PLACE
MATTERS

Life Expectancy in
Eastern Jackson County

JACKSON COUNTY
HEALTH DEPARTMENT
COMMUNITY
PREVENTION
PROTECTION
SURVEILLANCE

Message from the Director

Notable advancements have been made in life expectancy in the United States over the past century. A person born today is expected to live on average 30 years longer than a person born in 1900. Much of this increase is due to public health interventions such as improvements in immunization rates, advances in sanitation, workplace education and regulations, and policies and programs to reduce smoking.

Average life expectancy is one of the most fundamental measures of the health of a population and community. In this report, we present average life expectancy estimates for all ZIP Codes within our service area, which includes all of Jackson County except the areas within the city limits of Kansas City and Independence. The results are sobering. An 8 year variance in life expectancy rates exists in ZIP Codes that are located in close proximity to one another. This observed disparity in life expectancy begs the question: Why is there such a significant difference in life expectancy rates among residents who live a few miles a part? One significant factor reflected in our analysis is the finding that reduced life expectancy is strongly related to community-level socioeconomic conditions.

Currently in the United States, the richest 1 percent of men live 14.6 years longer on average than the poorest 1 percent of men, while among women in those wealth percentiles, the difference is 10.1 years on average.[1] We are finding through our analysis that place matters, and your ZIP Code can be more telling about your life expectancy than your genetic code.

We recognize that life expectancy provides only a partial image of the public's health and that the quality of one's health while alive may be equally important. We hope the information in this report is helpful to individuals and communities in identifying and pursuing opportunities to improve health. Toward this goal, we look forward to working together to create environments in which all residents can live longer and healthier lives.

Bridgette Casey

Bridgette Casey, MPH, CHES
Health Director
Jackson County Health Department

What is Life Expectancy & Why Does it Matter?

Life expectancy at birth provides an estimate of the number of years a person is expected to live and serves as one of the most frequently used health status indicators. A higher life expectancy can be attributed to a number of factors, including improved lifestyle, better education, higher income and greater access to healthcare. In the same way, decreases in life expectancy can highlight existing health disparities in a community, such as crime, poverty and poor access to affordable healthcare. Understanding life expectancy is an important step to understanding the scope of health and addressing existing disparities in a community.

Study Methods

Defining Communities within Eastern Jackson County

This report, *Place Matters: Life Expectancy in Eastern Jackson County*, highlights life expectancy calculations for ZIP Codes located in Eastern Jackson County (EJC). Eastern Jackson County consists of Blue Springs, Buckner, Grain Valley, Grandview, Greenwood, Lee's Summit, Levasy, Lone Jack, Oak Grove, Raytown, Sibley, Sugar Creek and Unity Village. This report does not include calculations for Kansas City, Independence or for ZIP Codes with populations too small to render reliable calculations (these smaller communities include Levasy and Sibley).

Calculating Life Expectancy

Life expectancy is not the same as taking the average age at death. Rather, it calculates the probable number of years remaining for a person at each specific age. To calculate life expectancy, life tables are created that take into consideration the population at each age and the number of deaths that occurred at each age during that particular year. At any given age, the number of years you are expected to survive is calculated by considering mortality rates of those who are older than you. Jackson County Health Department utilized combined data for births and deaths from the 2010-2014 Missouri Information for Community Asseessment (MICA).

Interpreting Life Expectancy

While life expectancy calculations cannot predict the future, we can use life expectancy estimates to track the general health of the population right now. With those calculations, you can easily compare one community to another. You can also monitor the general population's health over time. Life expectancy data is used in this report to compare the different ZIP Codes in EJC with each other, with Missouri, and with the United States in order to better understand existing health disparities and build interventions accordingly.

Economic Hardship Index

The Economic Hardship Index is a measure that exists to aide in examining the relationship between socioeconomic conditions and life expectancy.[1] Socioeconomic condition has been shown to have a tremendous impact on overall community health. The index is scored using six indicators:

1. Crowded Housing (percentage of occupied housing units with more than one person per room)
2. Percent of persons living below the federal poverty level
3. Percent of persons over the age of 16 years who are unemployed
4. Percent of persons over the age of 25 without a high school education
5. Dependency (percentage of the population under the age of 18 or over 64)
6. Per Capita Income

Data for these indicators were obtained from the U.S. Census Bureau's 2010-2014 American Community Survey. The index ranges from 1 to 100, with a higher number representing a greater level of economic hardship. ZIP Codes were ranked by their economic hardship, with 1 having the least hardship and 16 having the greatest level of hardship.

Findings

The average life expectancy at birth for all of Jackson County in 2016 was 76.4. Overall, the estimated life expectancy of Jackson County residents was approximately 0.8 years lower than the Missouri average and 2.3 years lower than the national average.[2] In Eastern Jackson County (EJC), the average life expectancy rate at birth is 78.3. This rate is 1.1 years higher than the state average and 0.4 years lower than the national average.

