5. Prioritized Health Needs

Lung Disease

Lung disease is a term that describes many different health conditions. In children, the most common occurrence of lung disease is asthma. While many forms of lung disease are genetic, tobacco use is an important risk factor to these serious conditions that can be addressed.

National Perspective

Lung disease is a broad category of conditions affecting the lungs including: asthma, bronchitis, Chronic Obstructive Pulmonary Disorder [COPD], emphysema and pneumonia.¹ These diseases result in a significant negative impact to an individual in both quality of life and lives lost. According to the Centers for Disease Control and Prevention (CDC), chronic lower respiratory disease (CLRD) accounted for approximately 6% of all deaths and was the third leading cause of death in 2013 behind diseases of the heart and malignant neoplasms, respectively.²

Lung disease also negatively impacts quality of life either through a single condition or a co-occurring condition. Approximately 9% of children under the age of 18 have asthma³ and 13% of adults have asthma. Often times, lung diseases cause an inadequate supply of oxygen to be sent to other organ systems, thus creating a co-occurring condition, or comorbidity. For example, it is common for people with COPD to develop pulmonary hypertension and cor pulmonale (heart failure resulting from lung disease). Because of

² Centers for Disease Control and Prevention, http://www.cdc.gov/nchs/data/hus/hus14.pdf#020
³ Centers for Disease Control and Prevention, http://www.cdc.gov/nchs/data/hus/hus14.pdf#020
the severity of these conditions, it is important to understand what causes lung disease in an effort to prevent illness.

Factors that cause lung disease range from causes that cannot be controlled, such as genetics, to those that can be modified, such as tobacco use. Occupational and environmental factors are also factors that contribute to lung disease, such as asthma. These include dust, mold and second- and third-hand smoke. While these can primarily be addressed through prevention efforts, **tobacco use is the single most important and modifiable risk factor**, especially because of the cost of tobacco-related disease.

In the United States in 2009, lung diseases (excluding lung cancer) resulted in $117 billion in direct costs, and $69 billion in indirect costs, making it the fifth most costly illness. The total cost of tobacco related disease is $300 billion a year. Tobacco is also impacting employers with an annual additional burden estimated at $5,800 by each tobacco user due to increased medical claims and lost productivity.

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6 Berman, Micah; et al, “Estimating the cost of a smoking employee,” [http://tobaccocontrol.bmj.com/content/early/2013/05/25/tobaccocontrol-2012-050888](http://tobaccocontrol.bmj.com/content/early/2013/05/25/tobaccocontrol-2012-050888)
Because of the high societal cost of tobacco use, the United States Department of Health and Human Services has placed tobacco use as a key priority within Healthy People 2020. Overall, Healthy People 2020 aims to reduce the use of both tobacco and smokeless tobacco products across all age ranges and through a wide-range of strategies. As the country works towards achieving these objectives, the OHC Region must also work collaboratively to improve the health of the area through targeted tobacco-prevention efforts.

**Justification for Health Issue**

Through the application of the Logic Model and associated priority ranking process described in the Methodology section, health issues were compared side-by-side. In the Joplin Community, Lung Disease was one of the prioritized health issues. This is the result of supporting evidence from secondary data, primary data from the hospitals, the feasibility to change the issue and the community readiness to change the issues.

**Secondary Data**

In the OHC Region, 23% of people smoke and 22% smoke within the Joplin Community; rates that are higher than the national average of 18% and well above the 12% goal of Healthy People 2020. In the Joplin Community, nearly 16% adults have asthma, which is higher than the national rate of 13%. Approximately 52,000 children throughout the OHC Region have asthma. Additionally, 6% of the population is living with COPD. Lung cancer also occurs more commonly here than in the rest of the nation with an incidence rate of 72 per 100,000 people compared to 65 per 100,000 people. The age-adjusted rate of death (per 100,000 people) due to lung disease across the nation is 43; yet, in the OHC Region it is 57, and within the Joplin Community it is 59.
Primary Data

Throughout the OHC Region, lung diseases account for 49% of all visits to the Emergency Department (ED) for health assessment issues. In the Joplin Community, 14.7% of all ED visits, and 94% of all pediatric visits are due to respiratory illness. Of the seven health issues evaluated in the health assessment, 55% of all ED visits in the Joplin Community are due to respiratory illness.

Overall, children between the ages 0-17 present to the ED with significantly more respiratory needs than adults, representing 94% of the visits. Also to note nearly 18% of all Medicaid visits are due to respiratory illness in the Joplin Community, which is higher than other payer types. This data reveals a relationship between poverty and increased visits due to respiratory illness. This relationship is significant when viewed in light of 2015 CDC findings that people living below the poverty level have a higher prevalence of smoking (26.3%) compared to people at or above this level (15.2)%.

