

# St. Luke's Community Health Needs Assessment Appendices 2019

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# Appendix A

## Appendix A: St. Luke's Locations and Service Area Cities and ZIP Codes

### ST. LUKE'S LOCATIONS:

- St. Luke's Hospital
- St. Luke's Des Peres Hospital
- St. Luke's Desloge Outpatient Center - Building A
- St. Luke's Desloge Outpatient Center - Building B
- Surrey Place Skilled Nursing/Residential Care
- St. Luke's Rehabilitation Hospital
- St. Luke's Urgent Care - Chesterfield
- St. Luke's Urgent Care - Creve Coeur
- St. Luke's Urgent Care - Ellisville
- St. Luke's Urgent Care - Ladue
- St. Luke's Urgent Care - Kirkwood
- St. Luke's Urgent Care - O'Fallon
- St. Luke's Urgent Care - Weldon Spring
- St. Luke's Convenient Care - Des Peres
- St. Luke's Pediatric Care Center - North County
- St. Luke's Women's Center - Chesterfield Valley
- St. Luke's Medical Offices - Chesterfield
- St. Luke's Center for CDI - Chesterfield Valley
- St. Luke's CDI - Midwest Breast Care Center
- St. Luke's Medical Offices - Creve Coeur
- Therapy Services - Jewish Community Center
- Open Upright MRI of Missouri
- St. Luke's CDI - Frontenac
- St. Luke's Vascular Access Center
- St. Luke's Medical Offices - Kirkwood
- St. Luke's Medical Offices - Ellisville
- St. Luke's Therapy Services - Ellisville
- St. Luke's CDI - Ellisville
- St. Luke's Medical Offices - Ballwin
- St. Luke's Medical Offices - Fenton
- St. Luke's Therapy Services - Fenton
- St. Luke's Medical Offices - Crestwood
- St. Luke's Medical Offices - South City
- St. Luke's Medical Offices - O'Fallon
- St. Luke's Therapy Services - O'Fallon
- St. Luke's CDI - Winghaven
- St. Luke's Medical Offices - Cedar Hill
- St. Luke's Medical Offices - Pacific
- St. Luke's Medical Offices - Farmington
- St. Luke's Medical Offices - Imperial
- Selke Healthcare Center - Greenville, IL

## ST. LUKE'S SERVICE AREA CITIES AND ZIP CODES

Primary Service Area	
CITY	ZIP
Ballwin	63021, 63011
Breckenridge Hills	63114
Brentwood	63144
Chesterfield	63017, 63005
Clayton	63124, 63105
Creve Coeur	63141
Des Peres	63131
Eureka	63025
Fenton	63026
Glencoe	63038
Grover	63040
High Ridge	63049
Kirkwood	63122
Lake Saint Louis	63367
Maryland Heights	63043
O' Fallon	63368, 63366
Olivette	63132
Pacific	63069
Saint Charles	63304
Saint Louis	63146
Saint Peters	63376
Sappington	63127
University City	63130
Valley Park	63088
Webster Groves	63119
Wentzville	63385














Secondary Service Area	
CITY	ZIP
Affton	63123
Arnold	63010
Barnhart	63012
Bridgeton	63044
Cedar Hill	63016
Defiance	63341
Dittmer	63023
Ferguson	63135
Florissant	63031, 63033, 63034
Foristell	63348
Hazelwood	63042
Hillsboro	63050
House Springs	63051
Imperial	63052
Jennings	63136
Lemay	63125
Normandy	63121
North County	63137
Pevely	63070
Richmond Heights	63117
Robertsville	63072
Saint Ann	63074
Saint Louis	63129, 63109, 63116, 63139, 63110, 63118, 63111, 63115, 63113
Sappington	63128
Troy	63379
Union	63084
Warrenton	63383
Wright City	63390

# Appendix B

## Appendix B: County Health Rankings & Roadmaps

	St. Louis County	Trend	Error Margin	Top U.S. Performers	Missouri	Rank (of 115)
<b>Health Outcomes</b>						<b>18</b>
<b>Length of Life</b>						<b>31</b>
Premature death	<b>i</b> <u>7,500</u>		7,300-7,700	5,400	8,200	
<b>Quality of Life</b>						<b>12</b>
Poor or fair health	<b>i</b> 15%		14-15%	12%	19%	
Poor physical health days	<b>i</b> 3.6		3.5-3.7	3.0	4.2	
Poor mental health days	<b>i</b> 3.8		3.6-3.9	3.1	4.4	
Low birthweight	<u>9%</u>		9-9%	6%	8%	
<b>Health Factors</b>						<b>7</b>
<b>Health Behaviors</b>						<b>5</b>
Adult smoking	<b>i</b> 18%		18-19%	14%	22%	
Adult obesity	29%		27-31%	26%	32%	
Food environment index	7.5			8.7	6.8	
Physical inactivity	22%		20-23%	19%	25%	
Access to exercise opportunities	94%			91%	76%	
Excessive drinking	<b>i</b> 20%		19-20%	13%	19%	
Alcohol-impaired driving deaths	28%		26-31%	13%	29%	
Sexually transmitted infections	567.9			152.8	507.0	
Teen births	<u>18</u>		17-18	14	28	

## Appendix B: County Health Rankings & Roadmaps

	St. Louis County	Trend 	Error Margin	Top U.S. Performers	Missouri	Rank (of 115) 
<b>Clinical Care</b>						<b>2</b>
Uninsured	8%		8-9%	6%	11%	
Primary care physicians	810:1			1,050:1	1,420:1	
Dentists	1,180:1			1,260:1	1,760:1	
Mental health providers	370:1			310:1	550:1	
Preventable hospital stays	<u>4,471</u>			2,765	4,743	
Mammography screening	<u>48%</u>			49%	43%	
Flu vaccinations	<u>52%</u>			52%	44%	
<b>Social &amp; Economic Factors</b>						<b>18</b>
High school graduation	91%			96%	88%	
Some college	78%		77-79%	73%	66%	
Unemployment	3.4%			2.9%	3.8%	
Children in poverty	<u>13%</u>		11-15%	11%	19%	
Income inequality	4.5		4.4-4.6	3.7	4.6	
Children in single-parent households	34%		33-35%	20%	33%	
Social associations	9.9			21.9	11.6	
Violent crime	344			63	481	
Injury deaths	82		79-84	57	83	
<b>Physical Environment</b>						<b>110</b>
Air pollution - particulate matter	 12.1			6.1	9.7	
Drinking water violations	No					
Severe housing problems	14%		14-15%	9%	14%	
Driving alone to work	<u>83%</u>		82-84%	72%	82%	
Long commute - driving alone	33%		32-34%	15%	32%	

# Appendix C

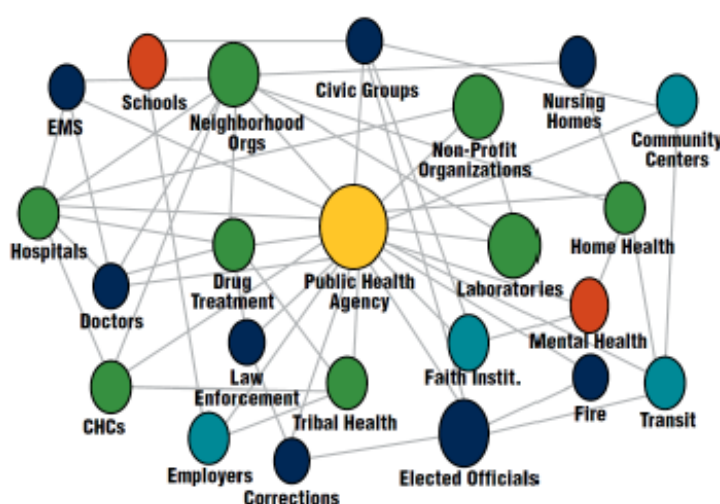
## Appendix C: St. Louis Region Community Health Assessment & Community Health Improvement Plan and Appendices

### Introduction

#### St. Louis Partnership for a Healthy Community

St. Louis Partnership for a Healthy Community (STLPHC) is comprised of a broad range of stakeholders from within the public health system and individual advocates who subscribe to a comprehensive definition of health.<sup>1</sup> The public health system includes any organization, entity, or individual that contributes to or impacts the community's health (see Figure 1).<sup>2</sup>

Figure 1: Generalized Public Health System Diagram (Source: NACCHO)



The membership of STLPHC is intended to represent the wide range of entities that impact health- it includes both the City of St. Louis Department of Health and the St. Louis County Department of Public Health, area hospital systems, government agencies/departments, coordinated care organizations, community-based organizations, academic institutions, and business partners in the City of St. Louis and St. Louis County. See Appendix A for participating organizations.

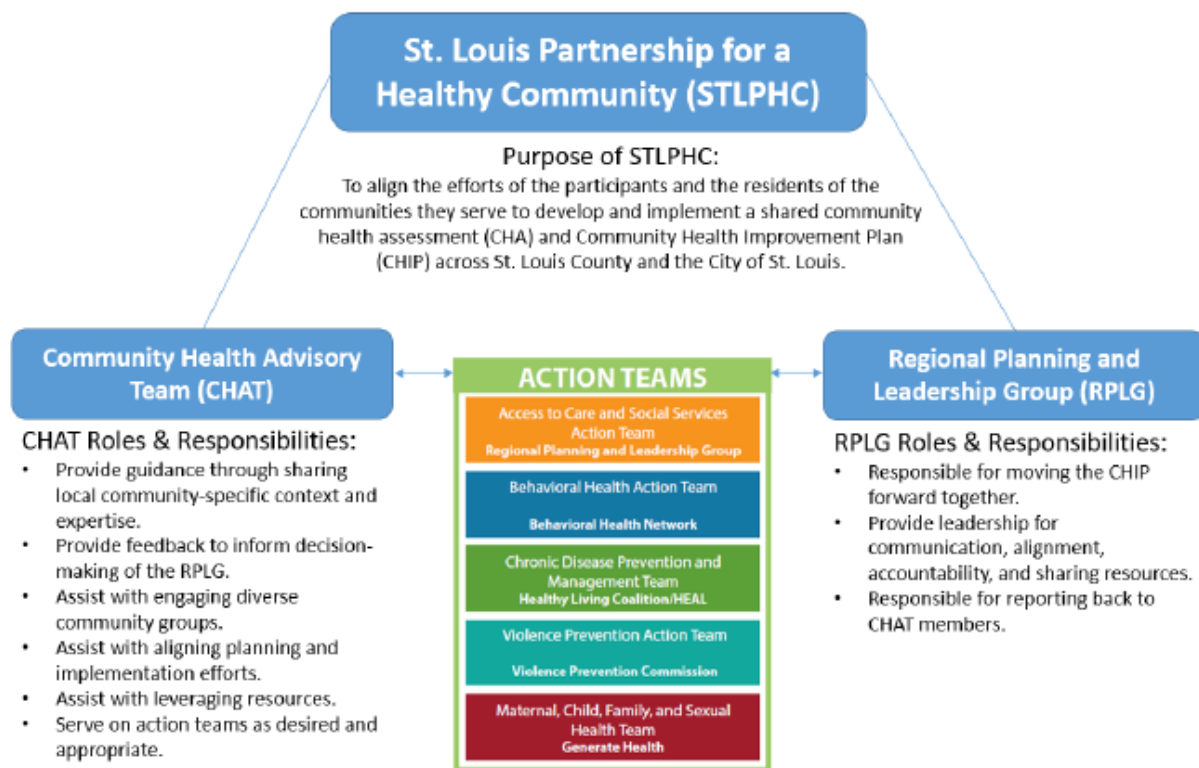
The purpose of STLPHC is to align the efforts of the participants and the residents of the communities they serve to develop and implement a shared community health assessment (CHA) and Community Health Improvement Plan (CHIP) across the City of St. Louis and St. Louis County. STLPHC aims to eliminate duplicative efforts, prioritize needs, and enable collaborative

<sup>1</sup> According to the World Health Organization (WHO), "health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." Source: <http://www.who.int/about/mission/en/>

<sup>2</sup> Source: <https://www.cdc.gov/stlpublichealth/publichealthservices/essentialhealthservices.html>

efforts to implement and track improvement activities across the region. This collaborative approach enables an effective and sustainable process; strengthens relationships between communities, organizations and government; creates meaningful community health needs assessments; and results in a platform for collaboration around regional health improvement plans and activities, leveraging collective resources to improve the health and wellbeing of our communities. See Figure 2 for a diagram of the STLPHC.

Figure 2: STLPHC Structure



### Community Health Advisory Team

In January 2017, STLPHC convened a Community Health Advisory Team (CHAT) comprised of local public health system community leaders, partners, and stakeholders to provide direction and decision-making throughout the Mobilizing for Action through Planning and Partnerships (MAPP) process. The CHAT met regularly throughout 2017 and 2018 to guide the CHA process and to shape the direction of the CHIP and will continue to convene on a semi-annual basis to provide feedback and guidance on the implementation of the CHIP.



### Regional Planning and Leadership Group

The Regional Planning and Leadership Group (RPLG) acts as the STLPHC steering committee and is comprised of leadership from both public health departments (City of St. Louis and St. Louis County), hospital systems, regional health organizations, and neutral facilitators. The RPLG is a continuation of the work started with the CHAT, to ensure that effort is sustained from the assessment phase into the into the action planning, implementation, and evaluation phases of the MAPP cycle. RPLG members work to align priorities across organizations, secure resources for implementation, and sustain STLPHC planning, community engagement, and reporting of the CHA/CHIP progress.

### Commitment to Addressing Health Disparities

STLPHC and member organizations are committed to a vision and process that can identify and address structural racism, health disparities, and inequities. The 2017-2018 CHA and 2019 CHIP include data on disparities in our region, driven by the vision of identifying and describing factors that impact the health of City of St. Louis and St. Louis County residents, workers, and visitors so that we can address and improve equity in achieving optimal health for all.

### CHA/CHIP Framework

STLPHC tailored the Mobilizing for Action through Planning and Partnerships (MAPP) model (see Figure 3) to conduct the CHA and CHIP. MAPP is a community-driven strategic planning process for improving community health. It is an interactive process that helps communities prioritize public health issues and identify resources to address them.

Beginning in early 2017, partners convened to determine the shared vision and guiding values for the process (see next page). Following the development of the shared vision and guiding principles, the four MAPP assessments were conducted over the course of 2017 and analyzed together to identify strategic issues and priorities. Action planning started in late 2017 and continued throughout 2018 with implementation scheduled to begin January 2019.

### Vision and Guiding Principles

The CHAT drafted the 2017-18 St. Louis CHA/CHIP vision and guiding principles in January 2017 and fine-tuned the statements at subsequent meetings to the final set depicted in Figure 4. The vision represents an inspirational and aspirational statement for a desired future based on

Figure 3: MAPP Model (NACCHO)



collective action and achievement. The guiding principles represent fundamental values and beliefs that guide day-to-day interactions with each other and the community through the MAPP process. Together, these statements play an important role in the CHA/CHIP process by providing a framework for engagement, decision-making, data collection, and implementation of strategies.

*Figure 4: 2017-18 St. Louis CHA/CHIP Vision and Guiding Principles*

**Our Vision:**

St. Louis, an equitable community achieving optimal health for all.

**Equity:** Racial equity is an essential component of health equity. We prioritize allocation of resources to remedy disparities and to achieve equity.

**Respect:** We respect everyone in the community, valuing all cultures and recognizing strengths, needs, and aspirations without judgment.

**Integrity:** We use the highest standards of ethics and professionalism to maintain integrity and build community trust through honesty and commitment.

**Data + Results Driven:** We are committed to a transparent, data-driven process, including community feedback, actionable data, and evolving priorities, that results in measurable improvements/outcomes.

**Community Engagement + Inclusion:** Through intentional inclusion, engagement, and empowerment, we foster a culture of equity that respects and values the contributions of every individual toward a healthy community.

**Systems level change + regional shared plan:** We achieve systemic change and policy solutions locally and within a regionally shared plan to improve population-level health.

**Resources:** We collaborate regionally, coordinate existing resources, and develop new resources to accomplish healthy outcomes for all.

## 2017-2018 Community Health Assessment (CHA)

The 2017-2018 St. Louis Community Health Assessment documents the health of City of St. Louis and St. Louis County residents and the strengths and opportunities of the local public health system. The CHA includes data from four different assessments: Community Health Status, Community Themes and Strengths, Forces of Change, and the Local Public Health System (see Figure 5). Together the assessments inform the identification of issues impacting the health of the St. Louis community and assist in the selection of health priorities and improvement strategies. Comprehensive reports for each assessment can be found on STLPHC's regional dashboard, [ThinkHealthSTL.org](http://ThinkHealthSTL.org), and in the appendices of this report.

Figure 5: The Four MAPP Assessments

Assessment	Question
<a href="#">Community Health Status Assessment (CHSA)</a>	What does our data tell us about our health?
<a href="#">Community Themes &amp; Strengths Assessment (CTSA)</a>	What is important to community members and what assets do we have?
<a href="#">Forces of Change Assessment (FOCA)</a>	What is occurring, or might occur, that will affect the community or public health system?
<a href="#">Local Public Health System Assessment (LPHSA)</a>	How are the essential public health services being provided to our community?

### Community Health Status Assessment (CHSA)

The Community Health Status Assessment (CHSA) report documents the health status of City of St. Louis and St. Louis County residents. The broad goal of the health status assessment was to analyze community demographics and population health data as well as to identify important health issues affecting the community. A CHSA workgroup (see page 2 of the CHSA report), along with community input, prioritized health indicators using the following criteria:

- Existence of a disparity by race/ethnicity or sex;
- Comparison with the State of Missouri (ability to benchmark);
- Ability to analyze trends over time;
- Severity; and
- Magnitude.

Data came from a wide variety of secondary sources, which are listed in Figure 6.

Figure 6: CHSA Data Sources (Alphabetical Order)

<ul style="list-style-type: none"> <li>American Lung Association: State of the Air Report</li> <li>Assessor's Office, City of St. Louis</li> <li>Community Commons</li> <li>Community Sanitation Program, City of St. Louis Department of Health</li> <li>County Health Rankings &amp; Roadmaps (CHRR)</li> <li>U.S. Environmental Protection Agency (EPA)</li> <li>Federal Deposit Insurance Corporation (FDIC): National Survey of Unbanked &amp; Underbanked Households</li> <li>Feeding America: Map the Meal Gap</li> <li>Missouri Department of Elementary and Secondary Education</li> <li>MODHSS: Bureau of Health Care Analysis &amp; Data Dissemination</li> <li>MODHSS: Bureau of Vital Statistics</li> <li>MODHSS: Missouri Information for Community Assessment (MICA)</li> <li>Missouri Department of Natural Resources Air Monitoring Stations</li> <li>Nielsen Site Reports</li> <li>Office of the Medical Examiner, City of St. Louis</li> </ul>	<ul style="list-style-type: none"> <li>Prosperity Now: Assets &amp; Opportunity Scorecard</li> <li>Robert Wood Johnson Foundation (RWJF)</li> <li>SAMHSA Buprenorphine Treatment Physician Locator</li> <li>St. Louis Metropolitan Police Department</li> <li>U.S. Census Bureau: American Community Survey (ACS) 5-Year Estimates</li> <li>U.S. Census Bureau: Population Division, Annual Estimates of the Resident Population</li> <li>U.S. Census Bureau: Survey of Income and Program Participation (SIPP)</li> <li>U.S. Department of Agriculture (USDA): FNS SNAP Retailer Locator</li> <li>U.S. Department of Agriculture (USDA): Food Environment Atlas</li> <li>U.S. Department of Housing and Urban Development (HUD)</li> <li>U.S. Department of Labor: Bureau of Labor Statistics</li> <li>University of Wisconsin Public Health Institute</li> </ul>
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### Key Findings

#### Social determinants of health and equity<sup>3</sup>

STLPHC worked to understand why there were differences in health across the St. Louis region by looking at opportunities such as income, housing, and transportation. The percent of families living in poverty in St. Louis County was 7.9% and 21.7% in the City of St. Louis. St. Louis County poverty levels were highest in the Inner and Outer North sub-regions and most zip codes in the City of St. Louis had a medium, high, or very high percent of families living below the poverty line.

When looking at renter- or owner-occupied homes by race in the St. Louis region, 45% of Blacks/African Americans, 75% of Whites/Caucasians, 54% of Asians, and 44% of other races were homeowners. There is a disparity between races when it comes to homeownership. 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. Substandard

<sup>3</sup> All data sources in this section are cited in the full CHSA report, which can be found in Appendix C.

housing is defined by having one or more severe conditions related to plumbing, kitchen facilities, overcrowding, and housing costs. The City of St. Louis had 41.5% and St. Louis County had 30% of homes with one or more substandard housing conditions.

The percentage of City of St. Louis and St. Louis County residents using public transportation as their primary means of commute to work was 9.43% and 2.48%, respectively. The northeastern St. Louis region had the highest percentage of residents using public transit.

### *Mortality<sup>4</sup>*

Measuring how many people die each year and why they died is one of the most important means for assessing the health of the community and the local public health system.

- The top two Leading Cause of Death (LCOD) for City of St. Louis, St. Louis County, and the United States (2010 to 2014 average) were heart disease and cancer. The third LCOD in the City of St. Louis was chronic lower respiratory disease (which includes asthma and chronic obstructed pulmonary disease), and stroke was the third LCOD for St. Louis County. Unintentional injury was the fourth LCOD for St. Louis County and the fifth LCOD for the City of St. Louis.
- The three leading causes of death among ages 1-19 years old were: Accidents (unintentional injury), suicides, and homicides. A racial disparity exists in both the city and county, as the rate of death among black children was significantly higher than the rate of death for white children.
- The leading cause of death among children ages 15-19 in the City of St. Louis was homicide and the leading cause of death of this group in St. Louis County was unintentional injuries.
- While much of the US has steadily decreased infant mortality rates for years, infant mortality rates in both the City of St. Louis and St. Louis County combined, continue to remain higher than the state average and national average.
- From 2010-2014 in the St. Louis region there was a 13% decrease in heart disease mortality in Whites/Caucasians compared to a 7.1% increase in Blacks/African Americans and a 20% decrease in diabetes mortality in Whites/Caucasians and a 4.6 % decrease in Blacks/African Americans.
- The population with “high” and “very 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.
- The City of St. Louis’ homicide rate was seven times higher than Missouri’s rate and St. Louis County’s homicide rate was almost double that of Missouri.

