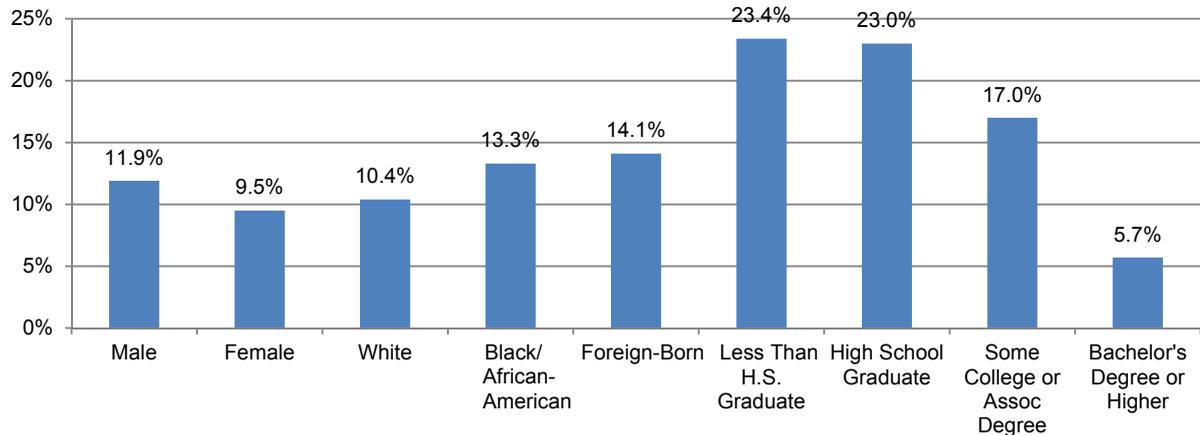


(American Community Survey, 2012)

Figure 37 looks at the percentage of uninsured in different income categories. Those with household income between \$25,000 and \$49,999 are more likely to be uninsured than any other income category.

Health Insurance Coverage (continued)

FIGURE 38: UNINSURED STATUS, BOONE COUNTY, 2012



(American Community Survey, 2012)

College graduates with a Bachelor's degree are about four times more likely to have health insurance than those who do not graduate from high school. Black/African-Americans, and those who are foreign-born, are more likely to be uninsured than whites, while Boone County males are also more likely to be uninsured than females.

Households and Housing

The U.S. Census Bureau defines a household as all of the people who occupy a single housing unit. A family is defined as a household with one or more people related by marriage, birth, or adoption. According to the 2012 American Community Survey, there are 66,360 households in Boone County with an average household size of 2.4. Of these households, 54.6% are family households with an average size of 3.03 people and 45.4% are nonfamily households

The availability of safe and affordable housing is an important characteristic, and can also serve as an indicator of the overall social, economic, and demographic picture of the community. As mentioned previously, Boone County is home to multiple colleges which impact the community in many ways, one of which is housing. Columbia has seen many large new apartment complexes, mostly catering to the student population, built in the last several years.

Households and Housing (continued)

FIGURE 39: HOUSING UNITS, BOONE COUNTY, 2012

TYPE OF UNIT	NUMBER OF UNITS	% OF UNITS
Single family units	46,171	65.1%
Multiple family units	24,809	34.9%
Total	70,980	100%

(American Community Survey, 2012)

According to the 2012 American Community Survey (U.S. Census), Boone County has 70,980 housing units with an occupancy rate of 93.5%. Approximately 21% of the housing units, both single homes and complexes, have been built since the year 2000.

FIGURE 40: SELECTED HOUSING CHARACTERISTICS, BOONE COUNTY, MISSOURI, 2012

	BOONE COUNTY	MISSOURI
Median gross rent	\$777	\$706
Median mortgage cost	\$1,186	\$1,176
Median home value	\$158,400	\$135,000

(American Community Survey, 2012)

It is important to look at the amount of income spent on housing for the Boone County resident. The U.S. Department of Housing and Urban Development (HUD) considers families who pay more than 30% of their income for housing as "cost burdened." Twenty-six percent of homeowners with mortgages and 60% of renters in Boone County spent 30% or more of household income on housing. Students may make up a large portion of this percentage. Without means of support other than educational and family assistance, students increase the number of households in Boone County living below poverty level. Students add to the demand for housing and are often able to pay the higher rent costs due to other sources of income. This often leaves those lacking additional financial support without affordable and sometimes safe housing.



Health Resources

The healthcare industry plays an important role in the health and economic well-being of Boone County. The five hospitals, with a combined total of 1,100 acute care beds and 226 intensive care beds, provide a wealth of health care resources as well as serve as a primary employer in the area.

Health Care Facilities

BOONE HOSPITAL CENTER

Opened in 1921, Boone Hospital, originally Boone County Hospital, is part of the BJC Healthcare family, one of the largest nonprofit health care organizations in the United States. Boone Hospital Center is a full-service hospital with a 24-hour emergency center, ambulance service, and helipad (Boone Hospital Center, 2013).

UNIVERSITY OF MISSOURI HEALTH SYSTEM

University Hospital, a teaching hospital affiliated with the University of Missouri, offers the only Level I Trauma Center and helicopter service in mid-Missouri. The facility serves patients from many Missouri counties and other states. University of Missouri Health System also includes Women's and Children's Hospital, home to a technologically-advanced newborn ICU; Missouri Psychiatric Center, a 57-bed facility that offers short-term, intensive treatment services for all ages; and Ellis Fischel Cancer Center, which serves thousands across Missouri through cancer prevention, detection, and treatment services (University of Missouri Health Care, 2013).

HARRY S. TRUMAN MEMORIAL VETERANS' HOSPITAL

Truman VA serves veterans from 44 counties in Missouri as well as Pike County, Illinois. While University Hospital and Truman VA share medical staff, the VA does not have an emergency room or helicopter service. The hospital is a widely-used resource for not only primary care, but also extended care and social support services for veterans (Harry S. Truman Memorial Veteran's Hospital, 2013).

RUSK REHABILITATION CENTER

Rusk Rehab is a rehabilitation hospital that offers both inpatient and outpatient services. It is the only inpatient rehabilitation hospital in central Missouri, and offers a wide variety of comprehensive services (Rusk Rehabilitation Center, 2013).

LANDMARK HOSPITAL OF COLUMBIA

Landmark Hospital is part of a larger Landmark Hospital system. The newest hospital in the community, Landmark fills a niche, providing hospital care for chronically ill patients that have medically complex conditions and are too ill for placement in a skilled nursing facility (Landmark Hospitals, 2013).

Hospital Utilization and Statistics

FIGURE 41: SELECTED HOSPITAL UTILIZATION STATISTICS, BOONE COUNTY, 2012

	UNIVERSITY OF MISSOURI HEALTH CARE	BOONE HOSPITAL CENTER	HARRY S. TRUMAN VETERANS	RUSK REHABILITATION SERVICES	LAND-MARK
Licensed beds	478*	400	123	60	42
Inpatient days	108,035	72,882	30,395	16,794	11,208
Discharges	21,872	17,209	3,790	1,053	437
Average length of stay	4.9	4.2	8.0	15.9	25.6
Occupancy	62.8 % (2010)	49.9 %	72 %	76.7 %	73.1 %

(Missouri Department of Health and Senior Services, 2013)

*Does not include beds at the Missouri Psychiatric Center

Health Care Resources

Boone County is home to multiple physicians, multiple health care clinics, and has a high number of licensed health care providers. According to the 2013 County Health Rankings & Roadmaps, for every 949 Boone County residents, there is one primary care physician, which is well above the Missouri ratio of one primary care provider for every 1,495 Missouri residents, and above the national benchmark of 1,067:1. But even with this high ratio, Boone County has few resources for those who are uninsured. Family Health Center, the only Federally Qualified Health Center (FQHC) in the area, serves multiple counties, and MedZou, a volunteer student-operated medical clinic, provides free primary health care. Both clinics are limited on numbers of patients without resources that can be served. In July, 2013, HRSA (Health Resources and Services Administration) classified the low-income population in Boone County as having a shortage of access to health professionals.

FIGURE 42: LICENSED PRIMARY CARE PROVIDERS, BOONE COUNTY, 2012

	NUMBER OF PRIMARY CARE PROVIDERS	RATIO OF POPULATION TO PRIMARY CARE PROVIDERS
Boone County	172	949:1
Missouri	x	1,495:1

(County Health Rankings and Roadmaps, 2013)

A notable gap is found in the ability of uninsured and Medicaid eligible Boone County residents to receive dental services. There are 94 licensed dentists in the county, or one dentist for every 1,832 Boone County residents. While this is above what is found in Missouri, it is still below the national benchmark of one dentist for every 1,1516 residents. The Family Health Center offers a dental clinic and is the only clinic with a sliding scale for dental patients, but few other dentists in the area accept patients with Medicaid. Also, not all Medicaid recipients receive dental coverage.

Health Care Resources (continued)

FIGURE 43: LICENSED DENTISTS, BOONE COUNTY, 2012

	NUMBER OF DENTISTS	RATIO OF POPULATION TO DENTISTS
Boone	94	1,832:1
Missouri	x	2,168:1

(County Health Rankings and Roadmaps, 2013)

Columbia/Boone County Public Health and Human Services

Boone County has a combined city/county public health department with a human services division. The Columbia/Boone County Department of Public Health and Human Services (PHHS) is a City of Columbia department with an appointed Board of Health which advises elected officials regarding the operations of PHHS, and makes policy recommendations in the interest of public health.

The 2012 operating budget of the department was \$6,308,027; the department operates with a staff of 62 FTEs. From 2004 to 2012 the total number of PHHS staff increased by less than two FTEs. During that same time period, the number of employees per thousand of population decreased.

MISSION

To promote and protect the health, safety, and well-being of the community through leadership and service.

VISION

Optimal health, safety, and well-being for all.

FIGURE 44: COLUMBIA/BOONE COUNTY PHHS EMPLOYEES/1,000 COMPARED TO TOTAL NUMBER OF EMPLOYEES, 2004-2012



(City of Columbia; U.S. Census Bureau)

Long-Term Care and Assisted Living Facilities

Boone County has 21 licensed long-term care facilities: 11 offer skilled nursing, five are categorized as assisted living, and five as residential. A skilled nursing facility assumes responsibility for the resident, while an assisted living facility requires the resident to be able to evacuate with minimal assistance. A residential facility requires the resident to be able to evacuate without assistance (Missouri Department of Health and Senior Services). Of the 21 facilities, nine participate with Medicare/Medicaid.

FIGURE 45: LICENSED NURSING HOME BEDS, BOONE COUNTY, 2012

	SKILLED NURSING FACILITY	ASSISTED LIVING FACILITY	RESIDENTIAL NURSING FACILITY	TOTAL
Number of beds	1,002	316	175	1,493
Number of facilities	11	5	5	21
Number of facilities with an Alzheimer's unit	7	0	0	7

(Missouri Department of Health and Senior Services)

FIGURE 46: NURSING HOME BEDS TO POPULATION RATIO, BOONE COUNTY, MISSOURI, 2012

	POPULATION (65 YEARS AND OLDER)	NUMBER OF LICENSED BEDS	BEDS PER 1,000 POPULATION (65 YEARS AND OLDER)
Boone County	15,072	1,493	99/1,000
Missouri	838,294	78,000	93/1,000

(U.S. Census, 2010) (Missouri Department of Health and Senior Services)

Figure 46 looks at the ratio of nursing home beds to the population over 65 years of age. Although both Missouri and Boone County have many long-term beds, it is often a struggle for a resident in need of assisted care to find a facility. Long-term care facilities in Boone County remain at almost full capacity, often with a waiting list. This may be due to the central location of these homes and the proximity to good health care and specialists.

Cost can be an important factor to consider. Many long-term care facilities can cost between \$20,000 and \$50,000 a year, with some even higher. In Missouri, 500 of the 1,144 (44%) licensed long-term care facilities support Medicare/Medicaid options, while nine of the 21 (43%) facilities in Boone County participate.

Quality of Life

How a resident perceives quality of life is an important indicator for the community. The National Association of City and County Health Officials (NACCHO) defines Quality of Life as a construct that “connotes an overall sense of well-being when applied to an individual” and a “supportive environment” when applied to a community.

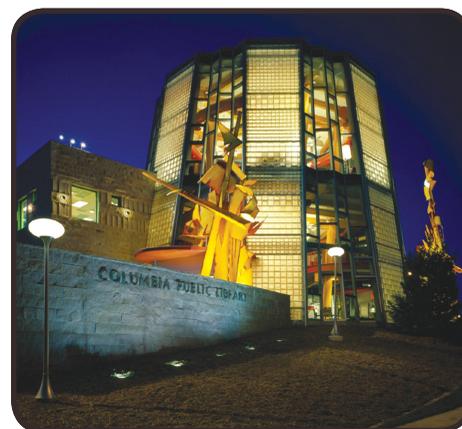
Parks and Recreation

The ability to safely access and participate in outdoor activities is important to the health of a community. Parks and walking trails are widely available throughout Boone County. In Columbia there are 3,040 city-owned acres of parks and green space and 50.03 miles of trails. Rock Bridge Memorial State Park and Finger Lakes State Park, along with several Conservation and Wildlife Management Areas are also found in Boone County. The KATY Trail, which extends over 200 miles through Missouri, runs through the county. The MKT Nature & Fitness Trail connects to the KATY Trail near McBaine and links to over four miles of trails in Columbia. These widely used trails provide opportunities for runners, bikers, and walkers. Another project, Get About Columbia, is a collaborative effort between Parks and Recreation and Public Works (City of Columbia, 2013) with the goal of increasing safe walking and biking infrastructure in Columbia. The community has seen an increase in recent years of over 125 miles of new bikeways, pedways and sidewalks. Benefits are new bike routes, multi-use paths, trails, and on-street striped bike lanes. Both Columbia and Centralia have city-owned and operated community recreation centers.



The Arts

Residents in Boone County have several opportunities to participate in cultural events. The many parks offer festivals throughout the year and music is offered at a variety of locations, such as smaller venues, larger concert halls, and big outdoor annual events. One festival, Roots 'n Blues 'n BBQ, attracts people from throughout the United States, with an estimate of over 250,000 people attending since it began in 2007. Boone County is also home to several art galleries, the Boone County Historical Society Museum, the Museum of Art and Archeology, and the State Historical Society of Missouri. Jesse Hall and the Missouri Theatre in Columbia are well known landmarks providing both music and plays throughout the year.





Transportation

Columbia Regional Airport is located south of Columbia and offers daily flights to Chicago O'Hare and Dallas/Fort Worth International Airports. Lambert-St. Louis International Airport, and Kansas City International Airport are each approximately two hours from Columbia and are another resource for air travel.

Columbia is the only community in Boone County with a public transportation system. The system provides bus service throughout the city with limited service on Saturday and no service on Sunday. It is heavily used on the campus of the University of Missouri with multiple buses providing students an alternate way to campus from housing areas and parking lots. Para-Transit, part of the Columbia Transit system, offers scheduled rides to ADA-eligible citizens who are unable to use the fixed-route traditional bus system. OATS, a not-for-profit corporation, also offers specialized transportation for senior citizens, people with disabilities, and the rural general population. There is also a Greyhound and Megabus stop in Columbia.