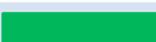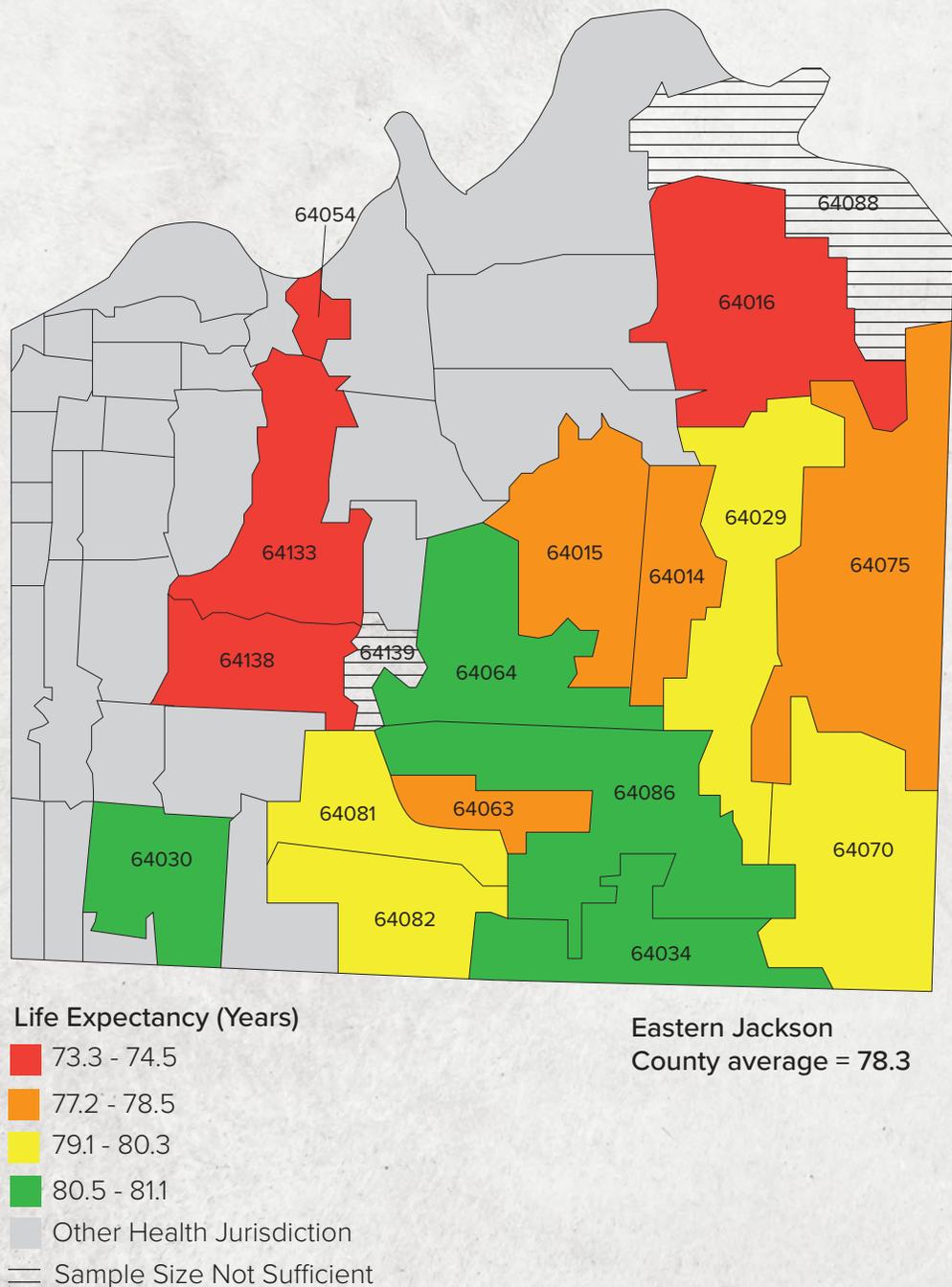## Table 1: Life Expectancy by ZIP Code in Eastern Jackson County

ZIP Code	City	Life Expectancy	Compared to MO Life Expectancy	Compared to US Life Expectancy
Easter Jackson County, Overall		78.3	🟩	🟥
64086	Lee's Summit	81.1	🟩	🟩
64064	Lee's Summit	81.0	🟩	🟩
64034	Greenwood	80.8	🟩	🟩
64030	Grandview	80.5	🟩	🟩
64081	Lee's Summit	80.3	🟩	🟩
64082	Lee's Summit	80.2	🟩	🟩
64070	Lone Jack	80.2	🟩	🟩
64029	Grain Valley	79.1	🟩	🟩
64063	Lee's Summit	78.5	🟩	🟥
64075	Oak Grove	78.4	🟩	🟥
64015	Blue Springs	77.8	🟩	🟥
64014	Blue Springs	77.2	🟩	🟥
64133	Raytown	75.2	🟥	🟥
64016	Buckner	75.0	🟥	🟥
64054	Sugar Creek	74.5	🟥	🟥
64138	Raytown	73.3	🟥	🟥

Table 1: Green indicates ZIP Codes with life expectancies that are equal to or greater than Missouri's or the United States' life expectancy. Red indicates ZIP Codes with life expectancy rates that are lower than the state and nation.