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<sup>4</sup> All data sources in this section are cited in the full CHSA report, which can be found in Appendix C.

- From 2010 to 2016 there was a 228.5% increase in opiate-related deaths in the City of St. Louis and a 22.9% increase in St. Louis County.

Additional data and information on social and economic conditions, the environment, clinical care, and health behaviors are discussed in depth in the full CHSA report. Data are organized around Demographics; Opportunity Measures; Access to and Linkage with Clinical Care; Environmental Health; Chronic Disease and Injury Prevention; Communicable Disease, and Maternal, Child and Family Health. Additional regional health status data can be found on STLPHC's data dashboard [ThinkHealthSTL.org](http://ThinkHealthSTL.org).

### Community Themes and Strengths Assessment (CTSA)

The Community Themes and Strengths Assessment (CTSA) report documents the community's perspective on the characteristics of a healthy community; the barriers and issues impacting quality of life and health in the St. Louis region; strengths and assets to support health; and ideas to address some of the most important issues impacting the health and wellness of the community. The CHAT identified several groups of individuals as priorities for listening sessions due to their potential understanding and experiences related to health inequities. Organizers specifically sought out participants who identify with, or interact with, populations such as racial or ethnic minorities, limited English speakers, low-income communities, individuals with physical and intellectual disabilities, individuals with mental health or substance use disorders, and seniors. Further, in many listening sessions, participants were asked to identify population groups that were most vulnerable and experiencing the greatest inequities.

Fourteen listening sessions, two surveys, and twelve focus groups were conducted over a period of four months in 2017 with residents throughout the region. To better understand the barriers and needs of frequently overlooked populations, organizers used surveys and discussions with key stakeholders who frequently provide services to these populations in addition to listening to the populations themselves.

### *Key Findings*

Through the listening sessions, surveys and focus groups, residents identified key themes related to what a healthy community should look like, current St. Louis conditions that impact health as barriers or facilitators, and ideas for improving the health of the community. Key themes were identified across the responses and summarized on the following page and in the full CTSA report.

The most frequently cited descriptions of a **healthy community** included factors such as:

- Positive relationships with neighbors and fellow community members
- Welcoming, kind, and supportive community
- Feeling safe inside and outside of the home
- Lack of violent crime, guns, and drugs
- Clean, safe, and well-maintained neighborhoods
- Quality, safe, and affordable housing
- Access to open, green space for recreation and exercise
- Access to health care, including behavioral health services
- Residents engage in regular physical activity

Listening session participants discussed several issues impacting health, with the **biggest issues** facing the St. Louis region as:

- Lack of jobs and training opportunities
- Poverty and low income is a barrier to home ownership, services, resources
- Racism and residential segregation
- Inequitable distribution of resources and lack of resources
- High rates of violent crime, gun violence, and drug activity makes the community feel unsafe
- Lack of safe and affordable spaces for young people to learn, socialize, stay physically active
- Easy access to substances (alcohol, tobacco, prescriptions, illicit drugs), heavy substance use

When asked about the **strengths and assets** of the St. Louis region that support health, participants identified factors such as:

- Abundance of museums and cultural institutions
- Good schools (though quality varies across the region)
- Recreation and entertainment for children, adults, and families
- Strong neighborhood associations and other community-based organizations
- Region is diverse and multi-cultural
- Plentiful parks and green space (though safety is a concern)
- Relatively low cost of living compared to other urban areas

Additional data and information on community strengths and assets, barriers and gaps to healthy living, and strategies to improve health and wellbeing are discussed in depth in the full CTSA report and on the [ThinkHealthSTL.org](https://thinkhealthstl.org) dashboard.

## Forces of Change Assessment (FOCA)

The Forces of Change Assessment (FOCA) identifies trends or factors that are influencing, or may influence, the health and quality of life of the community and the effectiveness of the local public health system. The FOCA was completed by CHAT members and focused on two key questions:

- What is occurring, or might occur, that affects the health of our community or the local public health system?
- What specific threats or opportunities are generated by these occurrences?

### *Key Findings*

Threats and opportunities emerged across five key areas (see Figure 7). The participants recognized the uncertainty and instability associated with potential changes to federal policy. There was particular concern regarding the repeal and/or replacement of the Affordable Care Act (ACA) and the impact it will have on regulations, funding for public health, and access to care. Another theme was lack of funding for programs due to budget cuts at federal, state, and local levels. The group pointed to reduced tax revenue due to population loss, shifts in political priorities, macroeconomic trends, and inequitable allocation as the drivers behind loss of funding for critical programs and services. Violent crime was a common theme across categories, including gun violence and violence directed towards communities of color. Violence is not only a threat to residents' safety but also affects access to opportunity and investment. Social justice surfaced as a cross-cutting theme, in relation to economic inequity (e.g. the impact of tax abatements), citizen-law enforcement relations, and environmental inequity. Finally, population shifts and urban renewal influence tax revenue, economic development, and social cohesion. Additional data and information on trends, factors, and events identified during the assessment are discussed in depth in the full FOCA report and on the [ThinkHealthSTL.org](http://ThinkHealthSTL.org) dashboard.

*Figure 7: FOCA Key Findings*





## Local Public Health System Assessment (LPHSA)

The Local Public Health System Assessment (LPHSA) report documents the strengths, weaknesses, and opportunities related to how essential public health services are being provided to our community. Hosted by STLPHC, 96 multi-sector partners participated on May 22, 2017 in a full-day of dialogue and discussion. Participants representing a broad spectrum of the local public health system used a standardized tool<sup>5</sup> to review the optimal level of performance for the 10 Essential Public Health Services (EPHSs) and scored how well the St. Louis local public health system collectively performs the services. Through the scoring and discussion, participants identified local strengths, gaps, and opportunities for quality improvement.

### Key Findings

Overall, participants described the St. Louis local public health system's performance as "moderate" on a scale from no activity to optimal. EPHS 2, *Diagnose and investigate health problems and health hazards in the community* was described as the highest performing essential public health service by participants. EPHS 4, *Mobilize community partnerships to identify and solve health problems* was described as the lowest performing essential public health service by participants. From the discussion, participants identified eight strategic areas that the local public health system should collectively address to improve the function and effectiveness of the system (Figure 8).

Figure 8: LPHSA Key Findings



<sup>5</sup> The LPHSA uses the National Public Health Performance Standards (NPHPS) to assess capacity and performance of local public health systems and local public health governing bodies. This framework can help identify areas for system improvement, strengthen state and local partnerships, and ensure that a strong system is in place for providing the 10 essential public health services. Source: <https://www.cdc.gov/stlpublichealth/nphps/index.html>

Participants in the LPHSA identified the following strengths of the local public health system:

- Assessment and Data Collection: LPHS organizations conduct many assessments and collect a great deal of data for data-driven decision making.
- Community Engagement and Communication: LPHS partners engage community members and stakeholders, and regularly gather input from community members. Community partnerships between research and practice are strong. Risk communication and emergency preparedness communication is well coordinated at the organizational level.
- Partnership and Collaboration: LPHS organizations partner and collaborate in many ways, including data collection and sharing, health promotion and education, policy development, service provision, and research. The increased city and county collaboration is notable and there is momentum for increased collaboration across sectors outside of what is considered traditional public health.
- System-wide Workforce Development: The LPHS has knowledgeable public health staff, good leadership, and high potential for the existing talent in the region.
- Policy: The LPHS has demonstrated willingness to take on policy reforms and has had some recent successes.
- Resources: Academic institutions are an important source of funding, expertise, research, and training for the LPHS.

Additional data and information on the strengths, weaknesses, and opportunities associated with each EPHS area are discussed in depth in the full LPHSA report and on the [ThinkHealthSTL.org](https://thinkhealthstl.org) dashboard.

## Community Health Assessment: Overall Key Findings

While each assessment touched on many themes and issues that affect health and quality of life in the St. Louis region, the CHAT extracted key findings from each assessment, as described in the prior sections. Key findings that surfaced across two or more assessments are plotted in Figure 9. Key findings that surfaced in three or more assessments are highlighted in green.

Figure 9: MAPP Assessment Key Findings

	CHSA	CTSA	LPHSA	FOCA
Access to Care/ Social Services			X	X
Behavioral Health	X	X	X	
Child/Adolescent Development	X	X		
Chronic Disease Prevalence	X			X
Employment/ Workforce Needs		X	X	
Funding/ Resource Distribution		X	X	X
Health Equity	X	X	X	X
Housing Quality/ Burden	X			X
Policy			X	X
Poverty/ Economic Mobility	X	X		X
Transportation	X		X	
Violence/ Community Safety	X	X		X

Topics that surfaced in three or more MAPP assessments are detailed below, with the data source in parentheses.

### Health Equity

The rate of death among Black/African American children is significantly higher than the rate of death among White/Caucasian children. From 2010-2014, in the St. Louis region there was a 13% decrease in heart disease mortality in Whites/Caucasians compared to a 7.1% increase in diabetes mortality in Blacks/African Americans and a 20% decrease in diabetes mortality in Whites/Caucasians and a 4.6 % decrease in Blacks/African Americans (CHSA). Listening session participants observed racism and residential segregation (CTSA). The assessment data lack disaggregation beyond a few variables such as age and race, which can inhibit the ability to assess smaller populations that may experience health disparities. Inclusion of marginalized populations is often a one-time event rather than a systematic process. Lack of trust from marginalized groups is a barrier to engagement in many EPHs including assessment, constituency development, policy development, service provision, evaluation, and research, among other areas (LPHSA). The legacy of structural racism produced patterns of segregation, disinvestment, and injustice that have proven difficult to reverse (FOCA).

### **Poverty/ Economic Mobility**

The percent of families living in poverty in St. Louis County was 7.9% and 21.7% in the City of St. Louis. St. Louis County poverty levels were highest in the Inner and Outer North sub-regions and most zip codes in the City of St. Louis had a medium, high, or very high percent of families living below the poverty line (CHSA). Poverty and low income are barriers to home ownership, services, and resources (CTSA). Reduced access to higher education, higher interest rates for communities of color, and lack of tax abatements for low-income areas of the City may reduce economic mobility (FOCA).

### **Violence and Community Safety**

Unintentional injury was the fourth leading cause of death (LCOD) for St. Louis County and the fifth LCOD for the City of St. Louis. The City of St. Louis homicide rate was seven times higher than Missouri's rate and St. Louis County's homicide rate was almost double that of Missouri (CHSA). High rates of violent crime, gun violence, and drug activity makes the community feel unsafe (CTSA). Violence disproportionately affects communities of color and is not only a threat to residents' safety but also affects access to opportunity and investment in the community. The participants also noted greater incidence of violence against the Muslim community and other immigrant groups (FOCA).

### **Behavioral Health**

From 2010 and 2016 there was a 228.5% increase in opiate-related deaths in the City of St. Louis and a 22.9% increase in St. Louis County (CHSA). Listening session participants reported easy access to substances (alcohol, tobacco, prescriptions, illicit drugs), heavy substance use, and difficulty accessing available, integrated, and affordable care (CTSA). The LPHS has gaps in access to care due to lack of behavioral health services (LPHSA).

### **Funding and Resource Distribution**

Listening session participants observed inequitable distribution of resources and lack of resources (CTSA). When there is a budget crisis, public health is often the first area to be cut. Dependence on grant funding rather than consistently being part of the normal budget process threatens the sustainability of the public health organizations. The assets and resources that do exist in the LPHS are not well documented or coordinated (LPHSA). Participants reported a lack of funding for critical programs and services due to budget cuts at federal, state, and local levels (FOCA).

### **Community Assets and Resources**

A community asset can be a person, physical structure or place, community service, or institution. The MAPP framework emphasizes the identification of assets and resources to give

a more complete picture of the community, rather than simply focusing on deficits. This enables the community to act from a position of strength and leverage its own assets for solutions, especially when external resources (e.g. state or federal money) may not be available.<sup>6</sup> The STLPHC gathered information about community assets and resources from three sources: the CHAT, the LPHSA, and the CTSA. CHAT members identified regional assets and resources in three separate meetings, January 17, June 19, and December 11, 2017. A selection of their findings is provided in Figure 10 and Figure 11. Participants in the LPHSA identified the strengths of the local public health system (see page 13) and participants in the CTSA identified many strengths and assets that support health in the St. Louis region (see page 10).

*Figure 10: Assets and Resources Identified by the CHAT (January 2017)*

PARTNERSHIP & COLLABORATION	<ul style="list-style-type: none"> <li>Connections with community partners</li> <li>Collaboration across St. Louis region</li> <li>Accountable care community network</li> <li>Neighborhood stabilization team</li> <li>Collaboration with universities</li> <li>Relationships with other local health departments and businesses</li> <li>Relationships with HIV/AIDS agencies</li> <li>Unified Health Command and emergency response planning coalition</li> <li>City and county government working together</li> </ul>
CIVIC ENGAGEMENT	<ul style="list-style-type: none"> <li>Growing number of young people committed to making a difference</li> <li>Involved community members, organizing and civic engagement</li> <li>People want to be involved and make community better</li> <li>Diversity of population</li> </ul>
BUILT ENVIRONMENT	<ul style="list-style-type: none"> <li>Public transit/infrastructure</li> <li>Parks and access to green space</li> <li>Place-making efforts</li> <li>Community gardening</li> <li>International housing standards that city adopted in code</li> </ul>
HEALTH CARE	<ul style="list-style-type: none"> <li>Public health clinics and pediatric clinics</li> <li>Free EKG program for adults at St. Louis University</li> <li>Health care institutions</li> <li>Community health workers</li> <li>Gateway to Better Health (safety net program)</li> </ul>

<sup>6</sup> "Section 8: Identifying Community Assets and Resources." The Community Toolbox. <https://ctb.ku.edu/en/table-of-contents/assessment/assessing-community-needs-and-resources/identify-community-assets/main>

DATA	<p>Ability to analyze data and make data-driven decisions</p> <p>Progress Toward Building a Healthier St. Louis: Access to Care Data Book 2017</p> <p>BJC CHNA Report is available online</p> <p>For the Sake of All: A report on the health and well-being of African Americans in St. Louis and why it matters for everyone</p>
OTHER SERVICES	<p>Legal counsel team</p> <p>Citizen Service Bureau (City of St. Louis)</p> <p>Recreation centers (YMCA)</p> <p>STLcondoms.com</p> <p>Music therapy program</p> <p>Philanthropic resources and United Way</p>
WORKFORCE	<p>Health department employees and partners</p> <p>Passionate and culturally competent workforce</p> <p>High level of professionalism</p> <p>All the different city and county departments/employees</p> <p>Law enforcement reform with a focus on mental health issues</p>
HEALTH EQUITY APPROACH	<p>Public health approach</p> <p>Being outcome driven</p> <p>Coming together to address social determinants of health</p> <p>Inclusiveness</p> <p>Willing to put health as priority</p> <p>Recommendations from the Ferguson Commission</p> <p>Recognize need for human development</p>

Figure 11: Existing Coalitions or Initiatives Working on Issues Identified in CHA (June 2017)

24:1 Initiative	HEAL/Healthy Living Coalition
Behavioral Health Network	Incarinate Word Foundation
Beyond Housing	Large hospitals
Clark-Fox Family Foundation	Missouri Foundation for Health
Community Action Agencies	Promise Zone
Community Development Administration	Regional Health Commission
Continuum of Care	School based health initiatives
Deaconess Foundation	St. Louis University
Emergency Planning	St. Louis Community Foundation
Food Policy Coalition	St. Louis Economic Development Partnership
Gateway Center for Giving	St. Louis Metro Police Department
Generate Health	United Way
Geographic collective impact groups	Violence Prevention Collaborative
Healthy Schools, Healthy Communities	

## Opportunities for the Community to Review and Contribute to the CHA

During the assessment period, the CHAT, representing over 52 multi-sector organizations across the region, and the community at large were provided with preliminary assessment findings and opportunities to review and contribute to the assessment. CHAT members were provided assessment updates at monthly meetings from January 2017 through September 2017 and will continue to receive updates on the CHA/CHIP through semi-annual meetings beginning December 2017. CHAT members provided extensive feedback during the monthly meetings and through periodic surveys and worksheets between meetings. The [ThinkHealthSTL.org](http://ThinkHealthSTL.org) website was launched in February 2017 and included a description of the MAPP process and updates on the CHSA. The CHSA indicators were hyperlinked to available data on other pages of the website. In addition, the [ThinkHealthSTL.org](http://ThinkHealthSTL.org) website was linked on partners' websites and social media sites as a regional data dashboard and a place to receive updates on plans and progress. STLPHC receives and responds to emails directly from the [ThinkHealthSTL.org](http://ThinkHealthSTL.org) website "Contact Us" form and a [CHAandCHIP.dph@stlouisco.com](mailto:CHAandCHIP.dph@stlouisco.com) email address. Interested residents and organizations have contacted STLPHC representatives to get involved in the CHA/CHIP and to comment on information they have read.

## 2019 Community Health Improvement Plan (CHIP)

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The 2017-2018 CHA described the health of the population, identified areas for health improvement, named contributing factors that impact health outcomes, and documented community assets and resources that can be mobilized to improve population health in the St. Louis region. The CHA informed the identification of strategic issues impacting the health of the St. Louis community and assisted in the selection of health priorities and improvement strategies. STLPHC developed a regional Community Health Improvement Plan (CHIP) to frame a collaborative approach to addressing the priorities and goals of our community.

### Prioritization Process

Based on the CHA findings, STLPHC developed a set of regional priority health issues with input from the RPLG, CHAT, and the general community. At the August 2017 CHAT meeting, members reviewed the CHA assessment data, identified potential strategic issues that the region should work on collectively for the next three to five years, and then participated in a consensus building workshop to arrive at three to five priorities for the CHIP. The CHAT members considered the following prioritization criteria:

- A strategic issue will surface in at least **3 of the 4 assessments as a need.**
- Focusing on this issue will help achieve our **vision.**
- The **consequences** of not addressing this issue are **severe.**
- This issue requires a **multi-sector, multi-faceted** approach.
- This issue is a **root cause for multiple health/system issues.**
- We can **leverage opportunities, strengths and assets.**

The September 2017 CHAT meeting was used to narrow down the priorities and determine how to organize for the CHIP.

### CHIP Priorities and Goals

The final CHIP structure is depicted in Figure 12, with three priorities and five goals. The goals represent the strategic issues that the CHIP will address over the next five years. The three priorities underpin all of the CHIP work, explicitly recognizing the need to address the social determinants of health, promote health and racial equity, and support regional infrastructure in all of the CHIP goals. The priorities were identified as a commitment and intentional approach to improve public health outcomes while also recognizing limited infrastructure and the need to strengthen multi-sector (i.e., community development, transportation) collaboration in the local public health system to address social and structural determinants of health.



Figure 12: 2019 CHIP Priorities and Goals



STLPHC identified community coalitions to lead Action Teams for each of the five goals (see Figure 13) and invited additional community organizations to join the teams. The Action Teams will have designated members that will report to the CHAT and RPLG on implementation progress and can seek assistance from both advisory bodies for CHIP planning and implementation needs.

Figure 13: CHIP Action Teams



### CHIP Action Planning

At the December 2017 CHAT meeting, members began preliminary planning by discussing how member organizations are currently addressing the issue, gaps in the region, potential strategies and member organization roles to address gaps. It was important for the CHAT to identify the existing initiatives and coalitions working in each goal area in order to reduce duplicative work and to leverage existing assets and resources in the community for greater sustainability. CHAT members also explored how working on each goal may advance the local public health system's development in data, policy and community engagement. Finally, members explored the role of the business community and other potential new public health partners in addressing the goals. More detail can be found in Appendix F "Chip Priority Planning Launch."

Action Teams convened in January 2018 to adopt the CHIP Action Team Charter, solidify the action planning process with consideration of current coalition plans, adapt planning templates/tools, and adopt a timeline for completion of draft action plans by August 2018. Over the course of five months, each Action Team developed an Action Plan with measurable objectives, improvement strategies, and activities with time-framed targets. The plans indicate which individuals and organizations have accepted responsibility for implementing the

strategies and outline policy changes that are needed to accomplish health objectives. Where possible, teams considered both national and state health improvement priorities to maximize alignment across jurisdictions. Action Teams presented posters with high level overviews of the action plans at the May 2018 CHAT Open House. The final Action Plans are located in Appendix G.

### Community Participation in CHIP

The CHIP planning process included participation by a wide range of community partners representing various sectors of the community. Community partners and community members involved in the CHA process were invited to continue participating in CHIP planning and implementation. Each Action Team is co-chaired by community coalition leaders and team membership is comprised of RPLG and CHAT representatives as well as a variety of community organization representatives. See Appendix A for participating organizations. CHIP updates will be available via the [ThinkHealthSTL.org](http://ThinkHealthSTL.org) website and community members can continue to share feedback through the "Contact Us" form and a [CHAandCHIP.dph@stlouisco.com](mailto:CHAandCHIP.dph@stlouisco.com) email address.

The May 2018 CHAT meeting was hosted as an open house for CHAT members, RPLG members, and organizers and participants from community listening sessions to learn about the CHA/CHIP and provide feedback on assessment findings, CHIP priorities, and preliminary action plans. The CHAT met regularly throughout 2017 and 2018 to guide the CHA process and to shape the direction of the CHIP and will continue to convene on a semi-annual basis to provide feedback and guidance on the implementation of the CHIP. The full assessment report can be found at <http://www.thinkhealthstl.org/>.