Eighty percent of Boone County workers drove to work alone in 2012, and 10% carpooled. Among those who commuted, it took them an average of 18 minutes to get to work.

Education Opportunities



As a leader in higher education, Boone County is home to many institutions of higher learning, all of them located in Columbia.

The University of Missouri (Mizzou) is the flag-ship campus of the four campus University of Missouri system. A \$2.1 billion enterprise, the University of Missouri enrolls over 35,000 students each year and provides many opportunities for Boone County (University Of Missouri).

Columbia College enrolls more than 3,500 students that attend the day and evening programs at their Columbia campus (Columbia College, 2013).

Stephens College has approximately 700 full-time residential students (Stephens College).

Colleges from other areas, including Moberly Area Community College, William Woods University, Westminster College, and Central Methodist University have campuses in Columbia offering increased opportunities for a college degree. Also present in Columbia are several career school opportunities including those offering cosmetology, Licensed Practical Nursing (LPN) programs and other adult education programs.

Education Opportunities (continued)

There are six separate public school systems in Boone County: Centralia R-VI, Columbia Public Schools, Hallsville R-IV, Harrisburg R-VIII, Southern Boone Co. R-I, and Sturgeon R-V with a combined enrollment of over 22,000 students. All are accredited K-12, with limited preschool enrollment. Two high schools, Rock Bridge High School and Hickman High in Columbia are ranked in the top 20 Missouri Schools with a ranking of 8th and 14th, respectively. With both achieving a silver medal ranking based on college readiness index values, Rock Bridge is ranked 957 and Hickman 1,328 out of more than 21,000 high schools evaluated (U.S. News and World Report).



Voters

Boone County has 100,711 active voters. According to the Boone County Clerk's office, 79.33% of the active voters voted in the last major election in November 2012.

Child Services and Childcare

Affordable and safe child care services are a must in every community. Many households have two working parents, increasing the need for day care. In Boone County households with children under five years old, 51.6% have both parents working. In Boone County, there are 55 licensed child care facilities located outside of Columbia, 99 in Columbia, and many unlicensed in-home care providers.



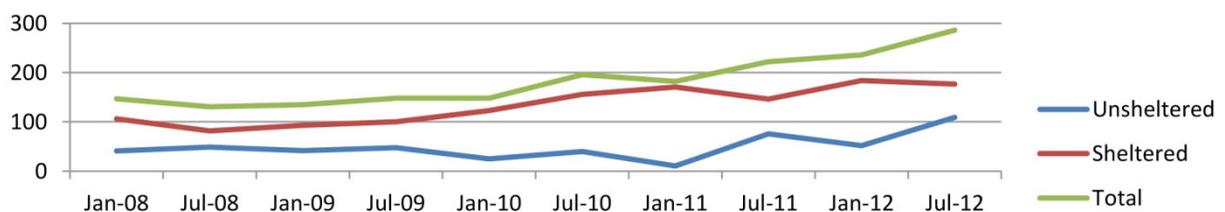
Homelessness

According to the Institute of Public Policy's Boone County Issues Analysis, Basic Needs and Emergency Shelters (Jacqueline Schumacher, Policy Analyst, 2013), the primary community level indicator of homelessness in Boone County is the number of homeless individuals represented in the Point-In-Time Count. The Point-In-Time Count is part of a biannual homeless census conducted by the Missouri Housing Development Commission and the Missouri Association for Social Welfare. The count is a snapshot of the number of sheltered and unsheltered individuals during a specified 24-hour period in January and July. The Point-In-Time Count offers a baseline to quantify the number of individuals who are homeless on any given day in both the winter and summer months. However, one should note that the homeless census has a relatively flexible methodology and implementation, which accounts for the challenges inherent with tracking this population.

The Point-In-Time Count uses the Department of Housing and Urban Development's (HUD) definition of homeless which was adopted by the City of Columbia. According to HUD, a homeless person is considered "unsheltered" when they are living on the streets, in abandoned buildings, vehicles, parks, or in bus and train stations. A "sheltered" homeless person lives in an emergency shelter or transitional housing program specifically in place for homeless persons. The transient nature of homeless individuals brings about challenges in obtaining an accurate count of the population and in assessing individual needs.

Figure 47 describes the total number of homeless individuals in Boone County during the January and July Point-In-Time Counts between 2008 and 2012. The combined sheltered and unsheltered count reveals a steady increase in the number of homeless individuals between 2008 and 2012. The unsheltered trend line has expected seasonal variation between the winter and summer months. Between July 2008 and July 2012, the Point-In-Time Count revealed 48% more homeless individuals in Boone County. At the state level, the increase between January 2008 and January 2012 was just 22%.

FIGURE 47: TOTAL OF HOMELESS INDIVIDUALS IN BOONE COUNTY, 2008-2012



Source: Missouri Housing Development Commission (unsheltered) & Missouri Association for Social Welfare (sheltered)

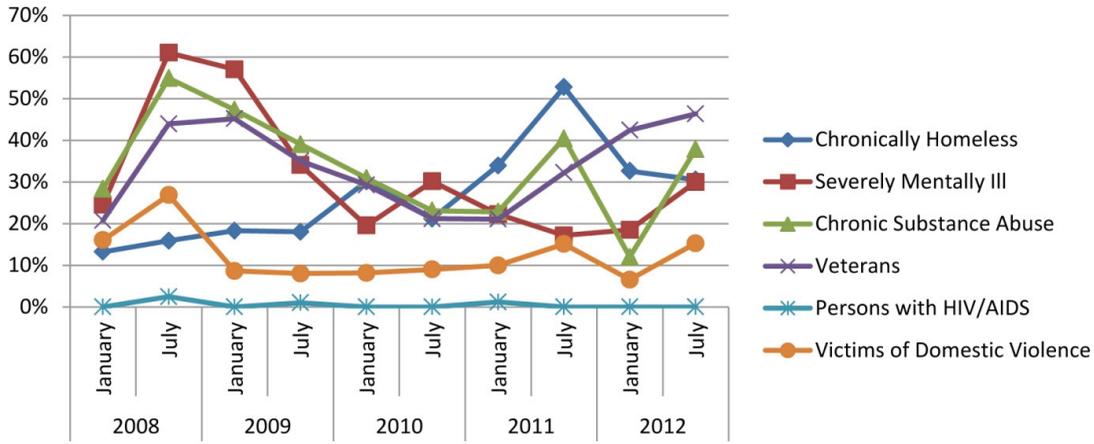
(Jacqueline Schumacher, Policy Analyst, 2013)



Figure 48 provides useful information on sheltered homeless individuals in each sub-population as a rate among all sheltered homeless during the Point-In-Time counts between 2008 and 2012. During the most recent count, persons with HIV/AIDS and victims of domestic violence constitute the smallest representation of sheltered individuals in Boone County, while veterans make up the largest sub-population represented at this same point-in-time.

Homelessness (continued) 3

FIGURE 48: SHELTERED HOMELESS SUB-POPULATIONS AS A RATE OF ALL SHELTERED HOMELESS INDIVIDUALS IN BOONE COUNTY, 2008-2012

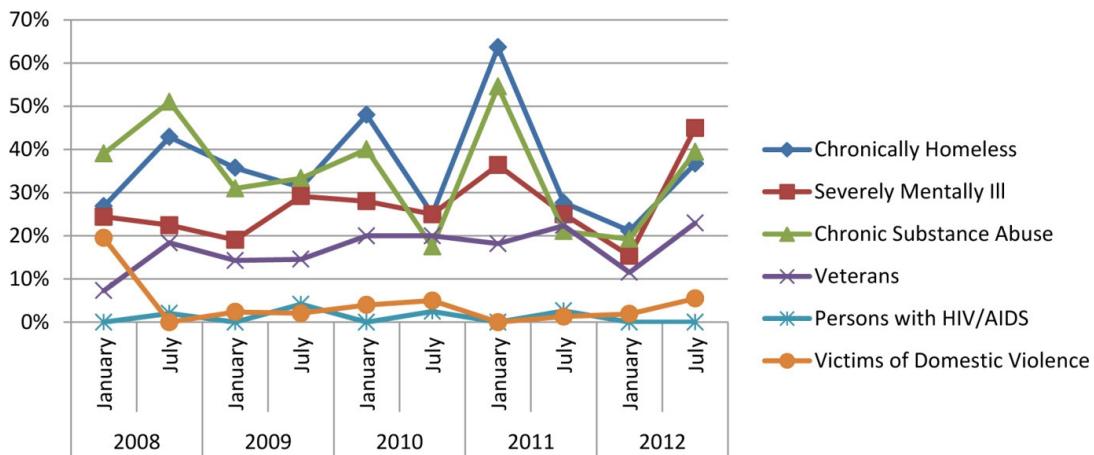


Source: Missouri Association for Social Welfare

(Jacqueline Schumacher, Policy Analyst, 2013)

Figure 49 provides useful information on unsheltered homeless individuals in each sub-population as a rate among all unsheltered homeless during the Point-In-Time Counts between 2008 and 2012. During this time period, chronically homeless individuals, those suffering from severe mental illness, and individuals with chronic substance abuse problems make up the majority of the unsheltered homeless population for all consecutive years represented here.

FIGURE 49: UNSHELTERED HOMELESS SUB-POPULATIONS AS A RATE OF ALL UNSHELTERED HOMELESS INDIVIDUALS IN BOONE COUNTY, 2008-2012



Source: Missouri Housing Development Commission

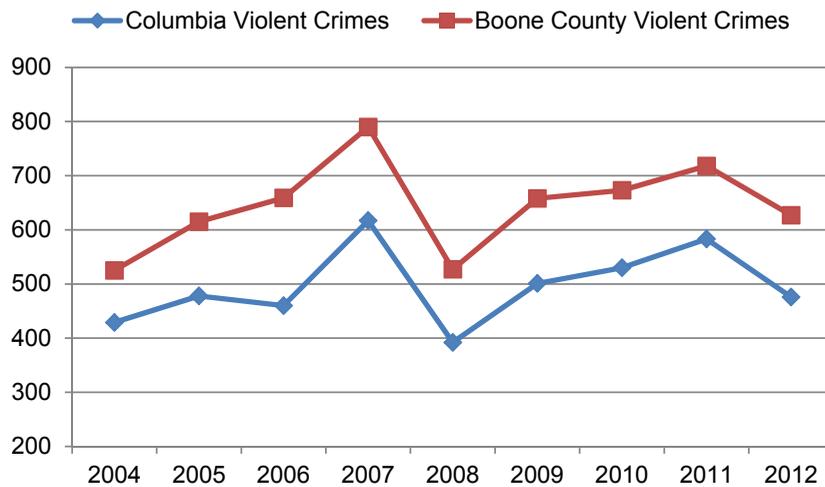
(Jacqueline Schumacher, Policy Analyst, 2013)

Crime

The Missouri State Highway Patrol keeps crime statistics with the Uniform Crime Reporting Program (UCR). Crime data can be divided into two categories: violent crimes and property crimes. Violent crimes include murder, rape, robbery, and aggravated assault. Property crimes include burglary, larceny-theft, motor vehicle theft, robbery, and arson.

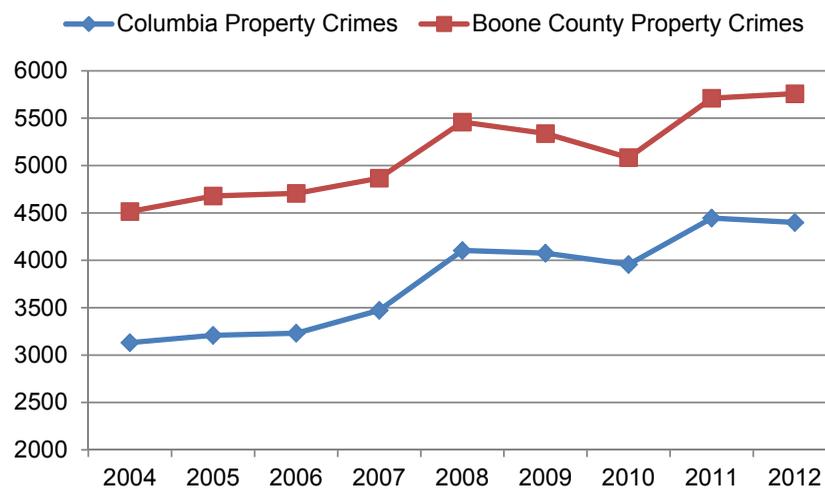
Figures 50 and 51 show the number of violent crimes and property crimes reported yearly from 2004 to 2012. Figures 52 and 53 look at these by rate per 100,000.

FIGURE 50: VIOLENT CRIME COUNT BY YEAR, COLUMBIA, BOONE COUNTY, 2004-2012



(Missouri Highway Patrol Statistical Analysis Center)

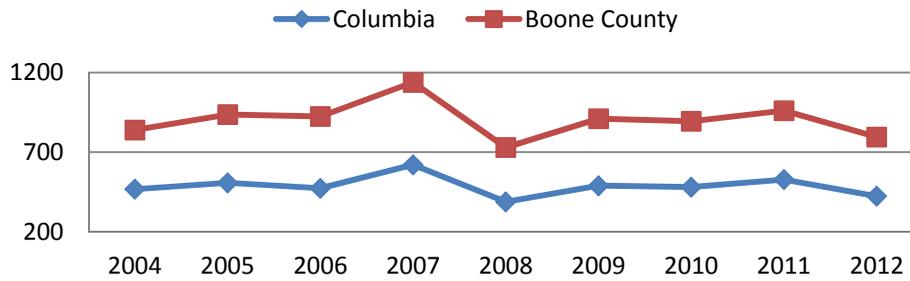
FIGURE 51: PROPERTY CRIME COUNT BY YEAR, COLUMBIA, BOONE COUNTY 2004-2012



(Missouri Highway Patrol Statistical Analysis Center)

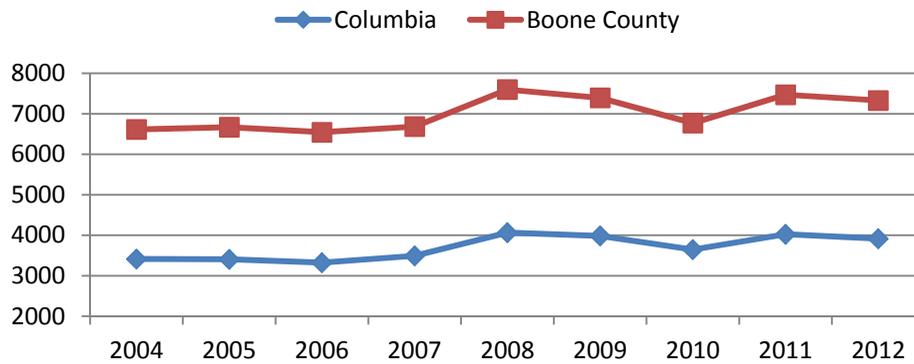
Crime (continued)

FIGURE 52: RATE PER 100,000 OF VIOLENT CRIMES, COLUMBIA, BOONE COUNTY, 2004-2012



(Missouri Highway Patrol Statistical Analysis Center)

FIGURE 53: RATE PER 100,000 OF PROPERTY CRIMES, COLUMBIA, BOONE COUNTY, 2004-2012



(Missouri Highway Patrol Statistical Analysis Center)

Health Behaviors

Unhealthy behaviors, such as tobacco use and obesity, can be contributing factors for injuries, disease, and death. Both tobacco use and obesity play a role in all of the leading causes of death for Boone County.