What Can We Do?

Although the evidence against tobacco use is strong, the OHC Region and the Joplin Community still face significant cultural and societal barriers to the reduction of tobacco use. Currently, Missouri has the lowest excise tax per pack of cigarettes in the nation at 17 cents per pack—compared to New York’s at $4.35. A significant raise would motivate current smokers to quit and prevent kids from starting. Currently, there are no towns within the Missouri counties of the Joplin Community that have smoke-free ordinances, although, there are state-wide ordinances in place for Kansas and Oklahoma. Policy changes are needed at the city, county and state level to create sustainable benefits to the Joplin Community’s rates of lung disease and other chronic conditions.

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7 Centers for Disease Control and Prevention, [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6444a2.htm?s_cid=mm6444a2_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6444a2.htm?s_cid=mm6444a2_w)
Several health and social service organizations in the Joplin Community recognize the deleterious effects of tobacco use. Many of these organizations have come together to address the issues. The Jasper and Newton Counties Community Health Collaborative certainly has been active in efforts to reduce tobacco use. The Collaborative has worked on tobacco cessation, tobacco prevention with youth, as well as worked with groups encouraging tobacco policy change at both the community level but also with local businesses. Individuals, businesses, organizations, neighborhoods and community leaders are needed to create a culture that supports a healthy movement to reduce tobacco use.

**Future Economic and Society Impact**

The Joplin Community, along with the OHC Region, is faced with a compelling case of the health impacts to the community as a result of lung disease. There is clear evidence that changing one behavior, tobacco use, can spur meaningful change to prevent diminished of quality of life and loss of life. The failure to act impacts far more than just those with lung disease. It impacts everyone, especially businesses. According to the Bureau of Labor Statistics in 2014, the Joplin Community had a workforce of 149,554.\(^8\)

In 2013 the smoking rate for the Joplin Community was 22%. This means an estimated 32,902 people are employed and smoking. Based on the national figure of an annual expense to employers of $5,800, smoking is costing Joplin Community employers $190,830,904 each year. Changing the percent of people who smoke just 2%, which happened from 2011 to 2013, saves employers an estimated $17 million. Making changes now not only helps reduce lung disease and death, it helps break the impact of the disease to future generations.

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**Cardiovascular Disease**

Cardiovascular disease is the leading cause of death for both men and women in the United States. It can be caused by and leads to many other serious health conditions. Lifestyle changes can make a huge impact in improving heart health and leading to a better quality of life.

**National Perspective**

Cardiovascular disease (CVD) is a disease of the heart and blood vessels. This includes conditions such as arrhythmias, congestive heart failure, hypertension, stroke and numerous other related conditions.\(^9\) CVD is the leading cause of death in the United States and is responsible for approximately 24% of all deaths.

Key risk factors for developing CVD include preexisting health conditions (high blood pressure, high cholesterol and diabetes), unhealthy lifestyles (poor diet, physical inactivity, obesity, alcohol abuse and tobacco use) and a family history of CVD.\(^10\) Three key risk factors: high blood pressure, high cholesterol and smoking, are present in nearly half (47%) of Americans\(^11\). High blood pressure, or hypertension, occurs when the force in the blood vessels is too high. Approximately, one in three adults has hypertension, and 48% have hypertension that is not controlled\(^12\). It is often known as the “silent killer” because many people are not aware of their elevated blood pressure until they have a more serious health issue, such as a heart attack. Likewise, there are no signs or symptoms of high cholesterol and it must be measured by a simple blood test. Approximately 39% of U.S. residents have elevated cholesterol levels. This occurs when cholesterol, a waxy-substance made by the liver and found in certain foods, builds up in the walls of the arteries. The buildup of cholesterol can narrow arteries and restrict blood flow to the heart, brain, and other areas of the body. If a clot forms,

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blood flow can stop which may cause a heart attack or stroke. Both hypertension and high cholesterol largely result from unhealthy lifestyles such as a poor diet high in salt, sugar and unhealthy fats and a lack of physical activity. Additionally, a clot is more likely to develop with smoking tobacco. Smoking raises triglycerides (a type of fat in blood) and increases the buildup of plaque causing blood vessels to thicken and reduce blood flow.

Yet, the smoker is not the only person with an increased risk of developing heart disease. Breathing second-hand smoke increases a nonsmoker’s risk of developing coronary heart disease by 25—30%. Nearly 34,000 nonsmokers die each year from coronary heart disease as a result of breathing second-hand smoke. It also increased the risk for stroke by 20—30%. Approximately 8,000 nonsmokers die each year from stroke caused by breathing in cigarette smoke.