Substantial differences in life expectancy were observed across cities and communities in EJC, ranging from a low of 73.3 years in ZIP Code 64138 (Raytown), to a high of 81.1 years in ZIP Code 64086 (Lake Lotawana/Lee's Summit). It is also important to note that the ZIP Code with the lowest life expectancy rate (64138) shares a border with the ZIP Code with one of the highest life expectancy rates (64081). There exists a 7.8 year difference in life expectancy between the people living in these two geographies even though they live within a few miles of each other.

Figure 1: Life Expectancy at Birth in Eastern Jackson County (ZIP Code), 2016

Life Expectancy (Years)
- 73.3 - 74.5
- 77.2 - 78.5
- 79.1 - 80.3
- 80.5 - 81.1
- Other Health Jurisdiction
- Sample Size Not Sufficient

Eastern Jackson
County average = 78.3

Discussion

Factors Contributing to Life Expectancy

Various factors contribute to an individual's longevity. While no one specific factor can be directly tied to low life expectancy rates in a particular geography, some of the below factors may be influencing the observable gaps in life expectancy rates in EJC. This list is not exhaustive, but rather an attempt to highlight possible causal relationships.

Race – Substantial disparities exist between racial and ethnic groups in EJC.[3] These notable disparities among racial/ethnic groups can largely be contributed to underlying social and economic conditions, which have been shown to have a profound impact on health. Social and economic environments vary greatly by race/ethnicity and affect health outcomes greatly. Areas with a higher population of racial and ethnic minorities tend to be more greatly affected by economic hardship. Life expectancy was not calculated by race or ethnicity due to insufficient data in EJC.

Access to Healthcare – Those living in poorer neighborhoods may have less access to healthcare and fewer resources to turn to in the face of crisis. The percentage of the population who are uninsured remains higher in the lower income ZIP Codes in EJC, which presents a significant barrier to receiving needed healthcare.[3]

Environmental Health/Built Environment – Community design can also impact health outcomes. For example, we find fewer large grocery stores in low-income neighborhoods. This means less access to affordable, nutritious foods such as fruits and vegetables. The United States Department of Agriculture (USDA) refers to these areas as "food deserts" or "low-access communities." To be considered a low-access community, at least 500 people and/or at least 33 percent of the census tract's population must reside more than one mile from a supermarket or large grocery store (for rural census tracts, the distance is more than 10 miles). Areas of Raytown, Grandview and Oak Grove meet the qualifications of a low-access community/food desert.[4]

Crime – Sustained high crime rates in an area can have a detrimental physical and mental health impact on a community. In other urban areas in the United States, it has been found that homicide rates disproportionately affect minority and low-income communities and can reduce life expectancy in those communities by up to 5 years.[5] In EJC, a similar crime trend exists.[6] Areas with higher crime rates tend to fall in ZIP Codes with higher Economic Hardship and a higher minority population.

Education-A strong predictor of life expectancy can also be tied to educational attainment. A high school diploma or higher can have a powerful impact on longevity due to many factors such as higher income, healthier behaviors, and improved social and psychological well-being.[7] Those who do not finish high school can expect an income of almost $10,000 less than high school graduates.[7] Along with lower income, high school dropouts are less likely to obtain employment and work fewer hours annually, contributing to decreased life expectancy.[8]