The 2013 County Health Rankings (County Health Rankings and Roadmaps, 2013) report 11% of Boone County residents feel they are in poor or fair health, having an average of 2.9 poor physical health days in the last month. Boone County factors reported from Community Commons, a website that provides community health information include:

- Adult smoking - 18%
- Adult obesity - 26%
- Physical inactivity - 23%
- Diabetes - 7.5%
- Inadequate fruit & vegetable consumption - 77.6%



Obesity

The Centers for Disease Control and Prevention (CDC) reports that more than one-third of adults in the United States are obese. With an estimated medical cost of \$147 billion in 2008, annual medical costs for obese people was \$1,429 higher than normal weight people (CDC-Overweight and Obesity). Obesity increases the risk of many health conditions, including the following:

- Coronary heart disease, stroke, and high blood pressure
- Type 2 diabetes
- Cancers, such as endometrial, breast, and colon cancer
- High cholesterol
- Sleep apnea and respiratory problems
- Liver and gallbladder disease
- Degeneration of cartilage and osteoarthritis
- Reproductive health complications
- Mental health conditions

There is a significant disparity between obesity and race/ethnicity throughout the United States. Non-Hispanic blacks have the highest age-adjusted obesity rates (49.5%) compared with Mexican Americans (40.4%), all Hispanics (39.1%) and non-Hispanic whites (34.3%). With non-Hispanic black men and Mexican American black men, those with higher income are more likely to be obese than those with low income. Higher income women are less likely to be obese than low-income women, and women with college degrees are less likely to be obese compared to women with less education.

There is no significant relationship between obesity and education among men (CDC-Overweight and Obesity).

The obesity rate in Boone County (28%) has stayed fairly level for the last few years, and remains lower than the Missouri rate (31%) but higher than the national benchmark of 25%.

Childhood obesity is an even greater growing concern for the entire nation. Obesity now affects 17% of all children and adolescents in the United States, triple the rate from just one generation ago (CDC-Overweight and Obesity). While child obesity rates are difficult to measure at a county level, it remains a community problem.

Food and Nutrition

Eating five or more servings of fruits and vegetables per day has been identified as a preventive behavior for many chronic diseases and premature death. The Missouri Department of Health and Senior Services 2011 County Level Study reports that 86% in Boone County eat fewer than five fruit and vegetable servings per day. Only a little over one in every ten are consuming the recommended amount. The reports also identifies that in Boone County, 4.35% of total household expenditures were for fruit/vegetable consumption while 5.22% were for soda consumption.

It is important to look at access to healthy foods, both geographically and economically. The inability to purchase healthy foods because of financial constraints is an important link to factors that lead to chronic illnesses.

Food security is defined as “access by all people at all times to enough food for an active, healthy life.” Food insecurity is usually related to insufficient resources for food purchases, with the majority of food insecure households avoiding hunger by relying on a more narrow range of foods or acquiring food through private and public assistance programs (Missouri Hunger Atlas 2013).

The Missouri Hunger Atlas ranked Boone County as low need/low performance, citing the county as having a comparatively low percent of population with hunger needs, but also doing comparatively worse in meeting the requirements of these populations. However, the report states “although the percent in need is relatively low in these areas, in many cases the low percents denote relatively large numbers of people because the base populations are often quite high. In fact....Boone County falls into this category.”

Figure 54 looks at the recently released data. Boone County consistently falls below the Missouri numbers except with the percent of households with children.

FIGURE 54: BOONE COUNTY DATA, MISSOURI FOOD ATLAS, 2013

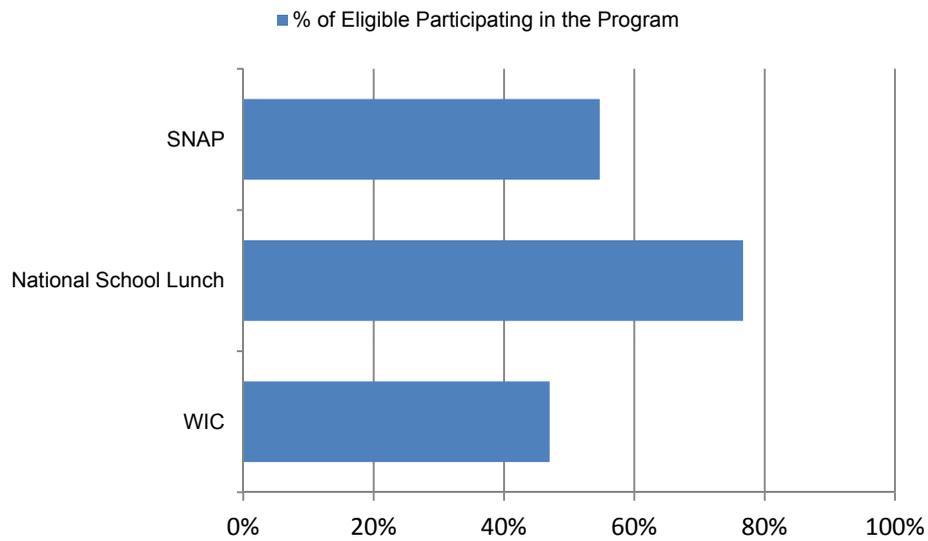
NEED INDICATOR	BOONE COUNTY	MISSOURI
% Households food uncertain	13.7%	13.9%
% Households with children food uncertain	27.3%	23.0%
% Households food uncertain with hunger	5.1%	5.7%
% Population income eligible for SNAP	21.6%	23.0%
% < 18 years income eligible for SNAP	20.6%	30.6%
% Students eligible for national school lunch program	32.7%	52.1%
% < 5 years income eligible for WIC	33.5%	50.9%

(Missouri Hunger Atlas, 2013)

Food and Nutrition (continued)

Figure 55 looks at percent of eligible participants that actually participate in a subsidy program. The National School Lunch Program (Free and Reduced Lunch) has the highest percentage that takes advantage of this.

FIGURE 55: PERCENT OF ELIGIBLE PARTICIPANTS PARTICIPATING IN FOOD PROGRAMS, BOONE COUNTY, 2013



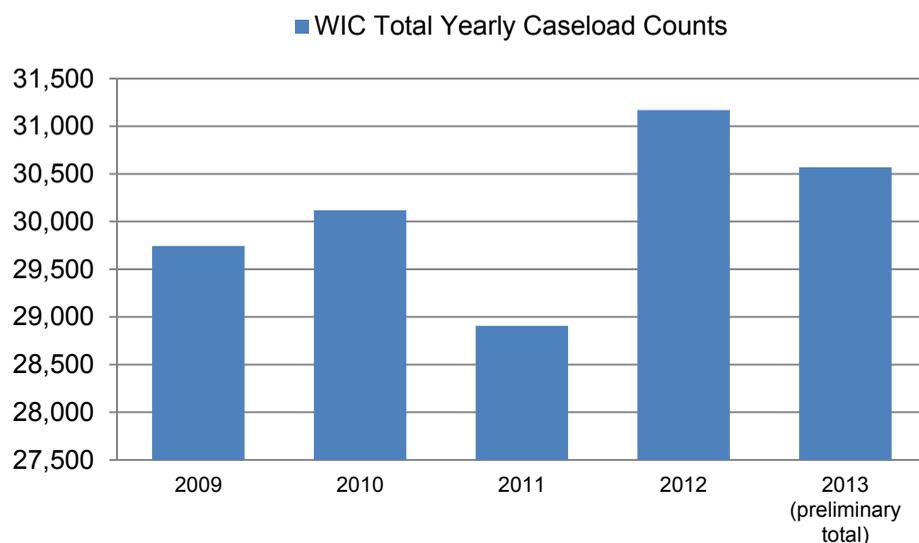
(Missouri Hunger Atlas, 2013)



Women, Infants, Children (WIC)

Women, Infants, and Children (WIC) is a supplemental nutrition program which provides federal grants to states for supplemental foods, health care referrals, and nutrition education for low-income pregnant, breast-feeding, and non-breast-feeding postpartum women, as well as infants and children up to age five who are found to be at nutritional risk. In Boone County, 47% of eligible participants are enrolled, with the state average at 68% (Missouri Hunger Atlas 2013).

FIGURE 56: FIVE-YEAR TREND OF WIC ENROLLMENT, BOONE COUNTY, 2009-2013



(Columbia/Boone County WIC, 2013)

Food Access

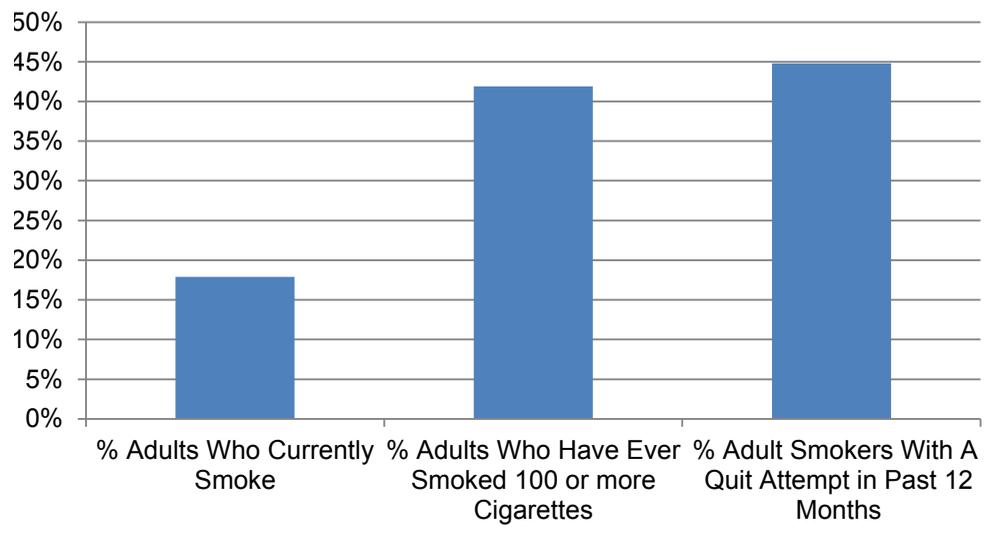
Boone County hosts at least five farmers markets, with SNAP benefits doubled at one. Lunch in the Park is a federal nutrition program located at Douglass Park that feeds approximately 110 children daily during the summer. This is particularly important for children that rely on the school lunch programs during the year which are not available during the summer. Other programs in Boone County include the Food Bank for Central & Northeast Missouri and the Buddy Pack Program which provides backpacks filled with kid-friendly nutritious food for at risk students to take home over weekends and holidays to supplement their meals.

Boone County has more fast food establishments per 100,000 than both Missouri and the U.S. There are 75.01 establishments per 100,000 in Boone County while in Missouri there are 66.79 per 100,000 and the U.S. 70.04 per 100,000. A fast food restaurant is defined as a limited service establishment primarily engaged in providing food services where patrons generally order or select items and pay before eating. In Boone County, there are 19.68 grocery stores per 100,000 residents. Even with the high number of establishments, Boone County has 15.58% of the population with low food access. These indicators are important because they are a measure of healthy food access, environmental influences, and dietary behaviors (Community Commons).

Tobacco Use

Tobacco use is a contributor in four out of the five leading causes of death in Boone County: cancer, heart disease, chronic lower respiratory disease, and stroke. County Health Rankings and Roadmaps identify almost 18% of Boone County adults over 18 years of age smoke and another 6 % report currently using other types of tobacco (Missouri Department of Health and Senior Services, 2013).

FIGURE 57: TOBACCO USE, BOONE COUNTY, 2005-2011



(Community Commons, 2013)

The percentage of students in grades 6-12 who smoke is 10.6%, which is a decrease from the 13% reported last year. (Behavioral Health Profile, 2013) (Missouri Department of Mental Health, 2012) The average age of first cigarette use in Boone County is 12. Numbers are not available locally on the use of smokeless tobacco in those under the age of 18 years.



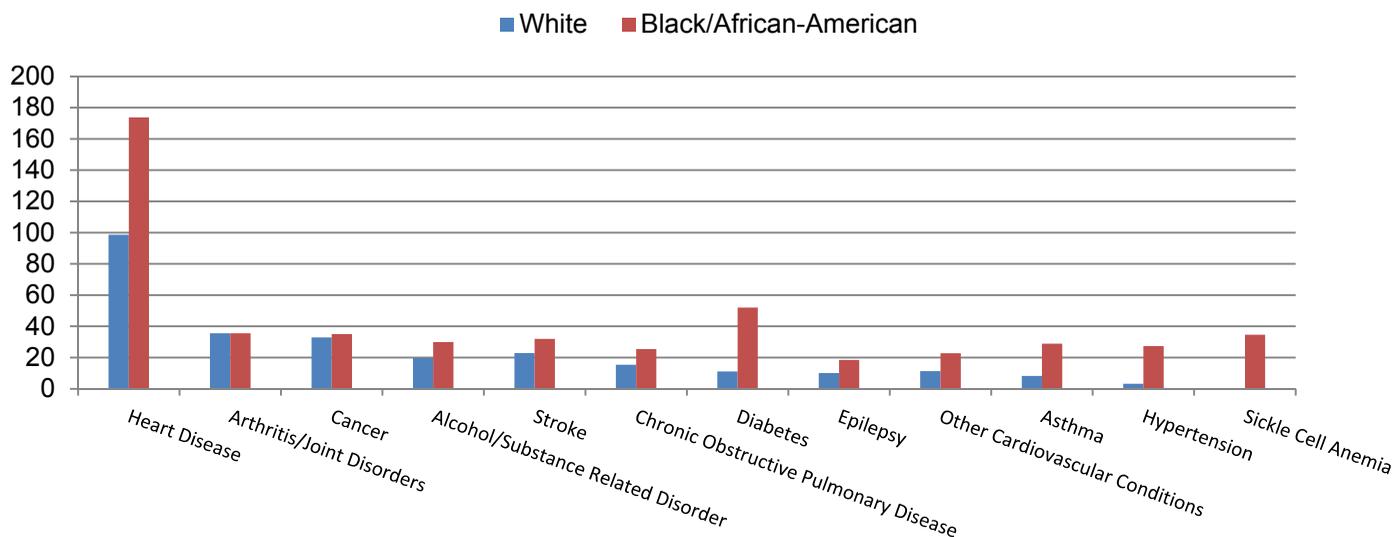
Physical Activity

There is a well-documented link between physical inactivity, obesity, and chronic illness. Boone County reports a lower percent of population with no leisure time physical activity (23.3%) than Missouri (26.6%). At the same time, 48% of the population live within a half mile of a park, which is also higher than the Missouri rate of 33 percent of other Missourians who live within a half mile of a park (Community Commons). The 2011 County Level Study performed by the Missouri Department of Health and Senior Services reports 58.1% of Boone County residents use walking trails and parks, 59.1% have sidewalks in their neighborhood, and 81.9% consider their neighborhood to be safe. Even with these statistics, the perception of a safe place to walk varies considerably by the neighborhood, and within the neighborhood by household.

