



Photo by Ann Eggering

Lincoln County Community Health Needs Assessment

Fiscal Year 2019



This Community Health Needs Assessment represents a collaborative effort between Lincoln County Health Department and Mercy Hospital Lincoln.

Mission Statements:

Lincoln County Health Department

Lincoln County Health Department will strive to protect and promote a healthy and safe environment through community outreach, on-going assessment and policy development, education, and innovative solutions to identified health issues.

Mercy

As the Sisters of Mercy before us, we bring to life the healing ministry of Jesus through our compassionate care and exceptional service.

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Executive Summary

This Community Health Needs Assessment was completed through the collaboration of Mercy Hospital Lincoln (MHL) and Lincoln County Health Department (LCHD) in 2019. Both organizations are in the city of Troy in Lincoln County, Missouri, which is a rural community located 55 miles northwest of St. Louis, MO. Together, they maintain an active partnership by collaborating on public health emergency planning and many forms of community health, safety and awareness. The recent implementation of a Community Health Worker employed by LCHD and funded in-part through a Mercy Caritas grant, offers patients seen at Mercy’s Emergency Department and Urgent Care Center assistance with navigating health and social services in the community. This program is an example of one of the many ways the two organizations work together to serve the Lincoln County community.

Mercy Hospital Lincoln is a Catholic critical access hospital where the length of stay for inpatients is four days or less. Since 1953, it had operated as Lincoln County Memorial Hospital and, in 2015, it came under the sponsorship of Mercy. The facility was renamed Mercy Hospital Lincoln and is one of five hospitals comprising the Mercy East Community.

Along with inpatient comprehensive medical and surgical services, Mercy Hospital Lincoln offers outpatient services, including:

- 24-hr Emergency Care
- Urgent Care Center
- Behavioral Health Services
- Outpatient Rehabilitation
- Imaging Services
- Home Care
- Sleep Lab
- Wound Care

Since 1966, **Lincoln County Health Department** has offered services in Lincoln County to ensure a safe, healthy, and informed community. Current services offered to the community include:

Clinical Services: Adult/Child/Travel Immunizations, STI Testing, Tuberculosis Testing and Case Management, Adult & Children’s Dental Services, Laboratory Services, Blood Pressure Checks

Community Health: WIC Supplemental Nutrition, Educational Classes & Resources, Breastfeeding Peer Counseling, Car Seats & Certified Safety Technicians, Maternal & Child Health Services, Harvest Hauler Mobile Market, Care Trak

Diseases & Disasters: Communicable Disease Investigations, Animal Bites, Reportable Diseases, Emergency Preparedness, Medical Reserve Corps, Volunteer Activities

Environmental Health: Permanent and Temporary Food Establishment Inspections and Permits, Food Handler Certification, Wastewater Treatment Systems Permits, Drinking Water Testing, Daycare Inspections, Lodging Inspections

Records: Birth & Death Certificates, Voter Registration, Passports

Throughout this Community Health Needs Assessment (CHNA) report, health indicator data of Lincoln County is compared to that of Missouri, the United States, and top U.S. performers.

Based on the needs expressed in this CHNA, **Mercy Hospital Lincoln** has chosen to address the following significant health needs identified in Lincoln County:

ACCESS TO CARE

- Navigation to Services
- Transportation

BEHAVIORAL HEALTH

- Mental Health
- Substance Use

Based on the needs expressed in this CHNA, **Lincoln County Health Department** has chosen to address the following significant health needs identified in Lincoln County:

ACCESS TO CARE

- Access to Primary Care, Dental, and Mental Health Providers
- Social Determinants of Health & Connection to Services

CHRONIC DISEASE

- Healthy Lifestyles
- Self-Management
- Obesity

SUBSTANCE USE

- Opioids
- Alcohol
- Tobacco & Vaping

INJURIES & POISONINGS

- Accidental & Unintentional Injuries
- Medication Safety

These health initiatives will be the basis of LCHD’s and MHL’s three-year Community Health Improvement Plans (CHIP), which guide the coordination and targeting of resources to promote community health. Copies of this Community Health Needs Assessment report and CHIPs can be found on each agency’s website, lchdmo.org and mercy.net/lincoln.

Both LCHD and MHL value the collaboration of partners in the Lincoln County service area and will continue to support implementation of best practice initiatives, especially when it impacts those most in need.

Respectfully,



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Troy, MO 63379
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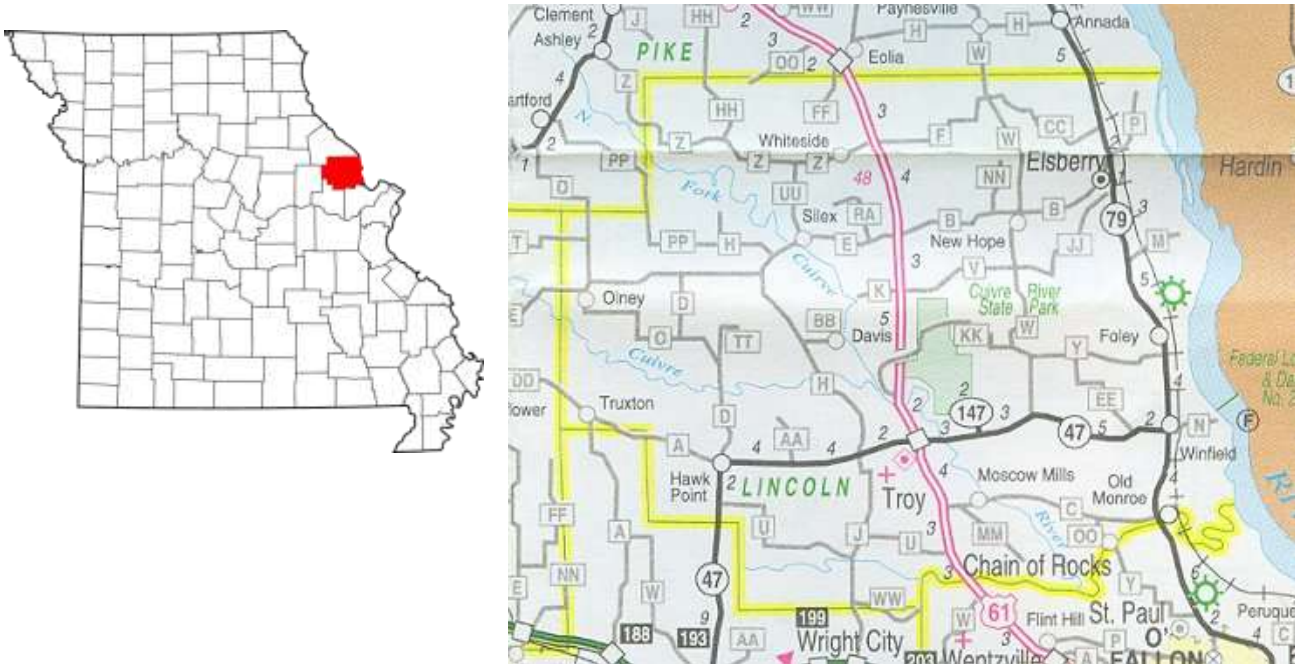


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Description of Community Served

Lincoln County, MO

Lincoln County is 55 miles northwest of downtown St. Louis, Missouri, and has a total area of 640 square miles. It's surrounded by the counties of Pike (north), St. Charles (southeast), Warren (southwest), Montgomery (west) and Calhoun County, IL, across the Mississippi River to its east. Its county seat is Troy.



Lincoln County contains 18 zip codes that are served by these entities (cities within county boundaries are highlighted):

63333 – Bellflower

63334 – Bowling Green

63343 – Elsberry

63344 – Eolia

63347 – Foley

63348 – Foristell

63349 – Hawk Point

63359 – Middletown

63362 – Moscow Mills

63369 – Old Monroe

63370 – Olney

63377 – Silex

63379 – Troy

63381 – Truxton

63383 – Warrenton

63387 – Whiteside

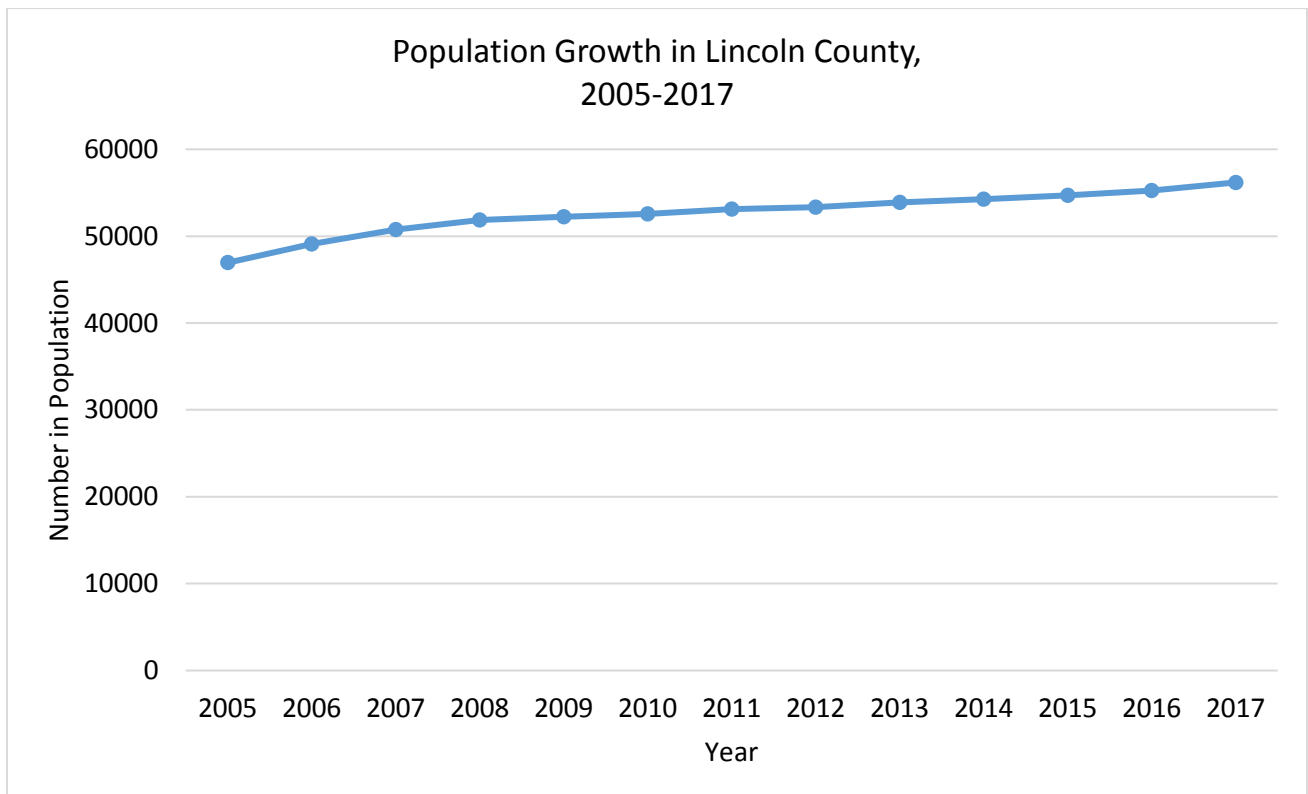
63389 – Winfield

63390 – Wright City

Population and Demographics

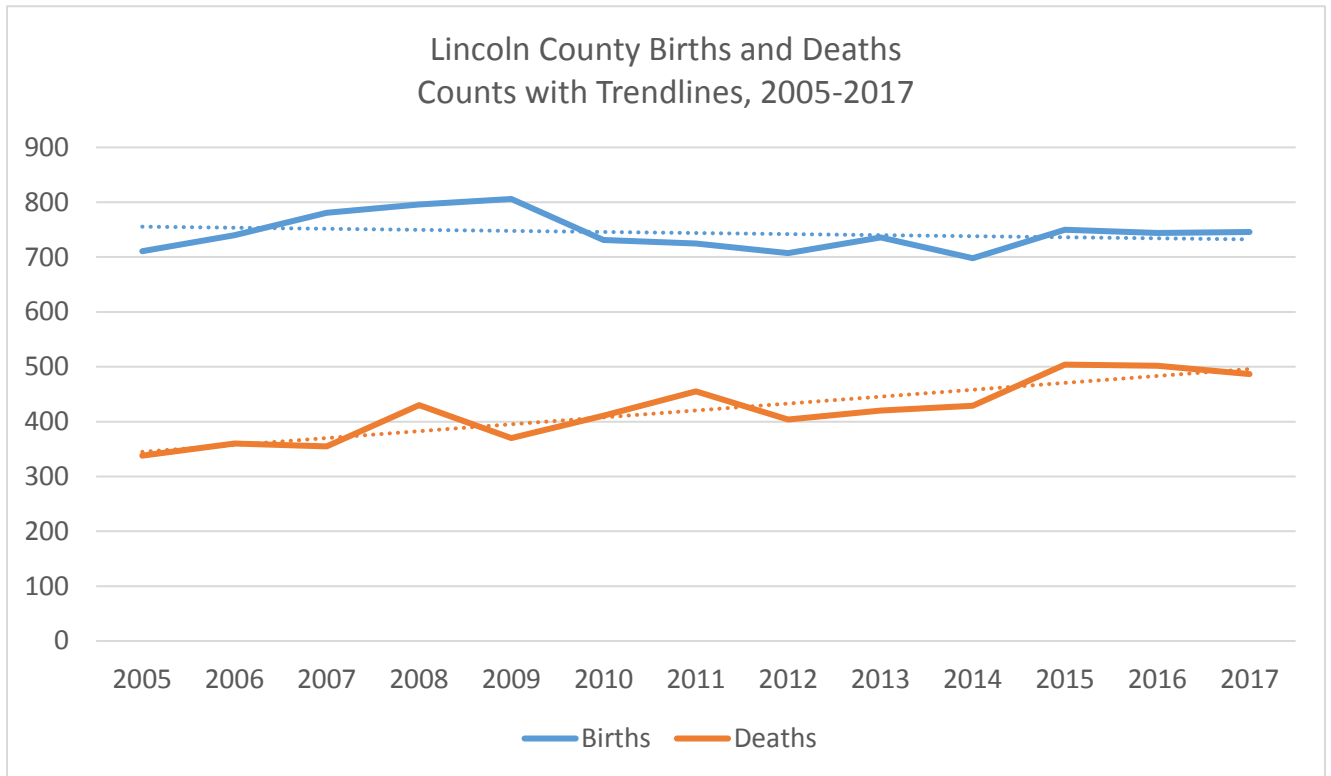
The county population was 52,566 at the 2010 census, nearly a 35% increase from the 2000 census, and the upward trend continues. The U.S. Census Bureau American Community Survey 2013-2017 5-year estimates for total population is 54,800. The survey also estimates the following demographics for Lincoln:

- 95% white non-Hispanic
- By age group:
 - 0-17 26.09%
 - 18-44 33.68%
 - 45-64 27.59%
 - 65+ 12.63%
- 15.68% are age 25+ with a Bachelor's Degree or higher
- \$58,603 is the median household income
- 13.22% of population are below the poverty level
- Gender make-up is evenly proportioned at 50.06% female and 49.94% male



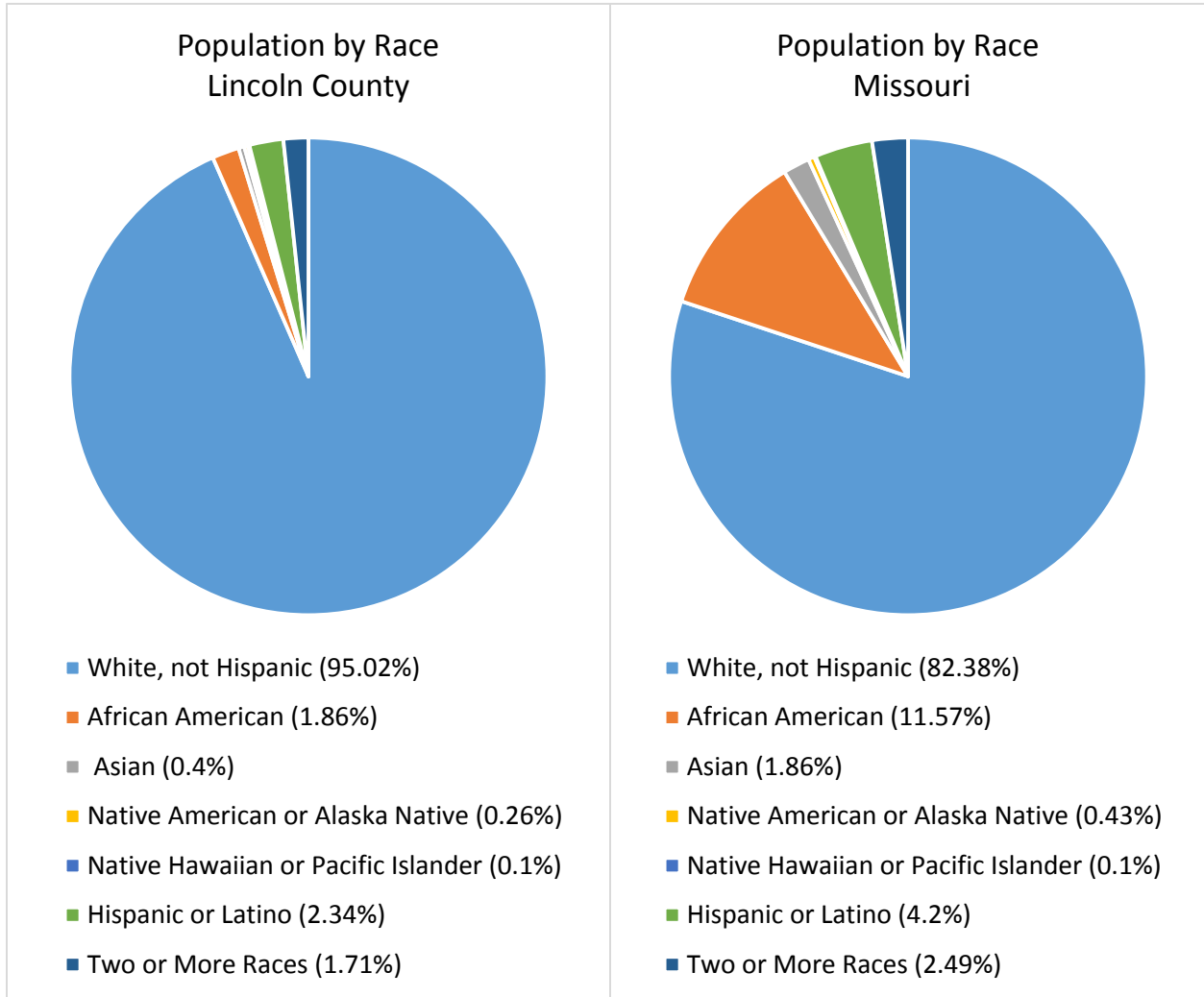
MO DHSS: Population MICA. 2005-2017.

Births in Lincoln County are on a downward trend, while deaths are trending upward. This suggests that population growth in the county is due primarily to inward migration to the county, rather than growth of the current population through an increase in birth rate.



MO DHSS: Birth MICA and Death MICA. 2005-2017.

While the majority of Lincoln County residents are White, non-Hispanic, it is important to note the presence of all other race categories in the county.



Community Commons

Conducting the Needs Assessment Process

Mercy Hospital Lincoln (MHL) and Lincoln County Health Department (LCHD) collaborated in conducting the Community Health Needs Survey for Lincoln County in 2018. MHL's Community Health & Access manager and LCHD's Director of Programs cooperated on the creation of this Community Health Needs Assessment. The process included Community Input, Community Coalitions and Engagement, Data Collection from numerous sources, and then Prioritization of Needs.

Community Input

The voices of the people of Lincoln County were central to the community health needs assessment process. The following communication modes were employed:

1. Community Health Needs Surveys – Mercy/Lincoln County Health Department
2. Community Health Survey (Rate Concerns and Ability to Change) – MHL Leaders on the Community Health Council
3. Community Health Survey (Rate Concerns and Ability to Change) – General population that attended “Ladies Night Out” at MHL
4. Social Determinants of Health Questionnaire – MHL Urgent Care Center patients
5. Community Health Worker Activity – Direct service of LCHD CHW with MHL patients
6. 2018 Maternal and Child Health Needs Assessment - LCHD

Community Health Needs Surveys

A Qualtrics (top data collection software application) survey was designed to capture the thoughts and perceptions of the residents about health needs in their community. The survey was available both in hardcopy and on-line. A total of **249** individuals who stated they received their health care in Lincoln County completed the survey over a five-month timeframe (July 2018 – November 2018). Efforts were made to include the voices of populations less likely to access the on-line survey by making it available to low-income clients, such as WIC clients of Lincoln County Health Department (Appendix A).

Community Coalitions and Engagement – LCHD

LCHD has served as a convening agency in the Lincoln County community for many years, and has a broad networks of community partners and resources. LCHD staff lead, serve on, or represent the agency at many community groups, boards, and coalitions, including:

- Lincoln County Healthy Communities*
- Lincoln County Resource Board
- SB 40 Board of Lincoln County (Community Opportunities)

- Lincoln County Domestic Violence Court
- Lincoln County Emergency Planning Commission
- Missouri Region C North Medical Reserve Corps*
- Safe Kids Eastern Quad Counties*
- Early Childhood Task Force
- Drug Alcohol Reduction Team (DART)
- Troy Area Chamber of Commerce
- Elsberry Community Growth Association
- Tri-County Continuum of Care

**indicates LCHD-led initiative*

LCHD maintains a comprehensive resource guide for the county, and has a Referral and Resource Coordinator on-staff to assist clients who call or walk-in that are experiencing social access barriers and resource needs.

LCHD also works closely with a parallel 501(c)(3), Public Health Fund, Inc. (PHF), the focus of which is to support public health initiatives in Lincoln County. PHF serves as the fiscal agent for several community initiatives.

Community Coalitions and Engagement – Mercy

Mercy Neighborhood Ministry (MNM) is a department of Mercy which houses the Community Health & Access Department. It is dedicated to improving health and access in the communities Mercy serves, with a focus on the underserved population.

The Community Health & Access manager designated to Mercy Hospital Lincoln service area focuses on identifying unmet needs and gaps in health care, developing partnerships with health and social service agencies, increasing knowledge of available resources, making connections and referrals, and advocating for those most vulnerable in the community.

Through active involvement with community groups, Mercy builds relationships with key community agencies, partnering to develop innovative solutions to address community health needs and issues associated with poverty. Partnering agencies and task forces in which the Community Health & Access Manager is involved include:

- Lincoln County Health Department
- Lincoln County Healthy Communities – service provider’s coalition
- Crider Health Center/Compass Health Network
- Preferred Family Healthcare/Bridgeway Health

The Community Health & Access manager engages MHL departments as appropriate to support initiatives of community agencies which may include providing expertise in developing a project or education sessions in the community, holding employee collection drives for those in need and individually and/or collectively volunteering at meal programs and food pantries.

Mercy Neighborhood Ministry also manages:

- A financial assistance fund that provides monetary aid to individuals in crisis with basic needs, such as delinquent rent and utility bills, who are working with a community case worker
- Resource lists of available health and social services available in Lincoln County and nearby counties and are housed on our website
- An electronic mailing distribution list consisting of 1,031 members who receive weekly communications announcing community health and social service events including job fairs, support groups, events, and health equity and cultural competence workshops

Through continuous daily networking and collaboration, Mercy remains closely engaged with community partners and informed on the needs of the communities it serves.

Data Collection

A summary of the community survey results is included in this report under Primary Data. Additional external sources of published data were used in the other data sections, and a complete list can be found in Appendix G. Examples of these are:

1. *County Health Rankings 2019* - www.countyhealthrankings.org

County-level data on important health indicators updated annually by the University of Wisconsin-Population Health Institute and the Robert Wood Johnson Foundation (Appendix C).

2. *Missouri Department of Health & Senior Services-Bureau of Health Information and MICA (Missouri Information for Community Assessment)* - <http://health.mo.gov/data/CommunityDataProfiles/index.html>

Community health assessment planning tools and community data profiles on thirty health indicators on all 115 of Missouri's counties.

3. *Community Commons* - <http://www.communitycommons.org/>

Designed to assist hospitals and other organizations seeking to better understand the needs and assets of their communities, and to encourage collaboration to make measurable improvements in community health and well-being.

4. *ExploreMOhealth* - <https://exploremohealth.org/>

Health data is specific to a particular county and its zip codes, created in partnership between Missouri Foundation for Health and the MHA Health Institute, the not-for-profit corporation affiliated with the Missouri Hospital Association.

5. *United Way 211 Counts* - <https://211mo.211counts.org/>

Aggregated data systematically tracked and summarized by callers' needs contacting United Way 2-1-1 Call Centers (Appendix D)

Prioritization of Needs

At MHL, Tony Rothermich, Administrator, oversees the quarterly meetings of the Community Health Council which consists of MHL leaders from various departments plus one or more members of the MHL Board. The council is accountable for ensuring that community benefit activities meet mission compliance and IRS guidelines. (Appendix E).

