

# 2019 Community Health Needs Assessment and Implementation Strategy

*The*  
**Rehabilitation Institute**  
OF ST. LOUIS

Central West End • St. Peters

an affiliation of **BJC** HealthCare and  **Encompass Health**



**MISSION: TO IMPROVE THE HEALTH OF THE PEOPLE AND COMMUNITIES WE SERVE.**

# Table of Contents

<b>EXECUTIVE SUMMARY</b> .....	<b>3</b>
<b>COMMUNITY DESCRIPTION</b> .....	<b>4</b>
<b>2016 CHNA MEASUREMENT AND OUTCOMES RESULTS</b> .....	<b>7</b>
<b>CONDUCTING THE 2019 CHNA</b> .....	<b>8</b>
Primary Data Collection: Focus Group .....	8
Secondary Data Summary .....	12
Internal CHNA Work Group Prioritization Meetings .....	17
<b>APPENDICES</b> .....	<b>19</b>
APPENDIX A: About The Rehabilitation Institute of St. Louis .....	19
APPENDIX B: Demographic of St. Louis City, St. Louis County & St. Charles County vs. Missouri .....	20
APPENDIX C: TRISL Focus Group Report.....	23
APPENDIX D: Stakeholders Focus Group Participants & Observers .....	31
APPENDIX E: TRISL Internal Work Group.....	32
APPENDIX F: Secondary Data .....	33
<b>IMPLEMENTATION STRATEGY</b> .....	<b>42</b>
Community Health Needs To Be Addressed.....	43
Community Health Needs That Will not Be Addressed .....	46

## EXECUTIVE SUMMARY

The Rehabilitation Institute of St. Louis (TRISL) is a joint-venture entity of BJC HealthCare and Encompass Health and affiliated with Washington University School of Medicine. TRISL is an inpatient rehabilitation facility comprised of 131 beds at two locations. The Central West End location is a 96-bed freestanding acute rehabilitation hospital in St. Louis City. The second location is a 35-bed satellite unit located on the third floor at Barnes-Jewish St. Peters Hospital in St. Charles County. Serving adult and geriatric patients, these hospitals provide physician services, physical therapy, occupational therapy, speech-language pathology, nursing, respiratory care, pharmacy, diagnostic testing and laboratory and dialysis through contracted services. Since opening, TRISL also has established effective partnerships toward the goal of improving the health of the community.

Like all nonprofit hospitals, TRISL is required by the Patient Protection and Affordable Care Act (PPACA) to conduct a community health needs assessment (CHNA) and create an implementation plan every three years. TRISL completed its first CHNA and implementation plan in 2013 and a second in 2016. TRISL is required to conduct a CHNA because half of the entity is nonprofit (BJC). Encompass is for profit and therefore not required to complete a CHNA. Each hospital is required to define its community. Once the community is defined, input must be solicited from those who represent the broad interests of the community served by the hospital, as well as those who have special knowledge and expertise in the area of public health. TRISL defined its community as St. Louis City, St. Louis County and St. Charles County.

TRISL conducted its 2019 assessment in two phases. The first phase consisted of a focus group discussion with key leaders and stakeholders representing the communities. This group reviewed the primary data and community health need findings from 2016 and discussed changes that had occurred since 2016. Additionally, the focus group reviewed gaps in meeting needs, as well as identified potential community organizations for TRISL to collaborate with in addressing needs.

During phase two, findings from the focus group meeting were reviewed and analyzed by an internal work group of clinical and nonclinical hospital staff. Using multiple sources, including Healthy Communities Institute and Missouri Department of Health & Senior Services, a secondary data analysis was conducted to further assess the identified needs. This data analysis identified some unique health disparities and trends evident in St. Louis City, St. Louis County and St. Charles County when compared against data from the state.

At the conclusion of the comprehensive assessment process, TRISL will focus its efforts on two health needs to improve the health of the community it serves: Stroke Education and Prevention and Brain Injury Education and Prevention. The analysis and conclusions were presented, reviewed and approved by the TRISL Board of Directors.

# COMMUNITY DESCRIPTION

## GEOGRAPHY

TRISL is a member of BJC HealthCare, one of the largest, nonprofit health care organizations in the country. BJC HealthCare hospitals serve urban, suburban and rural communities through 15 hospitals and multiple community health locations primarily in the greater St. Louis, southern Illinois and mid-Missouri regions.

TRISL is located at 4455 Duncan Avenue in the Central West End of St. Louis City as well as a satellite location in St. Charles County, located at 10 Hospital Drive in St. Peters, Missouri. For the purpose of this report, TRISL defined its community as St. Louis City, St. Louis County and St. Charles County. The majority of the available data to complete the CHNA compared these locations whenever possible as well as the state of Missouri.

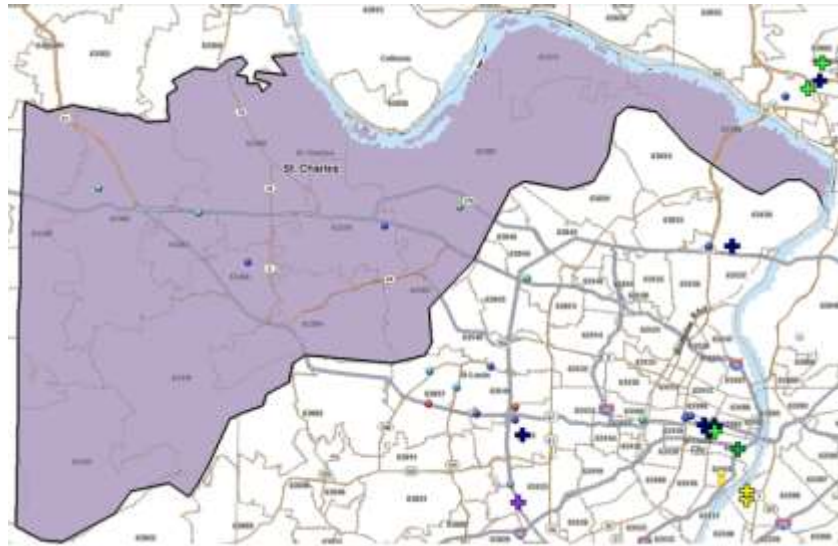


St. Louis City



St. Louis County





St. Charles County

## POPULATION

Population data are necessary to understand the health of the community and plan for future needs.

In 2017, St. Louis City reported a total population estimate of 308,626, 5 percent of Missouri's total population (6,113,532). Since the 2010 census, the population of the city declined 3.3 percent while the state population increased 2 percent.

St. Louis County reported a total population estimate of 998,883, 16 percent of Missouri's total population. Since the 2010 census, the county population declined 0.2 percent.

St. Charles County reported a total population estimate of 395,504, 6.5 percent of Missouri's total population. From 2010-2017, the county population increased 9.7 percent.

## INCOME

St. Louis City's median household income for the five-year-period ending in 2017 was 25 percent lower than the state overall. Persons living below the poverty level in St. Louis City totaled 25 percent compared to 14.6 percent in the state. Home ownership was lower in St. Louis City (35 percent) than Missouri (58 percent).

St. Louis County's median household income for the five-year period ending in 2017 was 21 percent higher than the state overall. Persons living below the poverty level in St. Louis County totaled 9.8 percent compared to 14.6 percent in the state. Home ownership was higher in St. Louis County (63.7 percent) than Missouri (58 percent).

St. Charles County's median household income totaled \$78,380 (2013-2017) while the state median household income equaled \$51,542. Persons living below the poverty level in St. Charles County totaled 5.7 percent compared to 14.6 percent in the state. Homeownership was higher in St. Charles County (76.2 percent) than in the state (58 percent).

## AGE

The age structure of a community is an important determinant of its health and the health services it will need. The distribution of the population across age groups was similar in St. Louis City, St. Louis County, St. Charles County compared to the state.

## RACE AND ETHNICITY

In Missouri, 83.1 percent of people identified as White compared to 47.2 percent in St. Louis City, 68.6 percent in St. Louis County and 90.4 percent in St. Charles County. In the state, 79.5 percent of people identified as African American compared to 46.5 in St. Louis City, 24.7 percent in St. Louis County and 5.0 percent in St. Charles County.

## EDUCATION

The Healthy People 2020 national health target is to increase the proportion of students who graduate high school within four years of their first enrollment in ninth grade to 82.4 percent. Individuals who do not finish high school are more likely than people who finish high school to lack the basic skills required to function in an increasingly complicated job market and society. Adults with limited education levels are more likely to be unemployed, on government assistance or involved in crime. (Healthy Communities Institute)

In St. Louis City, 85.7 percent of the population 25 and older graduated from high school compared to 89.2 percent Missouri. In St. Louis County, 93.2 percent graduated from high school and in St. Charles County, 94.5 percent graduated from high school. (2013-2017)

For many, having a bachelor's degree is the key to a better life. The college experience develops cognitive skills, and allows learning about a wide range of subjects, people, cultures and communities. Having a degree also opens up career opportunities in a variety of fields, and is often the prerequisite to a higher-paying job. It is estimated that college graduates earn about \$1 million more per lifetime than their non-graduate peers (Healthy Communities Institute).

In St. Louis City, 34.1 percent of the population 25 and older had a bachelor's degree compared to 28.2 percent in Missouri. In St. Louis County, 42.8 percent had a bachelor's degree and in St. Charles County, 37.1 percent had a bachelor's degree. (2013-2017)

## 2016 CHNA MEASUREMENT AND OUTCOMES RESULTS

At the completion of the 2016 CHNA, TRISL identified Heart/Cardiovascular Diseases: Stroke and Brain Injury where focus was most needed to improve the health of the community served by the hospital. The following table details goals, objectives, action plans and current status of these community health needs.

TABLE 1: THE REHABILITATION INSTITUTE OF ST. LOUIS 2016 CHNA OUTCOMES	
HEART/CARDIOVASCULAR DISEASES: STROKE	BRAIN INJURY
GOALS	GOALS
To promote stroke education and prevention	To prevent traumatic brain injury and increase knowledge level of care givers
OBJECTIVES	OBJECTIVES
At the end of each session, program participants' knowledge level will increase by 20 percent.	To increase brain injury prevention knowledge level by 15 percent at the end of each pre- and post-test among all ages in the community we serve. 2. To increase knowledge level of those who provide care to brain injured patients by 15 percent at the end of each educational session.
CURRENT STATUS	CURRENT STATUS
The education outlined in the action plan was provided and the stroke team participated in the community events; however, due to lack of communication with the stroke program team, the pre- and post-tests to measure the participants' knowledge level were not conducted. The implementation strategy will continue as it was written in 2016.	The education outlined in the action was provided with the exception of the "Think First" talks. The "Think First" talks were not provided due to lack of resources. Due to lack of communication with the brain injury team, the pre-and post-tests to measure the participants' knowledge level were not conducted. The implementation strategy will continue as it was written in 2016.

# CONDUCTING THE 2019 CHNA

## Primary Data Collection: Focus Group

TRISL conducted a single focus group with public health experts and those with a special interest in the rehabilitation health needs of St. Louis residents. Nine individuals representing various organizations participated in the focus group. (See Appendix C) The representative from the St. Charles County Department of Public Health was unable to attend in person and provided feedback in writing. The focus group was held March 28, 2019, at the BJC Learning Institute in St. Louis, Missouri, with the following objectives identified:

- 1) Determine whether the needs identified in the 2016 CHNA are still the right areas on which to focus
- 2) Explore whether there are any needs on the list that should no longer be prioritized
- 3) Determine where there are gaps in the plan to address the prioritized needs
- 4) Identify other organizations with whom TRISL should consider collaborating
- 5) Discuss what has changed since 2016, and whether there are new issues they should consider
- 6) Evaluate what issues the stakeholders anticipate becoming a greater concern in the future that we need to consider now

### CHNA FOCUS GROUP SUMMARY

A general consensus was reached that needs identified in the previous assessment should remain as focus areas. Nothing was identified to remove from the list of prioritized needs.

### FEEDBACK ON THE NEEDS BEING ADDRESSED

Although exercise and physical activity were not identified as a need to be addressed, one stakeholder remarked that TRISL offers a Muscles in Motion program that has been effective for addressing this need. Although it is a fee-based program, the ABC Brigade does offer a scholarship to those who would like to participate but unable to pay.

The St. Charles County Department of Public Health (DPH) representative reflected that the list is similar to most rankings she has seen, although transportation ranks higher in her community.

### NEEDS THAT SHOULD BE ADDRESSED/ARE MISSING

- Access to healthy food - an important need that impacts recovery from the conditions that TRISL treats. This would include education about what is considered healthy, as well as access to grocery stores and the ability to purchase more nutritious food.
- Wellness in general - diet, exercise, social support and social determinants of health.
- Access to medication and being able to afford prescribed medications has an impact on an individual's ability to recovery from conditions that require rehabilitation services.



