Community Health Status Assessment

December 11, 2017

A Regional Collaboration between the St. Louis Partnership for a Healthy Community, the City of St. Louis Department of Health, and the Saint Louis County Department of Public Health
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INTRODUCTION

Background

This report documents the health status of St. Louis City and County residents. The community health status indicators - organized in this report by foundational public health areas - were identified through a comprehensive study of population, hospital, and community data. The foundational public health services model is a conceptual framework outlining key capabilities and services and includes: Access to and Linkage with Clinical Health Care; Chronic Disease and Injury Prevention; Communicable Disease Control; Environmental Public Health; and Maternal, Child, and Family Health. Indicators describing Demographics and Opportunity – social and structural determinants – metrics were also identified, to fully capture equity and well-being of our community.

Foundational Public Health Services Model

<table>
<thead>
<tr>
<th>Opportunity Measures – Social and Structural Determinants</th>
<th>Demographic Characteristics</th>
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Adapted from: http://phnci.org

This is the first community health status assessment (CHSA) conducted by the St. Louis Partnership for a Healthy Community. Reports from previous assessments and improvement plans are available on www.ThinkHealthSTL.org.

The broad goal of any health status assessment is to analyze quantitative population health data and identify important health issues that affect the community. A workgroup comprised of epidemiologists, biostatisticians, and data enthusiasts from the City of St. Louis Department of Health and the Saint Louis County Department of Public Health gathered data from epidemiological sources and hospitals.

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Vision

The St. Louis Partnership for a Healthy Community and its member organizations are committed to a vision of: *St. Louis, an equitable community achieving optimal health for all.* The 2017 Community Health Status Assessment includes data on disparities in our region, driven by the goal of identifying and describing factors that impact the health of all residents, workers, and visitors so that health equity and health outcomes can be directly addressed to improve the lives of all people in the St. Louis region.

"Health Equity" means that everyone has the opportunity to live a long and healthy life without that being compromised or disadvantaged because of economic, demographic, or geographic differences such as race, ethnicity, gender, income, education, sexual orientation, neighborhood of residence, or any other social or environmental conditions.

Health inequities are differences in health outcomes across population groups that are avoidable, unfair, and unjust. These differences come from inequalities that exist between the places where we are born, live, learn, work, play, and age.
Framework

The workgroup analyzed and prioritized a list of health indicators based on a predetermined set of criteria, including the ability to benchmark, disaggregate, or analyze trend data over time. Additional criteria reflects indicators organized by the County Health Rankings and Roadmaps approach to describing health factors and health outcomes. The objective was to ensure that the CHSA focuses on both "downstream" determinants of health and "upstream" health effects.

County Health Rankings and Roadmaps Approach

Adapted from: http://www.countyhealthrankings.org/our-approach

Local public health system stakeholders were invited to rank these indicators according to their expertise, their work or that of their agency, and ability to take action. The workgroup designed a poster for each of the foundational areas, demographics, and opportunity or structural, social, and economic indicators (see Appendix). Attendees had the option of providing open-ended suggestions for indicators and data sources. The final list was compiled after the open house and posted to the website (www.ThinkHealthSTL.org).
Geographic Area

In 2012, the Saint Louis County Department of Public Health designated new geographic areas within St. Louis County and aligned them with the Department of Planning’s five-year Strategic Plan update. These areas were based on the 49 ZIP codes within and crossing St. Louis County’s borders. ESRI ArcGIS was used to assign each census tract to one of five survey areas: 1) Central, 2) Inner North, 3) Outer North, 4) South, and 5) West. See the Appendix for more information.

POPULATION DENSITY, ST. LOUIS REGION

• According to the 2010 U.S. Census, a total of 319,381 people live in the 61.91 square miles comprising St. Louis City, and 998,868 people live in the 507.8 square miles comprising St. Louis County, Missouri.

• The population density of St. Louis City, estimated at 5,157.5 persons per square mile, is greater than the population density of St. Louis County, estimated at 1,967.2. Both were higher than the state (87.1) and national (87.4) average population densities.
DEMOGRAPHICS

Population Estimates

Measuring demographics is an essential part of measuring health status because the meaning of “health” often changes for different sections of the population according to one’s age, sex, race/ethnicity, income, and language spoken, among other factors. Understanding a population’s age and sex can tell us how demographics are changing and may even forecast future social and economic events.

U.S. Census Bureau, Population Division, Annual Estimates of the Resident Population, April 1, 2010 to July 1, 2016

- 998,581 people lived in St. Louis County in 2016, which was a decrease of 0.03% from 2010 when the population was 998,833.

- 311,404 people lived in St. Louis City in 2016, which was a decrease of 2.5% from 2010 when the population was 319,305.

- The percentage of females and males in St. Louis City and County were similar when averaged for 2011 to 2015.
Population Estimates

The 25 – 34 year old age group comprised the largest percent of the St. Louis City population (19.2%) in 2015. The 45 – 54 (13.1%) and 35 – 44 (12.8%) age groups followed.

St. Louis City had nearly double the percent of population in the under 5 age group (9.7%) than St. Louis County (5.8%).

St. Louis County’s largest population age group was 45 – 54 year olds, followed by 25 – 34 (12.6%) and 35 – 44 year olds (11.8%).

In St. Louis City, the population by race was nearly equal between black/African Americans (49.1%) and whites (47.9%), while other races (American Indian, Asian, multiple races, Native Hawaiian, other) comprised 5.8%.

In St. Louis County, the population was predominantly white (71.7%), black/African Americans comprised nearly a quarter (24.7%), and other races were 14.5%.
Racial Polarization

Racial polarization is the process whereby a population is divided into separate and distinct (from each other) racial groups. It can represent increasing economic inequality. On average, a black/African American household has about 6% of the total wealth of a white household. Racial segregation can reduce educational and job opportunities and is associated with worse health outcomes.

**Racial Polarization, St. Louis City, 2015**

- Zip codes in northern St. Louis City (63115, 63118, 63106, 63120, 63147, 63107) had the highest polarization of black/African American residents, with a range of 97.9% to 85.0%.

- Zip codes in southwestern St. Louis City (63139, 63109) had the highest polarization of white residents.

- The least polarized zip codes (63102, 63103, 63104, 63118, 63111) were in eastern St. Louis City, where the percentages of black and white sub-groups were nearly equally distributed.
Income

Median household income reflects the relative affluence and prosperity of an area. Areas with higher median household incomes are likely to have more educated residents and lower unemployment rates. Higher employment rates lead to better access to healthcare and better health outcomes since many families get their health insurance through their employer.

ACS, 5-YR Est., 2011-2015

- Median household income was lowest in St. Louis City, as compared to St. Louis County, Missouri, and the United States for 2015. St. Louis County had the highest median household income.

ACS, 5-YR Est., 2011-2015

- When looking at median household income by race, black/African Americans had the lowest incomes compared to whites, American Indian, and Asians in St. Louis City ($23,155) and County ($38,698), Missouri ($31,977), and the United States ($35,695).

- Whites had the highest income in St. Louis City ($50,042), while Asian households ($82,545) had the highest in St. Louis County.
Poverty

Poverty is a comparison of a person’s income with the minimum amount needed to pay for food and housing. People earning less than the minimum are considered living below the poverty line, with children being misfortunate victims of the cycle of poverty. Poverty is habitually cyclical and families can often be impoverished for three generations.

- St. Louis City had nearly triple (21.7%) the percent of families living in poverty than St. Louis County (7.9%) in 2015. St. Louis County had the lowest percentage when compared to Missouri (11.1%) and the United States (11.3%).

ACS, 5-YR Est., 2011-2015

Asset poverty is a measure of how much of a financial cushion a household has to weather a financial crisis such as unemployment, a health emergency, or vehicle repairs. It is estimated that three months of living expenses at the poverty level is the minimum financial cushion needed for a family that loses its income. Liquid asset poverty includes the liquid savings households have to cover basic expenses for three months if they experience a sudden job loss, a health emergency, or another financial crisis that decreases stable income. A liquid asset is cash on hand whereas assets may require more time and negotiation to convert to cash.

- Of counties with more than 250,000 people, St. Louis City had the 5th highest rate of asset poverty (37.1%) and 14th highest rate of liquid asset poverty (53.1%) in 2016 in the nation.

- St. Louis County had the lowest asset and liquid poverty rates (19.5%, 23.1%) as compared to the Metro area (20.8%, 34.2%).

• Most zip codes in St. Louis City had a medium, high, or very high percent of families living below the poverty line; the only zip code with a low level was 63109 (see map on right).

• St. Louis County poverty levels were highest in the Inner and Outer North sub-regions, and lowest in the West (see map on right).
Foreign-Born Population

The term "foreign born" encompasses both immigrants and expatriates. Foreign born are often non-citizens, but many are naturalized citizens of the country in which they live and others are citizens by descent, typically through a parent. In 2012, the largest foreign-born population in the world is in the United States, which was home to 39 million foreign-born residents in 2012.

- Foreign-born individuals comprised 6.7% of the total population in both St. Louis City and County in 2015.