At LCHD, a team representing departments across the agency convenes as a Community Health Needs Assessment Steering Committee. The Committee collects and reviews assessment data, and establishes and guides agency activities related to the Community Health Improvement Plan (Appendix F).

The Community Health Council and Community Health Needs Assessment Committee evaluated all the data collected for this report which includes internal Mercy Hospital Lincoln records, secondary data sources, and input from the Lincoln County community to:

- Prioritize the community's health needs that were identified
- Assess the community resources available to address the identified needs
- Create respective three-year Community Health Improvement Plans (CHIP), in partnership with community resources, that have the potential to make a positive impact in lessening these needs for 2020-2022

Primary Data Results

Community Health Needs Survey Results

The majority of the 249 surveys returned were completed by residents of Troy, the city in which Mercy Hospital Lincoln and Lincoln County Health Department are located. Respondents were mainly female, 78.81% vs 21.19% male. Below are some highlights and the raw data can be found in Appendix A.

- Participants felt they were healthy, in general
- Top 5 most noted health conditions participants have had or currently have:
 - high blood pressure
 - overweight/obese
 - depression or anxiety disorder
 - high cholesterol
 - asthma/COPD
- Top 5 most common health issues in their community were:
 - alcohol/substance abuse
 - prescription drug misuse
 - smoking/vaping
 - obesity
 - diabetes
- Top 5 social issues that have the greatest effect on quality of life in their community were:
 - low income/poverty
 - affordability of health services
 - lack of health insurance
 - lack of job opportunities
 - lack of transportation
- Top 5 risk behaviors that impact health in their community:
 - alcohol/drug abuse
 - smoking/vaping
 - lack of exercise
 - poor eating habits
 - untreated mental health issues
- Top 5 services needed in community:
 - healthy cooking classes
 - mental health services
 - aging resources
 - substance abuse treatment
 - physical activity classes

MHL Community Health Council Survey Results

Prior to reviewing this report, the MHL Community Health Council was asked to rank health issues based on level of community concern and those felt to have the highest potential for collaboration that could produce measurable outcomes. Mental Health and Substance Abuse once again topped the lists.

Community Health Issue	Level of Community Concern	Potential for Collaboration and Measurable Outcomes
Mental Health	4.80	4.80
Substance Abuse (Drugs, Alcohol)	4.60	4.60
Obesity	4.40	3.60
Tobacco	4.00	3.40
Transportation	4.00	3.60
Access to Care (Insurance Coverage)	3.60	3.60
Chronic Disease (Monitoring/Management)	3.40	3.00
Access to Care (Availability of Services)	3.20	4.20
Dental	3.00	2.60
Food Insecurity	3.00	3.80
Housing	2.80	2.00
Violence	2.80	3.20
Accidents/Unintentional Injuries	2.40	2.00
Environment (Air, Water Quality)	1.80	2.00

“Ladies Night Out” at MHL

Mercy Hospital Lincoln asked the same questions asked of MHL council members to 43 community participants who attended the “Ladies Night Out” in 2018. Here are their results:

Community Health Issue	Level of Community Concern	Potential for Collaboration and Measurable Outcomes
Obesity	3.44	3.08
Environment (Air, Water Quality)	3.30	3.11
Access to Care (Insurance Coverage)	3.23	3.41
Dental	3.12	3.00
Access to Care (Availability of Services)	3.09	3.32
Accidents/Unintentional Injuries	3.07	2.92
Mental Health	3.05	2.92
Chronic Disease (Monitoring/Management)	2.95	3.03
Food Insecurity	2.76	3.06
Substance Abuse (Drugs, Alcohol)	2.71	2.92
Violence	2.60	3.00
Housing	2.57	2.78
Transportation	2.51	2.92
Tobacco	2.21	2.92

MHL Urgent Care Center – Social Determinant Questionnaire

A Social Determinant of Health Questionnaire was administered to Mercy Lincoln Urgent Care Center patients from Oct 2016 – Mar 2017. A number of respondents indicated they had trouble meeting their basic needs, but not one person wanted to be contacted to address their needs.

96%	have housing today
80%	have a high school diploma or above
66%	experience some level of stress (tense, nervous, anxious or can't sleep at night because their mind is troubled)
65%	had received healthcare services in the past year
53%	have some financial resource challenges including the ability to afford all required medical care
25%	believed their visit to the Urgent Care Center was for an urgent need
24%	live in households with 5-9 members
22%	had no Primary Care Provider
21%	were unable to get medicine or health care this past year
18%	were unable to get clothing this past year
15%	were unable to get child care this past year
15%	were unable to get a phone this past year
13%	were unable to get food this past year
11%	were unable to get utilities this past year
5%	said their personal lifestyle behaviors caused mild concern of potential impact on their well-being
5%	see or talk to people they care about and feel close to less than once a week
3%	said they have little understanding of their health and well-being which impacts their ability to undertake better management.
3%	have been afraid of their partner in the past year and 3% responded they were unsure
2%	had trouble filling or taking medications as prescribed
2%	do not feel physically and emotionally safe where they live
0%	wanted a social worker to call them for follow up

Community Health Worker Activity

Types of Assistance Lincoln County Health Dept. CHW provided to Mercy Emergency Dept. patients	FY18 (Feb – Jun)	FY19 (Jul – Dec)
Acute Concerns	7	5
Chronic Illness	8	7
Dental	21	18
Mental Health	3	9
No Ins/PCP	29	23
Social Concerns	1	5
Substance Use	3	2
Homelessness	N/A	3
Total Referrals	72	35

Maternal and Child Health Survey Results

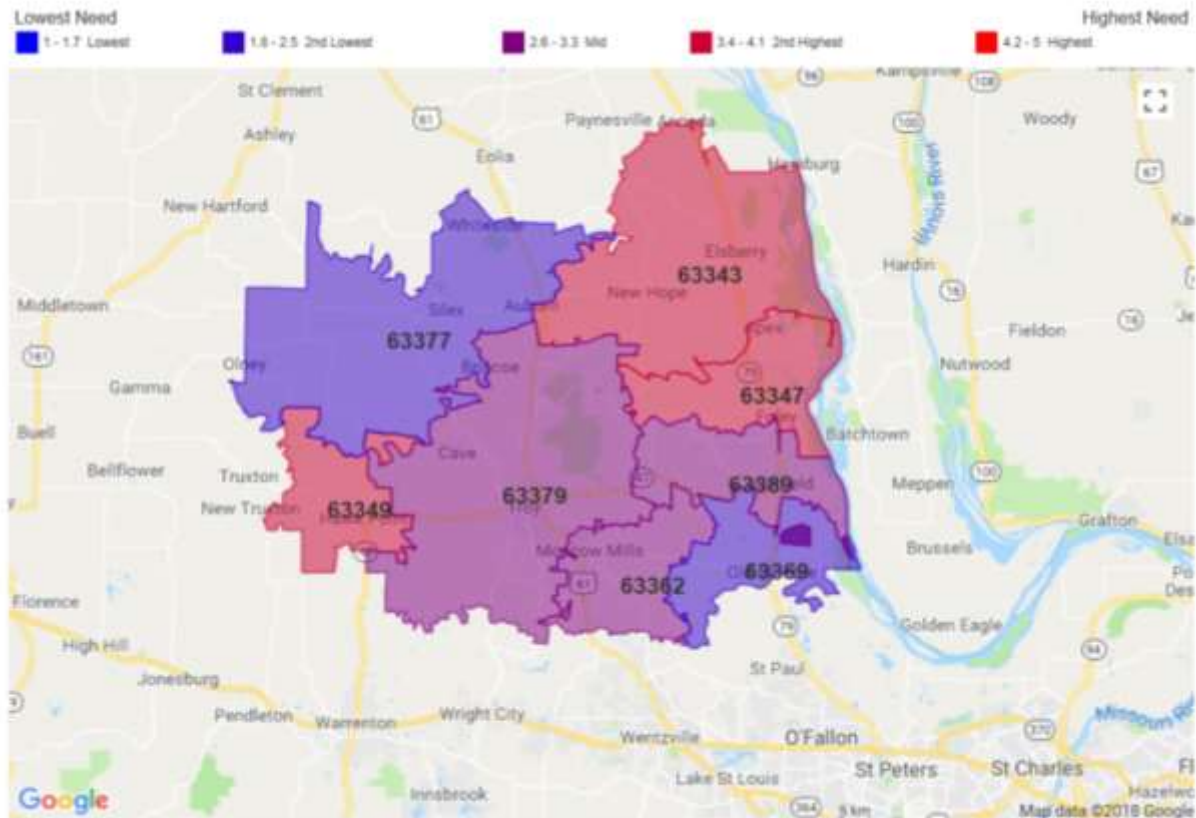
A survey to assess needs related to the Maternal and Child population was distributed to Lincoln County Residents by LCHD in 2017. The survey was provided to all residents via social media, website, and other channels, as well as partners and key stakeholders. A ranking of community strengths and weaknesses identified by survey respondents is given below.

WEAKNESSES	Ranking	STRENGTHS	Ranking
Lack of access to healthcare	1	Strong community	1
Not enough resources available	2	Resources ARE available	2
Lack of recreational opportunities for youth	3	Schools	3
Not enough knowledge about available resources	4	Parks	4
Mental health issues	5	LCHD	5
Drug/substance abuse	6	Mercy	6
Transportation	7	Childcare	7
Nutrition	8	Robertson Center	8
Lack of parenting education & support	9	Churches	9
Smoking	10	Nutrition +	10
Housing	11	LCRB	11
Childcare	12	Crider	12
Child Abuse & abuse	13		
Employment	14		
Funding	15		
Sidewalks/Safety	16		
Teen Parents	17		
Not asking for help	18		
Low income / poverty	19		

Social Determinants

Needs by Zip Code – Dignity Health, Truven Health Analytics

The 2018 Dignity Health, Truven Health Analytics Community Needs Assessment ranked community needs according to zip codes and cities in Lincoln County. Elsberry, Foley and Hawk Point are ranked as having the most needs in Lincoln County (Olney and Truxton were not included in the data).



Source: Dignity Health, Truven Health Analytics Community Needs Index, 2018

Lowest Need					Highest Need				
1 - 1.7	Lowest	1.8 - 2.5	2nd Lowest	2.6 - 3.3	Mid	3.4 - 4.1	2nd Highest	4.2 - 5	Highest
Mean(zipcode): 3.1 / Mean(person): 3.1		CNI Score Median: 3.2			CNI Score Mode: 2.2,3.2				
Zip Code	CNI Score	Population	City	County	State				
63343	3.8	4438	Elsberry	Lincoln	Missouri				
63347	3.6	2931	Foley	Lincoln	Missouri				
63349	3.8	2035	Hawk Point	Lincoln	Missouri				
63362	2.8	7237	Moscow Mills	Lincoln	Missouri				
63369	2.2	2313	Old Monroe	Lincoln	Missouri				
63377	2.2	2604	Silex	Lincoln	Missouri				
63379	3.2	24895	Troy	Lincoln	Missouri				
63389	3.2	6625	Winfield	Lincoln	Missouri				

Calculations were made by Dignity Health & Truven by looking at zip code scores in these five different barrier categories:

1. **Income Barrier**
 - Percentage of households below poverty line, with head of household age 65 or more
 - Percentage of families with children under 18 below poverty line
 - Percentage of single female-headed families with children under 18 below poverty line
2. **Cultural Barrier**
 - Percentage of population that is minority (including Hispanic ethnicity)
 - Percentage of population over age 5 that speaks English poorly or not at all
3. **Education Barrier**
 - Percentage of population over 25 without a high school diploma
4. **Insurance Barrier**
 - Percentage of population in the labor force, aged 16 or more, without employment
 - Percentage of population without health insurance
5. **Housing Barrier**
 - Percentage of households renting their home

Economic Stability

Income

- The Median Household Income for Lincoln County, \$58,603, is **above** both state, \$51,542, and national, \$57,652, levels.
- 13.8% of the county population and 18.9% of children are living below the Federal Poverty Line which is **better** than both state and national levels

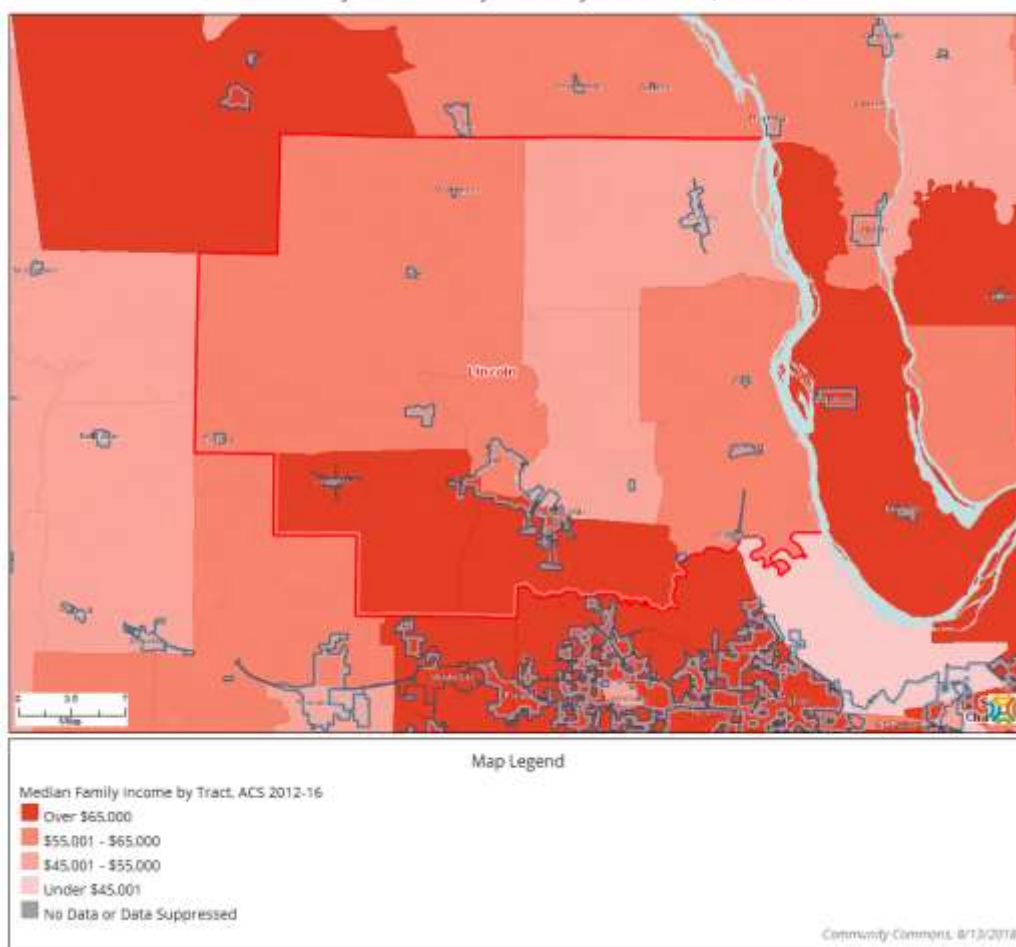
Report Area	Total Households	Average Household Income	Median Household Income
Lincoln County, MO	18,696	\$66,604.00	\$58,603.00
Missouri	2,386,203	\$70,144.00	\$51,542.00
United States	118,825,921	\$81,283.00	\$57,652.00

Note: This indicator is compared to the state average.

Data Source: US Census Bureau, American Community Survey, 2013-17. Source geography: Tract. [Show more details](#)



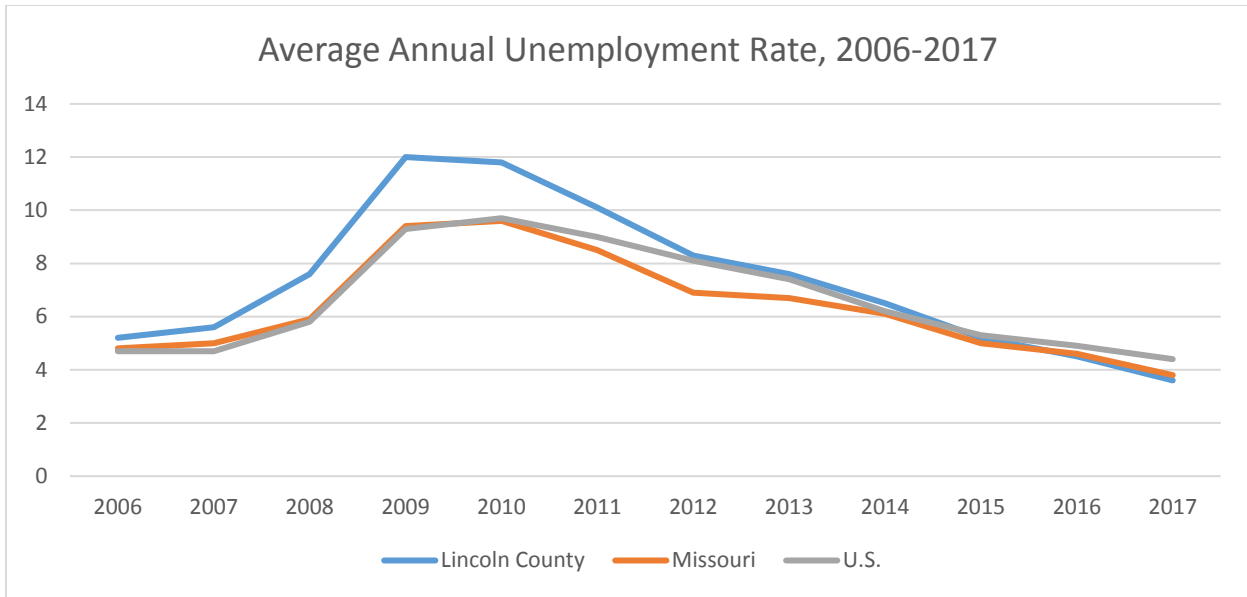
Lincoln County Median Family Income by Census Tract, 2012-2016



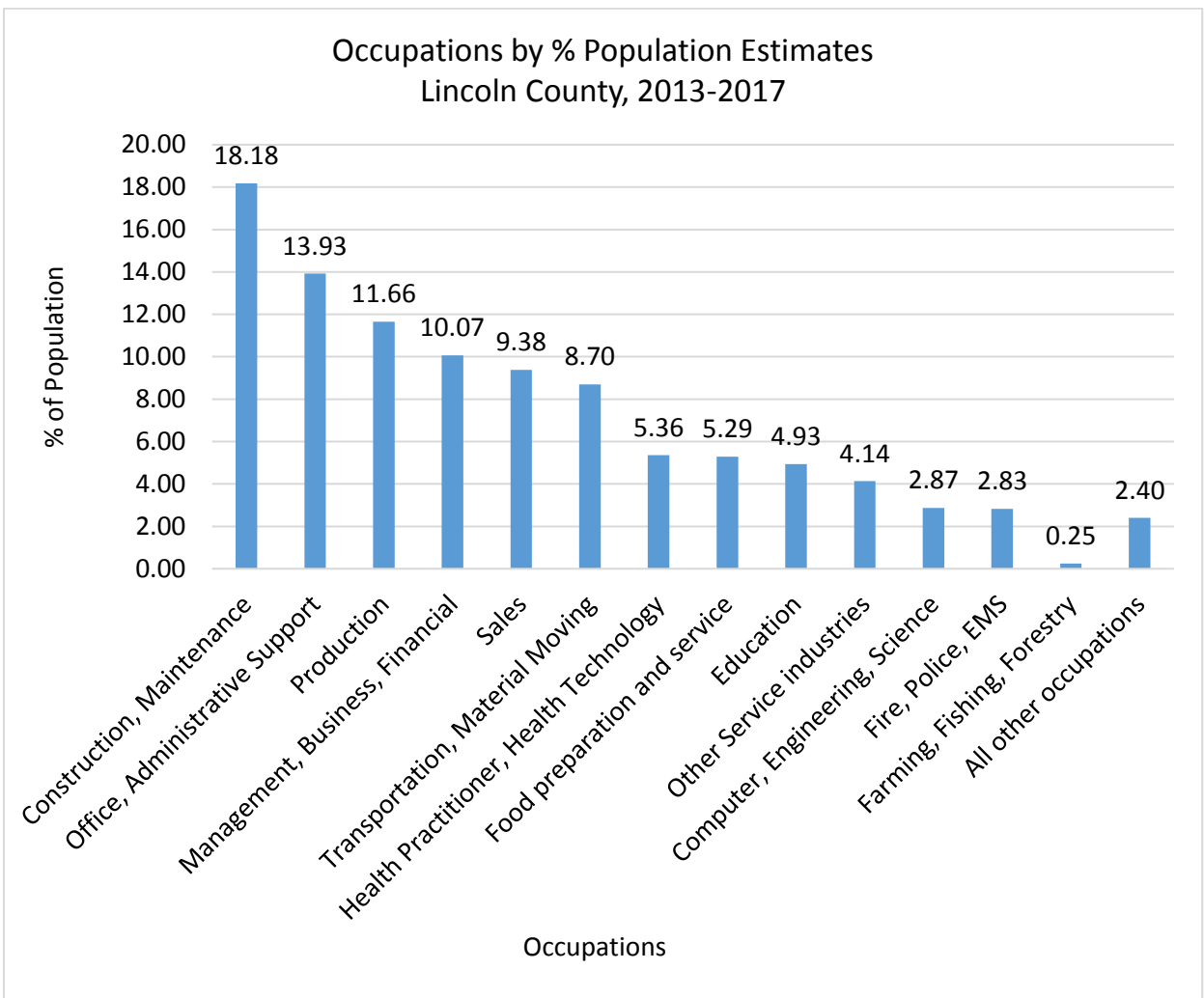
Data Source: U.S. Census Bureau, American Community Survey, 2013-2017. Image source: Community Commons.

Employment

The January 2019 unemployment rate for Lincoln County was reported at 4.1% by the Missouri Economic Research and Information Center. There are approximately 960 unemployed persons in Lincoln County. The unemployment rate in Lincoln County is **comparable** to state and U.S. rates.



Bureau of Labor Statistics/Community Commons



US Census Bureau: American FactFinder, 2013-2017 (5-Year Estimates).

Nutrition – Food Insecurity

The inability of Lincoln County residents to maintain a healthy diet due to lack of access to food is better than state, but worse than national numbers. County Health Rankings (2019) found the following food environment results for Lincoln County:

- 13% had **food insecurity** (lacked access to a reliable source of food).
- 9% had **limited access to healthy foods**.
- 8.2 ranking on the County Health Rankings food environment index, compared to 6.8 for the state of Missouri and 8.7 for U.S. top performers.

Housing Instability

The National Low Income Housing Coalition reported that in 2018, approximately 24% of households in Lincoln County were renters and needed to earn \$13.31/hour to afford a one-bedroom rental unit. The minimum wage was \$7.85/hour in 2018 in Missouri, but will increase to \$8.60 in January 2019.

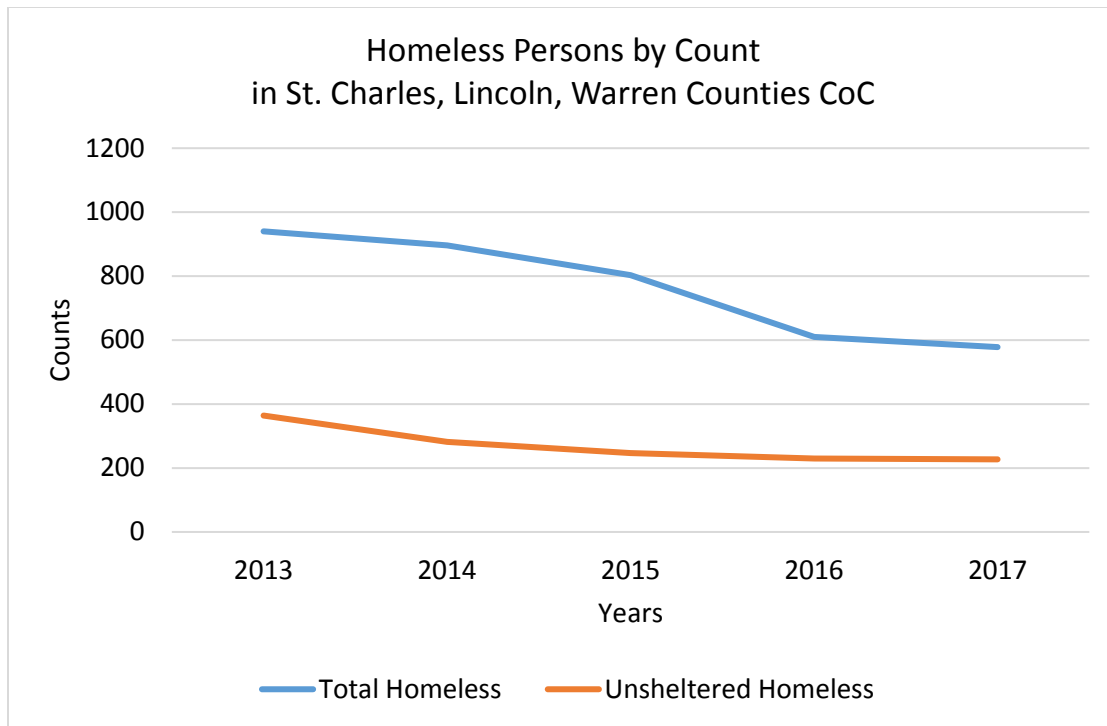
Minimum wage (2018)	\$7.85/hr.
Affordable rent at minimum wage for one-bedroom	\$408.00/mo.
Fair Market Rent for a one-bedroom in Lincoln County	\$692.00/mo.
Hours needed to work for Fair Market Rental at minimum wage (\$7.85)	68 hours per week
Housing Wage for a one-bedroom	\$13.31/hr.

