

# 2017 Community Health Assessment

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# Executive Summary

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The Jackson County Health Department (JACOHD) was established as a public health agency in January 1925. It is operated and managed by Truman Medical Centers (TMC), a not-for-profit, academic health center. JACOHD provides public health services for disease prevention, health promotion, and protection of the environment to over 250,000 residents in Jackson County, Missouri. The health department is responsible for all of Jackson County with the exception of the areas within the city limits of Kansas City and Independence. For purposes of this report, the health department's service area is referred to as Eastern Jackson County (EJC).

The JACOHD conducted a community health assessment (CHA) to provide a foundation for improving and promoting the health of the community. The health assessment identifies and describes the factors that affect the health of a population using quantitative data from primary and secondary data sources. The primary data was collected through the health department's 2014 Community Health Survey and the secondary data was collected through local, state and national databases.

Community input was obtained through the distribution of the 2017 Community Health Survey to over 11,000 residents of EJC. The survey addressed lifestyle behaviors (e.g., healthy eating and active living), medical services (e.g., access to care), social and economic factors (e.g., household income) and the physical environment (e.g., access to sidewalks and walking trails). Through the survey, the community identified distracted driving, overweight and obesity, and tobacco use as the top three public health concerns in EJC.

The public health concerns identified by the community are directly related to the top five leading causes of death, which are 1) heart disease, 2) cancer, 3) chronic lower respiratory disease, 4) lung cancer, and 5) stroke. Both the top health concerns and the leading causes of death are associated with similar lifestyle and behavioral risk factors, such as a poor diet, physical inactivity, using or being exposed to tobacco products, and excessive alcohol use. The health assessment further examines these risk factors in relation to the determinants of health.

The health assessment will be used as a community resource/tool to address the health needs in the EJC community. The JACOHD will use strategies and best practices from the Prevention Institute, the Centers for Disease Control and Prevention (CDC) and the National Association of County and City Health Officials (NACCHO) to help facilitate change in our community.

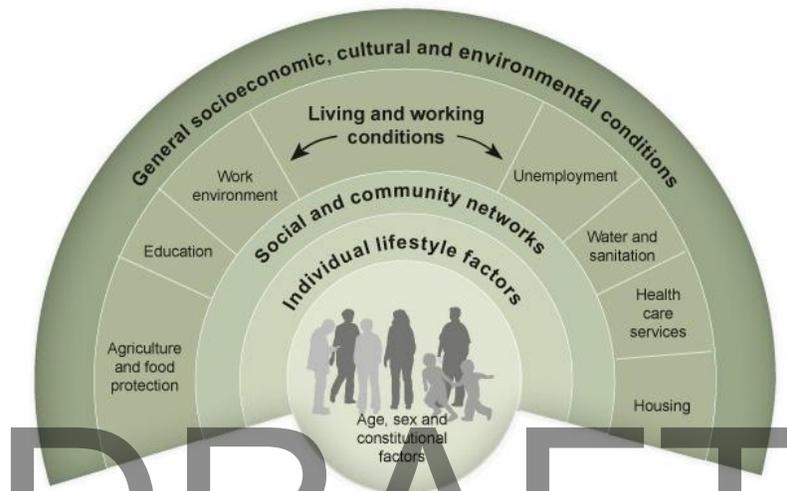
With the help of community leaders and partners, together we can build a healthier Jackson County.



# Methods

The methods section explains the collection, analysis, and limitations of primary and secondary data for the CHA. The CHA utilized a social determinants of health framework (see Figure 1) focused on the interconnected factors of a person's environment relating to their health. The health assessment addresses many health issues including lifestyle behaviors (e.g., healthy eating and active living), medical services (e.g., access to care), social and economic factors (e.g., household income) and the physical environment (e.g., access to sidewalks and walking trails).

Figure 1: A Model of the Determinants of Health



Source: Dahlgren, G and Whitehead, M. (1991). Policies and Strategies to Promote Social Equity in Health. Institute for Future Studies.

## Primary Quantitative Data Collection

In May 2014, the JACOHD conducted a Community Health Survey. The survey was mailed to 13,465 households that were randomly chosen based on statistically significant sample size calculations for each zip code within EJC. The mailing consisted of a letter that defined the purpose of the survey with the survey web address. Residents had the option to complete the survey online using SurveyMonkey® or request a hard copy of the survey be mailed to them. For those residents whose primary language was Spanish, the online survey contained the Spanish translation and a hard copy of the survey in Spanish was available upon request.

Surveys returned due to address change or an incorrect address occurred for 163 of the 13,465 mailed surveys. Out of the 13,302 households that received a survey, 1,074 households completed surveys giving the 2014 Community Health Survey an 8% response rate.

## Secondary Quantitative Data Collection

Secondary quantitative data was obtained from national, state, and local sources. Data sources included but were not limited to U.S. Census, Centers for Disease Control and Prevention (CDC), Missouri Information for Community Assessment (MICA), and County Health Rankings. These data sources were used to supplement the primary quantitative data from the 2014 Community Health Survey to provide a broader picture of the health status of EJC. Types of data included self-reporting of health behaviors from large, population-based surveys such as the Behavioral Risk Factor Surveillance System (BRFSS) and Youth Risk Behavior Survey (YRBS), as well as, public health disease surveillance data and vital statistics based on birth and death records.

## **Analysis**

Analysis of the primary quantitative data was done using a combination of Statistical Packages for Social Sciences (SPSS) and Microsoft Excel software. Questions on the 2014 Community Health Survey were analyzed to determine likelihood, satisfaction, and health priorities of EJC residents. The secondary data was incorporated to further add to the trends seen within the primary data and to provide comparison to state and national data benchmarks.

## **Geographic Information System (GIS) Mapping**

Using the 2014 Community Health Survey data, JACOHD extrapolated all survey responses by zip code and then calculated a weighted average for each zip code by survey question. JACOHD provided the weighted averages to the Jackson County GIS Office for mapping. This data allows for a quick comparison of survey responses by geographic location of the respondents. GIS mapping was not done for all survey questions. The maps can be found in Appendix C (pg. 79) of this document.

## **Limitations**

Multiple limitations exist with a survey of this nature. Self-reported surveys, including the 2014 Community Health Survey, rely on respondent recall of previous information. By relying on the ability of respondents to recall information, there remains a distinct possibility of recall bias occurring. In addition to recall bias, there remain issues with collecting EJC specific data. Most secondary data sources combine all areas of Jackson County in collection. Due to the geographic differences between EJC, Kansas City, and Independence, this makes comparison and separation of only EJC data difficult. Due to the jurisdictional boundaries in Jackson County, it is not always possible to yield secondary data specific to EJC. Finally, not all secondary data sources are timely in reporting their findings resulting in some secondary data being outdated in relation to primary data.

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# Demographics

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## Background

Demographic data helps a community – country, state, county, city and/or neighborhood – plan for the future by helping define where we have been and where we are today. Demography defines the populations within a community in relation to social interactions where people live, work and play.<sup>1</sup>

Understanding the demographics and needs of a community provide knowledge of the age and sex distribution, educational attainment, employment history, income status, county of birth, poverty level, language barriers, residents' satisfaction/dissatisfaction with the community, personal risk habits and disabilities. With this information, community leaders, government and non-government agencies, health care providers, and individuals can create plans to improve the health and well-being of the community.

## Population Size

Jackson County is located in northwest Missouri. The Jackson County Health Department (JACOHD) is responsible for all of Jackson County with the exception of the areas within the city limits of Kansas City and Independence. For purposes of this report, the health department's service area is referred to as Eastern Jackson County (EJC). According to the 2009-2013 census estimates EJC has a population of 255,613 people.<sup>2</sup>

Table 1: Eastern Jackson County Population Estimates by City; 2009-2013

	Population Estimates	% Change
<b>Eastern Jackson County</b>	<b>255,613</b>	<b>11%</b>
Blue Springs	52,776	2%
Buckner	3,070	3%
Grain Valley	12,843	12%
Grandview	24,673	1%
Greenwood	5,249	6%
Lake Lotawana	2,030	-5%
Lake Tapawingo	676	-6%
Lee's Summit	89,839	5%
Levasy	85	-25%
Lone Jack	1,066	18%
Oak Grove	7,683	6%
Raytown	29,513	0%
Sibley	356	6%
Sugar Creek	3,345	-1%
Unity Village	113	11%
Unincorporated	22,296	2%

Source: U.S. Census Bureau

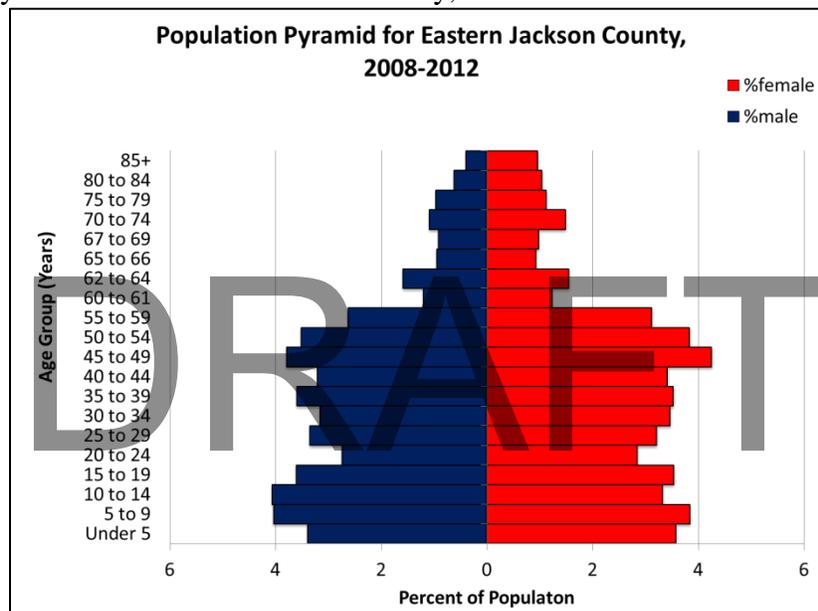
## Age, Race and Sex Distribution

The 2008-2013 Census Bureau estimates the average population of EJC at 255,613 people<sup>3</sup>. Forty-eight percent (48.6%) are male and 52.4% are female. Nearly seven percent (6.9%) of the population is under 5 years old, 22.4% are 5-19 years, 25.9% are 20-39 years, 33.3% are 40-64 years, 10.1% are 65-84 years and 1.4% are 85 years or older.<sup>4</sup>

Within the EJC population, 82.9% identify themselves as Caucasian/White, 11.0% as Black/African American, 0.4% as Native American/Alaska Native, 1.3% as Asian, 0.3% as Native Hawaiian/Pacific Islander, 1.3% as Some Other Race, and 2.8% as Two or More Races.<sup>5</sup>

The population pyramid (see Figure 2) displays the count or percentage of a population by age and sex. It does so by using two histograms (most often one for females and one for males, each by age group) turned sideways so the bars are horizontal, and placed base to base. The EJC population pyramid is typical of those seen in developed countries and reflects a lower birthrate, lower infant mortality and higher life expectancy.<sup>6</sup>

Figure 2: Population Pyramid for Eastern Jackson County, 2008-2012



Source: U.S. Census Bureau

The current growth in the number and proportion of older adults in the U.S. is unprecedented in our nation's history. By 2050, it is anticipated that Americans aged 65 or older will number nearly 89 million people, or more than double the number of older adults in the U.S. in 2010.<sup>7</sup> This influence will have its most profound effects on public health, social services, and health care systems. Public health plays a key role in advocating for those in need, linking individuals and communities to available services, and promoting healthy aging because of its effects on societal, cultural, economic, and environmental factors. The public health sector is ideally positioned to meet the growing needs and demands of a rapidly aging nation.<sup>8</sup>

## Educational Attainment

Residents living in EJC have a high level of educational attainment compared to Missouri (26%) and U.S. (28%) populations with almost 29% of EJC residents having a Bachelor’s Degree or higher.<sup>9</sup> In EJC, less than 2% of the population 18 years and older have less than a 9<sup>th</sup> grade education and approximately 6.3% have a high school education with no diploma (see Table 2). There is a higher percent of women that have attended or completed high school or a college degree than men in EJC.<sup>10</sup>

Table 2: Educational Attainment by Sex of Eastern Jackson County Residents 18 Years and Older, 2009 - 2013

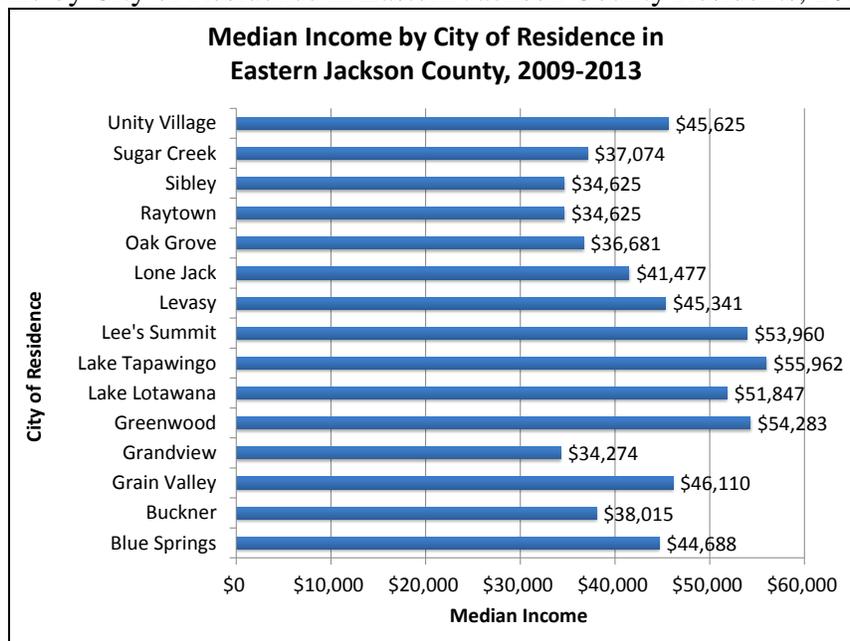
Educational Attainment by Sex of Eastern Jackson County Residents 18 Years and Older		
	Sex	
	Male	Female
Less than 9th grade	0.84%	0.87%
9th to 12th grade, no diploma	3.23%	3.05%
High school graduate, GED, or alternative	14.14%	14.72%
Some college, no degree	12.36%	14.73%
Associate's degree	3.18%	4.35%
Bachelor's degree	9.20%	9.38%
Graduate or professional degree	4.57%	5.37%
<b>TOTAL</b>	<b>47.52%</b>	<b>52.47%</b>

Source: U.S. Census Bureau

## Income

In 2009-2013 the median income in the U.S. was \$43,880 and \$40,182 in Missouri. The median income of residents in Blue Springs, Grain Valley, Greenwood, Lake Lotawana, Lake Tapawingo, Lee’s Summit, Levasy, and Unity Village exceed the median income of the U.S. and Missouri; whereas, the median incomes for Buckner, Grandview, Oak Grove, Raytown, Sibley, and Sugar Creek are below the U.S. and Missouri medians (see Figure 3).<sup>11</sup>

Figure 3: Median Income by City of Residence in Eastern Jackson County Residents, 2009-2013



Source: U.S. Census Bureau

**Income by Sex.** In the U.S., 29% of the population earns \$50,000 or more annually, of which 19% are males and 10% are females. Similarly in Missouri, 24% of residents earn \$50,000 or more annually, of which 16% are males and 8% are females (see Table 3). The residents of EJC exceed both the U.S. and Missouri with approximately 32% of the EJC population earning more than \$50,000 annually. Although women in EJC have attained a higher level of education attainment as shown in Figure 3 (pg. 8), they continue to have less earning power; 20.51% of men and 11.53% of women earn salaries of \$50,000 or more.<sup>12</sup>

Table 3: Eastern Jackson County Earnings by Sex for Population 16 Years and Older, 2009-2013

<b>Eastern Jackson County Earnings by Sex for Population 16 Years and Older, 2009-2013</b>						
<b>Salary Range</b>	<b>Sex</b>				<b>Total</b>	<b>Percent</b>
	<b>Male</b>		<b>Female</b>			
	<b>Number</b>	<b>Percent of Total</b>	<b>Number</b>	<b>Percent of Total</b>		
\$1 to \$2,499 or less	3,841	2.72%	4,513	3.20%	8,354	<b>5.93%</b>
\$2,500 to \$4,999	2,591	1.84%	3,491	2.48%	6,082	<b>4.31%</b>
\$5,000 to \$7,499	2,364	1.68%	3,440	2.44%	5,804	<b>4.12%</b>
\$7,500 to \$9,999	1,567	1.11%	2,924	2.07%	4,491	<b>3.19%</b>
\$10,000 to \$12,499	1,973	1.40%	3,109	2.21%	5,082	<b>3.60%</b>
\$12,500 to \$14,999	2,037	1.44%	2,344	1.66%	4,381	<b>3.11%</b>
\$15,000 to \$17,499	2,116	1.50%	2,759	1.96%	4,875	<b>3.46%</b>
\$17,500 to \$19,999	1,529	1.08%	1,981	1.41%	3,510	<b>2.49%</b>
\$20,000 to \$22,499	2,193	1.56%	3,253	2.31%	5,446	<b>3.86%</b>
\$22,500 to \$24,999	1,438	1.02%	2,259	1.60%	3,697	<b>2.62%</b>
\$25,000 to \$29,999	3,509	2.49%	5,713	4.05%	9,222	<b>6.54%</b>
\$30,000 to \$34,999	5,224	3.71%	5,133	3.64%	10,357	<b>7.35%</b>
\$35,000 to \$39,999	3,900	2.77%	4,630	3.28%	8,530	<b>6.05%</b>
\$40,000 to \$44,999	4,637	3.29%	4,770	3.38%	9,407	<b>6.67%</b>
\$45,000 to \$49,999	3,745	2.66%	2,840	2.01%	6,585	<b>4.67%</b>
\$50,000 to \$54,999	4,244	3.01%	3,494	2.48%	7,738	<b>5.49%</b>
\$55,000 to \$64,999	6,531	4.63%	4,202	2.98%	10,733	<b>7.61%</b>
\$65,000 to \$74,999	4,014	2.85%	2,621	1.86%	6,635	<b>4.71%</b>
\$75,000 to \$99,999	7,023	4.98%	3,809	2.70%	10,832	<b>7.68%</b>
\$100,000 or more	7,107	5.04%	2,128	1.51%	9,235	<b>6.55%</b>
<b>TOTAL</b>	<b>71,583</b>	<b>50.77%</b>	<b>69,413</b>	<b>49.23%</b>	<b>140,997</b>	<b>100.00%</b>

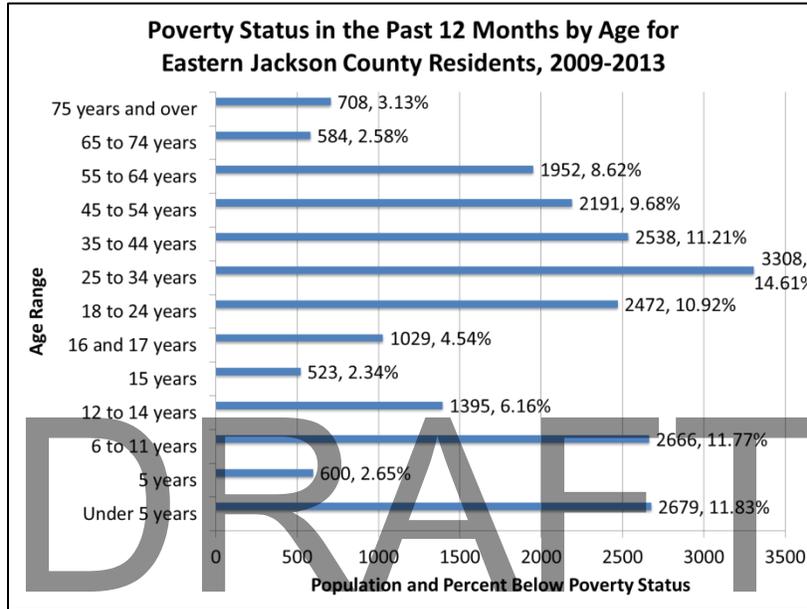
Source: U.S. Census Bureau

## Poverty

Approximately 9% of EJC residents live below the poverty level of which 4% are males and 5% are females. This is slightly lower than the 10.78% of Missouri residents living below poverty level of which 4.32% are males and 6.46% are females.<sup>13</sup>

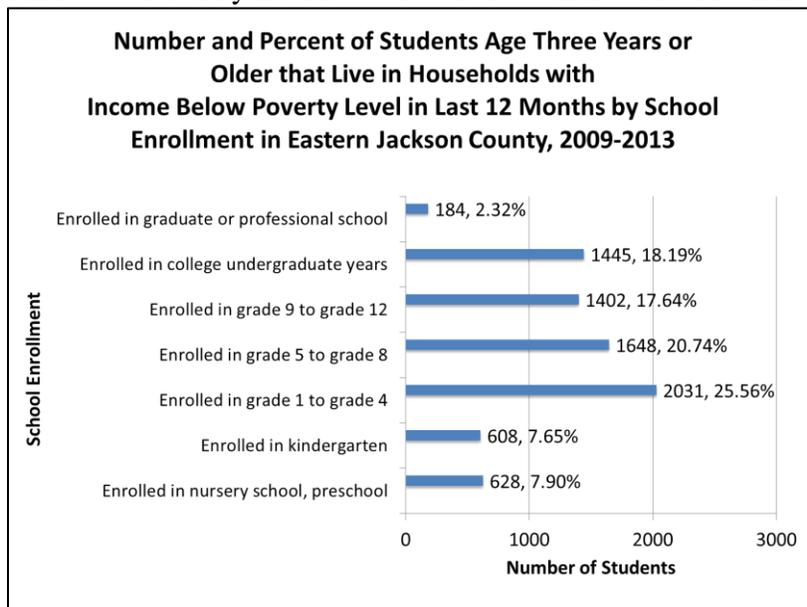
**Poverty among Youth and Adolescents.** Although the percent of the population living in poverty is less in EJC than the U.S. and Missouri, poverty has significant impacts on health. In EJC, 39.26% of those living below the poverty level are 17 years old and younger (see Figure 4). Poverty among adolescents increases the risk of behavioral problems, school dropout, and developmental delays.<sup>14</sup> In addition, 20.4% of students in EJC living below the poverty level are enrolled in higher education opportunities (see Figure 5).<sup>15</sup>

Figure 4: Poverty Status in the Past 12 Months by Age for Eastern Jackson County Residents, 2009-2013



Source: U.S. Census Bureau

Figure 5: Number and Percent of Students Age Three Years or Older that Live in Households with Income Below Poverty Level in Last 12 Months by School Enrollment in Eastern Jackson County, 2009-2013



Source: U.S. Census Bureau

**National School Lunch Program.** Children from families with incomes at or below 185% of the poverty level are eligible for free and reduced meals through the National School Lunch Program (NSLP).<sup>16</sup>

All school districts located in EJC have experienced increases in the number of students enrolled in the NSLP from the 2009-2010 school year to 2013-2014 school year. The Grandview C-4 school district and the Raytown C-2 school district have the highest percent of students in EJC receiving free and reduced meals, at 71.5% and 64.4%, respectively (see Table 4).<sup>17</sup>

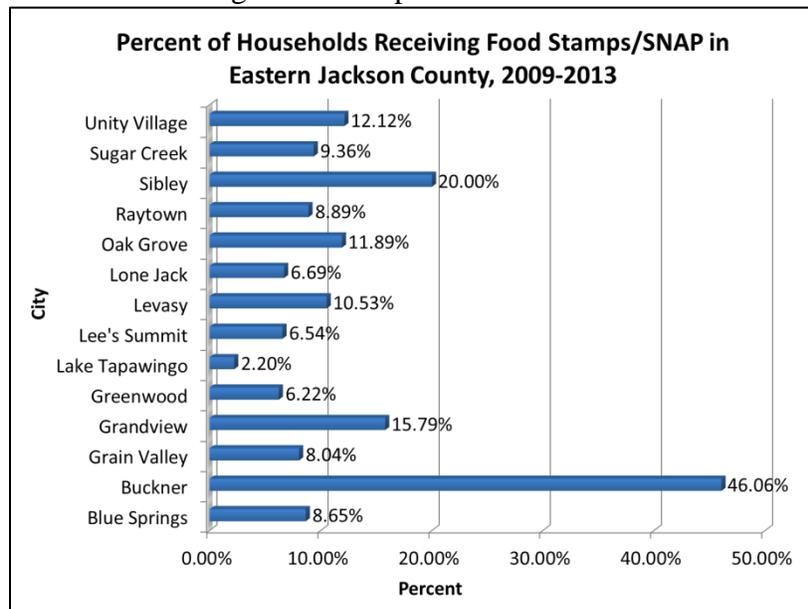
Table 4: Percent of Total Number of Students Receiving Free and Reduced Meals by School District in Eastern Jackson County (2000 Definition); 2009-2013