- From 2010 to 2015, the foreign-born population increased in St. Louis City and County, Missouri, and the United States.

  - St. Louis City had a smaller increase (1.1%) than St. Louis County (8.1%).
  - St. Louis County had the greatest increase when compared to Missouri (7.4%) and the United States (13.4%).
English-Speaking Households

Limited English Proficiency (LEP) refers to anyone above the age of 5 who reported speaking English less than “very well,” as classified by the U.S. Census Bureau. In 2013, a majority of LEP individuals were immigrants, but nearly 19% (4.7 million) were born in the U.S., mostly to immigrant parents. Immigrants to the United States come from many different language backgrounds and may be in various stages of English proficiency. For most people residing in the United States, English is the only language spoken in the home. However, many languages other than English are spoken in homes across the country. Data on speakers of languages other than English and on their English-speaking ability provide more than an interesting portrait of our nation. Routinely, these data are used in a wide variety of legislative, policy, legal, and research applications.

![LIMITED ENGLISH-SPEAKING HOUSEHOLDS, 2015](chart)

- St. Louis City had a higher percentage (2.2%) of limited English-speaking households in 2015 than St. Louis County (1.6%); both rates were higher than Missouri (1.2%), but lower than the United States (4.5%).

![ENGLISH LANGUAGE SPOKEN AT HOME, POPULATION 5 YEARS AND OVER, 2015](chart)

- St. Louis City and County had similar rates of English being the only language spoken or very well spoken at home among the population aged 5 years and older in 2015 (96.2%, 97.0% respectively).
Functional Needs Population

Functional Needs Populations may include the following: persons with visual or mobility disabilities, people who are hard of hearing or deaf, people with weakened immune systems or chronic conditions, people who use American Sign Language as their primary language, non-English speakers, people without personal transportation, infants and young children, women in the late stages of pregnancy, and the elderly.

- St. Louis City had a similar percentage of its population with functional needs as Missouri, while St. Louis County was more comparable to the United States in 2015.

- When looking at individuals with functional needs by age, the 65 and older age group had the highest percentage as compared to ages 18 - 64 and under 18 across geographies.

- St. Louis City had higher percentages of functional needs individuals in the 18 - 64 (13.7%) and 65 and older (43.5%) age groups as compared to St. Louis County (8.9%, 32.9%), Missouri (12.6%, 37.3%), and the United States (10.3%, 35.0%).
Educational Attainment

Individuals with more education typically live longer, healthier lives than those with fewer years of schooling. Race, gender, age, disability, and other personal characteristics, including family characteristics, often affect educational opportunities and success in school. People with more education are often spared the health-harming stresses that accompany prolonged social and economic hardship.

**POPULATION 25 YEARS AND OVER BY EDUCATION ATTAINMENT, 2015**

<table>
<thead>
<tr>
<th>Education Attainment</th>
<th>St. Louis City</th>
<th>St. Louis County</th>
<th>Missouri</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 9th grade</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9th to 12th grade, no diploma</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school graduate (includes equivalency)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some college, no degree</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associate's degree</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Graduate or professional degree</td>
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*Not included is the Special School District

ACS, 5-YR Est., 2011-2015 (above) ; Missouri Department of Elementary and Secondary Education, District Adjusted Cohort Graduation Rate, 2015 (left)

- Both St. Louis City and County had higher rates of individuals with graduate (13.6%, 17.3%) and bachelor degrees (18.3%, 24.4%) than Missouri (10.2%, 16.9%), yet Missouri had a higher rate of high school graduates (31.3%).

- The rate of students graduating high school within their four year cohort ranged from 72.7% (St. Louis City) to 100.0% (Brentwood) across the St. Louis Region’s School Districts.

*Not included is the Special School District
Life Expectancy and Years of Potential Life Lost

Life expectancy (LE) at birth and years of potential life lost (YPLL) both reflect the overall mortality level of a population and gauges the overall health of an area. LE is an estimate of the expected average number of years of life for individuals who were born into a particular population. YPLL estimates the number of life years lost to premature death; most federal and state agencies use age 75 as the benchmark for calculations. Both indicators vary depending on where a person lives and areas with shorter estimates tend to have communities that are poorer and less educated.

- Residents in St. Louis City had the lowest total life expectancy (73.2 years) compared to St. Louis County (78.7 years) and Missouri (77.2 years).
- St. Louis County residents had the highest life expectancy compared to both places and residents lived 5 years longer than those in St. Louis City.
- Black/African American residents had a lower life expectancy in all areas when compared to white residents whose life expectancy ranged between 5 to 6 years longer.
- In St. Louis County, life expectancy for all residents was over 8 years longer than it was for Black/African American residents within 2004 and 2012, on average.

- When compared to St. Louis City and Missouri, St. Louis County residents had the lowest years of potential life lost for every year from 2010 to 2016.
- St. Louis City had a 41% higher number of YPLL, on average, when compared to St. Louis County for the same time period.
OPPORTUNITY MEASURES

Affordable Housing

Home ownership has important positive effects on social, physical, and economic outcomes compared to renting. The supply of rental housing has not kept pace with the demand of households who rent. Currently, up to 37% of households rent in the U.S. Ongoing uncertainties with the housing market, overall distrust of homeownership after the recession, and financial hardships can deter young adults from purchasing homes. Unaffordable debt for renters or owners will almost certainly lead to negative health and social outcomes.

PERCENT OWNER OR RENTER OCCUPIED HOMES, 2015

- In 2015, 45% of St. Louis City households owned their home and 72% of St. Louis County households owned their home.

ACS, 5-YR Est., 2011-2015

- When looking at renter- or owner-occupied homes by race in the St. Louis Region, 45% of African Americans, 75% of whites, 54% of Asians, and 44% of other races are homeowners. This suggests that there is a disparity between races when it comes to homeownership.
Affordable Housing

Unaffordable housing and debt for home owners or renters can lead to negative health outcomes. Housing affordability problems often force people into adverse decisions that they would not make if they were not experiencing housing stress (e.g., going without food or medication). Affordable housing allows for more household resources to be directed towards healthcare and healthy foods which contribute to better health outcomes. Furthermore, research suggests that affordable, stable, and well-maintained housing can help reduce problems associated with poor quality housing, alleviate crowding, and reduce exposure to infectious diseases and other stressors. High rent disproportionately burdens low income households and racial and ethnic minorities. According to the Department of Housing and Urban Development (HUD), households spending more than 30 percent of their income on housing costs are considered to be "cost-burdened."

*Percentage of Homeowners and Renters Spending 30% or More of Yearly Income on Housing Costs by Income Bracket

- In the St. Louis Region, a much higher percentage of homeowners and renters in the lowest income brackets were spending 30% or more of their yearly income on housing costs.
- Over 80% of homeowners and renters who make less than $20,000 are considered “cost-burdened” in the region.

ACS, 5-YR Est., 2011-2015
Personal Transportation

Vehicle ownership can contribute to the wealth gap between households that do and do not own cars. Studies show that workers with cars can log more hours per week at their jobs than can those without cars, which can enable car-owning workers to earn more money. If there is no efficient alternative to automobile travel, households can have limited access not only to jobs, but also to health care, social interaction, and healthy foods. Vulnerable populations, such as low-income or uninsured persons, often lack affordable, adequate, and safe transportation options.

- In St. Louis City, 21.7% of households were without a vehicle, which was almost three times more than Missouri and St. Louis County, and more than double the percent in the United States.
- In St. Louis County, 7.3% of households were without a vehicle which was comparable to Missouri (7.4%) and slightly lower than the United States (9.1%).

ACS, 5-YR Est., 2011-2015

WORKERS COMMUTING BY PUBLIC TRANSIT TO WORK, PERCENT BY TRACT

- The percentage of St. Louis City and County residents using public transportation as their primary means of commute to work was 9.43% and 2.48% respectively 2011-2015; both geographies were higher than Missouri (1.49%).
- According to the same data, census tracts in the northeastern St. Louis region had the highest percentage of residents using public transit.

Map courtesy of Community Commons
Violent Crime

A violent crime is a crime in which the offender uses or threatens to use violent force on the victim. According to the FBI’s Uniform Crime Reporting (UCR) Program, violent crime includes four offenses: homicide, rape, robbery, and aggravated assault. Violence negatively affects communities by reducing productivity, decreasing property values, injuring victims, and disrupting social services.

- The rate of violent crime in St. Louis City (1,885.4 per 100,000 persons) was more than four times higher than the rate for Missouri (452.2) and the United States (395.5).
- St. Louis County experienced a violent crime rate of 311.9 per 100,000 persons, which was slightly lower than Missouri and the United States.

- When looking at the types of violent crimes that were committed in St. Louis City, 60% were aggravated assault, 32% were robbery, 5% were rape and 3% were homicide between 2010 and 2013, on average.

*It should be noted that violent crime reported was the location of the incident, not necessarily the residency of the victim or the offender.