National Low Income Housing Coalition, 2018

MO-503 Continuum of Care (CoC) is the coalition focusing on homelessness in the three counties of St. Charles, Lincoln and Warren. The health and social service agencies in this area combine efforts as a recognized CoC by the State of Missouri and receive a small portion of Federal HUD funding to address homelessness.

	2013	2014	2015	2016	2017	2018
Total Homeless	940	896	803	610	578	532
Unsheltered Homeless	364	282	247	230	227	162
Chronically Homeless	78	79	58	33	26	33
Chronically Homeless People in Families	57	42	36	0	10	10

US Dept. of Housing and Urban Development: 2013-2018 Point in Time Estimates by CoC



While the overall rate of homelessness appears to be decreasing, the rate of homeless children in Lincoln County has **increased** as reported by 2018 Missouri Kids Count:

Child Homelessness	County Rate
2012	1.4%
2016	1.7%

Financial Assistance for Households in Need:

Sts. Joachim and Ann Care Service, “is the largest social service provider for individuals, families and children in the Tri-county area of St. Charles, Lincoln, and Warren...We work with a purpose to protect families, especially children, the elderly and disabled, regardless of race, age, gender or religion from the despair, hopelessness and social injustice caused by poverty.”

Sts. Joachim and Ann Care Service 2016	# of Individuals Served	# of Households Served
Total Clients Served	6,151	2,232
Lincoln County	1,108	356
St. Charles County	4,453	1,684
Warren County	588	191
Other Counties	2	1

Sts. Joachim and Ann Care Service: 2016 Annual Report

Lincoln County was ranked #9 for highest rates of Housing and Shelter assistance requests to the United Way 2-1-1 Call Center in Missouri. Among the 406 Lincoln County callers to United Way 2-1-1 during the one-year timeframe January 2, 2018 – January 1, 2019, the most requested services were:

- **39.5%** Housing & Shelter
- **20.8%** Utilities
- **8.1%** Healthcare
- **6.5%** Transportation Assistance
- **5.9%** Food
- **3.9%** Employment/Income
- **3.8%** Clothing & Household
- **2.7%** Mental Health & Addictions

Federal Poverty Line:

	Lincoln County	Missouri	United States
% of Population Below Federal Poverty Line	13.22	14.63	14.58
% of Children (Under 18) Living Below Federal Poverty Line	18.12	20.03	20.31



Population Below the Poverty Level, Percent by Tract, ACS 2013-17



US Census Bureau: American Community Survey. 2013-2017. Accessed from Community Commons

Cost of Living

Index Explanation: The U.S. average index is 100.0. Missouri has a housing index of 73.9, but California has a housing index of 196.5. Say a standard house in the US costs \$100,000. In Missouri, that same house would cost \$73,900; but in California, that same house would cost \$196,500. The total index in Missouri is 90.1, which includes indices for grocery, housing, utilities, transportation, and health.

	Total Index	Grocery	Housing	Utilities	Transportation	Health
Lincoln County (2)	93.0	96.5	82	108	98	99
Missouri (1)	88.9	97.2	73.0	100.3	93.9	97.7

(1) MO Economic Research and Information Center: *Cost of Living Data Series, 2018*

(2) Sperling's Best Places: *Cost of Living, Lincoln County, December 2016*

Education

Early Childhood Education and Development

- 47.42% of children in grade 4 tested below the “proficient” level in reading skills which is **higher** than both state and national numbers. The “inability to read English well is linked to poverty, unemployment and barriers to health care access, provider communications and health literacy/education.” (Community Commons)

Report Area	Total Students with Valid Test Scores	Percentage of Students Scoring 'Proficient' or Better	Percentage of Students Scoring 'Not Proficient' or Worse
Lincoln County, MO	713	52.58%	47.42
Missouri	66,036	58.79%	41.21
United States	3,393,582	45.67%	45.61

Note: This indicator is compared to the state average.

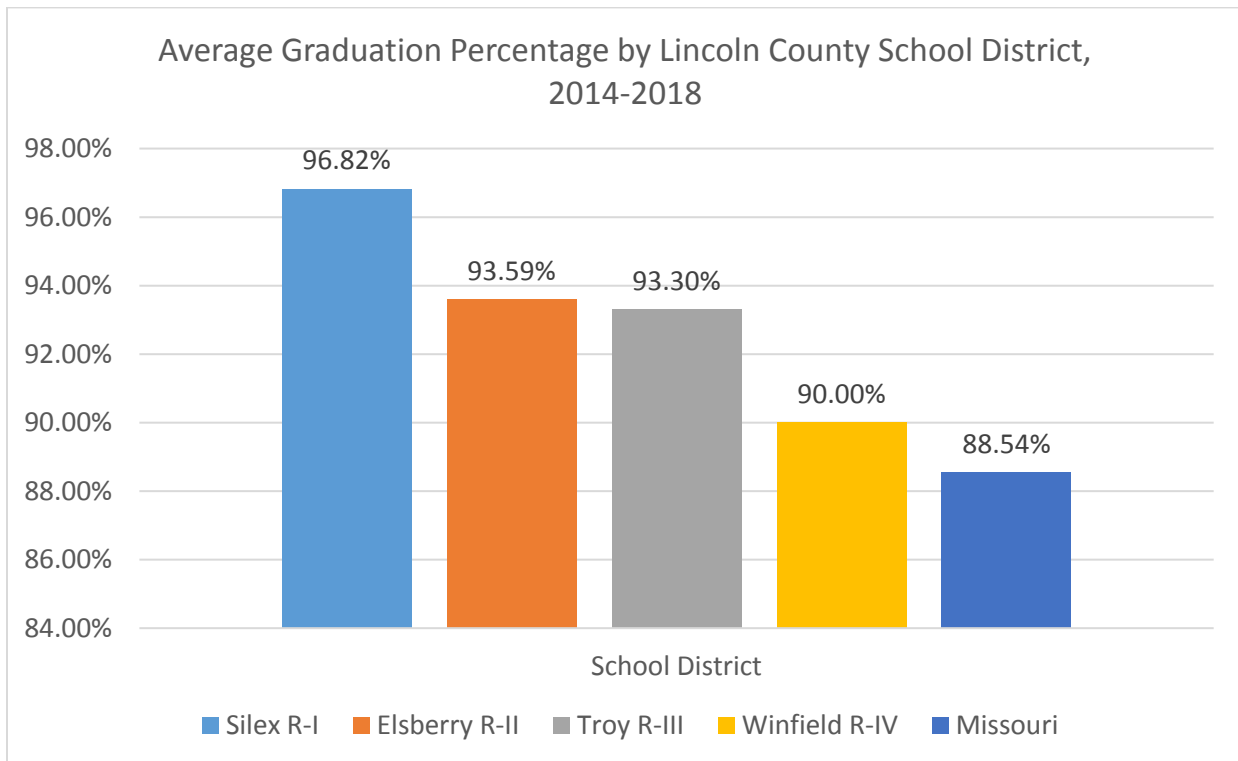
Data Source: US Department of Education, *EDFacts*. Accessed via *DATA.OOV*, 2014-15. Source geography: School District → [Show more details](#)



High School Graduation

- During the school years 2015-2016, 89.8% of Lincoln County students received their high school diploma - less than Missouri at 91%, but more than U.S. at 86.1%. However, when this time period is expanded to the five years of 2014-2018, the average graduation rate for all Lincoln County districts is at or above 90%, while the Missouri average is only 88%. This indicates that in

rural areas where population is lower and cohorts may be smaller, looking at these graduation rates over longer periods may present a more accurate picture of overall performance.

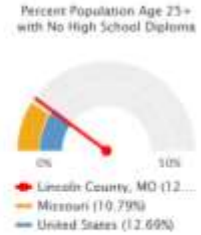


Missouri Department of Elementary and Secondary Education: Missouri Comprehensive Data System, 2014-2018

- Lincoln County has a higher percentage of population age 25+ with no high school diploma, 12.06%, than the state percentage of 10.79%. However, this is less than the U.S. percentage of 12.69%.

Report Area	Total Population Age 25+	Population Age 25+ with No High School Diploma	Percent Population Age 25+ with No High School Diploma
Lincoln County, MO	35,866	4,324	12.06%
Missouri	4,100,209	442,422	10.79%
United States	216,271,644	27,437,114	12.69%

Note: This indicator is compared to the state average.
 Data Source: US Census Bureau, American Community Survey, 2013-17. Source geography: Tract → Show more details



Enrollment in Higher Education

- 15.68% of county residents age 25+ have a Bachelor’s Degree, which is far below state and national percentages, 28.19% and 30.93%.

Report Area	Total Population Age 25+	Population Age 25+ with Bachelor's Degree or Higher	Percent Population Age 25+ with Bachelor's Degree or Higher
Lincoln County, MO	35,866	5,622	15.68%
Missouri	4,100,209	1,155,708	28.19%
United States	216,271,644	66,887,603	30.93%

Note: This indicator is compared to the state average.
 Data Source: US Census Bureau, American Community Survey, 2013-17. Source geography: Tract → Show more details



Language and Literacy

A small percentage of Lincoln County residents are living in a Limited English speaking household.

“This indicator reports the percentage of the population aged 5 and older living in Limited English speaking households. A “Limited English speaking household” is one in which no member 14 years old and over (1) speaks only English at home or (2) speaks a language other than English at home and speaks English “Very well.” (Community Commons)

Report Area	Total Population Age 5+	Linguistically Isolated Population	Percent Linguistically Isolated Population
Lincoln County, MO	51,168	222	0.43%
Missouri	5,702,159	63,007	1.1%
United States	301,150,692	13,323,495	4.42%

Note: This indicator is compared to the state average.
 Data Source: US Census Bureau, American Community Survey, 2013-17. Source geography: Tract → Show more details



Neighborhood and Built Environment

Transportation/Commuting

- 3.91% of county households do not own a motor vehicle
- 15.29% of Lincoln County residents drive more than 60 minutes each way to work, which is higher than state, 5.09%, and national, 8.68%, percentages (American Community Survey, 2012-2016)
- Lincoln County has higher percentages Driving Alone to Work and Long Commute Driving Alone than the state and Top U.S. Performers (County Health Rankings 2019)

Report Area	Total Occupied Households	Households with No Motor Vehicle	Percentage of Households with No Motor Vehicle
Lincoln County, MO	18,698	732	3.91%
Missouri	2,386,203	167,957	7.04%
United States	118,825,921	10,468,418	8.81%

Note: This indicator is compared to the state average

Data Source: US Census Bureau, American Community Survey, 2013-17. Source geography: Tract → [Show more details](#)



Report Area	Population Age 16+ that Commutes to Work	Population Commuting More than 60 Minutes	Percentage Commuting More than 60 Minutes
Lincoln County, MO	22,963	3,510	15.29%
Missouri	2,675,405	136,112	5.09%
United States	139,199,329	12,083,467	8.68%

Note: This indicator is compared to the state average

Data Source: US Census Bureau, American Community Survey, 2012-16. Source geography: Tract → [Show more details](#)



Category	Lincoln County	State	Top U.S. Performers
Driving alone to work	87%	82%	72%
Long commute – driving alone	55%	32%	15%

County Health Rankings 2019

According to the Association for Psychological Science, “the amount of time we spend commuting between work and home can have a serious **impact on our physical and mental health and lower our life satisfaction.**”

From a 2012 study in the American Journal of Preventive Medicine,

“It was found that the farther people commute by vehicle, the higher their blood pressure and body mass index. Also, the farther they commute the less physical activity the individual tends to participate in. Our current transportation system also contributes to obesity --- each

additional hour spent in a car per day is associated with a 6 percent increase in the likelihood of obesity.” (County Health Rankings)

Sidewalks

AARP reports that “sidewalks play a vital role in community life. As conduits for pedestrian movement and access, they enhance connectivity and promote walking. As public spaces, sidewalks are the front steps to a community, activating streets both socially and economically. People who live in neighborhoods with sidewalks are 47 percent more likely to be active at least 39 minutes a day.”

- 24% have sidewalks in their community
- 5.49% have roads and streets with shoulders or marked lanes for bicycling in their community (Missouri County Level Study Profile 2016)

Access to Foods that Support Healthy Eating Patterns

According to the United States Department of Agriculture (USDA), American adults should consume the following amounts of food daily to maintain a healthy diet.

Food Groups	Daily Recommendations
Fruits	1.5 – 2 cups
Vegetables	2.5 – 3 cups
Protein	5-6 ounces
Grains	5-8 ounces
Dairy	3 cups



- 3% of Lincoln County residents had **limited access to healthy foods** due to low income and/or do not live close to a grocery store (County Health Rankings, 2019)
- 90.2% of adults over the age of 18 are **consuming less than 5 servings of fruits and vegetables** each day (MO DHSS MOPHIMS)

Crime and Violence – Violent Crime & Domestic Abuse

Since 1979, Bridgeway Behavioral Health, a department of Preferred Family Healthcare, has operated the only emergency safe shelter and outreach support center in Lincoln County for women and children

who are victims of domestic violence. Immediate intervention is available through a Toll-Free 24-Hour Crisis Line.

Violent Crime rates in Lincoln County were lower than state and national rates according to data from the FBI and National Archive of Criminal Justice Data (Community Commons).



Environmental Conditions – Air & Water Quality, Quality of Housing

Air and Water Quality

The following data were collected on natural environment in Lincoln County

- Level of air pollution (particulate matter) was **higher than the state** at 10.9 micrograms per cubic meter compared to 9.7 Missouri average.
- At least one community water system in Lincoln County received a water violation from FY2013-FY2014 although the methods for calculating this measure changed in 2016 rankings.

	Lincoln County	State	Top U.S. Performers
Air pollution – particulate matter	10.9	7	6.1
Drinking water violations (1 or more per year)	Yes	N/A	N/A

County Health Rankings 2019

Local Toxic Release Inventory

The Environmental Protection Agency (EPA) tracks the management of certain toxic chemicals each year, and certain industrial facilities are required to report to the Toxic Release Inventory (TRI). Lincoln County has two facilities on the TRI list (2017): Bodine Aluminum Inc. and Most Inc. According to the EPA, both facilities have at least one recorded violation under the Clean Water Act since 2017.

Environmental Regulation Compliance

The EPA’s Enforcement and Compliance History Online site holds enforcement and compliance data for the following: air emissions from stationary sources; surface water discharges; hazardous waste; and drinking water systems. As of April 2019, the following violations were noted for Lincoln County:

- 88 Facilities with Current Violations
- 52 Facilities with Significant Violations
- 106 Facilities with Violations (3 years)
- 4 Facilities with Formal Enforcement Actions (5 years)
- 22 Facilities with Informal Enforcement Actions (5 years)

Quality of Housing

Lincoln County has a low percentage of Substandard Housing and Vacancy rates

Category	Lincoln County	Missouri	U.S.
Percent Occupied Housing Units with One or More Substandard Conditions	26.19%	27.11%	32.99%
Vacancy Housing Units, Percent	12.85%	13.65%	12.24%

U.S. Census Bureau, American Community Survey, 2013-17

According to County Health Rankings, “Severe Housing Problems is a measure of housing quality and cost. It is a percentage of households with one or more of the following housing problems:

1. Housing unit lacks complete plumbing
2. Housing unit lacks complete kitchens
3. Household is severely overcrowded (>1 person per room)
4. Household is severely cost burdened (severe cost burden is defined as monthly housing costs, including utilities, that exceed 30% of monthly income)”

Health and Health Care – HPSA, Access, Screenings and Insurance

Health Professional Shortage Area

Lincoln County is considered a Low Income-Health Professional Shortage Area (HPSA). The U.S. Health Resources and Services Administration considers HPSA as having a shortage of primary medical care, dental, or mental health providers, and additionally refers to a geographic area, Federally Qualified Health Center, or a demographic group, such as a low-income population.

Health Professional Shortage Areas

This indicator reports the number and location of health care facilities designated as "Health Professional Shortage Areas" (HPSAs), defined as having shortages of primary medical care, dental or mental health providers. This indicator is relevant because a shortage of health professionals contributes to access and health status issues.

Report Area	Primary Care Facilities	Mental Health Care Facilities	Dental Health Care Facilities	Total HPSA Facility Designations
Lincoln County, MO	3	0	1	4
Missouri	101	87	78	266
United States	3,599	3,171	3,071	9,836

Data Source: US Department of Health & Human Services, Health Resources and Services Administration, [Health Resources and Services Administration](#), February 2019. Source geography: Address → [Show more details](#)



Facilities Designated as HPSAs, HRSA HPSA Database February 2019

- Primary Care
- Mental Health
- Dental Health
- Lincoln County, MO

Community Commons

Access to Primary Care

Primary Care data for Lincoln County found:

- Community Commons reported a total of 5 Primary Care Providers in the county in 2014, which is well below state and national rates. However, a more recent inventory performed by Lincoln County Health Department indicated a total of 11 Primary Care Physicians and 4 Primary Care Nurse Practitioners practicing in Lincoln County either full or part-time. This includes providers at both Mercy and SSM health clinics, as well as pediatrics. However, this ratio is still approximately **5,000:1** of residents to physicians in Lincoln County.
- 17.5% of residents age 18+ stated they had poor to fair health which was **higher** than state and national averages (Community Commons for 2014)
- 18.34% stated they had not had a routine physical check-up in the past two years (MOPHIMS – 2016)

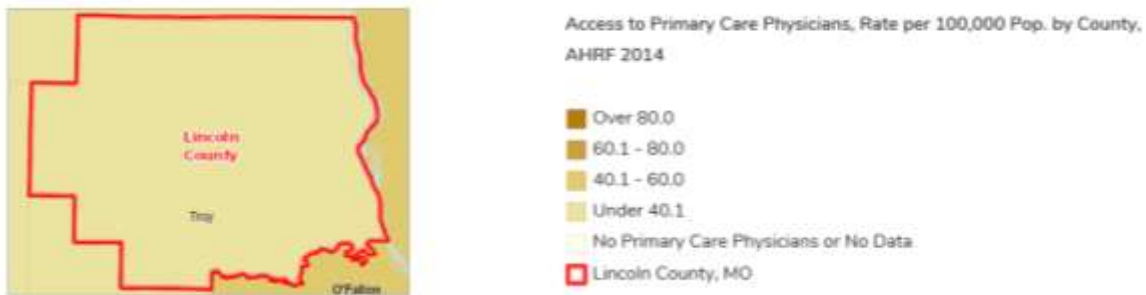
Access to Primary Care

This indicator reports the number of primary care physicians per 100,000 population. Doctors classified as "primary care physicians" by the AMA include: General Family Medicine MDs and DOs, General Practice MDs and DOs, General Internal Medicine MDs and General Pediatrics MDs. Physicians age 75 and over and physicians practicing sub-specialties within the listed specialties are excluded. This indicator is relevant because a shortage of health professionals contributes to access and health status issues.



Health care providers serving Lincoln County include the following. Note, not all are physically located in Lincoln County.

- Mercy Hospital Lincoln – a Critical Access Hospital with 19 staffed beds (licensed for 25) that offers medical, surgical, pediatric, imaging services and more
- Lincoln County Health Department – public health clinical services, community health, communicable disease investigation and management, environmental health services, emergency planning, vital records
- Preferred Family Healthcare/Bridgeway Behavioral Health – non-profit agency providing substance use treatment, prevention and mental health services
- Crider/Compass Health – Federally Qualified Health Center (FQHC) located in nearby Wentzville, MO in St. Charles County, providing outpatient substance use treatment and mental health services for adult and youth in Troy and more comprehensive medical care
- SSM Health St. Joseph Hospital – Wentzville, MO in St. Charles County



Data Source: *Access to Primary Care Physicians Rate per 100,000 Pop. By County, Area Health Resource File 2014*. Image Source: *Community Commons*

Access to Dental Care

In 2016, over 60% of Lincoln County residents did not have dental insurance coverage and 25% had not seen a dentist in two years or more (MO County Level Study 2016). Poor dental health can lead to many other health concerns. In 2015, the rate of dentists per 100,000 population was 14.63 which was much lower than state and national rates.



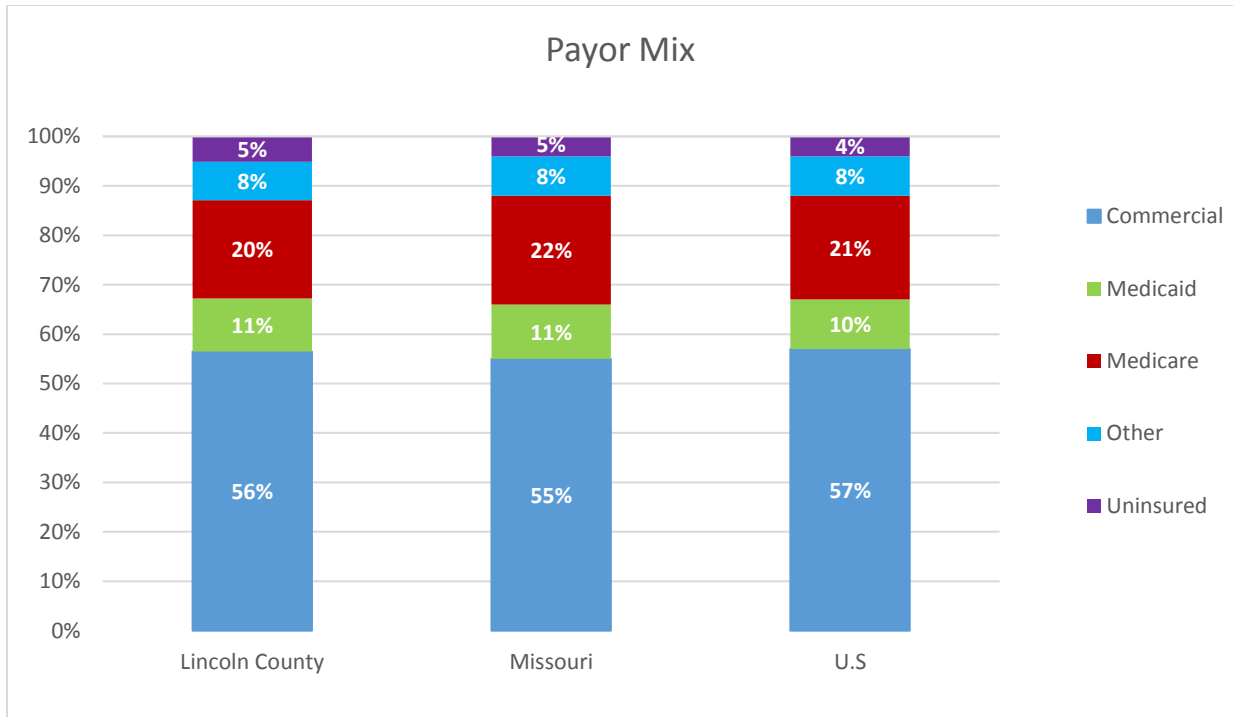
Access to Mental Health

- The number of Mental Health Providers in Lincoln County, 35, is **far below** state and national averages. This indicator reports the “rate of the county population to the number of mental health providers including psychiatrists, psychologists, clinical social workers and counselors that specialize in mental health care.”
- In 2018, County Health Rankings indicated the rate of Mental Health Care Providers per 100,000 population was 64.5, much worse than state (168.6) and national numbers (202.8).



Health Insurance

The Health Insurance Payor Mix for Mercy Hospital Lincoln looks similar to the state and national averages with the majority of the patients, 56%, being covered by commercial insurance which is only slightly higher than state and slightly less than national numbers.



Sg2 Insurance Coverage Estimates, 2017, Mercy

Over the past ten years, the **Percent of Uninsured Population Age 18-64 Without Medical Insurance** has seen significant decreases. This group does not qualify for Medicaid (for those under Age 18) nor Medicare (for those 65 and older).

2007	24.92%
2011	15.77%
2017	12.29%

Uninsured Population by Age Group, Percent

Report Area	Under Age 18	Age 18 - 64	Age 65 +
Lincoln County, MO	5.02%	12.29%	0.22%
Missouri	6.14%	14.74%	0.45%
United States	5.69%	14.78%	0.57%

In 2017, the Lincoln County percentage of uninsured, 12%, was lower than state percentage of 14%, but higher than the Top U.S. Performers, 8%, for all age groups.