CVD has negative implications that extend beyond the individual and impact the community at-large. In 2009, the total costs of CVD were $324.1 billion in direct costs and an additional $179.1 billion in indirect costs. With more than $503 billion in total cost, CVD is the most costly disease in the U.S., and represents 16% of total disease impact. Annual direct medical costs due to CVD are expected to exceed $818 billion by 2030. One of the most impactful risk factors to CVD is obesity.

Obesity alone contributes to various other diseases and has a significant impact on the quality of life and the U.S. economy. In 2008, the medical costs of obesity were estimated to be $147 billion, with an additional cost in lost productivity due to obesity-related absenteeism of more than $3 billion. According to CDC, medical costs for an obese individual are approximately $1,429 more than those for a person of normal weight. These costs are associated with direct medical costs, the contribution of obesity to the development of chronic conditions, lack of productivity at work, and other factors.
worker’s compensation\textsuperscript{21} and absenteeism\textsuperscript{22}.

**Justification for Health Issue**

Through the application of the Logic Model and associated priority ranking process, described in the Methodology section, health issues were compared side-by-side. In the Joplin Community, Cardiovascular Disease was one of the prioritized health issues. This is the result of supporting evidence from secondary data, primary data from the hospitals, the feasibility to change the issue and the community readiness to change the issues.

**Secondary Data**

In both the OHC Region (220.91) and the Joplin Community (247.14), the rate of death due to coronary heart disease per 100,000 is higher than U.S. (184.55). Both within the OHC Region and the Joplin Community this is the leading cause of death. Additionally, in both the OHC Region (47.55) and the Joplin Community (44.82), the rate of death due stroke per 100,000 is higher than the U.S. (40.39). The rate of death due to coronary heart disease and stroke combined is 34\% higher than that of cancer, the second leading cause of death in the Joplin Community. Also in the OHC Region, 5.8\% of people have coronary heart disease or angina, which is slightly less than that of the Joplin Community (5.95\%) and higher than that of the U.S. (4.40\%). Overall, the Joplin Community outperforms or is similar to the OHC Region and the nation on several risk-factor indicators. The graphs below show how the Joplin Community compares to the OHC Region and the nation for blood pressure, cholesterol levels, obesity and tobacco use. The ranking revealed that heart disease morbidity and mortality for the Joplin Community was less favorable than the country. Additionally, the primary data, community readiness and feasibility to change indicated there are specific populations suffering from heart disease and the Joplin Community is ready to tackle the issue. The following sections discuss these findings.


High Blood Pressure

- Joplin Community: 30%
- Region: 30%
- United States: 28%

High Cholesterol

- Joplin Community: 38%
- Region: 41%
- United States: 39%

Obese Adults

- Joplin Community: 34%
- Region: 32%
- United States: 27%

Tobacco Use

- Joplin Community: 22%
- Region: 24.5%
- United States: 18%
Primary Data

In the Joplin Community, CVD accounts for 28.5% of ED visits due to the Assessment Health Issues (AHI). This is the second highest behind lung disease (35.4%). As the graph below indicates, the frequency of visits to the ED for cardiovascular disease increases as age increases.

Also, variations are seen among various payer types. CVD is highest among those with Medicare (28%), followed by patients with commercial insurance (7.0%), those without health insurance (8.0%), and patients with Medicaid (3.0%) (see graph at right). This is consistent with the finding that visits due to CVD increase with age.
Finally, the primary data reveals that over 12% of patients with a secondary diagnosis of mental illness have a primary diagnosis related to the cardiovascular system. This finding is noteworthy because it illustrates the common correlation between CVD and mental illness. Individuals with mental illness, such as depression, are more likely to have CVD and those with CVD, among other chronic diseases, are also more likely to suffer from depression. In one study, depression was associated with a 31% higher rate for cardiovascular events. This is largely explained by unhealthy behavior choices, including lack of physical activity, poor diet, smoking and alcohol abuse.

What can we do?

The OHC ranking method evaluated feasibility to change and community readiness. The Joplin Community received a score of one for feasibility to change and four for community readiness. This expresses the Joplin Community’s view that CVD is a multi-faceted issue for which much can be done at the local level. There are already strong efforts underway in the Joplin Community to improve CVD, both through partnership and organizations. A large portion of the collaborative efforts that address risk factors associated with CVD are associated with the local health systems and health collaboratives. While much has been done within the Joplin Community to improve systems around risk factors for CVD, such as enhanced walking and biking opportunities and improved parks, there are still many steps that can be taken throughout the Joplin Community, from city and county policy augmentation to changes made within businesses and neighborhoods throughout towns in the Joplin Community.