St. Louis Metropolitan Police Department, 2010-2013
Property Crime

Property crime includes crimes that are related to theft or the destruction of someone’s property. According to the FBI’s UCR program, a property crime includes the offenses of burglary, larceny, motor vehicle theft, and arson. Larceny is defined as unlawfully taking away the property of another. This can include pocket-picking, shoplifting, stealing motorcycles, or automobile parts. While the immediate effect of crime is usually felt by the individual upon whom the crime was committed, the community at large is also affected by criminal activity. Members who remain in crime-filled areas may feel unsafe in general, particularly if they witness crime.

The most common type of property crime committed St. Louis City in 2016 was larceny.

The rate of all property crime in 2016 was higher in the downtown and northern portions of St. Louis City.

*Property crime was reported by incident location and not necessarily the residency of the victim or offender.
Homicide

Homicide is defined as the unlawful killing of another human being. The legal definition of homicide includes several types of acts including intentional crimes like murder and involuntary acts like manslaughter. There is abundant clinical evidence indicating that following a homicide, family members are at risk for developing sustained and dysfunctional psychological reactions. Specialized treatment is needed in the aftermath of a homicide to lessen the long-term psychological impact for survivors and help co-victims cope with their grief and devastation while restoring control in their lives.

MODHSS

- St. Louis City had a homicide rate that was four times higher than St. Louis County, on average, between 2014 and 2015 (121.5 homicides per 100,000 persons versus 29.3 homicides per 100,000 persons).

MODHSS

- St. Louis City’s homicide rate was seven times higher than Missouri’s rate.
- St. Louis County had a rate that was almost double that of Missouri.

*The location of the homicide is based on the residency of the victim*
Financial Security

Opening a bank or credit union account is often the first step to saving, building credit, and planning for the future; but almost ten million U.S. households are without one. Households without either a savings or checking account – defined as “unbanked” – can often spend a significant amount of money on using financial services. Households who are underbanked are defined as having banking accounts but use costly financial services for transaction or credit needs such as money orders and check cashing services. Underbanked households are also more likely to experience financial loss or theft, creating further challenges in building credit and achieving financial security as compared to banked households.

2013 FDIC National Survey of Unbanked and Underbanked Households, for US, States, DC and 69 largest MSAs. Estimates at smaller geographies are derived from CFED’s statistical modeling process, FDIC, and ACS 5-YR Est., 2009-2013. The median value represents counties with more than 250,000 residents (2013 FDIC).

- Of counties with more than 250,000 people, St. Louis City had the 13th highest unbanked rate (14.1%) in 2016 in the nation.

- St. Louis County had a lower unbanked rate (5.7%) than St. Louis City, Missouri (8.9%), the U.S. (7.7%), and the median (6.5%), but the MO-IL metro area was the lowest (4.2%).

2013 FDIC

- Of counties with more than 250,000 people, St. Louis City had the 11th highest underbanked rate (23.8%) in 2016 in the nation.

- St. Louis County had the lowest underbanked rate (17.9%) when compared to St. Louis City, the MO-IL metro area (19.2%), Missouri (20.4%), the U.S. (20.0%), and the median (18.3%).
Financial Security

Gini index values range from zero to one. The index is often used to quantify economic inequality by measuring income distribution among a population. It is not an absolute measurement of income or wealth. A value of one indicates perfect inequality where only one person or household has any income. A value of zero indicates perfect equality, where all households have equal income.

Unemployment creates financial instability and barriers to access items such as insurance coverage, health services, healthy food, and other necessities that contribute to poor health status. The unemployment rate includes the civilian, non-institutionalized population age 16 and older (non-seasonally adjusted).

![GINI INEQUALITY INDEX, ST. LOUIS REGION, 2016](chart1)

- Both St. Louis City and St. Louis County had a higher Gini inequality value than Missouri (0.46) value or the U.S. (0.48).
- The St. Louis City value (0.51) was highest compared across all geographies. The St. Louis County value was 0.49 for income inequality in 2016.

![UNEMPLOYMENT RATE, ST. LOUIS REGION, 2017](chart2)

- St. Louis County had the lowest unemployment rate (4.0%) when compared to St. Louis City (5.2%), Missouri (4.3%), and the U.S. (4.7%).
- The St. Louis City value was the highest compared across all geographies in 2017.
ACCESS TO AND LINKAGE WITH CLINICAL CARE

Health Insurance – Children

While the number of uninsured children in the U.S. is at an all-time low, nearly 3.9 million children under the age of 18 remain uninsured. Many of those children are eligible for Medicaid or the Children’s Health Insurance Program (CHIP) but are not enrolled. Many of these children are affected by homelessness and other adverse childhood experiences.

Schools are critically positioned to help close the enrollment gap. Research continues to show that children learn best when they are physically and emotionally healthy. CHIP is administered by states within broad federal guidelines and jointly funded by the federal government and states. Since the implementation of the Affordable Care Act (ACA) in 2013, the number of children with health insurance has been increasing nationally.

- The percent of children in St. Louis City with any type of health insurance from 2011 to 2015 has remained steady over time.

- The percent of children in St. Louis County with any type of health insurance from 2011 to 2015 increased by nearly one percent (0.8%).

- None of the measured populations (St. Louis City, St. Louis County, Missouri, U.S.) had reached the Healthy People 2020 goal for 100% child healthcare coverage in 2015.
Health Insurance – Adults

To obtain high-quality care, patients must first gain entry into the health care system. Health insurance coverage helps patients gain entrance but is not the only measure for access to care. Other measures include having a usual source of care or primary medical home, difficulties encountered when seeking care such as adequate transportation, and receiving care as soon as needed. Historically, the U.S. population has experienced inconsistent access to care based on race, ethnicity, socioeconomic status, age, sex, disability status, sexual orientation, gender identity, and residential location.

The Affordable Care Act was the most far-reaching effort to improve access to care since the enactment of Medicare and Medicaid in 1965. Provisions to increase health insurance options for young adults, early retirees, and Americans with pre-existing conditions were implemented in 2010. Open enrollment in health insurance marketplaces began in October of 2013 with coverage beginning in January of 2014. Expanded access to Medicaid in many states began in January of 2014, with a few states opting to expand Medicaid earlier and others not expanding Medicaid at all.

- Since the enactment of the ACA in 2011, the number of adults with health insurance has been increasing.
- None of the measured populations (St. Louis City at 80%, St. Louis County at 87.1% and Missouri at 83.8%) in 2015 had reached the Healthy People 2020 goal for 100% adult healthcare coverage.
Health Insurance – Medicaid

Medicaid provides health coverage to millions of U.S. citizens, including eligible low-income adults, children, pregnant women, elderly adults, and people with disabilities. Medicaid is administered by the states, following federal requirements. The program is funded jointly by states and the federal government. States establish and administer their own Medicaid programs and determine the type, amount, duration, and scope of services within broad federal guidelines. Federal law requires states to provide certain mandatory benefits and allows states the choice of covering other optional benefits. Mandatory benefits include services like inpatient and outpatient hospital services, physician services, laboratory and x-ray services, and home health services, among others. Optional benefits include services like prescription drugs, case management, physical therapy, and occupational therapy.

This chart shows the percentage of residents, by age, with insurance through Medicaid in the St. Louis Region from 2011 through 2013.

- Children age 17 or younger were the largest population age group insured by Medicaid.
- Children under age 6 comprised nearly 80% of the population with insurance through Medicaid, followed by 6-17 year olds (60%).
Uninsured Persons

Uninsured people are less likely to receive medical care, more likely to die early, and more likely to have poor health status. Lack of adequate coverage makes it difficult for people to get the health care they need and, when they do get care, burdens them with large medical bills. Individuals without medical insurance and without a regular and easily-accessible source of care are found more likely to postpone medical care and experience more difficulty obtaining care in comparison to those with insurance and regular access to care.

- This indicator shows the percentage of uninsured adults at or below 137% of the Federal Poverty Level (FPL)* between ages 18 and 64 who are ineligible for Medicaid.

- Over 33% of adults under 65 who have incomes at or below 137% of the FPL are not eligible for Medicaid, meaning they don’t have a feasible source of coverage.

- St. Louis’ healthcare safety net – a system of community-based providers who offer health services to low-income people, including the uninsured – plays an essential role in maintaining and expanding access to care for vulnerable populations.

- This indicator shows the percentage of uninsured adults between 138-400% of the FPL under age 64 who are eligible for Medicaid but not enrolled.

- Even though eligible for Medicaid coverage according to income guidelines, 17% of adults under age 65 are not enrolled in the insurance program.

- Providing Medicaid-eligible individuals with in-person help; information about covered benefits (e.g., doctors visits, hospitals stays, preventative care, prescriptions) and guaranteed coverage despite pre-existing conditions are a few strategies to increase enrollment.
Uninsured Persons

Oftentimes, people in Missouri age 18-64 without children are ineligible for Medicaid. To bridge the gap in care for individuals without medical insurance coverage in the St. Louis Region, Gateway to Better Health program was implemented in 2012. It covers primary, specialty, and urgent care services for individuals up to 100% of the Federal Poverty Level. To learn more, visit www.stlgbh.com.