TO ACCESS THE FULL APPENDICES FOR THE  
ST. LOUIS REGION COMMUNITY HEALTH ASSESSMENT &  
COMMUNITY HEALTH IMPROVEMENT PLAN,  
VISIT [WWW.THINKHEALTHSTL.ORG](http://WWW.THINKHEALTHSTL.ORG).

# Appendix D

## Appendix D: St. Louis County Leading Causes of Death Profile



# Leading Causes of Death Profile St. Louis County, Missouri

Saint Louis County Department of Public Health

February 2018

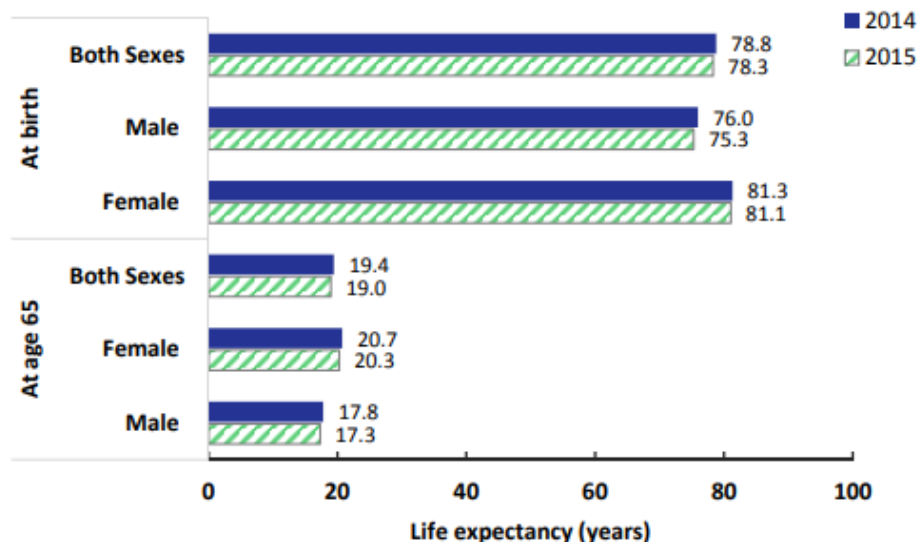
Mortality, life expectancy, and infant mortality are key indicators of the overall health of a population. Cause-of-death ranking is a standard method that is used for illustrating the relative burden of particular diseases or injuries that cause mortality.<sup>1</sup> This report presents data from 2010 to 2015 for Saint Louis County life expectancy estimates, infant mortality rates, and age-adjusted mortality rates for all causes and the leading causes of death by sex, age, race, Hispanic origin, poverty level<sup>2</sup>, and geographic area.

### Key findings:

- In 2015, life expectancy at birth was 78.3 years for St. Louis County residents.
- The age-adjusted death rate increased 1.3% from 717.3 deaths per 100,000 standard population in 2014 to 726.9 in 2015.
- The infant mortality rate for 2011-2015 was 632.0 infant deaths per 100,000 live births.
- The 10 leading causes of death in 2015 were similar to 2014, except septicemia replaced suicide in tenth, and the rank order changed for stroke, accidents (unintentional injuries), chronic lower respiratory disease (CLRD), Alzheimer's disease, influenza and pneumonia, and nephritis, nephrotic syndrome and nephrosis (kidney disease).
- Comparing 2011-2015 to 2010-2014 5-year rates, heart disease, cancer, and diabetes decreased 1.1%, 1.5%, and 2.5%, respectively; however, the Alzheimer's disease rate increased 10.1%. Rates of unintentional injury death and homicide increased 4.1% and 11.8%, respectively.

## Life Expectancy

Figure 1. Life Expectancy at Birth and at Age 65, by Sex: St. Louis County, 2014 and 2015



Sources: Missouri DHSS, Bureau of Vital Statistics and U.S. Census Bureau, 2010 Census

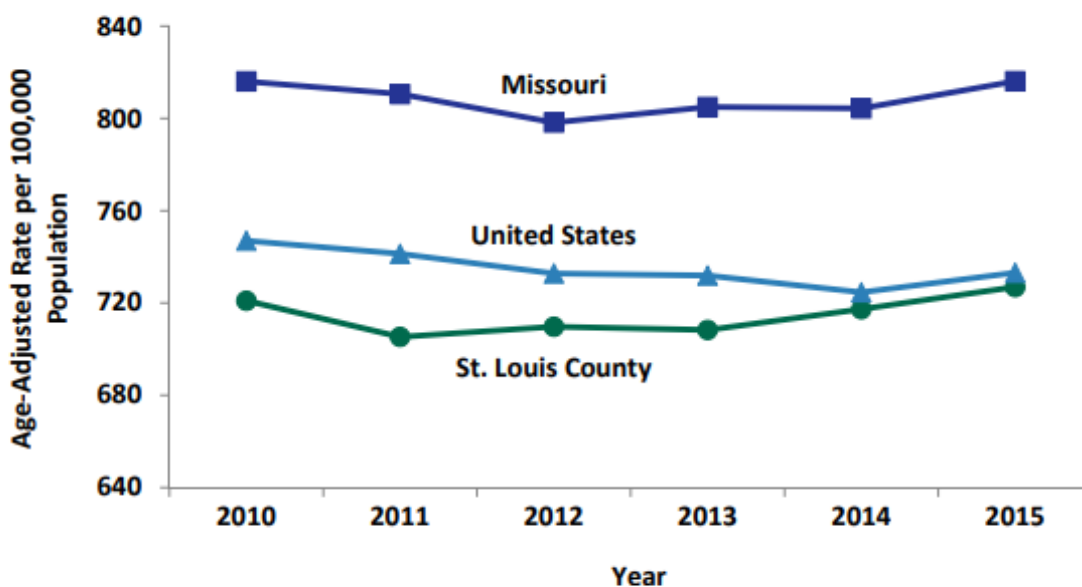
In 2015, life expectancy at birth for St. Louis County decreased marginally (0.5 years) from 78.8 years in 2014 (Figure 1).<sup>3</sup> Life expectancy for females was consistently higher than for males in St. Louis County. For females, life expectancy was 81.3 years in 2014 and 81.1 years in 2015, and for males, life expectancy was 76.0 years in 2014 and 75.3 years in 2015.

In 2015, life expectancy at age 65 for the total population was 19.0 years, 0.4 years lower compared to 2014. Life expectancy at age 65 was also consistently higher for females than males. For females, life expectancy at age 65 decreased marginally (0.4 years) from 2014 to 2015, and for males, life expectancy at age 65 decreased marginally—0.5 years.

### Mortality from All Causes

From 2011-2015, there were a total of 46,917 resident deaths registered in St. Louis County (9,801 deaths in 2015; Appendix 1.1). Figure 2 shows trends in death rates for all causes that have been adjusted for differences in age distribution between populations, also called age-adjusted, for St. Louis County, Missouri,<sup>5</sup> and the United States.<sup>1,6</sup> The St. Louis County rate increased 3.1%, from 705.3 deaths per 100,000 population in 2011 to 726.9 in 2015. The Missouri death rate decreased 1.5% from 2011 to 2012, and then increased 2.2% from 798.2 per 100,000 population in 2012 to 816.1 in 2015. In contrast, the U.S. all-cause death rate decreased 2.3% from 2011 to 2014 and then increased 1.2% from 724.6 in 2014 to 733.1 in 2015. Appendix 1 includes details about these death counts and rates.

Figure 2. Age-Adjusted Death Rates for All-Cause Mortality, St. Louis County, Missouri, and United States, 2010-2015



Sources: Missouri DHSS, Bureau of Vital Statistics, and Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS).

The following table describes the average all-cause mortality rates for St. Louis County by demographic characteristics for 2011-2015.

**Table 1. Deaths from All Causes per 100,000 Population, St. Louis County, 2011-2015 Average.**

	Rate	95% Confidence Interval	Count per Year
St. Louis County	713.0	706.4 to 719.6	9,383
<b>Age Group</b>			
< 18 years	52.4	48.3 to 56.7	118
18 - 24 years	103.8	94.5 to 113.5	92
25 - 44 years	145.3	138.6 to 152.1	355
45 - 64 years	557.3	545.0 to 569.7	1,570
65 years and over	4512.3	4466.0 to 4558.9	7,248
<b>Gender</b>			
Male	854.4	843.1 to 865.9	4,447
Female	606.3	598.4 to 614.3	4,936
<b>Race/Ethnicity</b>			
Asian	345.5	310.2 to 382.7	80
Black/African American	935.0	915.4 to 954.9	1,853
Hispanic or Latino	332.8	286.6 to 382.6	47
Multiple Races	230.5	182.7 to 284.3	23
White	668.3	661.2 to 675.4	7,382
<b>Neighborhood Poverty</b>			
Very High	936.5	899.1 to 975.1	485
High	960.7	935.0 to 986.8	1,087
Medium	752.6	738.5 to 766.9	2,287
Low	663.6	655.5 to 671.6	5,523
<b>Geographic Area</b>			
Central	615.7	598.9 to 632.8	1,098
Inner North	953.2	933.3 to 973.5	1,800
Outer North	638.4	625.0 to 651.9	1,784
South	709.8	695.9 to 723.8	2,173
West	608.3	597.4 to 619.3	2,523

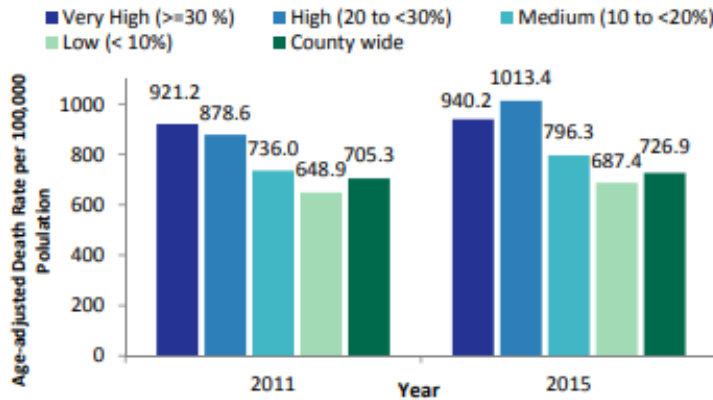
**Comparisons:**

- Higher than St. Louis County rate
- Lower than St. Louis County rate

**Notes:**

Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Vital Statistics.  
 Case Definition: All deaths to St. Louis County residents between 2011 and 2015 from all causes.  
 Rates are age-adjusted to the 2000 US population (not including Age Group rates).

**Figure 3. Age-Adjusted Death Rates by Neighborhood Poverty, St. Louis County Residents, 2011 and 2015.**

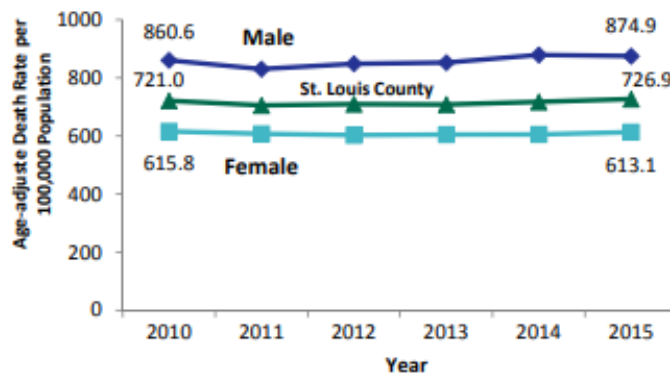


In 2011 and 2015 age-adjusted all-cause death rates were 1.4 times greater in areas with very high poverty compared to areas with low poverty (921.2 vs 648.9 deaths per 100,000 population in 2011 and 940.2 vs 687.4 in 2015, respectively). In 2015, all-cause mortality rates were highest in high poverty neighborhoods.<sup>3</sup>

Source: Missouri Department of Health and Senior Services, Bureau of Vital Statistics.

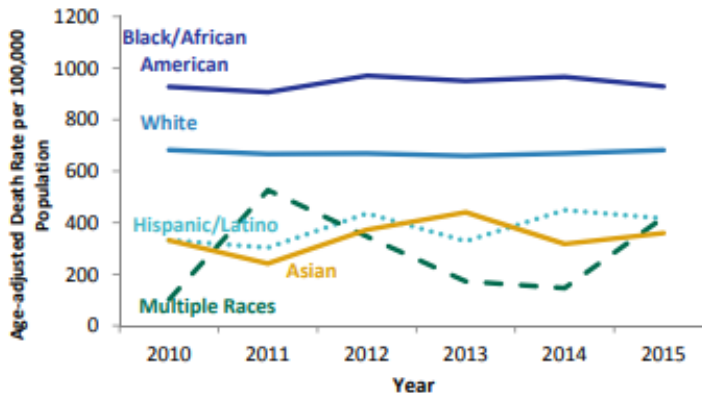
**Figure 4. Age-Adjusted Death Rates by Sex, St. Louis County Residents, 2010-2015.**

From 2011 to 2015, age-adjusted death rates increased 1.7% among males, but slightly decreased 0.4% among females. The age-adjusted death rate for males was consistently higher than the St. Louis County rate.



Source: Missouri Department of Health and Senior Services, Bureau of Vital Statistics.

**Figure 5. Age-Adjusted Death Rates by Race and Ethnicity, St. Louis County Residents, 2010-2015.**

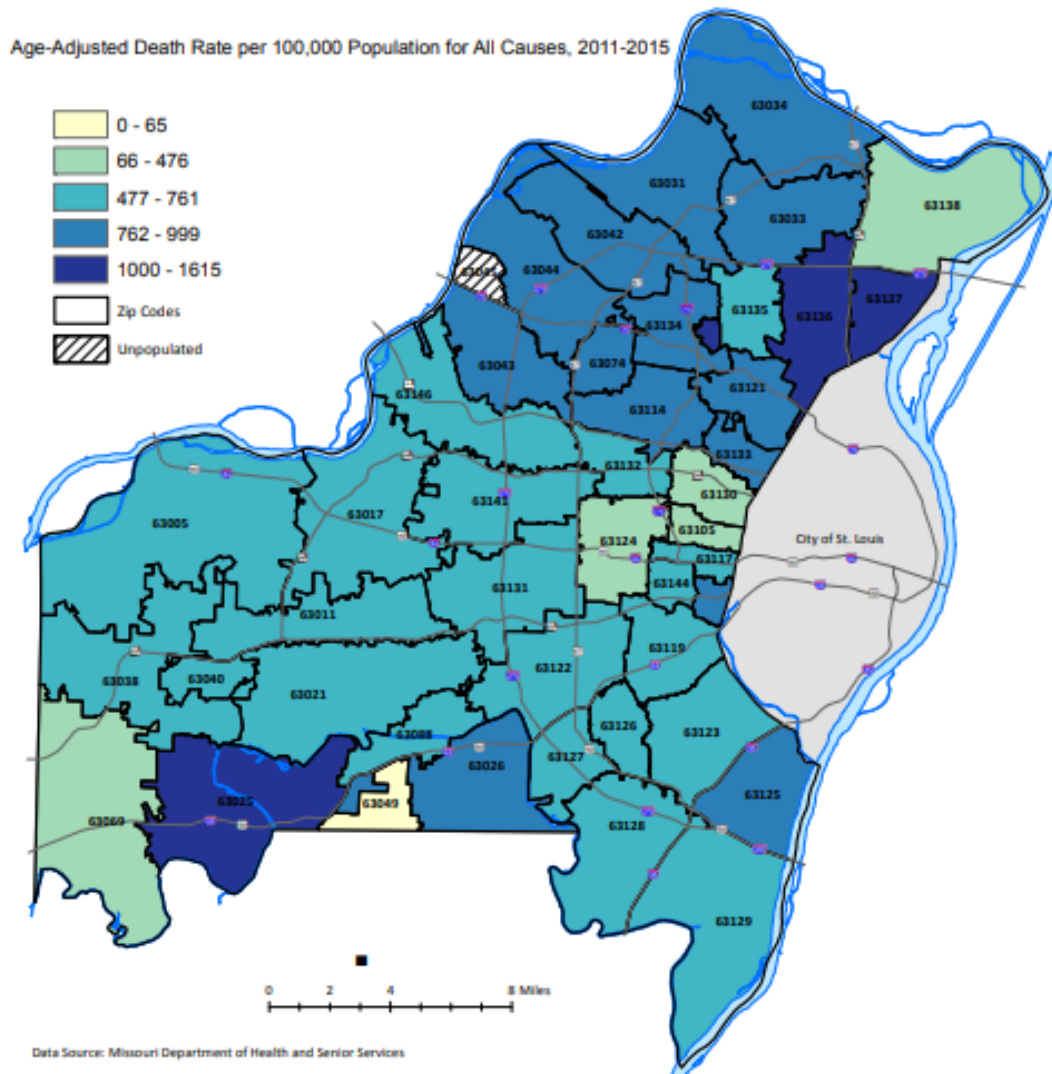


From 2011 to 2015, age-adjusted death rates among the Multiple Races group decreased 20%. Black/African American and White rates increased marginally, 2.5% and 2.3%. However, Asian and Hispanic/Latino rates increased 49% and 37%, respectively.

Source: Missouri Department of Health and Senior Services, Bureau of Vital Statistics.



**Map 1. All-Cause Mortality Rates by Zip Code, St. Louis County, 2011-2015 Average.**



The 2011-2015 average age-adjusted death rates were highest in the northern parts of St. Louis County (i.e., zip code 63136 and 63137), although some zip codes in the west county region had high all cause death rates (e.g., zip code 63025) (**Map 1**). The lowest rates were among zip codes in the central and west county regions—zip codes 63130, 63105, and 63124 and 63069 and 63049, respectively. **Appendix 1** includes details about all-cause mortality rates for St. Louis County by year (2011 to 2015) and demographic characteristics.

### Leading Causes of Infant Death

The infant mortality rate (IMR)—the ratio of infant deaths to live births in a given year—is considered a good indicator of the overall health of a population.<sup>6</sup> For 2011-2015 the IMR in St. Louis County was 632.0 infant deaths per 100,000 live births. In 2015, the U.S. IMR was 589.5.<sup>6</sup> Blacks/African Americans have the largest burden of infant mortality in St. Louis County (Figure 6).

Among the 10 leading causes of infant death for 2011-2015, low birth weight, congenital malformations, and unintentional injuries accounted for 53.4% of infant deaths in St. Louis County (Table 2).<sup>7</sup>

**Table 2. Number of Infant Deaths, Percentage of Total Infant Deaths, and Infant Mortality Rates for the 10 Leading Causes of Infant Death for 2011-2015: St. Louis County.**

Rank <sup>a</sup>	Cause of Death (based on ICD-10)	Number	Percent of total deaths	Rate <sup>b</sup>
...	All Causes	367	100.0	632.0
1	Disorders related to short gestation and low birth weight, not elsewhere classified (low birth weight) (P07)	94	25.6	161.9
2	Congenital malformations, deformations and chromosomal abnormalities (congenital malformations) (Q00-Q99)	59	16.1	101.6
3	Accidents (unintentional injuries) (V01-X59)	43	11.7	74.0
4	Newborn affected by maternal complications of pregnancy (maternal complications) (P01)	18	4.9	31.0
5	Newborn affected by complications of placenta, cord, and membranes (cord and placental complications) (P02)	17	4.6	29.3
6	Diseases of the circulatory system (I00-I99)	10	2.7	17.2
7	Neonatal hemorrhage (P50-P52, P54)	9	2.5	15.5
8	Bacterial sepsis of newborn (P36)	8	2.2	13.8
9	Pulmonary hemorrhage originating in the perinatal period (P26)	7	1.9	12.1
10	Chronic respiratory disease originating in the perinatal period (P27)	†	†	†
...	All other Causes	97	26.4	...

... Category not applicable.

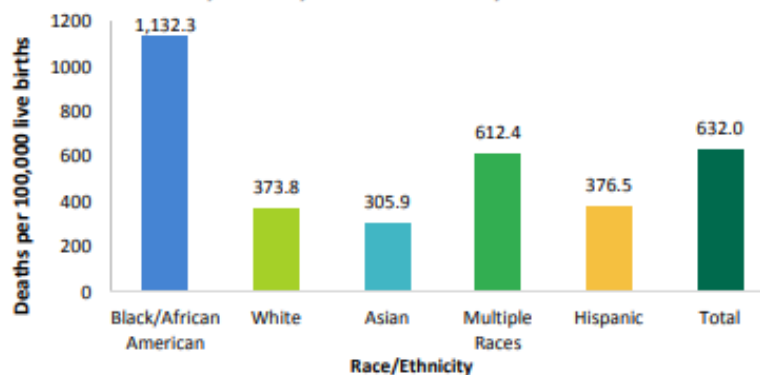
<sup>a</sup>Rank based on number of deaths. Cause-of-death statistics are based on the underlying cause of death.

<sup>b</sup>Infant deaths per 100,000 live births.

†Suppressed to protect confidentiality and/or too few cases to report reliable rates.

Source: Missouri DHSS, Bureau of Vital Statistics.