Chronic Disease

In the U.S., life expectancy for both sexes combined has increased from 75.2 in 1990 to 78.2 in 2010. Over the same time period, healthy life expectancy rose from 65.8 to 68.1. Healthy life expectancy is the number of years that a person at a given age can expect to live in good health, taking into account mortality and disability (The State of the U.S. Health, 2013). Chronic disease extends financial and social impact on households, employers, and communities with the increased health care costs, loss of worker productivity and public policy concerns. Figure 58 looks at the top chronic disease hospitalizations for Boone County from 2007-2011. Heart disease is the leading cause of hospitalization due to chronic disease, with blacks being hospitalized over one and half times more often than whites. While the overall rate of hospitalization for diabetes is lower, there is a significant disparity between the rate of whites hospitalized due to diabetes and the rate of blacks hospitalized for diabetes.

FIGURE 58: CHRONIC DISEASE HOSPITALIZATION RATES PER 10,000 BY RACE, BOONE COUNTY, 2007-2011

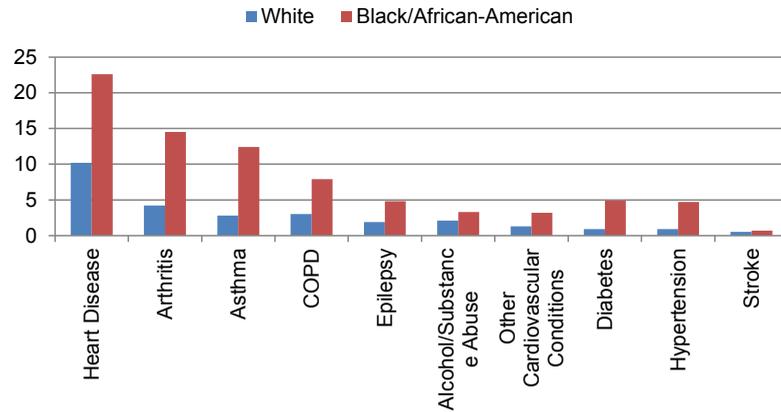


(Missouri Department of Health and Senior Services, 2013)

Figures 59 & 60 show the leading causes of emergency room visits and death from chronic disease in Boone County, and the disparity by race.

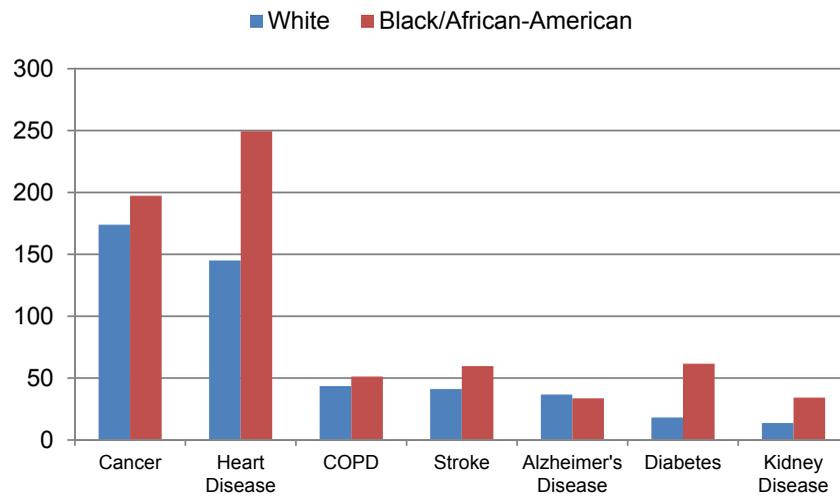
Chronic Disease (continued)

FIGURE 59: CHRONIC DISEASE EMERGENCY ROOM VISIT RATES PER 100,000 BY RACE, BOONE COUNTY, 2007-2011



(Missouri Department of Health and Senior Services, 2013)

FIGURE 60: CHRONIC DISEASE DEATH RATES PER 100,000 BY RACE, BOONE COUNTY, 2007-2011



(Missouri Department of Health and Senior Services, 2013)

Other Risk Factors

While 27.7% of adults in Boone County report having high blood pressure, 20% of those also report not taking their high blood pressure medication. Eighty-two percent of females over the age of 18 report having regular pap smears, while 73.85 of female Medicare enrollees age 67-69 report regular mammograms. Sixty-nine percent of males over the age of 50 report having had a screening for colon cancer.

Social and Mental Health

Boone County has one facility that offers inpatient hospitalizations for psychiatric needs, and several other community-based outpatient programs and residential treatment centers. While data is available for those who receive treatment, data on mental health of the general population is very limited, especially at the local level.

Nationally, males are about four times more likely to commit suicide than females. Older males have higher rates of suicide than younger males. In 2011, 23 Boone County residents committed suicide, an almost 50% increase from 2007.

Adult Mental Health

In 2012, 1,798 Boone County residents received treatment for serious mental illness at publicly-funded facilities. That number was an increase from 1,439 reported in 2011 (Behavioral Health Profile, 2013).

Youth Mental Health

In the 2013 Behavioral Health Profile, the Missouri Department of Mental Health asked students (6th-12th grade) in the county about their mental health. Over 9% had considered suicide in the last year, 7.6% made a plan, and 1.3% actually attempted suicide, resulting in an injury.

Substance Use and Abuse in Boone County

The Behavioral Health Profile that reports the availability of county-level data on substance use and abuse, is limited. The Missouri Student Survey can provide estimates for youth in most Missouri counties (not all school districts participate).

In 2011, Boone County residents had a total of 315 alcohol-related and 253 drug-related hospitalizations. In addition, there were 601 alcohol-related and 494 drug-related ER visits that did not include a hospital stay.

In 2012, 1,007 Boone County residents were admitted to substance abuse treatment at publicly-funded facilities. Of this number, 477 had alcohol listed as their primary substance of abuse and 264 listed marijuana.

Alcohol-related traffic crashes are more likely to produce fatalities and injuries compared to non-alcohol related crashes. The number of alcohol-related crashes in Boone County decreased from 190 in 2010 to 143 in 2011.

IN BOONE COUNTY:

- 57.1% of youth believe that it would be easy to get cigarettes
- 49.7% have friends who smoke
- 60.7% of youth believe that it would be easy to get alcohol
- 61.2% have friends who drink alcohol
- 36.5% of youth say marijuana is easy to get
- 40.8% have at least 1 friend that uses marijuana
- 8.8% say smoking marijuana is "no risk at all"
- 14.4% of youth believe it would be easy to get other drugs such as cocaine, methamphetamine, and ecstasy

Substance Use and Abuse in Boone County (continued)

FIGURE 61: NUMBER OF PEOPLE INJURED/KILLED IN ALCOHOL AND DRUG-RELATED CRASHES, BOONE COUNTY, 2011

ALCOHOL FATALITIES	ALCOHOL INJURIES	DRUG FATALITIES	DRUG INJURIES
8	85	3	15

(Behavioral Health Profile, 2013)

In figure 62, The 2012 Status Report on Missouri's Substance Abuse and Mental Health Problems outlines hospital and emergency room visits directly related to drug and alcohol abuse for Boone County residents. Hospitalizations and ER visits have seen large increases from 2008 to 2010.

FIGURE 62: HOSPITAL AND EMERGENCY ROOM VISITS RELATED TO DRUGS AND ALCOHOL, BOONE COUNTY, 2008-2010

	2008	2009	2010
Alcohol-related hospitalizations and ER visits TOTAL	1,130	1,218	1,534
Emergency room outpatient visits	542	526	641
Direct hospitalizations	292	298	361
Hospitalizations from the ER	296	394	532
Drug-related hospitalizations and ER visits TOTAL	687	791	1,188
Emergency room outpatient visits	274	259	465
Direct hospitalizations	257	245	278
Hospitalizations from the ER	156	287	445

(Status Report on Missouri's Substance Abuse and Mental Health Problems, 2012)

FIGURE 63: POLICE REPORTS RELATED TO DRUGS AND ALCOHOL, BOONE COUNTY, 2008-2010

	2008	2009	2010
DUI arrests	1,132	1,207	1,639
Liquor law arrests	708	1,035	898
Drug arrests	1,083	1,115	1,135
Methamphetamine lab incidents	1	29	15
Juvenile alcohol offenses	38	26	27
Juvenile drug offenses	66	69	86

(Status Report on Missouri's Substance Abuse and Mental Health Problems, 2012)



Domestic Violence

The extent of domestic violence is often difficult to grasp in a community because of the lack of reporting by the abused partner for a variety of reasons. Of the domestic violence criminal cases pursued by the Columbia, MO Police Department, the majority of the victims are white females and the most common age group alternates between 18-25 and 24-40 years old. There is no clear race associated with the majority of domestic violence offenders, however, there are identifiable trends associated with relationship statuses. A partnership where individuals are permanently residing together is the most common scenario, followed by spousal relationships (Jacqueline Schumacher, Policy Analyst, 2013).

There has been no domestic violence related fatality since 2001. In looking at Boone County data from the Missouri State Highway Patrol Statistical Analysis Center, domestic violence has increased in Boone County in the last few years. Part of the reason for the increase may be due to a change in 2011 in types of arrests that are considered domestic violence. There was a re-classification of incidents that were previously a different category and are now considered domestic violence.

In 2011 there were 1,722 domestic violence offenses reported in Boone County, compared to the 1,738 reported in 2012. There have been considerable efforts by all community law enforcement agencies to support domestic violence reports, hoping the supportive environment will increase the reports and lead to a decrease in incidence. Most domestic violence reports in Boone County fit into two categories: 1) violence between persons who have a child in common regardless of whether or not they have been married or resided together and 2) between persons not married but presently residing together.

Domestic violence victims often do not have a safe place to go. There is one primary shelter for domestic violence victims in Boone County. That shelter, True North, also serves multiple other counties, and has 25 beds available. This number has remained the same since 2006. From 2006 to 2012, 338 individuals were turned away from True North due to lack of overnight beds. In 2010, True North turned away 202 women and children due to a full shelter (Jacqueline Schumacher, Policy Analyst, 2013).

Disabilities

In 2011, there were an estimated 8.6% or 14,379 individuals living with a disability in Boone County. Of those 18-64, the prevailing disability was cognitive, with ambulatory second. Most of those over 65 who reported a disability reported an ambulatory disability (American Community Survey, 2012).

Of those in Boone County that are disabled, 68% reside in Columbia. Increased access to healthcare services, shopping, social services and a public transportation system make it easier for many disabled to live within Columbia's city limits.

Maternal and Child Health

Looking at the maternal and child health of a community is one of the most important ways to monitor the health of a vulnerable population: infants and children. Because maternal health is correlated with birth outcomes, it is important to consider the health of the mother during pregnancy when looking at increased risk for both mother and child.

In Missouri, annual data from live birth and fetal death records are compiled from the birth and death certificates, which are filed with the Missouri Department of Health and Senior Services. These reports provide maternal and child data for a variety of characteristics.

Pregnancy and Birth Characteristics

The rate of live births for women in Boone County is slightly below the rate for Missouri women. In the past ten years, both Missouri and Boone County have seen a decline in live birth rates.

FIGURE 64: LIVE BIRTHS PER 100,000, BOONE COUNTY, MISSOURI, 2000, 2010

	2000 LIVE BIRTHS	2000 LIVE BIRTHS RATE/100,000	2010 LIVE BIRTHS	2010 LIVE BIRTHS RATE/100,000
Boone County	1,784	1,317.1	2,003	1,231.5
Missouri	76,329	1,364.2	76,718	1,281.0

(Missouri Department of Health and Senior Services, 2013)

The overall rate of pregnancy in Boone County adolescents (15-17 years) is lower than for Missouri. The Boone County rate is 16.2 per 1,000 compared to Missouri's 20.7 per 1,000. There is a significant difference in the pregnancy rate between white and black adolescents in Boone County. Figures 65 & 66 show the rates of adolescent pregnancy by race for Missouri and Boone County.

FIGURE 65: ADOLESCENT PREGNANCY RATE PER 1,000, BOONE COUNTY, 2002-2010

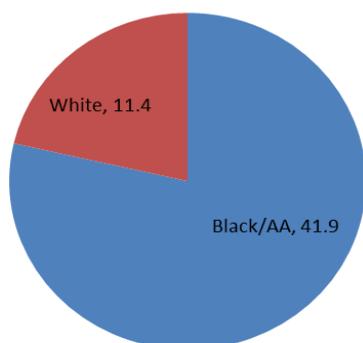
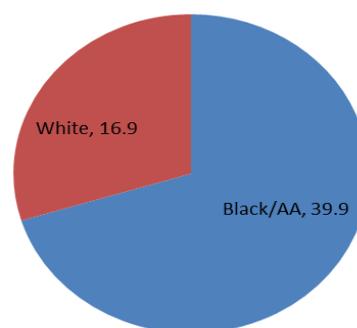


FIGURE 66: ADOLESCENT PREGNANCY RATE PER 1,000, MISSOURI, 2002-2010



(Missouri Department of Health and Senior Services, 2013)

Pregnancy and Birth Characteristics (continued)

Of babies born in Boone County, 2.3% are born to mothers who are between the ages of 10-17 years. This is lower than the Missouri rate of 3.6%. However, 6.3% of all black/African-American live births in Boone County are born to adolescents compared to 1.7% of white live births in the same age group.

Eighty-five percent of women in Boone County who gave live birth sought prenatal care during their first trimester, and less than one percent had no prenatal care.

Eleven percent of live births were to Boone County mothers with less than 12 years of education. When comparing births to black/African-American mothers and white mothers both with less than 12 years of education, there is a significant difference. Births to black/African-American mothers with less than 12 years of education were 24.6%, compared to 8.8% of white mothers with the same characteristic.

Smoking rates during pregnancy are lower in Boone County compared to Missouri. Almost 16% of mothers in Boone County smoked while pregnant compared to Missouri's rate of 17.8%. However, in Boone County there was a greater chance of a black mother smoking during pregnancy than a white mother. In contrast, Missouri rates show a higher percentage of white mothers smoke during pregnancy than black.

Birth Outcomes

According to the Centers for Disease Control and Prevention (CDC), birth weight is the first weight of the newborn measured immediately after birth. Birth weight of less than 5 pounds, 8 ounces, or 2,500 grams, is considered low birth weight (LBW) while a birth weight of less than 3 pounds, 4 ounces, or 1,499 grams is considered very low birth weight (VLBW). A low birth weight infant can be born too small, too early, or both. This can happen for many different reasons which may or may not be related. Compared to infants of normal weight, low birth weight infants may be more at risk for many health problems. Some babies may become sick in the first six days of life (perinatal morbidity) or develop infections. Other babies may even suffer from longer-term problems such as delayed motor and social development or learning disabilities.