- From 2010 to 2015, the number of adults aged 18 to 64 without health insurance decreased by 6.9% in St. Louis City and by 1.1% in St. Louis County.
- St. Louis City had a higher average percent of adults over time who were uninsured (24%) compared to St. Louis County (13%).

ACS 5-YR Est. (top and bottom)

- When looking at poverty thresholds for 2011-2015, on average, the lowest percent of uninsured individuals were those at greater than 200% of the poverty threshold while the highest percent were those at less than 138% for St. Louis City (24.1%) and County (22.7%), Missouri (24.3%, and the U.S. (23.5%).
- St. Louis City had the highest percent of uninsured individuals regardless of poverty threshold, while the lowest percent were in St. Louis County.
Uninsured Persons

Most of the U.S. population relies on employer-provided health insurance. Thus, unemployment affects access to health care, due to both loss of employer-sponsored health insurance and reduced income.

- Across all three employment categories, those adults that worked less than full-time, year round in the past 12 months had the highest uninsured percentage (31.4%).
- The lowest percentage of uninsured were those adults who worked full-time, year round in the past 12 months (13.4%).

- The inner north sub-region had the highest percentage of uninsured adults of all five sub-regions.
- The west sub-region had the lowest percentage of uninsured adults in the full-time (3.8%) and less than full-time (9.35%) categories.
Healthcare Facilities and Providers

The expansion of access to medically-assisted treatment (MAT) is a safe and effective strategy to decrease the frequency and amount of opioid use as well as reduce the risk of overdose when combined with behavioral therapies. MAT is delivered by prescribing medications (i.e. buprenorphine, methadone, extended-release injectable naltrexone) along with comprehensive, social, psychological, and rehabilitation services that address all the needs of the individual. This indicator shows the distribution of MAT providers in each sub-region of St. Louis County, in St. Louis City, and in Missouri.

- The St. Louis County west sub-region had the highest percent of MAT providers, but had a lower rate of drug poisoning deaths due to heroin in 2010 – 2014.
- The inner north and outer north sub-regions had the lowest percent of MAT providers, but had a higher rate of drug poisoning deaths due to heroin from 2010 – 2014 than St. Louis County as a whole.*

*See the Chronic Disease and Injury Prevention section for more information

SAMHSA Buprenorphine Treatment Physician Locator, Missouri, October 17, 2016 and August 3, 2017 (top and bottom)

- The number of MAT providers in St. Louis City in 2017 was 27. St. Louis County had 72 and Missouri had 249 in 2017. Together, St. Louis City and St. Louis County make up 40% of Missouri's MAT providers.
- While the rate of MAT providers per population is not presented, the number of opioid deaths* in the St. Louis Region has increases since 2010. That could suggest a need for qualified physicians to serve as MAT providers.
Emergency Room (ER) Visits – Mental Health

Mental health ER visit cases include: adjustment disorders; anxiety disorders; attention deficit conduct and disruptive behavior disorders; delirium, dementia, amnestic and other cognitive disorders; disorders usually diagnosed in infancy, childhood, or adolescence; mood disorders; personality disorders; schizophrenia and other psychotic disorders; and impulse control disorders not elsewhere classified. Mental disorders are one of the leading causes of disability in the U.S. Unstable mental health can lead to suicide, which accounts for the death of approximately 30,000 U.S. Residents every year. Proper management of mental and emotional health problems can prevent psychological crises warranting hospitalization. According to the National Center for Health Statistics, treatment for mental disorders is a major cause of hospitalization for children and adolescents between the ages of 10 and 21 years.

- The rate of mental health ER visits was the highest in St. Louis City across all age groups.
- Among the 45 to 64 age group, the rate of mental health ER visits in St. Louis City was more than three and a half times that of St. Louis County.

- More males than females visited the ER for both mental health and substance abuse regionally.
Emergency Room Visits – Suicide

This indicator shows the average annual age-adjusted emergency room visit rate due to suicide or intentional self-inflicted injury per 10,000 population aged 18 years and older. Visits are included if a primary or additional diagnosis code indicates suicide or intentional self-inflicted injury. Suicide among adolescents is a serious public health issue in the United States and is a leading cause of death for youth. Approximately 157,000 youth (ages 12 to 17 years) receive medical care at Emergency Rooms (ERs) for intentional self-inflicted injuries each year. Nearly 500,000 U.S. adults (ages 18 and older) receive medical care at ERs for intentional self-inflicted injuries each year.

- The highest rate of suicide ER visits in St. Louis City were among the 35 to 44 (69.4 per 10,000) and 15 to 17 (64.4 per 10,000) age groups from 2012 to 2014.
- The highest rate of suicide ER visits in St. Louis County were among the 15 to 17 (43.7 per 10,000) and 18 to 24 (32.7 per 10,000) age groups from 2012 to 2014.
Emergency Room Visits – Substance Use Disorders

Substance use disorders are major public health issues that have a strong impact on individuals, families, and communities. The use of illicit drugs, alcohol misuse, and addiction to pharmaceuticals is linked to serious health conditions such as heart disease, cancer, and liver diseases, exacting over $600 billion annually in costs related to lost work productivity, healthcare, and crime. Substance use disorders also contribute to a wide range of social, physical, mental, and public health problems such as teenage pregnancy, HIV/AIDS, STIs, domestic violence, child abuse, motor vehicle crashes, crime, homicide, and suicide. This indicator shows the average annual age-adjusted emergency room visit rate due to substance use disorder per 10,000 population aged 18 years and older. Cases of alcohol-related disorders are excluded.

![Graph showing the average annual age-adjusted emergency room visit rate due to substance use disorder per 10,000 population aged 18 years and older. The rates are compared for St. Louis City, St. Louis County, Missouri, showing that St. Louis City had the highest rates in both alcohol-related mental health and substance abuse-related mental health ER visits.]

MODHSS, MICA

- For both substance use disorder and alcohol related mental health ER visits, the rates in St. Louis City were higher than that of St. Louis County and Missouri, on average, for 2010 to 2014.
- The rates of substance use disorder and alcohol related mental health ER visits in St. Louis County were lower than that in Missouri.
Emergency Room Visits – Alcohol Use Disorder

Alcohol use disorder includes alcohol dependence syndrome, nondependent alcohol abuse, alcoholic psychoses, toxic effects of alcohol, and excessive blood level of alcohol. Also included are diseases of the nervous system, digestive system, and circulatory system caused by alcohol. Excessive alcohol use – heavy or binge drinking – is the 3rd leading lifestyle-related cause of death for the nation. In the single year 2003, there were over 2 million hospitalizations and over 4 million emergency room visits for alcohol-related conditions. This indicator shows the average annual age-adjusted emergency room visit rate due to acute or chronic alcohol abuse per 10,000 population age 18 years and older.

MODHSS, MICA

- The inner north sub-region experienced significantly higher rates of acute or chronic alcohol abuse among adults age 18 years and older (28.9 and 29.4 per 10,000) than the St. Louis County rate between 2010 (18.2 per 10,000) and 2014 (7.3 per 10,000).

- The west sub-region had statistically significant lower rates of acute or chronic alcohol abuse (14.2 and 14.3 per 10,000) than the St. Louis County rate between 2010 and 2014.
ENVIRONMENTAL HEALTH

Housing

Having a safe and affordable place to live is important to a person’s health. Adequate housing protects residents from environmental problems like mold, lead, allergens, exposure to infectious or contagious disease, and the inability to store and prepare healthy food. The four problems that define severe housing are: plumbing that does not have hot and cold water, a flushing toilet, and a bathtub or shower; kitchen facilities that do not have a sink with a faucet, a stove or range oven, and a refrigerator; more than 1.5 persons per room (For example, 4 people living in an apartment with only two total rooms); and housing costs (including utilities) that are higher than 50% of the household’s monthly income.

- St. Louis City had the highest percent of homes with one or more substandard housing conditions (41.5%) compared to St. Louis County (30.0%), Missouri (29.6%), and the US (35.6%) for 2008-2012.

U.S. Census Bureau, U.S. Department of Housing & Urban Development

- Among properties with severe health-related housing violations in St. Louis City, zip codes in the lowest quartile (range of 0 to 9) were 63101, 63102, 63103, 63104, 63106, 63108, 63109, 63110, 63139.

- Properties in two zip codes (63118, 63115) ranked in the highest quartile of violations with a range of 27 to 34 for 2016. Both zip codes had high percentages of families living in poverty.

Community Sanitation Program, City of St. Louis Department of Health, 2016
Housing

For cities with an aging housing stock, preventing homes from falling into disrepair is a top priority. Older homes can be more likely to contain severe problems and replacing infrastructure surrounding older homes can be costly. Lead paint was banned for use in housing in 1978. All homes built before 1978 likely contain lead paint. Graphics represent the year which individual structures were originally constructed. The percentage of home built by decade measures occupied and vacant units and does not refer to any remodeling, additions or conversions.