- Access to transportation also continues to be a concern, and was cited by the St. Charles County DPH as one they would like to see become a higher priority. In that community, transportation is cited as one of the biggest limitation to access health services.
- Mental Health issues, like depression, often become apparent once the reality of the patient’s disability and its impact sets in.

#### **GAPS BETWEEN DEFINED NEEDS AND OUR ABILITY TO ADDRESS THEM**

- Identifying mechanism for informing patients about needed resources when making the transition from hospital to home.
- A single online location where community services can be identified for patients and families.
- Programs to encourage behavioral changes required to prevent secondary strokes.
  - need for education among providers about increased incidence of stroke among young adults
- Access to medications, particularly to fill void when short-term grants end.
  - Lack of awareness among physicians about effective, lower-cost medications
  - Cost of diabetic medications is issue and has become unaffordable for many
- Care coordination is challenge for many patients with brain injuries.
- Limited mental health providers available who deal specifically with patients who have experienced a brain injury; those who accept Medicaid are rarer.

#### **STAKEHOLDER ORGANIZATIONS’ INITIATIVES**

- Gateway Apothecary Pharmacy has specific technicians who work with patient assistance programs as well as talk to providers to recommend lower-cost medications.
- Home Safety for Seniors provides an in-home assessment with recommendations to keep those with a disability safe.
- St. Charles Senior Services has developed a website of community resources.
- The Washington University Occupational Therapy Department offers a program focused on parents with disabilities – both mothers who are expecting or who have school-age children.
- The St. Charles County Department of Public Health opened a new clinic in 2017 to provide preventative screening and is promoting “Know Your Numbers” as a way to increase consumer awareness of their health status and improve education around this topic.

#### **OTHER ORGANIZATIONS WITH WHOM TO COLLABORATE**

Stakeholders identified many additional organizations with whom to potentially collaborate or strengthen collaboration. These include:

- Brain Injury Foundation
- Brain Injury Association
- The St. Charles County Senior Resources Team
- Organizations that address mental health services
- Area agencies on Aging

- Oasis
- Paraquad
- Spirit of Discovery Park
- Community Strong
- Crider Health/Compass Health
- Developmental Disabilities Resource Board
- WIC and health services clinics

#### **CHANGES SINCE THE 2016 CHNA**

- 44 percent increase in stroke victims under age 65
- creation of an app to increase awareness of community resources might be effective
- continued need for health education as a necessary resource for improving the health of the community

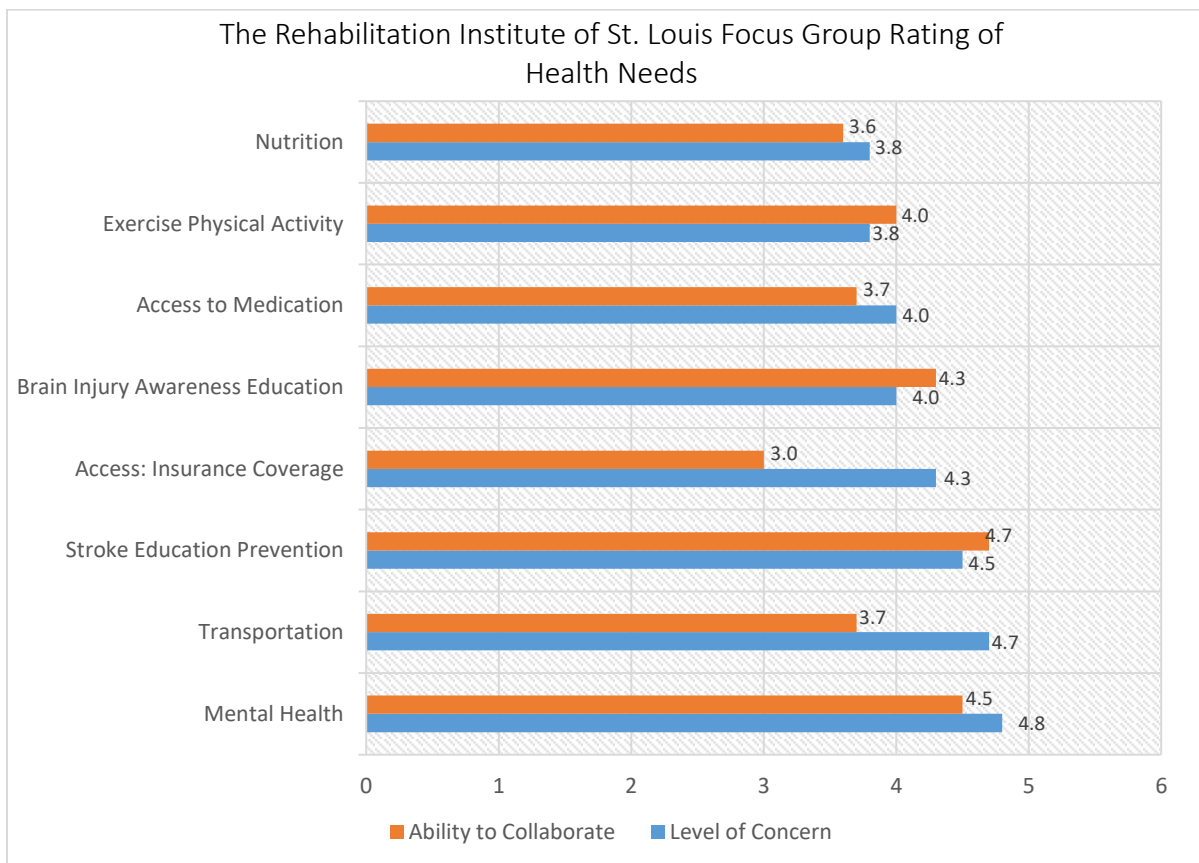
#### **SUGGESTIONS FOR CLOSING THE GAPS/CONCERNS FOR THE FUTURE**

- TRISL organize field trips for some patients to key places to familiarize patients with services offered
- Increasing the amount of coordination among various organizations would have a large impact on addressing many of the identified needs
- Agencies must continue to reach out to low income, underinsured families to offer services and education

## RATING OF NEEDS

Participants rated the needs identified in the 2016 assessment, with the addition of three new needs that were mentioned frequently during the discussion: mental health, nutrition and access to medication. Each need was rated on a scale of 1 (low) to 5 (high), based on their perceived level of community concern and the ability of community organizations to collaborate around them.

Mental Health rated highest in terms of level of concern, followed by Transportation and Stroke Education/Prevention. Stroke Education/Prevention was also identified as having the greatest opportunity for collaboration, followed by Mental Health and Brain Injury Education/Awareness.



## Secondary Data Summary

Based on the primary data reviewed by focus group members (see graph on previous page), key areas were identified for a secondary data analysis. These areas represent the most prevailing issues identified by the focus group.

The majority of the analysis was completed comparing St. Louis City, St. Louis County, St. Charles County and Missouri. In order to provide a comprehensive analysis of disparity and to identify trends, the most up-to-date secondary data was included on the following needs:

- Access: Insurance Coverage
- Access: Transportation
- Access: Medication
- Brain Injuries
- Heart/Cardiovascular Diseases: Stroke
- Diabetes
- High Blood Pressure
- Fall
- Motor Vehicle Collisions
- Spinal Column and Cord
- Rheumatoid Arthritis or Osteoarthritis

While TRISL has identified two needs as its primary focus, the following needs will continue to be appropriately addressed by the hospital and other organizations.

### **ACCESS: INSURANCE COVERAGE**

Individuals without medical insurance are more likely to lack a traditional source of medical care, such as a primary care provider, and are more likely to skip routine medical care due to costs, therefore, increasing the risk for serious and debilitating health conditions. Those who access health services 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 the community. (Conduent Healthy Communities Institute)

The rate of adults age 19-64 in 2017 with health insurance in St. Louis City, St. Louis County and St. Charles County were similar compared with same age groups in Missouri.

The rate of primary care providers in St. Charles County was 38.03 percent lower than the rate in the state while the rate in St. Louis County was 73 percent higher than the state.

The rate of dentists in 2017 were similar in St. Louis City and St. Charles County compared to the state while the rate in St. Louis County was 50 percent higher than the state.

In 2018 in St. Charles County, the rate of mental health providers was 28.89 percent lower than the rate of the state while the rate in St. Louis City and St. Louis County were higher than the state.

When comparing the rate of non-physician primary care providers, St. Louis County was similar to the state, while St. Charles County was 43 percent lower and St. Louis City was higher than the rate of the state in 2018.

### **ACCESS: TRANSPORTATION**

Owning a car has a direct correlation with the ability to travel. Individuals with no car in the household make fewer than half the number of trips compared to those with a car and have limited access to essential local services such as supermarkets, post offices, doctors' offices and hospitals. Most households with above-average income own a car while only half of low-income households have a car. (Conduent Healthy Communities Institute)

From 2013-2017, St. Louis City had the highest number of households without a vehicle at 20.7 percent compared to 7 percent for both St. Louis County and the state. St. Charles County's rate was 2.9 percent. St. Louis City workers had the highest rate of public transportation at 9.5 percent compared to the state rate of 1.5 percent.

### **HEART/CARDIOVASCULAR DISEASES: STROKE**

Heart disease and stroke are among the most preventable in the U.S., yet are the most widespread and costly health conditions facing the nation today. Heart disease and stroke are the first and third leading causes of death for both women and men. These diseases are also major causes of illness and disability and are estimated to cost the U.S. hundreds of billions of dollars annually in health care expenditures and loss of productivity. (CDC Division for Heart Division and Stroke Prevention)

St. Louis City, St. Louis County and St. Charles County had higher stroke rates among the Medicare population compared to Missouri. St. Louis County had the highest rate at 4.1 percent; 17 percent higher than the state rate. St. Louis City's rate of 3.9 percent was 11 percent higher than the state and St. Charles County's rate of 3.7 percent was 6 percent higher than the state. (2017)

The rate of hemorrhagic stroke in St. Louis City was 50 percent higher when compared to the rate in Missouri. The rate of ischemic stroke in St. Louis City was 32 percent higher when compared to the rate in the state. St. Louis County and St. Charles County rates were slightly higher than the rates in the state. (2011-2015)

African Americans in St. Charles County had a 32 percent lower rate (4.2 percent vs. 6.22 percent) of hospitalization due to hemorrhagic stroke when compared to the rate in the state.

### **DIABETES**

Diabetes is a leading cause of death in the United States. According to the Centers for Disease Prevention and Control, more than 25 million people have diabetes, including both individuals already diagnosed and those who have gone undiagnosed.

Diabetes disproportionately affects minority populations and the elderly, and its incidence is likely to increase as minority populations grow and the U.S. population becomes older. (Healthy Communities Institute)

For 2016, the rate of adults 20+ with diabetes in St. Louis City was 19 percent higher compared to the rate in the state, while the rate for St. Charles County was 27 percent lower. St. Louis County had a similar rate to Missouri at 10.2 percent.

## **HIGH BLOOD PRESSURE**

High blood pressure is the No. 1 modifiable risk factor for stroke. In addition to stroke, high blood pressure also contributes to heart attacks, heart failure, kidney failure and atherosclerosis. The higher the blood pressure, the greater the risk of heart attack, heart failure, stroke and kidney disease. In the United States, one in three adults has high blood pressure, and nearly one-third of these people are not aware they have the disease. It is particularly prevalent in African Americans, older adults, obese people, heavy drinkers, and women who take birth control pills. (Healthy Communities Institute)

St. Charles County (-11 percent) and St. Louis County (-13 percent) both had lower prevalence rates of high blood pressure when compared to the state (31.4 percent). Conversely, St. Louis City had a higher rate of 10 percent when compared to the state. (2016)

## **FALLS**

Many falls do not cause injuries. But one out of five falls does cause a serious injury, such as a broken bone or a head injury. These injuries can make it hard for a person to get around, do everyday activities, or live on their own.

- Falls can cause broken bones, like wrist, arm, ankle and hip fractures.
- Falls can cause head injuries. These can be very serious, especially if the person is taking certain medicines (like blood thinners). An older person who falls and hits their head should see their doctor right away to make sure they don't have a brain injury.

Many people who fall, even if they're not injured, become afraid of falling. This fear may cause a person to cut down on their everyday activities. When a person is less active, they become weaker and this increases their chances of falling. (Centers for Disease Control and Prevention)

While the death rate due to falls in St. Louis County (11.99 deaths per 100,000 population) and St. Louis City (8.42) was similar to the rate in Missouri (10.02), the rate in St. Charles County (20.61) was 106 percent higher than the state. (2007-2017)

## **BRAIN INJURIES**

Traumatic brain injury (TBI) is a serious public health problem in the United States. Each year, TBIs contribute to a substantial number of deaths and cases of permanent disability. In 2014, there were approximately 2.87 million TBI-related emergency department visits, hospitalizations, and deaths in the U.S., including over 837,000 of these health events among children.