Future Economic and Societal Impact

As the leading cause of death and the highest medical cost to society, effective prevention strategies are needed to reduce the increasing burden of CVD on the society, specifically as it relates to obesity. In the OHC Region, 31.81% of adults age 20 and over self-report that they are obese (body mass index >30). Basing estimates on the cost to employers for obesity at $1,429, an estimated $766 million of medical costs fall on the OHC Region due to obesity. In the Joplin Community, these costs are $110 million per year. According to a recent study conducted by the Robert Wood Johnson Foundation (RWJF), obesity rates for adults are expected to climb over the next 20 years such that more than 60% of people could be obese in 13 states by 2030\textsuperscript{26}. The OHC Region is included in these 13 states. Thus, action must be taken to reduce obesity rates to lower costs associated to CVD.

\begin{table}
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\begin{tabular}{l l}
\textbf{Annual Cost of Obesity} & \textbf{Annual Cost of Obesity} \\
\textbf{Joplin Community} & \textbf{Region} \\
$110$ million & $766$ million \\
\end{tabular}
\end{table}

\textsuperscript{26} Levi, Jeffrey; et al, Robert Wood Johnson Foundation – “F as in Fat: How Obesity Threatens America’s Future,” \url{http://www.rwjf.org/content/dam/farm/reports/reports/2012/rwjf401318}
Mental Health

Mental health is powerfully connected to who gets sick and who stays well. It has a tremendous impact on both individuals and families. Failure to adequately address mental health needs results in enormous human, social and financial costs.

National Perspective

According to the U.S. Department of Health and Human Services (HHS), mental health may be defined as a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community. Oppositely, mental illness, which also is described by DHSS as all diagnosable mental disorders or health conditions that are characterized by alterations in thinking, mood, or behavior (or some combination thereof) associated with distress and/or impaired functioning.27

Often used interchangeably with mental health, behavioral health may be described as a subspecialty that studies the reciprocal relationship between overall well-being of the person and human behavior.28 The Substance Abuse and Mental Health Services Administration describes behavioral health as promoting mental health, resilience and well-being; the prevention of mental health and substance abuse disorders; and the support of those who are in recovery from their conditions.29 The relationship between mental health and behavioral health needs to be considered and evaluated as a part of the overall solution to the challenges related to improving overall community mental health.

Deconstructing the challenges that face our nation—as well as the Joplin Community—reveal problems that complicate addressing the mental health hurdles faced by many. It is impossible to separate mental and behavioral health from other health conditions, as the mind and body are physically connected and cannot operate independently. Physical illness such as chronic disease has been linked with mental and behavioral health diagnoses and can work interchangeably to exacerbate either condition. As stated by DHSS, it is estimated that only 17% of US adults are considered to be in a state of optimal mental health\textsuperscript{30}. Conversely, 83% of US adults exist in a state that is less than optimal related to their mental health.

Another complexity lies in the fact that access to mental health services is limited. Even when services are accessible, often times they are pricey. Mental Health Professional Shortage Areas demonstrate the great lack of access that exists throughout our nation. It is estimated that 89.3 million Americans live in one of those shortage areas.\textsuperscript{31} Where there is access, mental health treatment services are often perceived to be high cost and therefore a barrier to access. Kaiser Family Foundation research indicates that 45% of people not receiving mental health treatment services list cost as a barrier. Each of the challenges discussed complicates the layers of complexity involved with understanding mental health as a health concern for individuals and a public health threat for our communities and nation.

**Justification for Health Issue**

Through the application of the Logic Model and associated priority ranking process, described in the Methodology section, health issues were compared side-by-side. In the Joplin Community, Mental and Behavioral Health was one of the prioritized health issues. This is the result of supporting evidence from secondary data, primary data from the hospitals, the feasibility to change the issue and the community readiness to change the issues.

\textsuperscript{30} Centers for Disease Control and Prevention, [http://www.cdc.gov/mentalhealth/basics.htm](http://www.cdc.gov/mentalhealth/basics.htm)

Developmental Disabilities

Developmental disabilities affect approximately 15% of children between the ages of 3 and 17 years. Developmental disorders can include:

- ADHD
- Autism spectrum disorder
- Cerebral palsy
- Hearing loss
- Intellectual disability
- Learning disabilities
- Other developmental delays

Substance Abuse

It is estimated that 18% of Americans over the age of 18 have experienced a mental illness and in the past year more than 8% of people have experienced a substance abuse disorder. SAMHSA states that substance abuse disorders occur when the recurrent use of alcohol and/or drugs causes clinically significant impairment, including health problems, disability, and failure to meet major responsibilities at work, school, or home.