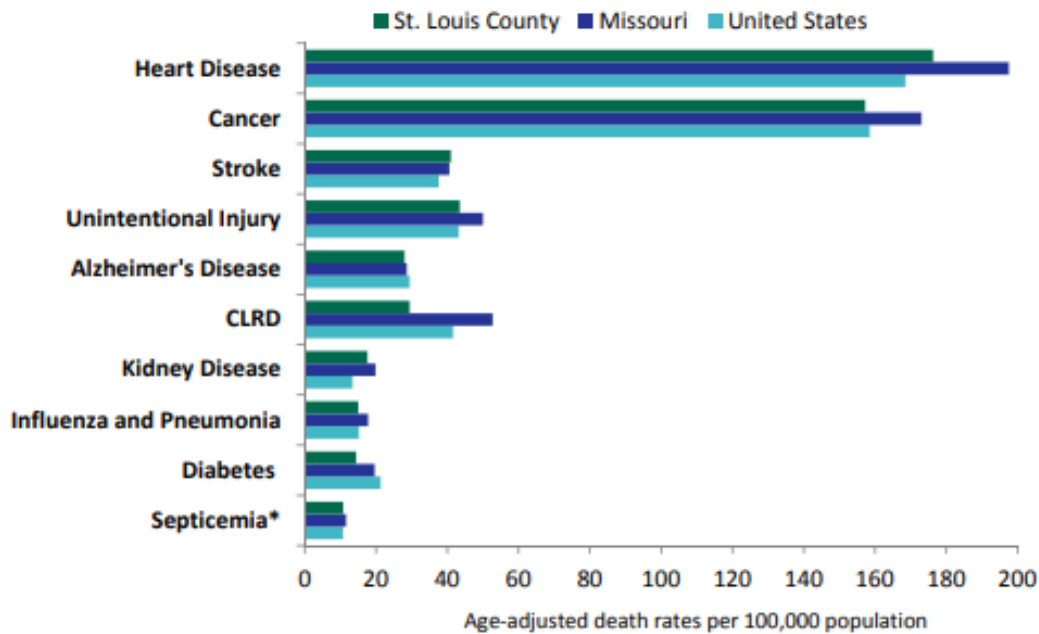
**Figure 6. Infant Mortality Rates by Race and Ethnicity for 2011-2015 – St. Louis County**



Source: Missouri DHSS, Bureau of Vital Statistics.

In 2015, the 10 leading causes of death in St. Louis County were nearly the same as in Missouri and the U.S.; septicemia was tenth in St. Louis County whereas suicide ranked tenth in Missouri and U.S. (Figure 7 and Appendix 2.1). St. Louis County had a higher rate of stroke deaths in 2015, 41.0 deaths per 100,000 population, compared to 40.6 in Missouri and 37.6 in the U.S. However, St. Louis County had the lowest rates of CLRD and diabetes deaths, 29.4 and 14.4, respectively (Appendix 2.1).

**Figure 7. Age-Adjusted Death Rates for the 10 Leading Causes of Death in St. Louis County, Comparing Rates for Missouri and the United States, 2015.**



Sources: Missouri DHSS, Bureau of Vital Statistics, and CDC, NCHS.  
 \*Septicemia was the 11th ranked cause of death for Missouri and the U.S. in 2015.

## Leading Causes of Death (All Ages)

**Table 3** shows the 15 leading causes of death in St. Louis County, in ranked order, during 2011-2015. Seven of the 10 leading causes were chronic diseases and conditions. Chronic diseases, including heart disease, cancer, stroke, chronic lung diseases, and diabetes, have modifiable risk factors that can lead to premature mortality. Premature mortality, defined as deaths among adults aged 45-64 years, is a chronic disease indicator (CDI) that estimates preventable deaths.<sup>8</sup> Age-adjusted death rates of heart disease, cancer, and diabetes decreased from 2010-2014 to 2011-2015, though not significantly (1.1 percent, 1.5 percent, and 2.5 percent, respectively).

The age-adjusted rate of Alzheimer's disease deaths increased 10.1 percent for 2010-2014 to 2011-2015. Similarly, the age-adjusted rate of homicide increased 11.8 percent for 2010-2014 to 2011-2015.

**Table 3. Number of Deaths, Percentage of Total Deaths, Age-Adjusted Death Rates and 95% Confidence Intervals for 2011-2015, and Percentage Change in Rates for 2011-2015 from 2010-2014—15 Leading Causes of Death, St. Louis County.**

Rank	Cause of Death	ICD-10 Codes	Number	Percent of total deaths	Age-adjusted death rate <sup>a</sup>			
					2011 to 2015 Rate	95% Confidence Interval	Percent Change to 2010-14	2011-15
...	All Causes		46,917	100	713.0	706.4	719.6	0.2
1	Heart disease	I00-I09, I11, I13, I20-I51	11,923	25.4	174.2	171.0	177.4	-1.1
2	Cancer	C00-C97	10,401	22.2	160.5	157.4	163.6	-1.5
3	Stroke (Cerebrovascular disease)	I60-I69	2,591	5.5	37.6	36.1	39.1	0.3
4	Accidents (unintentional injuries)	V01-X59, Y85-Y86	2,294	4.9	41.0	39.3	42.8	4.1
5	Chronic lower respiratory disease	J40-J47	2,133	4.5	32.4	31.0	33.8	-0.3
6	Alzheimer's disease	G30	1,609	3.4	21.8	20.8	22.9	10.1
7	Influenza and pneumonia	J09-J18	1,139	2.4	16.1	15.2	17.1	1.3
8	Kidney disease	N00-N07, N17-N19, N25-N27	1,084	2.3	16.1	15.1	17.1	2.5
9	Diabetes	E10-E14	1,007	2.1	15.4	14.5	16.4	-2.5
10	Septicemia	A40-A41	718	1.5	10.9	10.1	11.8	0.9
11	Suicide (Intentional self-harm)	U03, X60-X84, Y87.0	669	1.4	12.6	11.7	13.7	0.8
12	Parkinson's disease	G20-G21	548	1.2	8.1	7.4	8.8	1.3
13	Pneumonitis due to solids and liquids	J69	515	1.1	7.4	6.8	8.1	2.8
14	Chronic liver disease and cirrhosis	K70, K73-K74	449	1.0	7.4	6.7	8.1	-3.9
15	Homicide (Assault)	U01-U02, X85-Y09, Y87.1	436	0.9	9.5	8.6	10.4	11.8
...	All other Causes	(residual)	8,994	19.2	133.1	...	...	...

... Category not applicable.

<sup>a</sup> Rates are age-adjusted to the 2000 U.S. population per 100,000 population.

Rank based on number of deaths among St. Louis County Residents; *International Classification of Diseases, Tenth Revision* (ICD-10). Cause-of-death statistics are based on the underlying cause of death.

Source: Missouri DHSS, Bureau of Vital Statistics.

The burden of chronic disease in St. Louis County is highlighted by the majority of the 10 leading causes of death caused by chronic diseases and conditions (Figure 8). The Saint Louis County Department of Public Health (DPH) established the Chronic Disease Epidemiology (CDE) program to monitor chronic diseases among county residents. The CDE profiles—with more details on the epidemiology of the leading causes of chronic disease deaths—are available for download online in the DPH Report Center: <http://www.stlouisco.com/HealthandWellness/DiseasesandImmunizations/ReportCenter>.

**Figure 8. Ten Leading Causes of Death and Age-Adjusted Rates by Year Highlighting Chronic Disease-Related Deaths, St. Louis County – 2011 to 2015.**

Rank	2011	2012	2013	2014	2015	2011-2015
1	Heart Disease 176.4	Heart Disease 178.8	Heart Disease 172.5	Heart Disease 167.5	Heart Disease 176.3	Heart Disease 174.2
2	Cancer 159.6	Cancer 165.0	Cancer 160.2	Cancer 161.4	Cancer 157.2	Cancer 160.5
3	Stroke 39.3	Stroke 37.3	Stroke 35.6	Unintentional Injury 45.2	Stroke 41.0	Stroke 37.6
4	Unintentional Injury 41.2	CLRD 34.1	Unintentional Injury 40.4	Stroke 35.1	Unintentional Injury 43.5	Unintentional Injury 41.0
5	CLRD 32.0	Unintentional Injury 34.8	CLRD 33.4	CLRD 33.4	Alzheimer's Disease 28	CLRD 32.4
6	Alzheimer's Disease 16.4	Alzheimer's Disease 17.5	Alzheimer's Disease 20.2	Alzheimer's Disease 27.2	CLRD 29.4	Alzheimer's Disease 21.8
7	Diabetes 16.7	Kidney Disease 17.5	Influenza/ Pneumonia 16.3	Influenza/ Pneumonia 18.4	Kidney Disease 17.6	Influenza/ Pneumonia 16.1
8	Influenza/ Pneumonia 15.1	Diabetes 17.8	Kidney Disease 15.2	Kidney Disease 16.2	Influenza/ Pneumonia 15	Kidney Disease 16.1
9	Kidney Disease 13.7	Influenza/ Pneumonia 15.9	Diabetes 14.4	Diabetes 14	Diabetes 14.4	Diabetes 15.4
10	Septicemia 11.6	Septicemia 10.9	Septicemia 12.2	Suicide 13.7	Septicemia 10.8	Septicemia 10.9

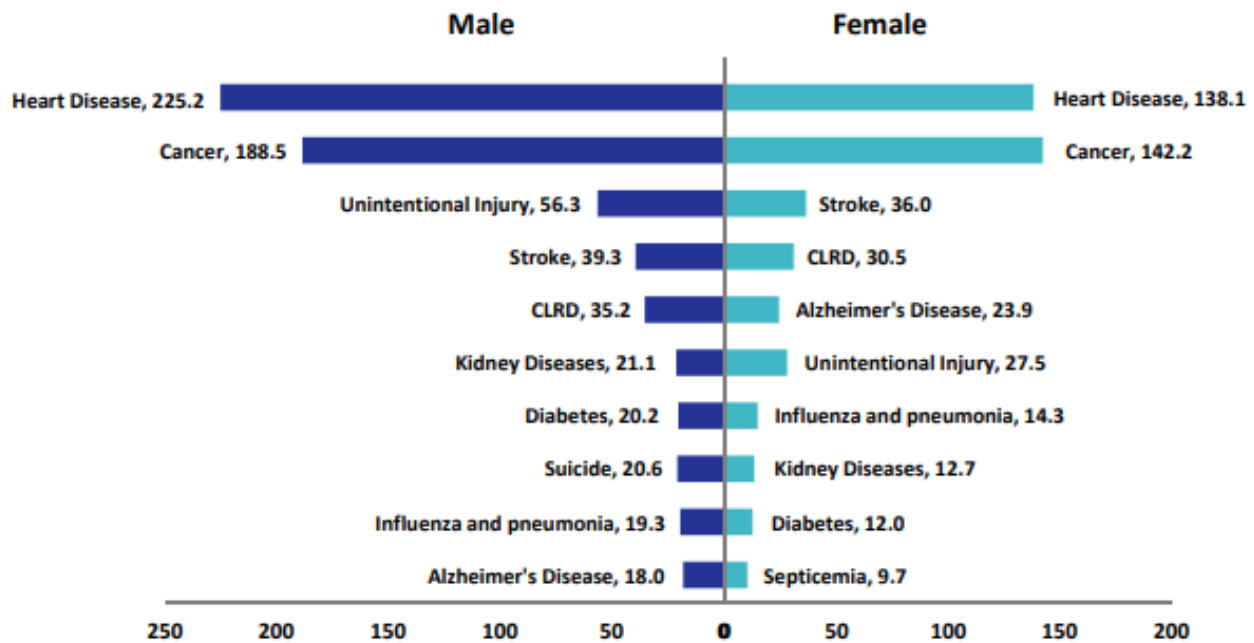
Source: Missouri DHSS, Bureau of Vital Statistics.

Rates are per 100,000 2000 US Standard population. Rank based on number of deaths.

Case Definition: *International Classification of Diseases, Tenth Revision (ICD-10) codes:* I00-I09, I11, I13, I20-I51 (Heart Disease); C00-C97 (Cancer); I60-I69 (Stroke); V01-X59, Y85-Y86 (Unintentional Injury); J40-J47 (Chronic Lower Respiratory Disease; CLRD); G30 (Alzheimer's Disease); J09-J18 (Influenza and Pneumonia); N00-N07, N17-N19, N25-N27 (nephritis, nephrotic syndrome and nephrosis; i.e., Kidney Disease); E10-E14 (Diabetes); A40-A41 (Septicemia), \*U03, X60-X84, Y87.0 (Intentional self-harm; suicide).

Differences by Sex

Figure 9. Age-Adjusted Death Rates for the 10 Leading Causes of Death, Comparing Rates for Males and Females, St. Louis County – 2011-2015.



Source: Missouri DHSS, Bureau of Vital Statistics. Rank is based on the number of deaths.

Figure 9 shows the leading causes of death during 2011-2015 for males and females. For both males and females, heart disease and cancer were the number one and two leading causes of death. The rates of heart disease and cancer were significantly higher among males—225.2 per 100,000 men and 188.5—compared to females—138.1 per 100,000 women and 142.2, respectively (Figure 9). Further, St. Louis County resident males had significantly higher rates of death than females for unintentional injury, CLRD, kidney disease, diabetes, and influenza and pneumonia. Rates of stroke deaths were not significantly different between males and females, however, females had a higher Alzheimer’s disease, 23.9 deaths per 100,000, compared to males, 18.0. Suicide was in the 10 leading causes for men during 2011-2015 but not for women. Conversely, septicemia was in the 10 leading causes for women during 2011-2015 but not for men.

### Differences by Age Group

The following table describes the 10 leading causes of death for St. Louis County residents by age group during 2011-2015, including the number of deaths, the percent of total deaths per age group, the age-specific rates and 95% confidence intervals (CI).

**Table 4. Leading Causes of Death by Age Group, St Louis County, 2011-2015.**

Less than 18 Years					
Rank	Cause of Death	Deaths	Percent	Rate	95% CI
1	Perinatal Causes	205	34.6	18.1	15.8 to 20.7
2	Unintentional Injuries	105	17.7	9.3	7.6 to 11.2
3	Congenital Malformations	71	12.0	6.3	4.9 to 7.8
4	Assault (Homicide)	36	6.1	3.2	2.2 to 4.3
5	Cancer	26	4.4	2.3	1.5 to 3.3
6	Suicide	22	3.7	1.9	1.2 to 2.8
7	Heart Disease	8	1.4	0.7*	0.3 to 1.3
7	CLRD	8	1.4	0.7*	0.3 to 1.3
8	Septicemia	7	1.2	0.6*	0.2 to 1.2
9	Stroke	6	1.0	0.5*	0.2 to 1.0
	All Other Causes	80	13.5		
	Total	592	100.0	52.4	48.3 to 56.7
18 – 24 Years					
Rank	Cause of Death	Deaths	Percent	Rate	95% CI
1	Unintentional Injuries	151	33.0	34.2	29.0 to 39.9
2	Assault (Homicide)	134	29.3	30.4	25.4 to 35.7
3	Suicide	71	15.5	16.1	12.6 to 20.0
4	Heart Disease	16	3.5	3.6	2.1 to 5.6
5	Cancer	12	2.6	2.7	1.4 to 4.5
6	CLRD	6	1.3	1.4*	0.5 to 2.6
7	Congenital Malformations	5	1.1	1.1*	0.4 to 2.3
8	Septicemia	4	0.9	0.9*	0.2 to 2.0
8	Anemias	4	0.9	0.9*	0.2 to 2.0
9	Diabetes	3	0.7	0.7*	0.1 to 1.6
	All Other Causes	40	8.7		
	Total	458	100.0	103.8	94.5 to 113.5
25 – 44 Years					
Rank	Cause of Death	Deaths	Percent	Rate	95% CI
1	Unintentional Injuries	520	29.3	12.5	38.9 to 46.3
2	Cancer	209	11.8	17.1	14.9 to 19.5
3	Assault (Homicide)	199	11.2	16.3	14.1 to 18.6
4	Heart Disease	189	10.6	15.5	13.3 to 17.7
5	Suicide	172	9.7	14.1	12.0 to 16.2
6	Chronic Liver Disease and Cirrhosis	36	2.0	2.9	2.1 to 3.6
7	Stroke	33	1.9	2.7	1.9 to 3.7
8	CLRD	23	1.3	1.9	1.2 to 2.7
9	Diabetes	22	1.2	1.8	1.1 to 2.6
10	Septicemia	20	1.1	1.6	1.0 to 2.4
	All Other Causes	227	12.8		
	Total	1,777	100.0	145.3	138.6 to 152.1

**Table 4. Leading Causes of Death by Age Group, St Louis County, 2011-2015 (Continued)**

45 – 64 Years					
Rank	Cause of Death	Deaths	Percent	Rate	95% CI
1	Cancer	2,648	33.7	187.9	180.9 to 195.2
2	Heart Disease	1,837	23.4	130.4	124.5 to 136.4
3	Unintentional Injuries	440	5.6	31.2	28.4 to 34.2
4	Stroke	280	3.6	19.9	17.6 to 22.3
5	Suicide	276	3.5	19.6	17.3 to 22.0
6	Diabetes	232	3.0	16.5	14.4 to 18.7
7	Chronic Liver Disease and Cirrhosis	219	2.8	15.5	13.6 to 17.7
8	CLRD	211	2.7	15	13.0 to 17.1
9	Kidney Disease	166	2.1	11.8	10.1 to 13.6
10	Septicemia	129	1.6	9.2	7.6 to 10.8
	All Other Causes	910	11.6		
	Total	7,852	100.0	557.3	545.0 to 569.7
65 Years and over					
Rank	Cause of Death	Deaths	Percent	Rate	95% CI
1	Heart Disease	9,873	27.2	1229.4	1205.2 to 1253.7
2	Cancer	7,506	20.7	934.6	913.6 to 955.9
3	Stroke	2,271	6.3	282.8	271.3 to 294.5
4	CLRD	1,885	5.2	234.7	224.2 to 245.4
5	Alzheimer's Disease	1,587	4.4	197.6	188.0 to 207.5
6	Unintentional Injuries	1,078	3.0	134.2	126.3 to 142.4
7	Influenza and Pneumonia	1,023	2.8	127.4	119.7 to 135.3
8	Kidney Disease	897	2.5	111.7	104.5 to 119.1
9	Diabetes	750	2.1	93.4	86.8 to 100.2
10	Septicemia	559	1.5	69.6	64.0 to 75.5
	All Other Causes	6,215	17.2		
	Total	36,238	100.0	4512.3	4466.0 to 4558.9

**Notes:**

\*Interpret with caution – too few cases to meet precision standard (i.e., relative standard error <30%).

Rank based on number of deaths.

Case Definitions: ICD-10 codes: I00-I09, I11, I13, I20-I51 (Heart Disease); C00-C97 (Cancer); I60-I69 (Stroke); V01–X59, Y85–Y86 (Unintentional Injury); J40-J47 (Chronic Lower Respiratory Disease); G30 (Alzheimer's Disease); J09–J18 (Influenza and Pneumonia); N00–N07, N17–N19, N25–N27 (nephritis, nephrotic syndrome and nephrosis; kidney disease); E10–E14 (Diabetes); A40–A41 (Septicemia), \*U03, X60-X84, Y87.0 (Intentional self-harm; suicide), D50-D64 (Anemias) K70, K73-K74 (Chronic Liver Diseases and Cirrhosis), Human immunodeficiency virus(HIV)disease (B20-B24), Perinatal causes (P00-P96), Congenital Malformations (Q00-Q99).

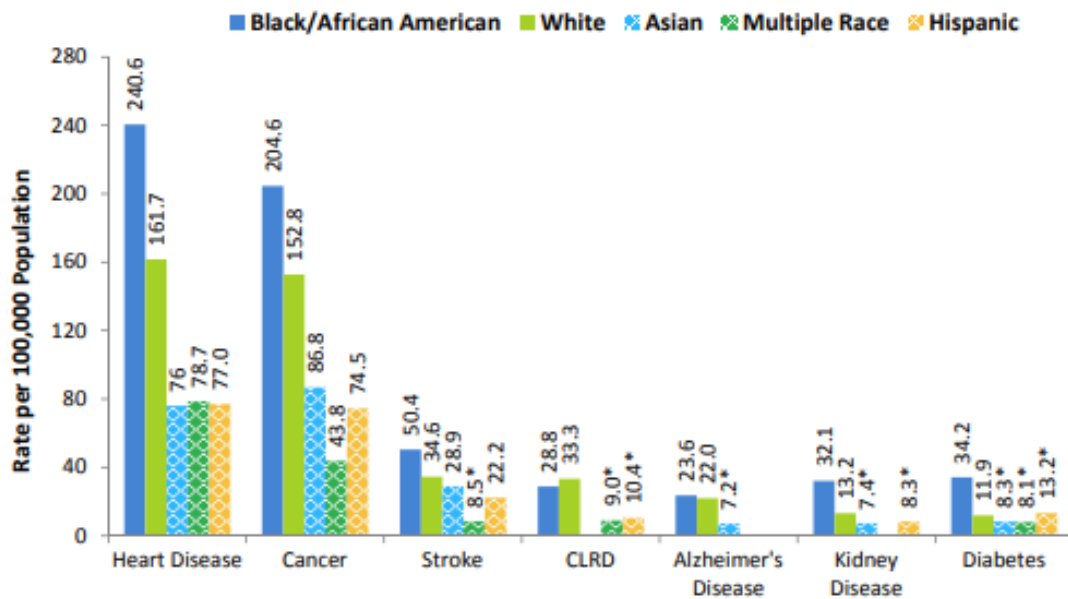
Source: Missouri DHSS, Bureau of Vital Statistics.



Differences by Race and Hispanic Origin

Figure 10 shows selected chronic disease causes of death that were among the 10 leading causes of death for each race and ethnicity. Some racial or ethnic groups do not have a bar for a particular disease because that disease was not among the ten leading causes of death for that population. Heart disease and cancer were the two leading causes of death for all groups. However, the age-adjusted death rates among Black/African Americans were the highest for all causes of death except for CLRD. Alzheimer’s disease was only a top ten leading cause of death for Black/African Americans, whites, and Hispanics.