A TBI is caused by a bump, blow or jolt to the head or a penetrating head injury that disrupts the normal function of the brain. Not all blows or jolts to the head result in a TBI. The severity of a TBI may range from "mild," i.e., a brief change in mental status or consciousness to "severe," i.e., an extended period of unconsciousness or amnesia after the injury. CDC's research and



programs work to prevent TBI and help people better recognize, respond, and recover if a TBI occurs. (Centers for Disease Control and Prevention)

For the period 2011-2014, the rates of emergency room visits due to traumatic brain injuries had been fairly steady. A significant increase occurred in 2015 vs. 2014 in St. Louis City (25 percent), St. Louis County (18 percent) and St. Charles County (10 percent).

### **MOTOR VEHICLE COLLISIONS**

Motor vehicle collisions are the leading cause of death among people ages 5 through 34 in the U.S. Many more people are injured or disabled in motor vehicle accidents each year. In addition to negative health effects, motor vehicle collisions have significant economic impacts; the costs of medical care and productivity losses resulting from motor vehicle accidents are estimated at around \$100 billion per year.

For the five-year period ending in 2017, St. Louis County and St. Charles County had significantly lower age-adjusted death rates due to motor vehicle collisions compared to the rate in the state of -43 percent and -48 percent, respectively. St. Louis City's rate (14.1 deaths per 100,000 population) was similar to the rate in the state (14.3) for the same time period.

### **SPINAL COLUMN AND CORD**

Given the current U.S. population size of 328 million people, a recent estimate showed that the annual incidence of spinal cord injury (SCI) is approximately 54 cases per one million people in the U.S., or about 17,730 new SCI cases each year. New SCI cases do not include those who die at the location of the incident that caused the SCI.

The estimated number of people with SCI living in the U.S. is approximately 291,000 persons, with a range from 249,000 to 363,000 persons.

Lengths of stay in the hospital acute care unit have declined from 24 days in the 1970s to 11 days recently. Rehabilitation lengths of stay have also declined from 98 days in the 1970s to 31 days recently. (National Spinal Cord Statistics Center)

St. Charles County had the lowest rate of injuries due to spinal column and cord, 34 percent lower than the rate in the state. St. Louis County's rate was 11 percent lower than the state and St. Louis City's rate was similar to the state. (2015)

### **RHEUMATOID ARTHRITIS OR OSTEOARTHRITIS**

Arthritis is a collection of conditions and disorders of the joints, bones, muscles, cartilage and other connective tissues. According to the Arthritis Foundation, more than 50 million adults have doctor-diagnosed arthritis, and arthritis is the number 1 cause of disability in the U.S. Two common types of arthritis are Osteoarthritis (OA) and Rheumatoid arthritis (RA).

OA, sometimes called degenerative joint disease, is the most common form of arthritis. OA is characterized by the breakdown of the joint's cartilage as well as bony overgrowth, leading to pain and joint stiffness. Common risk factors for OA include genetics, advanced age, obesity and injury.

RA is a systemic inflammatory arthritis and an autoimmune disease that typically affects the small joints of the hands and feet, but can also impact other organs. Symptoms include pain, swelling, stiffness and loss of function of the affected joint. Treatments include medications, lifestyle changes and surgery.

St. Louis County had a 7 percent higher rate of rheumatoid arthritis or osteoarthritis among the Medicare population when compared to the state rate. St. Charles County's rate was similar to the state rate and St. Louis City had a 3 percent lower rate when compared to the state. (2017)

## Internal CHNA Work Group Prioritization Meetings

TRISL chose three employees to participate in an internal CHNA work group. (See Appendix E)

In July 2019, the work group discussed the primary and secondary data and completed the priority ranking for the hospital’s CHNA. The work group reviewed the purpose for the CHNA, role of the work group and goals for the project. The group reviewed the key findings from the 2016 CHNA report and the current findings from the 2019 community stakeholders (Table 2).

TABLE 2: LIST OF PRIMARY DATA BY COMMUNITY STAKEHOLDERS

COMMUNITY HEALTH NEEDS			
1	Mental Health	5	Brain Injury Awareness Education
2	Access: Transportation	6	Access: Medication
3	Stroke Education Prevention	7	Exercise Physical Activity
4	Access: Insurance Coverage	8	Nutrition

The work group agreed with the needs identified by the focus group and discussed that oftentimes patients have similar needs. While the work group acknowledged the desire to address all needs identified, the group selected those needs they can impact the most, keeping in mind expertise and resources.

To prioritize the identified needs, the focus group discussed following questions:

- 1) Is there currently an internal program or process in place to address the need?
- 2) If yes, are there any enhancements we can make?
- 3) Do we have the resources to address the need?
- 4) What is our ability to impact the identified need? (high, moderate, low)

The needs were prioritized in the following order:

- 1) Stroke Education Prevention
- 2) Brain Injury Awareness Education
- 3) Nutrition
- 4) Exercise Physical Activity
- 5) Access: Medication
- 6) Access: Transportation
- 7) Access: Insurance Coverage
- 8) Mental Health

Of note – numbers 5 through 8 scored equal weight in the prioritization.

After prioritization, the work group concluded it can make the most impact in health education and prevention. Additionally, the focus group used secondary data to validate its decision. Further, the group reviewed internal data of its total patient population to serve as a

guide to identify patient populations to focus health education and prevention efforts. During the last three years, stroke and brain injury patients alone accounted for an average of 40 percent of its total patient population. In addition, TRISL experienced a 2 percent increase in the number of stroke and brain injury patients served from 2017 to 2018.

## **CONCLUSION**

Based on its expertise and resources, TRISL identified two areas to effectively address:

- Stroke Education and Prevention
- Brain Injury Education and Prevention

## APPENDICES

### APPENDIX A: About The Rehabilitation Institute of St. Louis

The Rehabilitation Institute of St. Louis (TRISL) is a joint-venture entity of BJC HealthCare and Encompass Health and affiliated with Washington University School of Medicine. TRISL is an inpatient rehabilitation facility comprised of 131 beds at two locations. The Central West End location is a 96-bed freestanding acute rehabilitation hospital in St. Louis City. The second location is a 35-bed satellite unit located on the third floor at Barnes-Jewish St. Peters Hospital in St. Charles County. Serving adult and geriatric patients, these hospitals provide physician services, physical therapy, occupational therapy, speech-language pathology, nursing, respiratory care, pharmacy, diagnostic testing and laboratory and dialysis through contracted services.

Individuals are treated by a physician-led interdisciplinary team to achieve the greatest potential for independence and return home. Conditions treated include:

- Stroke
- Amputations
- Parkinson's Disease
- Multiple Sclerosis
- Arthritis
- Brain Injury
- Multiple Trauma
- Hip Fractures
- Joint Replacement
- Burns
- Neurological Disorders
- Spinal Cord Injury
- Other Orthopedic Injuries/Conditions

The hospital complies with local, state and federal regulations and is accredited by The Joint Commission (TJC) and the Commission on Accreditation of Rehabilitation Facilities. Five programs have earned TJC Disease-Specific Certification: Amputee; Brain Injury; Spinal Cord Injury; Stroke; and Wound Care.

## APPENDIX B: Demographic of St. Louis City, St. Louis County & St. Charles County vs. Missouri

DEMOGRAPHIC OF ST. LOUIS CITY, ST. LOUIS COUNTY & ST. CHARLES COUNTY VS. MISSOURI				
	ST. LOUIS CITY	ST. LOUIS COUNTY	ST. CHARLES COUNTY	MISSOURI
<b>GEOGRAPHY</b>				
Land Area in Square Miles, 2010	61.9	507.80	560.44	6,874,1.52
Persons per Square Mile, 2010	5157.5	1967.2	643.2	87.1
<b>POPULATION</b>				
Population, 2010	319,294	996,726	360,485	5,988,923
Population, 2017	308,626	998,883	395,504	6,113,532
Population, Percent Change - 2010 -2017	-3.3	-0.2	9.7	2.1
<b>AGE</b>				
Persons Under 5 Years, Percent, 2017	6.3	5.8	6.1	6.1
Persons Under 18 Years, Percent, 2017	19.4	22.0	23.6	22.6
Persons 65 Years and over, Percent, 2017	13.0	17.7	14.7	16.5
<b>GENDER</b>				
Female Person, Person, 2017	51.6	52.5	50.8	50.9
Male Persons, Percent, 2017	48.4	47.5	49.2	49.1
<b>RACE / ETHNICITY</b>				
White, Percent, 2017	47.2	68.6	90.4	83.1
White Alone, not Hispanic or Latino, Percent, 2017	43.9	66.1	87.2	11.8
African American Alone, Percent, 2017	46.5	24.7	5.0	79.5
Asian Alone, Percent, 2017	3.4	4.4	2.6	2.1
Hispanic or Latino, Percent, 2017	4.0	2.9	3.3	4.2
Two or More Races, Percent, 2017	2.5	2.1	2.0	2.3
American Indian & Alaska Native alone, Percent, 2017	0.3	0.2	0.3	0.6
Native Hawaiian & Other Pacific Islander Alone, Percent, 2017	0.1	0.0	0.1	0.1
<b>POPULATION CHARACTERISTICS</b>				
Foreign Born Persons, Percent, 2013-2017	6.8	6.9	4.0	4.0

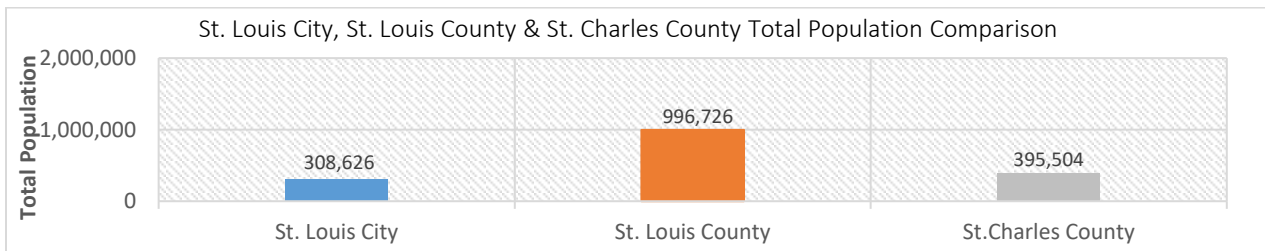
Source: Conduent Healthy Communities Institute



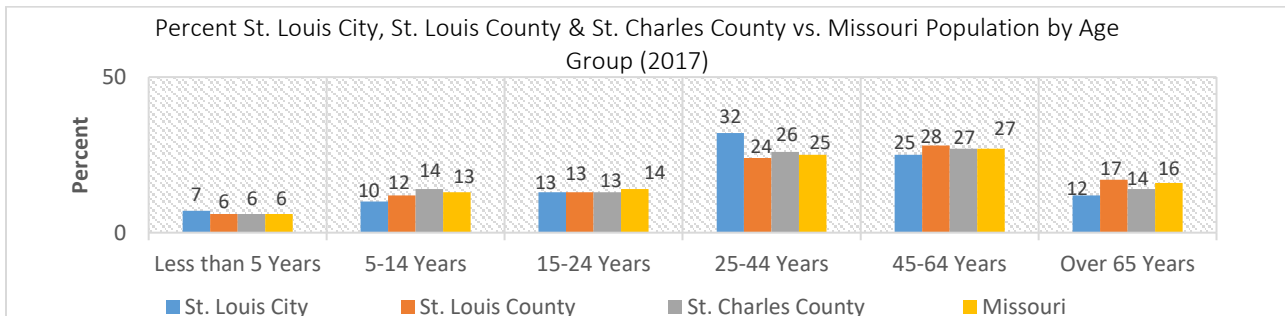
ST. LOUIS CITY, ST. LOUIS COUNTY & ST. CHARLES COUNTY DEMOGRAPHIC INCLUDING EDUCATION / INCOME / HOUSING VS. MISSOURI

	ST. LOUIS CITY	ST. LOUIS COUNTY	ST. CHARLES COUNTY	MISSOURI
<b>HOUSING</b>				
Housing Units, 2017	176,846	441,236	154,489	2,792,506
Homeownership, Percent, 2013-2017	35	63.7	76.2	58
Median Housing Units Value, 2013-2017	\$123,800	\$181,100	\$198,000	\$145,400
<b>FAMILY &amp; LIVING ARRANGEMENTS</b>				
Households, 2013-2017	139,741	402,307	142,554	2,386,203
Average Household Size, 2013-2017	2.2	2.4	2.7	2.5
Population Age 5+ with Language other than English Spoken at Home, Percent, 2013-2017	9.1	8.7	6.2	6.0
<b>EDUCATION</b>				
High School Graduate or Higher, Percent of Persons Age 25+, 2013-2017	85.7	93.2	94.5	89.2
Bachelor's Degree or Higher, Percent of Persons Age 25+, 2013-2017	34.1	42.8	37.1	28.2
<b>INCOME &amp; POVERTY</b>				
Median Household Income, 2013-2017	\$38,664.0	\$62,931.00	\$78,380	\$51,542.0
Per Capita Income, 2013-2017	\$26,739.0	\$38,081.00	\$35,628	\$28,282.0
People Living Below Poverty Level, Percent, 2013-2017	25.0	9.8	5.7	14.60