- Of all homes built in each jurisdiction, 55.2% of St. Louis City homes were built in 1939 or earlier, followed by Missouri (14.1%), the US (13.2%), and St. Louis County (10.0%).
- The highest percent of homes built in St. Louis County occurred in the 1950s (19.8%), followed by the 1960s (18.2%), and 1970s (16.9%).
- The percent of homes built in the 2000s in the US (14.9%) and Missouri (14.2%) is double the percent built in St. Louis City (4.8%) and County (5.8%) for the same time period.

- The location of homes built in the 1930s were in south St. Louis zip codes (63111, 63116, 63118, 63104, 63110).
Environmental Factors

The physical condition of the community affects how comfortable citizens are to utilize services and become active. Refuse accumulation, vacant properties and other exterior neighborhood conditions affect walkability, community safety, and crime. Vacant parcels can also be an attractant for crime, pests, and even stray animals.

- Almost 50% of environmental health complaints received in 2016 were for Animal Care and Control (ACC) in St. Louis City [with a third due to stray animals]. The top three complaints came from words in the north.

- St. Louis City Ward 20 had the most confirmed refuse complaints in 2016 with 25 or more.

- More vacant parcels were observed in north St. Louis City, spanning zip codes 63120, 63112, 63113, 63115, 63107, and 63106. A smaller number of vacant parcels were observed in southern and eastern St. Louis City during 2016.

Assessor’s Office, City of St. Louis
Air Quality

Primary and secondary pollutants are harmful to people and the environment. Particulate matter, also known as soot, is a mix of tiny liquid and solid particles in the air. PM$_{2.5}$ can be dirt, dust, metals, acids, or organic chemicals in the air. High levels of PM$_{2.5}$ can cause short-term and long-term respiratory problems. Sensitive groups like children, older adults, and those with existing breathing problems are more likely to have short- and long-term breathing problems. Nationwide, there has been a 37% decrease in the national PM$_{2.5}$ average from 2000 to 2015.

Environmental Protection Agency, air monitoring stations operated by the Missouri Department of Natural Resources.

- The calculated concentration of PM$_{2.5}$ for St. Louis County from 2012 to 2014 was 10.9 $\mu$g/m$^3$ and the St. Louis City level was (11.0 $\mu$g/m$^3$).
- Both the City and County values were less than the National Ambient Air Quality Standard, Annual Average $\leq 12.0$ $\mu$g/m$^3$.

<table>
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<th>Jurisdiction</th>
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<th>Moderate Days</th>
<th>Unhealthy Days (Sensitive Groups)</th>
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<td>51 – 100</td>
<td>101 – 150</td>
<td>151 – 200</td>
<td>$&gt;$ 201</td>
</tr>
</tbody>
</table>


- Compared to other communities that collect and report PM$_{2.5}$ levels, St. Louis County had a similar score to 25 to 50% of the communities, while 25% of the communities reported a lower score or lower levels of PM$_{2.5}$ from 2012-2014.
- The calculated concentration of PM$_{2.5}$ for St. Louis County from 2012 to 2014 was 10.9 $\mu$g/m$^3$ and the St. Louis City level was (11.0 $\mu$g/m$^3$).
- Both the City and County values were less than the National Ambient Air Quality Standard, Annual Average $\leq 12.0$ $\mu$g/m$^3$. 
Air Quality

Ozone is a gas found in the Earth’s upper atmosphere and the ground level. Depending on where it is found, it can be protective or harmful. Breathing ozone can trigger respiratory problems, especially for sensitive groups. Ozone also affects sensitive vegetation and ecosystems. Unhealthy ozone levels are generally observed between April and September. Between 1980 and 2015, there has been a 32% decrease in the national ozone (O3) average.

### OUTDOOR AIR QUALITY BY POLLUTANTS, 2016

<table>
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<th>Jurisdiction</th>
<th>O3 1-hr (2nd max) ppm</th>
<th>O3 8-hr (4th max) ppm</th>
<th>PM2.5 (98th %tile/24-hour) µg/m³</th>
<th>PM2.5 (Wtd. Mean/annual) µg/m³</th>
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<td>0.09</td>
<td>0.068</td>
<td>21</td>
<td>9.6</td>
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<tr>
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<td>Standard values</td>
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<td>0.07</td>
<td>35</td>
<td>12</td>
</tr>
</tbody>
</table>

Environmental Protection Agency through air monitoring stations operated by the Missouri Department of Natural Resources (above and below)

- St. Louis County and the metro area experienced an annual exceedance of ozone levels for 2016.
- Particulate matter for all three geographic areas did not exceed the standard values for 2016.

- The number of ozone exceedance days has decreased for St. Louis City and County between 2000 and 2017.
- There have been no very unhealthy or unhealthy days since 2013.
Childhood Lead Poisoning

Although there are several exposure sources, lead-based paint is the most widespread and dangerous high-dose source of lead exposure for young children. Lead is not only found in paint but gasoline, toys and water. Exposure can affect nearly every body system and often occurs with no obvious symptoms. Lead poisoning can cause long-term development and behavior problems. Any exposure to lead is dangerous for young children, especially those under 6 years old. Data includes only children who were tested.

- When tested, the percentage of children with elevated blood lead levels was 11% in St. Louis City, 3% in St. Louis County and 5% in Missouri and the United States. Both City of St. Louis and St. Louis County show a higher number or percentage of elevated lead results in correlation with areas with higher poverty levels.*

MODHSS, MICA (all charts)

- The percent of children testing positive for elevated blood lead in St. Louis City decreased by 6.2% between 2010 and 2015 (14.7%, 8.5% respectively).

- The inner north sub-region had the highest percent of children testing positive for lead (4.5%) in St. Louis County, on average, between 2010 and 2014. The proportion was three and a half times higher than the lowest sub-region, west (1.26%).
Asthma

Asthma is a breathing or lung disease where a person has trouble breathing and symptoms like wheezing, chest tightness, breathlessness, and coughing. The cause of asthma is not known. Many triggers are from the environment, including secondhand smoke, dust mites, pets, mold, and household pests. While asthma cannot be cured, it can be treated or controlled with medicine and by removing environmental hazards. Subpopulations within our communities are negatively affected and experience higher asthma emergency room (ER) visits compared to other subpopulations. Specific examples include race and poverty.

**ST. LOUIS CITY, 2010-2014**

- St. Louis City zip codes 63106, 63107, and 63120 had the highest ER visit rates, ranging from 23.7 per 1,000 to 30.5 (see left).

- The highest rates of ER visits were observed in the northern portions of both St. Louis City and County between 2010 and 2014, on average.

- Census tracts within the St. Louis County zip codes of 63044 and 63134 had the highest ER visit rates, ranging from 28.6 per 1,000 to 52.6 (see right).
Emergency Room Visits – Asthma

Asthma is a common lifelong chronic illness and often result in visits to the emergency department (ED). Some visits to the ED cannot be avoided, for example, if trouble breathing does not improve after medication. But other ED visits can be avoided with better access to medication, better access to primary care, and access and quality of health insurance. The rate of asthma-related ED visits is a measure of every single visit for asthma-related symptoms. Key groups with higher asthma ER visit rates in St. Louis County and City included those under age 18, black/African Americans. Individuals with very high, high, and medium poverty were highest in St. Louis County, as well as in the inner north sub-region. Individuals on Medicaid had higher rates than commercial payors in St. Louis City.

MODHSS, MICA (both charts)

- St. Louis City demographic subpopulations showed higher asthma ER visit rates than similar subpopulations in St. Louis County.

For St. Louis County children under age 5, asthma ER visits decreased significantly between 2010 (257.3 per 1,000) and 2014 (219.9). The average asthma ER visit rate was 236 visits per 10,000 population which was nearly two and a half times higher than the HP 2020 target rate (95.7).
Healthy Eating

Measuring a community’s built environment can determine where gaps exist and where improvements can be made to increasing healthy food access. Residents living in low-income, rural, and minority neighborhoods often live far away from healthy food vendors like supermarkets and grocery stores. The lack of a constant, healthy food supply creates food insecurity which limits our community’s ability to maintain nutritious diets that support normal weight and optimal health.

The Food Environment Index (FEI) is a ranking of two indicators (low-income and low grocery access; food insecurity) and ranges from 0 (worst) to 10 (best) and the top US performers are in the 90th percentile which means that only 10% are better.

- The FEI for St. Louis County has decreased every year from 2014 (7.5) to 2016 (7.1). The ranking was slightly higher than the Missouri state value for all years but lower when compared to the top US performers.

- The FEI for St. Louis City was 5.0 for 2015 and 2016, which was a slight decrease from 2014 (5.2). The ranking was lower than St. Louis County, Missouri, and Top US Performer scores for all years.

- Food insecurity refers to a lack of access - at times - to enough nutritional food for an active, healthy life for all members of a household. Food insecurity may reflect a household’s need to choose between paying for basic needs - housing costs or bills - and purchasing healthy foods.

- St. Louis City had a food insecurity rate (26%) that was double the United States (13%).