FIGURE 67: LOW AND VERY LOW BIRTH WEIGHT BIRTHS, BOONE COUNTY, MISSOURI, 2006-2010

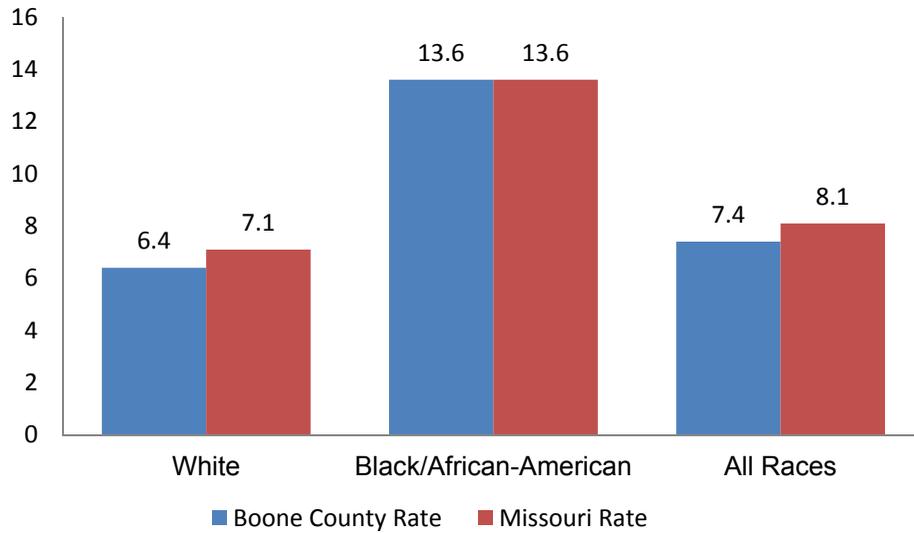
	LOW BIRTH WEIGHT (LBW)	VERY LOW BIRTH WEIGHT (VLBW)
Boone County	7.4%	1.3%
Missouri	8.1%	1.5%

(Missouri Department of Health and Senior Services, 2013)

In Boone County, the rate of babies born with LBW and VLBW is slightly lower than Missouri rates. For both LBW and VLBW, the rate for black infants is significantly higher than white infants, for both Boone County and Missouri (Figures 68 & 69). Low birth weight babies are primarily found among 15-17 year olds, while very low birth weights are found among women both 15-17 and over 40 years.

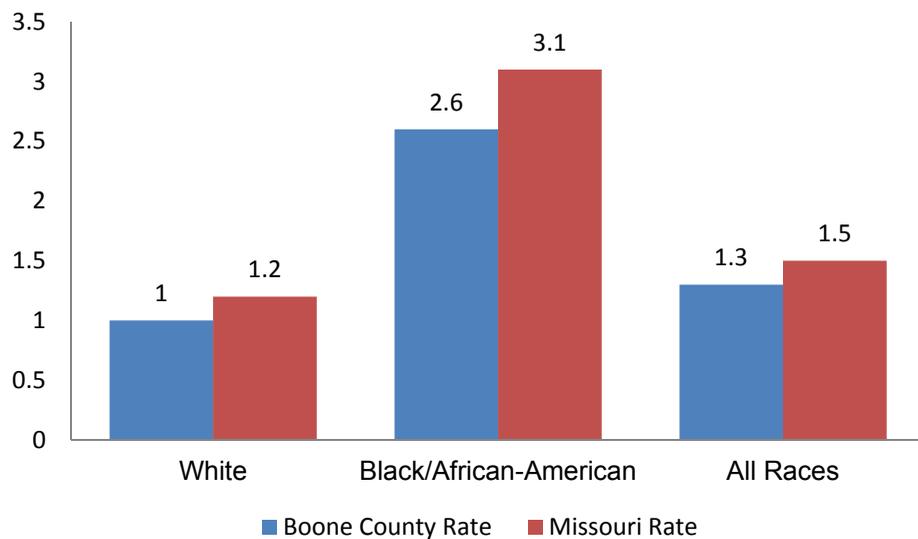
Birth Outcomes (continued)

FIGURE 68: LOW BIRTH WEIGHT INFANTS PER 100 LIVE BIRTHS, BOONE COUNTY, MISSOURI, 2006-2010



(Missouri Department of Health and Senior Services, 2013)

FIGURE 69: VERY LOW BIRTH WEIGHT INFANTS PER 100 LIVE BIRTHS, BOONE COUNTY, MISSOURI, 2006-2010



(Missouri Department of Health and Senior Services, 2013)



Infant Mortality

The death of a baby before his or her first birthday is called infant mortality. This rate is often used as an indicator to measure the health and well-being of a nation, because factors affecting the health of entire populations can also impact the mortality rate of infants (Centers For Disease Control and Prevention).

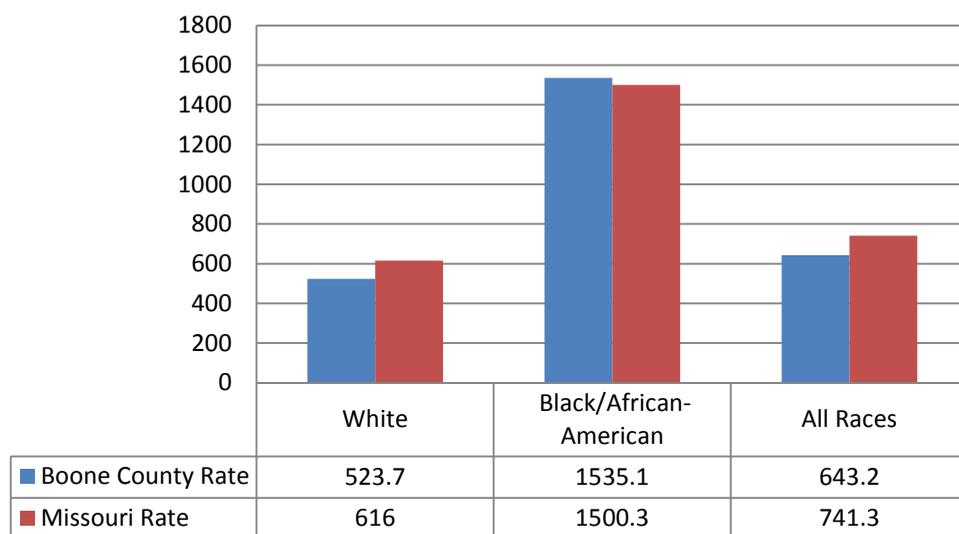
For every 1,000 babies that are born in the U.S., six die during their first year. According to the Centers for Disease Control and Prevention (CDC) most of these babies die because they are:

- Born with a serious birth defect
- Born too small and too early (i.e., preterm birth; birth before 37 weeks gestation).
- Victims of Sudden Infant Death Syndrome (SIDS)
- Affected by maternal complications of pregnancy
- Victims of injuries (e.g., suffocation)

These top five leading causes of infant mortality together accounted for 57% of all infant deaths in the United States in 2010.

In Boone County, 11.6% of births were considered preterm, which is less than 37 completed weeks gestation.

FIGURE 70: INFANT MORTALITY RATE PER 100,000, BOONE COUNTY, MISSOURI, 2000-2010



(Missouri Department of Health and Senior Services, 2013)

Death, Illness, and Injury

Leading Causes of Death

Missouri Information for Community Assessment (MICA) provides county level information on all deaths of Missouri residents, including leading causes of death by age group. For deaths in residents less than 15 years, only the top two causes are listed. Although this table looks at ten years of data combined, the denominator for the other causes was less than 20, making the rate calculated unstable. Therefore, those causes were not listed.

FIGURE 71: LEADING CAUSES OF DEATH BY AGE GROUP, BOONE COUNTY, 2002-2011

LEADING CAUSES OF DEATH	ALL AGES	AGE 15 AND UNDER	AGES 15 - 24	AGES 25 - 44	AGES 45 - 64	AGE 65 AND OVER
#1	Cancer	Conditions of Perinatal Period (154 days before to 7 days after birth)	Motor Vehicle Accidents	Accidents (other than motor vehicle)	Cancer	Heart Disease
#2	Heart Disease	Birth defects	Accidents (other than motor vehicle)	Cancer	Heart Disease	Cancer
#3	Stroke	@	Suicide	Motor Vehicle Accidents	Accidents (other than motor vehicle)	Stroke
#4	Chronic Lower Respiratory Diseases	@	Homicide	Suicide	Chronic Lower Respiratory Diseases	Alzheimer's
#5	Alzheimer's	@	Cancer	Heart Disease	Suicide	Chronic Lower Respiratory Diseases

(Missouri Department of Health and Senior Services, 2013)

The five leading causes of death in Boone County are Cancer, Heart Disease, Stroke, Chronic Lower Respiratory Disease and Alzheimer's. The table above shows how these leading causes are spread through different age groups and highlights the top five leading death causes by age group.

Leading Causes of Death (continued)

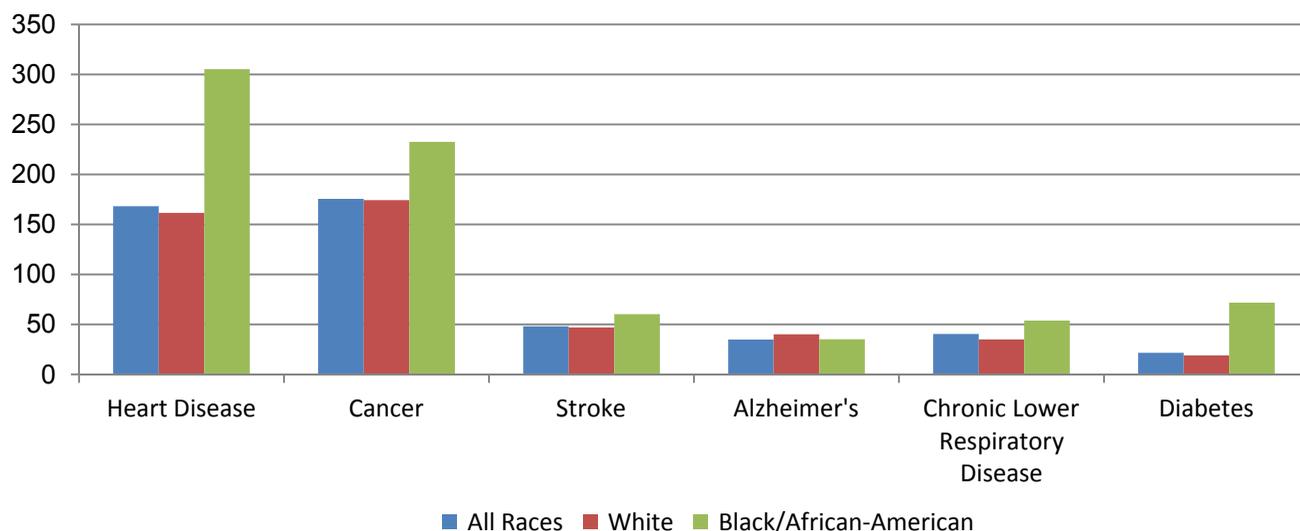
FIGURE 72: LEADING CAUSE OF DEATH IN BOONE COUNTY BY RACE, 2001-2011

WHITE	BLACK/AFRICAN-AMERICAN
1. Cancer	1. Heart Disease
2. Heart Disease	2. Cancer
3. Stroke	3. Stroke
4. Chronic Lower Respiratory Diseases	4. Diabetes
5. Alzheimer's	5. Chronic Lower Respiratory Diseases

(Missouri Department of Health and Senior Services, 2013)

While cancer is the leading cause of death in Boone County overall and for whites, heart disease rises to the top of the list for black/African-Americans. In Boone County, the death rate for heart disease in African-Americans is almost twice the rate for whites. The rate for death due to diabetes for blacks is over three times higher than the white demographic.

FIGURE 73: DEATH RATES PER 100,000 COMPARED BY RACE, BOONE COUNTY, 2002-2011



(Missouri Department of Health and Senior Services, 2013)

Suicide

The 2002 – 2011 suicide rate for Boone County is 11.9 per 100,000. There were 167 deaths attributed to suicide. Broken down by age group, there were 17 in the 15-24, 66 for the 25-44, and 61 for those aged 45-64.

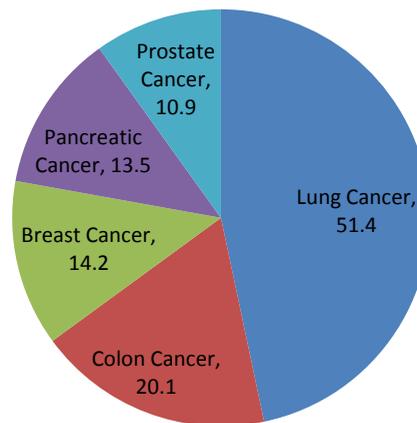
Accidental Deaths

Accidents, excluding motor vehicle accidents, were the cause of 386 deaths in Boone County from 2002-2011. Accidental poisonings and drowning were listed as the leading accidental cause of death (other than motor vehicle) for 15-24 year olds with accidental poisonings and falls for those in the 45-64 age group. Accidental poisonings include unintentional drug overdoses.

Cancer

Lung cancer is the most prominent type of cancer leading to death in Boone County. The rate of death due to lung cancer is over twice the rate of the second leading cancer, which is colon cancer.

FIGURE 74: DEATH RATE FROM CANCER BY TYPE, BOONE COUNTY, 2002-2011



(Missouri Department of Health and Senior Services, 2013)

Motor Vehicle Deaths

Between 2002 and 2011, the rate of death due to motor vehicle accidents was 12.7 per 100,000. While this rate is lower than Missouri's rate of 17.4/100,000, there were 203 deaths among Boone County residents attributed to motor vehicle accidents during that time period. The majority of the deaths were in persons between 15 and 44 years.

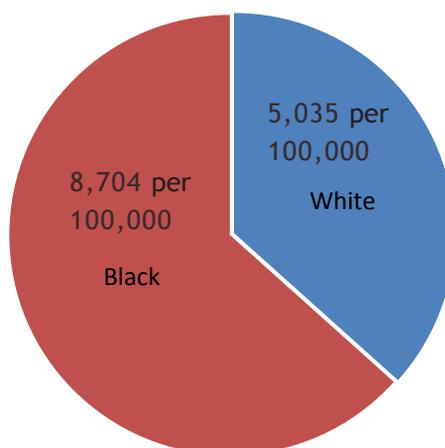
Homicide

Homicide is listed as the fourth leading cause of death for 15 to 24 year olds in Boone County. From 2002 to 2011 there were 42 homicide deaths. Of those 42 deaths, 33% were between the ages of 25-44 years and 26% were ages 15-24. Two deaths were under 15 years of age.

Years of Potential Life Lost

Years of potential life lost (YPLL) is a measurement which provides an estimate of the average time a person would have lived if he or she had not died prematurely. YPLL is a good public health measure because it can be an indicator of preventable deaths. Rates for residents of Boone County residents are considered more favorable than Missouri. The black/African-American rate is significantly higher than the white rate.