Percent of Total Number of Students Receiving Free and Reduced Meals By Year and School District in Eastern Jackson County (2000 Definition); 2009-2013					
School District	School Year				
	2013-14	2012-13	2011-12	2010-11	2009-10
Blue Springs R-IV	30.10%	29.50%	27.00%	24.20%	20.60%
Grain Valley R-V	22.10%	25.90%	21.40%	20.90%	17.10%
Grandview C-4	71.50%	68.00%	Not Documented	62.00%	63.80%
Lee's Summit R -VII	20.10%	21.10%	18.10%	15.50%	12.80%
Lone Jack C-6	18.30%	19.20%	19.60%	14.60%	9.90%
Oak Grove R-VI	38.30%	37.70%	33.50%	34.80%	31.00%
Raytown C-2	64.40%	60.20%	53.40%	53.00%	48.90%

Source: Missouri Department of Elementary and Secondary Education

**Supplemental Nutrition Assistance Program (SNAP).** Food assistance programs, such as SNAP, are also available for eligible low income adults and families that meet specific guidelines.<sup>18</sup> The cities of Buckner, Grandview, Levasy, Oak Grove, Sibley, and Unity Village have more than 10% of household receiving some form of SNAP assistance (see Figure 6).<sup>19</sup>

Figure 6: Percent of Households Receiving Food Stamps/SNAP in Eastern Jackson County, 2009-2013



Source: U.S. Census Bureau

## Disabilities

The International Classification of Functioning, Disability and Health (ICF) define disability as an umbrella term for impairments, activity limitations and participation restrictions. Disability is the interaction between individuals with a health condition and personal and environmental factors.<sup>20</sup> Table 5 displays the American Community Survey results linked with people having difficulty walking. The age distributions were as follows: age 5-17 years, male 11.5% and females 10.3%; 18-34, males 11.4% and females 11.6%; 35-64, males 21% and females 22.6%; 65-74, males 3.1% and females 3.6%; and 75 or older, males 2% and females 3.2%.<sup>21</sup>

Table 5: Eastern Jackson County Ambulatory Difficulty by Sex and Age of Civilian Non-institutionalized Population 5 years and Over, 2008-2012

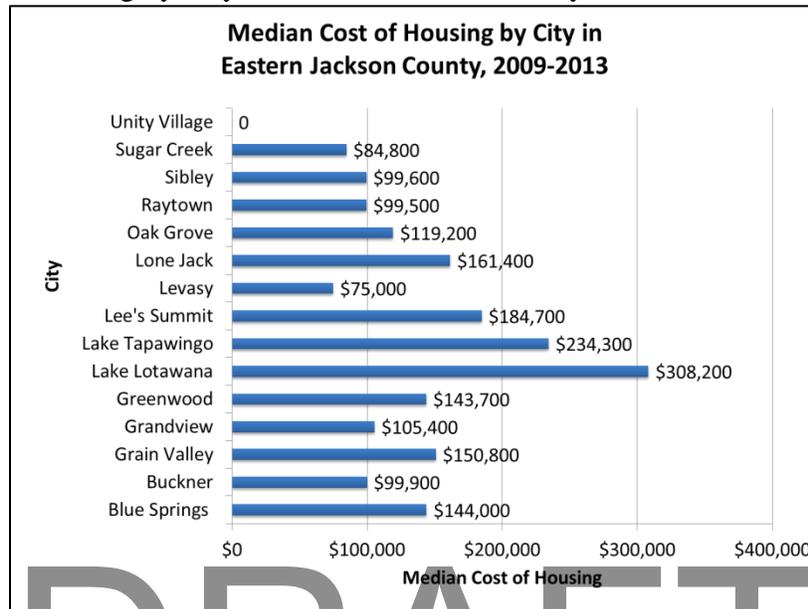
<b>Eastern Jackson County Ambulatory Difficulty by Sex and Age of Civilian Non-institutionalized Population 5 years and Over, 2008-2012</b>			
<b>Age Range</b>	<b>Sex</b>		<b>Total</b>
	<b>Male</b>	<b>Female</b>	
<b>5 to 17 years:</b>	<b>51.9%</b>	<b>48.1%</b>	<b>50,241</b>
With an ambulatory difficulty	60.1%	39.9%	158
No ambulatory difficulty	51.9%	48.1%	50,083
<b>18 to 34 years:</b>	<b>49.6%</b>	<b>50.4%</b>	<b>53,809</b>
With an ambulatory difficulty	49.9%	50.1%	821
No ambulatory difficulty	49.6%	50.4%	52,988
<b>35 to 64 years:</b>	<b>48.1%</b>	<b>51.9%</b>	<b>102,059</b>
With an ambulatory difficulty	35.8%	64.2%	6,233
No ambulatory difficulty	48.9%	51.1%	95,826
<b>65 to 74 years:</b>	<b>46.3%</b>	<b>53.7%</b>	<b>15,868</b>
With an ambulatory difficulty	38.1%	61.9%	2,410
No ambulatory difficulty	47.8%	52.2%	13,458
<b>75 years and over:</b>	<b>39.1%</b>	<b>60.9%</b>	<b>12,112</b>
With an ambulatory difficulty	27.8%	72.2%	3,693
No ambulatory difficulty	44.0%	56.0%	8,419
<b>TOTAL</b>	<b>48.7%</b>	<b>51.3%</b>	<b>234,089</b>

Source: U.S. Census Bureau

## Housing

The median cost of housing built in the U.S. from 1939 to 2010 is \$176,700 and Missouri is \$137,000. Data is not available for EJC specifically; however, the median cost of housing in Jackson County is \$126,800, Independence is \$101,400, and Kansas City, Missouri, is \$112,200. Note that the median housing costs are highest in Lake Lotawana, Lake Tapawingo, and Lee's Summit while the lowest are in Buckner, Levasy, Raytown, Sibley, and Sugar Creek (see Figure 7).<sup>22</sup>

Figure 7: Median Cost of Housing by City in Eastern Jackson County, 2009-2013



Source: U.S. Census Bureau

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# Health Care Access and Utilization

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## Background

A person's ability to access health services has a profound effect on every aspect of his or her health; yet at the start of the decade, almost 1 in 4 Americans did not have a primary care provider (PCP) or health center where they can receive regular medical services. In addition, approximately 1 in 5 Americans (children and adults under the age of 65) did not have medical insurance. People without medical insurance are more likely to lack a usual source of medical care, such as a PCP, and are more likely to skip routine medical care due to costs, increasing their risk for serious and disabling health conditions. When they do access health services, they are often burdened with large medical bills and out-of-pocket expenses.

Increasing access to both routine medical care and medical insurance are vital steps in improving the health of all Americans.<sup>23</sup>

## Leading Health Indicators<sup>24</sup>

- Persons without medical insurance
- Persons with a usual primary care provider

**Persons without medical insurance.** Uninsured people are far more likely than those with insurance to report problems getting needed medical care.<sup>25</sup> According to the U.S. Census Bureau, only 11.4% of EJC residents do not have insurance coverage. Of those residents that do not have insurance coverage, 9.8% are non-Hispanic White, 15.9% are Black, and 24.3% are Hispanic.<sup>26</sup>

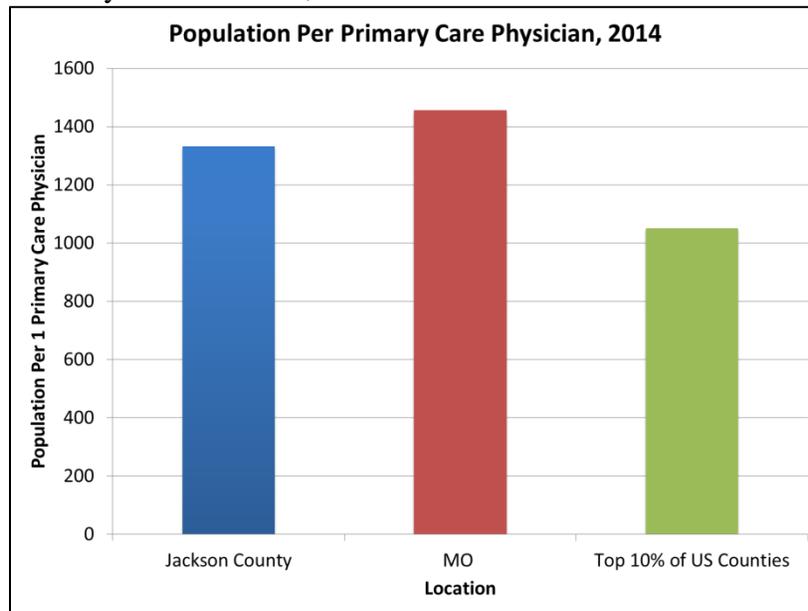
**Persons with a usual primary care provider.** Having a usual source of primary care is important to maintaining overall health by avoiding serious preventable illnesses. Studies have shown that having a usual source of care is associated with increased odds of receiving the recommended preventative care and screening services, including the flu shot, Pap smear, mammogram and prostate examination. Having regular screenings for these and other types of services is an important factor in controlling health costs by avoiding more costly illnesses down the road. In Jackson County, approximately 75.8% of adults ages 18 and older reported having a single provider as their usual source of primary health care services, compared to 74.5% of Missouri adults.<sup>27</sup>

## Determinants of Health Care Access and Utilization

The ability to access health services is associated with a number of social, economic, and environmental factors. One of the primary factors is the high cost of medical insurance, which makes it unavailable to many people. A lack of medical services in some communities, coupled with a shortage of PCPs nationwide, also negatively affects people's ability to access health services. These barriers are compounded by other determinants, such as age, gender, race and ethnicity, and origin of birth, which may affect a person's ability to access health services. The systematic removal of these barriers is critical to improving the health of all Americans.<sup>28</sup>

**Shortage of primary care providers.** Primary care physicians include non-federal, practicing physicians (M.D.'s and D.O.'s) under age 75 specializing in general practice medicine, family medicine, internal medicine and pediatrics. Sufficient availability of PCPs is essential for preventative and primary care. According to the RWJF County Health Rankings, there is less access to primary care providers in both Jackson County (1,331:1) and the entire state of Missouri (1,455:1) than the top 10% of U.S. Counties (1,051:1) (see Figure 8).<sup>29</sup>

Figure 8: Population per Primary Care Provider, 2014



Source: Robert Wood Johnson Foundation County Health Rankings

**Cost of medical insurance.** Most health plans require enrollees to pay a portion of the cost of care when they seek services. While there are forms of cost sharing such as deductibles, copayments, and coinsurance, it is most common to focus on the deductible amount because it often provides the simplest indication of how generous a plan may be. A deductible is the amount that an enrollee must pay toward the cost of covered services before the plan will start paying for most types of care covered by the plan. Among federally facilitated and partnership marketplaces in 2015, the average deductible for combined plans that included both medical spending and prescription drug spending is \$2,207.<sup>30</sup> The average annual deductible for a single coverage plan that is offered by an employer is \$1,097. Since 2006, there has been an 88% increase in the average deductible amount for a single coverage plan offered by an employer.<sup>31</sup>

**Lack of Medicaid Expansion in Missouri.** Medicaid is incredibly effective at providing coverage for 25% of children, 21% of low income adults, and 60% of nursing-home residents nationwide. Medicaid expansion will reduce the number of people that are uninsured, improve the health of working families, reduce the costs for families and businesses, and prevent unnecessary emergency room visits for the uninsured. Medicaid expansion is also a smart investment in our state's economy and workforce. Within the first year of expansion, 4,236 jobs will be created in Kansas City and \$263 million of income would be generated from employment.<sup>32</sup>

**Health Literacy.** Health literacy is the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions. Only 12% of adults have proficient health literacy, meaning they have the skills necessary to manage their health and prevent disease. Access to resources can be an important factor that affects a person's health literacy skills. In addition, certain populations are at greater risk of low health literacy, including the elderly, ethnic minorities, people with less than a high school degree, people with low income, and non-native English speakers.<sup>33</sup> According to the 2014 Community Health Survey, the top five places where respondents get their health information (information on local health care resources, educational information, etc.) are health care providers (24%), the internet (20%), friends and family (12%), TV news (11%), and talk shows (6%). Where individuals find and access health information can be a key indicator for health literacy.

# Communicable and Infectious Diseases

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## Background

Communicable and infectious diseases (CDID) have a major impact on the health of a community. Many discoveries have contributed to the prevention and control of CDID. They include the introduction of the germ theory, the discovery of the relationship between specific microorganisms to specific diseases and improved techniques to identify these diseases quickly, the discovery of treatments such as antibiotics and antiviral medications, the increase in the number of effective vaccines, improved standards of living, and environmental sanitation such as chlorination of drinking water.<sup>34, 35, 36, 37, 38, 39,40</sup>

While communicable diseases are no longer among the major leading causes of death in the U.S., they still account for considerable morbidity and mortality. In order to identify communicable disease threats, public health departments conduct ongoing communicable disease surveillance. Communicable disease surveillance is the on-going systematic collection, analysis and interpretation of reportable communicable diseases defined by the Council of State and Territorial Epidemiologists, the Centers for Disease Control and Prevention (CDC) and state health departments.<sup>41</sup>

## Enteric Pathogens - Gastrointestinal Infections (GI) or Gastroenteritis

Enteric pathogens are bacteria, viruses, and parasites that cause inflammation of the intestine. These pathogens typically enter the body through the fecal-oral route in which a person ingests the organism directly through contact with contaminated feces or through contact with contaminated food, water or other materials in the environment. Signs and symptoms typically include diarrhea, abdominal pain/cramps, headache, fever, nausea, and/or vomiting.<sup>42, 43</sup>

Prevention for most enteric pathogens includes:

- Using good hand hygiene, such as frequent hand washing, washing hands before preparing food, after handling raw foods, after using the restroom, after changing diapers, and after contact with pets or pet feces
- Cooking all poultry to reach a minimum internal temperature of 165 °F; and until the meat is no longer pink and the juices run clear
- Preventing cross-contamination in the kitchen by using separate cutting boards for foods of animal origin and other foods and by carefully cleaning all cutting boards, countertops, and utensils with soap and hot water after preparing raw food of animal origin.
- Avoiding the consumptions of unpasteurized milk and dairy products
- Not drinking untreated water from shallow wells, lakes, ponds, rivers and streams
- Staying home from work, school or childcare settings until diarrhea has ceased
- Not swimming if you have diarrhea
- Minimizing contact with the feces of all animals, particularly young animals. When handling animal feces, wear disposable gloves and always wash hands when finished.<sup>44, 45</sup>

## Campylobacter

Campylobacteriosis is a highly contagious zoonotic bacterial disease and is one of the most common causes of diarrheal illness in the U.S. *Campylobacter* (Campy) is estimated to affect over 1.3 million persons worldwide every year. Infants and young adults are more likely to get *Campylobacter* than other age groups and more commonly in males than females.<sup>46</sup> Most cases occur as isolated, sporadic events, not as part of recognized outbreaks. *Campylobacter* infections typically occur more frequently in the spring and summer.<sup>47</sup>

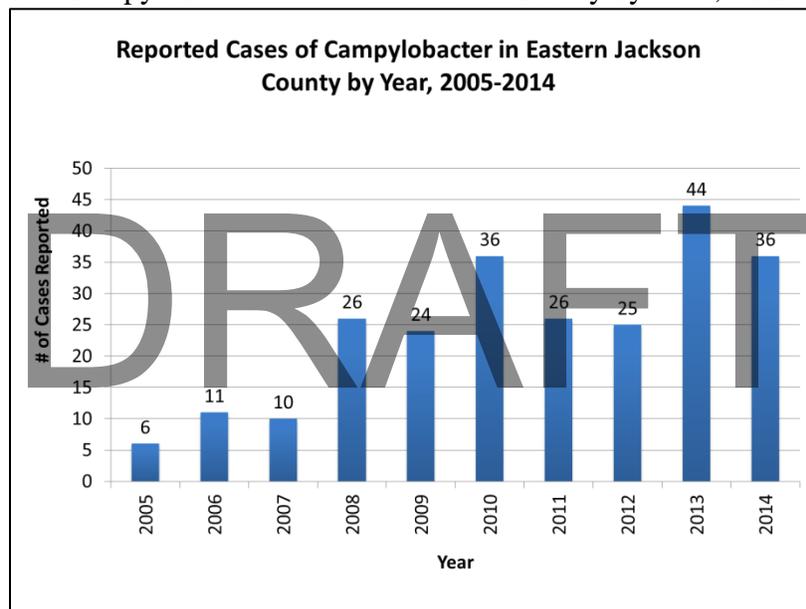
The number of reported cases of Campy in EJC has increased from 2005-2014. These changes in the number of reported cases could be due to a multitude of factors, including changes in the laboratory testing procedures and changes in the case definition as defined by the CDC National Notifiable Diseases Surveillance System. In EJC, the 2005-2014 ten year *Campylobacter* average is 24.4 cases; median is 26.0 cases, minimum is 6 cases and maximum is 44 cases (see Figure 9).

Table 6: Campylobacter

Campylobacter					
Type of Agent	Incubation	Signs & Symptoms	Duration of Illness	Transmission	Treatment
Bacteria	2-5 days	Diarrhea, cramps, fever, and vomiting; diarrhea may be bloody	2-10 days	Raw and undercooked poultry, unpasteurized milk, contaminated water	Supportive care. For severe cases, antibiotics may be necessary

Source: Control of Communicable Disease Manual, 2015

Figure 9: Reported Cases of Campylobacter in Eastern Jackson County by Year, 2005-2014



Source: JACOHD Surveillance

### Cryptosporidium

Cryptosporidium, commonly known as “Crypto” is caused by a parasite that can live in the intestine of humans and animals and is passed in the stool of an infected person or animal.<sup>48</sup>

During the past two decades, Crypto has become recognized as one of the most common causes of waterborne disease (recreational water and drinking water) in humans in the U.S. The parasite is found in every region of the U.S. and throughout the world.<sup>49</sup> Outbreaks can occur all year round but increases are often observed in the summer when outdoor recreation increases. Crypto is resistant to the levels of chlorine that are used to treat recreational water such as swimming pools, water parks, splash pads, and spray parks.<sup>50</sup>

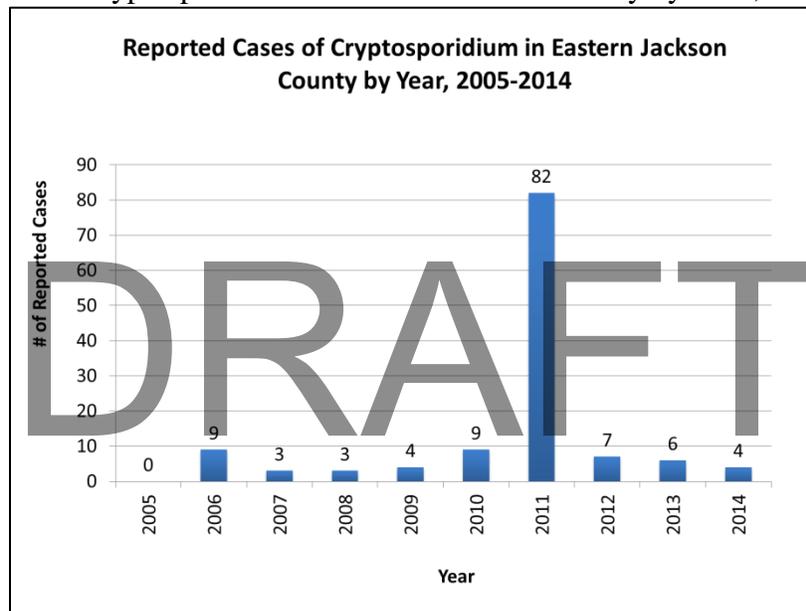
In EJC, the 2005-2014 ten year *Cryptosporidium* average is 12.7 cases, median is 6.0 cases, minimum is 3 cases and maximum is 82 cases (see Figure 10). In 2011, there was a spike in the number of cases reported due to a community-wide Crypto outbreak.

Table 7: Cryptosporidium

Cryptosporidium					
Type of Agent	Incubation	Signs & Symptoms	Duration of Illness	Transmission	Treatment
Parasite	2-10 days	Diarrhea (usually watery), stomach cramps, upset stomach, slight fever	May be remitting and relapsing over weeks to months	Contaminated recreational water, such as water from swimming pools, and untreated fountains lakes, uncooked food or food contaminated by an ill food handler after cooking,	Supportive care. For severe cases, treatment may be necessary

Source: Centers for Disease Control and Preventions and Control of Communicable Diseases Manual, 2015

Figure 10: Reported Cases of Cryptosporidium in Eastern Jackson County by Year, 2005-2014



Source: JACOHD Surveillance

**Giardia**

Giardia is a diarrheal illness caused by a parasite that lives in the intestine of infected people, cats, dogs, cattle, deer and beavers. It is the most commonly identified intestinal parasite in the U.S. and worldwide.<sup>51</sup>

The parasite can be found in contaminated water sources such as lakes and ponds and contaminated food and water. It can also be spread by direct person to person contact and contact with animals. Infections are more common from early summer to early fall.<sup>52</sup> Outbreaks have occurred related to contaminated water and food, by person to person transmission, and daycare centers.<sup>53,54</sup>

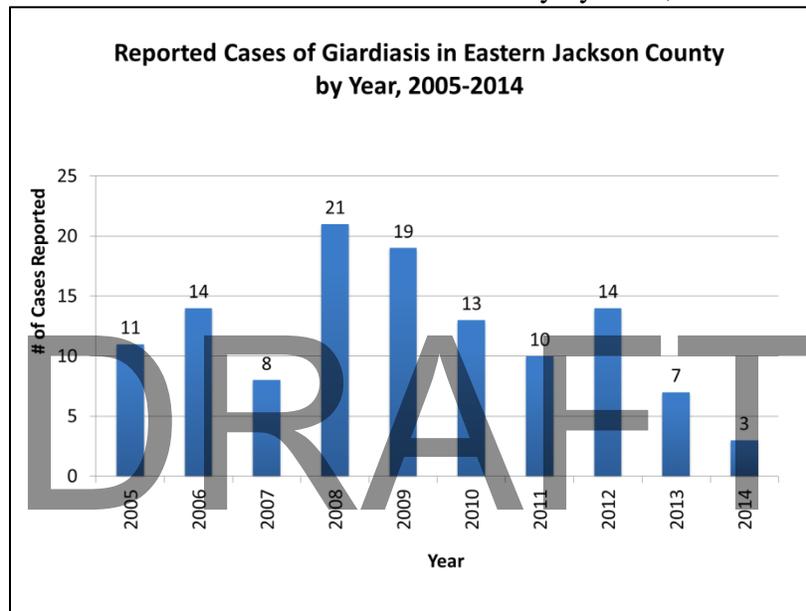
In EJC, the 2005-2014 ten year *Giardia* average is 12.0 cases, median is 13.0 cases, minimum is 3 cases and maximum is 21 cases (see Figure 11).

Table 8: Giardia

Giardia					
Type of Agent	Incubation	Signs & Symptoms	Duration of Illness	Transmission	Treatment
Parasite	1-2 weeks	Diarrhea, stomach cramps, gas	Days to weeks	Drinking water, campers and backpackers, person to person through contact with feces, contact with animals, uncooked food or food contaminated by an ill food handler after cooking	Supportive care. For severe cases, treatment may be necessary

Source: Centers for Disease Control and Prevention and Control of Communicable Diseases Manual, 2015

Figure 11: Reported Cases of Giardiasis in Eastern Jackson County by Year, 2005-2014



Source: JACOHD Surveillance

**Salmonella**

Salmonella is a bacterial infection that is estimated to cause 1.2 million illnesses in the U.S., with 19,000 hospitalizations and 380 deaths. Infections are also associated with consumption of beef, poultry, eggs, dairy products, fruits, vegetables, peanut butter, frozen pot pies, powdered baby formula, cereal, and baked goods.<sup>55</sup> Person-to-person contact with contaminated hands and handling infected reptiles like turtles, snakes, and iguanas are also common sources of infection. Outbreaks are typically foodborne related to meat, poultry, fish, shrimp, cream filled desserts, eggs, raw milk, and contaminated water.<sup>56</sup>

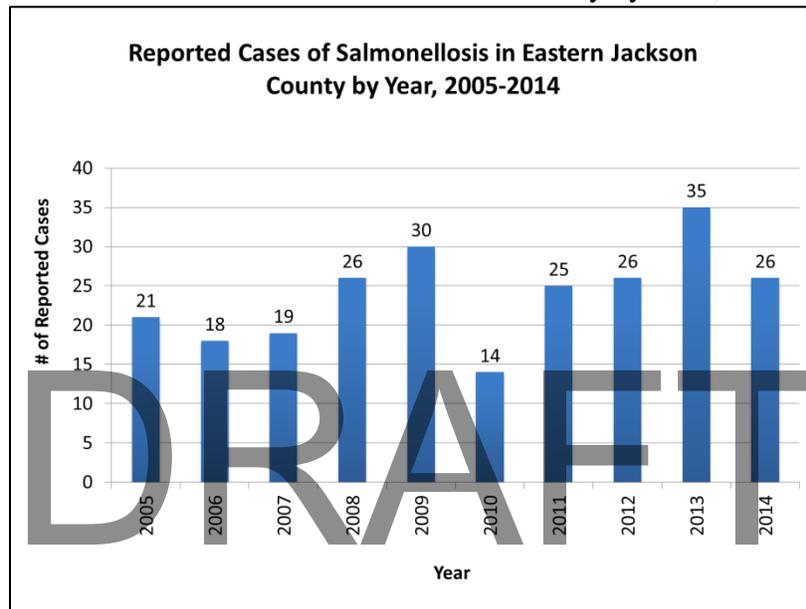
In EJC, the 2005-2014 ten year *Salmonella* average is 24.0 cases, median is 26.0 cases, minimum 14 cases and maximum is 35 cases (see Figure 12).