Prescription drug misuse is a growing trend throughout the country, and the OHC Region has not escaped that trend. This trend is likely due to increasing ease of access and misperceptions about safety of using these drugs. Opioid drug sales have increased four-fold from 1999 through 2010. During that same time, overdose deaths and substance abuse treatment admissions have increased six-fold. Health systems in the OHC Region have experienced a similar trend and have treated many patients with

By treating the rest in the least-restrictive settings possible, the thinking went, we would protect the civil liberties of the mentally ill and hasten their recoveries. Surely community life was better for mental health than a cold, unfeeling institution.

But in the decades since, the sickest patients have begun turning up in jails and homeless shelters with a frequency that mirrors that of the late 1800s. “We’re protecting civil liberties at the expense of health and safety,” says Doris A. Fuller, the executive director of the Treatment Advocacy Center, a nonprofit group that lobbies for broader involuntary commitment standards. “Deinstitutionalization has gone way too far.”

(Health Facts: Washington Post 2012)

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32 Centers for Disease Control and Prevention, [http://www.cdc.gov/ncbddd/developmentaldisabilities/facts.html](http://www.cdc.gov/ncbddd/developmentaldisabilities/facts.html)
33 Substance Abuse and Mental Health Services Administration, [http://www.samhsa.gov/disorders](http://www.samhsa.gov/disorders)
these types of disorders. More information is needed to fully understand the impact of this trend on our population. Also needed are resources available to treat addiction and the outcomes associated with it in order to appropriately address the situation and reverse this trend.

Secondary Data

This assessment provides a limited amount of data related to mental health and mental illness in the Joplin Community.

The data for prevalence was obtained from Medicare fee-for-service population with depression. The data for mortality was from suicide rates, and the source of data was Centers for Disease Control and Prevention, National Vital Statistics System.

Primary Data

Of the top six priority health concerns identified for the Joplin Community, mental illness ranked third (nearly 13.2% of visits) in the amount of emergency department (ED) visits associated with this issue. It is also a common secondary diagnosis for ED visits.

This assessment process has revealed a number of limiting factors to truly understanding the mental health challenges in the Joplin Community. For example, a striking discussion among healthcare provider partners early in the data collection process determined that the path forward to assess data revealed discrepancies in data collection and tracking methods among providers. This is not unique to the OHC Region. Evaluation of mental and behavioral health needs in provider settings varies greatly according to the facility and the individual providing care. The participating healthcare providers were able to determine a data set related to ED use that provides some basis for evaluating the documented need for the purpose of this assessment. This data showed ED visits were due to the following:
What Can We Do?

As mentioned previously, the data that was assessed and discussed for the purposes of this assessment is specific to the emergency department from the healthcare providers in the Joplin Community. But more information is needed to truly understand and determine a path forward to adequately address the mental/behavioral health needs in our Community. Information needed would include:

- Mental/behavioral service providers
- Affordability of mental health services
- Ease of access/barriers to mental/behavioral health services
- Diagnosis rates of mental/behavioral health conditions in the community
- Unmet need of mental/behavioral health concerns
- Costs of mental/behavioral health treatment in the community
- Outcomes of interventions utilized to treat mental/behavioral illness in the community
- Strengths and gaps in mental health services in community
- Societal/community costs incurred by not treating mental health properly

Stigma associated with the diagnosis and care of being treated for mental and behavioral health concerns creates additional barriers for people accessing care. Individual concern for the perceptions associated with personally seeking care along

with institutional sensitivity to offering and encouraging individuals to seek care permeates this issue and affects actions that can be taken to overcome mental illness. As this issue is explored, the public health and health care communities can assist mental health providers by assisting with overcoming the perceptions and stigma associated.

**Future Economic and Society Impact**

While untreated mental and behavioral health conditions take a significant toll on individuals and their families, there is growing recognition that they also can carry a significant economic and societal burden as well. A 2008 study published in the *American Journal of Psychiatry* found that Serious Mental Illnesses (SMIs), which impact 6% of American adults, cost our society $193.2 billion dollars in lost earnings annually.  

Lost earnings only scratch the surface of the total costs, however. It is possible to get some sense of the direct costs associated with untreated SMIs. In the same study, associated medical costs and disability benefits totaled $124.4 billion dollars. What is difficult to quantify though, is the indirect costs associated with these conditions. These costs can include reduced educational attainment, a diminished labor pool and greater demand on the criminal justice and social welfare systems. It is estimated that 22% of those in jail have been diagnosed with a mental illness as have one third of homeless adults.