Health Screening Utilization

Routine health screenings play a key role in early detection and treatment of many serious health issues, such as HIV/AIDS and various cancers. Statistics indicate that only 57.1% of Lincoln County female Medicare enrollees, 67-69, obtained their mammogram in the past two years to screen for breast cancer

which is worse than state and national numbers. “This indicator is relevant because engaging in preventive behaviors allows for early detection and treatment of health problems. This indicator can also highlight a lack of access to preventive care, a lack of health knowledge, insufficient provider outreach, and/or social barriers preventing utilization of services.” (Community Commons)

Screening Type	Lincoln County	Missouri	U.S.	Data Source & Years	Indicator
Mammograms – percent female Medicare enrollees, 67-69, with mammogram past two years	57.1%	62.7%	63.2%	Dartmouth College, Atlas of Health Care 2015	X

Lincoln County residents have improved on getting screenings for certain conditions, but still obtain health screenings less often compared to the rest of the state.

Cancer and Health Screenings	Lincoln County	Missouri
% Population Who Last Had Routine Physical More Than 2 Years Ago	18.34%	16.26%
% Population Who Last Visited a Dentist More Than 2 Years Ago	25.47%	24.44%
% Female Population 40+ Who Have Not had a Mammogram or Breast Exam in the Past Year (2)	35.38%	30.90%
% Female Population Age 18+ Who Have Not had a Pap Smear in the Last 3 Years (2)	28.33%	27.01%
% Population Age 35+ With High Cholesterol Who Have Had Cholesterol Checked	31.58%	40.80%
% Population Age 50+ Who Have Never Had a Colonoscopy (2)	34.38%	30.47%
% Population 50+ Who Have Not had a Colonoscopy in the Last 10 Years (2)	38.61%	36.08%

MO DHSS: Missouri Resident County-Level Study Profile. 2016.

HEALTH STATUS

County Health Rankings

In the 2019 County Health Rankings, Lincoln County was #39 in Health Outcomes and #62 for Health Factors in comparison to all 115 Missouri counties, with #1 being the best. The sub-categories for Lincoln County are listed below along with their rankings for 2017, 2018, and 2019.

Health Outcomes considers Length of Life and Quality of Life, which includes poor health days, mortality, premature deaths and disease prevalence data.

Health Factors considers Health Behaviors, Clinical Care, Social and Economic Factors and Physical Environment, which includes physical activity, smoking rates, access to health screenings, crime rates and air quality data.

Significant decreases in ranking can be seen since 2017 in Overall Health Outcomes, Length of Life, and Clinical Care. However, it is important to note that because these rankings are also dependent on health in other counties, improvements made in counties which cause their rankings to increase may also shift Lincoln County’s ranking down. According to their website, the County Health Rankings “provide a starting point for change in communities.”

Health Ranking		Ranking out of 115 (in 2017)	Ranking out of 115 (in 2018)	Ranking out of 115 (in 2019)
Health Outcomes	Overall	11	28	39
	Length of Life	14	34	54
	Quality of Life	19	28	21
Health Factors	Overall	61	64	62
	Health Behaviors	57	64	64
	Clinical Care	71	71	51
	Social and Economic Factors	44	38	38
	Physical Environment	112	114	115

The list in its entirety can be found in Appendix C.

HEALTH FACTORS AND BEHAVIORS

Obesity

“Overweight” is defined as having a Body Mass Index (BMI) between 25% and 29.9% and “Obese” is defined as having a BMI greater than 30%. The percent of adults age 20+ in Lincoln County categorized as obese is 32.7% which is slightly higher than state and U.S. rates. Carrying excessive weight can lead to further health issues.



Physical Activity

As of 2016, there were only 2 recreation and fitness facilities in Lincoln County.

- 26.9% of adults 20 years and older reported having “no Leisure Time for Physical Activity” in 2015 which was **higher** than both state and national numbers. (Community Commons, 2015)
- 37% had adequate access to locations for physical activity as compared to 76% in the state and 91% nationally (County Health Rankings, 2019)
- Females (27%) had a slightly higher percent of less time to exercise than men (26.6%) in Lincoln County, but both were higher percentages than state (24.7%) and national (23%) numbers.

As noted in an earlier section, 55% of Lincoln County residents commute over 60 minutes one-way each work day which can attribute to the lack of leisure time available to be physically active.



Adults with No Leisure-Time Physical Activity by Gender, 2015

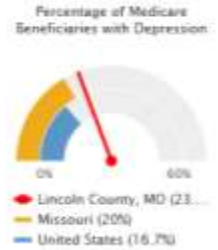
Report Area	Total Males with No Leisure-Time Physical Activity	Percent Males with No Leisure-Time Physical Activity	Total Females with No Leisure-Time Physical Activity	Percent Females with No Leisure-Time Physical Activity
Lincoln County, MO	5,341	26.6%	5,514	27%
Missouri	523,806	23.2%	606,140	24.7%
United States	23,655,542	20%	29,304,977	23%

Behavioral Health

Mental Health

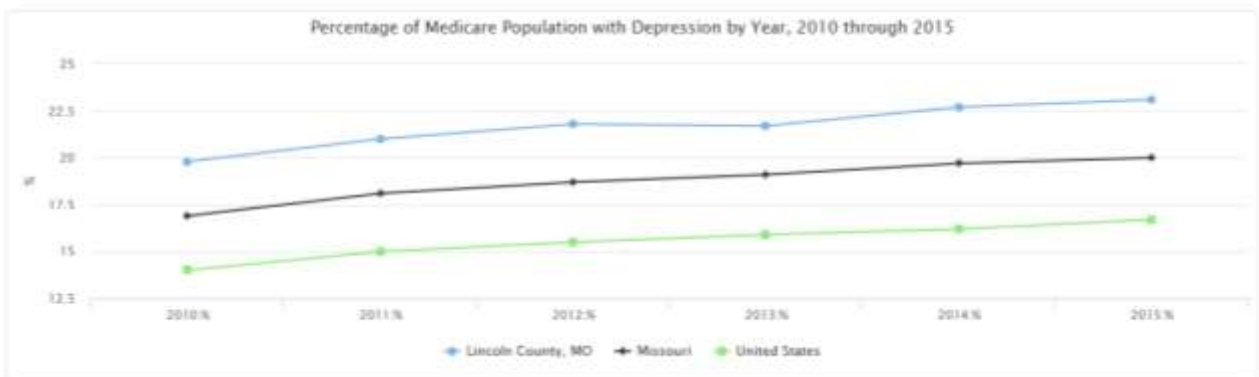
- The percentage of Medicare Beneficiaries with Depression is 23.1% for Lincoln County which is **higher** than both state, 20%, and U.S., 16.7%, numbers
- The same group has been steadily increasing between 2010 and 2015 in Lincoln County, state and U.S. residents

Report Area	Total Medicare Fee-for-Service Beneficiaries	Beneficiaries with Depression	Percent with Depression
Lincoln County, MO	5,391	1,246	23.1%
Missouri	767,306	153,690	20%
United States	34,118,227	5,695,629	16.7%



Note: This indicator is compared to the state average.
 Data Source: Centers for Medicare and Medicaid Services, 2015. Source geography: County → Show more details

Report Area	2010	2011	2012	2013	2014	2015
Lincoln County, MO	19.8%	21%	21.8%	21.7%	22.7%	23.1%
Missouri	16.9%	18.1%	18.7%	19.1%	19.7%	20%
United States	14%	15%	15.5%	15.9%	16.2%	16.7%



The number of suicides in Lincoln County (20.9) was **higher** than both state (16.45) and national (13) rates according to a 2012-2016 study by the CDC. This indicator is relevant because “suicide is an

indicator of poor mental health,” according to Community Commons. Suicide is the 7th leading cause of death in Lincoln County. More data is available on page 51.



The numbers below indicate the number of Lincoln County clients seen according to mental health diagnosis per year. An individual client may have more than one admission per year. These numbers include only individuals receiving treatment. Data on mental health in the general population is very limited, and many individuals experiencing mental health concerns go undiagnosed and are unaccounted for.

Mental Illnesses	FY2016 (actual)	FY2017 (actual)
Total Served	1,085	977
Mood Disorder	756	600
Anxiety Disorder	529	435
Impulse Control Disorder	244	227
Psychotic Disorder	148	134
Developmental Disorder	30	6
Adjustment Disorder	14	13

MO Department of Mental Health: Behavioral Health Profile, Lincoln County, 2018

Substance Use & Alcohol

The following data for alcohol and substance use was obtained from the Missouri Department of Mental Health. Their Lincoln County Behavioral Health Profile 2018 was based on the findings of the National Survey on Drug Use and Health (NSDUH) annual data collection survey https://nsduhweb.rti.org/respweb/about_nsduh.html which is sponsored by Substance Abuse and Mental Health Services Administration (SAMHSA). Data from this study specific to Lincoln County youth can be found in the Maternal, Infant, and Child Health section on page 72.

Data for adult use of alcohol and substance use is not readily available. The Missouri Department of Mental Health reported the following on the Lincoln County Behavioral Health Profile, 2018:

Substance Use Consequences in Lincoln County

- **Health:**
 - Residents had a total of 39 alcohol-related and 41 drug-related hospitalizations in 2015. In addition, there were 88 alcohol-related and 104 drug-related Emergency Department visits that did not include a hospital stay.
- **Treatment:**
 - 322 individuals were admitted into Substance Use Treatment Programs in 2017. A total of 101 were primarily due to alcohol, 70 primarily due to marijuana and 14 were primarily due to prescription drugs.
- **Law Enforcement:**
 - 119 were arrested for DWI, there were 3 liquor law violations and 242 drug-related arrests in 2017. There were 0 methamphetamine laboratory seizures in 2017.
- **Traffic Crashes:**
 - Alcohol-related traffic crashes remained the same at 58 in both 2015 and 2016. Alcohol-related crashes are more likely to produce fatalities and injuries compared to non-alcohol-related crashes

2016 Number of Alcohol-Related Crashes by Severity				2016 Number of People Injured / Killed in Alcohol and Drug-Related Crashes			
Total Crashes	Fatal Crash	Crash w/ Injury	Crash w/ Property Damage	Alcohol Fatalities	Alcohol Injuries	Drug Fatalities	Drug Injuries
58	1	28	29	1	36	2	5

DMH Behavioral Health Profile, Lincoln County, 2018

Binge Drinking

According to SAMHSA, “alcohol is the most frequently used and misused substance in the United States, and it can have devastating consequences.” Heavy alcohol consumption, more than 2 drinks per day for males and 1 drink per day for females, can often be indicators of future health issues, such as cirrhosis, cancers and untreated mental and behavioral health needs (Community Commons).

The data from the Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2006-12, shows the 18+ age of population in Lincoln County do not drink any more or less excessively as compared to state and national estimates. The tables below show 2012 rates for adults reporting binge drinking. Lincoln County’s rates are slightly higher than the state. Rates for binge drinking in males are much higher than for females.

Adults reporting binge drinking, defined as a woman drinking four or more alcoholic beverages or a man drinking five or more alcoholic beverages during a single occasion.

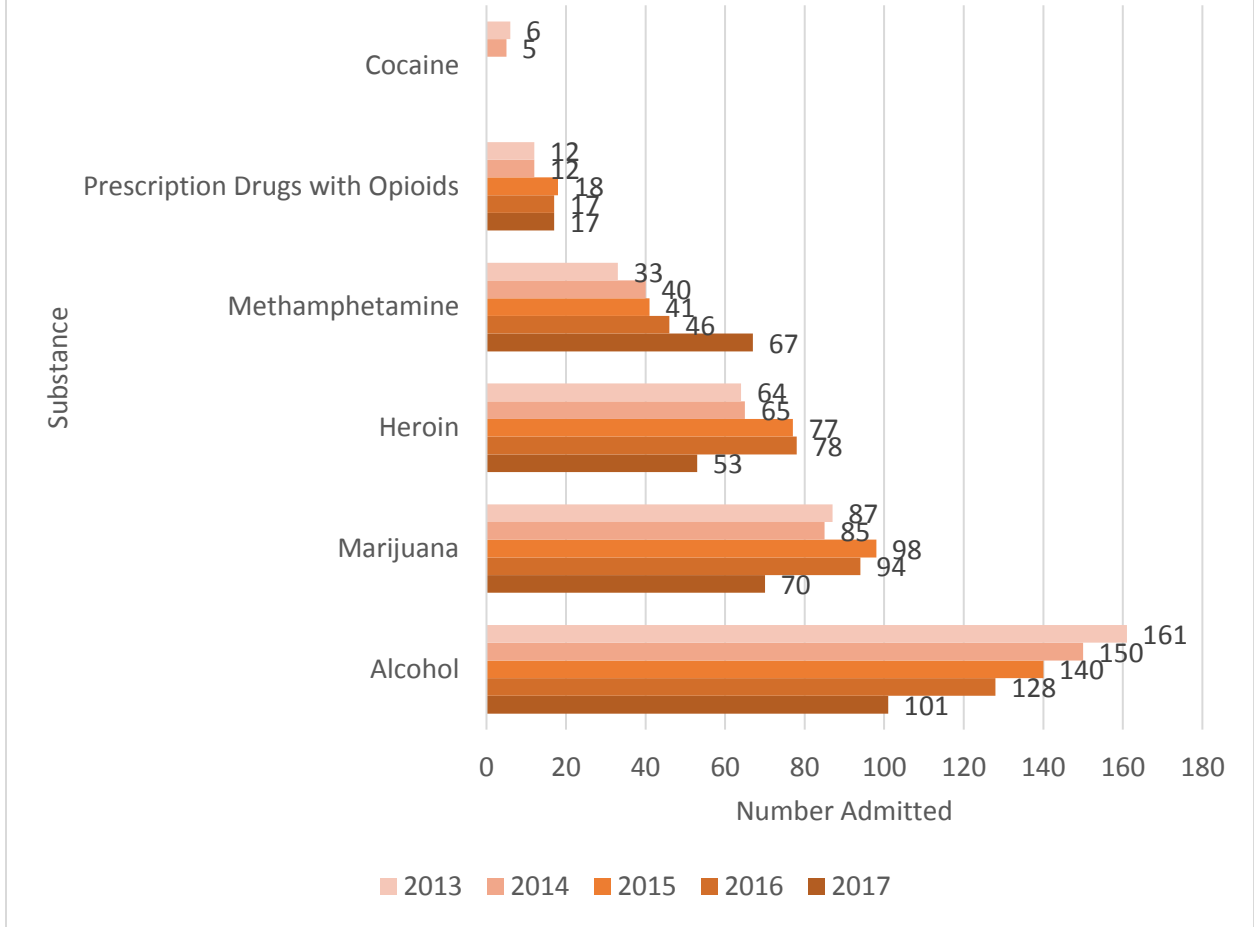
% of Population Binge Drinking	Lincoln County	Missouri
Males	30.19	27.48
Females	13.12	12.82
Total	21.50	20.02

Institute for Health Metrics and Evaluation: US Health Map. 2012.

Substance Use

Substance use and related disorders continue to be an issue of concern in Lincoln County. The following table includes the Top 6 reasons for admission of Lincoln County residents to Division of Behavioral Health Substance Use Treatment Programs. Rate differences may be due to higher enforcement in certain years, and do not necessarily reflect actual higher rates of drug use in those years. It is important to note that this data only includes individuals who are admitted to treatment, and does not include unidentified individuals with active substance use disorder or those identified but waiting to be admitted to treatment.

Primary Drug Admissions from Division of Behavioral Health
Substance Use Treatment Programs, Lincoln County, 2013-2017

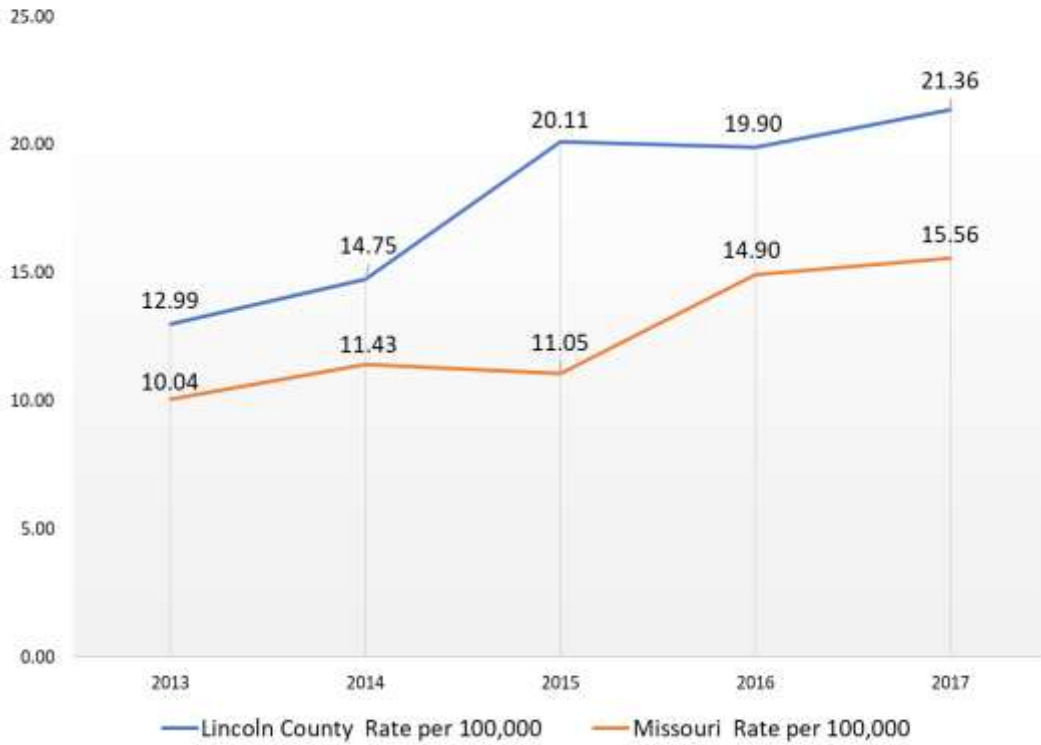


The 2015, 2016, and 2017 cocaine counts were not provided because the count was less than 5 individuals. This data is suppressed to avoid identity disclosure.

Missouri Dept. of Mental Health, Division of Behavioral Health:
Substance Use Treatment Data: Missouri DMH Division of Behavioral Health. 2018.

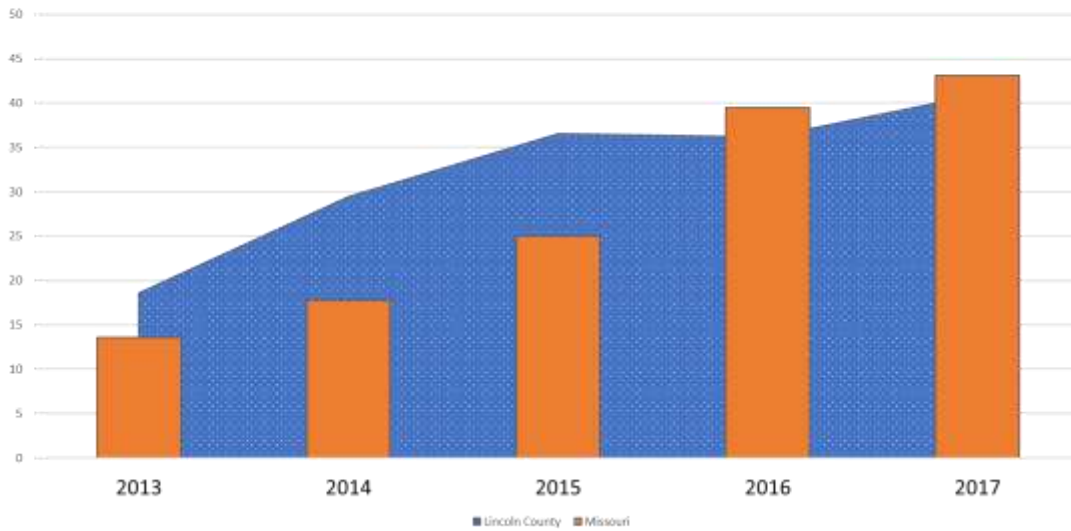
Opioid misuse, including both prescription opioids and heroin, is a significant issue and area of increasing concern in Lincoln County. Lincoln County has experienced a marked increase over the past several years on indicators related to opioid misuse. Increases have been noted in number of deaths, emergency room use, and babies born with Neonatal Abstinence Syndrome (NAS). More data on NAS can be found in the Maternal and Child Health section of this report.

Rate of Opioid Overdose Deaths of Lincoln County Residents from 2013-2017



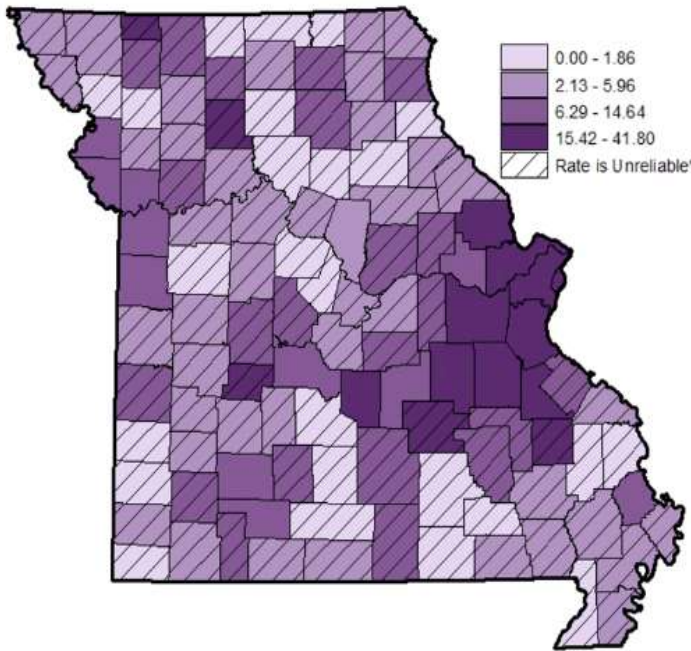
Missouri Department of Health and Senior Services, 2019

Rate of Lincoln County Resident Heroin Misuse ER Visits per 100,000, 2013-2017



Missouri Department of Health and Senior Services, 2019

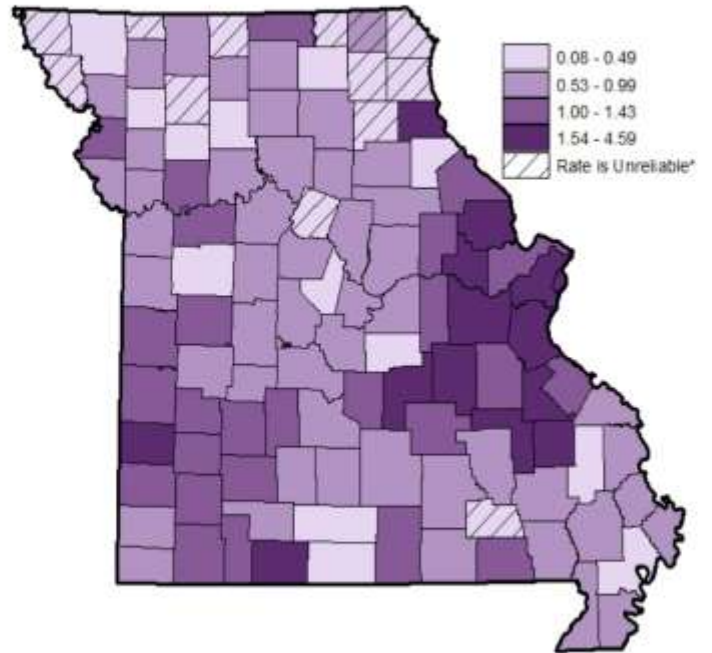
Deaths Due to Opioid Overdoses
2013-2017



Crude Rate per 100,000 population
* Numerator is less than 20

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

ER Visits Due to Opioid Misuse Rate
2012-2016



Crude Rate per 1,000 population
* Numerator less than 20

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

Tobacco & Nicotine

Smoking rates in Lincoln County remain similar to the state rate. As of 2016, 23% of Lincoln County adults were current smokers compared to 21% statewide. This is **higher** than the national rate of 14%.

The Center for Disease Control (CDC) 2016 reports that in the U.S. smoking rates are highest among men who live in the Midwest and are living below the poverty level:

“Cigarette smoking remains the leading cause of preventable death and disability in the United States, despite a significant decline in the number of people who smoke. Over 16 million Americans have at least one disease caused by smoking. This amounts to **\$170 billion in direct medical costs that could be saved every year** if we could prevent youth from starting to smoke and help every person who smokes to quit.”

Other tobacco and smoking findings:

- There are currently no tobacco ordinances in Lincoln County.
- A statistically significantly **higher** percentage of Lincoln County residents are using electronic cigarettes (vaping) as compared to the rest of the state.
- A statistically significantly **higher** percentage of Lincoln County women smoked before, during and after pregnancy as compared to the state numbers. More data on this demographic is included in the section on Maternal and Child Health.