FIGURE 75: YEARS OF POTENTIAL LIFE LOST RATE PER 100,000, BOONE COUNTY, 2011



(Missouri Department of Health and Senior Services, 2013)

Injury

Injuries are reported by hospitals from emergency rooms and inpatient stays. They can be classified as accidental or intentional. In Boone County, the leading cause of unintentional injury are falls, with “struck by a blunt object” or “in a fight” as second. These two categories combined accounted for 53,328 injuries between 2002 and 2011.

For intentional injuries, fighting or assault with a blunt object is the leading cause for Boone County residents, followed by being cut or pierced. The third leading cause of assault/intentional injury in Boone County is injury due to a firearm. From 2002-2011, there were 76 intentional firearm injuries in Boone County, 19 of which resulted in death.

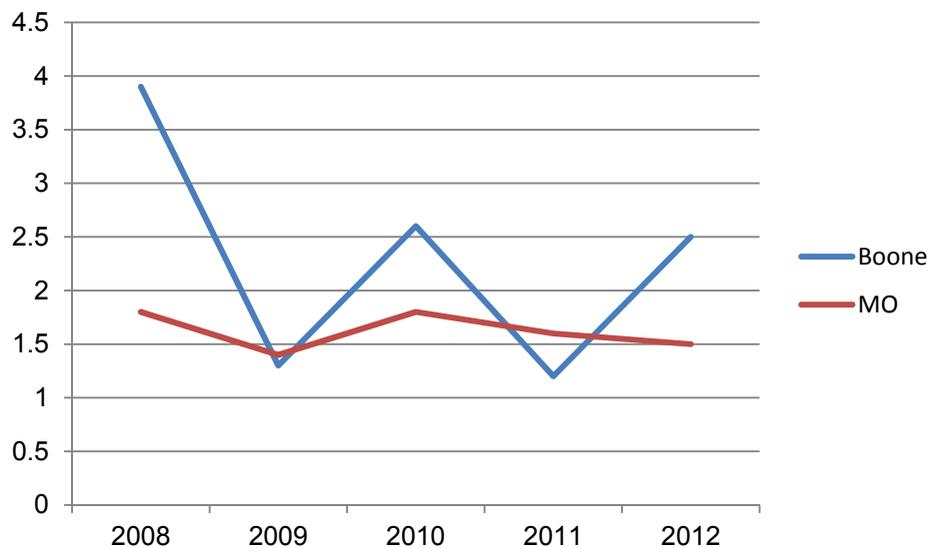
Communicable Diseases and Conditions

Communicable diseases have been a major cause of illness and sometimes death throughout the years. The Columbia/Boone County Department of Public Health and Human Services works closely with both community and state partners to limit the spread of communicable diseases throughout the county. In 2012, there were almost 3,200 communicable diseases and conditions reported in Boone County.

Tuberculosis (TB)

In 2012, there were 9,945 (a rate of 3.2 cases per 100,000) cases of Tuberculosis (TB) reported in the United States. Overall, TB rates in the United States have declined, but TB remains a community problem. A single case can infect many contacts, and requires significant public health and healthcare resources. This is especially true in multi-drug resistant cases, which become more complicated and require more resources. In Boone County, although the rate of TB infection has decreased since 2008, new cases continue to be identified. The trend of decrease among cases in U.S. born residents may be responsible for the overall decrease, but the number of cases in Boone County among foreign-born has increased. This increase is seen among refugee populations and students born outside of the United States. Over the last five years, 75% of TB cases reported in Boone County have been in individuals born in another country.

FIGURE 76: RATE PER 100,000 POPULATION OF TUBERCULOSIS DISEASE, BOONE COUNTY, MISSOURI, 2008-2012



(Missouri Department of Health and Senior Services, 2013)



Rabies

There has not been a case of rabies diagnosed in a Boone County resident for over 50 years. In Boone County, the primary source of mammal infection for rabies has been in bats. Over the past five years, there has been an average of four cases of animal rabies per year in Boone County. From 2008 to 2012, 116 Boone County residents received rabies post exposure prophylaxis treatment.

Enteric Illness

Enteric illness (those which enter the body through the mouth and intestinal tract and are usually spread through contaminated food and water or by contact with vomit or feces) can be one of the most common illnesses seen in a community, and is the most common cause of outbreaks (CDC). In Boone County, Campylobacter and Salmonella were the most often reported enteric illnesses, with the number of cases of Shiga toxin-producing Escherichia coli increasing. Although a cause of illness is frequently not found, identified sources of these infections include person-to-person spread, animals, and foodborne. Enteric illness in a community is often underreported as many do not seek medical care and testing.

Vaccine-Preventable

The most common vaccine-preventable outbreaks occurring in Boone County are due to infection with pertussis or influenza. Nationally, pertussis rates have increased in the United States with many communities reporting large outbreaks. Over the past ten years, there have been two pertussis outbreaks in Boone County with several schools, day cares and employers impacted. Recently, the number of pertussis cases in Boone County has declined from the 50 cases reported in 2009 to 16 in 2012.

Varicella (chickenpox) continues to infect all ages of Boone County residents. However, changes in vaccination recommendations have impacted this, and few cases and school outbreaks of chickenpox have been seen since 2008.

Outbreaks

In Boone County, approximately 75% of outbreaks are due to an enteric illness with the majority of those due to norovirus. Highly contagious, norovirus is the most common cause of acute gastroenteritis in the United States and the source of many outbreaks, both foodborne and person-to-person. Other gastrointestinal illness, pertussis, chickenpox and influenza have also caused outbreaks in Boone County.

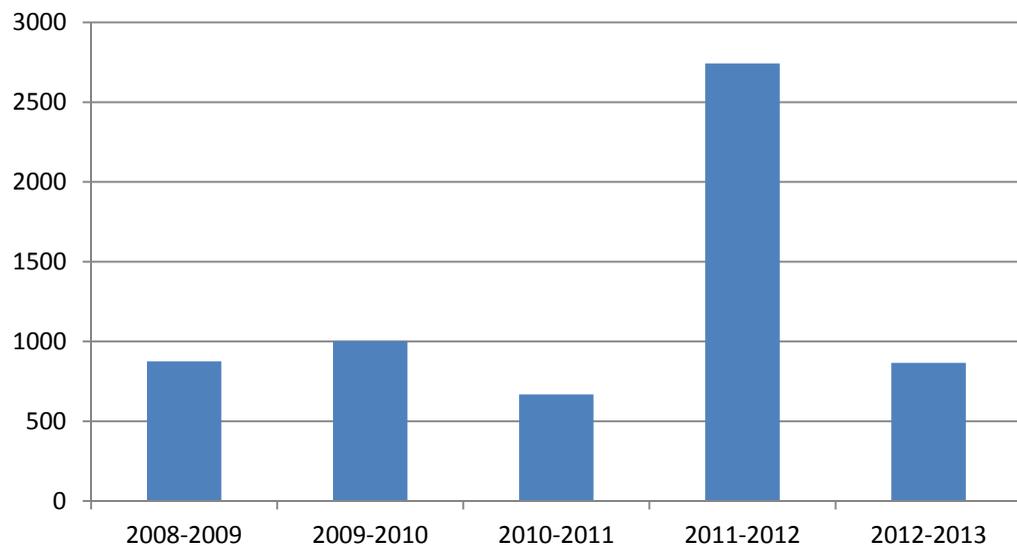
Influenza

Weekly aggregate numbers of influenza are reported to the local health department by local health care providers during influenza seasons, typically from October 1 to the end of May. This number is tracked, watching for trends and outbreaks. In Boone County, the severity as well as the peaks of illness varies from year to year. The highest number of influenza cases tends to be found in school-age children (5-14 years) and adults ages 25-49.

In April of 2009, H1N1, a novel influenza virus, was identified in the United States causing a pandemic. There were hundreds of cases identified in Boone County residents, with many more undiagnosed. In October 2009, a mass vaccination effort began with the Columbia/Boone County Department of Public Health and Human Services working closely with school, community and healthcare partners to vaccinate the community. Since 2009, the effort to vaccinate Boone County school-age children has continued with this partnership, and annually PHHS goes to Boone County schools to give influenza vaccine. This age group sees the highest percentage of influenza infection with the likelihood of spreading flu to high-risk family and community members.

Figure 77 shows the number of influenza cases reported in Boone County by season. These case counts reflect a trend more than an absolute case count since many ill with influenza do not seek medical care, and often those that do are not tested and confirmed. H1N1 was divided between two flu seasons, the 2008-2009 and the 2009-2010. Many diagnosed by a medical provider with H1N1 were not confirmed with a positive lab result due to the lack of available testing, and therefore, are not reflected in the case counts.

FIGURE 77: INFLUENZA CASES BY SEASON, BOONE COUNTY, 2008-2012

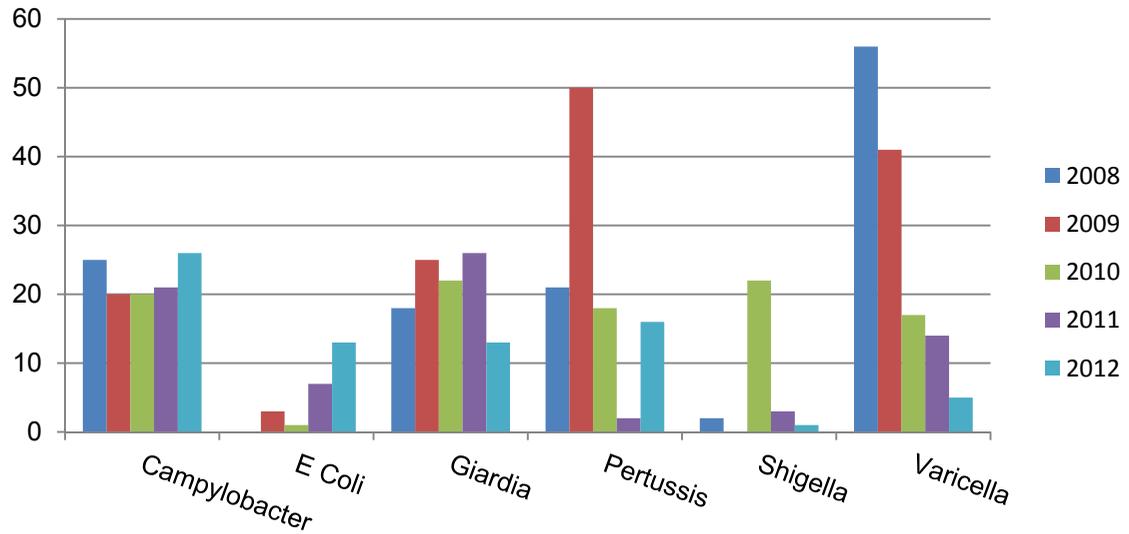


(Missouri Department of Health and Senior Services)



Communicable Disease

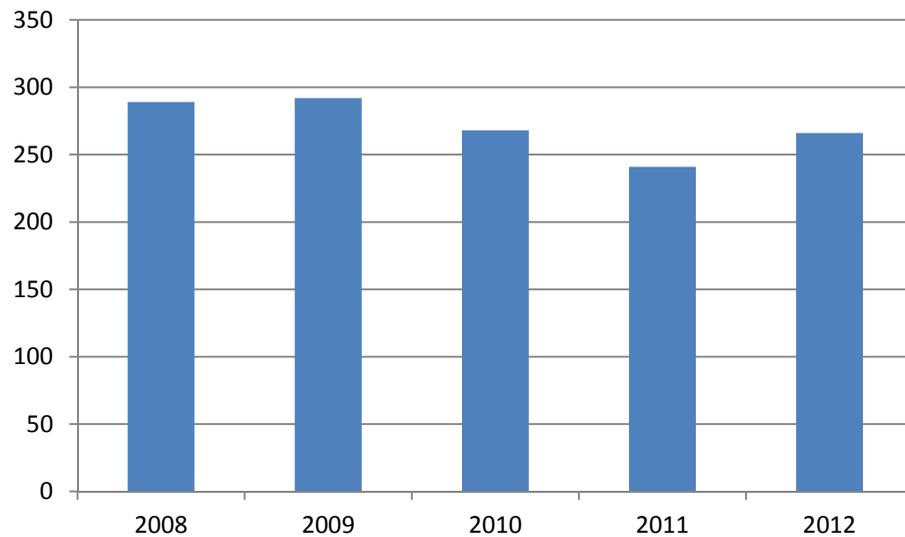
FIGURE 78: CASE COUNTS FOR SELECTED DISEASES BY YEAR, BOONE COUNTY, 2008-2012



(Missouri Department of Health and Senior Services)

The number of animal bites reported has remained relatively static from 2008 - 2012.

FIGURE 79: CASE COUNTS OF ANIMAL BITES BY YEAR, BOONE COUNTY, 2008-2012



(Missouri Department of Health and Senior Services)

Sexually Transmitted Diseases

In Boone County, sexually transmitted diseases (STD) remain the most common reported of all the reportable diseases and conditions. Of these diseases, Chlamydia is the most commonly reported with gonorrhea second. In 2012, there were 1,106 cases of chlamydia and 207 cases of gonorrhea reported in Boone County residents. The number of syphilis cases was less than 10.

FIGURE 80: STD BY CASE COUNT AND RATE PER 100,000, BOONE COUNTY, 2012

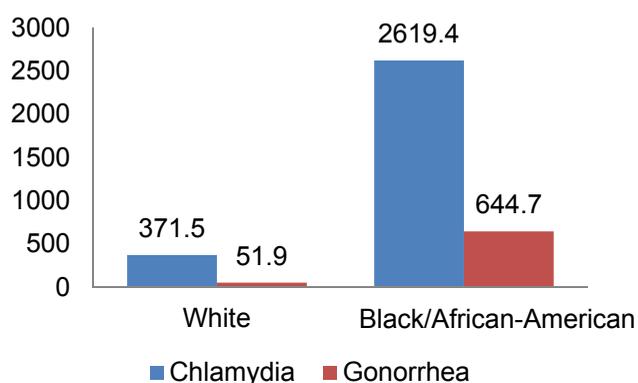
CONDITION	CASE COUNT	CASE RATE
Chlamydia	1,106	667.8/100,000
Gonorrhea	207	125.0/100,000

(Missouri Department of Health and Senior Services)

Boone County has the third highest chlamydia rate among all local public health jurisdictions in Missouri and the tenth highest rate of gonorrhea.

Infections from sexually transmitted disease in Boone County are not distributed uniformly across sex, racial, and age groups. In 2012, the rate of chlamydia infections among non-Hispanic blacks was seven times the rate seen in whites and the rate of gonorrhea infection was 12 times greater in blacks than in whites.