Studies have shown that remaining life expectancy at age 25, an important overall indicator of adult population health, is approximately a decade shorter for people who do not have a high school degree compared with those who have completed college.[8] While higher levels of schooling do not necessarily cause people to live longer, other factors such as parental education and income may be related to both educational attainment and longevity among U.S. adults.
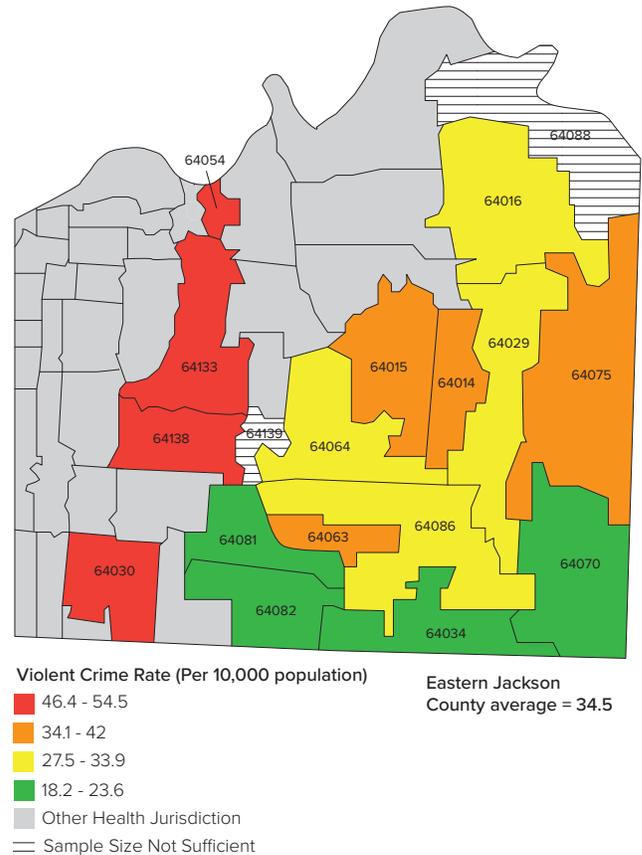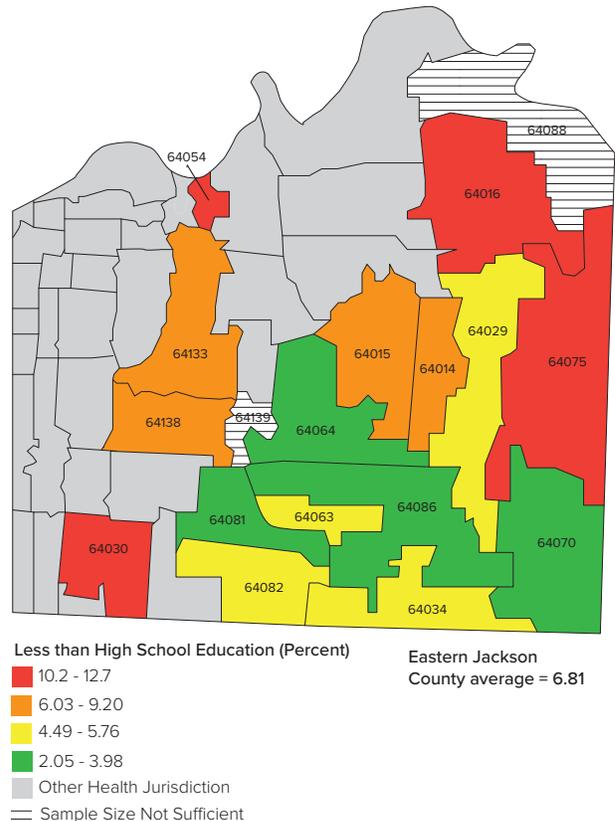
Figure 2: Violent Crime Rate in EJC (ZIP Code), 2016

Violent Crime Rate (Per 10,000 population)
- 46.4 - 54.5
- 34.1 - 42
- 27.5 - 33.9
- 18.2 - 23.6
- Other Health Jurisdiction
- Sample Size Not Sufficient

Eastern Jackson County average = 34.5

Figure 3: High School Education Rate in EJC (ZIP Code), 2016

Less than High School Education (Percent)
- 10.2 - 12.7
- 6.03 - 9.20
- 4.49 - 5.76
- 2.05 - 3.98
- Other Health Jurisdiction
- Sample Size Not Sufficient

Eastern Jackson County average = 6.81

Economic Hardship – There is a strong correlation between economic hardship and life expectancy demonstrated in previous research.[9] A person's risk of negative health outcomes and death is higher among those who are poor, who are less educated, and who have less social support and fewer economic resources. We see that those living in ZIP Codes with higher rates of poverty also have limited access to healthcare and health-promoting activities. The one exception to this norm would be Grandview (ZIP Code 64030). In this area, the Economic Hardship score is higher than almost all of the other ZIP codes, yet life expectancy remains one of the highest. This exception may be explained by what experts refer to as the Epidemiological Paradox.[10]

The Epidemiological Paradox refers to the finding that the Latino American and Hispanic population tend to have better life expectancy than the rest of the population, despite disparities that exist within those communities. In Grandview, there is a higher percentage of Hispanic residents than in other areas of EJC.[3] The population of Grandview is nearly 11% Hispanic, which is more than double the average of remaining cities within EJC. One hypothesis for this paradox is that there is greater social cohesion in Hispanic communities resulting in social support and capital that have tremendous health benefits.[10] At this time, life expectancy calculations by race in Grandview were not performed due to limited data, hindering support for the Epidemiological Paradox hypothesis.