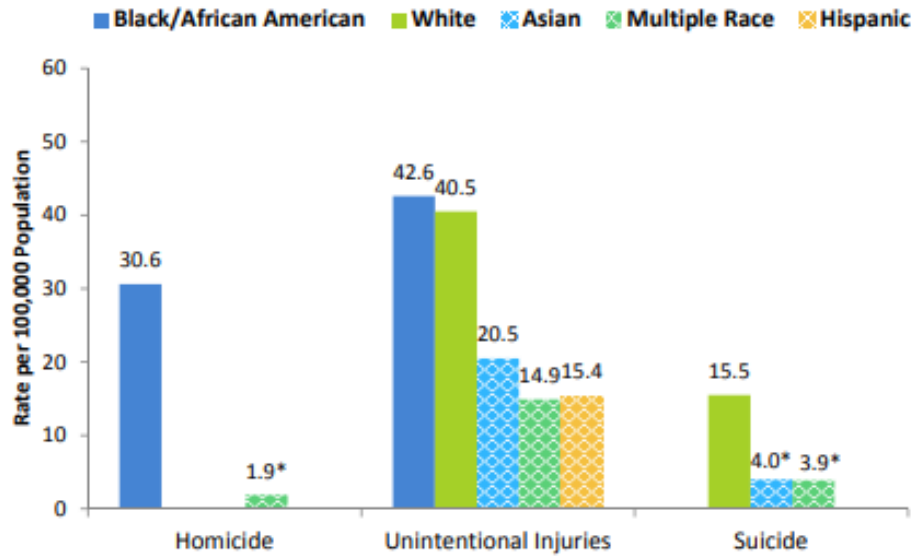
Figure 10. Chronic Diseases: Age-Adjusted Death Rates for the Leading Causes of Death by Race and Ethnicity, St. Louis County, Missouri, 2011-2015.



Source: Missouri DHSS, Bureau of Vital Statistics. \*Interpret with caution – too few cases to meet precision standard (i.e., relative standard error <30%).

Figure 11 shows selected external causes of death that were among the 10 leading causes of death by race and ethnicity. Some racial or ethnic groups do not have a bar for particular diseases because that disease was not among the ten leading causes of death for that population (e.g., whites and homicide).

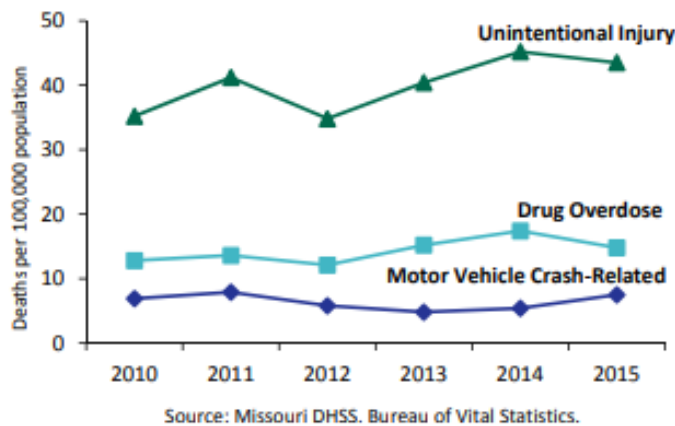
Figure 11. External Causes of Death: Age-Adjusted Death Rates for the Leading Causes by Race and Ethnicity, St. Louis County, Missouri, 2011-2015



Source: Missouri DHSS, Bureau of Vital Statistics. \*Interpret with caution – too few cases to meet precision standard (i.e., relative standard error <30%).

**Emerging Issues in Unintentional Injuries: Drug Overdose and Motor Vehicle Crash Deaths**

Figure 12. Age-Adjusted Death Rates for Unintentional Injury, Drug Overdose and Motor Vehicle Crashes, St. Louis County, 2011-2015.

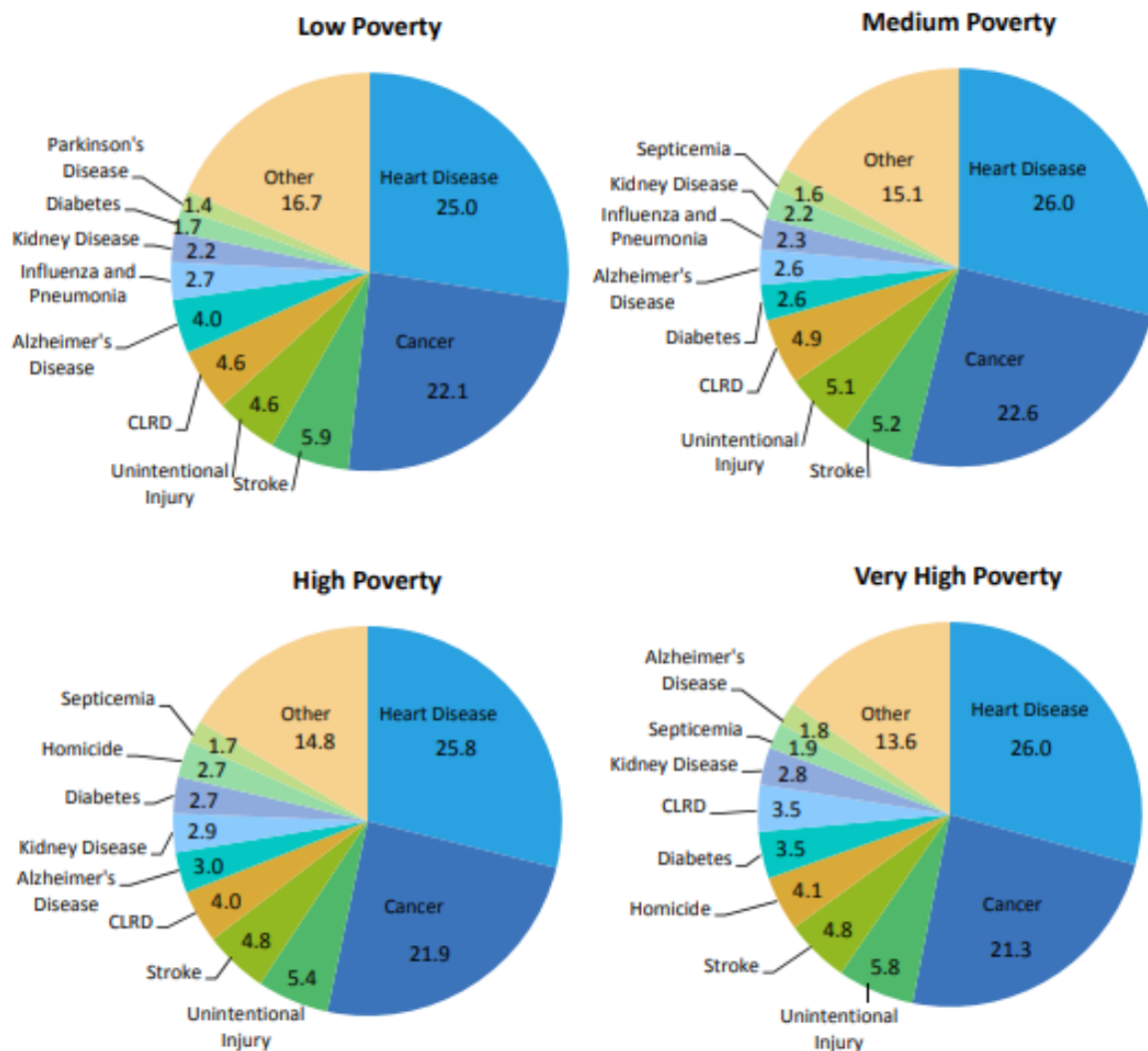


Drug poisoning or overdose (i.e., from prescription drugs) and motor vehicle crash-related deaths (caused by distracted driving) are emerging issues in unintentional injury prevention (Figure 12).<sup>10</sup> The Healthy People 2020 (HP2020) target for unintentional injury is 36.4 deaths per 100,000 population. The HP2020 target for motor vehicle crash-related deaths is 12.4 per 100,000 population. St. Louis County was below the motor vehicle crash-related target during 2010-2015.

**Differences by Poverty Level**

The 10 leading causes of death during 2011-2015 in St. Louis County were similar for all poverty levels (Figure 13). Although the rank order differed by poverty level, heart disease, cancer, stroke, unintentional injury, CLRD, diabetes, Alzheimer’s disease, and kidney disease were in the 10 leading causes. Influenza and pneumonia was in the 10 leading causes for low and medium poverty neighborhoods; homicide was in the top 10 for high and very high poverty neighborhoods. Parkinson’s disease was only in the 10 leading causes of death among low poverty level, but septicemia was in the 10 leading causes for medium, high, and very high poverty levels.

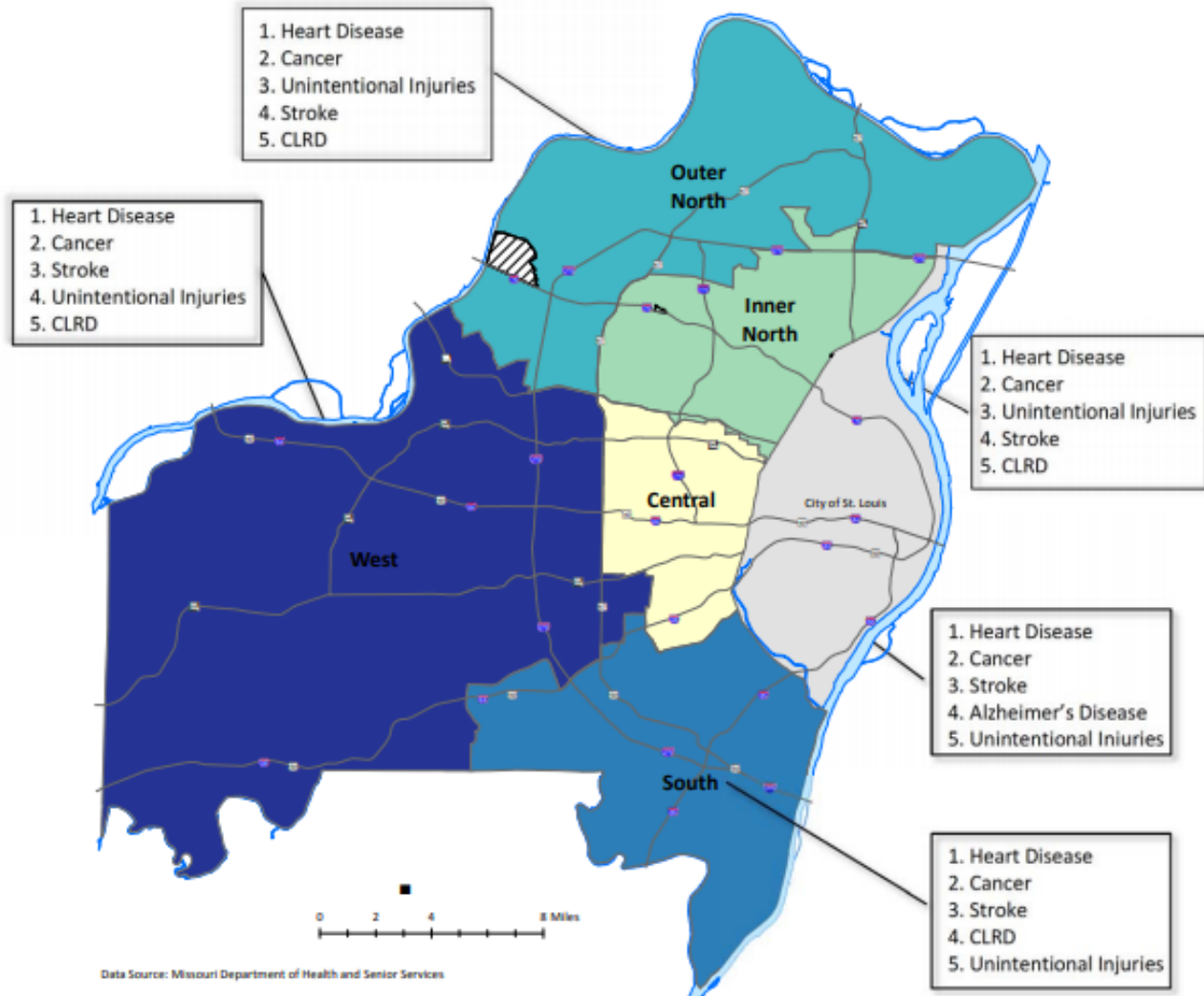
**Figure 13. Percent Distribution of the 10 Leading Causes of Death by Poverty Level: St. Louis County, 2011-2015.**



Source: Missouri DHSS, Bureau of Vital Statistics

Differences by Geographic Area

Map 2. Top 5 Leading Causes of Death by Geographic Area, St. Louis County, 2011-2015.



The 5 leading causes of death were the same in most of the sub-county geographic regions, including Inner North, Outer North, South, and West. Alzheimer's disease was in the top 5 leading causes of death for the Central region. **Appendix 2.4** has more details on the number of deaths, age-adjusted rates, and 95% CI for each region during 2011-2015.

## Methods

Data were obtained from the Missouri Department of Health and Senior Services, Bureau of Vital Statistics for the years 2010 to 2015. Causes of death were classified using the *International Classification of Diseases, Tenth Revision (ICD-10)* underlying cause codes and ranked according to the number of deaths assigned to rankable causes.<sup>7</sup> The "List of 113 Selected Causes of Death and Enterocolitis due to *Clostridium difficile*" was used to select rankable causes for the leading causes presented in this report.<sup>7</sup> The "List of 130 selected causes of infant death" was used for ranking the leading causes of infant deaths. Infant mortality rates were calculated by dividing the number of infant deaths (age <1 year) in a calendar year by the number of live births registered for that same time period. Data for rates of the leading cause of death in the United States were obtained from National Vital Statistics System (NVSS), National Center for Health Statistics (NCHS) data briefs and reports.<sup>1, 6, 7</sup>

The data received captures all deaths of St. Louis County residents (within or outside of St. Louis County). The American Community Survey (ACS) was used to generate 1-year and 5-year estimates for the St. Louis County population by age, gender, race and Hispanic origin for 2010-2015. The percent of residents living below the federal poverty level for each census tract was also obtained from ACS using the 5-year estimate for 2009 to 2013.

In the analysis, neighborhood poverty level was assigned to each death based on residence within each St. Louis County 2010 census tract. Each census tract was assigned one of four categories of percent below federal poverty level<sup>3</sup>: Low (0 to < 10 percent); Medium (10 to <20 percent); High (20 to <30 percent); and Very high (30 to 100 percent). Age-adjusted and age-specific rates and 95% confidence intervals were calculated in Microsoft Excel using population estimates from ACS. The rates were age-adjusted to the 2000 U.S. population.<sup>4</sup> Geographic regions were determined from St. Louis County Planning division region maps by assigning each census tract a matching region. Maps were generated using ArcGIS for the vital statistics data for rates by zip code, and geographic regions.

Life expectancy at birth is defined as the estimated number of years a newborn can expect to live if current age-specific death rates in that population remained the same over time.<sup>3</sup> Life expectancy was calculated using St. Louis County deaths and 2010 Census data for single years of age and sex (US Census Summary File 1, Table PCT12). The data were aggregated into 19 age groups (<1, 1-4, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80-84, 85+) and entered into the SEPHO Life Expectancy Calculator tool.<sup>9</sup> These methods are consistent with the [Sub-County Assessment of Life Expectancy \(SCALE\) Project](#), led by the Council of State and Territorial Epidemiologists (CSTE) and the Centers for Disease Control and Prevention (CDC).

*Healthy People* is an initiative created by the U.S. Department of Health and Human Services to provide evidence-based, 10-year goals and objectives to improve the nation's health and well-being.<sup>10</sup> Healthy People 2020 (HP2020) is the fourth Healthy People initiative. Healthy People objectives were created to monitor the nation's progress and motivate change that will prevent further disease. Injury and Violence Prevention Objectives IVP-11: *Reduce unintentional injury deaths (ICD-10 codes V01-X59, Y85-Y86)* and IVP-13.1 *Reduce motor vehicle crash related- deaths (ICD-10 codes V02-V04[.1,.9], V09.2, V12-V14[.3-.9], V19[.4-.6], V20-V28[.3-.9], V29-V79[.4-.9], V80[.3-.5], V81.1, V82.1, V83-V86[.0-.3], V87[.0-.8], V89.2)* were referenced in this report. Although there is not a HP2020 goal for unintentional drug overdose deaths (ICD-10 codes X40-X44), this has become an emerging issue in injury and violence prevention, and HP2020 calls for monitoring drug overdose deaths to better understand the trends, causes, and prevention strategies.

## Chronic Disease Epidemiology Program

The Chronic Disease Epidemiology (CDE) program is responsible for analysis, interpretation, and presentation of health data related to chronic diseases and their risk factors.

The CDE program supports the Saint Louis County Department of Public Health (DPH) by providing the following services:

- Develop study designs, questionnaires, and case definitions.
- Evaluate chronic disease programs.
- Locate or develop surveillance systems, and analyze epidemiologic data sets.
- Provide county, state, and national comparison data.
- Interpret St. Louis County chronic disease and risk factor data.
- Conduct epidemiologic investigations and special studies of chronic diseases and chronic disease risk factors of public health importance.
- Monitor St. Louis County chronic disease trends.
- Provide scientific advice and technical assistance to community groups and outside partners with respect to surveillance and other epidemiology data expertise.
- Publish reports and web pages on chronic disease and risk factors.

For more information about the CDE program please contact us at: [ChronicDisease.DOH@stlouisco.com](mailto:ChronicDisease.DOH@stlouisco.com)

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## Appendix 1: All-Cause Mortality

**Appendix 1.1.** Number of deaths and age-adjusted death rates for all causes, St. Louis County, Missouri, and United States, 2010-2015.

Year	St. Louis County		Missouri		United States	
	Rate	Deaths	Rate	Deaths	Rate	Deaths
2010	721.0	9,145	816.0	55,054	747.0	2,468,435
2011	705.3	9,048	810.1	55,599	741.3	2,515,458
2012	709.7	9,241	798.2	55,783	732.8	2,543,279
2013	708.3	9,362	804.9	57,256	731.9	2,596,993
2014	717.3	9,465	804.4	58,141	724.6	2,626,418
2015	726.9	9,801	816.1	59,810	733.1	2,712,630

Sources: Missouri DHSS, Bureau of Vital Statistics and National Center for Health Statistics (NCHS), National Vital Statistics System (NVSS). Rates are age-adjusted to the 2000 US population.



Appendix 1.2. Deaths from All Causes per 100,000 Population, Missouri and St. Louis County by Demographic Characteristics, 2011-2015.

	2011			2012			2013			2014			2015		
	Rate	95% CI	Count	Rate	95% CI	Count	Rate	95% CI	Count	Rate	95% CI	Count	Rate	95% CI	Count
Missouri	810.6	803.8 to 817.3	55,599	798.2	791.6 to 804.8	55,783	804.9	798.3 to 811.5	57,256	804.4	797.8 to 810.9	58,141	816.1	809.6 to 822.6	59,810
St. Louis County	705.3	690.4 to 720.4	9,048	709.7	694.9 to 724.7	9,241	708.3	693.6 to 723.1	9,362	717.3	702.6 to 732.2	9,465	726.9	712.1 to 741.9	9,801
<b>Age Group</b>															
< 18 years	54.8	45.7 to 64.8	300	46.2	37.8 to 55.5	0	44.3	36.1 to 53.4	126	55	45.7 to 65.1	115	61.9	52.0 to 72.6	138
18 – 24 years	84.3	66.1 to 104.7	73	89.4	70.8 to 110.2	79	94.4	75.3 to 115.6	84	103.7	83.6 to 126	92	140.8	117.2 to 166.5	125
25 – 44 years	148.8	133.9 to 164.4	364	143.2	128.6 to 158.6	350	137.2	122.9 to 152.3	335	140	125.5 to 155.1	343	145.2	130.5 to 160.7	355
45 – 64 years	555.5	528.5 to 583.1	1,591	538	511.3 to 565.3	1,524	543.1	516.2 to 570.6	1,528	526.8	500.1 to 554	1,473	571.1	543.4 to 599.5	1,589
65 years and over	4784.3	4674.7 to 4895.2	7,234	4571.6	4466.5 to 4677.9	7,183	4326	4225.1 to 4428.1	6,975	4320.8	4221.1 to 4421.8	7,122	4501.3	4400.6 to 4603.1	7,594
<b>Sex</b>															
Male	830.4	805.2 to 856.2	4,236	848.5	823.1 to 874.3	4,387	852.4	827.1 to 878.3	4,393	879.2	853.3 to 905.5	4,521	874.9	849.6 to 900.8	4,698
Female	607.3	589.4 to 625.5	4,812	602.7	585.1 to 620.6	4,853	604.9	587.3 to 622.8	4,968	605.2	578.7 to 633.1	4,943	613.1	595.6 to 631.0	5,102
<b>Race/Ethnicity</b>															
Asian**	241.2	182.4 to 309.1	61	372.6	292.1 to 465.2	81	440.1	338.9 to 553.2	88	317.3	245.7 to 400.7	76	359.4	282.1 to 447.4	92
Black/African American	906.3	862.1 to 951.9	1,700	970.1	921.4 to 1020.3	1,752	949.9	905.2 to 996	1,853	965.3	920.7 to 1011	1,930	928.8	887.6 to 971.1	2,030
Hispanic or Latino	303.2	191.8 to 442.9	28	436.1	277.4 to 630.3	44	328.2	228.5 to 447.1	43	449.1	333.3 to 585.4	64	416.3	299.1 to 551.1	55
Multiple	526.7	176 to 1001	19	346.3	159.6 to 590.2	23	172.1	95.6 to 272.5	21	146.2	80.6 to 253.6	19	421.0	262.0 to 617.4	34
White	666.6	650.6 to 682.9	7,234	668.7	652.7 to 684.9	7,344	659.3	643.6 to 675.3	7,359	668.2	652.4 to 684.3	7,371	681.6	665.7 to 697.9	7,603
<b>Neighborhood Poverty</b>															
Very High	921.2	838.7 to 1008.1	479	995.9	909.2 to 1087	507	853.1	774.1 to 937.6	441	976.8	892.5 to 1066.5	510	940.2	857.1 to 1028.0	490
High	878.6	824 to 935.6	993	993.0	934.7 to 1053.5	1,116	916.4	860.9 to 974.4	1,044	996.2	938.3 to 1056.4	1,138	1013.4	954.6 to 1074.3	1,146
Medium	736.0	704.8 to 768.2	2,218	721.5	690.8 to 753.1	2,210	751.6	720.3 to 784	2,293	758.3	726.6 to 790.9	2,291	796.3	764.0 to 829.6	2,424
Low	648.9	631.2 to 667.1	5,358	652.4	634.7 to 670.5	5,408	670.8	652.8 to 689.1	5,584	658.9	641.2 to 677	5,536	687.4	669.2 to 705.9	5,741
<b>Geographic Area</b>															
Central	624.5	587 to 663.6	1,124	606.6	569.7 to 645.1	1,083	588.8	561.9 to 637.2	1,068	604.7	567.6 to 643.3	1,076	643.9	605.6 to 684.1	1,137
Inner North	928.4	884.5 to 973.8	1,744	968.1	923.2 to 1014.6	1,810	920.4	876.7 to 965.4	1,740	968.9	924.4 to 1014.8	1,844	980.3	935.4 to 1026.7	1,860
Outer North	609.7	580.6 to 639.7	1,698	639.7	610 to 670.4	1,791	657.5	627.3 to 688.6	1,835	648.2	618.3 to 679.2	1,807	636.9	607.2 to 667.3	1,788
South	711.2	680.2 to 743.3	2,144	682.3	652 to 713.5	2,071	722.2	691.5 to 754	2,237	703.9	673.5 to 735.3	2,178	729.1	698.0 to 761.3	2,233
West	570.1	546.6 to 594.4	2,338	597.6	573.7 to 622.2	2,485	596.3	572.4 to 620.8	2,482	614.3	590.1 to 639.3	2,553	663.0	637.8 to 688.9	2,758

**Notes:**

Source: Missouri DHSS, Bureau of Vital Statistics.