Table 9: Salmonella

Salmonella					
Type of Agent	Incubation	Signs & Symptoms	Duration of Illness	Transmission	Treatment
Bacteria	1-3 days	Diarrhea, fever, stomach cramps, vomiting	4-7 days	Contaminated eggs, poultry, unpasteurized milk of juice, cheese, contaminated raw fruits and vegetables, drinking water, person to person, contact with animals	Supportive care.

Source: Control of Communicable Diseases Manual, 2015

Figure 12: Reported Cases of Salmonellosis in Eastern Jackson County by Year, 2005-2014



Source: JACOHD Surveillance

## Respiratory Pathogens

Respiratory infections, such as bronchitis, pneumonia, bronchiolitis, otitis media (ear infections), sinusitis, pharyngitis (sore throat), laryngitis, measles, pertussis (Whooping Cough) and influenza continue to be a leading cause of morbidity in the U.S. Respiratory illnesses such as pertussis and influenza are more common in infants and children and less common in healthy adults due to previous exposure and developed immunity. More severe illnesses and hospitalizations occur in infants, children and older adults.<sup>57</sup>

Respiratory infections can be prevented with practices such as hand washing, coughing and sneezing into tissue or the bend of the arm, isolation, quarantine, social distancing, personal protective equipment, and the closing of school, malls, or other forms of public assembly. In addition, vaccines are an important means of prevention for pneumococcal pneumonia, influenza, measles, mumps, rubella (German measles), and pertussis.<sup>58,59,60</sup>

## Pertussis (Whooping Cough)

Whooping cough is a highly contagious bacterial disease that is spread through the air when an infected person coughs. Pertussis is most severe when it occurs during the first 6 months of life, particularly for preterm and unimmunized infants.<sup>61,62,63</sup>

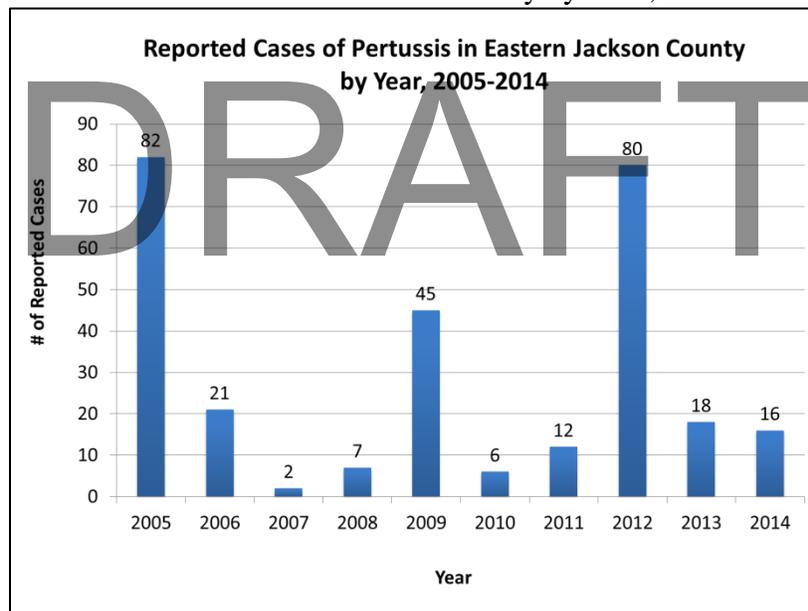
In EJC, the 2005-2014 ten year *Pertussis* average is 28.9 cases, median is 18.0 cases, minimum 2 cases and maximum 82 cases (see Figure 13). Since the early 1980s, there has been an overall increase in the number of reported cases of *Pertussis*. *Pertussis* is naturally cyclic in nature, with peaks in disease every 3-5 years.

Table 10: Pertussis

Pertussis					
Type of Agent	Incubation	Signs & Symptoms	Duration of Illness	Transmission	Treatment
Bacteria	2-21 days	Runny nose, low grade fever, apnea, mild occasional cough that gradually becomes more severe, paroxysms	2 to 6 weeks or longer	Usually spread the disease by coughing or sneezing while in close contact with others	Antibiotics, such as azithromycin (Z-Pac), erythromycin, and clarithromycin, are necessary. They are also given to provide additional prevention to all household and other close contacts to the patient.

Source: Centers for Disease Control and Prevention and American Academy of Pediatrics, 2012

Figure 13: Reported Cases of Pertussis in Eastern Jackson County by Year, 2005-2014



Source: JACOHD Surveillance

### Influenza

Influenza is a contagious viral respiratory disease that is caused by the influenza virus. Seasonal influenza outbreaks occur annually between November and March. Pandemics typically occur at other times of the year. The severity of illness depends on immunity thru prior exposure and vaccination, the presence of other chronic conditions, and general health status.<sup>64</sup>

According to the CDC, 5% to 20% of the population contracts influenza and at least 200,000 people are hospitalized due to influenza complications annually. Over a period of 30 years, between 1976 and 2006, estimates of influenza-associated deaths in the U.S. from a low of approximately 3,000 to high of approximately 49,000 people.<sup>65</sup>

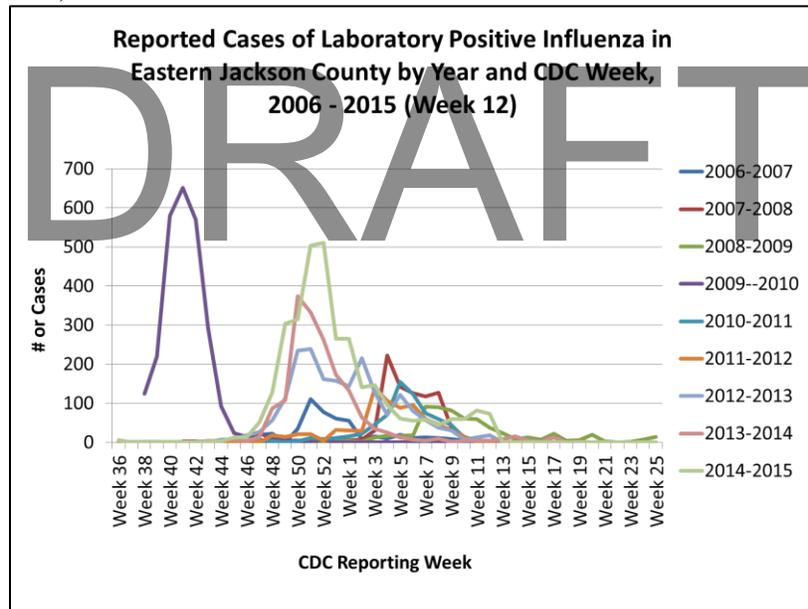
Figure 14 represents positive lab confirmed cases of influenza. In 2009-2010, influenza activity peaked in October due to the H1N1 pandemic.

Table 11: Influenza

Influenza					
Type of Agent	Incubation	Signs & Symptoms	Duration of Illness	Transmission	Treatment
Virus	1-3 days	Fever, headache, extreme lethargy, dry cough, sore throat, runny or stuffy nose, and muscle aches	Few days to less than two weeks	Respiratory droplets when an infected person coughs or sneezes and by indirect contact with contaminated surfaces and then touching mouth, eyes or nose with contaminated hands	Antiviral medications- Tamiflu, Relenza, or Rapivab. Treatment is the most effective if it is begun within 48 hours of the onset of symptoms.

Source: Centers for Disease Control and Prevention, 2015

Figure 14: Reported Cases of Laboratory Positive Influenza in Eastern Jackson County by Year and CDC Week, 2006-2015 (Week 12)



Source: JACOHD Surveillance and ESSENCE

## Vaccine Preventable Diseases

Despite progress in disease prevention, approximately 42,000 adults and 300 children in the U.S. die each year from vaccine-preventable diseases. Communities with pockets of unvaccinated and under vaccinated populations are at increased risk for outbreaks of vaccine-preventable diseases.

Vaccines are among the most cost-effective clinical preventive interventions today. Childhood immunization programs provide a very high return on investment. For example, for each birth cohort vaccinated with the routine immunization schedule, society saves 33,000 lives, prevents 14 million cases of disease, reduces direct health care costs by \$9.9 billion, and saves \$33.4 billion in indirect costs.<sup>66</sup>

# Injury and Violence

## Background

Motor vehicle crashes, homicide, domestic and school violence, child abuse and neglect are important public health concerns in the U.S. In addition to their immediate health impact, the effects of injuries and violence extends well beyond the injured person or victim of violence, affecting family members, friends, coworkers, employers, and communities. Witnessing or being a victim of violence is linked to lifelong negative physical, emotional, and social consequences.<sup>67</sup>

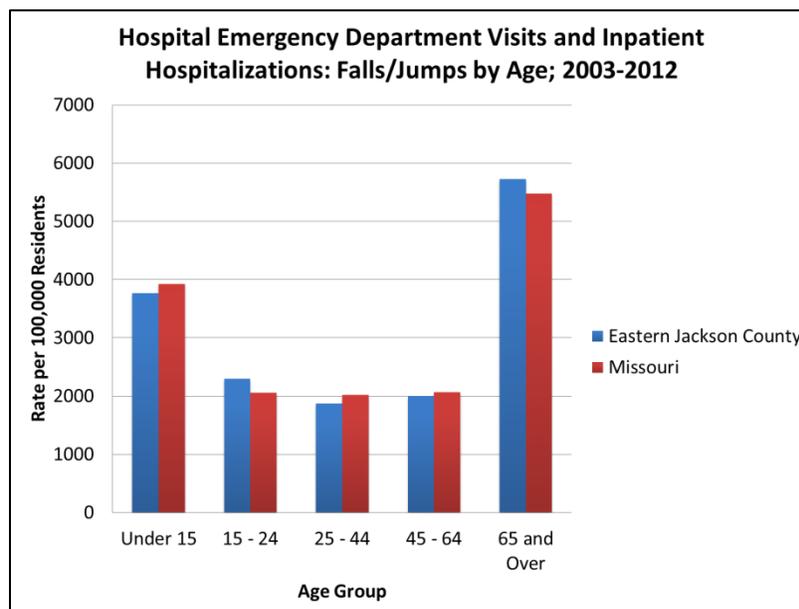
## Leading Health Indicators<sup>68</sup>

- Fatal Injuries
- Falls/Jumps
- Homicides
- Motor Vehicle Accidents

**Fatal Injuries.** Fatal injuries refer to the death rate from intentional and unintentional injuries per 100,000 population. The rate of fatal injuries in Jackson County is 81 per 100,000 population, which is higher than the rate in Missouri of 73 per 100,000 population.<sup>69</sup>

**Falls/Jumps.** Falls can cause moderate to severe injuries, such as hip fractures and head traumas, and can increase the risk of early death. Fortunately, falls are a public health problem that is largely preventable. Nationally, falls are the leading cause of non-fatal injuries for all children ages 0 to 19 and are the leading cause of both fatal and nonfatal injuries for older adults.<sup>70,71</sup> From 2003-2012, the overall rate of falls/jumps was slightly lower among EJC residents than Missouri's rate. During the same timeframe, EJC had higher rates of falls in the 15-24 and 65 and older age groups compared to Missouri's rates (see Figure 15).

Figure 15: Hospital Emergency Department Visits and Inpatient Hospitalizations: Falls/Jumps by Age, 2003-2012



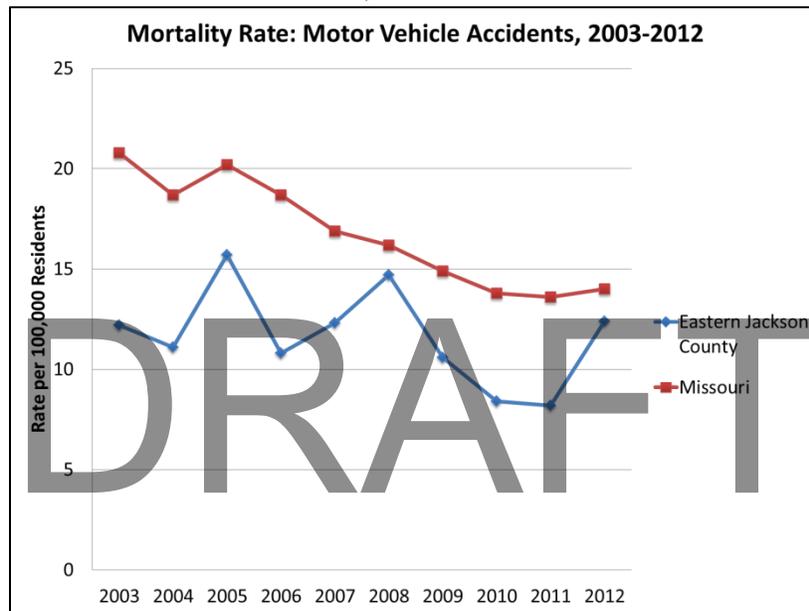
Source: Missouri Information for Community Assessment

**Homicides.** Criminal homicide includes murder, non-negligent manslaughter, manslaughter by negligence, justifiable homicide, and domestic violence-related suicides.<sup>72</sup> In 2013, Missouri had a rate of 6.1 per 100,000

people that were victims of criminal homicide, while Jackson County had a much higher rate of 14.5 per 100,000 people. Jackson County has the second highest rate of homicide in Missouri, while St. Louis City has the highest rate in the state. In 2011, the majority of criminal homicides (97%) in Jackson County occurred within the Kansas City, Missouri city limits. By 2013, the percentage of criminal homicides in Jackson County that occurred within Kansas City dropped to 89%. This means that surrounding neighborhoods of Kansas City and the suburbs in Jackson County are reporting higher occurrences of criminal homicides than they were in 2011.<sup>73</sup>

**Motor Vehicle Accidents.** Motor Vehicle Accidents (MVA) are the leading cause of death for Americans aged 5-34. Inconsistent or improper use of seat belts and child restraint systems, alcohol-impaired driving, and distracted driving (talking on the phone or texting while driving) all contribute to MVA. Adult seat belt use is the single most effective way to prevent injuries and fatalities from MVA.<sup>74,75</sup> From 2003-2012, the rate of deaths due to MVA was lower in EJC than Missouri (see Figure 16).

Figure 16: Mortality Rate: Motor Vehicle Accidents, 2003-2012



Source: Missouri Information for Community Assessment

### Determinants of Injury and Violence

An individual’s risk of injury and violence may be impacted by many social, personal, economic, and environmental factors. For example, the physical environment, both in the home and community, can affect the rate of injuries related to falls, fires, burns, road traffic incidents, drowning, and violence.

**Safety in Your Neighborhood.** The 2014 Community Health Survey measured one’s sense of safety in their neighborhood by whether or not the respondents felt comfortable walking in their neighborhood in the morning, during the day, and in the evening. In EJC, over 90% of respondents reported feeling safe walking in their neighborhood in the morning and during the day, but only 75% of respondents reported feeling safe walking in the evening. The top three reasons that respondents reported not feeling safe while walking in their neighborhood included: no sidewalks (21%), poor street lighting (18%), and fear of crime (17%).

**Motor Vehicle Accidents** The CDC has identified prevention of deaths and injuries from MVA as a public health priority that has a significant impact on the health and safety of the public and for which effective prevention strategies are known.<sup>76</sup> The CDC has identified three strategies in order to prevent injuries from MVA: improving the safety of teen drivers, increasing the use of seat belts, and reducing alcohol-impaired driving.<sup>77</sup>

**Distractions Driving.** Distracted driving is driving while doing another activity that takes your attention away from driving. Distracted driving can increase the chance of a MVA. Distracted driving activities include things such as using a cell phone, texting, and eating while driving. While any of these distractions can endanger the driver and others, texting while driving is especially dangerous because it combines all three types of distraction- visual, manual, and cognitive.<sup>78</sup>

The 2014 Community Health Survey measured one's perception of the dangerousness of distracted driving, the frequency in which they drove while distracted, and the frequency of distracted driving among those that they interact with. While 95% of survey respondents reported that they believe texting/emailing while driving was highly dangerous, approximately 34% of respondents reported participating in that behavior in the past 3 months. Survey respondents were less likely to think that texting/emailing at a red light was highly dangerous, with only 43.6% of respondents indicating a high level of danger. Additionally, respondents reported a higher frequency of participating in that behavior with 55% of respondents reporting having participated at least once in text/emailing at a red light. In addition, over 78% of respondents reported that they interact with people who text/email while driving.

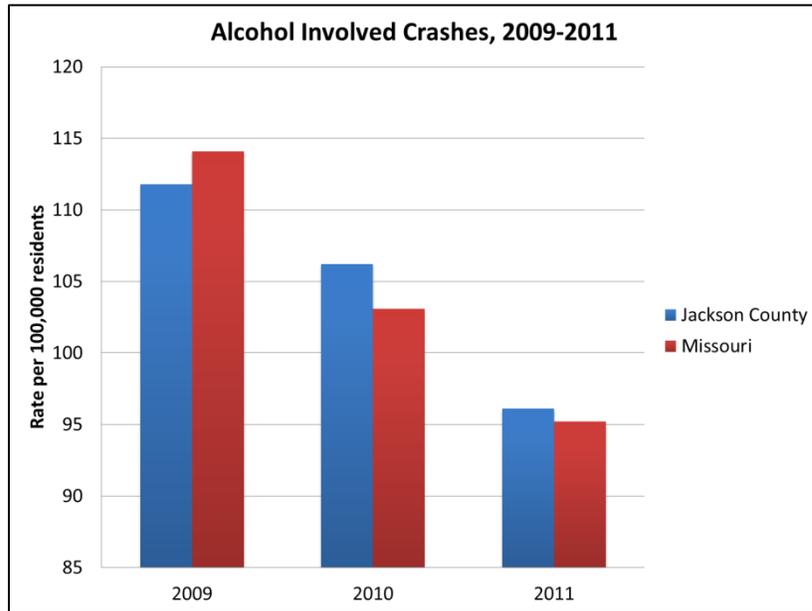
**Seat Belt Use.** Adult seat belt use is the most effective way to save lives and reduce injuries in crashes, yet millions of adults do not wear their seat belts on every trip. The use of seat belts varies among people of different ages, gender, and location.<sup>79</sup> Similar to national trends, the 2014 Community Health Survey indicated that men are less likely to wear seat belts than women and those that live in rural areas are less likely to wear their seat belts than those living in urban and suburban areas.<sup>80</sup>

Seat belt laws are divided into two categories: primary and secondary. Primary seat belt laws allow law enforcement officers to ticket a driver or passenger for not wearing a seat belt, without any other traffic offense taking place. Secondary seat belt laws state that law enforcement officers may issue a ticket for not wearing a seat belt only when there is another citable traffic infraction.<sup>81</sup> Seat belt use is lower in states with secondary enforcement seat belt laws or no seat belt laws (80%) compared to states with primary enforcement laws (89%).<sup>82</sup> Missouri has a secondary enforcement law, yet 93.6% of survey respondents reported that they always wear a seat belt when driving or riding in a car.

**Alcohol Impaired Driving.** Drivers are considered to be alcohol-impaired when their blood alcohol concentrations (BACs) are .08 grams per deciliter (g/dL) or higher. Thus, any fatal crash involving a driver with a BAC of .08 or higher is considered to be an alcohol-impaired-driving crash, and fatalities occurring in those crashes are considered to be alcohol-impaired-driving fatalities.<sup>83</sup>

Thirty-three percent (33%) of traffic fatalities in Missouri occurred when the driver had a BAC of .08 or higher, which is higher than the rest of the nation (31%).<sup>84</sup> From 2011-2013, Jackson County ranked second among Missouri counties in relation to the percent of alcohol-involved crashes, with St. Louis County ranked first. Out of the 2,140 MVAs reported in Jackson County, Missouri during 2011-2013, 12.2% were alcohol-related (see Figure 17).<sup>85</sup>

Figure 17: Alcohol Involved Crashes, 2009-2011



Source: 2013 Status Report on Missouri's Substance Abuse and Mental Health Problems

DRAFT

# Leading Causes of Death

## Background

Mortality data from the National Vital Statistics System (NVSS) are a fundamental source of demographic, geographic, and cause-of-death information. This is one of the few sources of health-related data that are comparable for small geographic areas and are available for a long time periods in the U.S. The data are also used to present the characteristics of those dying in the U.S., to determine life expectancy, and to compare mortality trends with other countries.<sup>86</sup> The five leading causes of death, expressed as age-adjusted mortality rates, in EJC in 2013 were heart disease (169.8), cancer (163.2), chronic lower respiratory diseases (42.1), unintentional injuries (39.1), and strokes (36.2).<sup>87</sup>

## 1. Heart Disease

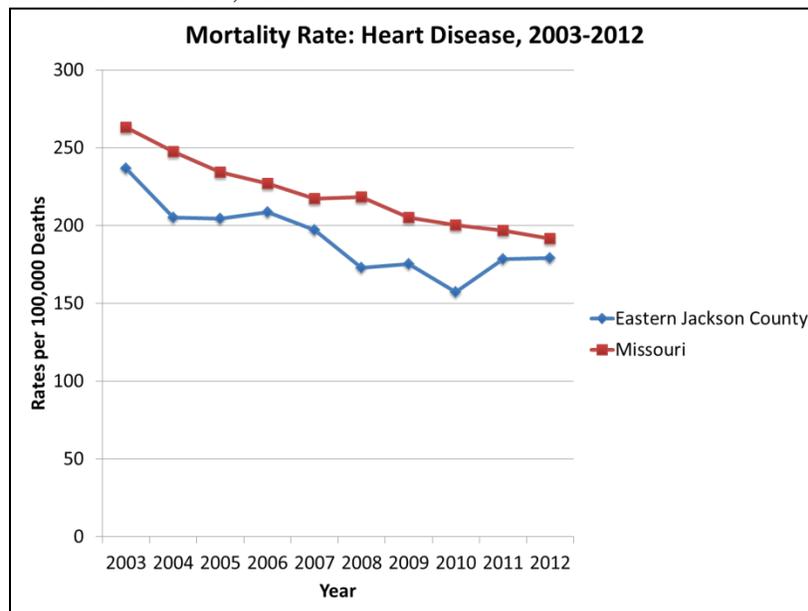
### Background

Heart disease refers to various conditions of the heart, including ischemic heart disease, rheumatic heart disease, hypertensive heart disease, pulmonary embolism, valve disorders, cardiomyopathy, atrial fibrillation, and congestive heart failure.<sup>88</sup> The most common of these conditions is coronary artery disease, in which cholesterol deposits, or plaque, build up and block the blood vessels that supply blood to the muscles of the heart. Other heart conditions include heart attack, irregular heart rhythms, infections, and heart failure. Together, these conditions are the number one leading cause of death in the U.S and EJC.<sup>89</sup>

### Current trends

Heart disease accounts for almost one in every four deaths; in 2013, more than 611,000 Americans died from heart disease.<sup>90</sup> The heart disease mortality rate steadily declined from 2003-2012 in the U.S., Missouri and EJC, and the mortality rate for EJC has consistently stayed below the state rate (see Figure 18). During the same time period, the rate of hospitalizations for heart disease in EJC has followed the trend for the state of Missouri, but decreased at a faster rate in recent years (see Figure 18). The mortality for males (239.4 per 100,000 deaths,) in EJC significantly exceeded the mortality rate for females (155.6 per 100,000 deaths).<sup>91</sup>

Figure 18: Mortality Rates: Heart Disease, 2003-2012



Source: Missouri Information for Community Assessment

**Who is at risk?**

Risk factors for heart disease include smoking/tobacco use; a diet high in saturated fats, cholesterol, and/or sodium; physical inactivity; obesity; and excessive alcohol use. There is also a genetic component to heart disease, potentially giving people with a family history of heart disease a greater risk for developing heart disease.<sup>92</sup>

**Public health goals**

Heart disease prevention is a major priority in Healthy People 2020, with numerous goals and objectives related to prevention, early detection/treatment, and mitigation of the effects of heart disease. Some objectives focus on reducing risk factors, such as high blood pressure and obesity, while others focus on increasing awareness of symptoms of heart disease and increased use of screening for early detection.<sup>93</sup>

**2. Cancer**

**Background**

Cancer is the general name for a group of more than 100 diseases caused by uncontrollable growth of abnormal cells. In 2014, approximately 1.6 million people were diagnosed with cancer in the U.S. In addition to the physical problems and emotional distress caused by cancer, the high costs of care are also a burden to patients, their families, and the public. Continued advances in cancer research, detection, and treatment have resulted in a decline in both incidence and death rates for all cancers; yet, cancer remains a leading cause of death in the U.S., second only to heart disease.<sup>94</sup>

**Current trends**

There is a decline in mortality rates from all forms of cancer from 2003-2012 in the U.S.<sup>95</sup> The state of Missouri mortality rate has been on the decline from 2003-2012 but increased slightly in 2012. The rates for EJC have shown a cyclic pattern with years of increase followed by sharp decline only to increase again. In EJC, the cancer death rate in males (219.4 per 100,000 deaths) significantly exceeds the death rate in females (153 per 100,000 deaths)<sup>96</sup>.