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Cancer is a chronic health condition that continues to affect many citizens of the Joplin Community in a variety of forms.

National Perspective

Cancer is the name given to a collection of related diseases. In all types of cancer, some of the body’s cells begin to divide without stopping and spread into surrounding tissues. Cancer can start almost anywhere in the human body, which is made up of trillions of cells. Normally, human cells grow and divide to form new cells as the body needs them. When cells grow old or become damaged, they die, and new cells take their place.\(^{38}\)

One of the causes of cancer can be attributed to genetics. As a genetic disease, it is caused by changes to genes that control the way cells function, especially how they grow and divide. Genetic changes that cause cancer can be inherited. These changes can also arise during a person’s lifetime as a result of errors that occur as cells divide or because of damage to DNA caused by certain environmental exposures. Cancer causing environmental exposures include substances, such as the chemicals in tobacco smoke, and radiation, such as ultraviolet rays from the sun.

It is usually not possible to know exactly why one person develops cancer and another does not, but research has shown that certain risk factors may increase a person’s chances of developing cancer. Cancer risk factors include exposure to chemicals or other substances, as well as certain behaviors. They also include things people cannot control, like age and family history. A family history of certain cancers can be a sign of possible inherited cancer syndrome.\(^{39}\)


According to the Center for Disease Control and Prevention, a person’s cancer risk can be reduced with healthy choices like avoiding tobacco, limiting alcohol use, protecting skin from the sun, avoiding indoor tanning, eating a diet rich in fruits and vegetables, keeping a healthy weight, and being physically active.\textsuperscript{40}

According to the American Cancer Society, lung cancer is the leading cause of cancer deaths for both men and women. Tobacco use accounts for 30\% of all cancer deaths, causing 87\% of lung cancer deaths in men, and 70\% of lung cancer deaths in women.\textsuperscript{41} In 2009, cancer resulted in $103$ billion in direct costs and $161$ billion in indirect costs for the United States.\textsuperscript{42} Because of the strong linkage between cancer and tobacco use, reduction of tobacco use should be of a high priority.

**Justification for Health Issue**

Through the application of the Logic Model and associated priority ranking process described in the Methodology section, health issues were compared side-by-side. In the Joplin Community, Cancer is one of five prioritized health issues. This is the result of supporting evidence from secondary data, primary data from the hospitals, the feasibility to change the issue and the community readiness to change the issues.

**Secondary Data**

The age-adjusted rate of death (per 100,000 people) due to cancer across the nation is 174. Within the OHC Region it is 187, and within the Joplin Community it is 194. Lung cancer also occurs more commonly the OHC Region than in the rest of the nation with an incidence rate of 72 per 100,000 people compared to 65 per 100,000 people. Tobacco use is linked to leading causes of death such as cancer and cardiovascular disease. In the OHC Region, 23\% of people smoke, slightly higher than the 22\% rate within the Joplin community. Both are higher than the national average of 18\% and well above the 12\% goal of Healthy People 2020.

**Primary Data**

Throughout the OHC Region, cancer accounts for only 2\% of all visits associated with identified health issues that come through the Emergency Department (ED). In the Joplin Community, 1.1\% of all ED visits are seen with health issues related to cancer.

\textsuperscript{40} http://www.cdc.gov/cancer/dcpc/prevention/index.htm

\textsuperscript{41} http://www.cancer.org/cancer/cancercauses/tobaccocancer/tobacco-related-fact-sheet

\textsuperscript{42} http://whtww.nhlbi.nih.gov/about/documents/factbook/2009/chapter4#4_7
The graph below illustrates the percent of ED visits by age group for all cancer (neoplasm) issues.

The graph indicates a very small percentage of people that report to the ED based on symptoms related to cancer.

The following graph illustrates the percent of cancer issues for all ED visits by payer.
What Can We Do?

The OHC ranking method evaluated feasibility to change and community readiness to change. The Joplin Community received a three for feasibility to change and a two for community readiness. This ranking indicates that the issues regarding cancer are multifaceted where much can be done at the local level but there are limited collaborations active in the community committed to specifically addressing cancer. Much of the effort that is possible in the community regarding prevention of cancer is through improving and promoting healthy lifestyles and increasing early detection to improve survivor rates. Local initiatives to improve lifestyle choices like Livesmart and statewide initiatives like Missouri’s “Live like Your Life Depends on It” initiative, Oklahoma’s “Certified Healthy Oklahoma”, and Kansas’ “Chronic Disease State Plan” all have similar objectives. Many of the local communities have implemented policies to become more walkable and bikeable, and numerous organizations and collaboratives are emphasizing the need to move more and improve nutrition.