FIGURE 81: STD RATES PER 100,000 BY RACE, BOONE COUNTY, 2012

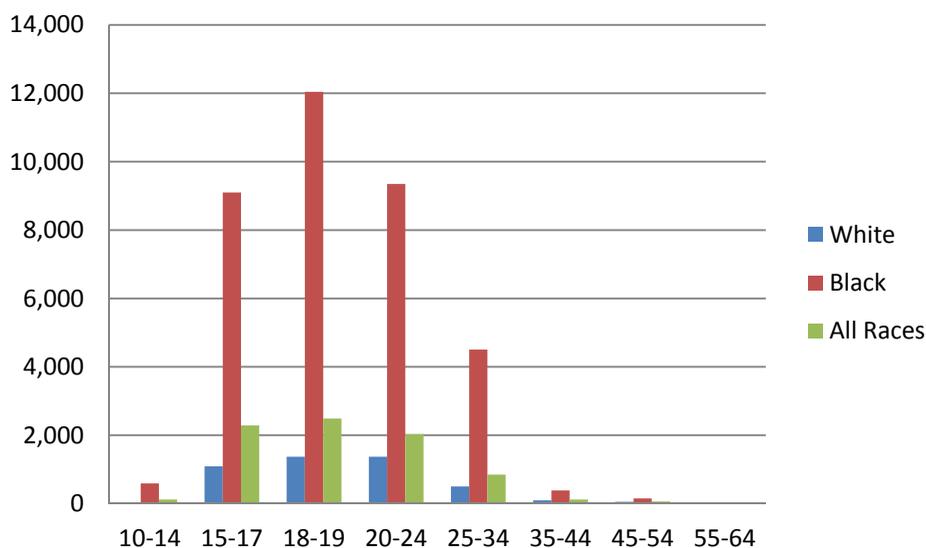


(Missouri Department of Health and Senior Services)

Both black and white females were twice as likely to be diagnosed with chlamydia as males. The most common age of diagnosis in Boone County is 18-19 years, with the case rate for blacks over eight times greater than whites.

Sexually Transmitted Diseases (continued)

FIGURE 82: STD RATES BY AGE GROUP AND RACE, BOONE COUNTY, 2012



(Missouri Department of Health and Senior Services)

Assessment Limitations

Pre-existing databases containing local, state, and national data were used for comparisons and was analyzed according to age, sex, and gender when possible. However, with some data it was difficult to compare according to these categories because of insufficient population or health data. In some categories, not all data was available at the county or local level, so state or national data was presented.

Assessment Data Dissemination

CHAMP members were presented with preliminary data findings at an August 2013 CHAMP meeting. A fact sheet summary (Appendix) was also distributed during that time and posted on the City of Columbia website, www.GoColumbiaMo.com/Health/MAPP.php

Acknowledgements

Subcommittee Members: Cherri Baysinger (Missouri Department of Health and Senior Services), Erin Barbaro (University of Missouri Center for Applied Research and Environmental Systems), Kevin Everett (University of Missouri Department of Family & Community Medicine), Andrew Hunter (Missouri Department of Health and Senior Services), Sarah Rainey (Columbia/Boone County Public Health & Human Services), Jacqueline Schumacher (University of Missouri Institute of Public Policy), Carol Toliver (University of Missouri Health Care), Kathryn Wright (Lutheran Family & Children's Services)

Works Cited

- Affordable Housing Policy Committee of 2008. (n.d.). *Affordable Housing Policy Committee Report to the City Council, Mayor and City Manager*. Columbia, Missouri.
- American Community Survey*. (2011). Retrieved September 16, 2013, from U.S. Census: www.factfinder2.census.gov
- American Community Survey*. (2012). Retrieved September 19, 2013, from www.factfinder2.census.gov
- American Community Survey, 2.-2. (2007-2011). *American Community Survey*. Retrieved June 13, 2013, from U.S.Census.gov: <http://www.census.gov/acs/>
- Behavioral Health Profile*. (2013). Retrieved September 27, 2013, from Missouri Department of Mental Health: www.dmh.mo.gov
- Boone Hospital Center*. (2013). Retrieved September 21, 2013, from www.boone.org
- CDC-Overweight and Obesity*. (n.d.). Retrieved September 27, 2013, from Centers for Disease Control and Prevention: www.cdc.gov/obesity/data
- Centers For Disease Control and Prevention*. (n.d.). Retrieved October 1, 2013, from CDC: www.cdc.gov
- Chatterjee, A. (2012). *Best Cities for Successful Aging*. Milken Institute.
- City of Columbia*. (2013). Retrieved September 21, 2013, from Go Columbia Mo: www.gocolumbiamo.com
- Columbia College*. (2013). Retrieved September 21, 2013, from Columbia College: www.ccis.edu
- Columbia Regional Economic Development Inc (REDI)* (2013). Retrived March 4, 2014, from Area Live and Work Profile: www.columbiaredi.com
- Community Commons*. (n.d.). Retrieved September 27, 2013, from Community Commons: www.communitycommons.org
- County Health Rankings and Roadmaps*. (2013). Retrieved September 21, 2012, from County Health Rankings and Roadmaps, A healthier Nation, County by County: www.countyhealthrankings.org
- Harry S. Truman Veterans' Memorial Hospital*. (2013). Retrieved September 21, 2013, from www.columbiamo.va.gov
- HRSA*. (n.d.). Retrieved September 21, 2013, from Health Resources and Services Administration: www.hrsa.gov
- Jacqueline Schumacher, Policy Analyst. (2012). *Boone County Issues Analysis: Economic Opportunity*. Columbia, Missouri: MU Institute of Public Policy.
- Jacqueline Schumacher, Policy Analyst. (2013). *Boone County Issues Analysis, Basic Needs and Emergency Services*. Columbia, Missouri: MU Institute of Public Policy.
- Landmark Hospitals*. (2013). Retrieved September 21, 2013, from Landmarkhospitals.com: www.landmarkhospitals.com
- MERIC*. (n.d.). Retrieved September 13, 2013, from Missouri Department of Economic Development: <http://www.missourieconomy.org>
- Missouri Department of Elementary and Secondary Education*. (n.d.). Retrieved September 17, 2013, from www.dese.mo.gov

Missouri Department of Health and Senior Services. (2013). Retrieved July 2013, from MICA: <http://www.health.mo.gov>

Missouri Department of Mental Health. (2012). Retrieved July 14, 2013, from Behavioral Health Profile: www.dmh.mo.gov

Missouri Highway Patrol Statistical Analysis Center. (n.d.). Retrieved October 2, 2013, from Missouri Uniform Crime Reporting Program: www.msdp.dps.missouri.gov

(n.d.). *Missouri Hunger Atlas 2013.* MU Interdisciplinary Center for Food Security.

Missouri Department of Health and Senior Services. (n.d.). Retrieved July 12, 2013, from Senior and Disability Services: www.health.mo.gov

MO Dept. of Labor. (n.d.). Retrieved from Missouri Department of Labor and Relations: <http://www.labor.mo.gov>

National Association of City and County Health Officials (NACCHO). (2013). *MAPP User's Handbook.* NACCHO.

Profile of General Population and Housing Characteristics: 2010. (n.d.). Retrieved July 25, 2013, from U.S.Census.gov.

Rusk Rehabilitation Center. (2013). Retrieved September 21, 2013, from RuskRehab.com: www.ruskrehab.com

SAHIE. (n.d.). Retrieved September 20, 2013, from Small Area Health Insurance Estimates: www.census.gov/sahie

SAIPE. (n.d.). *Small Area Income and Poverty Estimate.* Retrieved September 16, 2013, from SAIPE: www.census.gov/saipe

Status Report on Missouri's Substance Abuse and Mental Health Problems. (2012). Retrieved September 27, 2013, from Missouri Department of Mental Health: www.dmh.mo.gov

Stephens College. (n.d.). Retrieved September 21, 2013, from www.stephens.edu

(2013). *The State of the US Health.* Seattle: Institute for Health Metrics and Evaluation.

U.S. Bureau of Labor Statistics. (n.d.). Retrieved September 16, 2013, from U.S. Bureau of Labor Statistic: www.bls.gov

U.S. Census, 2. (2010). *United States Census Bureau.* Retrieved July 25, 2013, from U.S.Census.gov: <http://www.census.gov/>

U.S. Department of Health and Human Services. (n.d.). Retrieved September 17, 2013

U.S. Department of Housing and Urban Development. (n.d.). Retrieved September 20, 2013, from Affordable Housing: www.hud.gov

U.S. Census Bureau. (n.d.). Retrieved September 3, 2013, from State and County Quick Facts: <http://quickfacts.census.gov/qfd/states/29/29019.html>

U.S. Census Bureau. (n.d.). Retrieved September 19, 2013, from U.S. Census Bureau.

U.S. Census, 1. (1990). *Profile of General Population and Housing Characteristics: 1990.* Retrieved September 3, 2013, from U.S.Census.gov: <http://www.census.gov>

U.S. Census, 2. (2000). *Profile of General Population and Housing Characteristics:2000.* Retrieved 2013, from U.S.Census. Gov: <http://www.census.gov/main/www/cen2000.html>

U.S. News and World Report. (n.d.). Retrieved September 21, 2013, from High School Rankings: www.usnews.com/education/best-high-schools/national-rankings

University Of Missouri. (n.d.). Retrieved September 21, 2013, from About Mizzou: www.missouri.edu

University of Missouri Health Care. (2013). Retrieved September 21, 2013, from Muhealth.org: www.muhealth.org

This page intentionally left blank.

Appendices

Community Health Status Assessment Fact Sheet

COMMUNITY HEALTH STATUS ASSESSMENT

PROCESS

The Community Health Status Assessment (CHSA) subcommittee was formed to answer the question of “How healthy are our residents?” and “What does the health status of our community look like?” The group focused on the identifying and analyzing key issues from a broad set of core indicators. Due to the short time frame and the voluntary efforts of the subcommittee, data from existing sources was used when appropriate. The subcommittee was careful to only select and approve data from credible sources.

COMMUNITY CHARACTERISTICS

Disparities in Boone County:

- ✓ 17.76% of children under 18 live in poverty

Racial and ethnic groups are disproportionately affected by poverty.

- ✓ 38.8% of AA/Black live in poverty
- ✓ 27.3% of Hispanic live in poverty
- ✓ 16.3% of White live in poverty

With a population of 162,642, Boone County is the 7th most populous county in Missouri and enjoys a fairly young population, with a median age of 29.7, compared to Missouri’s 37.9.

Growth

- Boone County saw a 20.07% increase in population between the 2000 census and 2010 census
- The 18-24 age group is the fastest-growing age group
- The over-65 age group saw a slight increase (0.7%) from the 2000 census to 2010 census

Aging

- Columbia was ranked 4th Best Small City to Age In according to the 2010 Milken Institutes’ *Best Cities for Successful Aging*
- Boone County has the 4th longest life expectancy in Missouri
- Boone County seniors, age 65-69, tend to be more active in the labor force than those of the same age in Missouri and the U.S.
- In 2010, approximately 2,428 (16%) of Boone County seniors (65 and over) relied on friends, family or public transit for their transportation needs

Diversity

- Boone County (2010 Census)
 - 82.5% White
 - 8.9% AA/Black
 - 8.6% Other races
 - 79% of Columbia’s population is White
 - Other Boone County communities range from 91.2-96.8% White
- 6.1% in Boone County are foreign born compared to the Missouri rate of 3.8%
- 3% of the population are Hispanic
- 2.1% of the Boone County residents are linguistically isolated, meaning no one over the age of 14 within the household speak English. (Missouri rate 1.33% and U.S. rate is 5%)



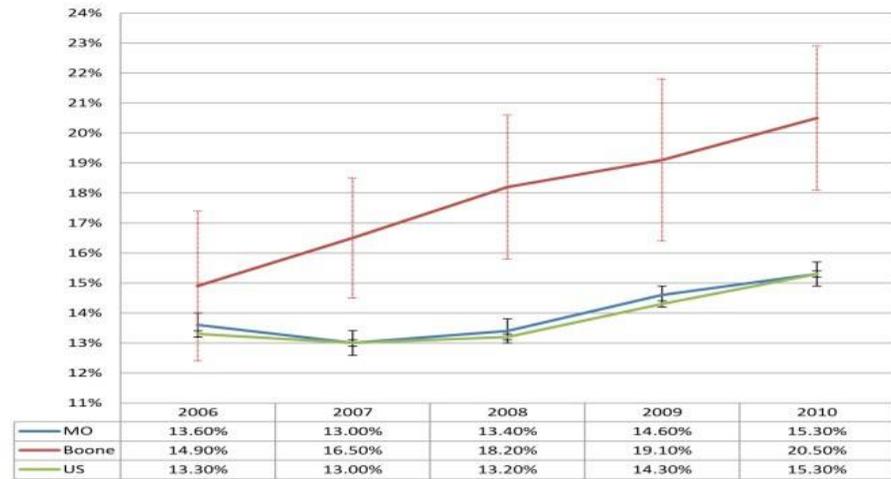
COMMUNITY CHARACTERISTICS (continued)

Disparities in Boone County:

- ✓ 9.5% of families live in poverty
- ✓ 35.6% of Boone County children are eligible for free/reduced lunch
- ✓ Between 2006-2010, Median household income for Black-only families is almost 53% less than White-only families
- ✓ 53.5% of renters in Boone County are cost burdened
- ✓ 13.6% of homeowners with mortgages are cost burdened
- ✓ Median annual housing costs have risen 12.2% in Boone County from 2005-2011
- ✓ The number of individuals on the waiting list for Section 8 Public Housing increased 21.5% from 2010 to 2012
- ✓ The number of WIC participants increased almost 10% between 2008 and 2010

Poverty

- The poverty rate for Boone County in 2010 was 20.5% (American Community Survey 1 year estimate)
- The poverty trend line for Boone County sits well above the almost identical U.S. and Missouri poverty rates



Source: American Community Survey's one-year estimates

Income/Poverty

While the median income in Boone County is slightly above the Missouri median income, it remains below the U.S. median income.

- 2011 median household income in Boone County was \$46,596
- White-only median household income \$49,856/year between 2006 and 2010
- Black-only median household income \$26,402/year between 2006 and 2010
- 12.8% of Boone County residents receive SNAP benefits, which is lower than both Missouri and U.S.