- St. Louis County’s rate of food insecurity (15%) was similar to Missouri’s (16%) and less than that of St. Louis City.
Healthy Eating

SNAP (Supplemental Nutrition Assistance Program) is a federal nutrition assistance program that provides millions of eligible low-income individuals and families with electronic benefit transfers (EBTs) that can be used to purchase food. SNAP is the largest program in the domestic hunger safety net. Children, seniors, and those with disabilities comprise almost two-thirds of all SNAP participants. Retailers who accept SNAP serve an important role in combating hunger and food insecurity among low-income individuals and families.

- The average rate of SNAP retailers in St. Louis City was 1.2 stores per zip code.
- In the very high poverty zip codes (63106, 63107, 63118, 63113), the rate of SNAP retailers was at or exceeded the St. Louis City rate.
- Zip codes with low poverty rates (63139, 63109) had half the rate of SNAP retailers or less than the St. Louis City rate in 2012.

- The average rate of SNAP retailers in St. Louis County – 0.6 stores per zip code – is half the rate of St. Louis City.
- The inner north sub-region has the highest rate of poverty in St. Louis County and the highest rate of SNAP retailers (1.0) by zip code.
- The south and west sub-regions have the lowest rates of poverty and the rate of SNAP retailers is at or less than the St. Louis County rate.
Active Living

People engaging in an active lifestyle have a reduced risk of many serious health conditions including obesity, heart disease, diabetes, and high blood pressure. In addition, physical activity improves mood and promotes healthy sleep patterns. The American College of Sports Medicine (ACSM) recommends that active adults perform physical activity three to five times each week for 20 to 60 minutes at a time to improve cardiovascular fitness and body composition. People are more likely to engage in physical activity if their community has facilities which support recreational activities, sports, and fitness.

- Physical inactivity is the percentage of adults age 20 and over reporting no leisure-time physical activity. The data are from self-reported measures.
- St. Louis City had a percentage of physically inactive adults similar to Missouri for all time periods, ranging between 29% (2011) and 25% (2016).
- The percentage of physically inactive adults in St. Louis County was somewhat greater than Missouri and St. Louis City, but less than top US performers, ranging between 25% (2011) and 23% (2016).
- Access to exercise opportunities measures the percentage of individuals in a county who live reasonably close to a location for physical activity. "Reasonable" is defined differently for urban and rural areas. Locations for physical activity are defined as parks or recreational facilities.

- St. Louis City and County residents have greater access to exercise opportunities than both Missouri and Top US Performers, with between 90% and 100% for all time periods.
Tobacco

Tobacco use contributes to many avoidable illnesses and premature death. Areas with a high smoking prevalence have greater exposure to secondhand smoke for nonsmokers, which can cause or worsen a wide range of negative health effects such as cancer, respiratory infections, and asthma. Missouri has the lowest cigarette tax of any state ($0.17), far below the national average of ($1.46). Studies show that increased tobacco taxes can ultimately reduce smoking and improve health. Low income areas and areas with minority residents often have a higher concentration of tobacco stores.

This indicator shows the percentage of adults who currently smoke cigarettes.

- In 2016, the percent of adults who reported current smoking in St. Louis County was 17.0%, which is lower than the Missouri state (23.0%) but lower than the US value (14.0%). All three locations had a higher percent of adults who currently reported smoking than the Healthy People 2020 target of 12%. At a rate of 27%, St. Louis City had the highest rate of adults who report current smoking in the region.

CHRR, 2017

CIGARETTE EXPENDITURES BY CENSUS TRACT, ST. LOUIS REGION, COMPARED TO NATIONAL AVERAGE

- This indicator reports estimated spending for cigarettes, as a percentage of total household expenditures; compared to the national average.
- The majority of census tracts within St. Louis City have high cigarette expenditures, similar to the inner- and outer-north and some of the south sub-regions of St. Louis County.
- The St. Louis County west sub-region has the lowest expenditures for the region.

Community Commons, Nielsen SiteReports, 2014
Alcohol

Excessive drinking is a risk factor for negative health outcomes, such as alcohol poisoning, hypertension, acute myocardial infarction, sexually transmitted infections, unintended pregnancy, fetal alcohol syndrome, sudden infant death syndrome, suicide, interpersonal violence, and motor vehicle crashes. It is the 3rd leading cause of lifestyle-related death in the United States. Alcohol expenditures are proxy causes of significant health issues, such as cirrhosis, cancers, and untreated mental and behavioral health needs.

- This indicator shows the percentage of adults that report binge drinking in the past 30 days.
- St. Louis City and County have both reached the Healthy People 2020 goal for less than 25.4% of adults that report excessive drinking.

CHRR, 2017

ALCOHOLIC BEVERAGE EXPENDITURES BY CENSUS TRACT, ST. LOUIS REGION, COMPARED TO NATIONAL AVERAGE, 2014

- This indicator reports estimated expenditures for alcohol, as a percentage of food-at-home expenditures; compared to the national average.
- The highest alcoholic beverage expenditures are in the west and south sub-regions of St. Louis County.
- The lowest expenditures are in north St. Louis City and the St. Louis County inner north sub-region.

Community Commons, Nielsen SiteReports, 2014
Leading Causes of Death

Measuring how many people die each year and why they died is one of the most important means – along with figuring out how diseases and injuries are affecting people – for assessing the effectiveness of a country’s health system. Globally and nationally, 70% of deaths are caused by non-communicable diseases across low- and high income countries. Cause of death is based on medical information – including injury diagnoses and external causes of injury – that is entered on death certificates filed in the United States. Leading causes of death (LCOD) are ranked 1 to 10 based on number of deaths.

- The top two LCOD for St. Louis City, County, and the United States (2010 to 2014 average) were heart disease and cancer.
- The third LCOD in St. Louis City was similar to the U.S. – CLRD (chronic lower respiratory disease), which includes asthma and COPD (chronic obstructed pulmonary disease) – but stroke was the third LCOD for St. Louis County.
- Unintentional injury (UI) was the fourth LCOD for St. Louis County and the U.S., and the fifth LCOD for St. Louis City.
- Alzheimer’s Disease was the sixth LCOD across all geographies.
- Septicemia was a top 10 LCOD for St. Louis County only*.

MODHSS, Bureau of Vital Statistics

*See the Saint Louis County Department of Public Health Leading Causes of Death Profile for more information.
Heart Disease Mortality

Heart disease is the leading cause of death in the United States, accounting for 25.4% of total deaths. The most common type in the United States is coronary artery disease, which can cause heart attack, angina, heart failure, and arrhythmias. Some modifiable risk factors for heart disease include tobacco use, obesity, sedentary lifestyle, and high levels of low-density lipoprotein in blood serum. Heart disease is the number one killer of women in the United States.

- The rate of heart disease mortality in St. Louis City (224.3 per 100,000) was highest when compared to St. Louis County* (178.0) and Missouri (197.5) for 2015.
- All three geographic comparisons are higher than the Healthy People 2020 goal of 103.4 deaths.

*See the full Saint Louis County Department of Public Health Heart Disease Profile for more information.

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- Over the 2010 to 2014 period, whites in the St. Louis Region had a 13% decrease in heart disease mortality, compared to a 7.1% increase in black/African Americans in the St. Louis Region.
- Over the 2010 to 2014 time period, Missouri experienced a 3.7% decrease in heart disease mortality.
Cancer Mortality

The National Cancer Institute (NCI) defines cancer as a term used to describe diseases in which abnormal cells divide without control and are able to invade other tissues. According to the NCI there are over 100 different types of cancer, but breast, colon, lung, pancreatic, prostate, and rectal cancer lead to the greatest number of annual deaths. Risk factors of cancer include but are not limited to: age, alcohol use, tobacco use, a poor diet, certain hormones, and sun exposure.

- The rate of all cancer mortality in St. Louis City (196.0) was highest when compared to St. Louis County (158.6) and Missouri (173.0) for 2015.
- St. Louis County was the only county in Missouri to reach the Healthy People 2020 goal of 161.4 deaths or less.

Over the 2010 to 2014 period, black/African Americans had the highest rates of cancer mortality compared to white and Asian sub-groups in St. Louis County. The Asian subgroup had the lowest rates.

- All racial sub-groups had a percent decrease in cancer mortality over the time period. The decrease for black/African Americans was 19.5%; Whites was 5.1% and Asians was 5.3%.
Diabetes Mortality

Diabetes affected an estimated 29.1 million people in the United States in 2014 and was the 7th LCOD for the US and St. Louis City. Onset of type 2 diabetes has been steadily occurring at an earlier age, with people from minority populations more likely to be affected. Lifestyle change has been proven effective in preventing or delaying the onset of type 2 diabetes in high-risk individuals. Diabetes is linked to additional diseases occurring at the same time, including: cognitive impairment, incontinence, fracture risk, and cancer risk and prognosis.

The rate of diabetes mortality in St. Louis City (26.3) was highest when compared to St. Louis County (14.6) and Missouri (19.6) for 2015.