Smoking rates for area citizens are high and some efforts have improved policy change in parts of the community. Kansas and Oklahoma have legislated state wide smoking restrictions and although there are some exemptions they are a great improvement. Missouri has not passed any such regulation totally restricting smoking in businesses nor have any efforts in the Joplin area led to regulation. Community education efforts have led to many bars and restaurants in the area voluntarily becoming smoke-free. A survey taken in Jasper and Newton Counties during 2014 shows that about 75% of bars and restaurants have voluntarily become smoke-free. Continued efforts toward policy change in the future will be beneficial in reducing cancer rates in the area.

Every county in the Joplin Community is considered a Medical Provider Shortage Area. The local community, through the Regional Medical School Alliance have raised money and provided a structure for a new medical school to operate in Joplin. An agreement has been reached with the Kansas City University of Medicine and Biosciences to operate the school and it is set to begin operations in 2017. The medical school will accept 150 students per year. This opening should ease the local physician shortage and increase the opportunity for cancer screening.

Future Economic and Society Impact

The Joplin Community, along with the OHC Region, is faced with a compelling case of the health impacts to the community as a result of cancer. The financial costs of cancer are high for both the person with cancer and for society as a whole. According to the Agency for Healthcare Research and Quality (AHRQ) estimates that the direct medical
costs for cancer in the US in 2011 were $88.7 billion however, as noted above in the National Perspective section, total economic costs to society are substantially higher, approaching $264 billion.\textsuperscript{43}

One of the major costs of cancer is cancer treatment. But lack of health insurance and other barriers to health care prevent many Joplin community members from getting optimal health care. And according to \textit{Cancer Facts & Figures 2015}, “Uninsured patients and those from ethnic minorities are substantially more likely to be diagnosed with cancer at a later stage, when treatment can be more extensive, more costly, and less successful.”\textsuperscript{44} Cancer costs us billions of dollars. It also costs us the people we love. Reducing barriers to cancer care is critical in the fight to eliminate suffering and death due to cancer.

\section*{Diabetes}

\begin{center}
\begin{quote}
\textbf{In our community, diabetes is a health issue that causes serious health complications including heart disease and kidney failure.}
\end{quote}
\end{center}

\section*{National Perspective}

According to the U.S. National Library of Medicine, Diabetes is a disease in which your blood glucose, or blood sugar, levels are too high. Glucose comes from the foods you eat. Insulin is a hormone that helps the glucose get into your cells to give them energy.\textsuperscript{45} There are two types of Diabetes, type 1 and type 2. With type 1 diabetes, the body does not make insulin. With type 2 diabetes, the more common type, the body does not make or use insulin well. Without enough insulin, the glucose stays in the blood.

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\textsuperscript{43} \url{http://www.cancer.org/cancer/cancerbasics/economic-impact-of-cancer}
\textsuperscript{44} American Cancer Society. \textit{Cancer Facts & Figures 2015}. Atlanta, Ga. 2015.
\textsuperscript{45} \url{https://www.nlm.nih.gov/medlineplus/diabetes.html}
\end{flushright}
Today, people with type 1 diabetes are living longer and healthier lives. New technologies help them keep tight control of their blood sugar using continuous glucose monitors and insulin pumps that deliver rapid-acting, bioengineered human insulin.

Much more is known about type 2 diabetes. Family history, obesity, and physical inactivity are risk factors for this condition, formerly known as adult-onset diabetes. NIH-funded research has shown that type 2 diabetes can be delayed or prevented. Basic lifestyle interventions — modest weight loss and regular exercise — slash type 2 diabetes risk by 58% over 3 years in people with pre-diabetes. Despite this good news, type 2 diabetes still accounts for 90% of diabetes cases nationwide and has been increasing at an alarming rate due to the rise in obesity in the United States.46

The prevalence of diagnosed diabetes in U.S. adults age 20 and older has risen from about 5.1% to 6.5%, according to researchers at the National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC), who analyzed national survey data from two periods — 1988 to 1994 and 1999 to 2002. However, the percentage of adults with undiagnosed diabetes did not change significantly over the years studied. About 2.8% of U.S. adults — one-third of those with diabetes — still do not know they have it.47

Justification for Health Issue

Through the application of the Logic Model and associated priority ranking process described in the Methodology section, health issues were compared side-by-side. In the Joplin Community, Diabetes is one of the prioritized health issues. This is the result of supporting evidence from secondary data, primary data from the hospitals, the feasibility to change the issue, and the community readiness to change the issues.