Tobacco Use	Lincoln County	Missouri
% Population Currently Smoking (1)	23.52	21.88
% Population Exposed to Secondhand Smoke at Work (2)	22.58	13.41
% Current Smokers Who Made a Quit Attempt in the Past Year (2)	51.26	57.05
% Population Currently Using Electronic Cigarettes (Vaping) (2)	10.55	5.29
% Population Currently Using Smokeless Tobacco (2)	5.4	4.4

(1) Adults 18+ currently smoking. MO DHSS: *Missouri Resident County-Level Study Profile. 2016.*

(2) MO DHSS: *Missouri Resident County-Level Study Profile. 2016.*

Disability Status

The county is home to 16.5% disabled residents which is **higher** than state (14.44%) and national (12.52%) averages.

Report Area	Total Population (For Whom Disability Status Is Determined)	Total Population with a Disability	Percent Population with a Disability
Lincoln County, MO	53,787	8,876	16.5%
Missouri	5,946,094	858,449	14.44%
United States	313,576,137	39,272,529	12.52%

Note: This indicator is compared to the state average.

Data Source: US Census Bureau, American Community Survey, 2012-16. Source geography: Tract → [Show more details](#)

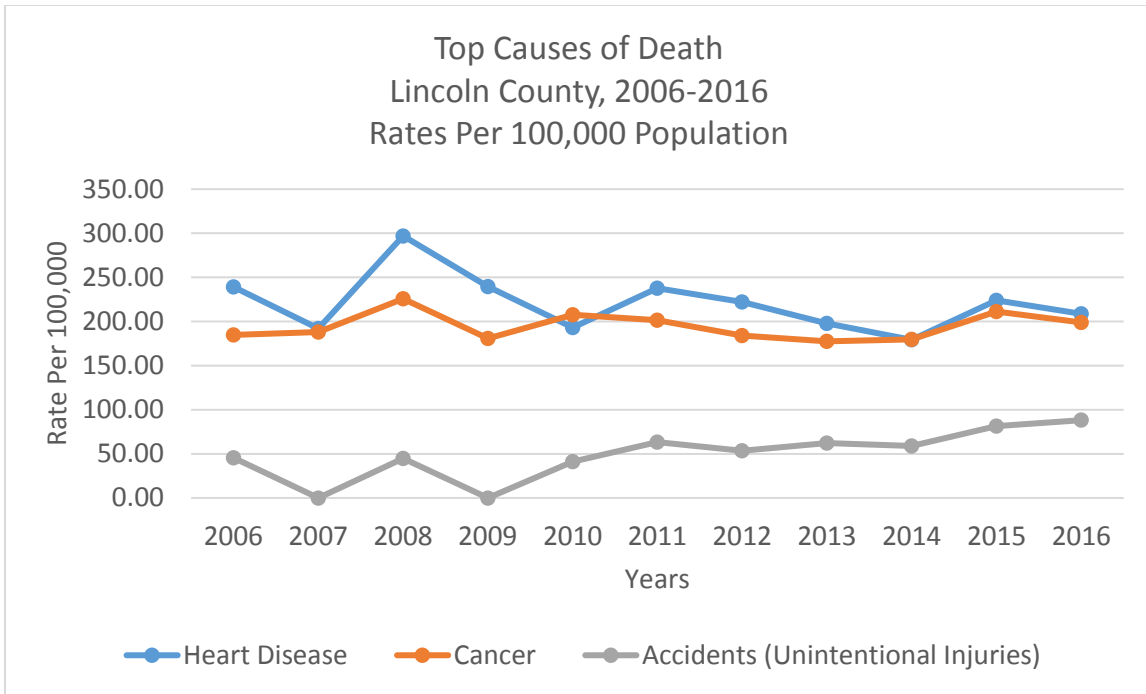


Mortality – All Causes

Heart Disease is the leading cause of death in the county. The rate of All Causes of Death in Lincoln County between 2007-2017 was 878.11 which was **significantly higher** than the state rate at 815.85.

Rank	Leading Causes of Death 2007-2017	Lincoln County Count	Lincoln County Rate	Missouri Rate	Significantly Different
1.	Heart Disease	1,156	215.76	199.32	H
2.	Cancers – Lung Cancer	367	62.94	54.06	H
3.	Total Unintentional Injuries	325	47.81	49.98	H
	Motor Vehicle Accidents	131	22.89	14.62	H
4.	Alzheimer’s Disease	246	51.96	28.09	H
5.	Kidney Disease (Nephritis and Nephrosis)	125	23.96	18.85	H
6.	Pneumonia and Influenza	123	24.39	18.03	H
7.	Suicide	120	20.86	15.45	H
	Other Causes of Interest				
	Smoking-Attributable (estimated)	890	155.55	138.93	H
	All Injuries and Poisonings	478	84.56	76.01	H

MO DHSS – MOPHIMS Community Data Profiles, 2007-2017



MO DHSS: Deaths MICA, 2006-2016 (updated).

Chronic Diseases

Chronic Disease Costs

The Center for Disease Control and Prevention states that “chronic diseases have significant health and economic costs in the United States. Preventing chronic diseases or managing symptoms when prevention is not possible, can reduce these costs. **Ninety percent of the nation’s \$3.3 trillion in annual health care expenditures are for people with chronic and mental health conditions.**”

Heart Disease and High Blood Pressure

- 6.5% of Lincoln County adults have heart disease **which is higher** than 4.8% state and 4.4% U.S. rates
- 36.1% of adults age 18+ have high blood pressure **which is higher** than 29.5% state and 28.16% U.S. rates

Report Area	Survey Population (Adults Age 18+)	Total Adults with Heart Disease	Percent Adults with Heart Disease
Lincoln County, MO	53,607	3,491	6.5%
Missouri	4,527,296	218,318	4.8%
United States	236,406,904	10,407,185	4.4%

Note: This indicator is compared to the state average.

Data Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System. Additional data analysis by CARES, 2011-12. Source geography: County

→ Show more details

Percent Adults with Heart Disease



Lincoln County, MO (6.5%)
Missouri (4.8%)
United States (4.4%)

Report Area	Total Population (Age 18+)	Total Adults with High Blood Pressure	Percent Adults with High Blood Pressure
Lincoln County, MO	37,308	13,501	36.1%
Missouri	4,532,155	1,336,986	29.5%
United States	232,556,016	65,476,522	28.16%

Note: This indicator is compared to the state average.

Data Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System. Accessed via the Health Indicators Warehouse, US Department of Health & Human Services, Health Indicators Warehouse, 2006-12. Source geography: County → Show more details

Percent Adults with High Blood Pressure



Lincoln County, MO (36.1%)
Missouri (29.5%)
United States (28.16%)

Diabetes

- Population Age 20+ diagnosed with diabetes is **higher** in Lincoln County (12.7%) than both state (10.52%) and U.S. (9.28%)

Report Area	Total Population Age 20+	Population with Diagnosed Diabetes	Population with Diagnosed Diabetes, Age-Adjusted Rate
Lincoln County, MO	39,136	5,440	12.7%
Missouri	4,530,777	535,078	10.52%
United States	241,492,750	24,722,757	9.28%

Note: This indicator is compared to the state average.

Data Source: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 2015. Source geography: County → Show more details

→ Show more details

Percent Adults with Diagnosed Diabetes (Age-Adjusted)



Lincoln County, MO (12.7%)
Missouri (10.52%)
United States (9.28%)

Asthma & Lung Disease

- Lincoln County has a slightly **higher** rate of asthma in adults age 18+ (14.7%) than state (14.2%) and U.S. (13.4%) totals
- Lincoln County has a **higher** mortality rate (57.5) for Lung Disease than both state (52.17) and U.S. (41.3)

Report Area	Survey Population (Adults Age 18+)	Total Adults with Asthma	Percent Adults with Asthma
Lincoln County, MO	53,607	7,860	14.7%
Missouri	4,553,696	644,403	14.2%
United States	237,197,465	31,697,606	13.4%

Note: This indicator is compared to the state average.
 Data Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System; Additional data analysis by CAPES, 2012-12. Source geography: County

Percent Adults with Asthma



Report Area	Total Population	Average Annual Deaths, 2012-2016	Crude Death Rate (Per 100,000 Pop.)	Age-Adjusted Death Rate (Per 100,000 Pop.)
Lincoln County, MO	54,285	30	54.9	57.5
Missouri	6,061,284	3,821	63.04	52.17
United States	318,689,254	149,886	47	41.3

Note: This indicator is compared to the state average.
 Data Source: Centers for Disease Control and Prevention, National Vital Statistics System; Accessed via CDC WONDER, 2012-16. Source geography: County → Show more details

Lung Disease Mortality: Age-Adjusted Death Rate (Per 100,000 Pop.)



Chronic Disease Prevalence by City:

The 2018 data below was extracted from www.exploreMOhealth.org. Cities in Lincoln County with high rates of chronic disease are listed. The number on the right indicates where that city ranks amongst all Missouri zip codes on the chronic disease indicated – 1 is the best, and 958 is the worst.

- TRUXTON Lymphatic Cancer 937
- TRUXTON Gastrointestinal Cancer 937
- FOLEY Asthma- Smoking-Related Diagnoses 906
- OLD MONROE Urinary Cancer 901
- TRUXTON COPD (Chronic Obstructive Pulmonary Disease) 895
- TRUXTON Malignant Neoplasm Cancer 885
- EOLIA Lung 870
- TRUXTON Malignant Neoplasm – Other 857
- WINFIELD Depressive Disorder 819
- TRUXTON Breast Cancer 803
- EOLIA Heart Disease 644
- EOLIA Colorectal 562
- ELSBERRY Diabetes Mellitus Diagnosis 527

Hospital Utilization

Emergency Department Usage

The following table shows the number of **unique patient visits** at Mercy Hospital Lincoln’s Emergency Department by calendar year. These totals may include residents of Lincoln County as well as those of the surrounding area.

Year	# of Patient Visits
2018	12,390
2017	12,889
2016	5,599

Lincoln County residents seek ED care both in county at MHL, as well as other hospitals within Missouri. The table below lists **total number of visits** by Lincoln County residents to the ED at MHL compared with visits to other EDs in Missouri. These totals may include multiple visits by one individual.

Year	MHL ED Visits (Critical Access Hospital)	Other ED Visits	Total
2018	22,991	35,640	58,631
2017	22,516	35,670	58,186
2016	16,604	30,648	47,252

ESSENCE, Missouri Department of Health and Senior Services

Below are the Top 10 Overall Primary Diagnoses in the Mercy Hospital Lincoln Emergency Department from calendar year 2017. The 2016 rankings are in parenthesis for comparison.

1. Other Chest Pain (7)
2. Acute bronchitis, unspecified (1)
3. Acute upper respiratory infection, unspecified (4)
4. Acute pharyngitis, unspecified (3)
5. Low back pain (6)
6. Dental caries, unspecified
7. Periapical abscess without sinus (5)
8. Viral intestinal infection, unspecified
9. Chronic obstructive pulmonary disease with (acute) exacerbation (9)
10. Noninfective gastroenteritis and colitis, unspecified
10. Pneumonia, unspecified organism (2)

Other 2016 diagnoses not making the 2017 list were:

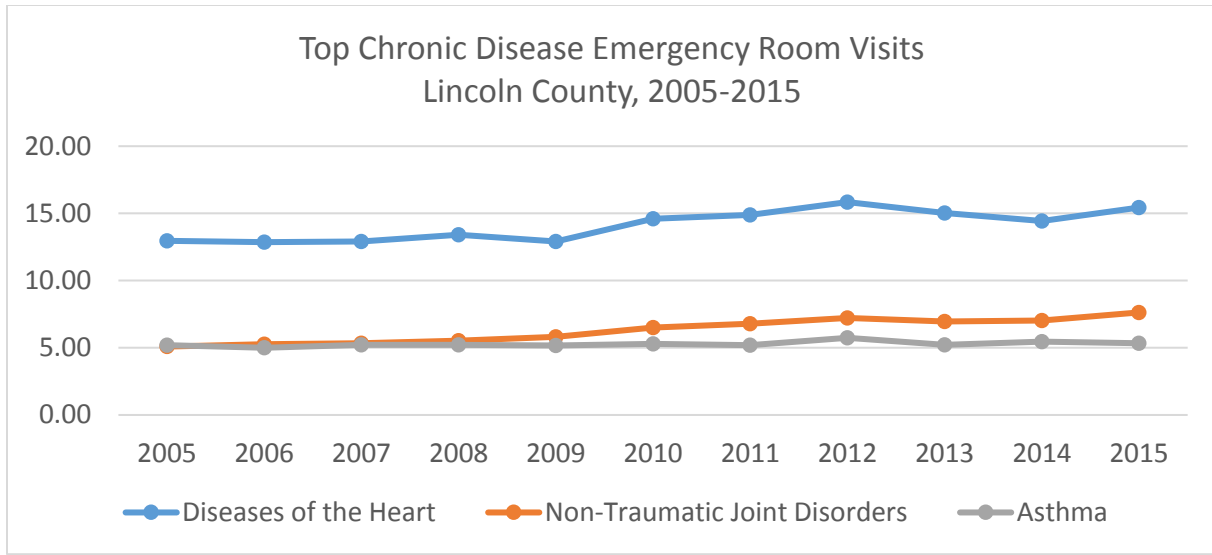
#7 (tie) Constipation, unspecified

#10 Strain of muscle, fascia and tendon of lower back, initial encounter

Comparison of Emergency Department (ED) utilization in Lincoln County to state data was available for 2015 and indicated the county was higher than Missouri in 6 out of 15 conditions. (Missouri Department of Health and Senior Services 2015)

Rank	Emergency Department Visits Diagnosis/Disease	Lincoln County Rate 2015 (per 100,000)	Missouri Rate 2015 (per 100,000)
1	Injury and Poisoning	112.04	87.25
2	Respiratory (Throat and Lung) Pneumonia and Influenza	56.97 6.33	53.72 5.13
3	Symptoms and Ill-Defined Conditions	44.28	43.21
4	Digestive System	39.92	32.34
5	Brain/Spinal Cord/Eyes/Ears	34.83	36.32
6	Bone/Connective Tissue/Muscle	30.00	30.23
7	Kidneys/Bladder/Genitalia	25.43	25.13
8	Heart and Circulation	22.15	21.31
9	Mental Disorders	14.83	15.60
10	Skin	13.94	14.25
11	Infection	8.50	8.82
12	Pregnancy/Childbirth/Reproduction	7.84	9.68
13	Nutritional/Metabolic/Immunity	4.81	4.95
14	Blood and Blood-Forming	0.53	1.03
15	Neoplasms (Cancer and Other Growths)	0.43	0.49

For Chronic Disease visits in the Emergency Room, Diseases of the Heart continued to be the leading cause over Non-Traumatic Joint Disorders and Asthma for the ten-year period 2005-2015 in Lincoln County.



MO DHSS: Chronic Disease Emergency Room MICA, 2005-2015

According to the rankings of www.exploreMOhealth.org, the city of Foley had the highest rate for Preventable ED Visits per 1,000 population in Lincoln County and ranked 859 out of 958 zip codes in the state (1 being the best).

Preventable ED Visits

ZIP Code	City	Rate per 1,000	Rank
63347	Foley	322.92	859
63362	Moscow Mills	288.01	803
63381	Truxton	281.77	785
63343	Elsberry	281.57	784
63389	Winfield	280.37	782

exploreMOhealth.org

Inpatient Hospitalization Rates

The following table shows the number of Inpatients at Mercy Hospital Lincoln 2016-2018:

Year	# of Patient Visits
2018	723
2017	672
2016	326

The Top 10 Overall Diagnosis Related Groups (DRG's) for inpatients at MHL for calendar years 2017 are listed below with 2016 rankings in parentheses for comparison.

1. Chronic Obstructive Pulmonary Disease w MCC (COPD) (3)
2. Pulmonary Edema Respiratory Failure (1)
3. Cellulitis w/o MCC (5)
3. Septicemia or Severe Sepsis w/o MV>96 Hours w MCC (2)
5. Heart Failure Shock w MCC (7)
6. Kidney Urinary Tract Infections w/o MCC (7)
7. Esophagitis Gastroent Misc Digest Disorders w/o MCC (5)
8. Simple Pneumonia Pleurisy w CC (4)
8. Misc Disorders of Nutrition, Metabolism, Fluids/Electrolytes w/o MCC
10. Diabetes w/o cc/MCC

Other 2016 diagnosis that did not make 2017 list were:

8. Major Joint Replacement or Reattachment of Lower Extremity w/o MCC
8. Aftercare, Musculoskeletal System Connective Tissue w CC
8. Simple Pneumonia Pleurisy w MCC

Comparison of Inpatient Hospitalizations in Lincoln County to state data was available for 2015. The majority of Disease Indicators, 13 of 16, were higher in the county than the state. (Missouri Department of Health and Senior Services 2015)

Inpatient Hospitalizations – Disease Indicators	Lincoln County Rate 2015 (per 100,000)	Missouri Rate 2015 (per 100,000)
Mental Disorders	194.71	135.14
Heart and Circulation	173.77	153.66
Pregnancy/Childbirth/Reproduction	153.20	134.75
Respiratory (Throat and Lung)	133.38	101.62
Digestive System	114.30	102.25
Injury and Poisoning	106.82	91.86
Bone/Connective Tissue/Muscle	68.06	64.05
Infection	58.89	58.19
Nutrition/Endocrine/Metabolic/Immunity	43.20	42.16
Kidneys/Bladder/Genitalia	40.05	45.50
Neoplasms (Cancer and Other Growths)	35.74	37.15
Symptoms and Ill-Defined Conditions	32.35	29.99
Brain/Spinal Cord/Eyes/Ears	30.22	29.68
Skin	26.08	21.20
Blood & Blood Forming	9.67	12.36
Congenital anomalies	5.09	3.94

Preventable Hospitalizations

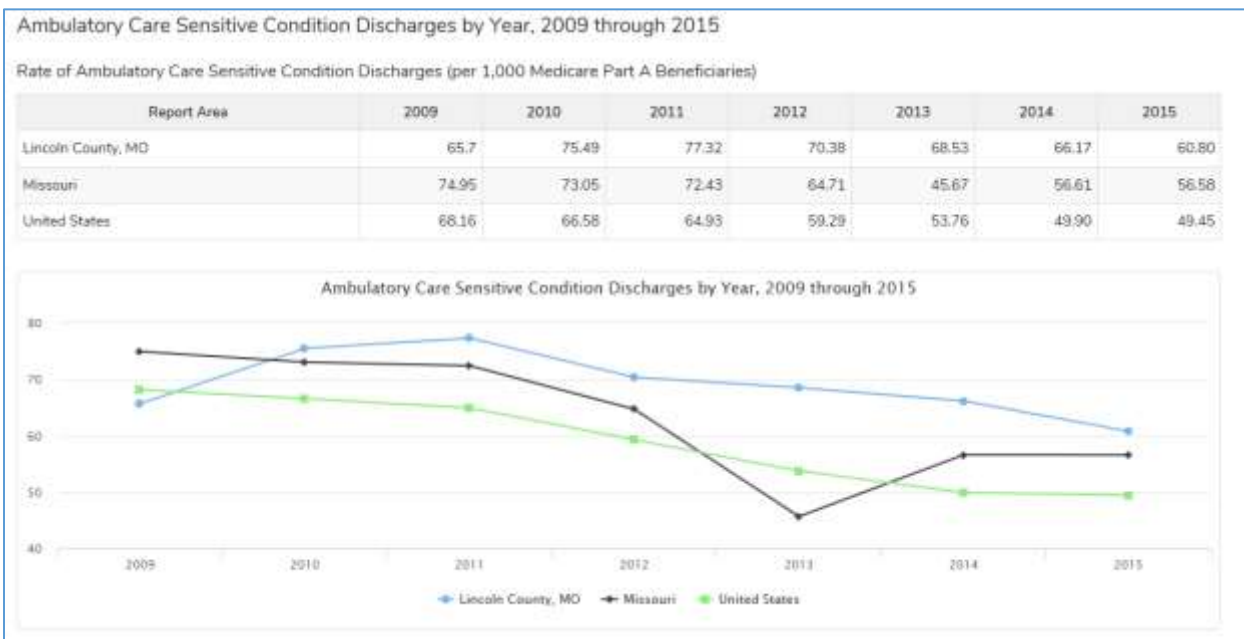
Preventable hospitalizations refer to hospitalizations for diagnoses that are designated Ambulatory Care Sensitive Conditions (ACSCs) by the Agency for Healthcare Research and Quality. ACSCs include *congestive heart failure, asthma, diabetes, chronic obstructive pulmonary disease (COPD), pneumonia, dehydration* and other conditions. It is believed that if the patient had received adequate ambulatory care (primary or preventative care) for these conditions that the need for hospitalization may have been prevented or reduced.

ACSC Discharge Rate and Preventable Hospital Events

Community Commons clarified the significance of this data:

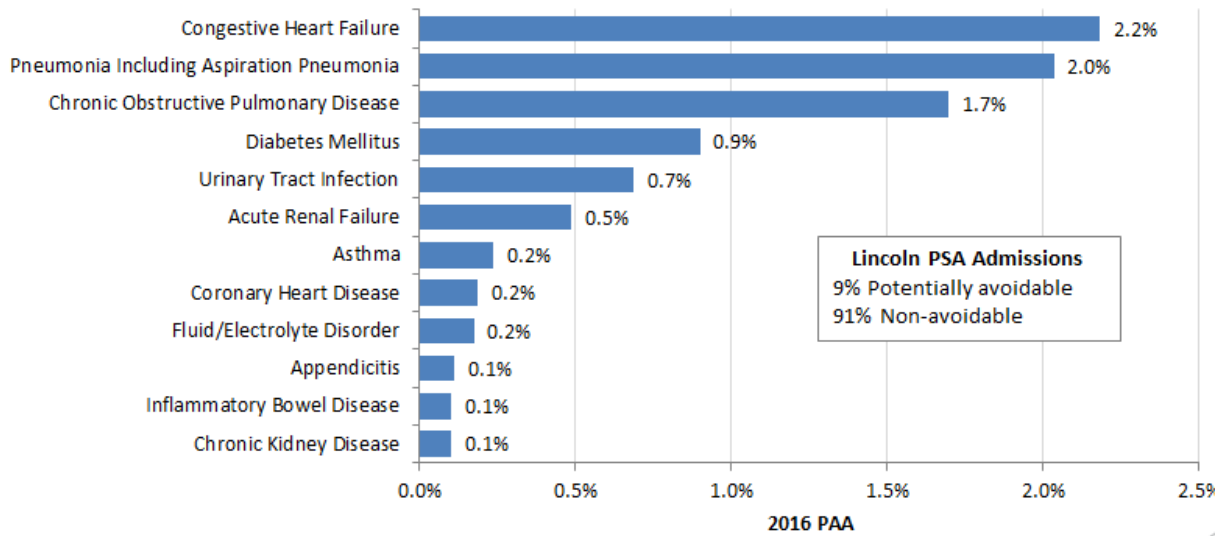
“This indicator is relevant because analysis of Ambulatory Care Sensitive (ACS) Conditions discharges allows demonstrating a possible ‘return on investment’ from interventions that reduce admissions (for example, for uninsured or Medicaid patients) through better access to primary care resources.”

The rate of preventable hospitalizations in Lincoln County has steadily decreased since 2011, but the most current data indicates ACSCs in 2015 remained higher than both state and national numbers per 1,000 Medicare Part A Beneficiaries.



Mercy Hospital Lincoln calculated having 9% Potentially Avoidable Admissions in calendar year 2016. The top diagnoses for readmissions were Congestive Heart Failure, Pneumonia and COPD.

Top 12 AHRQ Potentially Avoidable Admissions % of Total Lincoln PSA Admissions



Sg2 State Data Analysis

Sg2 citations: Missouri Hospital Association/Hospital Industry Data Institute (HIDI), MO. January 2016 - December 2016; CPT® copyright 2016 American Medical Association. All rights reserved.

Injuries

The 2015 Lincoln County injury rates were higher than state in most of these categories as indicated by bold print. These rates include individuals of all ages.