St. Louis County had the lowest rate of diabetes mortality (14.6) across all three geographies.

Over the 2010 to 2014 period, Whites had a 20% decrease in diabetes mortality, compared to only a 4.6% decrease in diabetes mortality in blacks/African Americans in the St. Louis Region.

Over the 2010 to 2014 time period, Missouri experienced an 8.5% decrease in diabetes mortality.
Mortality by Poverty Level

The population with very high and high poverty levels had the highest rates of heart disease, diabetes, and cancer mortality in St. Louis County on average (years 2010 and 2014) when compared across all poverty levels. All data sourced from MODHSS, Bureau of Vital Statistics.

**HEART DISEASE MORTALITY BY POVERTY LEVEL, ST. LOUIS COUNTY, 2010-2014 AVERAGE**

- The rate of heart disease mortality was similar across the very high and high poverty levels.

**DIABETES MORTALITY BY POVERTY LEVEL, ST. LOUIS COUNTY, 2010-2014 AVERAGE**

- The rate of diabetes mortality in low poverty level neighborhood (12.0) was almost one third of the rate among very high poverty level population (33.2).

**CANCER MORTALITY BY POVERTY LEVEL, ST. LOUIS COUNTY, 2010-2014 AVERAGE**

- Cancer mortality was similar across the very high and high poverty levels.
Drug Poisoning Deaths

Poisoning is the leading cause of injury death in the US, with both pharmaceutical and illicit drugs causing the vast majority. Drug overdose is a nationwide epidemic that claims the lives of over 50,000 individuals in the United States every year. Opioids – both prescription painkillers and illegal drugs such as heroin and illicitly manufactured fentanyl – are responsible for most of these deaths.

Office of the Medical Examiner, City of St. Louis

- Opiate-related deaths in St. Louis City include drug poisoning by heroin, fentanyl, a combination of heroin and fentanyl, or positive tests for other and/or multiple opiates.
- The percent change in the number of opiate-related deaths between 2010 and 2016 in St. Louis City was an increase of 228.5%.
- A 110.7% increase occurred between 2015 and 2016 – from 131 deaths to 276.

MODHSS, Bureau of Vital Statistics

- The percent change in the number of opiate related deaths between 2010 and 2015 in St. Louis County was an increase of 22.9%.
Drug Poisoning Deaths

As mentioned, opioid analgesics are found in a substantial proportion of drug-poisoning deaths. Hydrocodone, morphine, and oxycodone are examples of natural and semisynthetic opioids. Fentanyl and methadone are examples of synthetic opioids.

- Heroin (35%) and Fentanyl (36%) comprised the majority of 2016 opiate-related deaths in St. Louis City.
- A combination of the two were the cause of death for 19% of opiate-related deaths and the remaining 10% of deaths had positive results for multiple other and/or multiple opiates.

Office of the Medical Examiner, City of St. Louis

- Opiate-related deaths occurred in every zip code of St. Louis City in 2016.
- The three zip codes with the highest counts were in south St. Louis City (63118, 63111), followed by 63116.

Office of the Medical Examiner, City of St. Louis
Drug Poisoning Deaths

Cases of drug poisoning deaths involving heroin were identified using the International Classification of Diseases, Tenth Revision (ICD-10) underlying cause code T40.1 or the combination of the underlying poisoning cause codes X40 - X44 (unintentional), X60 - X64 (suicide), X85 (homicide), or Y10 - Y14 (undetermined intent) and multiple cause code T40.1.

- The data presented captures all heroin deaths of St. Louis County residents (within or outside of St. Louis County).
- This map shows zip codes in the outer and inner north, south, and one in the central sub-region where the rates are higher than the overall St. Louis County rate.
- The majority of the central and west sub-region have lower rates than the overall County. See the full St. Louis County Department of Public Health Heroin Profile for more information.
COMMUNICABLE DISEASE CONTROL

Immunization Rate by Series

There are few examples of personal interventions that can virtually prevent a disease from occurring. The best example of this is access to immunizations for childhood diseases. Despite evidence of prevention, accessibility, and monetary gain, communities with pockets of unvaccinated and under-vaccinated populations remain at increased risk for outbreaks of vaccine-preventable diseases. According to Healthy People, 11 states collected kindergarten vaccination coverage data according to CDC minimum standards in 2009-2010. The HP2020 target is set at 51 states. Because jurisdiction reporting is not required in the state of Missouri, numerous medical providers in the St. Louis Region do not report patient vaccination information to the Missouri Department of Health and Senior Services. However, it is our goal to present immunizations data that is available for 2016 in an effort to establish baseline reporting.

**KINDERGARTEN STUDENT IMMUNIZATION RATES, 2016**

- Of all vaccination series, St. Louis County has exceeded the HP2020 target (95% for all series) as well as the state rate for kindergarten students in 2016.

- St. Louis County eighth grade students have achieved higher rates of vaccination than Missouri for nearly all series. St. Louis County has exceeded the HP2020 targets for adolescents aged 13-15 years vaccination series of Tdap and Varicella (80% for both series).

**EIGHTH GRADE STUDENT IMMUNIZATION RATES, 2016**

- MODHSS (both charts)
Chlamydia

Chlamydia is a common STD that can infect both men and women. It can cause serious, permanent damage to a woman’s reproductive system. A person who has already been treated for chlamydia can still be infected again. Most chlamydial infections are absent of any symptoms, and rates of reported cases are affected by the type of test used and the amount of the population screened. Chlamydia is the most frequently reported communicable disease in the United States and in St. Louis County. Similarly, the highest reported rates were among females aged 15–19 and aged 20-24. Note that differences in incidence may be due to differences in testing rates.

- Rates of new chlamydia infections in 20015 were higher among females, with the exception of St. Louis County. St. Louis City had the highest rates, when compared to other geographies.

- Females aged 15-24 in St. Louis City had the highest rates of chlamydia incidence compared to males in both St. Louis City and County for all periods of measurement.
Gonorrhea

Gonorrhea is a sexually transmitted disease (STD) that can infect both men and women. It can cause infections in the genitals, rectum, and throat. Nationally, the rate among men steadily increased during the time period 2009-2014, yet decreased among women. This may suggest increased transmission or case detection, including expanded gonorrhea screening among gay, bisexual, and other men who have sex with men. The St. Louis population is 29% black, but approximately 70% of St. Louis chlamydia cases were reported in black residents. Note that differences in incidence may be due to differences in testing rates.

- In 2016, 55% of St. Louis gonorrhea cases were reported among people aged 15 to 24 year, which is down from 64% in 2012.
- Gonorrhea incidence has increased in all age groups, but has increased more quickly among 25 to 29 year olds and 30 to 39 year olds.

MODHSS (both charts)

- Rates of gonorrhea were higher in St. Louis City for both males and females across all periods of measurement. The gonorrhea incidence rate increased over time between 2010 and 2015 in both St. Louis City and County males and females.
Syphilis

The signs and symptoms of syphilis vary depending on what stage the disease has presented. Nationally, the primary and secondary syphilis rate has increased almost every year since 2000, and is mostly linked to increased cases among men and, specifically, among gay, bisexual, and other men who have sex with men, but female syphilis incidence has doubled since 2012 as well. Syphilis surveillance traditionally focuses on the primary and secondary stages of the disease, when visible signs of recently acquired infections appear. Note that differences in incidence may be due to differences in testing rates.

### EARLY SYPHILIS CASES BY SEX PARTNERS, ST. LOUIS REGION, 2012-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>MSM</th>
<th>MSW</th>
<th>Women</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>114</td>
<td>17</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td>2013</td>
<td>156</td>
<td>12</td>
<td>18</td>
<td>23</td>
</tr>
<tr>
<td>2014</td>
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<tr>
<td>2015</td>
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</tr>
<tr>
<td>2016</td>
<td>210</td>
<td>26</td>
<td>32</td>
<td>23</td>
</tr>
</tbody>
</table>

MODHSS (both charts)

- The greatest proportion of early syphilis cases in the St. Louis Region occurred in men who have sex with men when compared to males who have sex with women, women, and unknown sex partner, with a range of 56% to 72% for all years from 2012 through 2016.

### SYPHILIS INCIDENCE RATE, 2011-2015

<table>
<thead>
<tr>
<th>Location</th>
<th>Cases per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Louis City</td>
<td>12.4</td>
</tr>
<tr>
<td>St. Louis County</td>
<td>62.9</td>
</tr>
<tr>
<td>Missouri</td>
<td>8.4</td>
</tr>
<tr>
<td>U.S.</td>
<td>13.7</td>
</tr>
</tbody>
</table>

- The rate of syphilis incidence was highest in St. Louis County when compared to St. Louis City, Missouri, and the United States between 2011 and 2015, on average.
- St. Louis County’s syphilis incidence rate was between four and a half and seven and a half times higher than Missouri, St. Louis City, and the U.S.
HIV

The risk of getting human immunodeficiency virus (HIV) varies widely depending on the type of contact or behavior (such as sharing needles or having sex without a condom). Some exposures to HIV carry a much higher risk of transmission than other exposures. For example, parenteral exposure through blood transfusion has a risk of 9,250 per 10,000 exposures whereas sexual exposure through anal intercourse has a risk of 138 per 10,000 exposures. In the United States, HIV is mainly spread by having sex or sharing syringes and other injection equipment with someone who is infected with HIV. Substance use can contribute to these risks indirectly because alcohol and other drugs can lower people’s inhibitions and make them less likely to use condoms. All data provided by MODHSS.