Secondary Data

In the OHC Region, adults aged 20 and older who have ever been told by a doctor that they have diabetes is 9.93% and 10.24% within the Joplin Community; rates that are higher than the national average of 9.11%. In the Joplin Community, the prevalence data shows that the percentage is higher for males with diabetes at 10.7% compared to females with diabetes at 9.21%. This indicator is relevant because diabetes is a prevalent problem not only in the United States, but right here in the Joplin Community. This may indicate an unhealthy lifestyle and puts individuals at risk for further health issues.

Unhealthy lifestyles can be exhibited or influenced by measures of obesity, levels of physical inactivity, and access to exercise opportunities. Furthermore, adequate monitoring of a diabetic condition can lead to better diabetic control and better health outcomes. Regular A1c tests can assist with this management. The Joplin Community performs worse than or similar to both the OHC Region and Nation in these areas. These are represented below.

### Access to Exercise

- **Joplin Community**: 62%
- **Region**: 65%
- **United States**: 77%

### Obese Adults

- **Joplin Community**: 33%
- **Region**: 32%
- **United States**: 27%

### Physical Inactivity

- **Joplin Community**: 28%
- **Region**: 28%
- **United States**: 23%

### Diabetic Screening

- **Joplin Community**: 81%
- **Region**: 81%
- **United States**: 85%

**Primary Data**

Throughout the OHC Region, chronic health conditions such as diabetes account for 7.2% of all visits to the Emergency Department (ED), whereas the Joplin Community
accounts for 6.0% of the visits for diabetic related issues. Also, in the Joplin Community, 1.2% of all pediatric ED visits are due to a principal diagnosis of endocrine, nutritional, and metabolic factors.

Below, graph 1 illustrates the percent of ED visits by age group for all diabetic issues, and graph 2 illustrates the percent of diabetic issues for all ED visits by payer with associated health issues.
What Can We Do?

The OHC ranking method evaluated feasibility to change and community readiness to change. The Joplin Community received a score of four for each indicator. This ranking signifies the community view that diabetes is typically a single issue where much can be done at the local level and there are collaborations active in the community with efforts underway. Much of the ongoing effort for the prevention of diabetes is through improving and promoting healthy lifestyles. Livesmart is a two-county initiative seeking to encourage exercise and healthy eating in an effort to reduce chronic diseases like diabetes. Missouri’s “Live like Your Life Depends on It” initiative, Oklahoma’s “Certified Healthy Oklahoma”, and Kansas’ “Chronic Disease State Plan” all have similar statewide programs emphasizing the same healthy behaviors. Joplin Food Action Network is working to enhance access to fresh produce and healthy foods throughout the area.

Many of the local communities have implemented policies to become more walkable and bikeable. A great example of this work includes the City of Carthage who is implementing a plan to construct 21 miles of interconnected bike lanes and trails throughout the city. The Joplin Area Transportation Study Organization works with various cities in the Joplin area to promote and coordinate better sidewalk and trail systems that connect these communities. Numerous other communities are planning and building similarly.

Future efforts that support more exercise friendly communities along with environments that support healthy eating, should be continued and expanded to produce a measurable effect on diabetes rates in the area. These efforts should include both support for actual physical improvements (sidewalks, trails, etc.) in communities but also programs that support and encourage behavior change in residents, getting them to be more active in their daily lives. Additional programs to support healthy diet choices will also be necessary to reduce the effects of diabetes in the area.

Future Economic and Society Impact

The Joplin Community, along with the OHC Region, is faced with a compelling case of the health impacts to the community as a result of diabetes. There is clear evidence that changing lifestyle behaviors can have meaningful change to prevent premature diabetes. The failure to act impacts far more than just those with diabetes. It impacts everyone, especially business. Substantial costs to society and its citizens are incurred for direct costs of medical care for diabetes and for indirect costs, including lost productivity resulting from diabetes-related morbidity and premature mortality. According to a 2012 study by the American Diabetes Association, the total estimated
The cost of diagnosed diabetes in 2012 is $245 billion, including $176 billion in direct medical costs and $69 billion in reduced productivity. Making changes now not only helps employers, and helps reduce complications from diabetes; it helps break the impact of the disease to future generations.

**Evaluation Plan**

The plan for evaluating how health outcomes identified in this report are impacted over time will be included in our forthcoming Community Health Improvement Plan, which will also contain a plan of action for addressing the issues discussed above.

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48 [http://care.diabetesjournals.org/content/36/4/1033.full](http://care.diabetesjournals.org/content/36/4/1033.full)