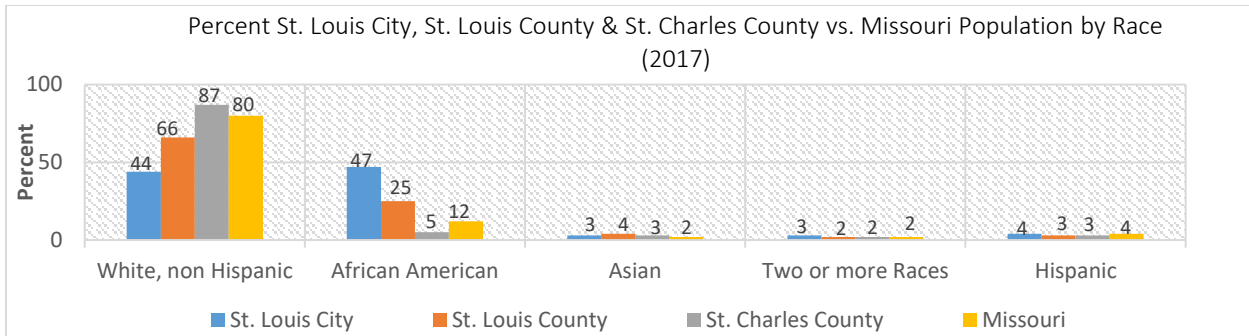
Source: Conduent Healthy Communities Institute



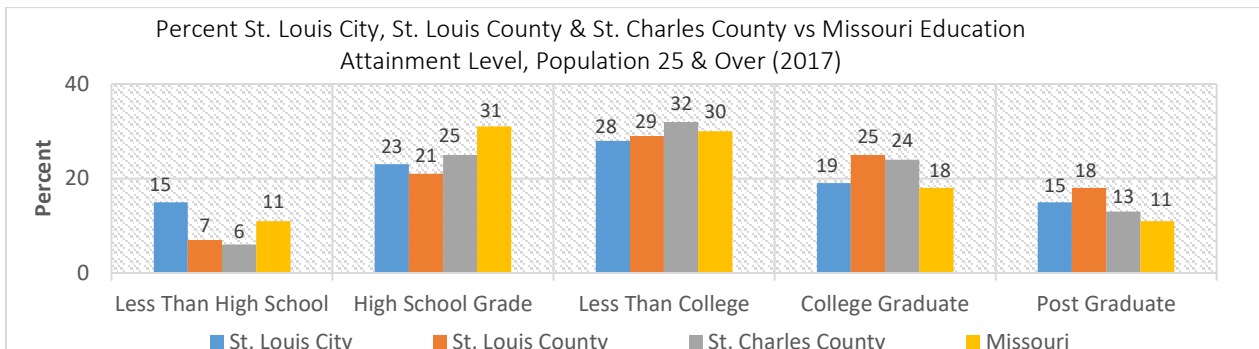
Source: Conduent Healthy Communities Institute



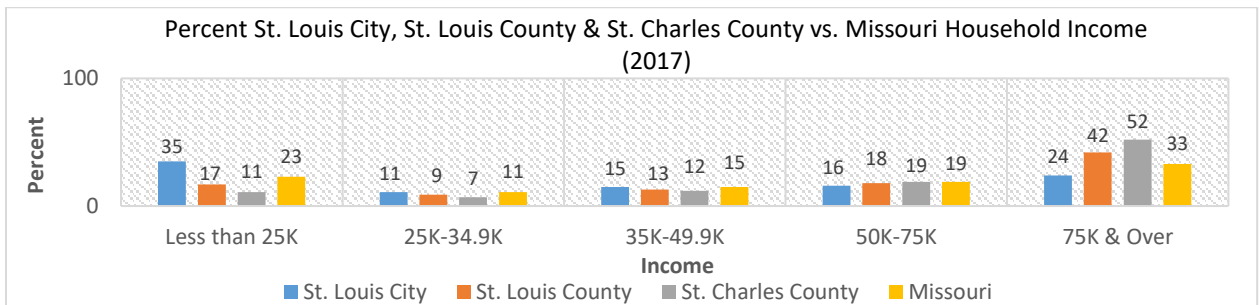
Source: Conduent Healthy Communities Institute



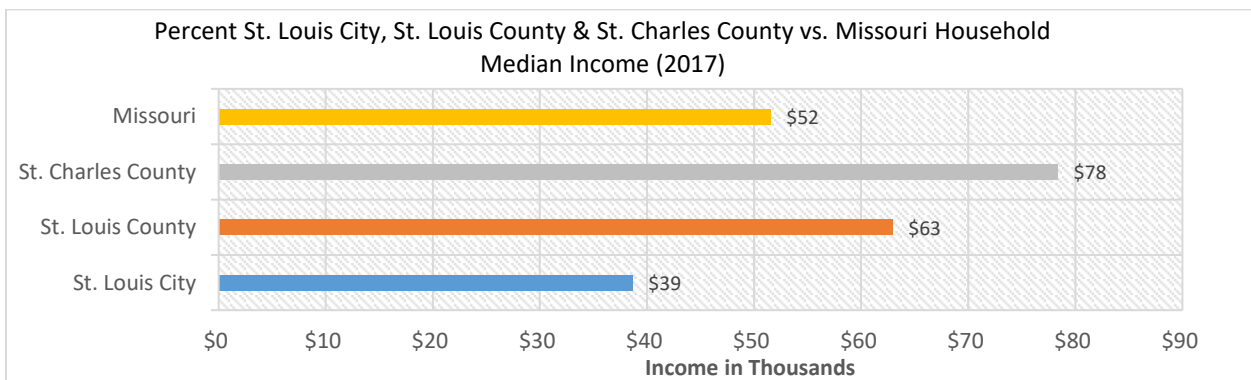
Source: Conduent Healthy Communities Institute



Source: Conduent Healthy Communities Institute



Source: Conduent Healthy Communities Institute



Source: Conduent Healthy Communities Institute

## APPENDIX C: TRISL Focus Group Report

PERCEPTIONS OF THE HEALTH NEEDS  
OF THE REHABILITATION INSTITUTE OF ST. LOUIS  
FROM THE PERSPECTIVES OF COMMUNITY STAKEHOLDERS

**PREPARED BY:**

Angela Ferris Chambers  
Director, Market Research & CRM

BJC HealthCare

**June 10, 2019**

## TABLE OF CONTENTS

BACKGROUND .....	2
RESEARCH OBJECTIVES.....	2
METHODOLOGY .....	3
KEY FINDINGS .....	4
RATING OF NEEDS .....	8
NEXT STEPS.....	9

## BACKGROUND

In the Patient Protection and Affordable Care Act (PPACA) passed in March 2010, non-profit hospitals were mandated to conduct a community-based health needs assessment every three years. As a part of that process, each hospital is required to solicit input from those who represent the broad interests of the community served by the hospital as well as those who have special knowledge and expertise in the area of public health.

The Rehabilitation Institute of St Louis (TRISL) conducted its first stakeholder assessment in 2013. Its next iteration was released on December 31, 2016.

## RESEARCH OBJECTIVES

The main objective for this research is to solicit input from health experts and those who have a special interest in the health of the community served by TRISL.

Specifically, the discussion focused around the following objectives:

1. Determine whether the needs identified in the 2016 CHNA are still the right areas on which to focus
2. Explore whether there are any needs on the list that should no longer be prioritized
3. Determine where there are gaps in the plan to address the prioritized needs
4. Identify other organizations with whom TRISL should consider collaborating
5. Discuss what has changed since 2016, and whether there are there new issues they should consider
6. Evaluate what issues the stakeholders anticipate becoming a greater concern in the future that we need to consider now

## METHODOLOGY

To fulfill the PPACA requirements, TRISL conducted a single focus group with public health experts and those with a special interest in the rehabilitation health needs of St. Louis residents. The group was held on March 28, 2019 at the BJC Learning Institute and was moderated by Angela Ferris Chambers, Director of Market Research and CRM for BJC HealthCare.

Seven individuals representing various organizations participated in the focus group. (See Appendix A) The representative from the St. Charles County Department of Public Health was unable to attend in person and provided her feedback in writing. The discussion lasted around 90 minutes.

During the discussion, the moderator reminded the community leaders why they were invited - that their input is needed to help TRISL move forward in this next phase of the needs assessment process.

The moderator shared the needs prioritized by TRISL in the most recent assessment. These included:

- Access to health insurance coverage
- Access to rehabilitation services
- Exercise/physical activity

- Health education/prevention
- Transportation to medical appointments, especially that which is handicapped accessible

Two areas were identified in the 2016 TRISL CHNA as their implementation plan focus. They are:

- Stroke education/prevention
- Brain injury awareness education

The other health needs that were identified in the 2016 plan were not addressed due to factors such as lack of expertise and limitations in resources.

## KEY FINDINGS

### FEEDBACK ON THE NEEDS BEING ADDRESSED:

Although exercise and physical activity were not identified as a need to be addressed, one stakeholder remarked that TRISL offers a program called Muscles in Motion which has been effective for addressing this need. Although it is a fee-based program, the ABC Brigade does offer a scholarship to those who would like to participate but are unable to pay.

The representative from the St. Charles County Department of Public Health (DPH) reflected that the list is similar to most rankings she has seen, although transportation ranks higher in her community.

### NEEDS THAT SHOULD COME OFF OF THE LIST:

None of the stakeholders stated that they would remove any of the needs from the list.

Access to health insurance continues to be a concern for many, especially when it comes to rehabilitation services.

### NEEDS THAT SHOULD BE ADDRESSED/ARE MISSING:

One stakeholder identified access to healthy food as an important need that impacts recovery from the conditions that TRISL treats. This would include education about what is considered healthy, as well as access to grocery stores and the ability to purchase more nutritious food.

Another suggested that there should be a broader approach to this topic that addresses wellness in general: diet, exercise, social support and social determinants of health.

Access to medication and being able to afford prescribed medications has an impact on an individual's ability to recovery from conditions that require rehabilitation services.

Access to transportation also continues to be a concern, and was cited by the St. Charles County DPH as one they would like to see become a higher priority. In that community, transportation is cited as one of the biggest limitation to access health services.

Mental health issues, like depression, often become apparent once the reality of the patient's disability and its impact sets in.



## **GAPS BETWEEN DEFINED NEEDS AND OUR ABILITY TO ADDRESS THEM:**

If one of the goals of the health care system is to avoid hospital readmissions, there continues to be a gap in identifying a mechanism for informing patients about needed resources when making the transition from hospital to home.

The need for community-based services to help make the transition from hospital to home may not be required immediately after discharge, but three to six months later. At that point, the information that may have been shared at discharge has been forgotten, or can't be located by the patient or family. Having a single online location where community services can be identified would be a very helpful resources for patients and their families. People don't know where to go to look for the help they need.

There is also a need for better programs that encourage the behavioral changes required to prevent secondary strokes from happening. Education is important, but it needs to be coupled with ways to encourage and sustain behavioral changes because that is where the improvement will take place.

- There is also a need for education among providers about the increased incidence of stroke among young adults.

When it comes to access to medications, there are short-term grants that provide assistance to purchase medications, but when those programs end, there is a void. There is also a lack of awareness among physicians about effective medications that are less expensive than what they may be used to prescribing.

- The cost of diabetic medications have recently become an issue for those who require them and have become unaffordable for many.

Care coordination can be a challenge for many brain injury patients. Medical specialists tend to want to focus on a specific aspect of the patient's care and treatment. Often, there is no one to take a lead role and look at the big picture, making sure that all clinical providers are on the same page.

There are limited mental health providers available who deal specifically with the patients who have experienced a brain injury. Those who accept Medicaid are even rarer. When a patient is depressed, it is hard for them to realize it for themselves and they often need an advocate to recognize it and suggest that they seek help.

## **STAKEHOLDER ORGANIZATIONS' INITIATIVES:**

Gateway Apothecary Pharmacy has specific technicians who work with patient assistance programs as well as talk to providers to recommend lower-cost medications. Physicians may not be aware that lower cost options exist that are just as effective as the medications they prescribe.

- They also provide a free delivery service to patient homes to ensure that the patient never runs out of their medication. They proactively contact patients prior to their prescriptions running out and make sure they get refilled on time.
- They also do free HIV and Hep C testing, have a nurse onsite as well as pharmacists who can give injections.

- Gateway Apothecary also has a sister pharmacy in North County: Beverly Hills Natural Bridge.

Home Safety for Seniors provides an in-home assessment with recommendations to keep those with a disability safe. But the recommendations often have a cost associated with them and are not affordable in the short-term, even though they may help keep the person at home in the long run.