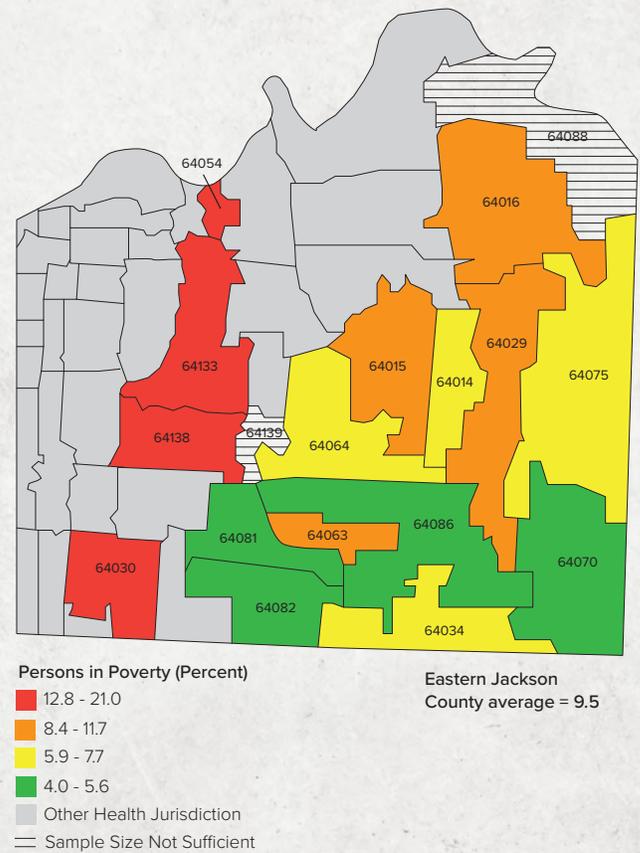**Figure 4: Persons in Poverty in EJC (ZIP Code), 2016**

Persons in Poverty (Percent)
- 12.8 - 21.0
- 8.4 - 11.7
- 5.9 - 7.7
- 4.0 - 5.6
- Other Health Jurisdiction
- Sample Size Not Sufficient

Eastern Jackson County average = 9.5

Table 2: Economic Hardship Index by ZIP Code in Eastern Jackson County

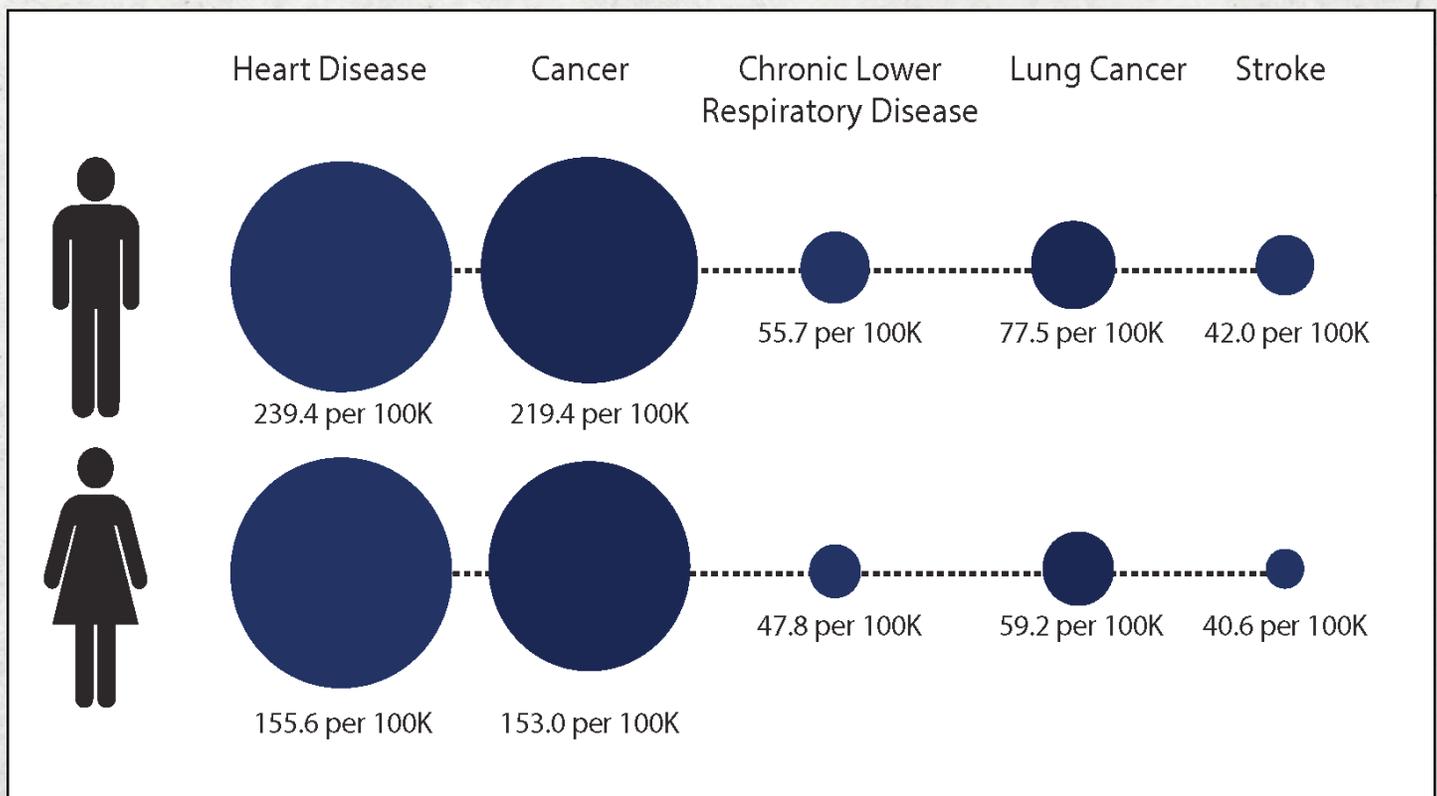| ZIP Code	City	Life Expectancy	L.E. Rank	Hardship Index 2014	H.I. Rank 2014	Hardship Index 2011	H.I. Rank 2011
Easter Jackson County, Overall		78.3					
64086	Lee's Summit	81.1	1	21.0	3	16.7	1
64064	Lee's Summit	81.0	2	15.4	1	23.7	4
64034	Greenwood	80.8	3	25.1	4	28.8	6
64030	Grandview	80.5	4	78.7	15	69.2	15
64081	Lee's Summit	80.3	5	27.3	5	27.9	5
64082	Lee's Summit	80.2	6	17.4	2	20.8	3
64070	Lone Jack	80.2	6	31.7	6	17.7	2
64029	Grain Valley	79.1	8	37.2	9	36.4	8
64063	Lee's Summit	78.5	9	42.7	11	39.7	10
64075	Oak Grove	78.4	10	53.0	12	60.3	14
64015	Blue Springs	77.8	11	35.5	7	36.6	9
64014	Blue Springs	77.2	12	39.9	10	30.7	7
64133	Raytown	75.2	13	57.3	14	50.8	11
64016	Buckner	75.0	14	36.9	8	54.9	12
64054	Sugar Creek	74.5	15	81.1	16	69.4	16
64138	Raytown	73.3	16	55.9	13	59.7	13