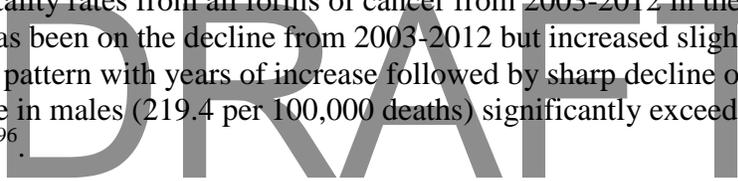
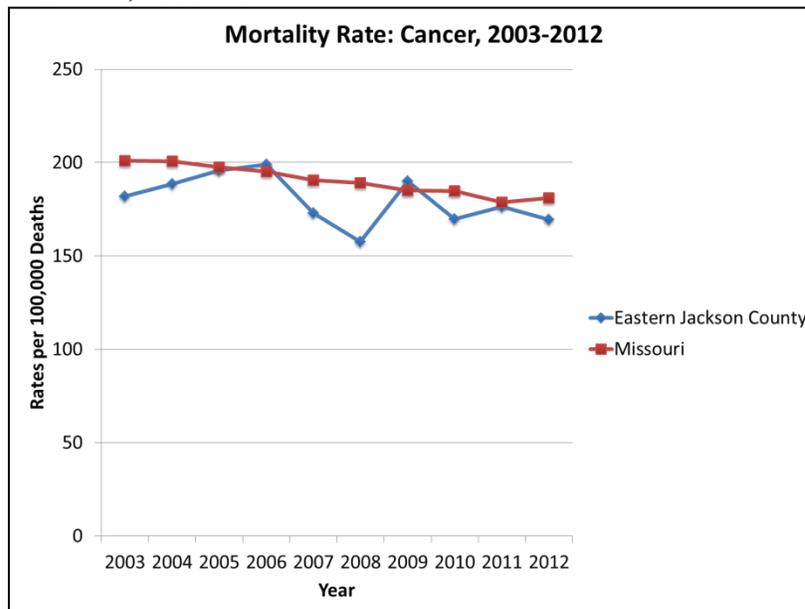


Figure 19: Mortality Rates: Cancer, 2003-2012



Source: Missouri Information for Community Assessment

### ***Who is at risk?***

Many things in our genes, our lifestyle, and the environment around us may increase or decrease our risk of getting cancer. Factors known to increase your risk of cancer include:

- Behavioral factors such as smoking/tobacco use; a diet high in saturated fats, cholesterol, and/or sodium; physical inactivity; obesity; sexual behaviors; and excessive alcohol use.
- Radiation exposure such as ultraviolet radiation from sunlight and ionizing radiation from radon gas in the home or from medical radiation tests such as x-rays, CT scans, fluoroscopy, and nuclear medicine scans.
- Environmental exposure to chemicals or other substances in the environment such as exposures from air pollution, secondhand smoke, asbestos and contaminated drinking water.
- Certain viruses and bacteria such as the human papillomavirus (HPV), hepatitis B, hepatitis C, Epstein-Barr virus, and helicobacter pylori.
- Immunosuppressive medicines that lower the body's ability to stop cancer from forming.
- Inherited condition(s) where cellular mutations are possibly transferred in the DNA thus leaving a person more susceptible to cancer.<sup>97</sup>

### ***Public health goals***

The cancer objectives for Healthy People 2020 support monitoring trends in cancer incidence, mortality, and survival to better assess the progress made toward decreasing the burden of cancer in the U.S. Many cancers can be prevented by reducing risk factors such as tobacco use, physical inactivity, poor nutrition, obesity, and radiation/ultraviolet light exposure. The likelihood of developing some cancers can be decreased through vaccination against human papillomavirus and hepatitis B virus. The objectives reflect the importance of promoting evidence-based screening for cervical, colorectal, and breast cancer in the community, which must include the continuum of care from screening to appropriate follow-up of abnormal test results and referral to cancer treatment.<sup>98</sup>

## **3. Chronic Lower Respiratory Disease**

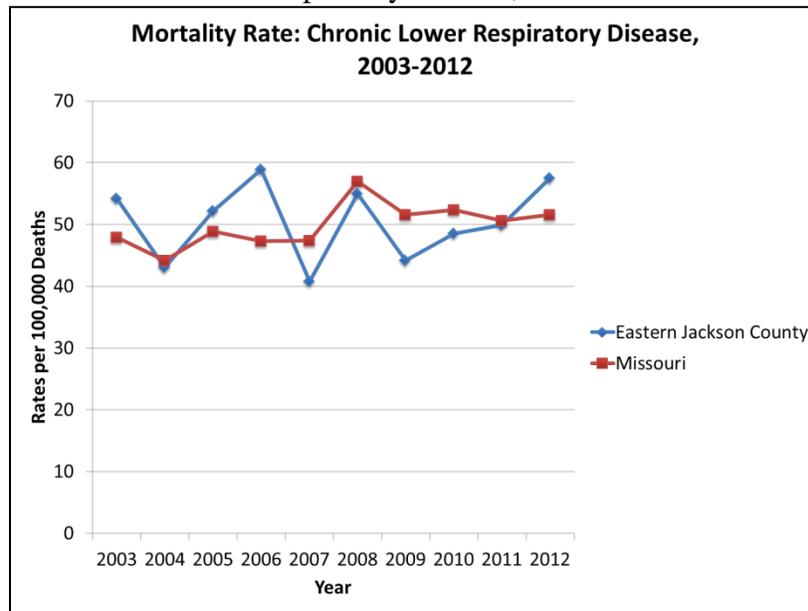
### ***Background***

Chronic lower respiratory disease refers to various conditions that affect the lungs, including chronic obstructive pulmonary disease (COPD), chronic bronchitis, emphysema, asthma, and other chronic lower respiratory diseases. The most deadly of these is COPD, which refers to a group of slowly progressive diseases that cause blockages in the airways that interfere with breathing.<sup>99</sup>

### ***Current Trends***

Nationally, the mortality rate for chronic lower respiratory diseases increased between the years of 1980-2000 before stabilizing from 2005-2013.<sup>100</sup> From 2003-2012, Missouri and EJC have shown slight upward trends in mortality from chronic lower respiratory disease, with no statistically significant difference between Missouri and EJC rates. In addition, there is no statistically significant difference among males (55.7 per 100,000 deaths) and females (47.8 per 100,000 deaths) in EJC. However, males showed a slight downward trend while females showed a slight upward trend during this time period.

Figure 20: Mortality Rates: Chronic Lower Respiratory Disease, 2003-2012



Source: Missouri Information for Community Assessment

### ***Who is at risk?***

Smoking/tobacco use is the most important risk factor for chronic lower respiratory disease. Cigarette (or other tobacco) smoke aggravates existing asthma while secondhand smoke exposure is particularly dangerous to children, and can contribute to the development and progression of asthma in both children and adults. Other environmental exposures such as occupational dusts, chemicals, and indoor/outdoor air pollution, can also contribute to disease.

COPD is more likely to be diagnosed in older adults. In addition, our aging population is one reason for the increasing morbidity and mortality from the disease. Non-whites and Hispanics are less likely than non-Hispanic whites to develop COPD; in fact, COPD is the only pulmonary illness that affects whites disproportionately compared with other races and ethnicities. Historically, men have had higher rates of COPD than women, but the rates are increasing in women and they tend to experience more severe disease.

Asthma, which often runs in families, usually has its onset in childhood or adolescence but may appear for the first time in adulthood. Asthma affects up to 10% of the U.S. population, and is more likely to occur in African-Americans than whites. In addition, urban minority children are more likely to have asthma than non-urban children. During infancy and childhood, asthma is slightly more common among boys than among girls. Asthma prevalence among adults is higher among women than men, the reverse of childhood prevalence, and this gap increases among older Americans.<sup>101</sup>

### ***Public health goals***

Healthy People 2020 objectives focus on early diagnosis and mitigating the effects of COPD by reducing deaths, hospitalizations, ER visits, and activity limitations of people with COPD.<sup>102</sup>

## **4. Lung Cancer**

### ***Background***

Cancer is a disease that starts when abnormal cells grow out of control. Specifically when this growth affects the cells of the lungs it is called lung cancer. Lung cancer is the leading cause of cancer death in the U.S. and is the second most commonly diagnosed cancer in both men and women. In 2011, 27% of all cancer deaths

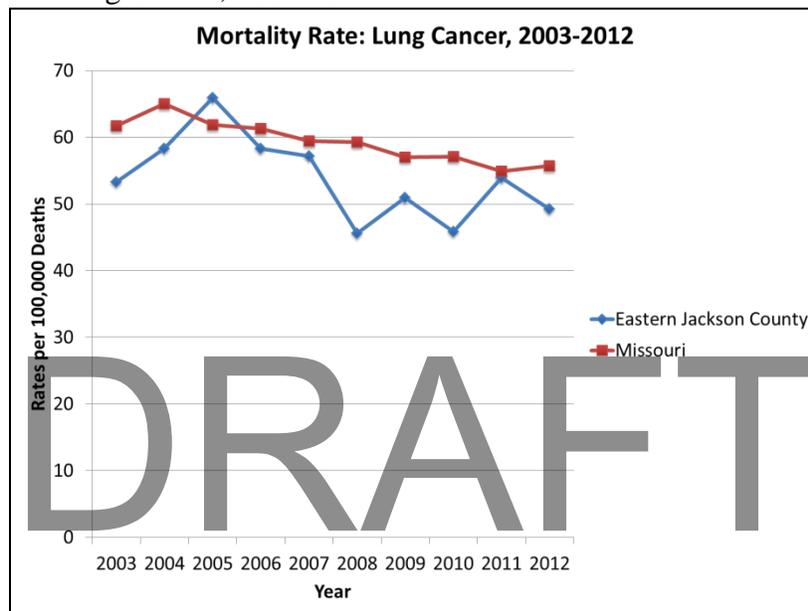
were due to lung cancer and it accounted for 14% of all cancer diagnosis. Lung cancer rates are starting to decline after being on the rise for decades because of decreases in smoking rates.<sup>103</sup>

### Current Trends

More people die of lung cancer in the U.S. than from any other type of cancer. This is true for both men and women. From 2002-2012 there was a significant decrease in lung cancer mortality in the U.S. The mortality rate from 2008-2012 was 63.7 per 100,000 deaths.<sup>104</sup>

The mortality rate in Missouri has been on the decline from 2003-2012. Although the rates for EJC have shown an increase they began to decline in 2005 and continued to show a downward trend until 2009 when a cycle of spikes and decreases began. The mortality rate of 77.5 per 100,000 deaths for males in EJC significantly exceeded the mortality rate of 59.2 per 100,000 deaths for females in EJC.<sup>105</sup>

Figure 21: Mortality Rates: Lung Cancer, 2003-2012



Source: Missouri Information for Community Assessment

### Who's at risk?

Smoking is by far the leading contributor to lung cancer with an estimated 80% of deaths from lung cancer thought to be as a result of smoking. The longer someone smokes and the more packs per day they smoke increases their chances of developing lung cancer. Radon and asbestos exposure can also increase the risk of lung cancer. Other cancer causing agents that may lead to lung cancer are: radioactive ores such as uranium, inhaled chemicals or minerals such as arsenic, beryllium, cadmium, silica, vinyl chloride, nickel compounds, chromium compounds, coal products, mustard gas, and chloromethyl ethers. Other sources include air pollution, diesel exhaust fumes, radiation therapy to the lungs, arsenic in drinking water, and a family history of lung disease.<sup>106</sup>

### Public Health Goals

Preventing tobacco use and helping tobacco users quit is a major goal of Healthy People 2020. More than 45 years of evidence makes it clear that the toll tobacco takes on families and communities can be reduced by the following goals: fully funding tobacco control programs, increasing the price of tobacco products, enacting comprehensive tobacco-free policies, controlling access to tobacco products, reducing tobacco advertising and promotion, implementing anti-tobacco media campaigns, and encouraging and assisting tobacco users to quit.<sup>107</sup>

## 5. Stroke

### Background

In 1928 after years of study, the terms stroke and “cerebral vascular accident (CVA)” were coined and made mainstream. Stroke is now often referred to as a “brain attack” to denote the fact that it is caused by a lack of blood supply to the brain, very much like a heart attack is caused by a lack of blood supply to the heart. The term brain attack also conveys a more urgent call for immediate action and emergency treatment by the general public.<sup>108</sup>

Today, there is a wealth of information available on the cause, prevention, risk, and treatment of stroke.<sup>109</sup> High blood pressure, high cholesterol, and smoking are major risk factors for stroke. About 49% of Americans have at least one of these three risk factors. Several other medical conditions and unhealthy lifestyle choices can increase your risk for stroke.<sup>110</sup>

Most stroke victims now have a good chance for survival and recovery. Immediate treatment, supportive care, and rehabilitation can all improve the quality of life for stroke victims.<sup>111</sup>

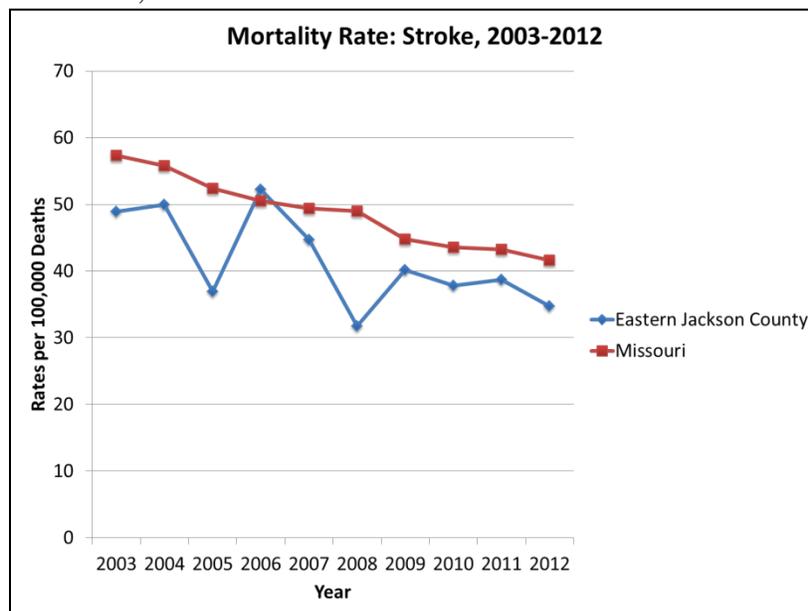
Stroke is the fifth leading cause of death in the U.S., killing nearly 130,000 Americans each year—1 of every 20 deaths. Almost 90% of all strokes are ischemic strokes, when blood flow to the brain is blocked.<sup>112</sup>

### Current Trends

From 1999 to 2008, the overall stroke death rate in the U.S. declined 34%, from 61.6 per 100,000 population to 40.6 per 100,000 population. The age-adjusted death rate for black males and black females was higher than the rate for white males and white females. The smallest decline (30%) occurred among black females. In 2008, the death rate from stroke for black males was 62.2 per 100,000, followed by 53.4 for black females, 38.9 for white males, and 38.4 for white females.<sup>113</sup>

The mortality rate in Missouri has been on the decline from 2003-2012 and there has been an overall downward trend in EJC as well. There is no statistically significant difference among males (42.0 per 100,000 deaths) and females (40.6 per 100,000 deaths) in EJC.<sup>114</sup>

Figure 22: Mortality Rates: Stroke, 2003-2012



Source: Missouri Information for Community Assessment

### ***Who is at risk?***

The major risk factors for stroke include: high blood pressure (main risk factor for stroke), high cholesterol, smoking, diabetes, heart diseases, brain aneurysms or malformations, age (stroke risk increases with age), gender (women are at higher risk, especially those using oral contraceptives), and race and ethnicity (strokes occur more often in African American, Native Alaskan, and Native American adults than in Caucasian, Hispanic, or Asian American adults.)

The risk for a stroke increases if a person has had a transient ischemic attack (TIA) or mini stroke or if there is a family history of stroke(s). The risk of having a repeat stroke is the highest right after a stroke. Controllable risk factors for stroke include alcohol and illegal drug use, unhealthy cholesterol levels, lack of physical activity, unhealthy diet, obesity, stress and depression.<sup>115</sup>

### ***Public health goals***

Objectives included in Healthy People 2020 for heart disease and stroke include: increase overall cardiovascular health in the U.S. population, reduced coronary heart disease death, reduce stroke deaths, increase the proportion of adults who have had their blood pressure measured within the preceding 2 years and can state whether their blood pressure was normal or high, reduce the proportion of persons in the population with hypertension, increase the proportion of adults who have had their blood cholesterol checked within the preceding 5 years, reduce the proportion of adults with high total blood cholesterol levels, reduce the mean total blood cholesterol levels among adults, increase the proportion of adults aged 20 years and older who are aware of the symptoms and how to respond to a stroke.<sup>116</sup>

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# Maternal, Infant, and Child Health

## Background

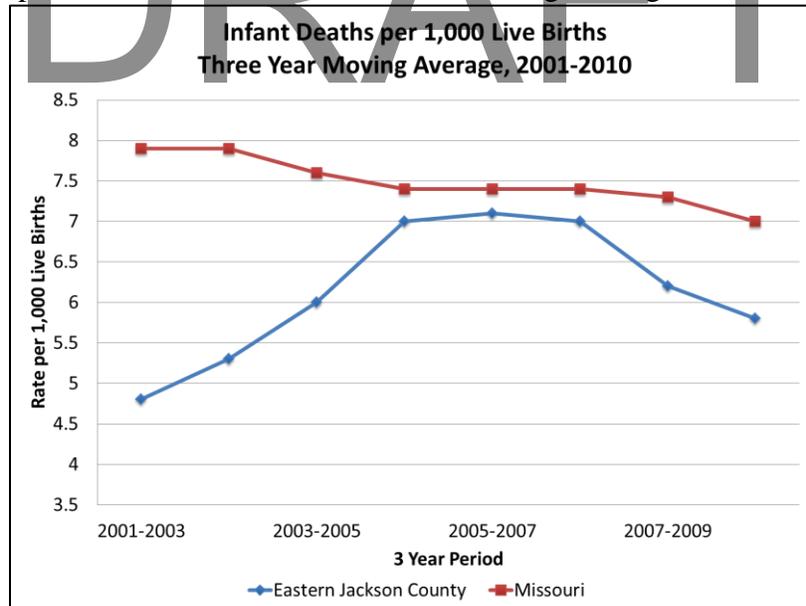
The well-being of mothers, infants, and children determines the health of the next generation and can help predict future public health challenges for families, communities, and the medical care system. Moreover, healthy birth outcomes and early identification and treatment of health conditions among infants can prevent death or disability and enable children to reach their full potential.<sup>117</sup> Many factors can affect pregnancy and childbirth, including preconception health status, age of the mother, access to appropriate preconception and interconception health care, and poverty.<sup>118</sup>

## Leading Health Indicators<sup>119</sup>

- Reduce the rate of fetal and infant deaths
- Increase the proportion of pregnant women who receive early and adequate prenatal care
- Increase abstinence from cigarette smoking among pregnant women
- Increase the proportion of women delivering a live birth who received preconception care services and practiced key recommended preconception health behaviors

**Infant Mortality.** According to the CDC, the infant mortality 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. In 2010, the U.S. ranked 26<sup>th</sup> in the world, below Poland (22<sup>nd</sup>), Hungary (23<sup>rd</sup>), New Zealand (24<sup>th</sup>), and Slovakia (25<sup>th</sup>). The current U.S. goal is 6.0 infant deaths per 1,000 live births.<sup>120</sup> The three-year infant mortality (deaths) moving averages in EJC have been consistently lower than those of the state.

Figure 23: Infant Deaths per 1,000 Live Births; Three Year Moving Average, 2001-2010



Source: Missouri Information for Community Assessment

**Preterm Births.** Preterm birth is the birth of an infant prior to 37 weeks of pregnancy. Preterm births can increase risk of death or serious disability the earlier the baby is born. These include breathing problems, feeding difficulties, cerebral palsy, developmental delay, vision problems and hearing impairment. Preterm births also may cause heavy emotional and economic burdens for families.<sup>121</sup>

## Determinants of Maternal, Infant and Child Health

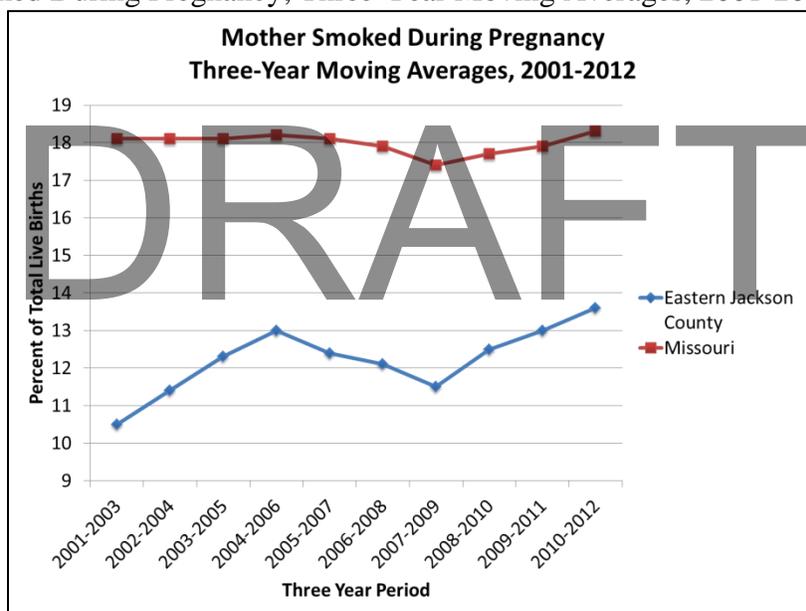
A range of biological, social, environmental, and physical factors have been linked to maternal, infant, and child health outcomes. These include race and ethnicity, age, and socioeconomic factors, such as income level, educational attainment, medical insurance coverage, access to medical care, pre-pregnancy health, and general health status.<sup>122</sup>

Infant mortality risk factors for Eastern Jackson County residents include out of wedlock births (lower than Missouri rates), lack of prenatal care during the first three months of pregnancy, no or inadequate prenatal care, mother on food stamps, mother using WIC, smoking during pregnancy, and mother gaining less than 15 pounds during pregnancy<sup>123</sup>.

**Smoking During Pregnancy.** Smoking during pregnancy is a major health concern that can cause many problems for the child and mother such as low birth weight, perinatal mortality, congenital malformation, spontaneous abortions as well as Sudden Infant Death Syndrome (SIDS).<sup>124</sup>

The number of EJC mothers who smoke during pregnancy has consistently trended upwards since 2007-2009, yet still remains below the percentage of mothers who have smoked during pregnancy in Missouri.