The representative from Med Exchange mentioned that she is part of a group, St. Charles Senior Services, who have developed a website of community resources that are available in that area. They eventually hope to expand it, but right now it is limited to St. Charles County.

The Washington University Occupational Therapy Department has a program focused on parents with disabilities – both mothers who are expecting or who have school-age children. The program helps them figure out how to perform typical parenting tasks, like diapering, preparing food, etc.

This spring, they are piloting a new program for uninsured and underinsured people with spinal cord injuries. Although supervised by professionals, it is student-run. They cover topics like sexuality, bladder and bowel management and issues related to returning to work, or managing home or school. The program is physically housed within the Paraquad Health and Wellness program. Some of these issues are not addressed while the patient is still in the hospital because the focus then is more on activities of daily living and more immediate concerns.

Another similar program is specifically for stroke and acquired brain injury patients. It's a free student-run clinic for uninsured and underinsured people.

John Kindschuh, the community representative, is writing a book about his experiences as a stroke survivor. He found that there are few resources available for those who are going through the experience about what to expect and that they can learn from.

The St. Charles County Department of Public Health opened a new clinic in 2017 to provide preventative screening and is promoting "Know Your Numbers" as a way to increase consumer awareness of their health status and improve education around this topic.

#### **OTHER ORGANIZATIONS WITH WHOM TO COLLABORATE:**

Stakeholders identified many additional organizations with which to potentially collaborate or strengthen collaboration. These include:

- Brain Injury Foundation (Sarah Davis): provides advocacy and support to a stroke victim in securing employment
- Brain Injury Association
- The St. Charles County Senior Resources Team, made up mostly of social workers and case managers (Susan Signorino)
- Organizations that address mental health services

The Area Agencies on Aging were identified as an important resource, but it was also mentioned that they are sorely underfunded. Oasis was another organization that provides a lot of educational programming that can be helpful to this population.

Representatives from Paraquad were invited to the meeting but unable to attend. A few stakeholders mentioned that they have an exercise facility that if people were to see it, it would motivate them to get involved. There are other organizations focused on these issues who are in the same building, making it easier for patients to access services. By one participant's account, there are 40 different programs housed nearby.

The Spirit of Discovery Park is a new park in development that will be accessible to all.

The St. Charles County DPH identified several organizations with whom to consider collaboration, including Community Strong, Crider Health/Compass Health and the Developmental Disabilities Resource Board (DDRB), as well as their own WIC and Health Services Clinics.

### **CHANGES SINCE THE 2016 CHNA:**

One stakeholder noted that there has been a 44% increase in the number of stroke victims under age 65. Stroke is a condition that many think of as an old person's disease, and won't happen to them. But the data suggest otherwise.

- Young people who have suffered a stroke are often misdiagnosed because even some clinicians do not have a high awareness of its increased incidence among younger adults.

The almost universal availability of smart phones suggests that the creation of an app to increase awareness of community resources might be effective. The information could be updated as needed to remain current, as resources are continually changing. It would be available whenever and wherever it is needed.

The St. Charles County Department of Health emphasized the continued need for health education as a necessary resource for improving the health of the community.

### **SUGGESTIONS FOR CLOSING THE GAPS/CONCERNS FOR THE FUTURE:**

One stakeholder suggested that TRISL organize "field trips" for some of their patients to a few key places to familiarize patients with the services they offer. This may be an effective way for actually making the connections for patients between some of their needs and organizations that may be able to assist them. Paraquad was identified as one of these organizations. Actually seeing their exercise facility may be more impactful than just telling someone about it.

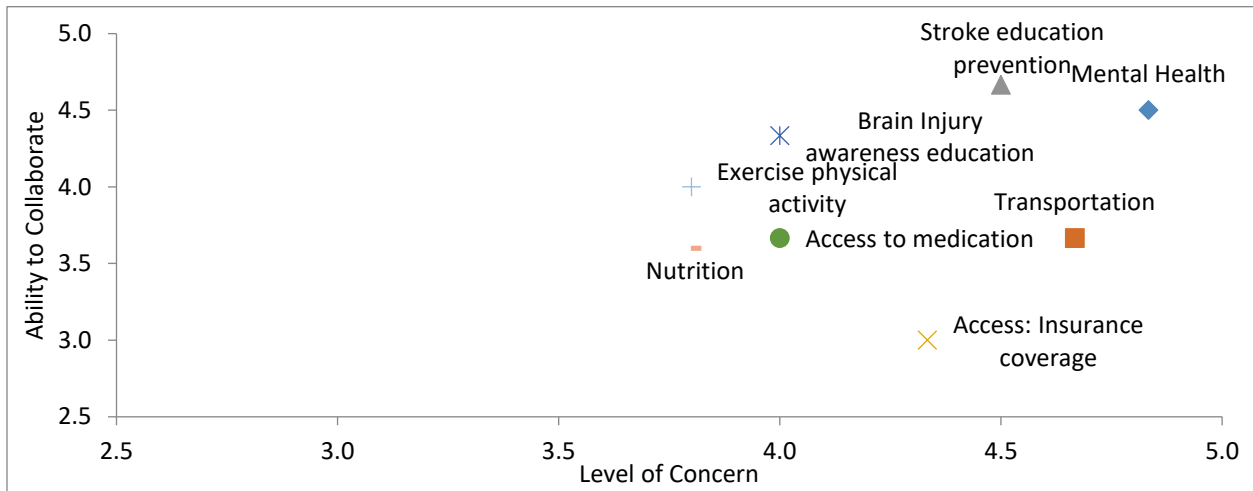
Increasing the amount of coordination among various organizations would have a large impact on addressing many of the identified needs. One of the largest concerns is the way that providers and resources are silo-ed. There is no such thing as a one-stop-shop, and there does not appear to be any one organization who can guide a patient and their family through this experience.

The DPH representative expressed concern that the gap between the "haves" and "have nots" will continue to widen. Agencies must continue to reach out to low income, underinsured families to bring them services and education.

## RATING OF NEEDS

Participants rated the needs identified in the 2016 assessment, with the addition of three new ones that were mentioned frequently during the discussion: mental health, nutrition and access to medication. Each need was rated on a scale of 1 (low) to 5 (high), based on their perceived level of community concern and the ability of community organizations to collaborate around them.

This year, mental health rated highest in terms of level of concern, followed by transportation and stroke education/prevention. Stroke education/prevention was also identified as having the greatest opportunity for collaboration, followed by mental health and brain injury education/awareness.



	Level of Concern	Ability to Collaborate
Mental Health	4.8	4.5
Transportation	4.7	3.7
Stroke education prevention	4.5	4.7
Access: Insurance coverage	4.3	3.0
Brain Injury awareness education	4.0	4.3
Access to medication	4.0	3.7
Exercise physical activity	3.8	4.0
Nutrition	3.8	3.6

## NEXT STEPS

Based on the input received from community stakeholders, TRISL will establish an internal stakeholder workgroup and examine any secondary data that is available to evaluate the needs that have been identified. The workgroup will assess this information and determine whether the priorities should change.

The needs assessment and associated implementation plan must be revised and updated for release by December 31, 2019.

## APPENDIX D: Stakeholders Focus Group Participants & Observers

THE REHABILITATION INSTITUTE OF ST. LOUIS FOCUS GROUP PARTICIPANTS AND OBSERVERS			
FOCUS GROUP PARTICIPANTS			
LAST NAME	FIRST NAME	ORGANIZATION	ATTEND
Carron	Suzanne	National Multiple Sclerosis Society, Gateway Chapter	X
Howard	Kathy	ABC Brigade	X
Kindschuh	John	Community Representative	X
Milligan	Aaron	Medxchange	X
Salter	Laura	Gateway Apothecary	X
Smith	Melissa	Paraquad	
Vogler	Kim	Mental Health Services	
Walker	Carla	WUSM Occupational Performance Lab	X
Woodson	Hope	St. Charles County Department of Public Health	Written Feedback

THE REHABILITATION INSTITUTE OF ST. LOUIS & BJC HEALTHCARE OBSERVERS			
LAST NAME	FIRST NAME	ORGANIZATION	ATTEND
Dwyer	Mark	The Rehabilitation Institute of St . Louis	X
Valleck	Angela	The Rehabilitation Institute of St . Louis	X
Wilke	Deborah	The Rehabilitation Institute of St . Louis	X
King	Karley	BJC HealthCare	X

## APPENDIX E: TRISL Internal Work Group

THE REHABILITATION INSTITUTE OF ST. LOUIS INTERNAL WORK GROUP			
LAST NAME	FIRST NAME	TITLE	DEPARTMENT
Valleck	Angela	Director of Quality and Risk	Quality
Sturmoski	Audra	Therapy Manager	Therapy
Kohnen	Leslie	Therapy Manager	Therapy



## APPENDIX F: Secondary Data

### ACCESS: INSURANCE COVERAGE

ST. LOUIS CITY vs. MISSOURI ACCESS TO HEALTH CARE				
HEALTH INDICATORS	ST. LOUIS CITY	ST. LOUIS COUNTY	ST. CHARLES COUNTY	MISSOURI
Percent Adults with Health Insurance: Age 19-64 (2017)	86.1	90.6	94.2	86.8
Primary Care Providers Rate/100,000 Population (2017)	87	123	43	71
Dentist Rate/100,000 (2017)	54	85	55	57
Mental Health Providers Rate/100,000 Population (2018)	327	258	128	180
Non-Physicians Primary Care Providers Rate/100,000 Population (2018)	208	85	45	87
Preventable Hospital Stays per 1000 Medicare Enrollees (2015)	57	47.7	55.6	56.6

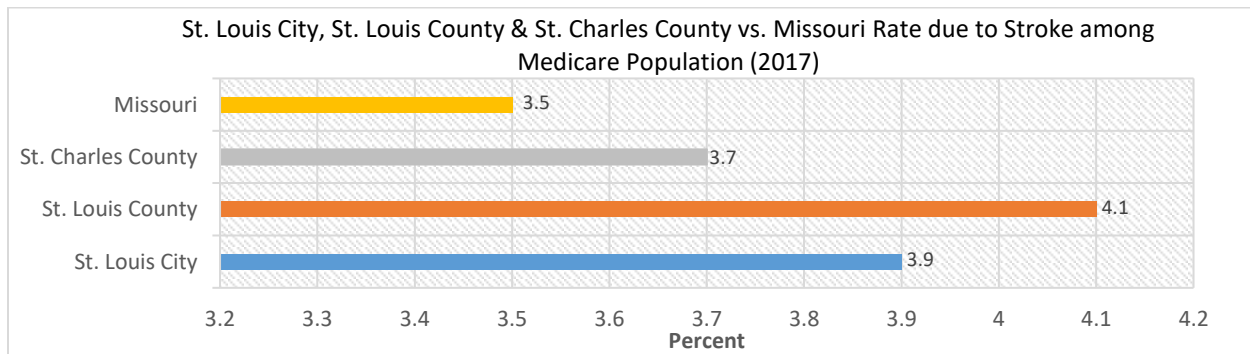
Source: Conduent Healthy Communities Institute

### ACCESS: TRANSPORTATION

ST. LOUIS CITY vs. MISSOURI ACCESS TO HEALTH CARE: TRANSPORTATION (2013-2017)				
HEALTH INDICATORS	ST. LOUIS CITY	ST. LOUIS COUNTY	ST. CHARLES COUNTY	MISSOURI
Percent Households without a Vehicle	20.7	7.2	2.9	7
Percent Workers Commuting by Public Transportation	9.5	2.7	0.2	1.5
Mean travel time to work in minutes; Age 16+	24.1	24.2 Minutes	25.5 minutes	23.4

Source: Conduent Healthy Communities Institute

### HEART AND CEREBROVASCULAR DISEASE: STROKE



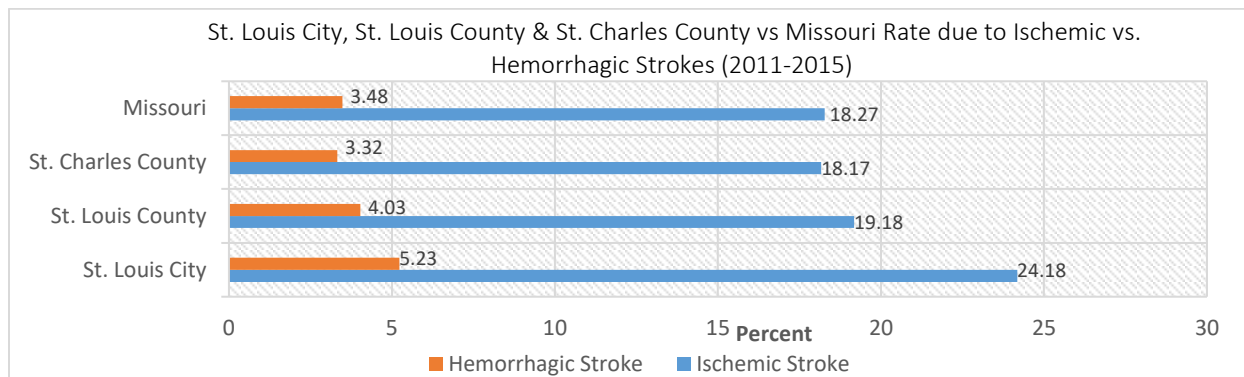
Source: Conduent Healthy Communities Institute