Case Definition: Deaths from all causes to St. Louis County residents (or Missouri residents) between 2011 and 2015.

Rates are age-adjusted to the 2000 US population (not including Age Group rates). CI = Confidence Interval.

\* Interpret with caution – too few cases to meet precision standard (i.e., relative standard error <30%). † Suppressed to protect confidentiality and/or too few cases to report reliable rates.

\*\* Where 1-Year ACS estimates were zero, two adjacent years were averaged to calculate a non-zero population denominator.

## Appendix 2: Leading Causes of Death

Appendix 2.1. Age-Adjusted Death Rates for the 10 Leading Causes of Death in St Louis County Compared to Missouri and U.S., 2015.

Cause of Death	St. Louis County			Missouri			United States		
	Rank	Deaths	Rate	Rank	Deaths	Rate	Rank	Rate	
Heart Disease	1	2,480	176.3	1	14,778	197.5	1	168.5	
Cancer	2	2,106	157.2	2	12,938	173.0	2	158.5	
Stroke	3	573	41.0	5	3,021	40.6	5	37.6	
Unintentional Injury	4	491	43.5	4	3,249	50.0	4	43.2	
Alzheimer's Disease	5	419	28.0	6	2,169	28.6	6	29.4	
CLRD	6	398	29.4	3	3,928	52.7	3	41.6	
Kidney Disease	7	250	17.6	7	1,480	19.9	9	13.4	
Influenza and Pneumonia	8	219	15.0	9	1,333	17.8	8	15.2	
Diabetes	9	191	14.4	8	1,464	19.6	7	21.3	
Septicemia*	10	146	10.8	11	859	11.6	11	10.7	
Suicide	11	128	12.0	10	1,043	16.9	10	13.3	
All Causes		9,801	726.9		59,810	816.1		733.1	

\*Septicemia was the 11th ranked cause of death for Missouri and United States in 2015. Rate per 100,000 population; rates age-adjusted to the 2000 US population.  
Sources: Missouri DHSS, Bureau of Vital Statistics and National Center for Health Statistics (NCHS), National Vital Statistics System (NVSS).

Appendix 2.2. Leading Causes of Death, Age-Adjusted Rates, 95% Confidence Intervals by Year, St. Louis County, 2010-2015.

Rank	Cause of Death	2010					2011					2012					2013					2014					2015				
		Rate	95% CI	Count	Rank	Cause of Death	Rate	95% CI	Count	Rank	Cause of Death	Rate	95% CI	Count	Rank	Cause of Death	Rate	95% CI	Count	Rank	Cause of Death	Rate	95% CI	Count	Rank	Cause of Death	Rate	95% CI	Count		
1	Heart Disease	187.1	179.6 to 194.7	2,470	1	Heart Disease	176.4	169.1 to 183.8	2,358	1	Heart Disease	178.8	171.5 to 186.2	2,412	1	Heart Disease	177.5	165.5 to 179.8	2,379	1	Heart Disease	167.5	160.6 to 174.6	2,294	1	Heart Disease	176.3	169.3 to 183.6	2,480		
2	Cancer	169.4	162.2 to 177	2,088	2	Cancer	159.6	152.5 to 166.9	1,989	2	Cancer	165	157.9 to 172.4	2,107	2	Cancer	160.2	153.2 to 167.4	2,070	2	Cancer	161.4	154.4 to 168.5	2,129	2	Cancer	157.2	150.5 to 164.2	2,106		
3	Stroke	40.5	37.1 to 44.1	535	3	Stroke	39.3	35.9 to 42.8	527	3	Stroke	37.3	34.1 to 40.8	512	3	Stroke	35.6	32.4 to 39.0	494	3	Stroke	45.2	41.2 to 49.4	512	3	Stroke	41.0	37.6 to 44.6	573		
4	CLRD	30.2	27.2 to 33.5	385	4	CLRD	32.0	28.9 to 35.3	408	4	CLRD	34.1	30.9 to 37.4	447	4	CLRD	40.4	36.6 to 44.5	447	4	Unintentional Injury	33.4	30.3 to 36.7	443	4	CLRD	27.2	24.6 to 30.1	396		
5	Unintentional Injury	35.2	31.6 to 39.1	380	5	Unintentional Injury	41.2	37.3 to 45.3	453	5	Unintentional Injury	34.1	30.9 to 37.4	447	5	Unintentional Injury	33.4	30.2 to 36.7	437	5	CLRD	33.4	30.3 to 36.7	443	5	Alzheimer's Disease	27.2	24.6 to 30.1	396		
6	Alzheimer's Disease	17.8	15.7 to 20.2	253	6	Alzheimer's Disease	16.4	14.3 to 18.7	236	6	Alzheimer's Disease	17.5	15.3 to 19.8	255	6	Alzheimer's Disease	20.2	18.0 to 22.7	303	6	Alzheimer's Disease	27.2	24.6 to 30.1	396	6	Alzheimer's Disease	28.0	25.3 to 30.9	419		
7	Kidney Disease	16.0	13.9 to 18.4	210	7	Kidney Disease	16.7	14.5 to 19.1	215	7	Kidney Disease	17.5	15.3 to 19.8	255	7	Kidney Disease	16.3	14.2 to 18.6	232	7	CLRD	33.4	30.2 to 36.7	437	7	CLRD	29.4	26.5 to 32.4	398		
8	Diabetes	16.3	14.1 to 18.8	205	8	Diabetes	15.1	13 to 17.3	211	8	Diabetes	15.9	13.8 to 18.2	221	8	Diabetes	15.2	13.1 to 17.4	207	8	Alzheimer's Disease	16.3	14.2 to 18.6	232	8	Diabetes	17.6	15.5 to 20.0	250		
9	Influenza and Pneumonia	14.1	12.1 to 16.2	191	9	Influenza and Pneumonia	13.7	11.7 to 15.9	181	9	Influenza and Pneumonia	15.9	13.8 to 18.2	221	9	Influenza and Pneumonia	14.4	12.4 to 16.7	190	9	Influenza and Pneumonia	15.2	13.1 to 17.4	207	9	Influenza and Pneumonia	14.4	12.4 to 16.6	191		
10	Septicemia	10.1	8.4 to 11.9	130	10	Septicemia	11.6	9.8 to 13.7	149	10	Septicemia	10.9	9.1 to 12.9	139	10	Septicemia	12.2	10.4 to 14.3	162	10	Septicemia	12.2	10.4 to 14.3	162	10	Septicemia	13.7	11.5 to 16.1	148		

Notes: Rate per 100,000; age-adjusted to the 2000 US population (not including Age Group rates). Rank based on number of deaths. CI = Confidence Interval. CLRD= Chronic Lower Respiratory Disease. Cause of death ICD-10 codes: 100-109, 111, 113, 120-151 (Heart Disease); C00-C97 (Cancer); 160-169 (Stroke); V01-X59, Y85-Y86 (Unintentional Injury); J40-J47 (Chronic Lower Respiratory Disease); G30 (Alzheimer's Disease); I09-I18 (Influenza and Pneumonia); N00-N07, N17-N19, N25-N27 (nephritis, nephrotic syndrome and nephrosis; kidney Disease); E10-E14 (Diabetes); A40-A41 (Septicemia); U03, X60-X84, Y87.0 (Intentional self-harm; suicide).

\* Interpret with caution - too few cases to meet precision standard (i.e., relative standard error <30%).

Source: Missouri DHSS, Bureau of Vital Statistics.

Appendix 2.3. Leading Causes of Death, Age-Adjusted Rates, 95% Confidence Intervals by Race and Ethnicity, St. Louis County, 2011-2015.

Rank	Cause of Death	Rate	95% CI	Count	Rank	Cause of Death	Rate	95% CI	Count
<b>Asian</b>									
1	Cancer	86.8	70.2 to 105.2	111	1	Heart Disease	161.7	158.4 to 165.1	9,467
2	Heart Disease	76.0	59.4 to 95.0	82	2	Cancer	152.8	149.4 to 156.3	8,065
3	Stroke	28.9	18.8 to 41.1	30	3	Stroke	34.6	33.1 to 36.2	2,077
4	Unintentional injuries	20.5	12.8 to 30.5	26	4	CLRD	33.3	31.7 to 34.8	1,846
5	Diabetes	8.3*	3.8 to 14.4	11	5	Unintentional Injury	40.5	38.5 to 42.6	1,765
6	Influenza and Pneumonia	7.7*	3.0 to 14.7	8	6	Alzheimer's Disease	22.0	20.9 to 23.2	1,421
6	Intentional Self-harm (Suicide)	4.0*	1.6 to 8.1	8	7	Influenza and Pneumonia	16.7	15.7 to 17.8	1,013
7	Kidney Disease	7.4*	2.8 to 14.5	7	8	Kidney Diseases	13.2	12.2 to 14.2	759
7	Septicemia	6.1*	2.2 to 12.6	7	9	Diabetes	11.9	11.0 to 12.9	644
8	Alzheimer's Disease	7.2*	2.3 to 14.7	6	10	Suicide	15.5	14.2 to 16.9	590
<b>Black/African American</b>									
1	Heart Disease	240.6	230.5 to 251.0	2,302	1	Cancer	74.5	53.4 to 99.7	52
2	Cancer	204.6	195.7 to 213.7	2,145	2	Heart Disease	77.0	55.3 to 103.1	50
3	Unintentional injuries	42.6	38.7 to 46.7	473	3	Unintentional Injuries	15.4	8.7 to 24.8	18
4	Stroke	50.4	45.8 to 55.3	471	4	Stroke	22.2	11.2 to 37.5	14
5	Assault (Homicide)	30.6	27.5 to 33.9	365	5	Diabetes	13.2*	4.8 to 26.7	7
6	Diabetes	34.2	30.5 to 38.1	342	5	Pneumonitis due to liquids and solids	12.0*	4.3 to 24.9	7
7	Kidney Disease	32.1	28.5 to 36.0	310	6	Kidney Disease	8.3*	2.8 to 17.6	6
8	CLRD	28.8	25.4 to 32.5	275	6	Congenital Malformations	3.9*	1.2 to 9.0	6
9	Alzheimer's Disease	23.6	20.2 to 27.3	178	7	CLRD	10.4*	2.6 to 23.9	5
10	Septicemia	17.4	14.9 to 20.3	176	7	Influenza and Pneumonia	8.0*	2.0 to 19.0	5
<b>Multiple Races</b>									
1	Heart Disease	78.7	49.8 to 115.0	28					
2	Cancer	43.8	25.3 to 67.6	22					
3	Unintentional Injuries	14.9	7.3 to 26.6	14					
4	Assault (Homicide)	1.9*	0.5 to 8.0	5					
4	Certain conditions originating in the perinatal period	1.8*	0.5 to 5.8	5					
5	Stroke	8.5*	1.8 to 20.4	4					
5	Diabetes	8.1*	1.8 to 20.4	4					
5	CLRD	9.0*	1.4 to 25.3	4					
5	Congenital Malformations	2.0*	0.4 to 7.9	4					
6	Intentional Self-harm (Suicide)	3.9*	0.4 to 11.9	3					

Notes: Rate per 100,000; age-adjusted to the 2000 US population (not including Age Group rates). Rank based on number of deaths. CI = Confidence Interval. CLRD= Chronic Lower Respiratory Disease. Cause of death ICD-10 codes: 100-109, 111, 120-151 (Heart Disease); C00-C97 (Cancer); I60-I69 (Stroke); V01-X59, Y85-Y86 (Unintentional Injury); J40-J47 (CLRD); G30 (Alzheimer's Disease); J09-J18 (Influenza and Pneumonia); N00-N07, N17-N19, N25-N27 (nephritis, nephrotic syndrome and nephrosis; kidney Disease); E10-E14 (Diabetes); A40-A41 (Septicemia), U03, X60-X84, Y87.0 (Intentional self-harm; suicide), Q00-Q99 (Congenital Malformations), P00-P96 (Certain conditions originating in the perinatal period), I69 (Pneumonitis due to liquids and solids), U01-U02, X85-Y09, Y87.1 (Assault; homicide).

\*Interpret with caution – too few cases to meet precision standard (i.e., relative standard error <30%). Source: Missouri DHSS, Bureau of Vital Statistics.

**Appendix 2.4. Leading Causes of Death, Age-Adjusted Rates, 95% Confidence Intervals by Sub-County Region, St. Louis County, 2011-2015.**

Rank	Cause of Death	Central			South			West		
		Rate	95% CI	Count	Rate	95% CI	Count	Rate	95% CI	Count
1	Heart Disease	147.5	139.6 to 155.8	1,388	170.3	163.8 to 177.0	2,748	138.6	133.6 to 143.8	3,008
2	Cancer	151.0	142.5 to 159.8	1,243	165.9	159.2 to 172.8	2,438	135.6	130.5 to 140.9	2,721
3	Stroke	32.4	28.8 to 36.3	315	38.7	35.7 to 41.9	647	36	33.5 to 38.7	775
4	Alzheimer's Disease	25.2	22.1 to 28.5	266	37.2	34.1 to 40.3	586	31.6	29.0 to 34.5	577
5	Unintentional Injury	29.7	25.9 to 34.0	236	45.2	41.3 to 49.5	544	26.6	24.3 to 28.9	550
6	CLRD	25.8	22.4 to 29.5	225	18.8	16.8 to 20.9	337	23.7	21.7 to 25.8	537
7	Influenza and Pneumonia	14.9	12.4 to 17.6	144	19.9	17.8 to 22.3	336	15.9	14.3 to 17.7	351
8	Diabetes	15.6	12.9 to 18.6	130	15.9	13.9 to 17.9	258	12.6	11.0 to 14.2	264
9	Kidney Diseases	12.2	10.0 to 14.8	112	12.2	10.4 to 14.1	183	10.3	8.9 to 11.8	211
10	Septicemia	9.3	7.3 to 11.6	83	16.0	13.6 to 18.6	171	9.9	8.5 to 11.4	198
<b>Inner North</b>										
1	Heart Disease	194.0	186.3 to 201.8	2,380	138.6	133.6 to 143.8	3,008	138.6	133.6 to 143.8	3,008
2	Cancer	165.1	158.0 to 172.4	1,958	135.6	130.5 to 140.9	2,721	135.6	130.5 to 140.9	2,721
3	Unintentional Injury	34.6	31.4 to 38.0	496	36	33.5 to 38.7	775	36	33.5 to 38.7	775
4	Stroke	33.8	30.6 to 37.1	436	31.6	29.0 to 34.5	577	31.6	29.0 to 34.5	577
5	CLRD	31.9	28.8 to 35.1	379	26.6	24.3 to 28.9	550	26.6	24.3 to 28.9	550
6	Alzheimer's Disease	18.8	16.6 to 21.1	291	23.7	21.7 to 25.8	537	23.7	21.7 to 25.8	537
7	Kidney Diseases	14.9	12.9 to 17.1	265	15.9	14.3 to 17.7	351	15.9	14.3 to 17.7	351
8	Diabetes	14.6	12.6 to 16.7	237	12.6	11.0 to 14.2	264	12.6	11.0 to 14.2	264
9	Influenza and Pneumonia	10.8	9.1 to 12.6	186	10.3	8.9 to 11.8	211	10.3	8.9 to 11.8	211
10	Septicemia	9.9	8.3 to 11.7	161	9.9	8.5 to 11.4	198	9.9	8.5 to 11.4	198
<b>Outer North</b>										
1	Heart Disease	194.0	186.3 to 201.8	2,392	138.6	133.6 to 143.8	3,008	138.6	133.6 to 143.8	3,008
2	Cancer	165.1	158.0 to 172.4	2,036	135.6	130.5 to 140.9	2,721	135.6	130.5 to 140.9	2,721
3	Unintentional Injury	34.6	31.4 to 38.0	441	36	33.5 to 38.7	775	36	33.5 to 38.7	775
4	Stroke	33.8	30.6 to 37.1	417	31.6	29.0 to 34.5	577	31.6	29.0 to 34.5	577
5	CLRD	31.9	28.8 to 35.1	393	26.6	24.3 to 28.9	550	26.6	24.3 to 28.9	550
6	Alzheimer's Disease	18.8	16.6 to 21.1	279	23.7	21.7 to 25.8	537	23.7	21.7 to 25.8	537
7	Kidney Diseases	14.9	12.9 to 17.1	211	15.9	14.3 to 17.7	351	15.9	14.3 to 17.7	351
8	Diabetes	14.6	12.6 to 16.7	205	12.6	11.0 to 14.2	264	12.6	11.0 to 14.2	264
9	Influenza and Pneumonia	10.8	9.1 to 12.6	156	10.3	8.9 to 11.8	211	10.3	8.9 to 11.8	211
10	Septicemia	9.9	8.3 to 11.7	140	9.9	8.5 to 11.4	198	9.9	8.5 to 11.4	198

Notes: Rate per 100,000; age-adjusted to the 2000 US population (not including Age Group rates). Rank based on number of deaths. CI = Confidence Interval. CLRD= Chronic Lower Respiratory Disease. Cause of death ICD-10 codes: I00-I09, I11, I13, I20-I51 (Heart Disease); C00-C97 (Cancer); I60-I69 (Stroke); V01-X59, Y85-Y86 (Unintentional Injury); J40-J47 (CLRD); G30 (Alzheimer's Disease); J09-I18 (Influenza and Pneumonia); N00-N07, N17-N19, N25-N27 (nephritis, nephrotic syndrome and nephrosis; kidney Disease); E10-E14 (Diabetes); A40-A41 (Septicemia), U03, X60-X84, Y87.0 (Intentional self-harm; suicide), G20-G21 (Parkinson's Disease). Source: Missouri DHSS, Bureau of Vital Statistics.

# Appendix E

Appendix E: St. Louis County Hospital Collaboration  
Focus Group Participants & Summary

PERCEPTIONS OF THE HEALTH NEEDS  
OF ST. LOUIS COUNTY RESIDENTS  
FROM THE PERSPECTIVES OF COMMUNITY LEADERS

PREPARED BY:

Angela Ferris Chambers  
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## BACKGROUND

When 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 (CHNA) 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 and underserved populations.

Several St. Louis County hospitals have chosen to work together on this part of the assessment process, even though they are on different time lines for completing their CHNAs. They include Barnes-Jewish West County Hospital, Missouri Baptist Medical Center, Mercy Hospital St. Louis, Mercy Hospital South (formerly St. Anthony's Medical Center) and St. Luke's Hospital. For the first time this year, St. Luke's Des Peres was also included in the process. Many of these hospitals have been working together since the initial stakeholder assessment, conducted in 2012, followed by a second in 2015.

The hospitals continue to be on different timelines with this iteration of the needs assessment. The assessments of Mercy Hospital South, Mercy St. Louis, St. Luke's Hospital and St. Luke's Des Peres are due at the end of June 2019. Those of Barnes-Jewish West County and Missouri Baptist Medical Center are due at the end of December 2019. However, all hospitals continue to cooperate on soliciting the community feedback to be incorporated into each individual assessment.

## RESEARCH OBJECTIVES

The main objective of this research is to solicit feedback on the health needs of the community from experts and those with special interest in the health of the community served by the hospitals of St. Louis County.

Specifically, the discussion focused around the following ideas:

- 1) Determine whether the needs identified in the 2016 hospital CHNAs are still the right areas on which to focus
- 2) Explore whether there are any needs on the list that should no longer be a priority
- 3) Determine where there are the gaps in the plans to address the prioritized needs
- 4) Identify other organizations with whom these hospitals should consider collaborating
- 5) Discuss what has changed since 2016 when these needs were prioritized, and whether there are new issues to be considered
- 6) Understand what other organizations are doing to impact the health of the community and how those activities might complement the hospitals' initiatives
- 7) 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, the sponsoring hospitals conducted a single focus group with public health experts and those with a special interest in the health needs of St. Louis County residents, especially of those who reside in the west and south regions of the county. It was held on August 28, 2018, at the BJC Learning Institute in Brentwood, MO. The group was facilitated by Angela Ferris Chambers of BJC HealthCare. The discussion lasted about ninety minutes.

19 individuals representing various St. Louis County organizations participated in the discussion. (See Appendix)

Trish Lollo, President, Barnes-Jewish West County Hospital, welcomed participants at the beginning of the meeting. Those who were observing on behalf of the sponsoring hospitals were also introduced.