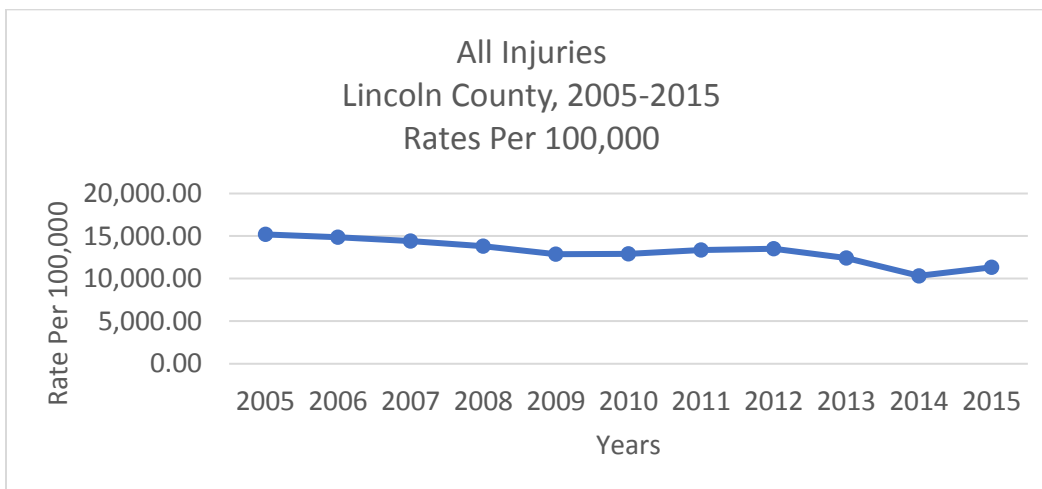
Types of Injuries	Lincoln County Rate Per 100,000 Population	Missouri Rate Per 100,000 Population
Fall/Jump	3,491.23	2,589.86
All Other*	2,040.24	1,415.31
Struck By/Against	1,615.57	1,235.68
Motor Vehicle Traffic	981.32	949.64
Cut/Pierce	784.63	644.94
Over Exertion	732.43	515.13
Weather/Wildlife	551.85	527.98
Motor Vehicle - Non Traffic	329.69	215.36
Poison/Overdose	228.48	203.09
Fire/Burn	158.29	136.54
Machinery	89.93	48.35
Abuse/Neglect/Rape	28.28*	39.44
Firearm	22.7*	43.68
Drowning	x	3.71
Other Transport	x	12.5
Suffocate/Hang	x	7.15

An (X) denotes data suppression for privacy concerns. An asterisk (*) notes that a rate may be unreliable because the actual count was less than 20.

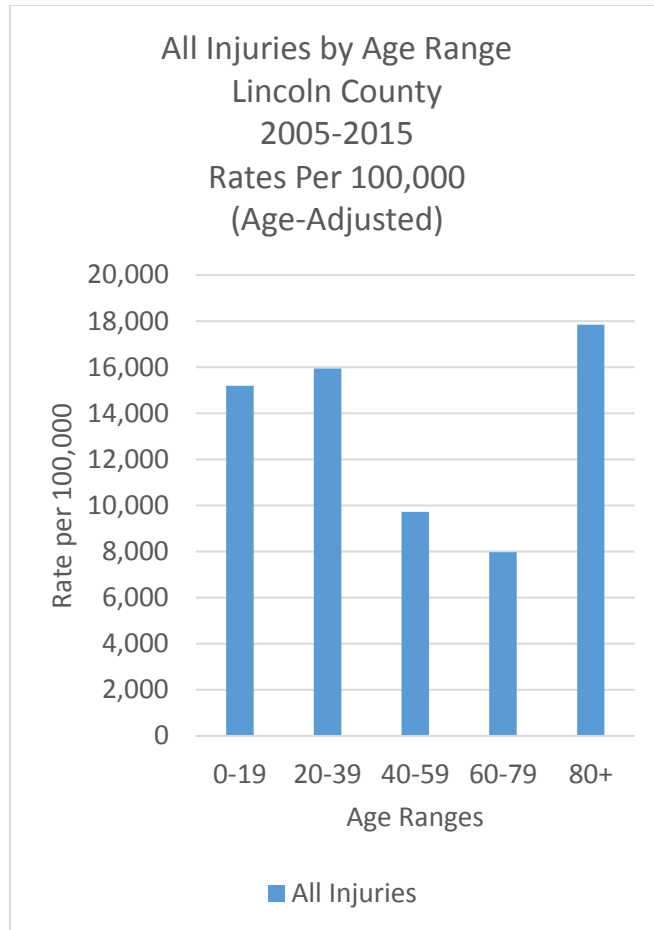
MO DHSS: Injuries MICA, 2015

* "All Other" includes sprain/strains, hand and eye injuries, nerve injuries, contusions, crushing, traumatic amputations, complications from injuries (embolism, hemorrhage, infection), and other injuries

Injury rates have shown an improvement, but remained the third leading cause of death in Lincoln County in 2015.



MO DHSS: Injuries MICA, 2005-2015



MO DHSS: Injuries MICA, 2005-2015 (updated).

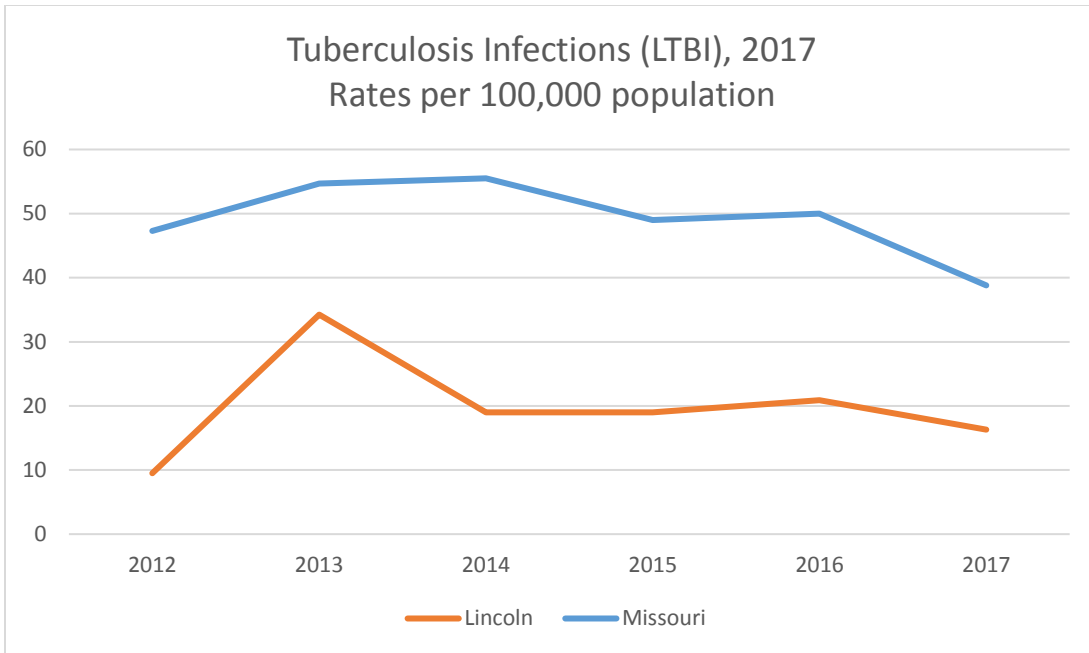
Communicable Disease

Tuberculosis (TB)

The rate of newly identified latent TB infections (LTBI) in Lincoln County in 2017 was 16.3, remaining lower than the state rate of 38.8. The Lincoln County rate is comparable to rates in surrounding counties, and overall the rates of newly identified LTBI infections can be highly variable.

LTBI infections are treated and monitored by the Missouri Department of Health and Senior Services and local public health agencies – LCHD in Lincoln County. People with LTBI are not contagious, but if left untreated, LTBI can progress to TB disease. TB disease can be spread to other people and can be fatal if not properly treated.

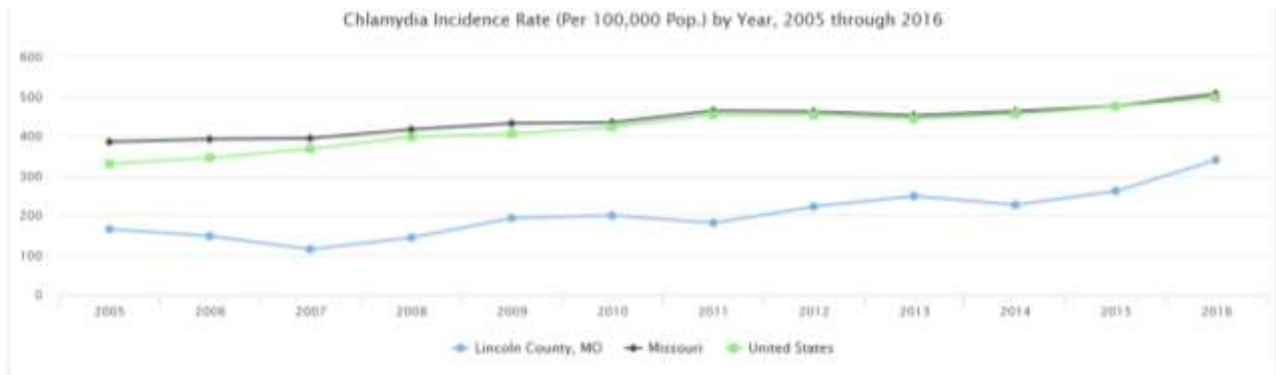
The last identified case of TB disease in Lincoln County occurred in 1998.

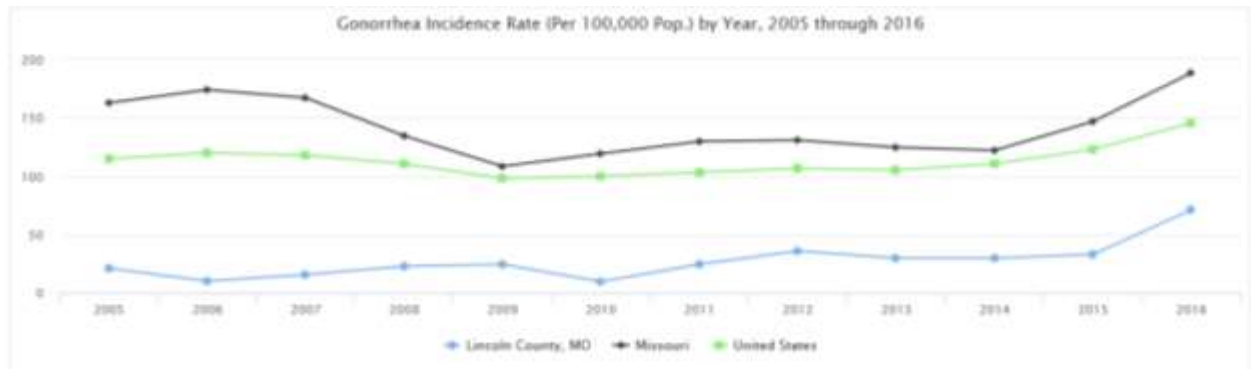


Missouri Department of Health and Senior Services

Sexually Transmitted Infections

Sexually Transmitted Infections were **lower** in Lincoln County than state and national rates in both Chlamydia and Gonorrhea in 2016, but are increasing as seen in the graphs below from Community Commons.

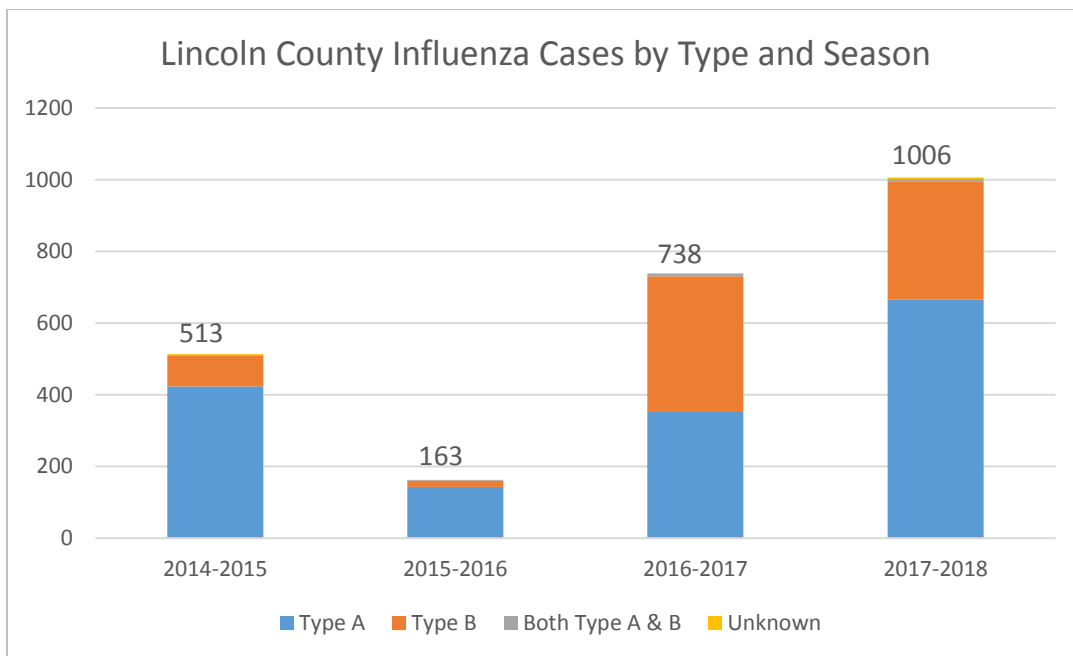




The Missouri Department of Health and Senior Services reported that as of 2016, there were 8 newly diagnosed and 119 living cases of Human Immunodeficiency Virus (HIV) in the portion of the St. Louis HIV Care Region including Lincoln, Warren, Franklin, and Jefferson counties. Total for the region, which also factors in St. Charles, St. Louis County, and St. Louis City, there were 204 newly diagnosed and 3,104 living cases.

Influenza and Other Reportable Communicable Diseases

Missouri and Lincoln County follow the Centers for Disease Control’s tracking period for Influenza (flu), which runs from the first week of October through the end of September the following year. The proportion of cases in Lincoln County over the last four seasons is comparable to national levels. Each year, the majority of cases identified in Lincoln County are in people who did not receive a flu vaccination.



Reportable diseases can have a great impact on the public’s health. National, state, and local agencies require these diseases to be reported when diagnosed by doctors or laboratories. This allows tracking of trends and outbreaks, and helps to prepare for and control future outbreaks (Medline Plus). Total case counts for reportable communicable diseases identified in Lincoln County for the years 2014 through 2018 are listed in the following table. **Highlighted** diseases may be prevented by vaccination.

Other Reported Communicable Diseases Case Count in Lincoln County, 2014-2018*

Disease or Condition	Case Count					
	2014	2015	2016	2017	2018*	Total
<i>Hepatitis</i>						
Hepatitis A Acute	0	0	0	1	0	1
Hepatitis B (Pregnancy) Prenatal	0	1	1	0	0	2
Hepatitis B Chronic Infection	1	2	1	2	1	7
Hepatitis C Acute	0	0	0	0	1	1
Hepatitis C Chronic Infection	52	65	30	31	43	221
<i>Communicable Diseases of the Gastrointestinal System</i>						
Campylobacteriosis	8	8	6	7	15	44
Cryptosporidiosis	0	0	4	2	4	10
E. Coli (All)	1	2	4	2	6	15
Giardiasis	0	2	0	1	2	5
Listeriosis	1	0	0	0	0	1
Salmonellosis	4	9	13	6	9	41
Shigellosis	19	4	0	0	2	25
Yersiniosis	1	0	0	0	2	3
Haemophilus Influenzae, Invasive (Hib)**	0	1	3	0	4	8
Pertussis	2	1	0	2	0	5
Legionellosis	0	2	1	1	3	7
Mumps	0	0	1	0	0	1
<i>Tick-Borne Diseases</i>						
Ehrlichiosis and Anaplasmosis	5	2	0	0	3	10
Rocky Mountain Spotted Fever	4	2	1	1	3	11
Strep. Disease, Group A Invasive	3	2	1	3	1	10
Strep. Pneumoniae, Drug-Resistant	0	0	3	0	0	3
Animal Bites	87	74	88	105	104	458

Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI), Missouri Health Surveillance Information System (WebSurv)

NOTE: Case Count includes only Confirmed and Probable cases.

*2018 data is provisional and is subject to change.

**“H. influenzae do not cause influenza (the flu). While H. influenzae can infect people of all ages, these bacteria usually cause illness in babies and young children.” (Centers for Disease Control and Prevention)

Maternal, Child, And Infant Health

At-Birth Infant Health Outcomes

- Infant mortality rate (per 1,000 births) for the county (6.08) was **lower** than the state rate (6.67) during 2007-2017 (MOPHIMS, MO DHSS).
- Teen birth rates **have decreased** and are now lower than the state rate.
- Low birth rates have **slightly risen**, but remain lower than the state rate.

Outcome Measures	LINCOLN COUNTY				MISSOURI
	Number	Rate	Number	Rate	Rate
	2012	2012	2016	2016	2016
Teen births (15-19)	60	42	32.6	22.6	23.3
Low birth rates	252	6.6%	266	7.3%	8.2%

Missouri Kids Count - 2018

Prenatal Health Measures – Smoking

Smoking during pregnancy continues to be an area of concern. The three-year trend of mothers smoking during pregnancy has slightly decreased, but remains statistically significantly higher than the state overall. This behavior is further broken down to Lincoln County mothers enrolled in the Women, Infants, and Children (WIC) nutritional program. All three indicators shown have rates that are statistically significantly higher than the state rate.

	2015		2016		2017	
	Lincoln County – Rate per 100 Live Births	Missouri – Rate per 100 Live Births	Lincoln County – Rate per 100 Live Births	Missouri – Rate per 100 Live Births	Lincoln County – Rate per 100 Live Births	Missouri – Rate per 100 Live Births
Smoked During Pregnancy	23.63	15.86	23.50	15.25	19.81	14.46

MO DHSS: Birth MICA 2015-2017.

	2015		2016	
	Lincoln County – Rate per 100	Missouri – Rate per 100	Lincoln County – Rate per 100	Missouri – Rate per 100
Smoked as of First WIC Prenatal Visit	34.29	22.02	30.46	21.51
Smoked During Last Three Months of Pregnancy	33.49	20.22	30.30	19.53
Smoked as of WIC Postpartum Visit	35.89	20.25	31.31	19.82

MO DHSS: WIC Linked Prenatal – Postpartum MICA

Prenatal Health Measures – Other

In 2017, Lincoln County performed slightly better than the state on several other prenatal health measures, including mother’s educational status and timing and adequacy of prenatal care. Overall, fewer Lincoln County mothers are receiving other assistance, such as food stamps, unless looking specifically at the WIC population, where the rate is higher than the state.

	Lincoln County Rate – 2017	Missouri Rate - 2017
Education Status: Less Than 12 Years	8.60	12.04
Prenatal Care: Began First Trimester	73.58	72.46
Mother on Food Stamps	21.05	27.44

MO DHSS: Pregnancy MICA

Infant and Child Health Indicators – WIC

In Lincoln County, 16.5% (489 out of 2,958) of children aged 1 to 4 and 42.6% (317 out of 744) of infants under 1 year of age were enrolled in the WIC program in 2016. Nutrition and immunizations are areas for improvement among Lincoln County WIC participants. In Infants, fewer infants are breastfed as compared to state rates. In Children, while Lincoln County shows lower rates in sweetened beverage consumption, fruit and vegetable consumption is much lower amongst WIC children. Additionally, they are participating in less than 60 minutes of physical activity daily. Immunization rates for both WIC Infants and Children are low.

	Lincoln County Crude Rate per 100	Missouri Crude Rate per 100
Infant – Immunizations not up to date	44.76	19.48
Child – Immunizations not up to date	33.95	25.10
Infants – Not currently breastfed	64.35	51.06
Infants – Never breastfed	33.02	27.03
Child – Daily vegetable consumption – less than two times	57.53	27.67
Child – Daily fruit consumption – less than two times	39.75	16.68
Child – Daily active play/exercise – less than 60 minutes	38.97	30.67

MO DHSS: WIC Infant MICA and WIC Child MICA

Other Childhood Health Indicators

	Lincoln County	Missouri
% Living in Single-Parent Households (1)	32.0	33.0
% Receiving Free/Reduced Lunch (2)	37.80	48.97
Females Age 10 to 14 Reporting Pregnancies – Crude Rate per 1,000 (3)	0.52*	0.21
Females Age 15 to 19 Reporting Pregnancies – Crude Rate per 1,000 (3)	23.23	26.17

An asterisk (*) indicates the rate is unreliable due to a numerator less than 20.

(1) County Health Rankings: American Community Survey, 5-year estimates. 2013-2017.

(2) For children enrolled according to the MO Dept. Of Elementary and Secondary Education.

(3) MO DHSS: Fertility and Pregnancy Rate MICA. 2017.

Immunization Rates

Lincoln County has a high vaccination rate for school age children. Percentages are based on students enrolled in public schools who are considered fully immunized. The Healthy People 2020 goal for all of these vaccines is a 95.0% vaccination rate.

	Lincoln County Kindergarteners	Missouri Kindergarteners	Lincoln County 8 th Graders	Missouri 8 th Graders
DTAP/DT/TD/TDAP	97.6%	95.72%	99.46%	97.87%
Hepatitis B	97.74%	96.88%	99.19%	98.46%
MMR	97.32%	95.78%	99.32%	98.47%
Polio	97.74%	96.03%	99.46%	98.52%
Varicella	97.03%	95.18%	98.24%	96.75%

Lincoln County Public Health Fund, Inc.: "Immunizations Lincoln Missouri School K 8 Coverage Summary." 2016.

Human Papillomavirus (HPV) Immunization Rates

HPV vaccine prevents infection with human papillomavirus (HPV) types, which are associated with many cancers. As of August 2018, the estimated HPV vaccine coverage among Lincoln County adolescents aged 13-17 years old was **60.31%**. This is **lower** than the Healthy People 2020 target for HPV vaccination rates of 80%.

This was reported by the Missouri Department of Health and Senior Services, and is based on those whose vaccine history was reported to the state immunization registry. This includes only those individuals with 1 HPV dose reported. The CDC recommends a two to three dose series (depending on age) of the HPV vaccine to be considered fully immunized.

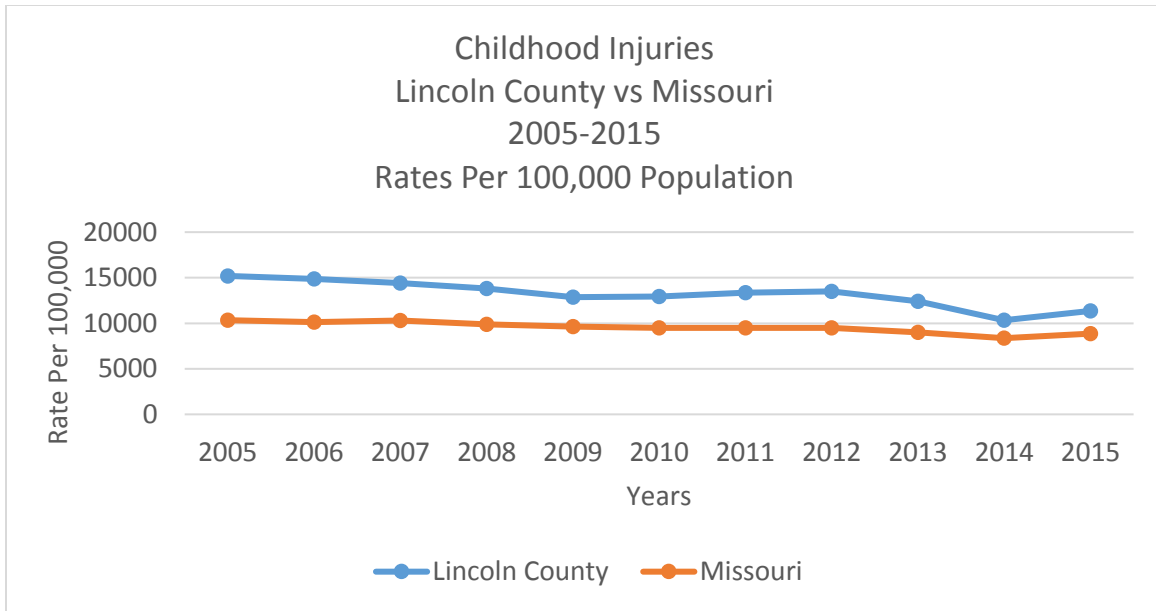
Childhood Injuries:

Lincoln County continues to show **higher** rates compared to the rest of the state on childhood injuries. Categories for which Lincoln County is statistically significantly higher than the state are shown below. The most recent year of data available is 2015.