Housing

- Boone County housing costs have risen 12.2 % from 2005-2011, but remain lower than average compared to Missouri and the U.S.
- Boone County consistently has more cost burdened renters (those who spend 30% or more of their income on renting costs) than the state or the nation. This may be explained by the student sub-population along with the increase in the poverty level and unemployment rates

Homeless

- Homeless counts between July 2008 and July 2012 revealed 48% more homeless individuals in Boone County, compared to the state increase of 22%
- The largest sub-populations of homeless in Boone County are Veterans and the severely mentally ill



COMMUNITY CHARACTERISTICS *(continued)*

Disparities in Boone County:

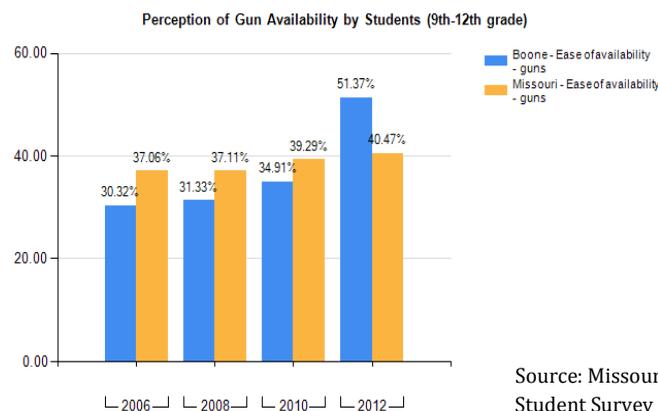
- ✓ From 2005 to 2010, the unemployment rate in Boone County nearly doubled, reflecting the nationwide impact of the Recession, but have recently decreased
- ✓ While unemployment numbers are improving, they still represent a strong demand for the county's social services
- ✓ Although unemployment statistics on gender, age and ethnicity are not collected at the county level, Black/African Americans, Latinos, and youth and adults with less than a high school diploma were more likely to be unemployed in 2011
- ✓ A Hispanic or AA/Black is 3 times more likely to not have graduated from high school compared to a white individual
- ✓ From 2006 to 2012, 338 individuals have been turned away from True North, the Domestic Violence Shelter, due to lack of overnight beds
- ✓ In 2010, True North turned away 202 women and children due to full shelter

Employment and Education

- April 2013 unemployment rates:
 - Columbia – 4.2%
 - Boone County – 4.4%
 - Missouri – 6.6%
- The overall graduation rate in 2012 for Boone County schools was 91.5%. This is above the Missouri 2012 rate of 88.2%
 - Centralia 95.3%
 - Harrisburg 94.7%
 - Sturgeon 93.5%
 - Southern Boone 90.4%
 - Hallsville 88.8%
 - Columbia 86.5%
 - Missouri 88.2%
- 52% of Boone County residents 25 years and older have an Associate's Degree or higher (Mo rate 32%, U.S. Rate 36%)
- 7.61% of the population age 25+ have no high school diploma

Quality of Life

- According to the FBI's Uniform Crime Report (UCR), Boone County has traditionally had low crime rates, especially for violent crimes
- Between 2005 and 2011 the number of domestic violence incidents rose from 95.2 to 103.96 per 10,000
- Since 2001, there have been no domestic violence related fatalities in Boone County
- Of the reported domestic violence incidences reported, the victims are usually female, White, and between 18-40 years old
- Since 2006, there have been 25 shelter beds at the True North Domestic Violence Shelter, the primary shelter for this county
- True North serves multiple counties
- Between 2006 and 2012, high schooler's perception of gun access as "easy" or "somewhat easy to obtain" increased by 21.05% in Boone County. Missouri saw just a 3.41% increase during this same time period



COMMUNITY HEALTHCARE AND RESOURCES

Disparities in Boone County:

- ✓ Low income population in Boone county are classified by HRSA (Health Resources and Services Administration) in July 2013 as having a shortage of access to health professionals
- ✓ While Boone County has a high rate of providers per population, it is unknown how many accept MO HealthNet
- ✓ 14% of residents in Boone County are uninsured
- ✓ Very few clinics offer a no-fee or reduced fee health service, making it difficult for those without any insurance or resources to access health care
- ✓ Only 7 of the 21 LTC/ALF facilities in Boone County have Alzheimer's Units

Boone County is rich in health care resources, including the number of hospitals and providers. This provides many jobs and contributes to the lower unemployment rate for the county.

Hospitals

- Boone County is home to 5 hospitals with 1100 acute care beds and 226 intensive care beds
- The medical and hospital services in Boone County are utilized by the entire Mid-Missouri population
- Boone County is home to the only Level 1 trauma center in Mid-Missouri, and a technologically advanced Newborn ICU

Resources

- Boone County is home to multiple clinics, providers, one Federal Qualified Health Center, and one volunteer clinic serving only indigent population
- There are 172 primary care providers in Boone County.
 - The ratio of population to providers is 949:1
 - The Missouri ratio is 1495:1
- While several providers accept MO HealthNet, the overall participation may be inadequate to meet growing demand

Health Insurance Coverage

- Residents of Boone County are slightly more likely to have health insurance than Missouri residents
- In 2013, there were 19,518 Boone County residents eligible for MO HealthNet
- The largest percentage of eligible residents was in the 5-14 age group

Long-Term Care (LTC) & Assisted Living Facilities (ALF)

- Boone County has 21 LTC and ALF facilities with a total of 1493 beds
- LTC & ALF occupancy rates are relatively high



COMMUNICABLE DISEASE

Disparities in Boone County:

- ✓ Boone County ranks 3rd in Missouri for Chlamydia rates
- ✓ Boone County ranks 10th in Missouri for Gonorrhea rates
- ✓ Chlamydia rates for AA/Black residents are at least seven times higher than for White residents
- ✓ In Boone County, the chlamydia rate for a female is twice as high as for a male

Although communicable disease rates, for the most part, are similar to or lower than state and national rates, they remain a significant cause of illness and disability. In some cases, as with tuberculosis, a single case may represent many hours of investigation and case management.

Tuberculosis (TB)

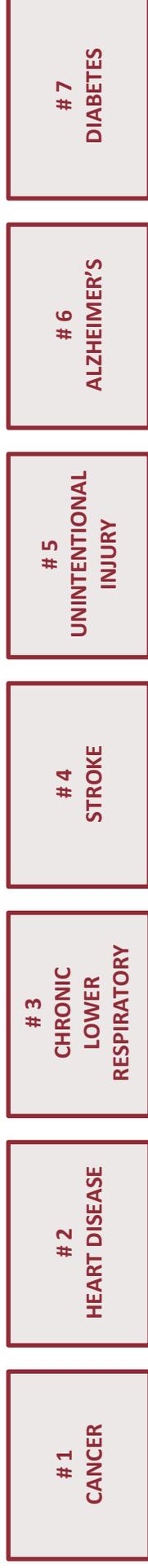
- Approximately 75% of TB cases reported in Boone County between 2008 and 2012 have been individuals born in another country
- The TB incidence rate has remained relatively stable for the last several years, with some years slightly above the state rate, and others slightly below

Sexually Transmitted Diseases

- In 2012, there were 1106 cases of Chlamydia and 207 cases of Gonorrhea reported in Boone County
- Based on 2011 Boone County population estimates, this means 667.8/100,000 have been diagnosed with Chlamydia and 125.0/100,000 with Gonorrhea
- By gender:
 - Chlamydia –
 - 750 female cases reported
 - 356 male cases reported
 - Gonorrhea –
 - 127 female cases reported
 - 80 male cases reported

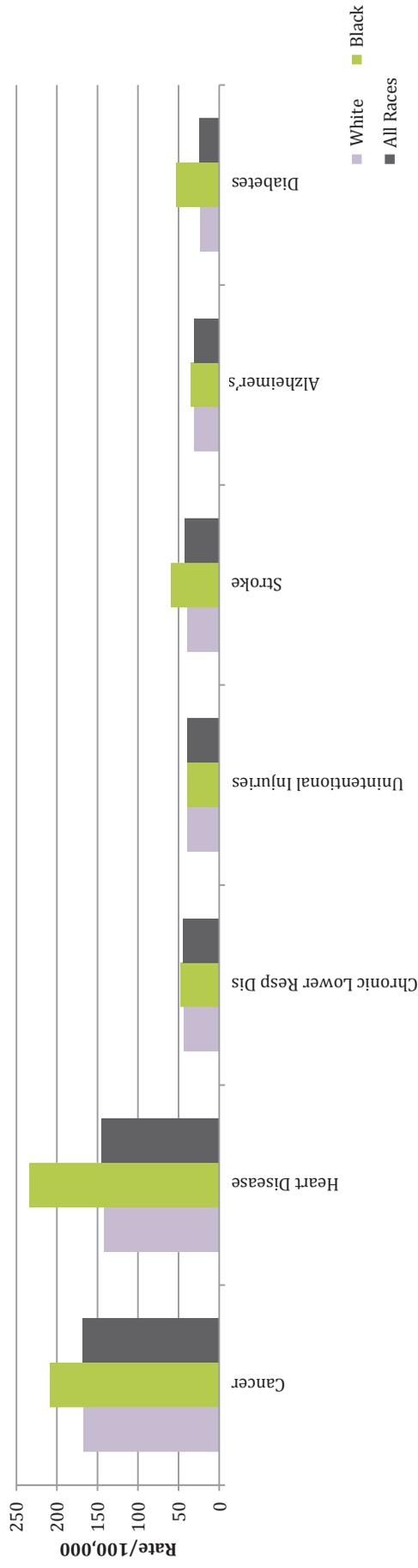
CAUSES OF DEATH AND CHRONIC DISEASE

The Leading Causes of Death in the Boone County: All Races, Rate per 100,000 (2010, 2011)



- Physical Activity and Tobacco Use are preventable factors in 4 of the 5 leading causes of death in Boone County
- Poor Nutrition and Obesity are preventable factors in 3 of the 5 leading causes of death in Boone County

Top 7 Causes of Death in Boone County
By Race 2010-2011
Rates/100,000



*Chronic Lower Respiratory Disease refers to a group of diseases that cause breathing-related problems and airflow blockage that is not fully reversible. It includes emphysema, chronic bronchitis, and in some cases asthma.



CAUSES OF DEATH AND CHRONIC DISEASE (continued)

Disparities in Boone County:

- ✓ The death rate for AA/Blacks is almost twice as high as Whites for heart disease and stroke, and even greater for diabetes
- ✓ 2011 Years of Life Lost
 - White = 5035
 - AA/Black = 8704

Risk Factors for Premature Death and Chronic Disease in Boone County

- 21% report no leisure time physical activity
- 28% obesity
- 20.7% of adults smoke
- 27.7% have high blood pressure
- 45.1% of adults > 35 have elevated cholesterol
- 7.5% diagnosed with diabetes
- 86.8% eat less than 5 fruits and vegetables a day

NUTRITION, FOOD AND PHYSICAL ACTIVITY

Disparities in Boone County:

- ✓ In Boone County in 2011, 4.35% of total household expenditures were for fruit/vegetable consumption versus 5.22% for soda consumption

Diet and Exercise barriers may increase risk for diabetes, high blood pressure and elevated cholesterol.

Food and Nutrition

- 12.3% of households were food uncertain in 2010
- 19.1% of households with children were food uncertain in 2010
- 4.6 % of food uncertain with hunger in 2010
- 77.6% have inadequate fruit/vegetable consumption (2005-2009 BRFSS)
- Boone County hosts at least 5 Farmer’s Markets
- SNAP benefits are doubled at one of Columbia Farmer’s Market
- In 2011, 81.5% strongly agree or agree that it is easy to purchase healthy food in their neighborhood
- 12% report being low income and not living close to a grocery store
- 110 children are fed daily during the summer at Douglass Park with the Lunch In The Park program

Physical Activity

- 58.1% of Boone County residents use walking trails and parks
- 59.1% have sidewalks in their neighborhood
- 81.9% consider their neighborhood to be safe
- With Columbia’s 3040 city-owned acres of parks and green space and 50.03 miles of trails, the ratio of developed open space/1000 is above The National Park Association’s recommendation



MATERNAL AND CHILD HEALTH

Disparities in Boone County:

- ✓ The AA/Black low birth rate for Boone County, 2009-2010, is over double the White rate (14.0 versus 6.8)
- ✓ For 2008-2010, the AA/Black very low birth rate of 2.7 per 100 live births is over double the White rate of 1.2
- ✓ More Whites than AA/Blacks receive prenatal care in the first trimester in Boone County
- ✓ Infant mortality rates for whites are below the Missouri rate, but the rates for black infants are above the Missouri rate

Babies born weighing less than 5 pounds, 8 ounces are considered low birth weight (LBW). Babies considered very low birth rate (VLBW) are born weighing less than 3 pounds, 4 ounces. Both LBW and VLBW pose serious health risks to newborns and can lead to long-term disabilities. The health care costs for these children are high.

Low Birth Weight and Very Low Birth Weight in Boone County:

- The low birth rate for Boone County in 2008-2010 is 8.1 per 100 live births
- The 2008-2010 Boone County rate of very low birth weight is 1.4 per 100 live births

Teenage Pregnancy and Births

2.29% of all live births in Boone County are born to moms between the ages of 10-17, which is below the Missouri rate of 3.26%

Maternal/Child Health

- In Boone County, 70.8% of WIC mothers initiate breastfeeding and 20% of those mothers are still breastfeeding at 6 months compared to 63.5% and 14.7% respectively for Missouri
- 93.4% of pregnant women enrolled in WIC in Boone County seek prenatal care in the first trimester of pregnancy

DISABILITIES

Disparities in Boone County:

- ✓ Between 2008 & 2010, people with a disability in Boone County make an average of 37% less than those without a disability
- ✓ Between 2005 & 2010, 26% of Boone County residents aged 18-64, who were disabled, lived in poverty versus 13% of disabled seniors (≥65+)

- In 2011, there were an estimated 16,512 individuals with disabilities living in Boone County. This represents 10% of our population.
- Of Boone County residents:
 - 3% of children 5-17 years have a disability
 - 9.4% of adults 18-64 have a disability
 - 32.6% of adults over 65 have a disability
- Of all adults 18-64 years old, the most prevalent disabilities are cognitive (4.6%), ambulatory (4.1%) independent living difficulty (3.4%) and hearing difficulties (2.1%)
- Of seniors (≥65), the most prevalent disabilities are hearing difficulties (18.9%) ambulatory difficulties (18.5%) and independent living difficulties (14.7%)



BEHAVIORIAL HEALTH AND SUBSTANCE ABUSE

Disparities in Boone County:

- ✓ Rates for self-inflicted injuries are 3 times higher for whites than blacks in 2011
 - ✓ Alcohol usage and binge drinking reported in 2012 for 6-12th graders in Boone County is higher than the Missouri average
 - ✓ In 2012, the over 18 alcohol use and binge drinking in Boone County is higher than in Missouri
- Both the number of hospital discharges and days of care for mental disorders has almost doubled from 2007-2011
 - One quarter of all Boone County hospitalizations with mental health diagnoses are attributed to alcohol and substance abuse
 - Half of all Boone County admissions to treatment report alcohol as the primary substance of abuse
 - In 2011, Boone County residents had a total of 315 alcohol and 253 drug related hospitalizations
 - In 2011, there were 601 alcohol related and 494 drug related ER visits that did not include a hospital stay
 - 21.3% of 6-12 graders in Boone County report having used alcohol for 30 days or more
 - 10.8 % report binge drinking
 - 7.1% report marijuana usage
 - 10.6% report cigarette use
 - 54.7% of those over 18 report alcohol usage and 26.8% report binge drinking
 - In 2011, there were over 235 retail outlets with “on premise” drink licenses, and 110 alcohol “package carry out” licenses

ACKNOWLEDGEMENTS

Subcommittee Members: Erin Barbaro- Center for Applied Research and Environmental Systems, Cheri Baysinger- Missouri Department of Health and Senior Services, Kevin Everett- University of Missouri Department of Family Medicine, Andrew Hunter- Missouri Department of Health and Senior Services, Sarah Rainey- Columbia/Boone County Department of Public Health and Human Services, Jacqueline Schumacker- University of Missouri Institute of Public Policy, Carol Toliver- University of Missouri Healthcare, Kathryn Wright- Lutheran Family and Children’s Services