Figure 24: Mother Smoked During Pregnancy; Three-Year Moving Averages, 2001-2012

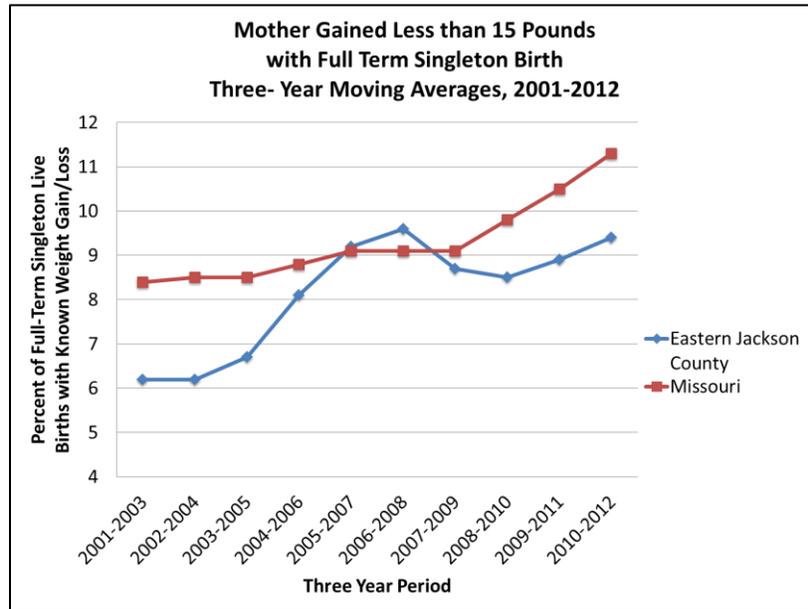


Source: Missouri Information for Community Assessment

**Weight Gain During Pregnancy.** Recommendations regarding gestational weight gain vary based on a woman's pre-pregnancy body mass index—a ratio of weight to height. According to the Institute of Medicine, women of normal weight are recommended to gain between 25 and 35 pounds while those who are underweight should gain slightly more and those who are overweight or obese at the beginning of pregnancy should gain significantly less. Excessive weight gain may increase the risk of pregnancy complications, cesarean delivery, larger infant birth weight, and postpartum weight retention that may lead to obesity and other related health risks in subsequent pregnancies, while inadequate weight gain may result in small or growth-restricted infants, which increases the risk for infant mortality and developmental delays.<sup>125</sup>

While obesity during pregnancy was not a significant risk factor in EJC, a weight gain of less than 15 pounds was determined to be a significant risk factor and has been trending upward as shown in Figure 25.

Figure 25: Mother Gained Less than 15 Pounds with a Full Term Singleton Birth; Three-Year Moving Averages, 2001-2012

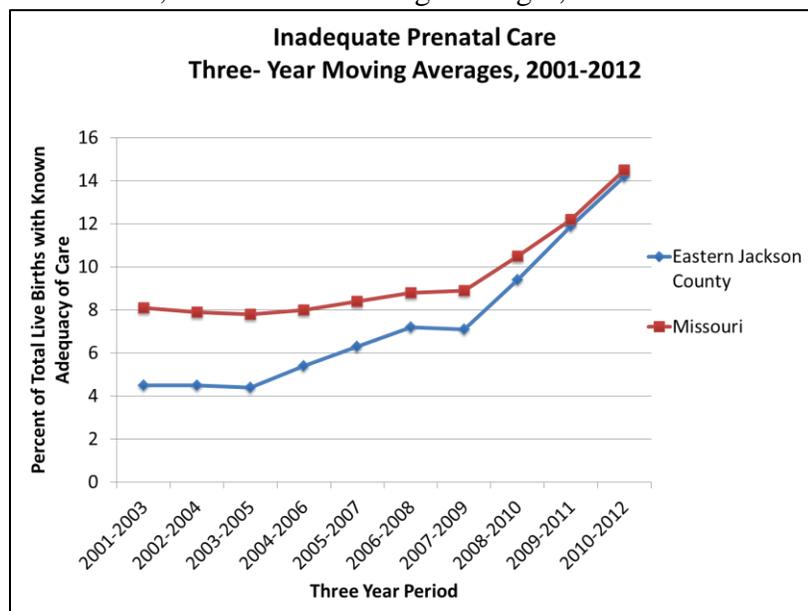


Source: Missouri Information for Community Assessment

**Inadequate Prenatal Care.** Inadequate prenatal care is defined as fewer than five prenatal visits for pregnancies less than 37 weeks, fewer than eight visits for pregnancies 37 weeks or longer or care beginning after the first four months of pregnancy.<sup>126</sup> Inadequate prenatal care increases the risk of prematurity, stillbirth, early and late neonatal death, and infant death.<sup>127</sup>

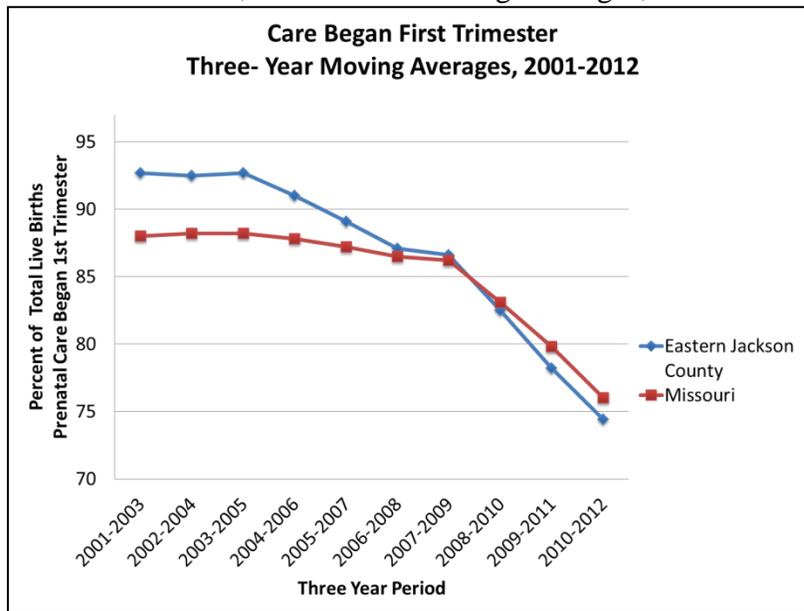
Of great concern is the significant increase in inadequate prenatal care and decrease in care began in the first trimester as seen in Figures 26 and 27, respectively.

Figure 26: Inadequate Prenatal Care; Three-Year Moving Averages, 2001-2012



Source: Missouri Information for Community Assessment

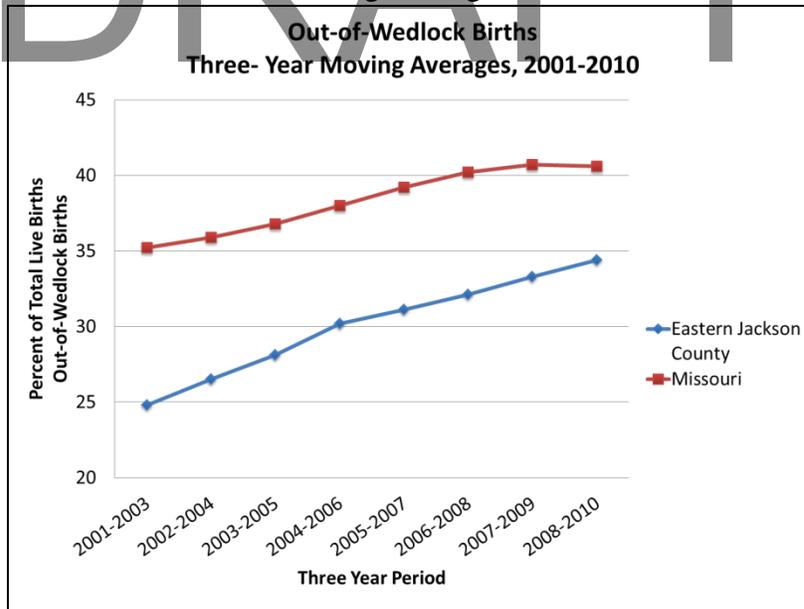
Figure 27: Care Began in the First Trimester; Three-Year Moving Averages, 2001-2012



Source: Missouri Information for Community Assessment

**Out-of-Wedlock Births.** Finally, another goal of Health People 2020 is to increase the proportion of women delivering a live birth who received preconception care services and practiced key recommended preconception health behaviors. This includes adequate family planning and the reduction of out-of-wedlock births.<sup>128</sup> Although out-of-wedlock births in EJC are lower than those in Missouri, there is a significant upward trend in EJC.

Figure 28: Out-of-Wedlock Births; Three-Year Moving Averages, 2001-2010



Source: Missouri Information for Community Assessment

# Nutrition, Physical Activity, and Obesity

## Background

Good nutrition, physical activity, and healthy body weight are essential parts of overall health and well-being. Together, these can help decrease a person’s risk of developing serious health conditions, such as high blood pressure, high cholesterol, Type 2 diabetes, heart disease, stroke, and cancer. A well-balanced diet, regular physical activity, and a healthy weight are paramount to managing health conditions and reducing future, long term health complications.<sup>129</sup>

## Leading Health Indicators<sup>130</sup>

- Adults who meet current physical activity guidelines for aerobic physical activity and for muscle-strengthening activity
- Children, adolescents, and adults who are considered obese
- Total vegetable intake for persons 2 years and older

**Physical Activity Guidelines.** The American College of Sports Medicine recommends that adults perform physical activity three to five times each week for 20 to 60 minutes to improve cardiovascular fitness and body composition.<sup>131</sup> Approximately 73% of adults in Missouri participate in physical activities other than their regular job during the past month. According to the 2014 Community Health Survey only 62% of respondents reported achieving 1.5 hours or more of physical activity each week.

**Overweight and Obesity.** Overweight and obesity are designations given to ranges of weight that are greater than what is considered healthy. In adults, overweight is defined as having a Body Mass Index (BMI; a ratio determined by weight and height) between 25 and 29.9, while obesity is defined as a BMI of 30 or greater.<sup>132</sup>

Nationally, overweight and obesity rates have increased over the past several decades. In Missouri, obesity has risen from approximately 21% of the adult population in 2001 to approximately 30% in 2012. In addition, 35% of adults in Missouri are considered overweight. According to the 2014 Community Health Survey, 44% of respondents are overweight and nearly 36% are obese (see Table 12).

Table 12: Overweight and Obesity Indicators by City

	Avg. BMI	% Overweight	% Obese
<b>Eastern Jackson County</b>	<b>27.8</b>	<b>44%</b>	<b>36%</b>
Blue Springs/ Lake Tapawingo	27.8	42%	31%
Buckner	26.8	32%	36%
Grain Valley	27.0	49%	29%
Grandview	27.9	40%	40%
Greenwood	27.3	37%	39%
Lee's Summit/ Lake Lotawana	27.9	43%	38%
Lone Jack	28.8	56%	32%
Oak Grove	28.0	44%	40%
Raytown	27.6	51%	30%
Sugar Creek	28.0	25%	50%

Source: 2014 Community Health Survey

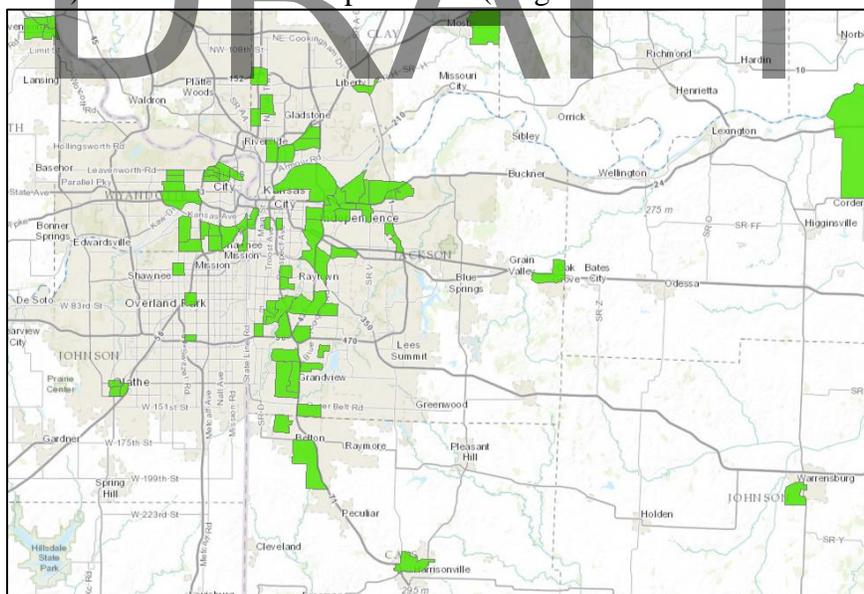
**Fruit and Vegetable Intake.** The current dietary guidelines suggest five to thirteen servings of fruits and vegetables a day (2½ to 6½ cups per day) depending on one’s caloric intake. The average American adult gets a total of just three servings of fruits and vegetables a day, while the average resident living in EJC consumes 3.5 servings of fruits and vegetables a day.<sup>133</sup> According to the 2014 Community Health Survey, only 27% of survey respondents consumed at least five servings of fruits and vegetables per day.

## Determinants of Nutrition, Physical Activity, and Obesity

A number of factors affect a person’s ability to eat a healthful diet, stay physically active, and achieve or maintain a healthy weight. The built environment has a critical impact on lifestyle behaviors that influence health. These environmental factors are compounded by social and individual factors—gender, age, race and ethnicity, education level, socioeconomic status, and disability status—that influence nutrition, physical activity, and obesity.<sup>134</sup> In some communities, there may be limited access to affordable, fresh fruit and vegetables or safe areas to be active or play.

**Limited Access to Healthy Foods.** A food desert exists where a significant number of residents live more than 1 mile (urban) or 10 miles (rural) from the nearest supermarket. According to the U.S. Department of Agriculture Economic Research Services, there are 83,477 residents within Jackson County living in census tracts that are designated as food deserts. The cities within EJC that have been identified as having census tracts with food deserts include Grandview, Raytown, Sugar Creek and Oak Grove (see Figure 29).<sup>135</sup> Sixty-seven percent (67%) of residents living in food deserts in EJC have low access to a supermarket or grocery store. Approximately 13% of the 83,477 residents are low-income and have low access to a supermarket or grocery store.

Figure 29: Low Income Census Tracts where a Significant Number or Share of Residents is More than 1 Mile (Urban) or 10 Miles (Rural) from the Nearest Supermarket (Original Food Desert Measures), 2014



Source: United States Department of Agriculture Economic Research Services

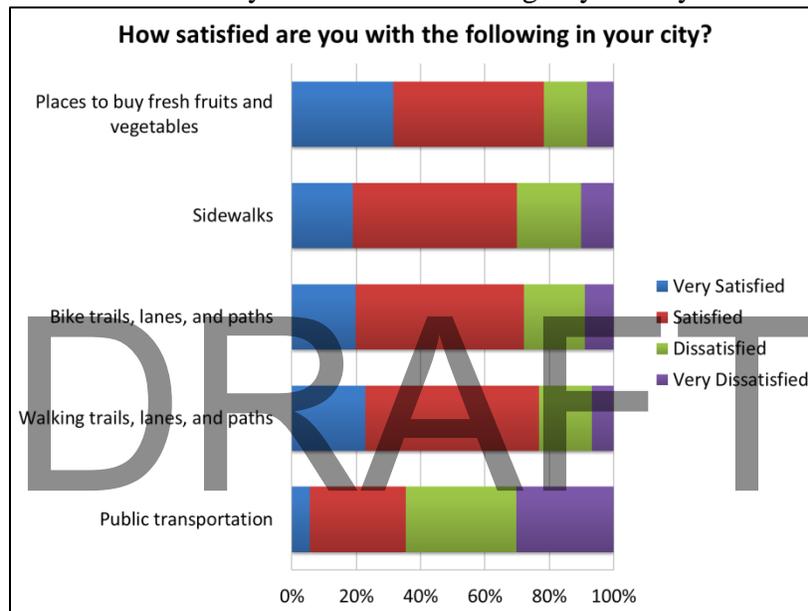
In addition, many residents within Jackson County face food insecurity. Food insecurity exists when people lack sustainable physical or economic access to enough safe, nutritious, food for a healthy and productive life. The Health Care Foundation of Greater Kansas City reported that 19.1% of Jackson County is uncertain about being able to obtain enough food for everyone in the household, compared to 17.1% in Missouri.<sup>136</sup>

According to the 2014 Community Health Survey, 78% of respondents reported that they are satisfied or very satisfied with places to buy fresh fruits and vegetables in their city (see Figure 30). The cities that reported the most dissatisfaction with access to fresh fruits and vegetables include Grain Valley, Greenwood, and Lone Jack.

**Limited Access to Safe Places to be Physically Active.** Essential ingredients for physical activity include: safe, well-maintained paths and sidewalks; clean, well-lit parks; accessible school playgrounds; affordable public transit; quality physical education and places in which people can safely walk and bike.<sup>137</sup>

According to the 2014 Community Health Survey, 87% of all survey respondents reported being satisfied or very satisfied with the parks, trails, neighborhood/school playgrounds in their city. Respondents also reported their satisfaction with the following: sidewalks (70%); bike trails, lanes, and paths (72%); walking trails, lanes, and paths (77%); and public transportation (35%) (see Figure 30 and Appendix C: GIS Maps, pg. 79). Currently, there are limited opportunities to rely on public transportation in EJC.

Figure 30: Question 41. How satisfied are you with the following in your city?



Source: Jackson County Health Department Community Health Survey 2014

# Oral Health

## Background

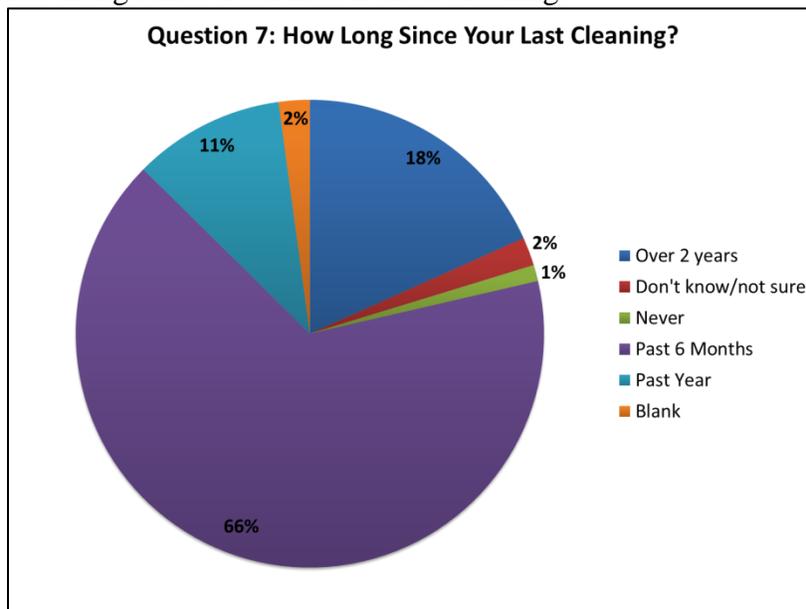
Oral health is often separated from general health but recent research shows the two are more inter-connected than originally thought. For example, poor oral health status does not just affect one's ability to chew and eat; it also leads to emotional issues through a lack of self-esteem and self-confidence. In 2000 the Surgeon General's office released the Oral Health in America report stating the current condition of America's teeth and gums. From this report, the State of Missouri compiled oral health data and released Oral Health in Missouri 2014: A Burden Report by the Missouri Department of Health and Senior Services to address the gaps in Missouri's oral health. From this and the data the Jackson County Health Department collected, several leading health indicators and determinants of oral health have been revealed.

## Leading Health Indicators

- Number of persons over age two who have visited an oral health provider in the past year
- Community water fluoridation status
- Sealant prevalence among third grade students
- Caries experience and untreated decay
- Adult periodontal disease status
- Edentulous older adults

**Number of Persons Over Age Two Who Have Visited an Oral Health Provider in the Past Year.** The current rate of Missouri oral health care utilization in the past year is 62% while the national rate is 67%.<sup>138</sup> According to the 2014 Community Health Survey, 66% of adults in EJC have visited a dental provider in the past year. This percent is higher than the state average and very close to the national average, which could be contributed to the higher educational attainment and higher income among EJC residents.<sup>139</sup>

Figure 31: Question 7: How Long Since Your Last Dental Cleaning?



Source: 2014 Community Health Survey

**Community Water Fluoridation Status.** Fluoride has long been proven to help reduce the rate of caries in both children and adults. Some communities in EJC have fluoridated water; however, there are still some that do not. When asked in the 2014 Community Health Survey about their perception of safe levels of fluoride in the drinking water, 62.1% agreed that safe levels of fluoride in the drinking water helps to prevent tooth decay while 10.7% disagreed and 27.2% were either neutral or did not respond. Missouri has a fluoridation rate of 76.4% which is above the national average of 74.6% but still shy of the Healthy People 2020 goal of 79.6%.<sup>140</sup>

**Sealant Prevalence Among Third Grade Students.** Dental sealants are thin plastic coatings that are applied to the chewing surfaces of the molar teeth. Primarily these are used in children to prevent pit and fissure cavities but they are also used in some at risk adults.<sup>141</sup> Sealant use can be analyzed based on the prevalence of third grade children who have received at least one sealant. Healthy People 2020 set the goal of 28.1% of children age 6-9 would have at least one permanent molar tooth sealed.<sup>142</sup> In Missouri, students age 5-12 had an 18.5% rate of sealant use.

**Caries Experience and Untreated Decay.** Another oral health objective from Healthy People 2020 is to reduce the number of 6-9 year olds who have experienced decay in at least one primary or permanent tooth to 49%.<sup>143</sup> According to Missouri data, 55.4% of third grade students have had at least one caries experience.<sup>144</sup> In addition, Missouri has a 26.1% rate of untreated dental decay in third grade students. This is only slightly higher than the 25.9% goal set by Healthy People 2020 for children age 6-9.

**Adult Periodontal Disease Status.** While Healthy People 2020 oral health goals are primarily for children and adolescents, there are also goals for adults. One of the primary goals for adults is to reduce the number of permanent teeth extracted due to decay and/or periodontal disease. Periodontal disease is also referred to as gum disease since it is an infection of the gum tissue that causes bone and tooth loss.<sup>145</sup> In EJC it was found that 49.2% of the population has bleeding gums occasionally when brushing and 27.1% have bleeding gums frequently when brushing. Both of these are indicators for gum disease which leads to tooth loss if not managed and treated properly. For Missouri adults age 18-64, approximately 42% had lost at least one permanent tooth due to decay or gum disease.<sup>146</sup>

**Edentulous Older Adults.** Edentulous (toothless) older adults, or those 65 years of age and older with all of their natural teeth removed due to decay, is another indicator of the oral health of the population. Missouri has an edentulous rate of 24.9% and is attempting to reach the Healthy People 2020 goal of 21.6%.<sup>147</sup>

## **Determinants of Oral Health**

- Location of oral health providers
- Access to oral health providers
- Cost

**Location of Oral Health Providers.** Access to an oral health care provider can be a challenging thing for individuals. For some, finding a provider who accepts Medicare, Medicaid, or certain private insurances is difficult. For others, the distance one must travel to receive oral health care is daunting. The Jackson County ratio for citizens to dentists according to the County Health Rankings is 1,355:1 while the Missouri ratio is 1,985:1 and the ideal national standard is 1,392:1.<sup>148</sup> From this alone, Jackson County as a whole seems to be excelling in the number of providers to people; however, in looking at the distribution of those providers it can be seen that rural and low income areas of the county are disproportionately underrepresented.