Table 2: Rankings for life expectancy and Economic Hardship Index are generated to the right of the corresponding columns and abbreviated as "L.E." for Life Expectancy and "H.I." for Economic Hardship Index.

Leading Causes of Death

According to mortality data from the National Vital Statistics System, the five leading causes of death in EJC in 2013 were: Heart Disease, Cancer, Chronic Lower Respiratory Disease, Lung Cancer, and Stroke. Of the five leading causes of death in EJC, Chronic Lower Respiratory Disease remains the only one of the five that has increased slightly from 2003-2012. The other four conditions have maintained consistent levels or have slightly decreased over the past 5 years.

While many cases of these diseases can be prevented through improved access to healthcare and lifestyle changes, there remains systematic disparities in place that contribute to gaps in life expectancy across groups of people. A large and compelling body of evidence has revealed the powerful role that social, and particularly socioeconomic, factors have in shaping health.[11] Socioeconomic factors such as income, wealth, and education can be considered major influencers in a wide range of health outcomes, including some of the leading causes of death in EJC. In order to address the leading causes of death in EJC, the complex causal pathways leading from social factors to health behaviors must be properly understood and taken into consideration when health initiatives are designed.

Figure 5: Leading Causes of Death in Eastern Jackson County by Gender (per 100,000 deaths)

	Heart Disease	Cancer	Chronic Lower Respiratory Disease	Lung Cancer	Stroke
Male	239.4 per 100K	219.4 per 100K	55.7 per 100K	77.5 per 100K	42.0 per 100K
Female	155.6 per 100K	153.0 per 100K	47.8 per 100K	59.2 per 100K	40.6 per 100K

Creating Healthy Communities

Many factors influence a person's health and well-being. While individual lifestyle choices do play a role in health, a person's ability to make healthy choices can either be enhanced or impaired depending on existing conditions in a community. By changing the environment of a community, the health of the individuals within that community can be improved.

Healthy Eating, Active Living

Community design in EJC must promote active lifestyles and encourage healthy eating behaviors. Obesity is one of the greatest contributors to chronic disease and increased mortality; by incorporating health into local planning and land use decisions we can work across many sectors to promote healthy environments.[12, 13] However, more can be done. Taking a broad scale approach to creating healthy and active communities through policy-making and collaboration across many different community sectors is necessary. This collaborative planning can be accomplished through:

- Increased access to green spaces, where residents can safely play, exercise, walk and bike
- Zoning, regulations, grants and tax incentives to make healthy foods more accessible and affordable
- Partnership with schools to both create joint use agreements so facilities can be used by community members after school, and to ensure access to healthy foods in vending machines and cafeterias is guaranteed
- Invest in work-site wellness programs

Economic Opportunity

Social and cultural factors within a community play a large role in determining overall quality of life. The ability to obtain education, employment, financial stability and safety are of utmost importance. However, for a large portion of EJC residents, these necessities are not a given. Working across various groups and with diverse partners is a critical component of promoting social well-being. This partnership looks like:

- Encouraging social and civic engagement among the community
- Using tenant-based rental assistance programs to ensure safe, affordable housing[14]
- Investing in education and job training programs
- Making early childhood development programs available for low-income children[14]