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

The moderator shared the demographic and socioeconomic profile of St. Louis County. This included specific breakouts on the north, south and west-central sectors, when data was available. Information on the needs prioritized by each of the hospitals in their most recent assessments, and the highlights of each hospital's implementation plan, were sent in advance of the presentation and were reviewed during the discussion. The moderator also reviewed the steps that the hospital collaborative has taken to commonly address the health need of diabetes, an issue they have chosen to tackle together within the last year.

Because these hospitals occasionally referred to the same needs differently, some changes were made in the nomenclature to ensure that the same health need was being referenced. This was based on work that BJC HealthCare conducted in 2015 and 2016 to develop a common nomenclature to use among all of its hospitals.

The following health needs (based on the revised nomenclature) were identified in the 2016 hospital CHNAs and implementation plans.

Needs Being Addressed	BJWCH	MBMC	Mercy Hospital South	St. Luke's	Mercy St. Louis
Access to Care: Coverage					X
Access to Care: Services			X		X
Cancer: Breast				X	X
Cancer: Colon				X	
Cancer: Head and Neck	X				
Cancer: Lung				X	
Chronic Conditions: Diabetes		X	X		X
Chronic Conditions: Heart & Vascular		X		X*	
Maternal/Child Health					X
Mental Health			X		X
Obesity			X		
Substance Abuse	X		X		X

\*Addressing diabetes as part of this



Other health needs were identified in the 2016 hospital plans, but not addressed, due to factors such as lack of expertise and limitations in resources. These included:

Needs Not Being Addressed <sup>1</sup>
Cancer: Skin
Cultural Competence/Health Literacy
Senior Health
Sexually Transmitted Infections
Smoking/Tobacco use and Education
Violence

The moderator also shared several pieces of information to help further identify the health needs of St. Louis County. They included:

- the best performing health indicators
- the best performing social determinants of health
- the worst performing health indicators
- the worst performing social determinants of health

Other health indicators were also shared that described access to health insurance, access to healthcare providers, and infectious disease rates (including STDs).

At the end of the presentation, the community stakeholders rated the identified needs based on their perceived level of concern in the community, and the ability to collaborate to address them.

[1] Although some of these needs may not have been individually identified to be addressed, they may have been taken into consideration within the tactics described in the implementation plans of those needs that were addressed.

## KEY FINDINGS

### FEEDBACK ON THE NEEDS BEING ADDRESSED:

The details on the needs being addressed by each hospital was sent to the group for review one week prior to the meeting. During the meeting, the moderator shared a summary slide to remind them about the needs that each hospital has chosen to address.

One stakeholder was particularly interested in how the hospitals are addressing the specific needs of immigrant communities with respect to cultural competence and language barriers. He was especially concerned about addressing diabetes in Hispanic communities. Another was wondering whether the hospitals have addressed the willingness of Muslims who are diabetic to take insulin during Ramadan or Eid.

Another stakeholder wanted clarification on Mercy St. Louis' objective to decrease disparities in the incidence of diabetes in North St. Louis County, and which specific ZIP codes were being targeted in these efforts. The Mercy representative addressed the question, and referenced the Mercy Clinics that are located around Interstate 270 and Lindbergh Boulevard as well as in Hazelwood.

There was another suggestion that the hospitals look at race and ethnicity data separately. There have been some cases in which Hispanics and Caucasians are counted together, resulting in totals of more than 100% in the demographic distributions. He suggested that ethnicity, as defined as the percent of Hispanics in a population, should be tracked separately from race.

Another stakeholder questioned why Christian and DePaul Hospitals were not included in this meeting. The moderator explained that there had been a separate discussion on the specific needs of north St. Louis County in which those hospitals were collaborators. Both hospitals have also been invited to participate in the Diabetes Collaborative.

The school nurse representative commented on the fact that asthma was missing from the list of identified needs. Her data suggests that number of asthma cases among school-age children has soared in the last several years, while diabetes has not increased at as dramatic a rate.

There were also questions around the emergency department (ED) utilization data that were shared, and the moderator clarified that the number of visits is based on where the patient lived as opposed to where the hospital was located. The high ED utilization in North County may be considered a reflection of lack of access to primary care providers in that market.

#### NEEDS THAT SHOULD BE REMOVED FROM THE LIST:

Stakeholders agreed that the needs being addressed should remain, and nothing should be removed from the list.

#### OTHER NEEDS THAT SHOULD BE ADDRESSED:

The representative from the Kirkwood Fire Department was surprised that Senior Health is not one of the needs being addressed through the implementation plans. He mentioned that the majority of the calls to which his paramedics respond are related to heart and respiratory conditions in the elderly, including CHF and COPD. He also said that many of the needs he sees among Seniors are related to a lack of social support – they are living alone and unable to care for themselves, with no family support available close by.

Another questioned why cultural competency and health literacy were not being addressed, as they would impact every need that was identified on the left hand side of the table.

Another stakeholder observed that, although violence was identified as a need, there was no mention of trauma. They should be considered as two separate issues. She also suggested that cultural competence, health literacy and trauma should be evaluated for every health need that is identified.

Housing availability was mentioned as an additional need that may impact the health of the community.

#### SPECIAL POPULATIONS FOR CONSIDERATION:

One stakeholder cautioned the hospitals about how they examine their data. Being able to disaggregate the data to hone in on all types of disparities should be an essential component of the process. Although a disparity may seem small percentage-wise, it can represent tens of thousands of people. It may appear not be a significant issue when it really is. She encouraged the group to take this step and examine the data by race, age, ethnicity and gender so as not to miss health issues that are more serious in specific segments. Otherwise, the data points get whitewashed when they are examined in aggregate.

Similarly, every health issue that is identified should be examined through the lens of cultural competence and health literacy.

The Jewish Federation representative mentioned that her organizations is currently going through a planning process to prioritize the issues on which they should focus. Senior health is one that rose to the top of their list of priorities. Many of the older adults in their community are living alone and do not have social support. They are concerned about their social isolation and the impact that has on their access to health services.

Another stakeholder from the National Council of Alcohol and Drug Abuse suggested that the LGBTQIA (Lesbian, Gay, Bisexual, Transgender/Transsexual, Queer/Questioning, Intersex, Asexual/Allies) were not mentioned in any of the identified needs. He suggested that there are issues of cultural competence that should be considered, especially when they show up in the emergency department and need to reveal their romantic status/gender identity to the doctor.

Another stakeholder identified those who are victims of human trafficking as a special population with unique health needs.

The specific needs of immigrant communities were identified by the representative of the Laborer's Union as an area not to be forgotten. In working with the data, he cautioned hospital representatives not to undercount the number of Hispanic individuals by mixing them with racial groups, as the two measures are different and distinct, although they may overlap.

- He also cautioned the hospital community to recognize that there are cultural differences that impact the need for health care. One example is how the Latino community treats their oldest family members, preferring to care for them at home and not to send them to long-term care facilities. This creates mental health issues for the care givers that may not be recognized.

- The issue of health insurance coverage impacts this community, and the number of individuals who are un- and underinsured should be evaluated through this lens,

- Substance abuse and opioid addiction is not often recognized as impacting immigrant communities. The stakeholder was concerned that is often viewed only as a black and white issue and that the needs of immigrant communities are often forgotten when opioid solutions are identified.

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

One stakeholder suggested that we need to look at these individual needs in a holistic way based on the entire person. The hospitals' assessment needs to involve more than just the patient's physical health.

Another mentioned access to medication, especially among diabetics who have no health insurance or regular source of income.

When it comes to mental health, several stakeholders mentioned that there is a lack of available services. When services are available, it is often challenging for those who need them to get access.

Another stakeholder suggested that within each of the needs each hospital identifies, they should consider the impact of mental health issues. For example, how do mental health issues contribute to an individual's obesity, or how does depression impact diabetes?

When it comes to addressing substance abuse, one stakeholder recalled that there was no mention of access to Narcan as a part of any of the hospitals' plans. That led into a discussion about the EPICC program (Engaging Patients in Care Coordination) in which several St. Louis area hospitals are participating. Access to Narcan is available through this program.

This program represents a cultural shift in how opioid addiction is treated. It involves administration of a medication (buprenorphine) in the ED to stop short-term cravings. In addition, former addicts provide counselling in the ED and act as recovery coaches, also helping patients to secure resources and get into outpatient treatment. Only select hospital ED physicians are authorized to prescribe buprenorphine at this time.

- Another stakeholder discussed the importance of having an electronic medical record (EMR) that can track clinical encounter information between different hospital and outpatient settings. This would be especially important in identifying patients who suffer from addiction and may seek drugs at several different locations. Having an EMR that is shared among different health systems and facilities would help ensure continuity of care and services for these individuals and others.

- There is also an issue of limited grants and funding to address the opioid crisis and the entire continuum of care, including mental health, physical health and residential care. Having more collaboration among all of the area's hospitals and health care organizations would be a way to move forward in addressing these issues.

Several stakeholders expressed concern that this discussion was not deliberately addressing the health needs of north St. Louis County. The hospitals included in this discussion were counselled not overlook that area, even though DePaul and Christian are specifically focusing on it. Those hospitals should not be left alone to address the health of north County. The degree of health needs in that community, especially when disparities are considered, may be more than those two hospitals alone can address.

#### OTHER ORGANIZATIONS WITH WHOM TO COLLABORATE:

The representative from the American Cancer Society mentioned that they are exploring barriers to clinical specialty services among the underserved and uninsured. She cited the example of a patient who tests positive for a fecal occult blood test (FOBT) and needs a colonoscopy. They are exploring how to address this need for those diagnostic services that catch cancer early before it becomes more advanced and requires a higher level of care.

Casa de Salud is another organization that should be considered for future inclusion in discussing the needs of immigrant communities.

The St. Louis Effort for AIDS could also be an effective partner when considering how to address sexually transmitted disease.

Missouri Access for All is an important organization when considering partners to support and advocate for Medicaid expansion.

Organizations that address the need for housing may also be important collaborators, including the St. Patrick's Center and Places for People. For many organizations, access to housing is a requirement to paying for health services and will help establish stability for those in need.

The issue of transportation can also affect the ability to access health services. Including Metro and Gateway may help the group better understand these issues and what resources are available to address them.

#### CURRENT COLLABORATIONS THAT WERE HIGHLIGHTED:

One stakeholder reminded participants about the Gateway to Better Health program, which is under the Regional Health Commission. It covers outpatient healthcare services for qualified city and county residents. Normally, those who apply for Medicaid but who are deemed ineligible can be considered for this program.

#### CHANGES SINCE THE 2016 CHNA:

The representative from the St. Louis County Department of Public Health mentioned that they are in collaboration with the St. Louis City Health Department to prepare their most recent Community Health Improvement Plan (CHIP), as a part of the St. Louis Partnership for a Healthy Community. This partnership includes not only the health departments, but a coalition of a broad range of stakeholders, community organizations, and advocates, including our collaborating hospitals, who share a common vision for achieving a more equitable St. Louis community, with optimal health for all. During the CHIP process, the health departments were challenged by their community partners to rethink the way they defined their health needs, moving from disease conditions and health outcomes, to addressing how social determinants of health impact health outcomes. As a result, they committed to changing how they classified their needs and analyze at their data, incorporating social determinants of health and racial disparities as part of their needs to be addressed.

The representative from the Health Department reported that violence is also worse than it was in 2016 along with sexually transmitted infections.

- With regard to violence, the specific issues of domestic violence, interpersonal violence, and suicide have impacted the overall rates of firearms mortality, which has been rising every year.
- The rise in violence also creates a need for recognizing that trauma-informed care must be included as part of the solution, especially for those individuals whose first encounter is at the emergency department.

There was also agreement that the opioid crisis is worse than it was three years ago. Specifically, fentanyl was not around in 2014 and 2015. In 2017, 85% of overdose deaths were due to fentanyl in St. Louis City and County.

The representative of the American Heart Association noted that heart disease continues to be the number one cause of death in the St. Louis region. They are exploring the root causes of this major health issue. They suggest that changes need to be explored at the larger health system level to have the greatest impact, rather than continuing to focus on the individual. The required policy and organizational changes need to be organized and coordinated if the area is going to see any substantive improvement in this area.

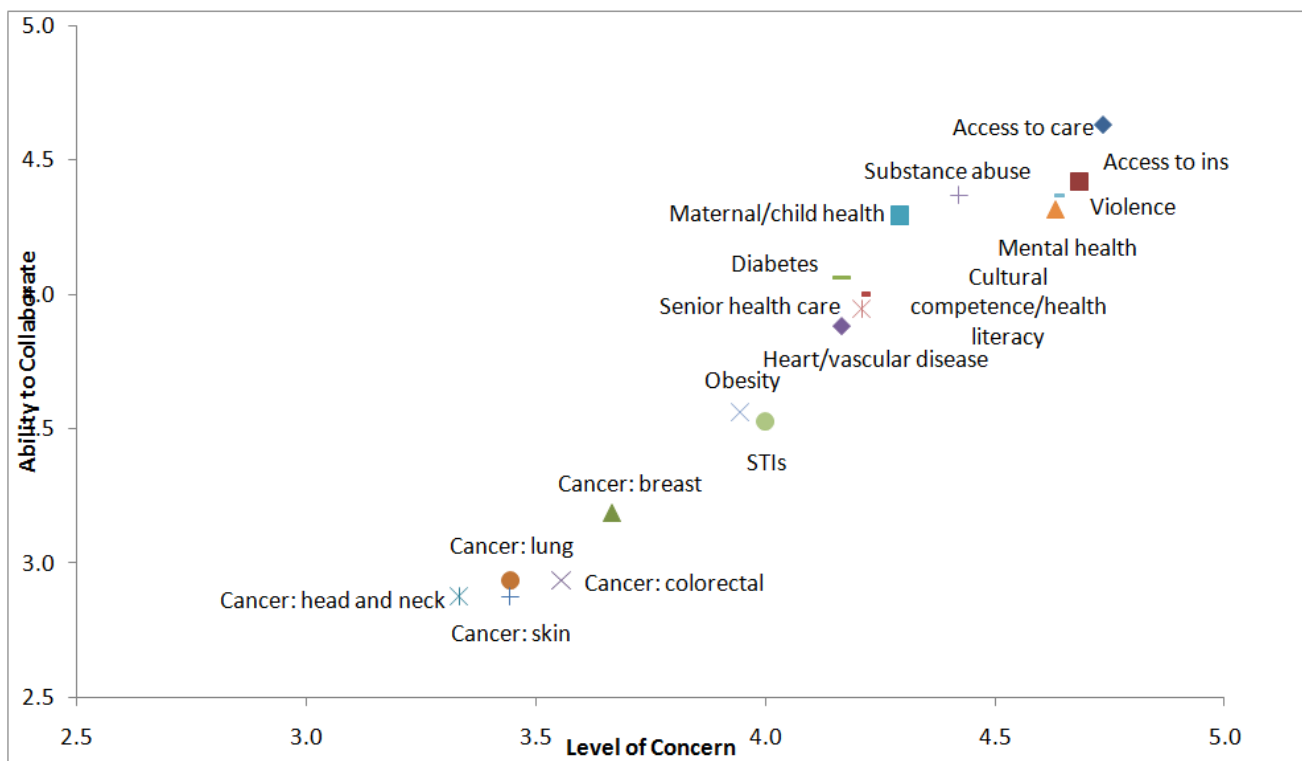
## HEALTH CONCERNS FOR THE FUTURE:

Access to health insurance, especially Medicaid in Missouri, continues to be a concern for many. A few expressed a belief that health indicators were less negative when the Missouri Medicaid program was not as restrictive as it currently is. Many believe that there needs to be a continued effort to support the expansion of Medicaid in Missouri.

There also needs to be vigilance in monitoring alcohol use as well as methamphetamine and cocaine use. Abuse of those two stimulants is on the rise, and there is an increase in overdose deaths resulting from them.

## RATING OF NEEDS

Participants rated the needs identified in the 2016 assessment 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.



The issues of access to care and access to insurance were rated the highest in terms of level of concern and ability to collaborate, followed by violence and mental health. Substance abuse and maternal/child health were not far behind.

The table on the next page shows the actual ratings for each need that was evaluated.

## Average Scores

Health Need	Level of Concern	Ability to Collaborate
Access to care	4.7	4.6
Access to insurance	4.7	4.4
Violence	4.6	4.4
Mental health	4.6	4.3
Substance abuse	4.4	4.4
Maternal/child health	4.3	4.3
Cultural competence/health literacy	4.2	4.0
Senior health care	4.2	3.9
Diabetes	4.2	4.1
Heart/vascular disease	4.2	3.9
STIs	4.0	3.5
Obesity	3.9	3.6
Cancer: breast	3.7	3.2
Cancer: colorectal	3.6	2.9
Cancer: lung	3.4	2.9
Cancer: skin	3.4	2.9
Cancer: head and neck	3.3	2.9

### NEXT STEPS

Using the input received from community stakeholders, the St. Louis County hospitals will consult with their internal work groups to evaluate this feedback. They will consider other secondary data, and determine whether/how their priorities should change.

The needs assessments and associated implementation plans must be completed by June 30, 2019 for Mercy St. Louis, Mercy Hospital South, St. Luke’s Hospital and St. Luke’s Des Peres Hospital; and by December 31, 2019 for Barnes-Jewish West County, and Missouri Baptist Medical Center.



PARTICIPANT ROSTER

NAME	ORGANIZATION	ATTENDANCE
Bartnick, Rachelle	American Heart Association	X
Bradshaw, Karen	Integrated Health Network	X
Burgess, P. Ariel	International Institute of St. Louis	X
Costerison, Brandon	NCADA	X
Ditto, Nicole	Gateway Region YMCA	X
Duggan, Debbie	St. Louis Counseling	X
Franklin, Wil	People's Health Center/Hopewell Community Mental Health Center	X
Harbison, Ryan	American Diabetes Association	X
Leonardis, Deborah	American Cancer Society	X
Marek, Michael	American Diabetes Association	X
Menefee, Maggie	ALIVE	X
Neumann, Linda	St. Louis Suburban School Nurses Assoc	X
Orson, Wendy	Behavioral Health Network	
Schmidt, Spring	St. Louis County Public Health Dept	X
Smith, David	Kirkwood Fire Dept	X
Underwood, Brooke	American Diabetes Assoc	X
Valdez, Sal	LiUNA	X
Waldman, Missy	City of Olivette	X
Weinstein, Nikki	Jewish Federation of St. Louis	X
Wessels, Robert	United Way 211	X

OBSERVERS ROSTER

NAME	ORGANIZATION	ATTENDANCE
Arney, Stacy	BJWCH	X
Bub, Laura	Mercy Hospital South	X
Carroll, Megan	St. Luke's	X
Carter, Traci	Mercy St. Louis	X
Donato, Cyndy	MBMC	X
Egan, Cara	MBMC	X
Finetti, Yoany	BJWCH	X
Hoefer, Bill	Mercy Hospital South	X
Hudson, Gregory	St. Luke's	X
King, Karley	BJC HealthCare	X
Lollo, Trish	BJWCH	X
Loving, David	St. Luke's Des Peres Hospital	X
Ray, Diane	St. Luke's Hospital	X
Weinstein, Cindy	BJWCH	X

# Appendix F

## Appendix F: St. Luke's Hospital Focus Groups Questions and Summaries

### BACKGROUND

When the Patient Protection and Affordable Care Act (PPACA) passed in March 2010, non-profit hospitals were mandated by the United States government to conduct a community-based health needs assessment (CHNA) 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 and underserved populations.

Focus groups are held within the hospital communities, and in the community at large, in order to gain essential insight into the specific health needs of the populations served. Information gathered at focus groups will be analyzed in conjunction with primary and secondary data from local, regional, and national databases and agencies, and conclusions will be compiled in the final CHNA.

### OBJECTIVES

The main objective of this research is to solicit feedback on the health needs of the community from experts and those with special interest and knowledge of the health of the community served by St. Luke's Hospital and St. Luke's Des Peres Hospital.

Specifically, this discussion focused around the following ideas:

- 1) Determine the particular needs of the patients that St. Luke's Hospital and St. Luke's Des Peres Hospital serve.
- 2) Explore whether there are there any services that could be expanded upon
- 3) Determine what resources exist to address potential needs, and where gaps in resources exist
- 4) Discuss community benefit reporting and potential ways that St. Luke's Hospital and St. Luke's Des Peres Hospital staff can contribute to community benefit

## METHODOLOGY

To contribute to the PPACA requirements, the community benefit coordinator (“coordinator”) sought feedback from stakeholders within the St. Luke’s Hospital (SLH) and St. Luke’s Des Peres Hospital (SLDPH) communities through informal focus groups. Within the St. Luke’s network of care, the coordinator organized four focus group between the two hospital campuses: with Case Managers at SLH, Care Coordinators at SLH, St. Luke’s Medical Group office managers at SLDPH, and Case Managers at SLDPH. All focus groups were held in the fall of 2018. These groups were selected specifically because employees in these roles have the unique position of working directly with patients throughout the community, helping to coordinate care in various ways. As such, they have valuable insight into the health needs of those patients, and the obstacles that they face in achieving health, wellness, and quality of life. Each focus group was held on-site at the hospitals, and conversations lasted about 30-45 minutes.

During the focus group, the coordinator provided the opportunity for each participant to share what they understand as their community needs, and allowed for questions related to community benefit. The coordinator reminded participants that their input on the health priorities of the community is needed to help the hospitals move forward in this next phase of the needs assessment process.

See the appendix for a complete list of all individuals who participated in the discussion, which was facilitated by the coordinator.

## KEY FINDINGS

### St. Luke's Hospital

While participants largely agreed that St. Luke's has a positive community presence, and in many ways offers services and resources that are widely accessible for community members, they identified key shortcomings in the community that may make it more difficult for patients to obtain the care that they need.

Transportation was a major theme for both care coordinators and case managers, however, opinions differed based on participant experience and role within the hospital. Case managers, in particular, expressed that while St. Luke's patients may have better access to transportation relative to other outlying areas of the community, it is still an obstacle to care for a significant portion of patients. Participants voiced that's patients can often struggle to arrange transportation on their own, whether to get to appointments or pick up medications at the pharmacy. Office hours and physician available were also emphasized as obstacles to access to care.