	Lincoln County Rate per 100,000	Missouri Rate per 100,000
Fall/Jump	3941.78	2900.10
Struck By/Against	2524.80	1932.97
All Other*	1867.83	1539.54
Cut/Pierce	785.78	629.95
Motor Vehicle – Non Traffic	676.28	363.34
Over Exertion	631.20	485.18

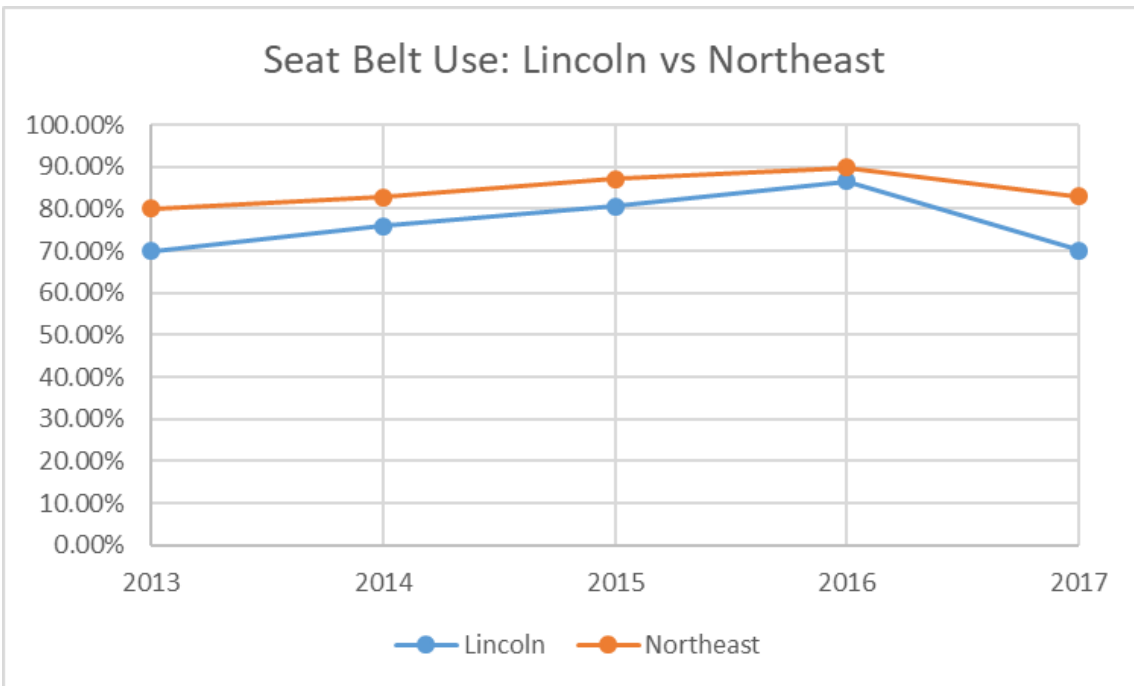
Injury MICA

**"All Other" includes sprain/strains, hand and eye injuries, nerve injuries, contusions, crushing, traumatic amputations, complications from injuries (embolism, hemorrhage, infection), and other injuries*



MO DHSS: Injury MICA

The table below shows results from Missouri’s 2017 annual state-wide seat belt use observational survey. Yearly percentages are included for Lincoln County as compared to the Northeast District for the Missouri Department of Transportation, of which Lincoln County is a part.



MODOT: Missouri Seat Belt Usage Survey for 2017

Child Abuse/Neglect & Parenting

Child Abuse

The following data were collect on child abuse and parenting in Lincoln County from Missouri Kids Count 2018. Those trending negatively are in bold.

Category	County Rate	State Rate
Child abuse/neglect & family assessments (per 1,000)		
2012	5.6	N/A
2016	4.3	4.2
Children entering/re-entering state custody (per 1,000)		
2012	4.8	N/A
2016	4.4	N/A
Child deaths, ages 15-17 (per 100,000)		
2007-2011	23.4	N/A
2012-2016	30.5	N/A

Missouri Kids Count - 2018

Neglect and Parenting

Category	County Rate	State Rate
Single parent head of household with children under 18		
2007-2011	9.3%	N/A
2012-2016	9.0%	N/A
Unrestrained automobile fatalities for children under 18		
2007-2011	57.1%	N/A
2012-2016	57.1%	N/A
Substance abuse hospitalization ages 1-19 (per 100,000)		
2006-2010	15.1	N/A
2011-2015	19.1	N/A
Mental/behavioral hospitalizations (not substance abuse) ages 1-19 (per 10,000)		
2006-2010	105.9	N/A
2011-2015	125.1	N/A

Missouri Kids Count – 2018

Childhood Chronic Disease – Emergency Room Visits

Emergency room visits due to chronic disease by Lincoln County children under the age of 19 are listed in the table below. This includes visits to hospitals both within and outside of Lincoln County.

Childhood Chronic Disease Emergency Room Visits: Disease Indicator	Lincoln County Rate per 100,000	Missouri Rate per 100,000
Asthma	905	972
Epilepsy/ Convulsions	218	322
Diseases of the Heart	327	311
Non-Traumatic Joint Disorders	289	278
Chronic Obstructive Pulmonary Disease	128	218
Alcohol and Substance-Related Mental Disorder	135	104
Diabetes	39*	46
Other Cardiovascular and Circulatory Diseases	77*	37
Sickle Cell Anemia	X	27
Hypertension	X	7.0
Liver Disease	32*	5.0
Cancer	32*	4.0

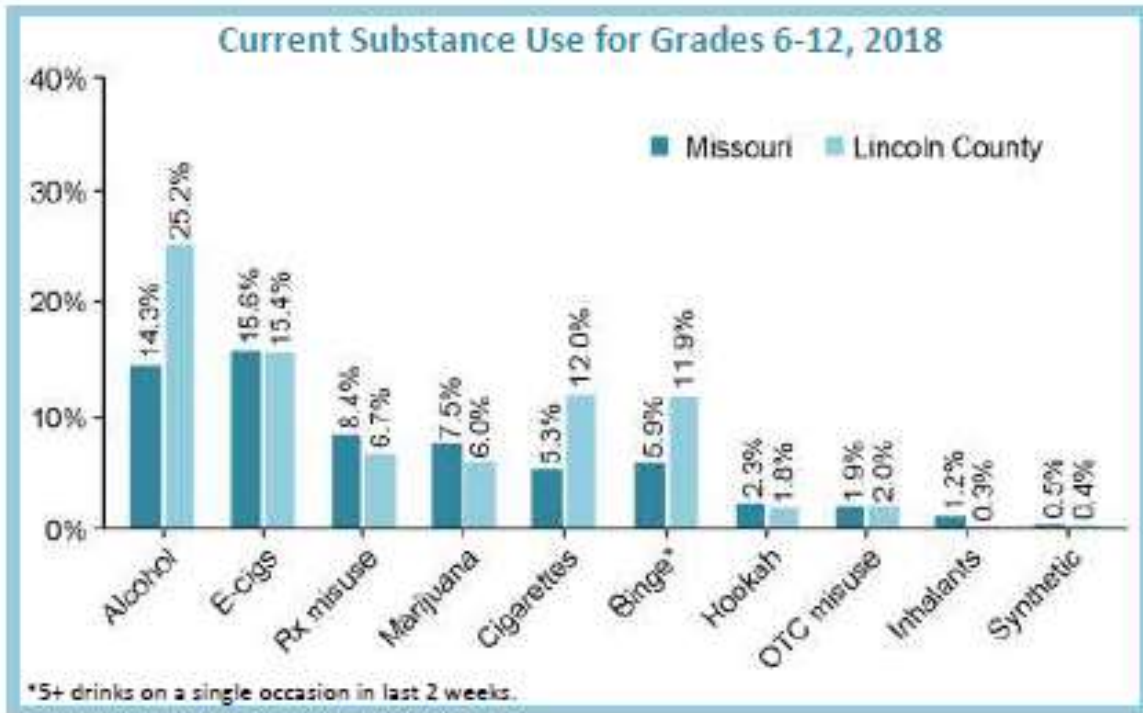
An (X) denotes data suppression for privacy concerns. An asterisk (*) notes that a rate may be unreliable because the actual count was less than 20.

MO DHSS: Chronic Disease Emergency Room Visits MICA

Alcohol, Substance Use and Mental Health

The following data for youth alcohol and substance use was obtained from the Missouri Department of Mental Health. Their Lincoln County Behavioral Health Profile 2018 was based on the findings of the National Survey on Drug Use and Health (NSDUH) annual data collection survey https://nsduhweb.rti.org/respweb/about_nsduh.html which is sponsored by Substance Abuse and Mental Health Services Administration (SAMHSA).

NSDUH performs a Missouri Student Survey every two years. In 2018, survey samples were completed on 6th through 12th graders at participating schools, including those in Lincoln County and were compared to state averages. Lincoln County scored **significantly higher** than state in the categories of **Alcohol Use, Binge Drinking and Tobacco Use**.



DMH – Behavioral Health Profile, Lincoln County, 2018

Lincoln County Youth’s views on alcohol use:

- **11.8 years is the average age of first alcohol use**
- **57.2%** believe it would be easy to get alcohol
- **50.4%** have at least one friend that uses alcohol
- **43.6%** believe one or two drinks of alcohol nearly every day presents only “slight” or “no risk” of harm
- **30.2%** believe there is “slight” or “no risk” of harm in binge drinking once or twice a week
- **25.2%** have used alcohol in the past 30 days

Lincoln County Youth’s views on tobacco and e-cigarettes/vaping:

- **13.3 is the average age of first cigarette use**
- **15.4%** have used an e-cigarette (*increase from 5.7% in 2016*)
- **43%** believe there would be “no” or “slight risk” if they smoke e-cigarettes
- **48.1%** believe it would be easy to get cigarettes; **44.0%** believe it would be easy to get e-cigarettes
- **Almost 50%** can obtain cigarettes and e-cigarettes from friends, and many also list family as a source
- **14.0%** report being able to purchase e-cigarettes

Lincoln County Youth’s views on misusing prescription medications:

- **10 is the average age for first misuse of over-the counter and prescription drugs**
- **26.8%** of youth believe it would be easy to get prescription drugs that were not prescribed to them
- **46.2%** report that over-the-counter drugs are easily available; **23.3%** report the same for synthetic drugs
- **11.6%** youth believe there is “slight” or “no risk at all” of harm when misusing prescription drugs
- Most youth **get prescription drugs from a friend or family member** with pain medication being the most commonly misused prescription medication
- Reasons for misuse reported by youth include to fit in with friends, have a good time, feel better or happier, or help with stress reduction

Lincoln County Youth’s views on mental health issues:

- **16.1%** have performed self-injury
- Many have been a victim of bullying:
 - Rumor spreading: **21.0%**
 - Online/cell phone: **29.0%**
 - Emotional: **64.6%**
 - Physical: **27.0%**
 - Rumor spreading: **54.0%**
- **Symptoms of depression among Lincoln County students have been increasing since 2010.**

During FY 2017-2018, LCHD completed a Community Health Needs Assessment for the maternal and child health (MCH) population in Lincoln County, the results of which are also reflected in this community-wide assessment. The MCH assessment was used to develop a three-year work for the period of 2018 to 2021, as part of LCHD’s required activities as a contractor under the Maternal and Child Health Services Block Grant. Based on the findings, LCHD will focus its grant activities in the 2018-2021 MCH work plan on the following:

- **Selected Priority Health Issue: Prevent and reduce the impact of toxic stress on and build resilience in adolescents to prevent and reduce intentional and unintentional injury related to substance use, self-harm, and motor vehicle accidents.**
- **Goal: Lower death and injury rates in children and adolescents.**

The MCH assessment can be found on LCHD’s website, lchdmo.org.

The Maternal and Child Health assessment and subsequent work plan was/is funded in part by the Missouri Department of Health and Senior Services Maternal and Child Health Services Contract # AOC19380183, and is/was supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant # B04MC32553, Maternal and Child Health Services for \$ 12,202,566, of which \$0 is from non-governmental sources. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.

Neonatal Abstinence Syndrome

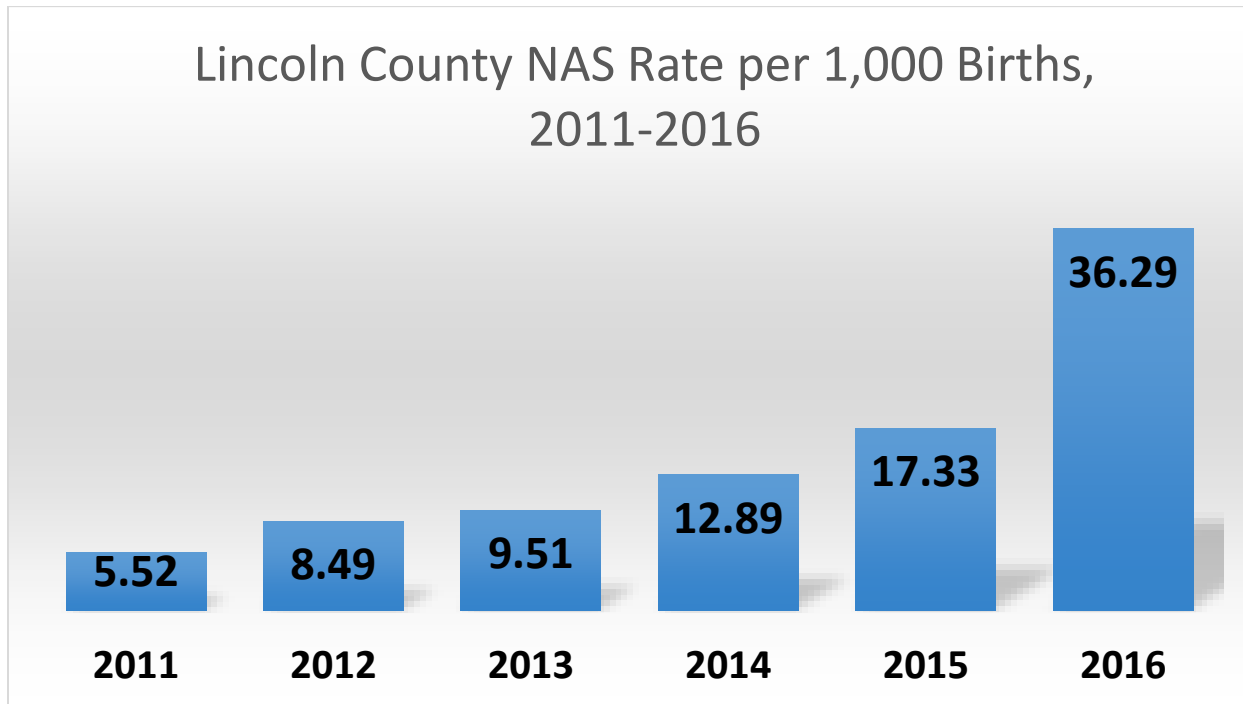
Neonatal Abstinence Syndrome (NAS) is a group of conditions caused when a baby suffers withdrawal from certain drugs they are exposed to before birth. Children with NAS have increased hospital stays, negative health outcomes, and higher treatment costs. **Lincoln County has seen a more than 500% increase in children born with NAS since 2011.** This increase is in line with state trends.

Neonatal Abstinence Syndrome (NAS) Births and Discharges Under Age 1
Rates per 1,000 live births

	2011		2012		2013		2014		2015		2016	
	Discharges	Births	Discharges	Births	Discharges	Births	Discharges	Births	Discharges	Births	Discharges	Births
Lincoln County	5.52	5.52	8.49	8.49	9.51	9.51	14.33	12.89	17.33	16.00	37.63	36.29*
Missouri	6.69	6.06	7.49	6.82	8.63	7.74	9.39	8.59	14.39	13.13	31.37	29.13*

*2016 Birth NAS birth counts are provisional and subject to change.

Data request from MODHSS, 4/4/2019. NAS cases are identified in the PAS system using ICD-9-CM codes 779.5 and 760.72 for years 2011-2015. For years 2015-current, ICD-10-CM codes P96.1, P96.2, P04.4, and P04.49 are used. ICD-10 definitional changes in the second half of 2015 may be partially responsible for 2015 rate increases. Birth counts are based upon year of birth, while discharges are based upon year of discharge. NAS births are de-duplicated counts of infants who were diagnosed with NAS within the first year of life. Infants with NAS could be discharged more than once, but, in this category, each child is counted only once. Annual birth counts may fluctuate as more hospitalization data is provided to DHSS.






Missouri Department of Health and Senior Services 2019

Prioritized Significant Community Health Needs

Prevalence of health issues in Lincoln County were included in this assessment as were economic and social conditions that influence the health of people and communities, known as social determinants of health. Upon tallying the negative health issues appearing mostly through data or surveys, below are the top Health Priorities identified in Lincoln County.

Health Priority	Health	Social Determinant of Health
Access to Care Providers (PCP, Dental, Mental)		X
Asthma & Lung Disease/Pneumonia & Influenza	X	
Behavioral Health (Mental Health, Substance Use/Alcohol)	X	
Heart Disease & High Blood Pressure	X	
Health Insurance		X
Injuries & Poisonings	X	
Obesity	X	
Tobacco Use/E-cigs		X
Transportation & Commuting		X

The table below organizes health needs by level of priority according to the information presented in this report as it pertains to Lincoln County.

Lesser Concern Meaning rates were better than both state and U.S. rates 	Moderate Concern Meaning rates were better than state or U.S. rates 	Significant Concern Meaning rates were worse than both state and U.S. rates 
Poverty Preventable Hospitalizations Screening Utilization Sexually Transmitted Infections Unemployment Uninsured Rates Violence	Cancer Prevalence Child Abuse/Neglect Diabetes Mellitus Housing Stress Kidney Disease Poor Nutrition Physical Environment Air/Water Quality Physical Inactivity	Access to Care Providers (PCP, Dentists, Mental Health) & Insurance Behavioral Health Mental Health Substance Use Chronic Disease: Asthma/COPD/Lung Heart Disease & High Blood Pressure Death from Unintentional Injuries, Poisonings, Accidents, Suicides Obesity Maternal, Child & Infant Health Physical Environment Transportation Tobacco Use/E-cigs

Significant Community Health Needs Not Being Addressed and Why – Mercy

Mercy Hospital Lincoln (MHL) will continue to support, collaborate and partner with community agencies to address these additional top community needs, but not as part of our Community Health Improvement Plan.

- **Healthy Lifestyles: Heart Disease, High Blood Pressure, Obesity/Poor Nutrition/Physical Inactivity**

Mercy has prioritized improving healthy lifestyles among its 10,000+ co-workers in the East Community through the Healthification program. This is a robust initiative that provides comprehensive health evaluation, screening, education and incentives to increase healthy behaviors and improve health among Mercy co-workers. Mercy Clinic offers a variety of programs and services out in the community, such as nutrition and heart healthy education classes and screenings.

- **Accidental Injuries/Violence: Domestic, Elderly, Child Abuse, and Trafficking**

MHL works closely with domestic violence, sex trafficking and family services agencies, such as Bridgeway Behavioral Health Women’s Shelter, Lincoln County Resource Board, Turning Point and local law enforcement to insure patients are given safe choices while in a hospital setting. Mercy provides safety awareness and educational campaigns along with a safety screening/referral question which cues up in each patient’s Mercy’s Electronic Medical Record (EMR).

- **Asthma & Lung Disease/Pneumonia & Influenza**

MHL will continue to donate unrestricted flu vaccine to Lincoln County Health Department in an effort to reach and protect more in our community. Community cancer screenings and education continue to be offered regionally. Efforts to address tobacco cessation will continue through Mercy’s Certified Health and Wellness Coach/Mercy Road to Freedom program through Mercy’s Cardiopulmonary Rehab area. Additionally, Mercy will continue to advocate around measures that promote tobacco cessation and raising the age to purchase tobacco products.

Additional Needs Not Being Addressed and Why

- **Physical Environment: Air/Water Quality & Housing**

MHL has chosen not to directly address Air/Water quality and Housing issues, but will continue to support industry, government, non-governmental organizations and the public in addressing these. Other Physical Environment issues, such as Transportation, Homelessness/Housing will be supported and addressed through community coalition work.

- **Maternal, Child & Infant Health**

MHL has limited Pediatric provider services, but will continue to support the efforts of Lincoln County Health Department and other Maternal, Child & Infant healthcare providers as appropriate.

Potentially Available Resources

Lincoln County is a rural community that has many valuable resources, services, organizations, and coalitions. Located 55 miles northwest of St. Louis, additional resources are accessible when needed, such as those provided by larger medical facilities and social service agencies.

Lincoln County Health Department and Mercy Hospital Lincoln have many of the same health initiatives for the upcoming CHIP and plan to work closely on these. Collaboration with other community health and social service providers is key to improving the health of those residing in Lincoln County. Future efforts with community partners will focus on coordinated planning, funding, and identifying common goals in order to achieve positive outcomes.

Lincoln County Health Department and Mercy Hospital Lincoln will continue to communicate and forge partnerships with community health and social services agencies and coalitions, including:

- Lincoln County Healthy Communities Coalition
- Lincoln County Resource Board
- Lincoln County Senior Task Force
- Crider Health Center/Compass Health Network
- Preferred Family Healthcare/Bridgeway Behavioral Health

Evaluation of Impact – Mercy Hospital Lincoln

Mercy Hospital Lincoln’s most recent Community Health Improvement Plan (CHIP) – 2017-2019 – focused on the following health topics:

- Access to Care (Navigation, Transportation and Health Insurance Coverage)
- Mental Health
- Substance Use

The 2017-2019 Community Health Improvement Plan evaluation report for MHL can be found on the Mercy-wide website along with Community Health Needs Assessments, Community Benefit reports and CHIP reports, [Mercy Hospital Lincoln 2017-2019 CHIP](#).

Because other Mercy hospitals within Mercy East Community chose similar issues for the same time period, some of the outcomes data was reported collectively. Below are all the Mercy East hospitals and the counties they primarily serve:

<u>Hospitals</u>	<u>Primary Service Areas/Counties</u>
• Mercy Hospital Lincoln	Lincoln County
• Mercy Hospital Washington	Franklin County
• Mercy Hospital Jefferson	Jefferson County
• Mercy Hospital St. Louis	St. Louis City
	St. Louis County
	St. Charles County
	Warren County

Appendix

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A. Community Health Needs Survey – 2018, Lincoln County

236 completed surveys from Lincoln County	Count	Percent of Respondents
Please select the age range that best fits you.		
18 to 25 years old	20	8.30%
26 to 35 years old	58	24.07%
36 to 45 years old	48	19.92%
46 to 64 years old	98	40.66%
65 years and older	17	7.05%
Prefer not to answer	0	0.00%
What is your gender identity?		
Female	186	78.81%
Male	50	21.19%
Prefer not to answer	0	0.00%
Please choose the race/ethnicity that best fits you. Select all that apply or you can simply choose “prefer not to answer.”		
White	224	92.95%
Black or African-American	6	2.49%
Prefer not to answer	4	1.66%
Other	3	1.24%
Native Hawaiian or Other Pacific Islander	2	0.83%
American Indian/Alaska Native	1	0.41%
Asian	1	0.41%
Do you identify yourself as Hispanic or Latino?		
No	220	96.49%
Yes	4	1.75%
Prefer not to answer	4	1.75%
Please select the education level that best describes you.		
High school diploma or GED	72	29.88%
Some college	64	26.56%
Four-year degree	40	16.60%
Two-year degree or technical degree	30	12.45%
Graduate work	18	7.47%
Less than high school	14	5.81%
Prefer not to answer	3	1.24%
Last year, what was your total household income from all sources, before taxes?		
\$10,000 or less	21	9.29%
\$10,001 to \$20,000	23	10.18%
\$20,001 to \$30,000	27	11.95%
\$30,001 to \$40,000	22	9.73%
\$40,001 to \$50,000	25	11.06%
\$50,001 or above	108	47.79%
If you have children 21 years of age or younger, how old are they?		
I do not have children 21 or under	87	27.53%
0-4 years	59	18.67%
5-9 years	59	18.67%
10-14 years	45	14.24%
15-17 years	28	8.86%
18-21 years	38	12.03%
Are you currently or have you ever been without stable housing		
Yes, currently	6	2.51%

Yes, previously	15	6.28%
No	218	91.21%
What is your housing status?		
Own	159	66.25%
Rent	55	22.92%
Staying with friends/family	19	7.92%
Hotel/Motel	1	0.42%
Group Home	0	0.00%
Homeless-streets/car	0	0.00%
Homeless-shelter	1	0.42%
Homeless-transitional housing	0	0.00%
Assisted living	0	0.00%
Halfway House	0	0.00%
Nursing/Long-term care	0	0.00%
Other	5	2.08%
How would you rate your own health?		
Very healthy	33	13.81%
Healthy	185	77.41%
Unhealthy	18	7.53%
Very unhealthy	3	1.26%
Have you ever been told by a doctor, nurse, or other health professional that you have any of the following conditions?		
High blood pressure	72	20.87%
Overweight/obese	65	18.84%
Depression or anxiety disorder	62	17.97%
High cholesterol	50	14.49%
Asthma/COPD	35	10.14%
Diabetes (not during pregnancy)	25	7.25%
Other	12	3.48%
Cancer	8	2.32%
Heart disease	7	2.03%
Kidney disease	4	1.16%
Liver disease	3	0.87%
Osteoporosis	2	0.58%
Lung disease	0	0.00%
If you have children under the age of 21, have your children ever been diagnosed with any of the following?		
Asthma/COPD	18	38.30%
Depression or anxiety	14	29.79%
Mental health issues	6	12.77%
Other	4	8.51%
Overweight/obese	3	6.38%
Lung disease	1	2.13%
Substance abuse	1	2.13%
High blood pressure	0	0.00%
Diabetes (not during pregnancy)	0	0.00%
Osteoporosis	0	0.00%
Heart disease	0	0.00%
Liver disease	0	0.00%
Cancer	0	0.00%
High cholesterol	0	0.00%
Kidney disease	0	0.00%