## HEART AND CEREBROVASCULAR DISEASE: STROKE

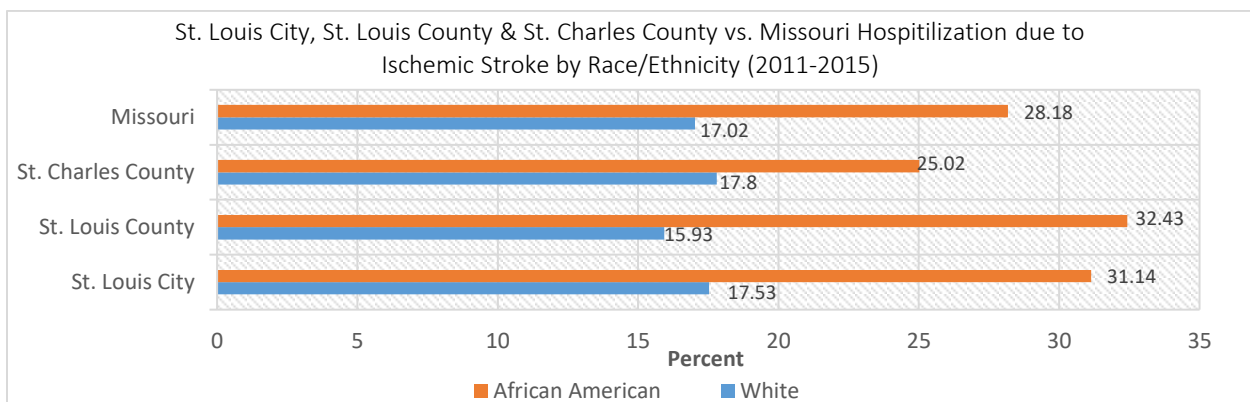
ST. LOUIS CITY, ST. LOUIS COUNTY & ST. CHARLES COUNTY VS. MISSOURI RISK FACTORS & PREVALENCE RATES FOR STROKE AMONG ADULTS 18 YEARS & OLDER (2011)

RISK FACTORS	ST. LOUIS CITY	ST. LOUIS COUNTY	ST. CHARLES COUNTY	MISSOURI
High Blood Pressure	34	34.1	28.1	34.4
High Cholesterol	34.8	37.7	40.4	39.6
Diabetes	11.5	10.9	6.5	10.7
Obesity	30.6	28.3	25.9	30.1
Overweight	32.2	33.2	37.1	34.5
Current Smoking	26.2	18.9	19.5	23.1
Physical Inactivity	25.9	19.8	18.5	23.7
Low Fruit & Vegetable Intake	87.7	86.5	87	87.5

Source: Missouri Department of Health & Senior Services

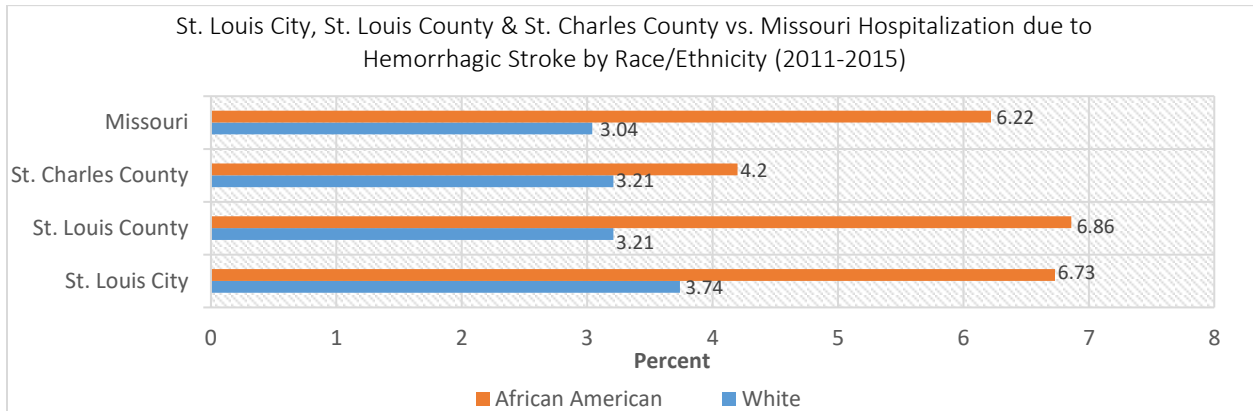


Source: Missouri Department of Health & Senior Services



Source: Missouri Department of Health & Senior Services

## HEART AND CEREBROVASCULAR DISEASE: STROKE



Source: Missouri Department of Health & Senior Services

### ST. LOUIS CITY, ST. LOUIS COUNTY & ST. CHARLES COUNTY VS. MISSOURI DISCHARGE STATUS AFTER AN ACUTE STROKE: ISCHEMIC & HEMORRHAGIC STROKE (2011-2015)

DISCHARGE STATUS	ST. LOUIS CITY		ST. LOUIS COUNTY		ST. CHARLES COUNTY		MISSOURI	
	ISCHEMIC STROKE	HEMORRHAGIC STROKE	ISCHEMIC STROKE	HEMORRHAGIC STROKE	ISCHEMIC STROKE	HEMORRHAGIC STROKE	ISCHEMIC STROKE	HEMORRHAGIC STROKE
Home	48.92	28.93	51.93	30.85	58.08	34.98	56.22	31.73
Other Long Term Care (LTC) Facility	14.05	17.65	14.38	15.81	10.99	11.15	14.9	17.18
Rehabilitation	27.49	26.29	24.3	24.57	21.13	22.91	18.19	19.83

Source: Missouri Department of Health & Senior Services

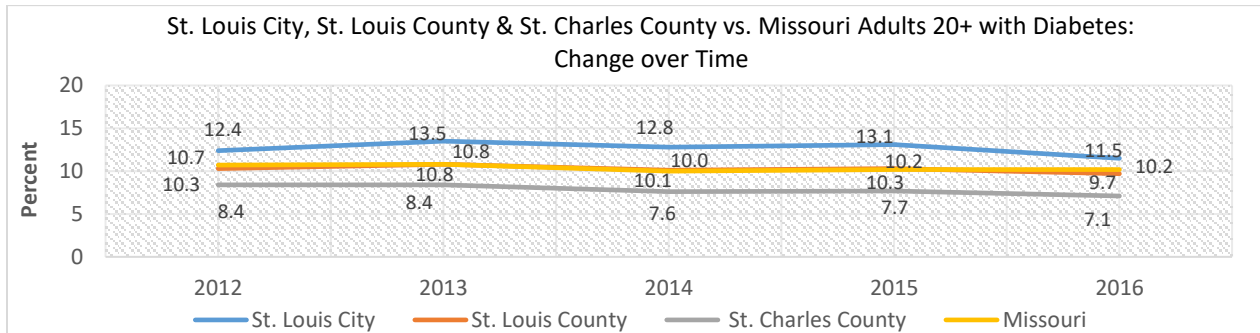
### ST. LOUIS CITY, ST. LOUIS COUNTY & ST. CHARLES COUNTY VS. MISSOURI DISCHARGE STATUS AFTER AN ACUTE STROKE: ISCHEMIC AND HEMORRHAGIC STROKE BY RACE/ETHNICITY (2011-2015)

DISCHARGE STATUS	ST. LOUIS CITY				ST. LOUIS COUNTY				ST. CHARLES COUNTY				MISSOURI			
	ISCHEMIC STROKE		HEMORRHAGIC STROKE		ISCHEMIC STROKE		HEMORRHAGIC STROKE		ISCHEMIC STROKE		HEMORRHAGIC STROKE		ISCHEMIC STROKE		HEMORRHAGIC STROKE	
	White	African American	White	African American	White	African American	White	African American	White	African American	White	African American	White	African American	White	African American
Home	49.89	47.98	29.68	28.13	52.12	51.25	29.58	32.58	58.39	52.05	34.45	50*	57.12	50.74	31.75	31.83
Other Long Term Care (LTC) Facility	15.49	13.53	17.31	17.92	15.35	12.38	15.71	15.76	11.11	11.64*	11.2	12.5*	15.26	13.3	17.27	18.02
Rehabilitation	22.34	30.5	26.5	26.59	22.74	28	22.86	28.34	20.67	28.08	23.08	25*	16.73	26.86	18.86	24.58

Source: Missouri Department of Health & Senior Services

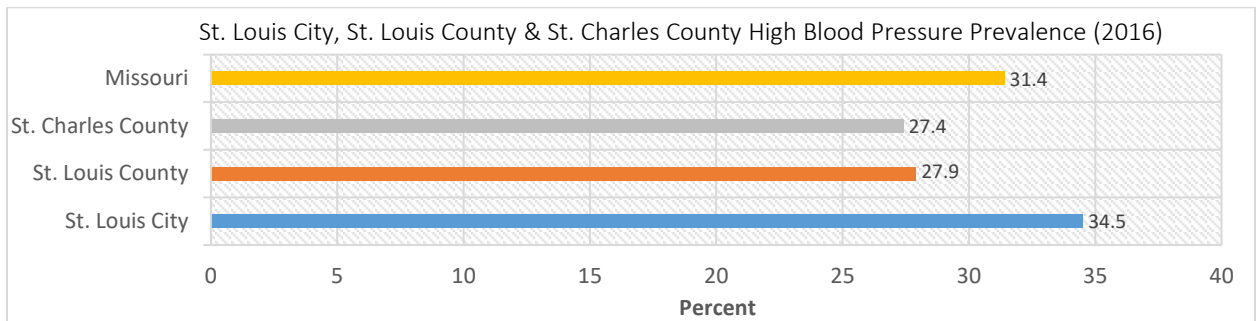
(\*): Less than 20 participants therefore data should be interpreted with caution