***Access to Oral Health Providers.*** According to data from the 2014 Community Health Survey, only 20.6% of Medicare patients had a dental cleaning within the past year. This is well below the 60.6% of those with private insurance that had a dental cleaning but above the 1.3% of Medicaid patients who had a cleaning. This is in part due to the low number of dental providers who accept Medicare and/or Medicaid patients because of the low reimbursement rates. Also, when these providers are available there is generally a long wait for services making appointments hard to come by. In looking at those who had not had a cleaning in the past five years, 33.8% utilized the Medicare system.<sup>149</sup>

***Cost.*** The high cost associated with dental care is another determinant. In reviewing those who did not have a dental cleaning in the past five years, 55.4% had private insurance and 1.4% had no form of insurance. In general, dental insurance plans will cover preventative procedures such as cleanings and diagnostic x-rays at 100% but only cover restorative procedures such as crowns and fillings at 50-80%.<sup>150</sup>

DRAFT

# Substance Abuse

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## Background

Although progress has been made in substantially lowering rates of substance abuse in the U.S., the use of mind- and behavior-altering substances continues to take a major toll on the health of individuals, families, and communities nationwide. In 2005, an estimated 22 million Americans struggled with a drug or alcohol problem. Substance abuse—involving drugs, alcohol, or both—is associated with a range of destructive social conditions, including family disruptions, financial problems, loss of productivity, failure in school, domestic violence, child abuse, and crime. Moreover, both social attitudes and legal responses to the consumption of alcohol and illicit drugs make substance abuse one of the most complex public health issues. Estimates of the total overall costs of substance abuse in the U.S., including lost productivity and health- and crime-related costs exceed \$600 billion annually.<sup>151</sup>

Substance abuse contributes to a number of negative health outcomes and public health problems, including:<sup>152</sup>

- Cardiovascular conditions
- Pregnancy complications
- Teenage pregnancy
- Human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS)
- Sexually transmitted diseases (STDs)
- Domestic violence
- Child abuse
- Motor vehicle crashes
- Homicide
- Suicide

## Leading Health Indicators

- Number of alcoholic drinks consumed per day
- How often a person drinks alcohol per week
- Adolescents using alcohol during the past 30 days
- Adults engaging in binge drinking during the past 30 days
- Adolescents using illicit drugs during the past 30 days

***Number of Alcoholic Drinks Consumed per Day.*** The CDC indicates that moderate drinking is no more than two drinks per day for men and one drink per day for women. In contrast, excessive drinking is comprised of two parts, heavy drinking and binge drinking. Binge drinking is defined as a pattern of drinking that brings a person's blood alcohol concentration (BAC) above 0.08, typically when men consume 5 or more drinks or when women consume 4 or more drinks, within a two hour period. Heavy drinking is defined as eight or more drinks per week for women and 15 or more per week for men.<sup>153</sup> On average, 2.6% of EJC residents reported binge drinking while 15.2% were heavy drinkers according to the 2014 Community Health Survey. The percentage of heavy drinkers in EJC is higher than Missouri (8.1%) and the U.S. (6.9%).<sup>154</sup>

***How Often a Person Drinks Alcohol per Week.*** In the U.S., approximately 51.3% of adults age 18 and older are current, regular drinkers while another 12.9% are infrequent drinkers.<sup>155</sup> In comparing the national data to the 2014 Community Health Survey results, it was found that 20.4% of EJC residents identified themselves as daily drinkers, another 41.1% were identified as infrequent drinkers, and the remaining 38.5% abstained from alcohol use entirely.

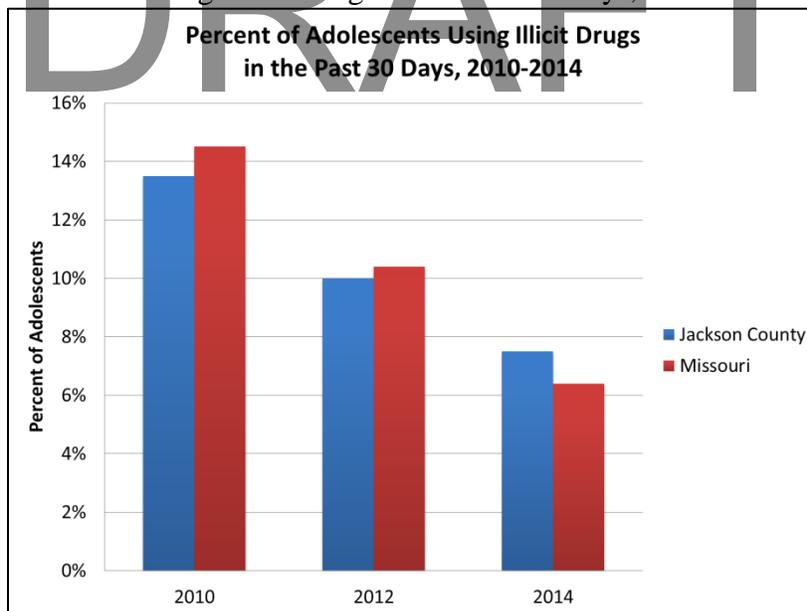
**Adolescents Using Alcohol During the Past 30 Days.** In 2013, the rate of current alcohol use for adolescents aged 12 to 17 years old in the U.S. was 11.6%. The binge drinking rate for youth of this same age group in the U.S. was 6.2%.<sup>156</sup> For Missouri, 16.9% of adolescents reported alcohol use in the past 30 days and another 9.7% reported binge drinking. For Jackson County adolescents, 14.9% reported past 30 day alcohol use and 7.8% reported binge drinking during the same timeframe.<sup>157</sup>

**Adults Engaging in Binge Drinking During the Past 30 Days.** Binge drinking is defined as consuming 4 or 5 drinks, for adult women and men respectively, in one sitting.<sup>158</sup> In 2013, binge drinking among men and women 18 years and older in Jackson County was 23.5% and 11.3% respectively. In addition, Missouri has an alcohol dependence or alcohol abuse rate of 6.5% for all persons aged 12 years old and older from 2008-2012. This equates to about 321,000 Missourians reporting being dependent on or having abused alcohol in the year prior to being surveyed. It should also be noted that this percentage has decreased over time.<sup>159</sup>

**Adolescents Using Any Illicit Drugs During the Past 30 Days.** Illicit drugs include marijuana/hashish, cocaine (including crack), inhalants, hallucinogens, heroin, or prescription-type drugs used non-medically. According to the 2014 Status Report on Missouri’s Substance Abuse and Mental Health Problems, the percent of adolescents using illicit drugs in the past 30 days has been decreasing over the previous four years in Jackson County and Missouri<sup>160</sup> (see Figure 32).

Marijuana use in Missouri adolescents was at 8.6% in the past 30 days and 10.2% for Jackson County adolescents. In regards to illicit drug use besides marijuana, approximately 10.5% of Missouri adolescents used them in the past 30 days and 7.4% of Jackson County adolescents reported prior 30 day usage.<sup>161</sup> In Missouri, the most commonly used illicit drug group besides marijuana was psychotherapeutics of the prescription type, such as pain relievers, stimulants, sedatives, and tranquilizers.<sup>162</sup>

Figure 32: Percent of Adolescents Using Illicit Drugs in the Past 30 Days, 2010-2014



Source: 2014 Status Report on Missouri’s Substance Abuse and Mental Health Problems

## Determinants of Substance Abuse

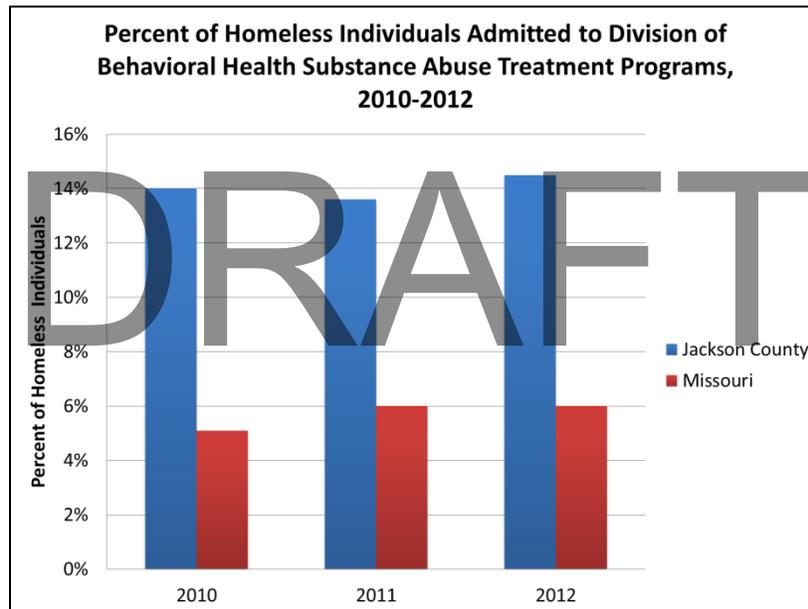
Several biological, social, environmental, psychological, and genetic factors are associated with substance abuse. These factors can include gender, race and ethnicity, age, income level, educational attainment, and sexual orientation. Substance abuse is also strongly influenced by interpersonal, household, and community dynamics. Family, social networks, and peer pressure are key influencers of substance abuse among adolescents. For example, research suggests that marijuana exposure through friends and siblings was a primary

determinant of adolescents' current marijuana use. Understanding these factors is essential to reducing the number of people who abuse drugs and alcohol and improving the health and safety of all Americans.<sup>163</sup>

**Homelessness.** Substance abuse is often a cause of homelessness. Addictive disorders disrupt relationships with family and friends and often cause people to lose their jobs. For people who are already struggling to pay their bills, the onset or exacerbation of an addiction may cause them to lose their housing. In many situations, however, substance abuse is a result of homelessness rather than a cause. People who are homeless often turn to drugs and alcohol to cope with their situations and use substances in an attempt to attain temporary relief from their problems. In reality, however, substance dependence only exacerbates their problems and decreases their ability to achieve employment stability and get off the streets.<sup>164</sup>

The percent of homeless individuals admitted to the Missouri Division of Behavioral Health substance treatment programs are much higher for Jackson County than the rest of the state (see Figure 33). In 2012, 4,727 individuals were admitted to the treatment programs and 14% of those admitted were homeless upon admittance.<sup>165</sup> Most likely, there are more homeless individuals that struggle with substance abuse that either do not enter treatment programs or enter programs that are not State programs.

Figure 33: Percent of Homeless Individuals Admitted to Division of Behavioral Health Substance Abuse Treatment Programs, 2010-2012



Source: 2013 Status Report on Missouri's Substance Abuse and Mental Health Problems

**Availability.** Jackson County accounts for approximately 10.4% of all retail alcohol outlets in Missouri. By having a high rate of outlets and low compliance of checking identification, the availability of alcohol, tobacco, and other drugs to adolescents and adults is high. In 2008, Missouri had 9.6% of tobacco retailers fail a compliance check.<sup>166</sup> Alcohol retailer compliance checks also occur in Missouri and in 2011, 278 establishments failed their check and 11,247 Missouri minors were found to be in possession of alcohol.<sup>167</sup>

It is also difficult to determine the amount of other illicit drugs available to the population through the “black market” setting. Fifty-one percent (51%) of Missouri adolescents and 48% of Jackson County adolescents reported that it would be easy to obtain alcohol while 34% and 37% respectively reported the same for marijuana. Approximately 16% of Jackson County adolescents reported it being easy to access other illicit drugs and 14% of Missouri adolescents reported the same.<sup>168</sup>

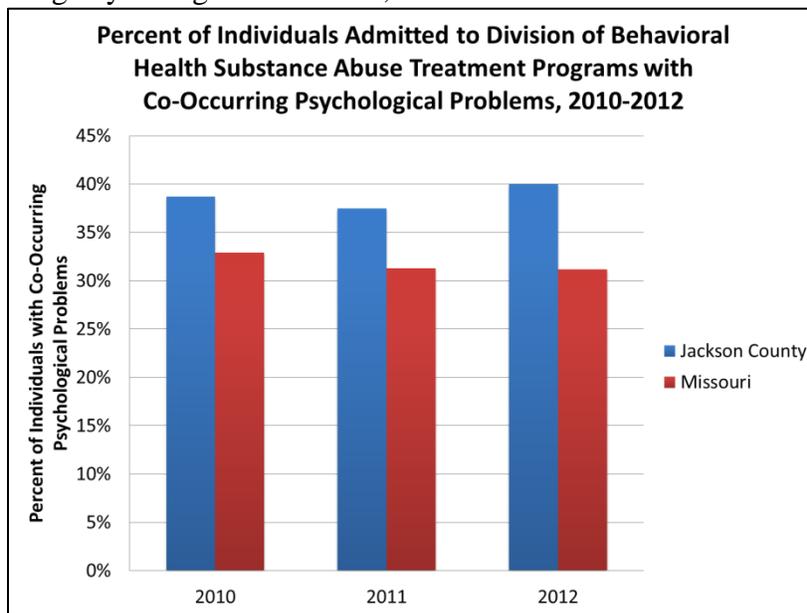
**Perception.** A large proportion of Missouri and Jackson County adolescents reported that their parents would disapprove of them consuming or using alcohol and/or marijuana with alcohol having a lower disapproval rate of 81.6% and 83.3% respectively than marijuana’s 92.6% and 90.7%. Both Missouri and Jackson County adolescents believe they risk harm if they use alcohol, marijuana, or other illicit drugs. Jackson County youth see the most harm coming from illicit drug use followed by binge drinking, alcohol use, and finally marijuana use at 56.4%. Missouri on the other hand, sees the most harm from illicit drug use, binge drinking, alcohol use, and marijuana use with marijuana comparing at 64.4%. All other categories are fairly equivalent in comparison among the two groups. In Missouri, perceived risk of marijuana use is decreasing; meaning adolescents are viewing marijuana use as less risky than in prior years.<sup>169</sup>

**Mental Health.** Often, people with untreated mental illnesses use street drugs as an inappropriate form of self-medication. Homeless people with both substance disorders and mental illness experience additional obstacles to recovery, such as increased risk for violence and victimization and frequent cycling between the streets, jails, and emergency rooms. Sadly, these people are often unable to find treatment facilities that will help them. Many programs for homeless people with mental illnesses do not accept people with substance abuse disorders, and many programs for homeless substance abusers do not treat people with mental illnesses.<sup>170</sup>

The percent of individuals admitted to the Missouri Division of Behavioral Health substance treatment programs that had co-occurring psychological problems are higher for Jackson County than the rest of the state (see Figure 34). In 2012, 4,727 individuals were admitted to the treatment programs and 40% of the individuals had a co-occurring psychological problem.<sup>171</sup> This data only captures those individuals that went to a State treatment program and does not capture those individuals that struggle with substance abuse and either do not enter a treatment program or enter a program that is not a State program.

Mental illness is a growing concern in Missouri, which could put residents at risk for substance abuse if not diagnosed and treated. In Missouri in 2012, it is estimated that 18.9% of residents over the age of 18 have any mental illnesses in the past year. In addition, the rate of depressive disorders identified by a health professional in Missouri is 21.3% of residents, which is greater than the U.S. rate of 18.7%.<sup>172</sup>

Figure 34: Percent of Individuals Admitted to Division of Behavioral Health Substance Abuse Treatment Programs with Co-Occurring Psychological Problems, 2010-2012



Source: 2013 Status Report on Missouri’s Substance Abuse and Mental Health Problems

# Tobacco Use

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## Background

Tobacco use is the single most preventable cause of disease, disability, and death in the U.S., yet more deaths are caused each year by tobacco use than by all deaths from human immunodeficiency virus (HIV), illegal drug use, alcohol use, motor vehicle injuries, suicides, and murders combined.

In 2009, an estimated 20.6% of all American adults age 18 and older—46.6 million people—smoked, and every day another 850 young people age 12 to 17 began smoking on a daily basis. As a result of widespread tobacco use, approximately 443,000 Americans die from tobacco-related illnesses, such as cancer and heart disease, each year. An estimated 49,000 of these deaths are the result of secondhand smoke exposure. For every person who dies from tobacco use, another 20 suffer from at least one serious tobacco-related illness.

Tobacco use poses a heavy burden on the U.S. economy and medical care system. Each year, cigarette smoking costs more than \$193 billion in medical care costs, while secondhand smoke costs an additional \$10 billion. Tobacco use is thus one of the Nation's deadliest and most costly public health challenges.<sup>173</sup>

## Leading Health Indicators

- Adults who are current cigarette smokers
- Secondhand smoke exposure
- Adolescents who smoked cigarettes in the past 30 days

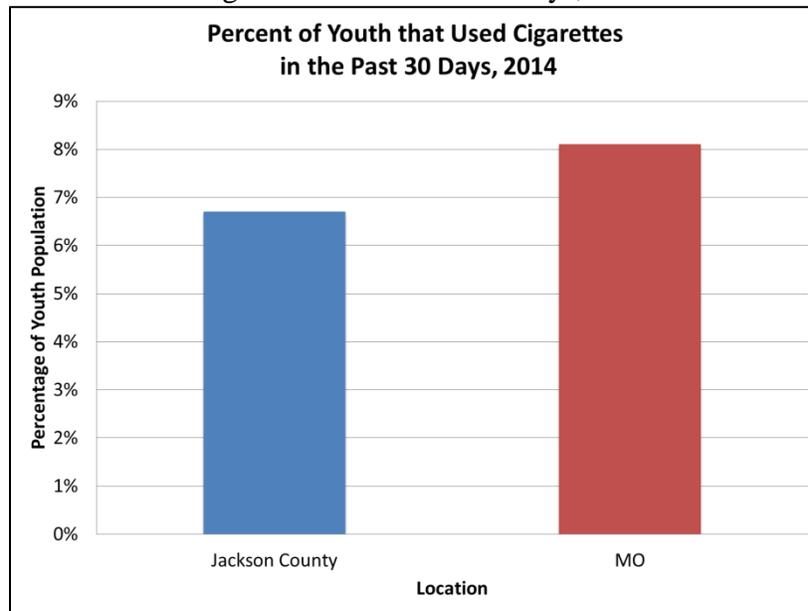
**Adults Who Are Current Cigarette Smokers.** According to the 2014 Community Health Survey, only 16.7% of EJC residents are current smokers. In 2007, 19.8% of American adults 18 years of age or older were current cigarette smokers. In Missouri, 23.2% of adults are current, daily smokers, with Jackson County having an adult smoking rate of 25.3%.<sup>174</sup>

**Secondhand Smoke Exposure.** Secondhand smoke harms children and adults, and the only way to fully protect nonsmokers is to eliminate smoking in all homes, worksites, and public places.<sup>175</sup> To protect people from secondhand smoke indoors, the following cities within the Kansas City Metro have adopted Clean Indoor Air policies: Blue Springs, Grandview, Independence, Kansas City, and Lees Summit. These Indoor Air policies create smoke free workplaces, restaurants, and bars for the community. In addition, many business campuses and parks have adopted smoke-free policies.

According to the 2014 Community Health Survey, 90.4% of survey respondents reported agreement that secondhand smoke is harmful to a person's health. Approximately 58% of respondents reported that they had been exposed to secondhand smoke in the past 12 months. Of those that reported exposure to secondhand smoke, the top three places of exposure were business campuses/grounds (31%), cars (20%), and personal residences (19%).

**Adolescents Who Smoked Cigarettes in the Past 30 Days.** The 2014 Status Report on Missouri's Substance Abuse and Mental Health Problems identified 8.1% of Missouri youth and 6.7% of Jackson County youth used cigarettes in the past 30 days (see Figure 34).<sup>176</sup> In comparison, the number of youth that reported that they had ever used cigarettes was much higher for both jurisdictions, 19.1% for Missouri and 17.3% for Jackson County. Both of these rates have been declining over the past four years with Jackson County showing a greater decline than Missouri.<sup>177</sup>

Figure 35: Percent of Youth that Used Cigarettes in the Past 30 Days, 2014



Source: 2014 Status Report on Missouri’s Substance Abuse and Mental Health Problems<sup>178</sup>

### Determinants of Tobacco Use

A broad range of social, environmental, psychological, and genetic factors have been associated with tobacco use, including gender, race and ethnicity, age, income level, educational attainment, and geographic location. Motivation to begin and to continue smoking is strongly influenced by the social environment, although genetic factors are also known to play a role. Smoke-free protections, tobacco prices and taxes, and the implementation of effective tobacco prevention programs all influence tobacco use.<sup>179</sup>

**Among adolescents and young adults, in particular, tobacco use is influenced by:**

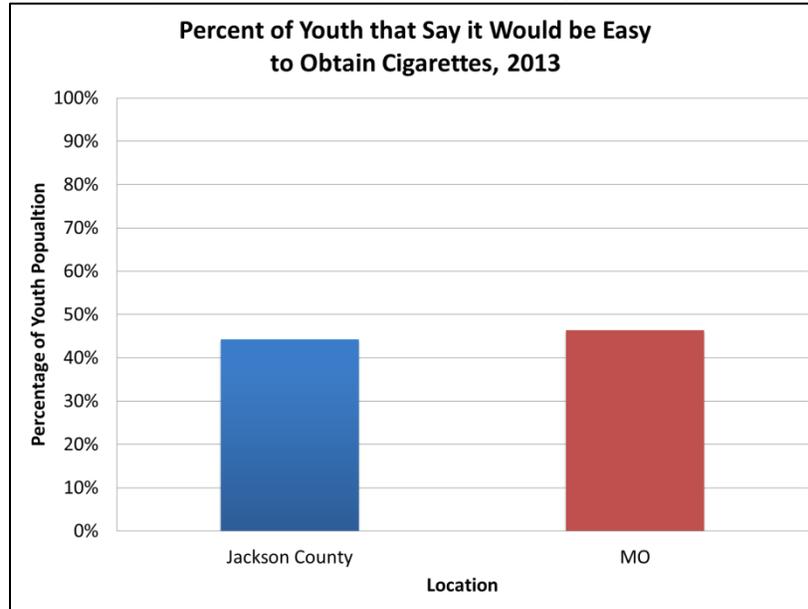
*The Use of Tobacco and Approval of Tobacco Use by Peers or Siblings.* In the past twelve months, 30.9% of Jackson County youth and 33.8% of Missouri youth reported a friend using cigarettes. Furthermore, 9.7% of Jackson County youth reported being likely to use cigarettes if their best friend offered it to them which is lower than Missouri’s rate of 10.5%. Ninety-three (93%) of students in both Jackson County and Missouri said their parents would disapprove if they were to smoke.<sup>180</sup>

Adolescents do see the harm in smoking cigarettes too. It was found that 85.7% of Jackson County youth and 83.2% of Missouri youth see harm in smoking cigarettes.<sup>181</sup> The trends over the past four years signify that youth are less likely to initiate smoking and become lifelong smokers.

*Smoking by Parents or Guardians.* Children of smoking parents are twice as likely to become addicted smokers when compared to their non-smoking household peers.<sup>182</sup> According to the 2007 Campaign for Tobacco Free Kids report, approximately 352,000 children under the age of 18 are exposed to second-hand smoke at home each year.<sup>183</sup> From the 2014 Community Health Survey, 8.9% of EJC residents reported smoking and having children under the age of 18 living in their home.

*Accessibility of Tobacco Products.* Cigarettes are still widely accessible to youth in Missouri and are often obtained through parents, siblings, relatives, friends, and convenience stores. Approximately 9.6 million packs of cigarettes are sold to, or smoked by, Missouri youth each year.<sup>184</sup> In addition, 46.3% of Missouri youth and 44.3% of Jackson County youth say it would be easy to obtain cigarettes. The trends over the past four years signify that there has been a decline in the youth’s perception of ease in acquiring cigarettes.<sup>185</sup>

Figure 36: Percent of Youth that Say it Would be Easy to Obtain Cigarettes, 2013



Source: 2014 Status Report on Missouri’s Substance Abuse and Mental Health Problems<sup>186</sup>

**Exposure to Tobacco Use Promotional Campaigns.** Every year, the tobacco industry spends \$8.8 billion on tobacco advertising and marketing nationwide. In Missouri, the industry uses 3.7% or \$328.6 million to advertise and market their products primarily to youth to gain new, regular smokers/customers.<sup>187</sup> In 2010, the CDC launched an anti-tobacco campaign which highlights the dangers of smoking. The CDC campaign has reached approximately 87% of the U.S. population, has prompted around 1.6 million Americans to make a quit attempt, and has helped to encourage 100,000 people to maintain a smoke-free lifestyle. These types of campaigns are helping to illustrate to youth that living a tobacco-free lifestyle is the new norm.<sup>188</sup>

**Low Self-Image or Self-Esteem.** Low self-esteem has been shown to be a risk factor for adolescents to initiate cigarette smoking and tobacco use. There are many indicators for low self-esteem including being the victim of mean rumors or lies while at school and having feelings of being sad. In Jackson County, 48% of adolescents reported being the victim of mean rumors or lies while at school and approximately 20% also reported being very sad in the past thirty days.<sup>189</sup>

**APPENDIX A: Health Survey**  
**DRAFT**

# Jackson County Health Department Community Health Survey 2017

This community survey is part of a larger study to help guide health programs in Eastern Jackson County over the next five years. Results will be made available to the public. Filling out the survey should only take **10-15 minutes**, and your responses are completely anonymous (secret). Your opinion is important!

For questions, please call 816-404-6415 and ask to speak to Bridgette.

## About Your Health

1. How would you rate your overall health?

- Poor
- Fair
- Good
- Excellent

1. Where do you / your household members go for normal/routine health care? Please check all that apply.

- Do not get routine health care
- Pharmacist (e.g. Take Care Clinic, Minute Clinic, CVS, Walgreens)
- Chiropractor
- Planned Parenthood
- Doctor's office (e.g. family doctor or primary care doctor)
- Specialty doctor (e.g. OBGYN, heart specialist, cancer specialist, etc.)
- Emergency room
- Urgent care
- Health department
- Other (please specify) \_\_\_\_\_

2. Do you currently have health insurance?

- Yes
- No

If yes, what kind? Please check all that apply.