- A majority of diagnosed HIV cases in the St. Louis Region were among men who have sex with men, when compared to heterosexual individuals and other or unknown partner status in 2016.

- When comparing race and ethnicity groups, the percent of diagnosed HIV cases were highest among black/African American individuals in the St. Louis Region in 2016.

- For all periods of measurement between 2012 and 2016, the HIV incidence rate was highest in the St. Louis Region when compared to Missouri and the U.S. Rates were similar in 2014 and 2015 in both the St. Louis Region (15.6 and 16.0, respectively) and the U.S. (15.0 and 14.7, respectively).
Hepatitis C

Today, most people become infected with the Hepatitis C virus by sharing needles or other equipment to inject drugs. For some people, Hepatitis C is a short-term illness but for most people who become infected with Hepatitis C, it becomes a long-term, chronic infection. Chronic Hepatitis C is a serious disease that can result in long-term health problems, even death. The majority of infected persons might not be aware of their infection because they are not clinically ill. There is no vaccine for Hepatitis C. The best way to prevent Hepatitis C is by avoiding behaviors that can spread the disease, especially injecting and snorting drugs, and having unprotected sex. All data provided by MODHSS.

- Men had a higher incidence of chronic hepatitis C diagnosis compared to women between 2011 and 2015. However, the incidence in both men and women has been increasing over time.

- Incidence of chronic hepatitis C has been increasing among all ages from 2010 through 2015.

- The highest incidence rate was in the 45 to 65 year old age group.
MATERNAL, CHILD, AND FAMILY HEALTH

Teen Births

Teen births are those to mothers 15-19 years old. Poverty can be a cause and outcome of teen births. 52% of mothers on public assistance had their first child as a teenager. Teen pregnancy leads to a significant number of girls dropping out of high school. Children of teen mothers are at significantly increased risk for a number of social, economic, and health problems. Health problems can include low birth weight, less likely to complete high school, and more likely to have lower performance on standardized tests.

- The rate of teen births has decreased in all geographic regions from the 2010 to 2014 period.

MODHSS, Bureau of Vital Statistics (both charts)

- Teen pregnancy continues to drop in the St. Louis Region with an 11% decrease for St. Louis City, and a 3% decrease in St. Louis County.
Prenatal Care in the First Trimester

The leading causes of death among infants include birth defects, preterm delivery, low birth weight, Sudden Infant Death Syndrome (SIDS), maternal complications during pregnancy, and unintentional injuries (including suffocation). Excluding birth defects, premature birth/low birth weight causes more infant deaths in St. Louis than all other causes combined. Prenatal care is a woman’s health before and during pregnancy and includes knowing which risk factors could affect a woman or her unborn baby. Numerous studies have shown links between the early initiation, amount, and content of prenatal care and birth outcomes. Outcomes that indicate problems in access include infant mortality, low birthweight, and incidence of congenital syphilis.

MODHSS, Bureau of Vital Statistics (both charts)

- The St. Louis region has not met the Healthy People 2020 goal of 77.9 per 1,000 women receiving prenatal care in the first trimester by race, except for white (87.6%) and Asian (83%) women between 2010 and 2014, on average. Black/African American rates were lowest (63.5%).

- St. Louis City and County and Missouri have all seen a decrease in the percent of women receiving prenatal care in the first semester between 2010 and 2014, while the U.S. percent has increased.
Mothers Who Smoked During Pregnancy

This indicator shows the percentage of births to mothers who smoked and/or used tobacco during pregnancy. Mothers who smoke during pregnancy are more likely to have placental problems, bleeding, preterm labor, and ectopic pregnancy than non-smokers. Smoking during pregnancy also harms the baby which can result in low birth weight, sudden infant death, birth defects, miscarriage or stillbirth. The Healthy People 2020 national health target is to decrease the percentage of women who gave birth and who smoked cigarettes during pregnancy to 1.4%.

- The rate of mothers who smoked during pregnancy in St. Louis City was higher than St. Louis County, but both were lower than the rate in Missouri.

MODHSS, both charts

- Between 2010 and 2014, on average, the rate of mothers who smoked during pregnancy in both St. Louis City and St. Louis County decreased. This is true for both Whites and Blacks/African Americans.
Leading Causes of Death for Ages 1-19

The three leading causes of death among ages 1-19 are: Accidents (unintentional injury), suicides, and homicides. A racial disparity exists in both the city and county, as the rate of death among black children is significantly higher than the rate of white children. Socio-economic factors impact the health of the community, and lead to several health inequities.

- In St. Louis City, homicide is the leading cause of death for children age 1-19. In St. Louis County, accidents are the leading cause of death for this age group. In Missouri, accidents are also the leading cause of death for ages 1-19.
- The rates of death for black children in St. Louis City is 92.4 per 100,000, almost double the state’s rate of 55.8 per 100,000. St. Louis County and Missouri have similar differences in deaths rates between races.
- The death rate among whites in St. Louis County is slighter higher than that in St. Louis City, and the death rate among whites in Missouri is slightly higher than both St. Louis City and St. Louis County.
Leading Causes of Death for Ages 15-19

Assault injury refers to deaths, hospitalizations, and ER visits where the underlying cause of death or primary diagnosis was injury due to being assaulted by another person. Assault-injured youth seeking ED care report higher levels of previous violence, weapon exposure, and substance use compared with a group of peers seeking care for non-assault-related care. Teens and young adults are disproportionately affected by these types of injuries. Black males are disproportionately affected by assault injuries and homicides. The death rate for ages 15-19 continues to increase from 2010 to 2015, and is highest among ages 15-17.

- Assault injury rate in 2014 for St. Louis City was 695 per 100,000, and 316 per 100,000 in St. Louis County. The City's rate is one and a half times higher than the US rate of 496 per 100,000.

MODHSS, Bureau of Vital Statistics (both charts)

- The leading cause of death among children ages 15-19 in St. Louis City is homicide, and the leading cause of death of this group in St. Louis County and Missouri is unintentional injuries.

- The homicide rate among teens in St. Louis City is 89.0 per 100,000, and is 6.8 times higher than both the state and county average, which are both 12.9 per 100,000.
Infant Mortality

Infant mortality is the death of a baby before their birthday. This rate is often used as an indicator to measure the health and well-being of a community, because of its association with many factors including the health of the mother, quality and access to care for mother and infant, socioeconomic conditions, and public health practices. Infant mortality is often considered preventable and thus can be influenced by education programs and service provision.

While much of the US has steadily decreased infant mortality rates for years, St. Louis City has consistently seen higher rates. However, in 2015, the city’s rate of 7.2 per 1,000 live births was a 27% decrease compared to the 2010 rate of 9.9.

During the same time period, rates in St. Louis County fluctuated between 5.2 and 7.4 per 1,000 live births with an overall 16% increase from in infant mortality rates from 2010 to 2015.

Infant mortality rates in both St. Louis City and St. Louis County combined continue to remain higher than the state average of 6.5 per 1,000 live births, at a 2015 rate of 7.3 per 1,000 live births. However, all three geographies are still higher than the Healthy People 2020 national target of 6 deaths per 1,000 live births.
CONCLUSION

The St. Louis Partnership for a Healthy Community is committed to improving the health of the St. Louis Region. Addressing the most vulnerable populations such as the under-insured, low-income, and at-risk populations is key to improving the health inequities that exist within the region. Looking at the Vulnerable Populations Footprint of our region in the map below, one can see the most needed areas to focus resources. The orange areas show populations with greater than 30% below poverty, and the red areas include those with 30% or more of the population having less than a high school education. Much of the data analyzed for the purpose of this assessment, showed a strong correlation between these same areas of poverty with the higher rates of disease, injury, and death.

VULNERABLE POPULATIONS FOOTPRINT
APPENDIX
Please refer to the labeled zip code and community map as you review the data included in this report. A common complaint of the 2011 Community Health Needs Assessment was that the four study regions (Mid, North, South, and West) did not accurately reflect how St. Louis County is separated socially and demographically. North County, in particular, has two distinctly different areas within it. In order to address these concerns, the Saint Louis County Department of Public Health aligned new geographic areas with the Department of Planning’s five-year Strategic Plan update. These areas were defined based on the 49 ZIP codes within and crossing St. Louis County’s borders. ESRI ArcGIS was used to assign each census tract to one of the five survey areas based on having greater than 50 percent of its area falling within a particular survey area. The proportion of the census tracts that crossed into each survey area and was assigned to that area was as follows:

- Central 60.9%
- Inner North 73.6%
- Outer North 71.2%
- South 88.4%
- West 79.2%