## DIABETES

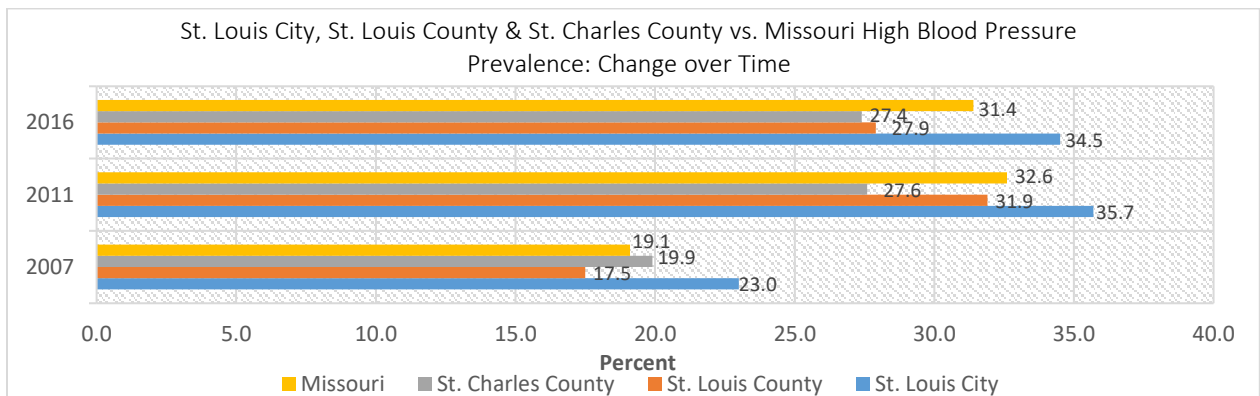


Source: Conduent Healthy Communities Institute

## HIGH BLOOD PRESSURE

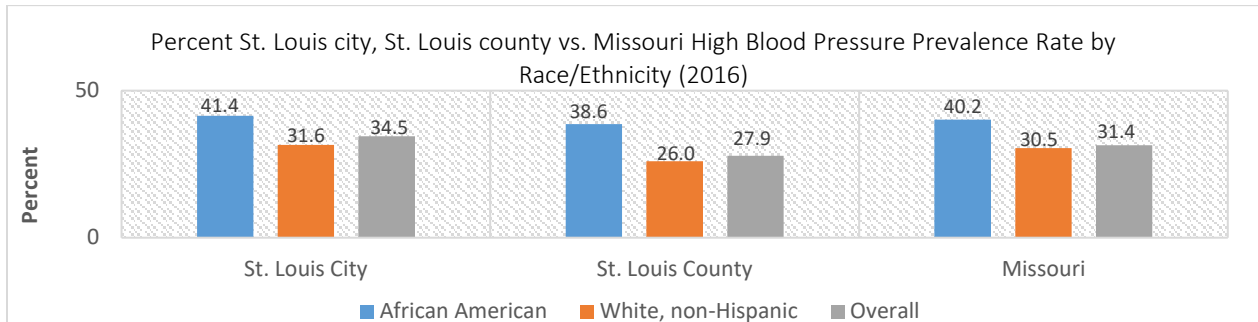


Source: Conduent Healthy Communities Institute



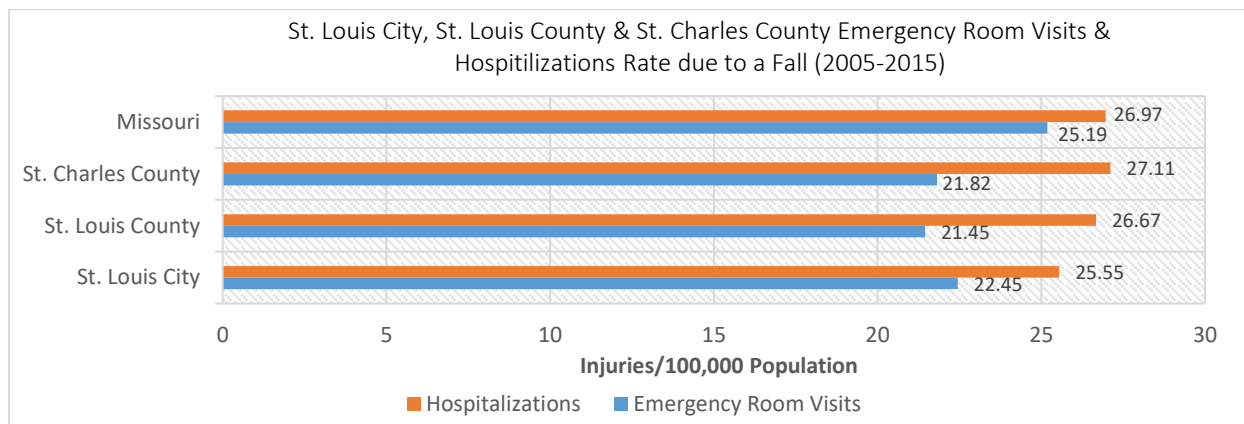
Source: Conduent Healthy Communities Institute

## HIGH BLOOD PRESSURE

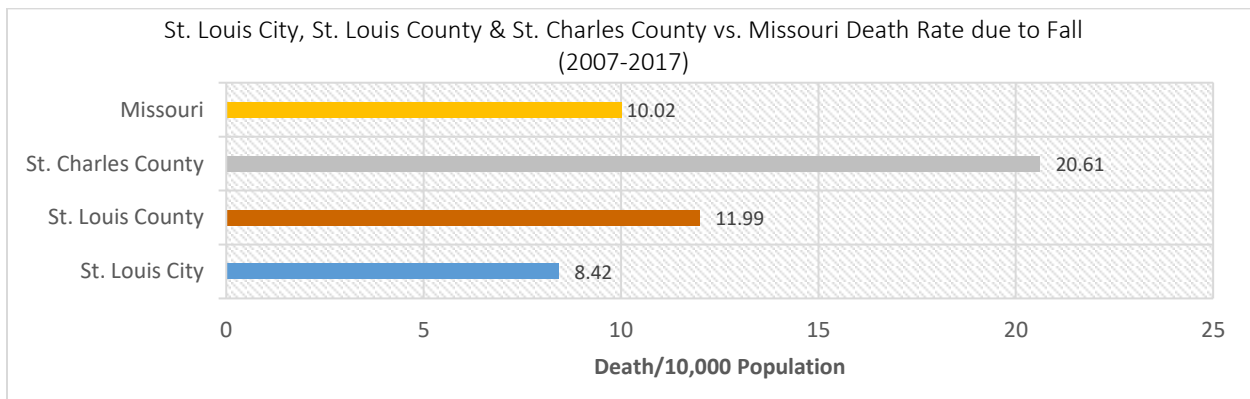


Source: Conduent Healthy Communities Institute

## FALL

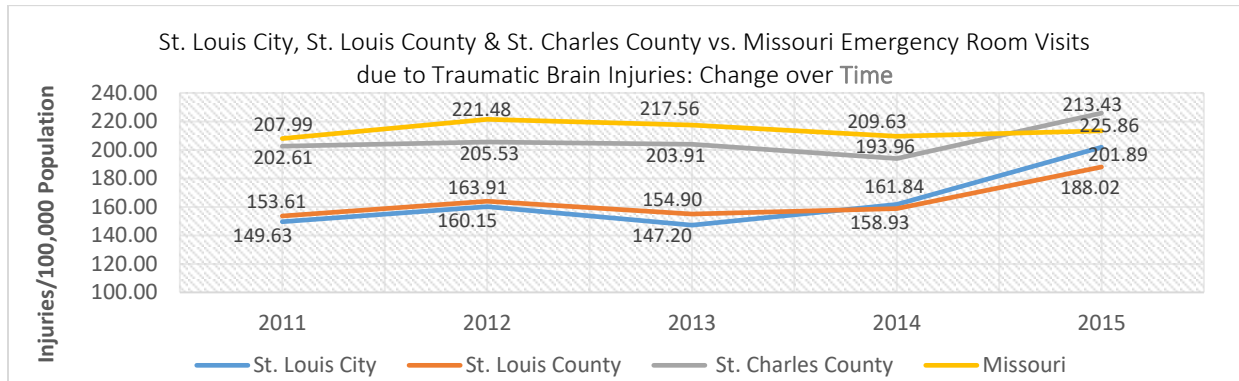


Source: Missouri Department of Health & Senior Services

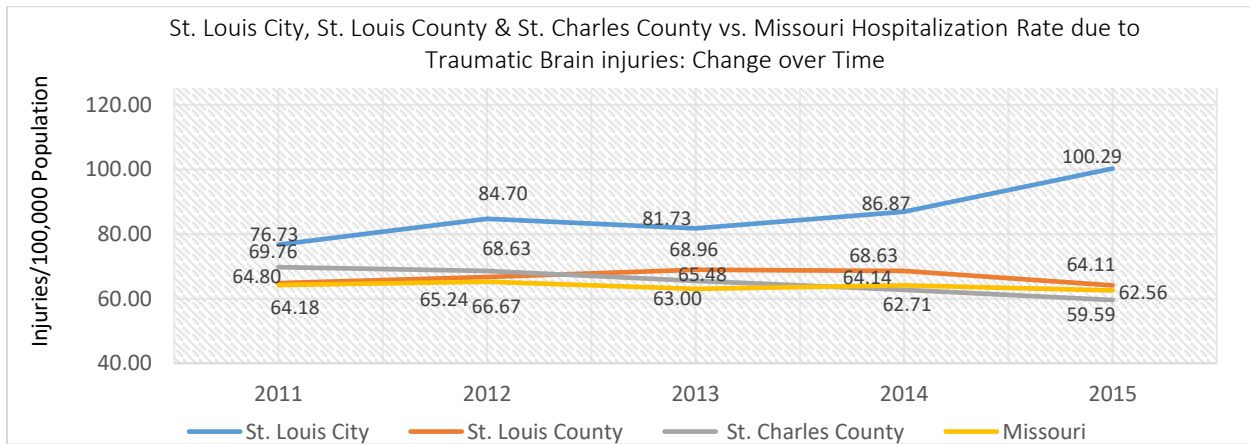


Source: Missouri Department of Health & Senior Services

## TRAUMATIC BRAIN INJURIES

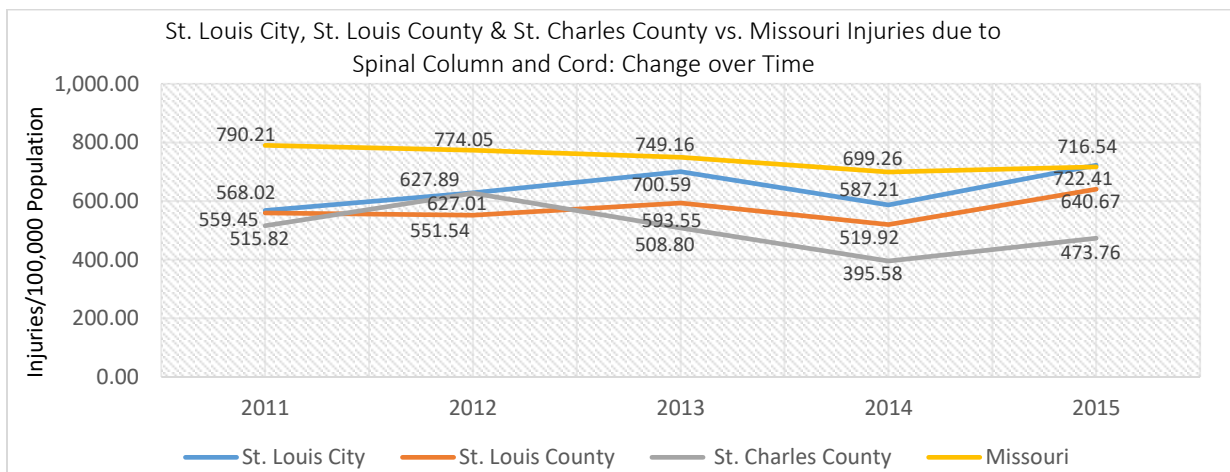


Source: Missouri Department of Health & Senior Services



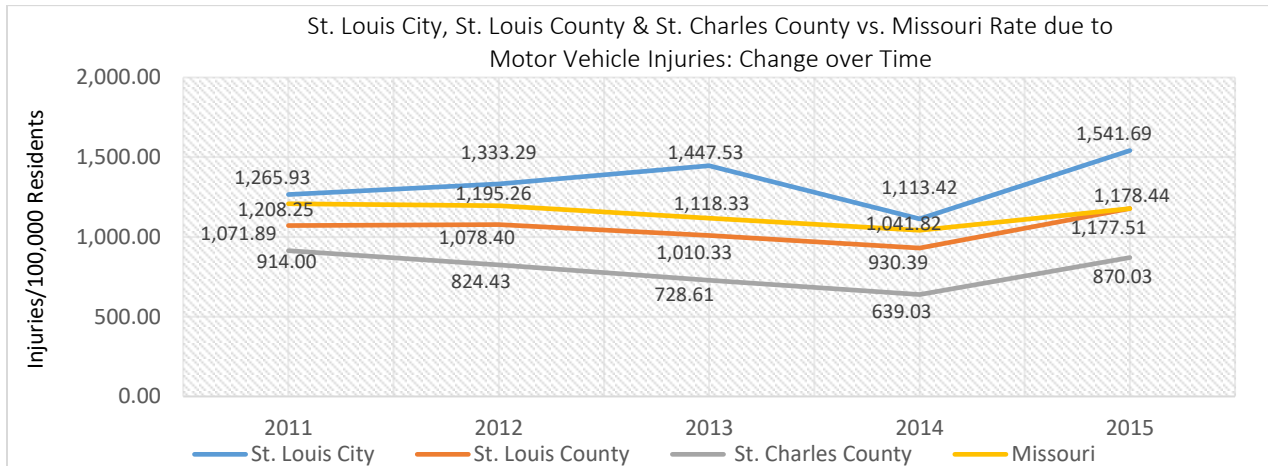
Source: Missouri Department of Health & Senior Services