- Medicare
- Medicaid
- Military or VA
- Private insurance through a job
- Private insurance not through a job
- Other (please specify) \_\_\_\_\_

If no, why not? Please check all that apply.

- Cost is too high / can't afford it
- Can't get coverage
- I'm healthy / don't need health insurance
- Don't know how to get it
- Don't want to spend the money
- Other (please specify) \_\_\_\_\_

3. About how long has it been since you last visited a doctor for a routine checkup? A routine checkup is a general physical exam, not an exam for a specific injury, illness, or condition.

- Within the past year
- Within the past 2 years
- Within the past 5 years
- 5 or more years ago
- Don't know / not sure

4. Did you get a flu (influenza) shot in the last year?

- Yes
- No

If yes, where did you get your flu shot?

- Jackson County Health Department
- Pharmacy (Take Care, Minute Clinic, Walgreens, CVS, etc.)
- Doctor's office
- Other (please specify) \_\_\_\_\_

5. Are the children in your household current on their recommended vaccines (shots)?

- Yes       No       I don't know / I'm not sure  
 Not Applicable (I do not have small children in my household)

If no, why not? Please check all that apply.

- |  |  |
|--|--|
| <input type="checkbox"/> Cost                                  | <input type="checkbox"/> No transportation                               |
| <input type="checkbox"/> Don't know where to go                | <input type="checkbox"/> Religious reasons                               |
| <input type="checkbox"/> Hours do not meet my needs            | <input type="checkbox"/> Need more education from my healthcare provider |
| <input type="checkbox"/> Medical reasons                       |  |
| <input type="checkbox"/> No insurance                          |  |
| <input type="checkbox"/> Vaccine unsafe (please specify) _____ |  |
| <input type="checkbox"/> Other (please specify) _____          |  |

6. Where do you get your health information (information on local health care resources, educational information, etc.)?

Please check all that apply.

- |   |   |
|---|---|
| <input type="checkbox"/> Billboards                       | <input type="checkbox"/> Newsletters  |
| <input type="checkbox"/> Bulletin boards                  | <input type="checkbox"/> Posters  |
| <input type="checkbox"/> Churches / synagogues / mosques  | <input type="checkbox"/> Radio  |
| <input type="checkbox"/> Friends / family                 | <input type="checkbox"/> Social media (e.g. Facebook, Twitter, etc.)        |
| <input type="checkbox"/> Grocery stores                   | <input type="checkbox"/> Social services organization                       |
| <input type="checkbox"/> Health Department                | <input type="checkbox"/> TV news  |
| <input type="checkbox"/> Healthcare providers             | <input type="checkbox"/> Talk shows (e.g. Dr. Oz, The Doctors, Oprah, etc.) |
| <input type="checkbox"/> Internet (e.g. WebMD, CDC, etc.) | <input type="checkbox"/> WIC  |
| <input type="checkbox"/> Newspapers                       |   |
| <input type="checkbox"/> Other (please specify) _____     |   |

## About Your Dental Health

7. How long has it been since you had your teeth cleaned by a dentist or dental hygienist?

- Within the past six months  
 Within the past year  
 Within the past 2 years  
 Within the past 5 years  
 5 or more years ago  
 I do not know / not sure  
 Never

8. How long has it been since you last visited a dentist or a dental clinic for any reason other than a cleaning? (e.g. braces, cavity filled, tooth pulled, crown, etc.)

- Within the past six months  
 Within the past year  
 Within the past 2 years  
 Within the past 5 years  
 5 or more years ago  
 I do not know / not sure  
 Never

9. How often do your gums bleed when...

	Always	Usually	Sometimes	Never	N/A
Brushing your teeth	<input type="checkbox"/>				
Flossing your teeth	<input type="checkbox"/>				
Eating	<input type="checkbox"/>				

10. How much do you agree or disagree with the following statement? Safe amounts of fluoride in drinking water help to prevent tooth decay.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

## Nutrition

11. How many times a week do you eat food from a restaurant; sit down, take-out / carry out or fast food?

- None or 0
- 1
- 2
- 3
- 4
- 5 or more

12. Would you like restaurants in your city to post calories on their menu?

- Yes
- No

13. How many servings of fruits do you eat in a day? (1 serving=1cup)

- None or 0
- 1
- 2
- 3
- 4
- 5 or more

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14. How many servings of vegetables do you eat in a day? (1 serving=1cup)

- None or 0
- 1
- 2
- 3
- 4
- 5 or more

15. Where do you get your fruits and vegetables? Please check all that apply.

- |   |   |
|---|---|
| <input type="checkbox"/> I do not eat fruits and vegetables | <input type="checkbox"/> Food pantry              |
| <input type="checkbox"/> Community garden                   | <input type="checkbox"/> Grocery store            |
| <input type="checkbox"/> Convenience store / gas station    | <input type="checkbox"/> Mobile market            |
| <input type="checkbox"/> Ethnic store                       | <input type="checkbox"/> Personal / family garden |
| <input type="checkbox"/> Farmer's market                    | <input type="checkbox"/> Vending machine          |
| <input type="checkbox"/> Other (please specify)_____        |   |

## Physical Activity

16. How many hours of physical activity do you usually get in a week?

- None or 0
- 0.5 – 1 hour (30 – 60 min.)
- 1 – 1.5 hours (61 – 90 min.)
- 1.5 – 2 hours (91 – 120 min.)
- More than 2 hours (more than 120 min.)

17. Where do you spend your time exercising? Please check all that apply.

	Home	Private Gym	Work Facility	Community Center	Local Parks & Trails	Local Sidewalks	Other	Not Applicable
Walking	<input type="checkbox"/>							
Running	<input type="checkbox"/>							
Cycling / Biking	<input type="checkbox"/>							
Swimming	<input type="checkbox"/>							
Free Weights	<input type="checkbox"/>							
Weight machines	<input type="checkbox"/>							
Structured Classes	<input type="checkbox"/>							
Group/team sports	<input type="checkbox"/>							
DVDs and Game Systems (e.g. Wii)	<input type="checkbox"/>							

18. Do you feel it is safe to walk in your neighborhood ...

	Yes	No	Sometimes
In the morning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
During the day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In the evening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. Why do you feel it is not safe to walk in your neighborhood? Please check all that apply.

- |  |  |
|--|--|
| <input type="checkbox"/> My neighborhood is safe | <input type="checkbox"/> Inadequate crosswalks                               |
| <input type="checkbox"/> Fear of crime           | <input type="checkbox"/> Motor vehicle traffic (cars / trucks/ motor cycles) |
| <input type="checkbox"/> Loose dogs / animals    | <input type="checkbox"/> Not enough traffic or stop signs                    |
| <input type="checkbox"/> No sidewalks            | <input type="checkbox"/> Poor street lighting                                |
| <input type="checkbox"/> Sidewalks in bad shape  |  |
| <input type="checkbox"/> Other (please specify)  |  |

20. Do you use city parks or trails?

- Yes  
 No

*If you answered "No" please skip to 24. If you answered "Yes" please continue to 21.*

21. How often do you go to a city park or trail?

- Daily       Weekly       Monthly       Yearly

22. In the past 6 months, have you noticed a difference in the number of people smoking in the parks or trails?

- Yes, there are less people smoking  
 No, there has been no change  
 Yes, there are more people smoking  
 Don't know / not sure

23. Have you seen the Healthy Lungs at Play signs in your local parks or trails?

- Yes  
 No



## Tobacco Use

24. Have you ever smoked a cigarette?

- Yes  
 No

25. How often do you currently smoke cigarettes?

- Daily       Less than daily       Not at all

*If you answered "Not at all" please skip to 29. If you answered "Daily" or "Less than daily" please continue to 26.*

26. On a normal day, how many cigarettes do you currently smoke? Please check only one.

- 0 (None)  
 ½ Pack or less  
 1 Pack  
 2 Packs  
 3 or more Packs

27. During the past 12 months, have you tried to stop smoking cigarettes?

- Yes  
 No

28. Did you use any of the following to help you quit smoking cigarettes? Please check all that apply.

- |   |   |
|---|---|
| <input type="checkbox"/> Smoking cessation classes / support groups | <input type="checkbox"/> Medication (e.g. Chantix, Zyban, etc.)   |
| <input type="checkbox"/> Cold turkey / on my own                    | <input type="checkbox"/> Nicotine replacement (e.g. gum, inhaler, lozenges, skin patch, nose spray, etc.) |
| <input type="checkbox"/> Counseling                                 | <input type="checkbox"/> Quitline   |
| <input type="checkbox"/> Electronic cigarettes (e-cigarettes)       |   |
| <input type="checkbox"/> Other (please specify) _____               |   |

29. During any visit to a doctor or health care provider within the past 12 months, were you advised to quit smoking?

- Yes  
 No  
 I haven't been to see a doctor within the past 12 months

30. In the past 12 months, have you used any of the following nicotine products? Please check all that apply.

- |  |                                 |
|--|---------------------------------|
| <input type="checkbox"/> None                | <input type="checkbox"/> Hookah |
| <input type="checkbox"/> Chewing tobacco     | <input type="checkbox"/> Orbs   |
| <input type="checkbox"/> Cigars / cigarettos | <input type="checkbox"/> Snuff  |
| <input type="checkbox"/> E-cigarette         | <input type="checkbox"/> Snus   |

31. How much do you agree or disagree with the following statement? Secondhand smoke is harmful to a person's health.

- Strongly agree  
 Agree  
 Neither agree nor disagree  
 Disagree  
 Strongly disagree

32. In the past 12 months, have you been exposed to secondhand smoke in any of the following places? Please check all that apply.

- |  |   |
|--|---|
| <input type="checkbox"/> Business campuses / grounds | <input type="checkbox"/> Parks / trails     |
| <input type="checkbox"/> Cars                        | <input type="checkbox"/> Personal residence |
| <input type="checkbox"/> None of the above           |   |
| <input type="checkbox"/> Other _____                 |   |

## Alcohol Use

One drink equals 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor. A 40 ounce beer would count as 3 drinks, or a cocktail drink with 2 shots would count as 2 drinks.

33. During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage?

- Occasionally
- Only on weekends
- 3-4 times a week
- Daily
- Don't drink
- Don't know / not sure

34. During the past 30 days, on the days when you drank, about how many drinks did you drink on the average?

- None
- 1-2
- 2-4
- 5 or more
- Don't know / not sure

35. During the past 30 days, what is the highest number of drinks you had on any occasion?

- None
- 1-2
- 2-4
- 5 or more
- Don't know / not sure

## Driving Habits

36. How often do you use seat belts when you drive or ride in the car?

- Always
- Usually
- Sometimes
- Never wear a seatbelt
- Don't know / not sure
- Never drive or ride in a car

37. How dangerous do you believe texting or emailing is while driving / stopped at a red light?

	Highly Dangerous	Moderately Dangerous	Slightly Dangerous	Not Dangerous at All
Texting / emailing and driving	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Texting / emailing at a red light	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

38. In the past 3 months, how frequently did you do the following...

	Very frequently	Frequently	Occasionally	Rarely	Never
Texted /emailed and drove a vehicle	<input type="checkbox"/>				
Texted / emailed at a red light	<input type="checkbox"/>				
Talked on the phone and drove a vehicle	<input type="checkbox"/>				

39. Among people with whom you interact, how frequently do they text / email when driving?  
 Very frequently     Frequently     Occasionally     Rarely     Never

## My Community

40. How satisfied are you with the following in your city?

	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	I don't know
Places to buy fresh fruits and vegetables	<input type="checkbox"/>				
Sidewalks	<input type="checkbox"/>				
Bike trails, lanes, and paths	<input type="checkbox"/>				
Walking trails, lanes, and paths	<input type="checkbox"/>				
Parks, trails, neighborhood /school playgrounds	<input type="checkbox"/>				
Public transportation	<input type="checkbox"/>				
Protection from secondhand smoke outdoors	<input type="checkbox"/>				

41. What do you think are the FIVE most important overall public health concerns in your city?

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Air pollution                 | <input type="checkbox"/> Dental cavities                   | <input type="checkbox"/> Mold                                |
| <input type="checkbox"/> Alcohol / drug use            | <input type="checkbox"/> Distracted driving (e.g. texting) | <input type="checkbox"/> Not enough family planning services |
| <input type="checkbox"/> Ambulance services            | <input type="checkbox"/> Domestic violence                 | <input type="checkbox"/> Not enough nutrition education      |
| <input type="checkbox"/> Animal control                | <input type="checkbox"/> Eating disorders                  | <input type="checkbox"/> Overweight / obesity                |
| <input type="checkbox"/> Asbestos                      | <input type="checkbox"/> Exercise                          | <input type="checkbox"/> Stroke                              |
| <input type="checkbox"/> Asthma                        | <input type="checkbox"/> Firearms                          | <input type="checkbox"/> Swimming pools                      |
| <input type="checkbox"/> Availability of health care   | <input type="checkbox"/> Fluoride in the water             | <input type="checkbox"/> Teen pregnancy                      |
| <input type="checkbox"/> Cancer                        | <input type="checkbox"/> Food-borne illness                | <input type="checkbox"/> Tobacco use                         |
| <input type="checkbox"/> Child abuse                   | <input type="checkbox"/> Heart disease                     | <input type="checkbox"/> Unintentional injuries              |
| <input type="checkbox"/> Childhood injury              | <input type="checkbox"/> Immunizations                     |  |
| <input type="checkbox"/> Clean water / water pollution | <input type="checkbox"/> Lung disease                      |  |
| <input type="checkbox"/> Other (please specify) _____  | <input type="checkbox"/> Mental health                     |  |

## Demographic Information

42. What is your zip code?

- |                                |                                |                                |                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <input type="checkbox"/> 64013 | <input type="checkbox"/> 64014 | <input type="checkbox"/> 64015 | <input type="checkbox"/> 64016 | <input type="checkbox"/> 64029 | <input type="checkbox"/> 64030 | <input type="checkbox"/> 64034 |
| <input type="checkbox"/> 64054 | <input type="checkbox"/> 64063 | <input type="checkbox"/> 64064 | <input type="checkbox"/> 64065 | <input type="checkbox"/> 64066 | <input type="checkbox"/> 64070 | <input type="checkbox"/> 64075 |
| <input type="checkbox"/> 64081 | <input type="checkbox"/> 64082 | <input type="checkbox"/> 64086 | <input type="checkbox"/> 64088 | <input type="checkbox"/> 64133 | <input type="checkbox"/> 64138 |                                |

43. What is your year of birth? \_\_\_\_\_

44. What is your height? \_\_\_\_\_ ft. \_\_\_\_\_ in.

45. What is your weight? \_\_\_\_\_ lbs.

46. Total number of people in your household: \_\_\_\_\_

47. Total number of children under 18 years of age in your household: \_\_\_\_\_.

48. What is your sex?

- Male  
 Female

49. Do you think of yourself as:

- Heterosexual or straight
- Homosexual or gay / lesbian
- Bisexual

- Transgender
- Prefer not to answer
- Not Sure

50. How do you describe yourself? Please check all that apply.

- White
- African American
- Native Hawaiian or Other Pacific Islander

- Hispanic or Latino
- Asian
- American Indian or Alaskan Native

51. What language do you usually speak at home? Please check only one.

- English
- Spanish
- Other (please specify)\_\_\_\_\_

52. Which of the following best describes your home? Please check only one.

- Single-family home
- Duplex
- Mobile home
- Condo or townhouse
- Apartment (in a building with 3 or more apartments)
- Other (please specify)\_\_\_\_\_

53. During the past 12 months, what was the total combined income of all members of your household before taxes?

- <\$10,000
- \$10,000-\$14,999
- \$15,000-\$24,999
- \$25,000-\$34,999
- \$35,000-\$49,999
- \$50,000-\$64,999
- \$65,000-\$74,999
- \$75,000-\$99,999
- >\$100,000

54. What is the highest educational level you have completed?

- Less than high school
- High school / GED
- Some college
- Bachelor's degree
- Masters or higher

**Thank you for completing the survey!**

Survey should be returned to: Jackson County Health Department  
313 S. Liberty  
Independence, MO 64050

## **APPENDIX B: Health Survey-Tabular Data**

**DRAFT**

## About Your Health

### 1. How would you rate your health?

	Number	Percent
Poor	32	3.0%
Fair	152	14.3%
Good	602	56.6%
Excellent	278	26.1%

### 2. Where do you/your household members go for normal/routine health care? Please check all that apply.

	Number	Percent
Do not get routine health care	65	3.3%
Chiropractor	165	8.3%
Doctor's office (e.g. family doctor or primary care doctor)	981	49.3%
Emergency room	76	3.8%
Health department	6	0.3%
Pharmacy (e.g. Take Care Clinic, Minute Clinic, CVS, Walgreens)	204	10.3%
Planned Parenthood	3	0.2%
Specialty doctor (e.g. OBGYN, heart specialist, cancer specialist)	334	16.8%
Urgent Care	120	6.0%
Other	34	1.7%

### 2. Do you currently have health insurance?

	Number	Percent
Yes	1007	94.5%
No	59	5.5%

### If yes, what kind? Please check all that apply.

	Number	Percent
Medicaid	31	2.4%
Medicare	300	23.7%
Military or VA	52	4.1%
Private insurance not through a job	128	10.1%
Private insurance through a job	687	54.2%
Other	69	5.4%

**If no, why not? Please check all that apply.**

	Number	Percent
Cost is too high/ can't afford it	49	74.2%
I'm healthy/ don't need health insurance	5	7.6%
Don't want to spend the money	3	4.5%
Can't get coverage	2	3.0%
Don't know how to get it	0	0.0%
Other	7	10.6%

**3. About how long has it been since you last visited a doctor for a routine checkup? A routine checkup is a general physical exam, not an exam for a specific injury, illness, or condition.**

	Number	Percent
Within the past year	808	75.9%
Within the past 2 years	120	11.3%
Within the past 5 years	60	5.6%
5 or more years	53	5.0%
Don't know/ not sure	23	2.2%

**4. Did you get a flu (influenza) shot in the last year?**

	Number	Percent
Yes	645	60.8%
No	416	39.2%

**If yes, where did you get your flu shot?**

	Number	Percent
Jackson County Health Department	7	1.1%
Pharmacy (Take Care, Minute Clinic, Walgreens, CVS, etc.)	200	31.0%
Doctor's office	241	37.4%
Other	197	30.5%

**5. Are the children in your household current on their recommended vaccines (shots)?**

	Number	Percent
Yes	376	35.5%
No	16	1.5%
I don't know/ I'm not sure	5	0.5%
Not Applicable	661	62.5%

**If no, why not? Please check all that apply.**

	Number	Percent
Cost	1	7.1%
Don't know where to go	1	7.1%
Hours do not meet my needs	1	7.1%
Medical reasons	1	7.1%
No insurance	3	21.4%
Vaccine unsafe	3	21.4%
No transportation	0	0.0%
Religious reasons	2	14.3%
Need more education from my healthcare provider	0	0.0%
Other	2	14.3%

**6. Where do you get your health information (information on local health care resources, educational information, etc.)? Please check all that apply.**

	Number	Percent
Billboards	38	1.1%
Bulletin boards	31	0.9%
Churches/synagogues/mosques	43	1.3%
Friends/Family	402	12.1%
Grocery stores	28	0.8%
Health department	52	1.6%
Health care providers	795	24.0%
Internet (e.g. WebMD, CDC, etc.)	650	19.6%
Newspapers	185	5.6%
Newsletters	153	4.6%
Posters	17	0.5%
Radio	115	3.5%
Social media (e.g. Facebook, Twitter, etc.)	120	3.6%
Social Services offices	19	0.6%
TV news	357	10.8%
Talk shows (e.g. Dr.Oz, The Doctors, Oprah, etc.)	212	6.4%
WIC	12	0.4%
Other	83	2.5%

## About Your Dental Health

### 7. How long has it been since you had your teeth cleaned by a dentist or dental hygienist?

	Number	Percent
Within the past six months	707	67.3%
Within the past year	113	10.8%
Within the past 2 years	74	7.0%
Within the past 5 years	48	4.6%
5 or more years ago	75	7.1%
I do not know/not sure	21	2.0%
Never	12	1.1%

### 8. How long has it been since you last visited a dentist or dental clinic for any reason other than a cleaning? (e.g. braces, cavity filled, tooth pulled, crown, etc.)

	Number	Percent
Within the past six months	296	28.0%
Within the past year	192	18.2%
Within the past 2 years	195	18.5%
Within the past 5 years	152	14.4%
5 or more years ago	178	16.9%
I do not know/not sure	22	2.1%
Never	21	2.0%

### 9. How often do your gums bleed when...

	Always	Usually	Sometimes	Never	N/A
Brushing your teeth	1.5%	1.1%	25.0%	68.9%	3.4%
Flossing your teeth	2.2%	5.7%	43.2%	42.9%	6.0%
Eating	0.2%	0.4%	0.9%	95.3%	3.3%

### 10. How much do you agree or disagree with the following statement? Safe amounts of fluoride in drinking water prevent tooth decay.

	Number	Percent
Strongly agree	268	25.4%
Agree	399	37.8%
Neither agree nor disagree	274	25.9%
Disagree	58	5.5%
Strongly disagree	57	5.4%

## Nutrition

**11. How many times a week do you eat food from a restaurant; sit down, take out/carry out or fast food?**

	Number	Percent
None or 0	90	8.5%
1	350	33.1%
2	281	26.6%
3	169	16.0%
4	76	7.2%
5 or more	92	8.7%

**12. Would you like restaurants in your city to post calories on their menu?**

	Number	Percent
Yes	823	78.8%
No	222	21.2%

**13. How many servings of fruits do you eat in a day? (1 serving=1cup)**

	Number	Percent
None or 0	74	7.0%
1	454	43.1%
2	330	31.3%
3	156	14.8%
4	29	2.8%
5 or more	11	1.0%

**14. How many servings of vegetables do you eat in a day? (1 serving=1cup)**

	Number	Percent
None or 0	20	1.9%
1	360	34.1%
2	388	36.7%
3	212	20.1%
4	45	4.3%
5 or more	31	2.9%

**15. Where do you get your fruits and vegetables? Please check all that apply.**

	Number	Percent
I do not eat fruits and vegetables	3	0.2%
Community garden	13	0.7%
Convenience store/gas station	27	1.5%
Ethnic store	7	0.4%
Farmer's market	356	20.1%
Food pantry	15	0.8%
Grocery store	1036	58.6%
Mobile market	10	0.6%
Personal/ family garden	257	14.5%
Vending machine	5	0.3%
Other	38	2.2%

## Physical Activity

### 16. How many hours of physical activity do you get in a week?

	Number	Percent
None or 0	35	3.3%
0.5 – 1 hour (30-60 min.)	177	16.9%
1 - 1.5 hours (61-90 min.)	175	16.7%
1.5 – 2 hours (91-120 min.)	189	18.1%
More than 2 hours (more than 120 min.)	469	44.9%

### 17. Where do you spend your time exercising? Please check all that apply.

Unable to interpret data.

### 18. Do you feel it is safe to walk in your neighborhood...

	Yes	No	Sometimes
In the morning	90.0%	3.9%	6.1%
During the day	91.9%	3.3%	4.8%
In the evening	74.6%	10.0%	15.4%

### 19. Why do you feel it is not safe to walk in your neighborhood? Please check all that apply.

	Number	Percent
Fear of crime	128	17.2%
Loose dogs/animals	96	12.9%
No sidewalks	154	20.7%
Sidewalks in bad shape	59	7.9%
Inadequate crosswalks	31	4.2%
Motor vehicle traffic (cars/trucks/motorcycles)	91	12.2%
Not enough traffic or stop signs	15	2.0%
Poor street lighting	135	18.1%
Other	35	4.7%

### 20. Do you use city parks or trails?

	Number	Percent
Yes	574	54.9%
No	471	45.1%

### 21. How often do you go to a city park or trail?

	Number	Percent
Daily	39	6.8%
Weekly	188	32.6%
Monthly	256	44.4%
Yearly	94	16.3%

22. In the past 6 months, have you noticed a difference in the number of people smoking in the parks or trails?

	Number	Percent
Yes, there are less people smoking	46	7.9%
No, there has been no change	189	32.6%
Yes, there are more people smoking	11	1.9%
Don't know/not sure	334	57.6%

23. Have you seen the Healthy Lungs at Play signs in your local parks or trails?

	Number	Percent
Yes	70	12.2%
No	505	87.8%

## Tobacco Use

24. Have you ever smoke a cigarette?

	Number	Percent
Yes	574	55.0%
No	469	45.0%

25. How often do you currently smoke cigarettes?

	Number	Percent
Daily	72	12.5%
Less than daily	24	4.2%
Not at all	482	83.4%

26. On a normal day, how many cigarettes do you currently smoke?

	Number	Percent
0 (None)	14	13.7%
½ Pack or less	48	47.1%
1 Pack	31	30.4%
2 Packs	7	6.9%
3 or more Packs	2	2.0%

27. During the past 12 months, have you tried to stop smoking cigarettes?

	Number	Percent
Yes	40	40.0%
No	60	60.0%

28. Did you use any of the following to help you quit smoking cigarettes? Please check all that apply.

	Number	Percent
Smoking cessation classes/ support group	3	4.5%
Cold turkey/on my own	24	35.8%
Counseling	1	1.5%
Electric cigarettes (e-cigarette)	13	19.4%
Medication (e.g. Chantix, Zyban, etc.)	10	14.9%
Nicotine replacement (e.g. gum, inhaler, lozenges, skin patch, nose spray, etc.)	13	19.4%
Quitline	2	3.0%
Other	1	1.5%

29. During any visit to a doctor or health care provider in the past 12 months, were you advised to quit smoking?

	Number	Percent
Yes	75	7.6%
No	845	85.5%
I haven't been to see a doctor in the past year	68	6.9%

30. In the past 12 months, have you used any of the following nicotine products? Please check all that apply.

	Number	Percent
Chewing tobacco	13	1.3%
Cigars/cigarettes	25	2.4%
E-cigarette	35	3.4%
Hookah	4	0.4%
Orbs	1	0.1%
Snuff	3	0.3%
Snus	3	0.3%
None	948	91.9%

31. How much do you agree or disagree with the following statement? Secondhand smoke is harmful to a person's health.

	Number	Percent
Strongly agree	729	70.4%
Agree	207	20.0%
Neither agree nor disagree	80	7.7%
Disagree	14	1.4%
Strongly disagree	6	0.6%

32. In the past 12 months, have you been exposed to secondhand smoke in any of the following places while in Independence? Please check all that apply.