Safe Neighborhoods/Crime

Making neighborhoods safe spaces for residents is imperative. Not only will a decrease in violent crime and homicide lead to increased life expectancy, but also a greater psychological well-being and a higher quality of life for all. To make neighborhoods safe, as a community we must:

- Provide safe recreational areas (i.e. parks and community centers) to promote social cohesion
- Partner with neighborhood businesses to provide jobs
- Develop after school programs
- Provide resources and safe spaces for those affected by dating, domestic or sexual violence
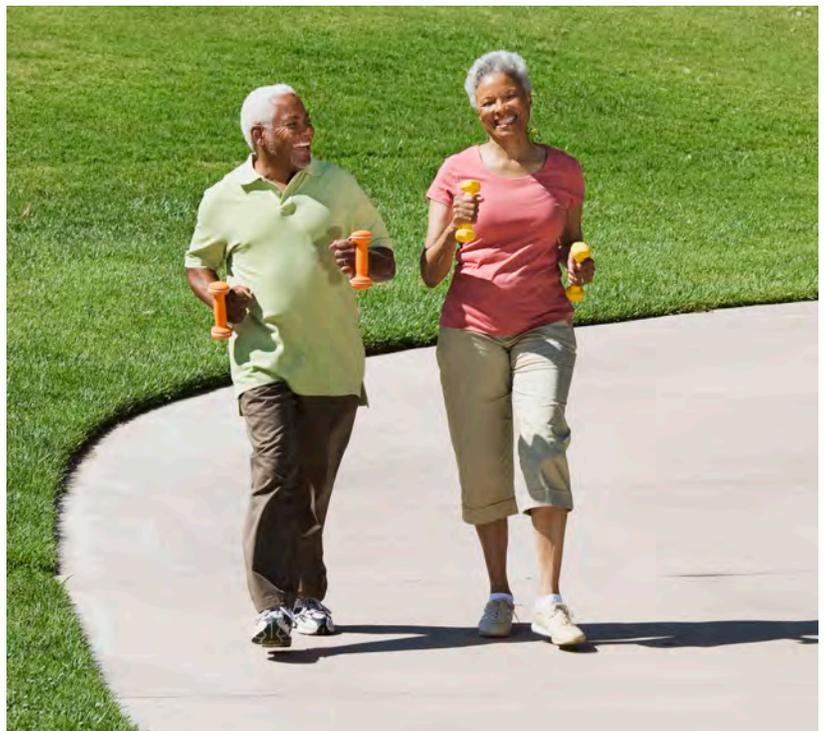
Tobacco/Alcohol/Drugs

While great strides have been made in regards to reducing tobacco usage and exposure to secondhand smoke, tobacco remains the number one cause of preventable death. Tobacco use contributes to higher rates of heart disease, stroke, respiratory disease and cancer (all of which are leading causes of death in Eastern Jackson County). Tobacco21 - KC is an initiative that works to raise the age-of-sale for tobacco products from 18 to 21. This initiative has passed in Grandview, Lee's Summit and Unincorporated Jackson County. Eastern Jackson County must continue this effort as well as take other necessary steps to decrease smoking rates in all of our communities by:[14]

- Continued advocacy of the Tobacco21-KC movement
- Supporting smoke-free areas to protect the community from second-hand smoke[14]
- Increasing the availability of low-cost smoking cessation therapies and programs[14]
- Continuing to provide education to both smokers and non-smokers about the harms of smoking and second hand smoke
- Creating educational social media campaigns to inform the public about the harms of smoking and offering motivation to quit[14]

Alcohol and other substance abuse remains a public health concern in EJC as well. Substance abuse contributes to serious medical and mental illnesses, higher rates of accidents/preventable injuries and increased violent crime. Substance abuse also negatively affects the social fabric of a community through poor family interactions, work productivity and school performance. To make a dent in this prevalent issue, emphasis must be placed on:

- Limiting alcohol outlet density[14]
- Partnering with retailers to restrict alcohol sales to minors[14]
- Increasing awareness of prescription drug abuse and advocating for a statewide prescription drug monitoring program
- Providing access to mental health and substance abuse services

Access to Care

A fundamental requirement to ensuring good health is access to affordable and quality health care. Many communities in EJC report the percentage of uninsured individuals as high as 24%.[3] This is a tremendous barrier to receiving adequate healthcare. In order to overcome this barrier, our community must:

- Help individuals in low-resourced communities enroll in government health insurance programs through education and assistance
- Partner with employers to encourage them to offer insurance to workers and their dependents
- Provide information regarding low-cost or no-cost health screenings, vaccinations and treatment options
- Offer education regarding available and affordable contraceptives
- Promote oral health in the community

Also, there must be strategies in place to ensure access to mental health services for all EJC residents through:

- Increasing awareness and reducing the stigma of mental illness
- Conducting surveillance to better understand the scope of mental health in Eastern Jackson County
- Providing early mental health screening to at risk individuals
- Collaborating with area mental health services to develop a comprehensive mental health plan for residents of Eastern Jackson County
- Providing resources to the community aimed at suicide prevention (hot-lines, counseling, etc.)
- Focusing on preventive measures to decrease mental illness

Personal Choice

While many of the health issues facing EJC cannot be solved over night, you can make small steps to create a healthy community around you. Become a role model and make healthy changes in your own life through:

- Eating nutritious foods and staying physically active. Maintaining a healthy weight and a healthy lifestyle can help to prevent many chronic health conditions such as stroke, heart disease, diabetes, arthritis and certain cancers
- Don't use tobacco products. If you are a current tobacco user, call the Missouri Tobacco Quitline at 1-800-Quit-Now
- Take measures to prevent avoidable accidents. Don't drive impaired (by either substances or distracted driving), don't abuse alcohol or other substances and ensure you and your children are wearing necessary safety equipment for activities (i.e. helmets, inspected car seats, protective eye-wear).
- Obtain recommended immunizations for you and your family as recommended by the Advisory Committee on Immunization Practices (ACIP) at the appropriate time they are due
- Focus on prevention – get preventive medical care and screenings (i.e. physicals, mammograms, Sexually Transmitted Infections (STI) screening)
- Practice stress control through increased physical activity, meditation, positive relationships, rest and making time for things that you enjoy/find relaxing
- Practice proper oral care (regular tooth brushing, dental check-ups, and limited sugar intake)

Affiliations

The Jackson County Health Department is managed and operated by Truman Medical Centers.

Charlie Shields — Truman Medical Centers President and CEO
Lynette Wheeler, DNP, RN, FABC — Truman Medical Centers Lakewood Chief Operating Officer

Frank White Jr. — Jackson County Executive

<u>County Legislature</u>

Scott Burnett — 1st District (2017 Chairman)
Alfred Jordan — 2nd District (2017 Vice Chairman)
Garry Baker — 1st District At-Large
Crystal Williams — 2nd District At-Large
Tony Miller — 3rd District At-Large
Dennis Waits — 3rd District
Dan Tarwater III — 4th District
Greg Grounds — 5th District
Theresa Galvin — 6th District

Resources

[1] Montiel L.M., Nathan, R.P. & Wright, D.J. An update on urban hardship. The Nelson A. Rockefeller Institute of Government, August 2004. http://rockinst.org/pdf/cities_and_neighborhoods/2004-08-an_update_on_urban_hardship.pdf

[2] Centers for Disease Control and Prevention. (2016, October 7). National Center for Health Statistics. Retrieved November 3, 2016, from Centers for Disease Control and Prevention: http://www.cdc.gov/nchs/fastats/life-expectancy.html

[3] U.S. Census Bureau (2010). Profile of Selected Social Characteristics. Retrieved October, 2015 from http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

[4] U.S. Department of Agriculture Economic Research Service. Food Access Research Atlas (November, 2016). Retrieved November, 2016 from https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas/

[5] Redelings, M, Lieb, L, Sorvillo, F. Years off your life? The effects of homicide on life expectancy by neighborhood and race/ethnicity in Los Angeles county. Journal of Urban Health. 2010; 87(4): 670-676.

[6] Federal Bureau of Investigation. Uniform Crime Report (2015). Retrieved October, 2016 from https://ucr.fbi.gov/crime-in-the-u.s/2015/crime-in-the-u.s.-2015

[7] Hummer, R. A., & Hernandez, E. M. (2013, July). *The Effect of Educational Attainment on Adult Mortality in the U.S.* Retrieved Janurary 17, 2017, from Population Reference Bureau: http://www.prb.org/Publications/Reports/2013/us-educational-attainment-mortality.aspx

[8] New York University. (2015, July 8). Education and Mortality Study Finds Association Between High School and College Education and Life Expectancy. Retrieved from New York University: http://steinhardt.nyu.edu/site/ataglance/2015/07/education-and-mortality-study-finds-less-education-reduces-life-expectancy.html

[9] Adler NE, Steward J, et al. Reaching for a Healthier life: Facts on socioeconomic status and health in the U.S. The John D. and Catherine T. Foundation Research Network on Socioeconomic Status and Health. 2007.

[10] Franzini L, Ribble JC, Keddie AM. Understanding the Hispanic paradox. Ethnicity & Disease. 2001; 11(3): 496-518.

[11] Braveman, P., & Gottlieb, L. (2014, January). *The Social Determinants of Health: It's Time to Consider the Causes of the Causes.* Retrieved from National Center for Biotechnology Information: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3863696/

[12] Institute of Medicine and National Research Council. Local Government Actions to Prevent Childhood Obesity. The National Academies Press. 2009

[13] Centers for Disease Control and Prevention. Recommended community strategies and measurements to prevent obesity in the United States. MMWR. 2009; 58(No. RR-7): 1-29.

[14] Guide to Community Preventive Services. Retrieved from www.thecommunityguide.org