## SPINAL COLUMN & CORD

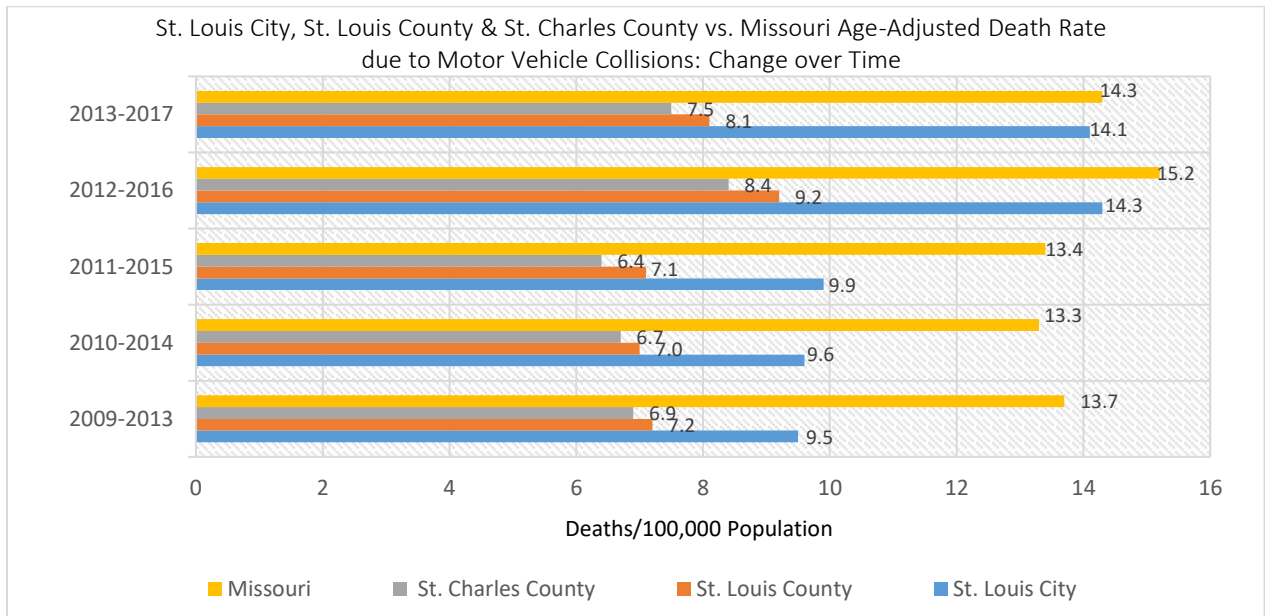


Source: Missouri Department of Health & Senior Services

## MOTOR VEHICLE COLLISIONS

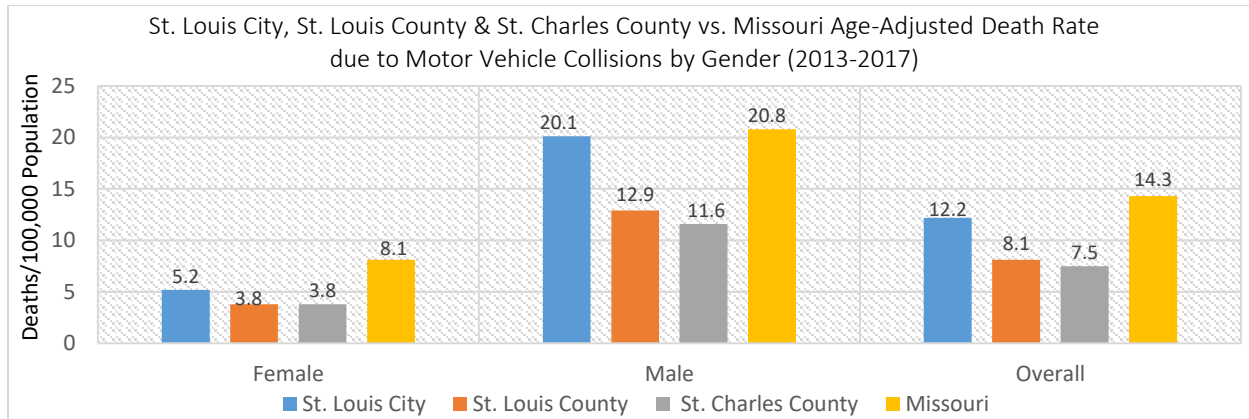


Source: Missouri Department of Health & Senior Services

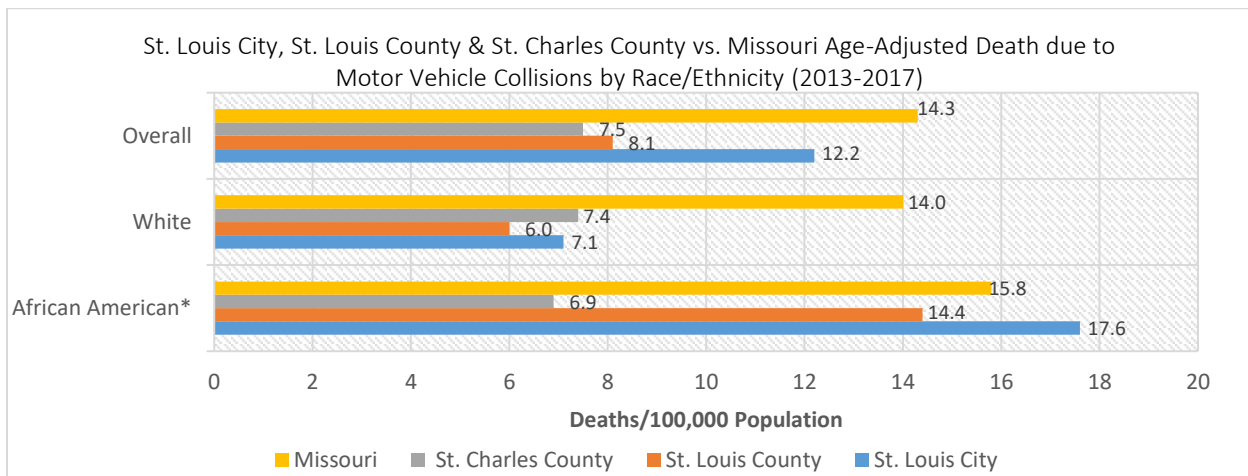


Source: Conduent Healthy Communities Institute

## MOTOR VEHICLE COLLISIONS



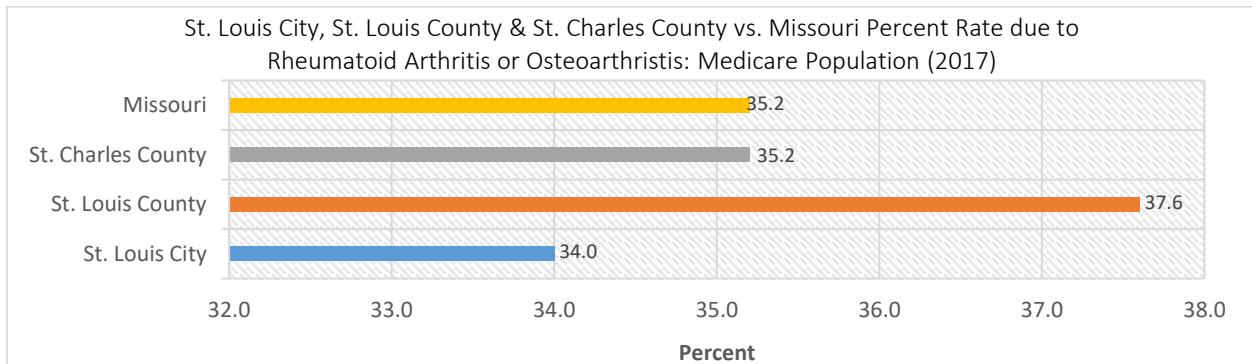
Source: Conduent Healthy Communities Institute



Source: Conduent Healthy Communities Institute

(\*) Value may be statistically unstable and should be interpreted with caution

## RHEUMATOID ARTHRITIS OR OSTEOARTHRITIS



Source: Conduent Healthy Communities Institute



## DATA SOURCES USED FOR THE SECONDARY DATA ANALYSIS INCLUDED:

*CONDUENT HEALTHY COMMUNITIES INSTITUTE (HCI)*, an online dashboard of health indicators for St. Louis County, offers the ability to evaluate and track the information against state and national data and Healthy People 2020 goals. Sources of data include the National Cancer Institute, Environmental Protection Agency, U.S. Census Bureau, U.S. Department of Education, and other national, state, and regional sources. <http://www.healthycommunitiesinstitute.com/>

*MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES, BUREAU OF VITAL STATISTICS*: provides a common means for users to access public health related data to assist in defining the health status and needs of Missourians.

<https://healthapps.dhss.mo.gov/MoPhims/MOPHIMSHome>

*THE NATIONAL SPINAL CORD INJURY STATISTICAL CENTER (NSCISC)* is funded by the National Institute on Disability, Independent Living and Rehabilitation Research (NIDILRR) and is operated from the University of Alabama at Birmingham (UAB) Department of Physical Medicine and Rehabilitation. NSCISC supports and directs the collection, management and analysis of the world's largest and longest spinal cord injury research database.

# IMPLEMENTATION STRATEGY



# Community Health Needs To Be Addressed

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## Community Health Need: Brain Injury

### Community Health Need Rationale

Traumatic brain injury (TBI) is a major cause of death and disability in the United States. Based on Center for Disease Control and Prevention, from 2006 to 2014, the number of TBI-related Emergency department visits, hospitalizations and deaths (TBI-EDHDs) increased by 53 percent. In 2014, an average of 155 people in the United States died each day from injuries that included a TBI. In 2014, there were approximately 2.87 million TBI-EDHDs in the United States, including over 837,000 occurring among children. This includes:

- Approximately 2.53 million TBI-related ED visits, including over 812,000 occurring among children
- Approximately 288,000 TBI-related hospitalizations, including over 23,000 occurring among children
- 56,800 TBI-related deaths, including 2,529 occurring among children

Based on Missouri Department of Health & Senior Services 2015 data, there were a total of 16,743 TBI-EDHDs. Out of this total there were 1,072 cases in St. Charles County, 917 in St. Louis City and 2,527 in St. Louis County. Missouri had 12,550 TBI-related emergency rooms visits, including:

- 520 occurring among children in St. Charles County
- 337 occurring among children in St. Louis City
- 1,079 occurring among children in St. Louis County

Out of 4,193 TBI-related hospitalizations, including:

- 39 occurring among children in St. Charles County
- 62 occurring among children in St. Louis City
- 95 occurring among children in St. Louis County

TRISL will address this need through prevention and education.

### Strategy Goal

To prevent traumatic brain injury and increase knowledge level of caregivers

### Strategy Objectives

- a) To increase brain injury prevention knowledge level by 10 percent at the end of each pre- and post-test among all ages in the communities we serve
- b) To increase knowledge level of those who provide care to brain injured patients by 10 percent at the end of each educational session

### Strategy Action

- Continue to offer a free education class for caregivers of traumatic brain injury patients.

- Participate in at least one fall prevention event or other brain injury prevention event in the community annually, beginning in 2021
- Host at least two talks to school-age children in the St. Louis community annually, beginning with the 2021 – 2022 school year.
- Set up pre- and post-test for all education talks/series to ensure level of knowledge about brain injury care and/or prevention is increased.

### **Strategy Outcome**

Reduce brain injury and increase knowledge among care takers

### **Strategy Outcome Measurement**

The pre-test result will be compared to the post-test score to analyze changes in the knowledge level of participants.

# Heart/Cardiovascular Disease: Stroke

## Community Health Need Rationale

Stroke is the fifth leading cause of death in the United States and is a major cause of serious disability for adults. About **795,000** people in the United States have a stroke each year. About 610,000 of these are first or new strokes. Stroke kills. About 185,000 strokes, nearly 1 of 4, are in people who have had a previous stroke. (Center for Disease Control & Prevention; 2014-2016) In 2017, there were 3,159 deaths due to stroke in Missouri. This includes:

- 128 in St. Charles County
- 155 in St. Louis City
- 624 in St. Louis County

There is a continuing need for education to reduce stroke prevalence especially in African Americans and those who have limited access to health/ preventative care. TRISL will partner with Washington University School of Medicine and ABC Brigade to commit to education in both the prevention of the disease as well as educating stroke survivors and their families about potential for a very full life after stroke.

## Strategy Goal

To promote stroke education and prevention

## Strategy Objective

At the end of each session, program participants' knowledge level will increase by 10 percent

## Strategy Action

- Continue to offer blood pressure checks and provide literature/resources on the signs/symptoms of stroke and stroke prevention information for outpatients, visitors, community and staff during Stroke Awareness month in May, annually, with the exception of 2020 due to the lack of feasibility during the pandemic.
- Continue support of the ABC Brigade in their support of stroke survivors and aiding in stroke education/prevention by participating in and/or sponsoring events such as Strokes for Stroke, Stampede for Stroke, and the annual trivia night.
- Continue to offer a free education class for caregivers of stroke patients.
- Set up pre- and post-test for all education talks/series to ensure level of knowledge about stroke care and/or prevention is increased.

## Strategy Outcome

Stroke prevention

## Strategy Outcome Measurement

The pre-test result will be compared to the post-test score to analyze changes in the knowledge level of participants.

# Community Health Needs That Will not Be Addressed

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## **ACCESS TO HEALTH CARE**

- Insurance
- Medication
- Mental/Behavioral Health: Mental Health

Being an entity that is half for-profit and half nonprofit and having limited resources, we chose not to address these community health needs. We do however have financial assistance for those who cannot afford the cost of their care. We also provide information on many resources available in the community to our patients and their families.

## **ACCESS TO HEALTH CARE: TRANSPORTATION**

Being an entity that is half for-profit and half nonprofit and having limited resources, TRISL already provides what it can to address appropriate transportation needs for its targeted area. TRISL provides transportation for inpatient needs to physician appointments. In addition, TRISL has developed a comprehensive list of transportation alternatives for disabled and rehabilitating patients and caregivers who need transportation.

## **EXERCISE / PHYSICAL ACTIVITY**

Being an entity that is half for-profit and half nonprofit and having limited resources, TRISL decided it already provides what it can to address affordable and safe exercise options by providing informational resources to patients and families when preparing them for discharge. Foundation now offers sex education class on the AMH campus once per month.