	Number	Percent
Business campuses/ grounds	231	18.0%
Cars	151	11.8%
Parks/ trails	83	6.5%
Personal residence	140	10.9%
None of the above	536	41.7%
Other	144	11.2%

## Alcohol Use

33. During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage?

	Number	Percent
Occasionally	344	33.2%
Only on weekends	93	9.0%
3-4 times a week	130	12.5%
Daily	89	8.6%
Don't drink	377	36.4%
Don't know/not sure	4	0.4%

34. During the past 30 days, on the days when you drink, about how many drinks did you drink on average?

	Number	Percent
None	373	36.3%
1-2	489	47.6%
2-4	135	13.1%
5 or more	28	2.7%
Don't know/not sure	3	0.3%

35. During the past 30 days, what is the highest number of drinks you had on any occasion?

	Number	Percent
None	381	37.1%
1-2	319	31.1%
2-4	204	19.9%
5 or more	122	11.9%
Don't know/not sure	1	0.1%

## Driving Habits

**36. How often do you use seat belts when you drive or ride in the car?**

	Number	Percent
Always	970	93.6%
Usually	39	3.8%
Sometimes	18	1.7%
Never wear a seatbelt	6	0.6%
Don't know/not sure	0	0.0%
Never drive or ride in a car	3	0.3%

**37. How dangerous do you believe texting or emailing is while driving/stopped at a red light?**

	Highly dangerous	Moderately dangerous	Slightly dangerous	Not dangerous at all
Texting/emailing and driving	95.0%	4.3%	0.6%	0.1%
Texting/emailing at a red light	43.6%	30.4%	21.7%	4.3%

**38. In the past 3 months, how frequently did you do the following...**

	Very frequently	Frequently	Occasionally	Rarely	Never
Texted/emailed and drove a vehicle	1.0%	3.0%	6.8%	22.9%	66.3%
Texted/emailed at a red light	2.1%	6.9%	22.2%	23.8%	45.0%
Talked on the phone and drove a vehicle	11.7%	17.8%	32.5%	21.5%	16.5%

**39. Among people with whom you interact, how frequently do they text/email when driving**

	Number	Percent
Very frequently	46	4.5%
Frequently	140	13.8%
Occasionally	288	28.4%
Rarely	315	31.0%
Never	226	22.3%

## My Community

**40. How satisfied are you with the following in your city?**

	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	I don't know
Places to buy fresh fruits and vegetables	29.9%	44.4%	12.8%	7.8%	5.2%
Sidewalks	18.4%	49.5%	19.4%	9.8%	2.9%
Bike trails, lanes, and paths	16.4%	43.3%	15.6%	7.4%	17.3%
Walking trails, lanes, and paths	20.0%	47.4%	14.4%	5.9%	12.2%
Parks, trails, neighborhood/school playgrounds	24.7%	54.4%	8.7%	2.9%	9.3%
Public transportation	3.2%	17.4%	20.1%	17.7%	41.6%
Protection from secondhand smoke	17.2%	45.3%	12.0%	5.4%	20.1%

DRAFT

**45. Why do you think are the FIVE most important overall public health concerns in your city?**

	Number	Percent
Air pollution	144	3.0%
Alcohol/drug use	333	6.9%
Ambulance services	52	1.1%
Animal control	123	2.6%
Asbestos	11	0.2%
Asthma	32	0.7%
Availability of healthcare	143	3.0%
Cancer	208	4.3%
Child abuse	159	3.3%
Childhood injury	22	0.5%
Clean water/water pollution	139	2.9%
Dental cavities	13	0.3%
Distracted driving (e.g. texting)	618	12.9%
Domestic violence	197	4.1%
Eating Disorders	40	0.8%
Exercise	270	5.6%
Firearms	239	5.0%
Fluoride in the water	72	1.5%
Food-borne illness	43	0.9%
Heart disease	185	3.9%
Immunizations	66	1.4%
Lung disease	37	0.8%
Mental health	200	4.2%
Mold	40	0.8%
Not enough family planning services	48	1.0%
Not enough nutrition education	108	2.2%
Overweight/obesity	617	12.8%
Stroke	38	0.8%
Swimming pools	34	0.7%
Teen pregnancy	101	2.1%
Tobacco use	338	7.0%
Unintentional injuries	55	1.1%
Other	77	1.6%

## Demographic Information

**42. What is your zip code?**

	Number	Percent
64013	1	0.1%
64014	72	7.0%
64015	66	6.4%
64016	26	2.5%
64029	66	6.4%
64030	50	4.9%
64034	67	6.5%
64054	26	2.5%
64063	84	8.2%
64064	84	8.2%
64065	1	0.1%
64066	6	0.6%
64070	36	3.5%
64075	27	2.6%
64081	101	9.9%
64082	92	9.0%
64086	68	6.6%
64088	9	0.9%
64133	73	7.1%
64138	70	6.8%

**43. What is your year of birth?**

Number	Minimum	Mean	Standard Deviation	Median	Maximum
1012	1919	1959	15	1959	1993

**44. What is your height?**

Number	Minimum	Mean	Standard Deviation	Median	Maximum
1009	4 ft 4 in	5 ft 7 in	4	5 ft 7 in	6 ft 8 in

**45. What is your weight?**

Number	Minimum	Mean	Standard Deviation	Median	Maximum
986	86	179	44	175	440

**46. What is the total number of people in your household?**

Number	Minimum	Mean	Standard Deviation	Median	Maximum
1004	1	3	1	2	10

**47. What is the total number of children under 18 years of age in your household?**

Number	Minimum	Mean	Standard Deviation	Median	Maximum
999	0	1	1	0	6

**48. What is your sex?**

	Number	Percent
Male	369	36.4%
Female	646	63.6%

**49. Do you think of yourself as...**

	Number	Percent
Heterosexual or straight	967	95.3%
Homosexual or gay/lesbian	7	0.7%
Bisexual	9	0.9%
Transgender	1	0.1%
Prefer not to answer	25	2.5%
Not sure	6	0.6%

**50. How do you describe yourself? Please check all that apply.**

	Number	Percent
White	958	93.1%
African American	29	2.8%
Native Hawaiian or Other Pacific Islander	1	0.1%
Hispanic or Latino	16	1.6%
Asian	12	1.2%
American Indian or Alaskan Native	13	1.3%
Other	0	0.0%

**51. What language do you usually speak at home? Please check only one.**

	Number	Percent
English	1006	99.0%
Spanish	2	0.2%
Other	8	0.8%

**52. Which of these best describes your home?**

	Number	Percent
Single-family home	935	92.0%
Duplex	35	3.4%
Mobile home	2	0.2%
Condo or townhome	41	4.0%
Apartment (in a building with 3 or more apartments)	1	0.1%
Other	2	0.2%

**53. During the past 12 months, what was the total combined income of all members of your household before taxes?**

	Number	Percent
<\$10,000	14	1.5%
\$10,000-\$14,999	18	1.9%
\$15,000-\$24,999	43	4.5%
\$25,000-\$34,999	88	9.3%
\$35,000-\$49,999	110	11.6%
\$50,000-\$64,999	129	13.6%
\$65,000-\$74,999	109	11.5%
\$75,000- \$99,999	161	17.0%
>\$100,000	274	29.0%

**54. What is the highest educational level you have completed?**

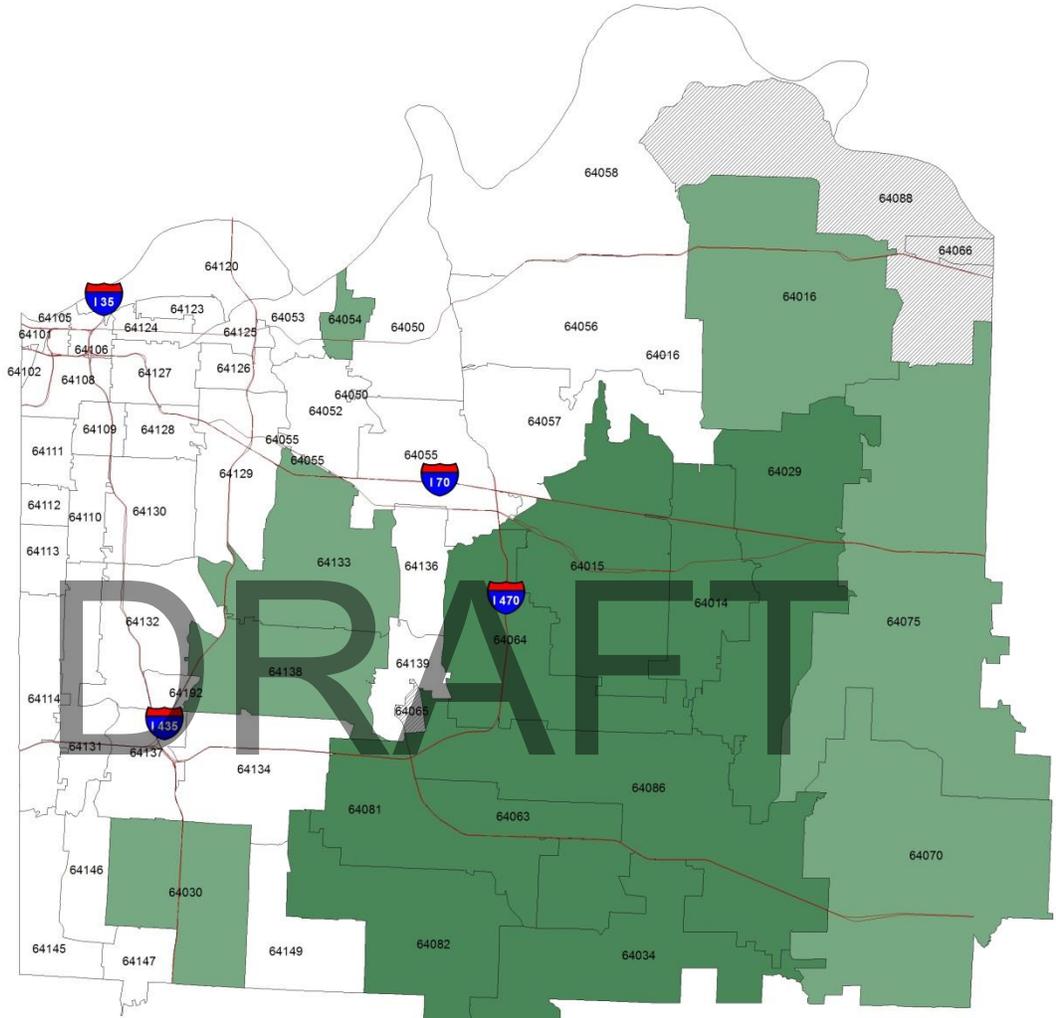
	Number	Percent
Less than 12 years	6	0.6%
High school diploma or GED	135	13.3%
Some college	340	33.5%
Bachelor's degree	327	32.2%
Master's degree or higher	208	20.5%

DRAFT

## **APPENDIX C: Health Survey-GIS Maps**

# DRAFT

# Level of Satisfaction: How satisfied are you with the sidewalks in your city?



**Legend**

**Sidewalks Satisfaction Rating**

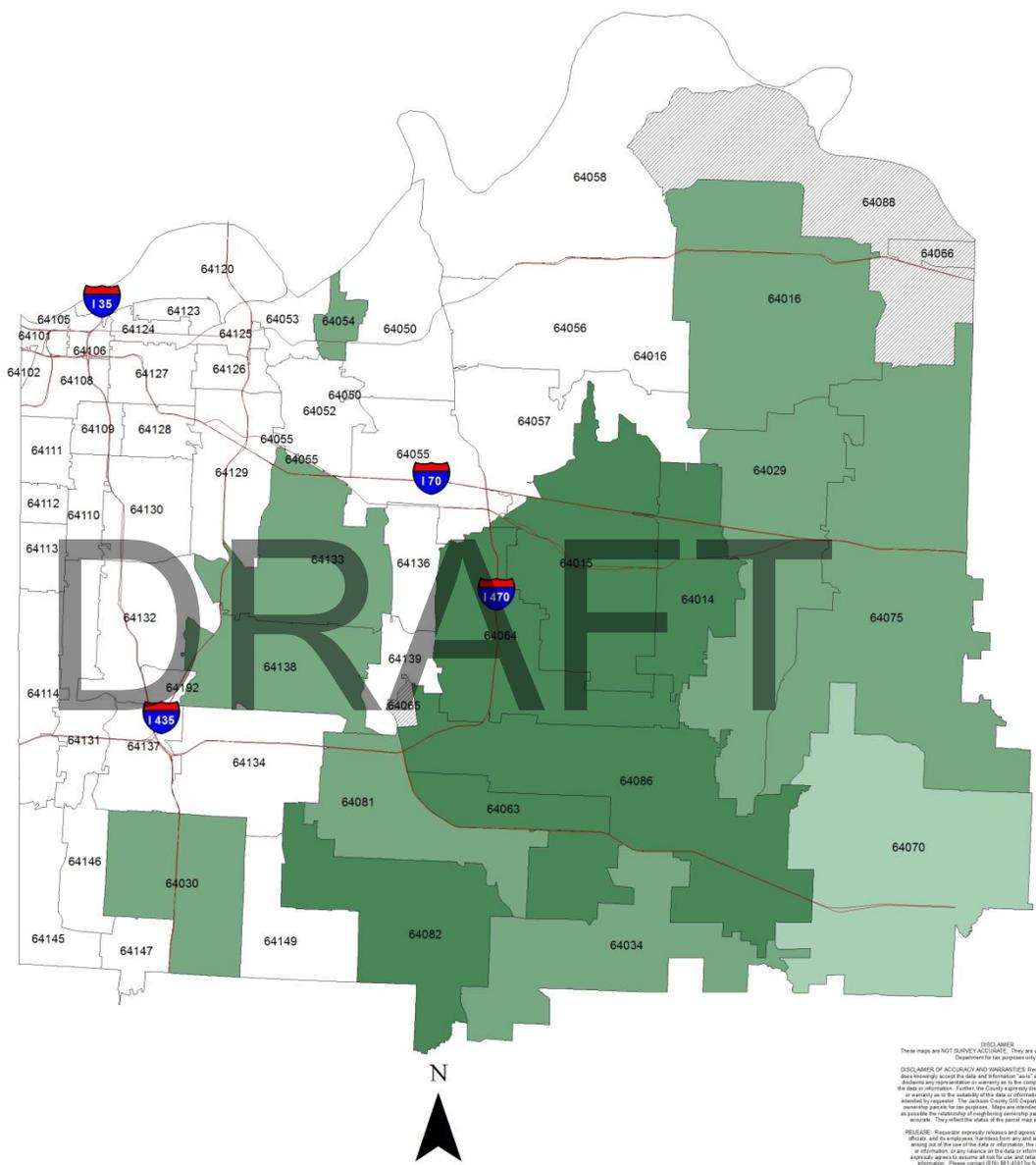
-  Insufficient Data
-  Very Dissatisfied
-  Dissatisfied
-  Satisfied
-  Very Satisfied



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# Level of Satisfaction: How satisfied are you with the bike trails, lanes and paths in your city?



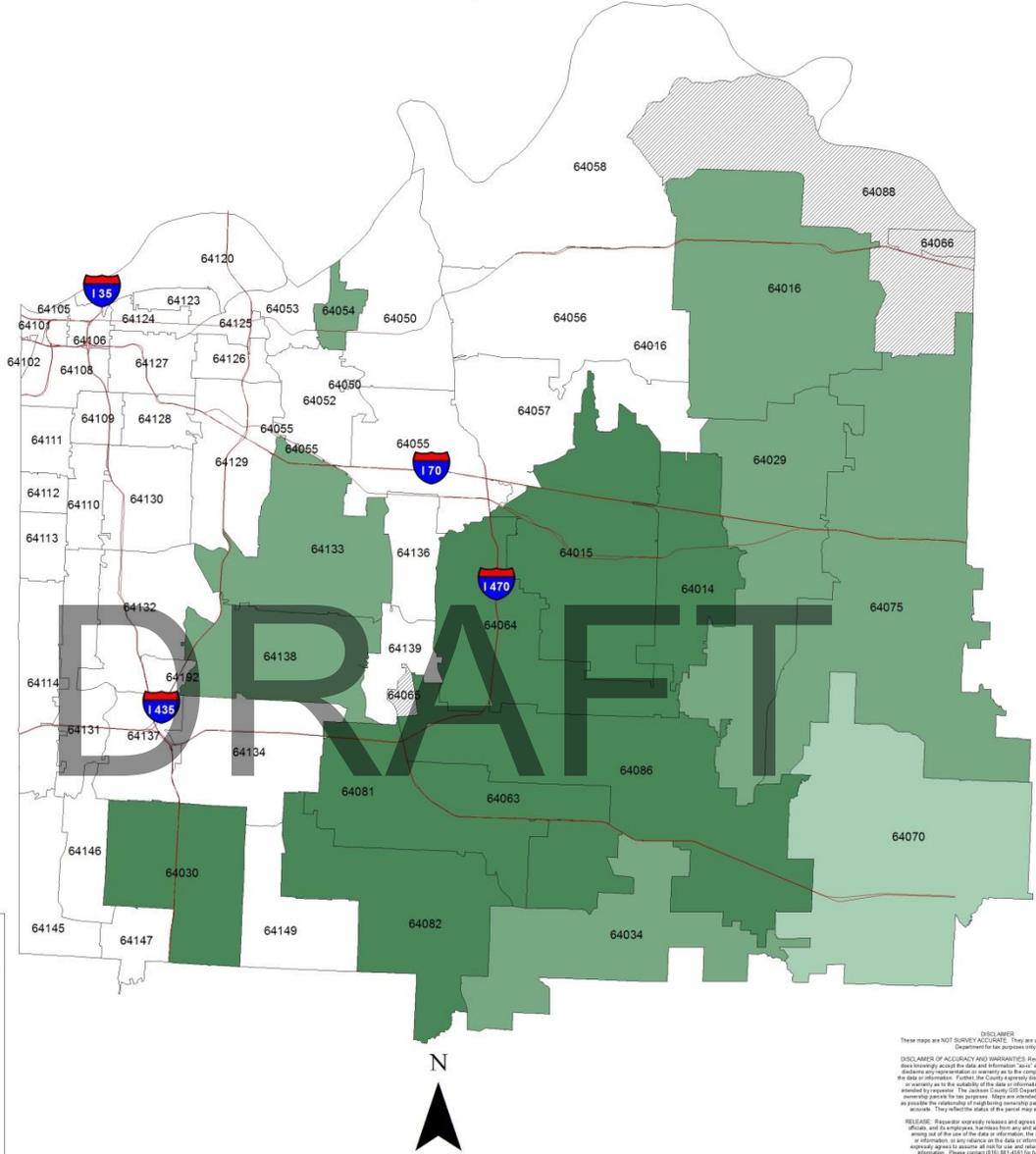
**Legend**

**Bike Path Satisfaction Rating**

- Insufficient Data
- Very Dissatisfied
- Dissatisfied
- Satisfied
- Very Satisfied

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# Level of Satisfaction: How satisfied are you with the walking trails, lanes and paths in your city?



**Legend**

**Walk Path Satisfaction Rating**

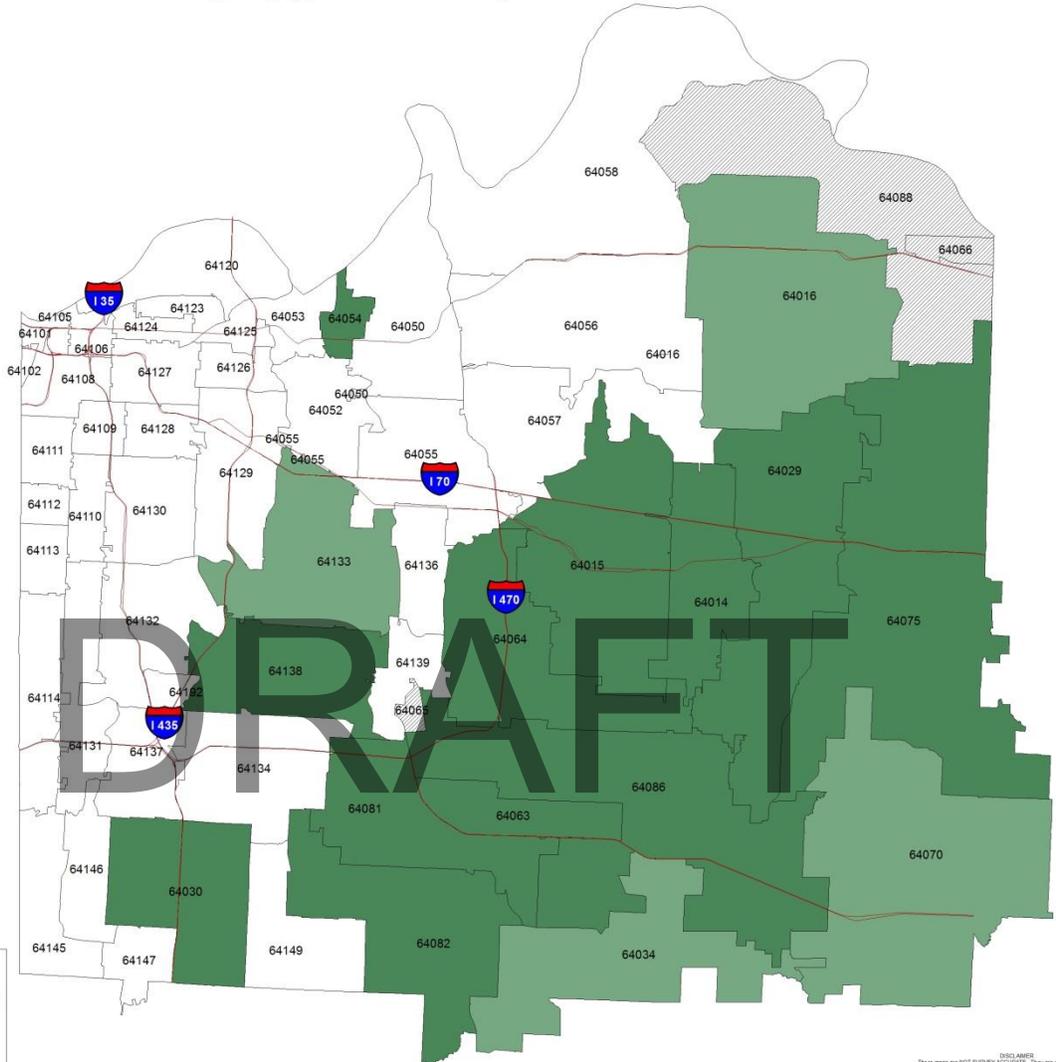
- Insufficient Data
- Very Dissatisfied
- Dissatisfied
- Satisfied
- Very Satisfied

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# Level of Satisfaction: How satisfied are you with the parks, trails, neighborhood/school playgrounds in your city?



**Legend**

**Playground Satisfaction Rating**

- Insufficient Data
- Very Dissatisfied
- Dissatisfied
- Satisfied
- Very Satisfied



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