Another major theme for both care coordinators and case managers was patient engagement. The need for better communication and awareness of the resources and programs that St. Luke's offers, both in the community and within the hospital, along with increased engagement on the patient portal, were identified as areas for improvement. Participants expressed that if hospital team members are better informed of what services are available for free or low cost, they can improve referral patterns.

A variety of issues relating to health literacy and cultural competency were raised in both focus groups. Participants expressed that seniors in particular often have a difficult time navigating technology and the internet, whether to schedule appointments, follow up with physicians on the St. Luke's portal, or finding reliable health information on the internet. They suggested offering internet literacy classes, as well as classes or support on medication adherence and compliance for individuals of any age. Care coordinators again emphasized the need to increase patient engagement with online patient portals, which would require education and outreach efforts. In terms of cultural competence, Chinese, Spanish, Italian, Korean, Russian and Bosnian were all listed as languages for which additional resources would be needed for patients that they work with, including some employees.

Case managers discussed nutrition and diet as a component of health promotion and disease management as a shortcoming, with participants expressing that helping patients make changes to their diet can be challenging and overwhelming, as many patients do not receive enough education and support from their time of discharge.

Out of the regionally-identified priorities, substance abuse, mental health, diabetes, and health literacy/cultural competency were identified by SLH employees as priority needs. Both case managers and care coordinators reported similar patterns of priorities, mentioning substance abuse and mental health as most pressing, even though potentially beyond SLH's scope. Cancer and heart and vascular disease were also mentioned, particularly in terms of needs that St. Luke's Hospital can readily address. Access to care, including office hours and practice locations, and senior healthcare were also mentioned as needs.

#### St. Luke's Des Peres Hospital

Access to care, particularly access to insurance coverage, transportation, pharmacy services, screenings and education, were identified by SLDPH as needs of their patients, with multiple participants mentioning access to health care services, screenings and resources as priorities, both to improve quality and compliance and to make care more convenient for patients. Among physician practice managers, several participants suggested making services more accessible by bringing them out into the communities, such as through mobile mammography, while other participants emphasized a need to facilitate patient travel to the St. Luke's campuses through transportation services. Many agreed that both resources would be useful for their patient populations, and mobile mammography through the Women's Center's mammography van was mentioned throughout the conversation as a need.

Access also came up in regards to affordability of health care, namely prescription costs, and in terms of knowledge and acceptability of health care. At one office, compliance with colonoscopy screening guidelines was lacking among patients, due to supposed lack of knowledge about why the screenings are necessary, when they should be done, and what options are available. Support in this area would be useful for the practice. Care managers similarly emphasized a need for better linkage to community resources, including screenings, referrals to clinics, transportation, and other support services. Expanding community classes at SLDPH and in external locations for topics like diabetes and congestive heart failure, providing support for affording medications and adhering to medication protocols, and connecting patients with insurance enrollment resources were noted as ways to improve access.

It was emphasized that across the practices, many patients travel long distances to receive care, and often times come from very rural areas. Health literacy, particularly related to navigating insurance and understanding advance directives, living wills, and power of attorney, was discussed by care managers.

## NEXT STEPS

The coordinator will analyze and compile the qualitative data from this and other community and hospital focus groups, in conjunction with regional and county-based aggregate data on demographics and health outcomes, to identify recommendations for community priorities. Internal work groups will evaluate this feedback, and a final report will be submitted for committee and board approval by May 2019. Focus group participants will have the opportunity to provide feedback on the CHNA prior to finalization, as well as to contribute to strategic planning for implementation strategies, starting in June 2019.

## APPENDIX

### Participant Rosters:

#### St. Luke's Medical Group Practice Managers:

- Kathleen Arink, Director, Practice Operations, St. Luke's Medical Group - Des Peres Administration
- Tammy Atkins, Manager, Premier Medical Physicians Sunset Hills
- Holly Dachroeden, Manager, Premier Medical Physicians Crestwood
- Paul Doelling, Manager, Practice Operations, St. Luke's Medical Group - Des Peres Administration
- Tina Van Leer, Manager, Primary Care of Cedar Hill - Cedar Hill, Imperial, and Pacific
- Cecile Lewis, Premier Medical Physicians Des Peres
- Linda Scott, Premier Medical Physicians Fenton

#### St. Luke's Hospital Case Managers:

- Cindy Cannon
- Molly Couture
- Jamie Murray
- Brooke Senior
- Jeanne Smith
- Sherry Tucker
- Barb Voiles

#### St. Luke's Hospital Care Coordinators:

- Jessica Killian
- Mary Jo Hagen
- Kelly Menke
- Carrie Schmitz

#### St. Luke's Des Peres Hospital Case Managers:

- Dawn Brolaski, RN, Case Manager
- Diana Tucker, Social Worker
- Jacqueline Beard, Discharge Planner
- Robyn Nelson, RN, Care Manager
- Rosalind Graves, Social Worker
- Stephanie Hall, Transition Coordinator
- Theresa Sellinger-Craig, RN, Care Manager

## Focus Group Questions:

1. What do you see as the best strengths of our community? What can we build upon to continue meeting the healthcare, wellness, and quality of life needs of our patients?
2. What do you think are the most pressing gaps that stand in the way of health, wellness, and quality of life for patients in the community? What are the primary obstacles to achieving or maintaining health that your patients encounter?
3. What resources does the community need to address gaps in health, wellness, and quality of life?
4. What are some programs, services, or resources that you believe would move the community more quickly toward better health, wellness, and quality of life?
5. Review the following list of health needs. Is there anything missing from the list? Rank these needs from most pressing to least pressing. Are there any needs that you think St. Luke's could easily address? Are there any needs you think would be difficult for St. Luke's to address?
  - Access to care
  - Access to insurance
  - Cancer
  - Cultural competence / health literacy
  - Diabetes
  - Heart / vascular disease
  - Maternal / child health
  - Mental health
  - Obesity
  - Senior Health Care
  - STIs
  - Substance abuse
  - Violence
6. Are there any other issues that you would like to discuss?

# Appendix G

## Appendix G: St. Luke's Community Health Needs Assessment Survey Tool

1. How would you describe your overall health?

- Excellent
- Very Good
- Fair
- Poor

2. What are your main health challenges? (Select up to 3.)

- Cancer
- Diabetes
- Overweight / obesity
- Asthma / Lung disease
- High blood pressure
- Stroke
- Heart disease
- Joint pain or back pain
- Mental health issues
- Alcohol Overuse
- Drug addiction
- Reproductive / gynecological health
- I do not have any health challenges
- Other (please specify)\_\_\_\_\_

3. Where do you go for routine healthcare? (e.g. check ups, physicals, health screenings, and management of problems like diabetes, high blood pressure, or asthma)

- Physician's office
- Health department
- Emergency room
- Urgent care clinic
- Other clinic
- I do not receive routine healthcare
- I would not seek routine healthcare
- Other (please specify)\_\_\_\_\_



4. Where would you choose to go for non-life threatening emergency medical services? (e.g. broken bones, flu, earaches, rashes, abrasions, sore throat)

- Emergency room
- Urgent care clinic
- Physician's office
- Health department
- Other clinic
- I would not seek healthcare
- Other (please specify) \_\_\_\_\_

5. What issues prevent you from getting the care that you need? (Check all that apply.)

- Cultural/religious beliefs
- Do not know how to find doctors
- Do not see the need to see a doctor
- Fear (e.g., not ready to face/discuss health problem)
- Lack of availability of doctors
- Language barriers
- No insurance and unable to pay for the care
- Unable to pay co-pays/deductibles
- I do not get regular healthcare
- I do not get the care that I need
- Other (please specify) \_\_\_\_\_

6. What would help improve your health and/or the health of your family and neighbors? (Select up to 3.)

- Healthier food
- Job opportunities
- Mental health services
- Recreation facilities
- Transportation
- Wellness services
- Specialty physicians
- Free or affordable health screenings
- Safe places to walk/play
- Substance abuse rehabilitation services
- I don't know
- No additional help is need to improve our health.
- Other (please specify) \_\_\_\_\_

7. What types of health screenings and/or services are needed to keep you and your family healthy?

(Check up to five.)

- Blood pressure
- Cancer
- Cholesterol (fats in the blood)
- Dental check up
- Diabetes
- Disease outbreak prevention
- Drug and alcohol abuse
- Eating disorders
- Emergency preparedness
- Exercise/physical activity
- Falls prevention for the elderly
- Heart disease
- HIV/AIDS & STDs
- Routine well checkups
- Memory loss
- Mental health/depression
- Nutrition
- Prenatal care
- Quitting smoking
- Suicide prevention
- Vaccination/immunizations
- Vision
- Weight-loss help
- I feel like I have adequate services/screenings available.
- Other (please specify)\_\_\_\_\_

8. What health issues do you need education about? (Please check up to five.)

- Blood pressure
- Cancer
- Cholesterol (fats in the blood)
- Dental check up
- Diabetes
- Disease outbreak prevention
- Drug and alcohol abuse
- Eating disorders
- Emergency preparedness
- Exercise/physical activity

- Falls prevention for the elderly
- Heart disease
- HIV/AIDS & STDs
- Routine well checkups
- Memory loss
- Mental health/depression
- Nutrition
- Prenatal care
- Quitting smoking
- Suicide prevention
- Vaccination/immunizations
- Vision
- Weight-loss help
- I feel like I have adequate services/screenings available.
- Other (please specify)\_\_\_\_\_

9. Where do you get your health information? (Check all that apply.)

- Doctor/health care provider
- Facebook or Twitter
- Other social media
- Family or friends
- Health department
- Hospital
- Internet
- Library
- Newspaper/magazines
- Radio
- Church group
- School or college
- TV
- Worksite
- Other (please specify)\_\_\_\_\_

10. Which of the above sources do you trust the most for your health information? (List one.)

\_\_\_\_\_

11. Which of the above sources do trust the least for your health information? (List one.)

\_\_\_\_\_

12. What additional health services need to be offered to meet health challenges in your community?  
(Optional) \_\_\_\_\_

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13. Please choose all statements below that apply to you.

- I exercise at least three times per week.
- I eat at least five servings of fruits and vegetables each day.
- I eat fast food more than once per week.
- I smoke cigarettes.
- I chew tobacco.
- I use illegal drugs.
- I abuse or overuse prescription drugs.
- I have more than four alcoholic drinks (if female) or five (if male) per day.
- I use sunscreen or protective clothing for planned time in the sun.
- I receive a flu shot each year.
- I have access to a wellness program through my employer.
- None of the above apply to me.

14. Which of the following preventive procedures have you had in the past 12 months?

- Mammogram (if woman)
- Pap smear (if woman)
- Prostate cancer screening (if man)
- Flu shot
- Colon/rectal exam (e.g., colonoscopy)
- Blood pressure check
- Blood sugar check
- Skin cancer screening
- Cholesterol screening
- Vision screening
- Hearing screening
- Cardiovascular screening
- Bone density test
- Dental cleaning/X-rays
- Physical exam
- None of the above

15. Do the following St. Luke's Hospital resources currently help meet your healthcare needs?

(Choose all that apply.)

Spirit of Women events

- Spirit of Women magazine
- Spirit of Women communications
- Worksite Wellness screenings
- Community Education
- Community Calendar
- None of the above
- 

16. Optional: What is your gender?

- Male
- Female
- Other

17. Optional: In what zip code is your home located? (Enter five digit zip code; for example, 63017 or 63131.)

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18. Optional: How old are you?

- Under 18
- 18-29
- 30-39
- 40-49
- 50-59
- 60-69
- 70-79
- 80-89
- 90+

19. Optional: What is your highest level of education?

- K-8 grade
- Some high school
- High school graduate
- Technical school
- Some college
- College graduate
- Graduate school
- Doctorate
- Other (please specify)\_\_\_\_\_

20. Optional: What is your race? (Select all applicable.)

- African American/Black
- Caucasian/White
- Asian
- Hispanic
- American Indian/Alaska Native
- Native Hawaiian/Pacific Islander
- Other

21. Optional: Do you have health insurance?

- Yes
- No
- No, but I did at an earlier age/previous job

22. Optional: Do you need a Primary Care Physician? (Family Practice / Internal Medicine). If so, and you would like our help finding one, please provide your contact information at the end of the survey in Question #24.

- Yes
- No

23. Optional: Are you in need of a health specialist? Please check all that apply and include your contact information at the end of the survey in Question #24.

- Cardiology
- Orthopedics
- Neurology
- Neurosurgery
- Colorectal
- Gynecology
- Obstetrics
- Bariatric / Weight Loss
- General Surgery
- Gastroenterology
- Urology
- Breast Health
- Thoracic Surgery
- Vascular Surgery
- Oncology (Cancer)
- Pain Management
- Wound Healing
- Sleep Disorders
- Other (please specify)

24. Optional: If you would like to receive additional information about health programs and services at St. Luke's, including those that are free or low-cost, please provide the following information:

Name:

Address:

City/Town:

State:

Zip:

Email Address:

Phone Number:

# Appendix H

## Appendix H: Passport to Wellness Comparative Data

### Same Consumer Workforce Summary St. Luke's Hospital

Total number of records:

Comparing 3825 consumers from 1/01/2016 through 12/31/2017 to the same consumers with new data from 1/01/2018 through 12/31/2018

#### MODIFIABLE LIFESTYLES

			Health Change			
	1/1/16 - 12/31/17	1/1/18- 12/31/18	None	Unhealthy	Healthy	Net
<b>Tobacco:</b>						
Smoke Cigarettes	6.1% (142)	5.6% (129)	97.2% (2253)	1.1% (26)	1.7% (2253)	0.6% (13)
Smokeless Tobacco	1.4% (33)	1.6% (36)	98.6% (2279)	0.8% (18)	0.6% (2279)	-0.1% (3)
<b>Exercise:</b>						
Never or Rarely	15.1% (333)	13.3% (294)	69.4% (1528)	13.5% (298)	17.1% (377)	3.6% (79)
Sometimes	45.5% (1003)	44.7% (985)				
Frequently	39.4% (867)	41.9% (924)				
<b>Total Change</b>						
<b>Wear Seatbelts:</b>						
Never or Rarely	0.8% (17)	1.0% (23)	97.2% (2139)	1.6% (35)	1.2% (27)	-0.4% (79)
Sometimes	2.5% (56)	2.5% (54)				
Frequently	96.7% (2128)	96.5% (2124)				
<b>Total Change</b>						

#### BODY COMPOSITION

			Health Change			
	1/1/16 - 12/31/17	1/1/18- 12/31/18	None	Unhealthy	Healthy	Net
<b>Body Mass Index:</b>						
Lean	1.1% (27)	1.2% (28)	80.6% (1917)	10.6% (251)	8.8% (210)	-1.7% (41)
Desirable	26.9% (639)	26.5% (631)				
Overweight	36.2% (861)	34.9% (830)				
Obese	28.6% (679)	30.2% (718)				
Severely Obese	7.2% (172)	7.2% (171)				
<b>Total Change</b>						
<b>Body Fat Percentage:</b>						
Excellent	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)
Good	ND (ND)	ND (ND)				
Average	ND (ND)	ND (ND)				
Fair	ND (ND)	ND (ND)				
Poor	ND (ND)	ND (ND)				
<b>Total Change</b>						
<b>Waist Circumference</b>						
Increased Risk	35.7% (471)	37.6% (495)	85.0% (1120)	8.4% (111)	6.6% (87)	-1.8% (24)



## HEALTH CHARACTERISTICS

Conditions:	1/1/16 - 12/31/17	1/1/18- 12/31/18	Health Change			
			None	Unhealthy	Healthy	Net
Asthma	8.1% (179)	8.3% (184)	97.0% (2139)	1.6% (36)	1.4% (31)	-0.2% (5)
Arthritis	14.8% (325)	14.8% (326)	91.2% (2005)	4.4% (97)	4.4% (96)	0.0% (1)
Frequent Stress	18.0% (395)	18.2% (399)	84.0% (1845)	8.1% (178)	7.9% (174)	-0.2% (4)
Depression Symptoms	16.0% (352)	15.2% (336)	84.3% (1859)	7.5% (165)	8.2% (181)	0.7% (16)
Seasonal Allergies	51.3% (1128)	51.7% (1138)	85.8% (1888)	7.3% (161)	6.9% (151)	-0.5% (10)
Frequent Headaches/Migraines	5.6% (122)	6.1% ( 135)	94.6% (2079)	3.0% (66)	2.4% (53)	-0.6% (13)
Frequent Heartburn	5.5% (120)	5.6% (122)	94.0% (2066)	3.0% (67)	3.0% (65)	-0.1% (2)
Heart Disease	3.2% (70)	3.3% (74)	97.4% (2163)	1.4% (31)	1.2% (27)	-0.2% (4)
Sign of Bone Loss	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)
No Primary Care Physician	16.4% (507)	15.2% (469)	89.4% (2764)	4.7% (144)	5.9% (182)	1.2% (38)

## DIABETES

	1/1/16 - 12/31/17	1/1/18- 12/31/18	Health Change			
			None	Unhealthy	Healthy	Net
Have Diabetes	1.1% (27)	1.2% (28)	99.1% (2287)	0.5% (12)	0.4% (9)	-0.1% (3)
Of These With Type II Diabetes	26.9% (639)	26.5% (631)	96.3% (105)	2.8% (3)	0.9% (1)	-1.8% (2)
Normal Glucose Screening Level	36.2% (861)	34.9% (830)	71.35 (978)	22.2% (304)	6.6% (90)	-15.6% (214)
Above Normal Glucose Screening Level	28.6% (679)	30.2% (718)	71.3% (978)	22.2% (304)	6.6% (90)	-15.6% (214)

## BLOOD PRESSURE PROFILE

Screening Results	1/1/16 - 12/31/17	1/1/18- 12/31/18	Health Change			
			None	Unhealthy	Healthy	Net
Normal	31.0% (417)	32.9% (443)	51.9% (698)	22.8% (307)	25.3% (341)	2.5% (34)
Pre-hypertension	51.5% (693)	51.4% (692)				
Hypertension	17.5% (236)	15.7% (211)				
Total Change						
Self Reported	1/1/16 - 12/31/17	1/1/18- 12/31/18	None	Unhealthy	Healthy	Net
Have High Blood Pressure	27.5% (630)	27.9% (639)	93.0% (2132)	3.7% (85)	3.3% (76)	-0.4% (9)
Of These on Medication	20.2% (462)	21.4% (490)	96% (2196)	1.4% (32)	2.6% (60)	1.2% (28)

## LIPID PROFILE

			Health Change			
	1/1/16 - 12/31/17	1/1/18- 12/31/18	None	Unhealthy	Healthy	Net
<b>Total Cholesterol</b>						
Desirable	68.6% (940)	69.6% (954)				
Borderline High	23.3% (320)	23.0% (315)				
High	8.1% (111)	7.4% (102)				
<b>Total Change</b>			72.0% (987)	13.6% (186)	14.4% (198)	0.9% (12)
<b>HDL</b>						
Desirable	38.7% (530)	38.8% (532)				
Borderline High	39.0% (535)	37.6% (516)				
High	22.3% (395)	23.6% (323)				
<b>Total Change</b>			71.6% (982)	14.7% (202)	13.6% (187)	-1.1% (15)
<b>LDL</b>						
Desirable	41.1% (358)	43.6% (380)				
Borderline High	53.7% (468)	51.0% (445)				
High	5.3% (46)	5.4% (47)				
<b>Total Change</b>			67.4% (588)	15.3% (133)	5.9% (182)	2.1% (18)
<b>Triglycerides</b>						
Desirable	81.0% (745)	82.8% (762)				
Borderline High	11.2% (103)	10.3% (95)				
High	7.8% (72)	6.8% (63)				
<b>Total Change</b>			82.8% (762)	7.6% (70)	9.6% (88)	2.0% (18)
<b>PSA</b>						
Elevated PSA Level	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)

## SCREENING HISTORY

			Health Change			
	1/1/16 - 12/31/17	1/1/18- 12/31/18	None	Unhealthy	Healthy	Net
<b>Not Checked in the Last Year</b>						
Blood Pressure	7.8% (180)	10.7% (245)	87.2% (2005)	7.8% (180)	5.0% (115)	-2.8% (65)
Cholesterol	23.9% (527)	23.9% (527)	76.6% (1688)	11.7% (258)	11.7% (258)	0.0% (0)
Glucose	25.2% (556)	26.4% (581)	74.8% (1647)	13.2% (290)	12.0% (265)	-1.1% (25)
<b>Never Checked</b>						
Physical Exam	4.7% (108)	5.3% (121)	93.8% (2148)	3.4% (77)	2.8% (64)	-0.6% (13)
Pap Smear	2.3% (29)	2.2% (28)	98.0% (1225)	1.0% (12)	1.0% (13)	0.1% (1)
Mammogram (women over 40)	9.7% (91)	7.6% (71)	95.7% (900)	1.1% (10)	3.2% (30)	2.1% (20)
Prostate Exam (men over 40)	38.7% (234)	36.4% (220)	87.1% (526)	5.3% (32)	7.6% (46)	2.3% (14)

## METABOLIC SYNDROME

			Health Change			
	1/1/16 - 12/31/17	1/1/18- 12/31/18	None	Unhealthy	Healthy	Net
<b>Qualifying Conditions</b>						
No Conditions	36.9% (499)	32.6% (441)				
One Condition	30.2% (408)	30.5% (413)				
Two Conditions	18.4% (249)	19.7% (266)				
Three Conditions	9.8% (133)	11.9% (161)				
Four Conditions	3.5% (48)	4.5% (61)				
Five Conditions	1.2% (16)	0.8% (11)				
<b>Total Change</b>			45.7% (618)	31.2% (422)	23.1% (313)	-8.1% (109)
<b>Total Metabolic Syndrome</b>						
Three or More Conditions Met	14.6% (197)	17.2% (233)	85.8% (1161)	8.4% (114)	5.8% (78)	-2.7% (36)