Other: Cerebral Palsy		
Other: ADHD		
Where do you get most of your health-related information?		
Doctor/nurse	149	47.30%
Internet	60	19.05%
Friends and family	46	14.29%
Hospital	31	9.84%
School	10	3.17%
Social media	9	2.86%
Books/Magazines	6	1.90%
Church	3	0.95%
Help lines	2	0.63%
Where do you go most often when you are sick or need advice about your health?		
Doctor's office	194	76.68%
Urgent Care Center	34	13.44%
Medical Clinic	11	4.35%
Emergency Room	8	3.16%
Health Department	3	1.19%
Other	3	1.19%
Other: ??		
What are the TOP 5 most common health issues in your city?		
Alcohol/substance abuse	131	15.67%
Prescription Drug Misuse	101	12.08%
Smoking/Vaping	99	11.84%
Obesity	98	11.72%
Diabetes	78	9.33%
Anxiety/depression	76	9.09%
Motor Vehicle Accidents	43	5.14%
Suicide/Self-inflicted injury	35	4.19%
Alzheimer's/Dementia	34	4.07%
Stroke	34	4.07%
Abuse/Neglect	24	2.87%
Children's mental health	22	2.63%
Sexually Transmitted Infections	20	2.39%
Arthritis/Lupus	13	1.56%
Autism	13	1.56%
Other	8	0.96%
Schizophrenia and psychosis	7	0.84%
HIV/AIDS	3	0.36%
Pregnancy Complications	2	0.24%
Assaults/Homicides	2	0.24%
Birth defects	1	0.12%
Elevated lead	1	0.12%
Hepatitis A	1	0.12%
Infant health problems	0	0.00%
Burns	0	0.00%
Poisoning	0	0.00%
Tuberculosis	0	0.00%
Other: Cancer		
Other: Heart disease		

What are the TOP 5 social issues that have the greatest effect on quality of life in your city?		
Low income/poverty	53	14.17%
Affordability of health services	48	12.83%
Lack of health insurance	46	12.30%
Lack of job opportunities	37	9.89%
Lack of transportation	32	8.56%
Lack of recreational facilities	31	8.29%
Lack of health care providers	21	5.61%
Unemployment	20	5.35%
Lack of affordable housing	18	4.81%
Lack of sidewalks – unsafe roads	15	4.01%
Neglect and Abuse	14	3.74%
Availability of healthy food	12	3.21%
Homelessness	12	3.21%
Availability of childcare	7	1.87%
Other	3	0.80%
Violent Crime	3	0.80%
Pollution	2	0.53%
Other: Safe/healthy and affordable housing		
Other: Psychiatrist		
Other: Substance abuse		
What are the TOP 5 risk behaviors that impact health in your city?		
Alcohol/drug abuse	181	20.59%
Smoking/Vaping	98	11.15%
Lack of exercise	86	9.78%
Poor eating habits	85	9.67%
Untreated mental health issues	71	8.08%
Reckless/drunken driving	56	6.37%
Not going to dentist for check-ups	52	5.92%
Not going to doctor for annual check-up	47	5.35%
Unsafe sex	45	5.12%
Not wearing seat belts	42	4.78%
Abuse or neglect	30	3.41%
Teen pregnancy under age 18	18	2.05%
Homelessness	16	1.82%
Lack of prenatal care	16	1.82%
Not getting recommended vaccinations	14	1.59%
Smoking during pregnancy	11	1.25%
Not using car seats	8	0.91%
Other	3	0.34%
Other:		
Are you exposed to secondhand smoke in any of the following places?		
I am not exposed	139	61.78%
Restaurants/businesses	49	21.78%
Other	8	3.56%
Home	20	8.89%
Workplace	7	3.11%
School	2	0.89%
Other: Family		
Other: Bars		
Other: Public park		

Other: Stores		
Other: In-law's home		
Do you currently smoke or use tobacco products including vaping?		
No	185	82.22%
Yes, tobacco products	30	13.33%
Yes, vaping	8	3.56%
Both (tobacco & vaping)	2	0.89%
In a normal week how many times do you exercise at least 30 minutes?		
2-3	85	36.80%
0-1	84	36.36%
4-5	41	17.75%
6+	21	9.09%
Where do you go to engage in exercise or physical activity?		
Home	188	63.51%
Park	49	16.55%
Private gym	27	9.12%
Other	21	7.09%
Public Recreation Center	9	3.04%
YMCA	1	0.34%
Schools	1	0.34%
Other: Neighborhood		
Other: Work	10	
Other: Farm work		
Other: Public gym		
How many hours per day do you watch TV, play video games, or use the computer or a smart device for recreation?		
0-1 hour	64	27.71%
2-3 hours	115	49.78%
4-5 hours	34	14.72%
6+ hours	18	7.79%
What barriers prevent you from eating healthy foods?		
Does not apply	90	35.43%
Healthy options cost too much.	87	34.25%
I don't have the time	51	20.08%
I don't like or want to eat healthy	9	3.54%
I don't cook or know how	5	1.97%
I don't have access to fresh fruits or vegetables	5	1.97%
Other:	4	1.57%
I don't know what's healthy	3	1.18%
Other: Picky eaters in family		
Other: I love to cook/not always healthy		
Other: Financial reasons		
Other: I make bad choices		
Where do you obtain most of your meals?		
Grocery store	217	79.49%
Fast food	13	4.76%
Farmers market	9	3.30%
Restaurants	19	6.96%
Convenience store/gas station	1	0.37%
Other: Food pantry		
Other: Home garden		
Other: Senior center		

Other: Work		
How has opioid/prescription drug dependence affected you?		
It hasn't affected me	127	56.19%
Family member does/has struggled with opioids/prescription drugs	39	17.26%
It has impacted my community	29	12.83%
Friend/Other does/has struggled with opioids/prescription drugs	24	10.62%
I do/have struggled with opioids/prescription drugs	7	3.10%
Comments on how it's impacted community:		
- Overdoses/deaths		
- Read about it often: Addiction, violence, crime and death		
- Foster parent		
- "Highest drug abuse in all counties in MO. Crime rate of county increased. Generations of families are perpetuated by use of drugs."		
- It's talked about at church		
- Biological parents of adopted children struggled with addiction		
- Meth is a big drug used in my area.		
- More and more parents on pain meds, not caring for themselves or their children		
- High use of opioids		
- Overuse of ER to obtain more drugs		
What barriers prevent you from using health services?		
Does not apply	87	35.22%
Cost	66	26.72%
Lack of insurance	29	11.74%
Insurance doesn't cover services	20	8.10%
Lack of providers	15	6.07%
Location of services	13	5.26%
Transportation	9	3.64%
Other	8	3.24%
Lack of providers – If so, what kind?		
- Geriatric		
- Mental health		
- Orthopedic, cardiac, pulmonary, OB & more than anything a mental health facility		
- Pulmonary/sleep physicians		
- OB/GYN, ENT		
- Psychiatrists, counselors, pediatric services		
- Orthopedic, dermatology		
- OB/GYN		
- Psychiatry, neurology, pain management, social workers/counselors, ENT, OB/GYN, endocrinology, nephrology, child/peds specialist, oncology		
Other:		
- Lack of time		
- Getting an appointment to see a specialty doctor takes 3 months or more		
- Cost and location of services		
- Insurance doesn't cover services, cost		
What services are needed in your community that are not currently available or accessible?		
Healthy cooking classes	66	13.25%
Mental health services	56	11.24%
Aging resources	27	5.42%
Substance abuse treatment	43	8.63%
Physical activity classes	54	10.84%

Adult dental services	48	9.64%
Wellness lab screenings (diabetes, cholesterol, etc.)	29	5.82%
Chronic disease management classes	23	4.62%
Specialty (what kind?)	12	2.41%
Child dental services	33	6.63%
Well-woman screenings	47	9.44%
Smoke-free places	35	7.03%
Immunizations	12	2.41%
Other	7	1.41%
Lead testing	6	1.20%
What kind of Specialty?		
- OB services in Troy		
- Children's health		
- Orthopedic, ENT, Rheumatology, Women's health/gyno		
- OB/GYN		
- Higher level of Emergency Dept		
- Wound Care Center		
- Cancer		
- Hospital with expanded services in Lincoln Co.		
Other		
- Sex Education for high school		

B. Social Determinant of Health Questionnaire – Mercy Hospital Lincoln, Urgent Care Center

Question	Responses
1.	26 of 121 responded they had no Primary Care Provider
2.	4 of 16 responded their visit to the Urgent Care Center was for an urgent need
3.	78 of 121 responded they had received healthcare services in the past year
4.	2 of 121 responded they had trouble filling or taking medications as prescribed
5.	6 of 121 responded their personal lifestyle behaviors causes mild concern of potential impact on their well-being
6.	3 of 121 responded they have little understanding of their health and well-being which impacts their ability to undertake better management.
7.	29 of 121 live in households with 5-9 members
8.	116 of 121 responded they have housing today
9.	64 of 121 responded they some financial resource challenges including the ability to afford all required medical care
10.	96 of 121 responded they have a high school diploma or above
11.	15 of 121 responded they were unable to get food this past year
12.	21 of 121 responded they were unable to get clothing this past year
13.	13 of 121 responded they were unable to get utilities this past year
14.	18 of 121 responded they were unable to get child care this past year
15.	25 of 121 responded they were unable to get medicine or health care this past year
16.	5 of 121 responded they see or talk to people they care about and feel close to less than once a week
17.	79 of 121 responded they experience some level of stress (tense, nervous, anxious or can't sleep at night because their mind is troubled)
18.	2 of 121 responded they do not feel physically and emotionally safe where they live
19.	3 of 121 responded they have been afraid of their partner in the past year; 3 responded they were unsure
20.	0 of 121 responded that they wanted a social worker to call them for follow up

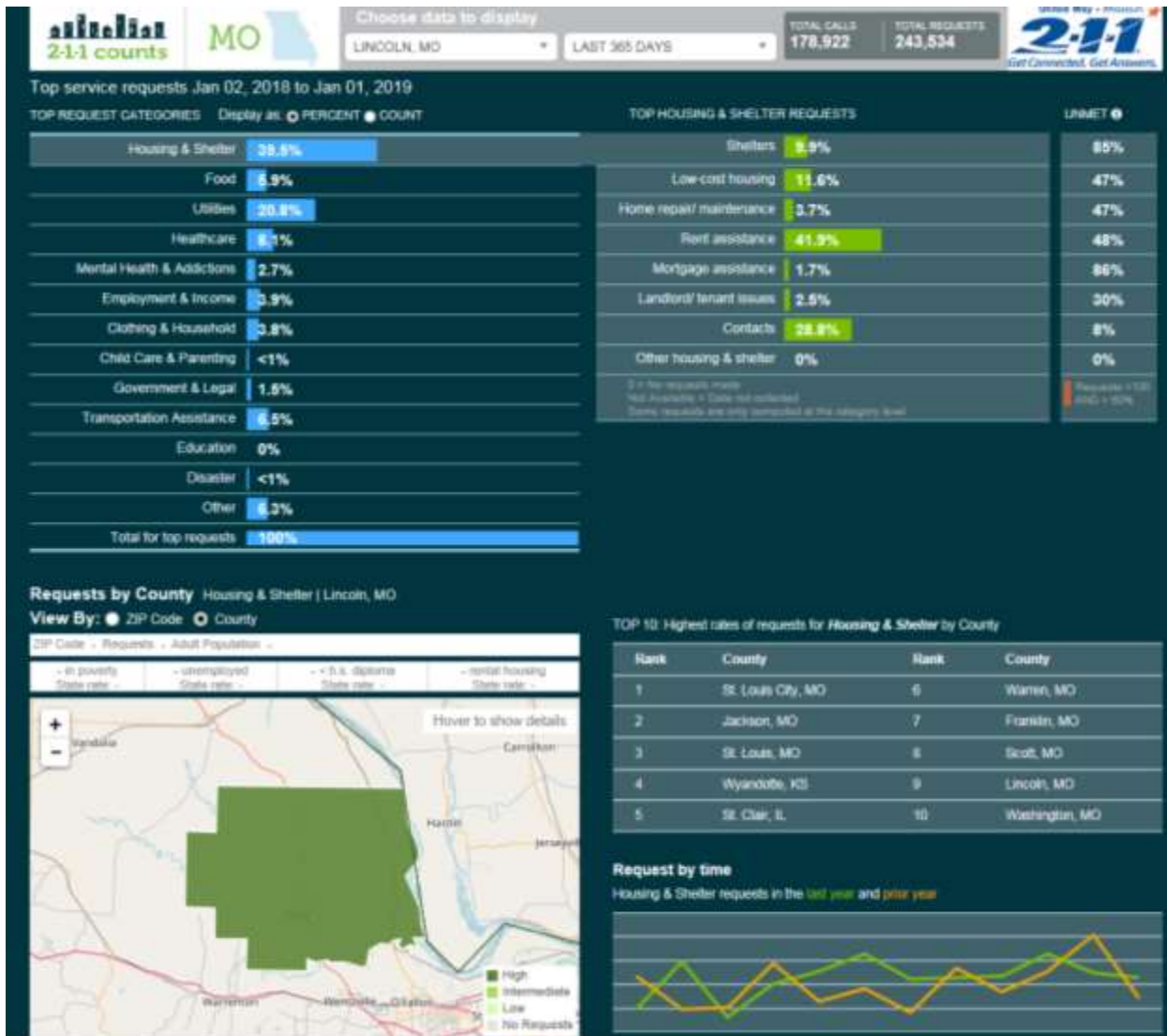
C. County Health Rankings 2019 – Lincoln County by the Numbers

	Lincoln County	Missouri	Top U.S. Performers*	Rank (of 115)
HEALTH OUTCOMES				39
Length of Life				54
Premature death	8,600	8,200	5,400	
Quality of Life				21
Poor or fair health**	16%	19%	12%	
Poor physical health days**	4.3	4.2	3.0	
Poor mental health days**	4.2	4.4	3.1	
Low birth weight	7%	8%	6%	
HEALTH FACTORS				62
Health Behaviors				64
Adult smoking**	22%	22%	14%	
Adult obesity	33%	32%	26%	
Food environment index (scale of 1-10)	8.2	6.8	8.7	
Physical inactivity	28%	25%	19%	
Access to exercise opportunities	37%	76%	91%	
Excessive drinking**	20%	19%	13%	
Alcohol-impaired driving deaths	29%	29%	13%	
Sexually transmitted infections (per 100,000)	340.1	507.0	152.8	
Teen births (per 1,000 female population)	27	28	14	
Clinical Care				51
Uninsured	10%	11%	6%	
Primary care physicians	13,820:1	1,420:1	1,050:1	
Dentists	7,020:1	1,760:1	1,260:1	
Mental health providers	1,480:1	550:1	310:1	
Preventable hospital stays (per 100,000 Med)	4,941	4,743	2,765	
Mammography screening	36%	43%	49%	
Flu vaccinations	43%	44%	52%	
Social & Economic Factors				38
High school graduation	95%	88%	96%	
Some college	55%	66%	73%	
Unemployment	3.6%	3.8%	2.9%	
Children in poverty	14%	19%	11%	
Income inequality	4.0	4.6	3.7	
Children in single-parent households	32%	33%	20%	

Social associations (per 10,000)	7.6	11.6	21.9	
Violent crime (per 100,000)	285	481	63	
Injury deaths (per 100,000)	95	83	57	
Physical Environment				115
Air pollution – particulate matter**	10.9	9.7	6.1	
Drinking water violations	Yes			
Severe housing problems	14%	14%	9%	
Driving alone to work	87%	82%	72%	
Long commute – driving alone (>30 minutes)	55%	32%	15%	

****Should not be compared to other years**

D. United Way 2-1-1 Counts



E. Community Health Council – Mercy Hospital Lincoln

January 21, 2019

The local Community Health Council is accountable for ensuring Community Benefit meets mission, compliance and IRS guidelines.

Leadership

LEADERS

Mercy Hospital Lincoln: Tony Rothermich, Administrator

MEMBERS

Board Member – Don Kalicak, VP Business

Development & Planning

Care Management – Barb Rapp, Social Worker

Emergency Department – Dustin Gibbs, Manager

Finance – Mark Thorn, Executive Director

Human Resources – Mary Kay Kunza, Manager

Integrated Marketing – Ashley Rottler, Community

Engagement Manager

Mercy Clinic – OPEN

Mercy Clinic Physician Liaison – Bradley Massey, DO

Mercy Neighborhood Ministry – Sharon

Neumeister, Reg. Director of Community

Health & Access, Cheryl Schorr, Community

Health & Access Manager

Mission Services – Bridget Lozano, Director

Nursing – Jacob Kliethermes, Executive Director

Philanthropy – Rachel Covington, Executive Director, Foundation

Urgent Care Center – Hannah Curtis, NP, Supervisor

Responsibilities

1. Completes:
 - a. Community Health Needs Assessment every three years
 - b. Annual written Community Health Implementation Plan
 - c. Annual community impact plan
2. Develops & manages a Community Benefit budget
 - a. Annual Community Benefit amount falls between 5-8%
3. Assures Community Benefit activities:
 - a. Meet a prioritized community health need
 - b. Make a measurable impact on a community health indicator
 - c. Involve collaboration/partnership with key community stakeholders and advocacy with key legislators
 - d. Connect programs to service line and community master planning strategies
 - e. Develop innovative programs/medical management of charity & Medicaid populations
4. Reports:
 - a. Community Benefit activities accurately and thoroughly
 - b. Information for 990H/990, especially narrative questions
 - c. Community Benefit activities quarterly to local boards and ministry oversight group

To comply with IRS guidelines, the following timeline will guide Community Benefit program development and reporting:

1. Community Health Needs Assessments completed (including posting) – **4/30/2019**
2. Community Health Implementation Plans written and approved by local boards – **6/01/2019**

F. Community Health Needs Assessment Steering Committee – Lincoln County Health Department

MEMBERS

Margie Beckmann – Director of Community Services

Jennifer Harris, MPH – Director of Programs

Amanda Ingram – Environmental Public Health Specialist

Molly Meyer, RN – Public Health Nurse

Ellen Sullivan, RN – Director of Clinical Services (*retired*)

Sarah Valenza, CHES – Public Health Educator, Maternal & Child Health Program Manager

Donna Walton, RN – Communicable Disease Program Manager

Genevieve Weseman, MPH – Emergency Planner & Surveillance Specialist

INTERNS

Erica Bast, MPH Candidate – 2017

Samuel Governor, MD, MPH Candidate – 2018

The Community Health Needs Assessment (CHNA) Steering Committee at Lincoln County Health Department convened in 2017. The committee initially worked with an intern, reviewing compiled data for accuracy and relevancy to the overall CHNA, and helping to complete further analysis and identify top priorities areas. This process continued into 2018, and working with a second intern, reviewed updates of information and compilation in conjunction with a CHNA process completed specifically for the Maternal & Child Health Block Grant contract for the Missouri Department of Health and Senior Services. In 2018, the Director of Programs and the Community Health & Access Manager for Mercy Hospital Lincoln began work on compilation of a joint CHNA.

The CHNA Steering Committee will develop the Community Health Improvement Plan for Lincoln County Health Department.

G. REFERENCES

Organization	Source	Title	URL
Agency for Healthcare Research and Quality	Prevention Quality Indicators		https://www.qualityindicators.ahrq.gov/modules/pqi_resources.aspx
Association for Psychological Science			https://www.psychologicalscience.org/news/motr/lengthy-commutes-take-a-mental-toll.html
Centers for Disease Control and Prevention	Behavioral Risk Factor Surveillance System		https://www.cdc.gov/brfss/index.html
Centers for Disease Control and Prevention	How You Can Prevent Chronic Diseases		https://www.cdc.gov/chronicdisease/about/prevent/index.htm
Centers for Disease Control and Prevention	National Suicide Statistics		https://www.cdc.gov/violenceprevention/suicide/statistics.html
Community Commons			https://www.communitycommons.org/board/HOME
County Health Rankings			http://www.countyhealthrankings.org/app/missouri/2019/rankings/lincoln/county/outcomes/overall/snapshot
Dartmouth College	Atlas of Health Care		https://www.dartmouthatlas.org/
Dignity Health	Community Need Index		http://cni.chw-interactive.org/index.asp
Environmental Protection Agency	Enforcement and Compliance History Online		https://echo.epa.gov/
Environmental Protection Agency	Toxic Release Inventory National Analysis	Lincoln County	https://iaspub.epa.gov/triexplorer/tri_factsheet.factsheet?&pYear=2017&pstate=MO&pcounty=Lincoln&pParent=NAT
Explore MO Health			www.exploreMOhealth.org
Health Resources & Services Administration	Area Health Resource File		https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml
Health Resources & Services Administration	HPSA Find		https://data.hrsa.gov/tools/shortage-area/hpsa-find
Healthy People 2020			https://www.healthypeople.gov/
Institute for Health Metrics and Evaluation	US Health Map		http://www.healthdata.org/data-visualization/us-health-map
Missouri Department of Elementary and Secondary Education	Missouri Comprehensive Data System		https://apps.dese.mo.gov/MCDS/home.aspx
Missouri Department of Elementary and Secondary Education	October 2018 Free and Reduced Lunch Enrollment		https://dese.mo.gov/sites/default/files/Oct18FreeRedEnrollIndBldgCEPFreeClaimPercent_0.pdf
Missouri Department of Health and Senior Services	Bureau of Communicable Disease		https://health.mo.gov/living/healthconditions/communicable/communicabledisease/index.php
Missouri Department of Health and Senior Services	ESSENCE		https://health.mo.gov/data/essence/
Missouri Department of Health and Senior Services	MOPHIMS	Population MICA	https://webapp01.dhss.mo.gov/MOPHIMS/MOPHIMSHome
Missouri Department of Health and Senior Services	MOPHIMS	Birth MICA	https://webapp01.dhss.mo.gov/MOPHIMS/MOPHIMSHome
Missouri Department of Health and Senior Services	MOPHIMS	Chronic Disease Emergency MICA	https://webapp01.dhss.mo.gov/MOPHIMS/MOPHIMSHome
Missouri Department of Health and Senior Services	MOPHIMS	Chronic Disease MICA	https://webapp01.dhss.mo.gov/MOPHIMS/MOPHIMSHome
Missouri Department of Health and Senior Services	MOPHIMS	Death MICA	https://webapp01.dhss.mo.gov/MOPHIMS/MOPHIMSHome
Missouri Department of Health and Senior Services	MOPHIMS	Fertility and Pregnancy Rate MICA	https://webapp01.dhss.mo.gov/MOPHIMS/MOPHIMSHome
Missouri Department of Health and Senior Services	MOPHIMS	Injury MICA	https://webapp01.dhss.mo.gov/MOPHIMS/MOPHIMSHome
Missouri Department of Health and Senior Services	MOPHIMS	Missouri Resident County-Level Study Profile	https://webapp01.dhss.mo.gov/MOPHIMS/MOPHIMSHome
Missouri Department of Health and Senior Services	MOPHIMS	WIC Linked Prenatal - Postpartum MICA	https://webapp01.dhss.mo.gov/MOPHIMS/MOPHIMSHome
Missouri Department of Mental Health	2018 Missouri Student Survey Lincoln County		https://dmh.mo.gov/docs/ada/mss2018-lincoln.pdf
Missouri Department of Mental Health	Behavioral Health Profile Lincoln County 2018		https://dmh.mo.gov/docs/ada/compprofile2018-lincoln.pdf
Missouri Department of Mental Health	Substance Use Treatment Data 2018		https://dmh.mo.gov/ada/countylinks/documents/substancetreatment-lincoln.pdf
Missouri Department of Transportation	Missouri Seat Belt Usage Survey for 2017		http://s3-us-west-2.amazonaws.com/modot-pdfs/Final_Report_2017_State-wide_info_only.pdf
Missouri Economic Research and Information Center			https://www.missourieconomy.org/indicators/cost_of_living/
Missouri Hospital Association			https://web.mhanet.com/
Missouri Kids Count			http://mokidscount.org/wp-content/uploads/2018/04/2018-MKC-Data-Book-County-Pages.pdf
National Low Income Housing Coalition			https://nlhc.org/oor/missouri
Sperling's Best Places			https://www.bestplaces.net/
Sts. Joachim and Ann Care Service			https://www.iacares.org/wp-content/uploads/2017/11/28269_SJA_CareSvs_WEB_FINAL-1.pdf
United States Census Bureau	American Community Survey		https://www.census.gov/programs-surveys/acs/
United States Census Bureau	American FactFinder		https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml
United States Department of Agriculture	Food and Nutrition Service	My Plate	https://www.fns.usda.gov/tn/myplate
United States Department of Health and Human Services		National Survey on Drug Use and Health	https://nsduhweb.rti.org/respweb/about_nsduh.html
United States Department of Housing and Urban Development	Continuum of Care Homeless Populations and Subpopulations Reports		https://www.hudexchange.info/programs/coc/coc-homeless-populations-and-subpopulations-reports/?filter_Year=2013&filter_Scope=CoC&filter_State=MO&filter_CoC=MO-503&program=CoC&group=PopSub

