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Trends in Health Status and Health System Indicators

St. Joseph County, Indiana. 2011-2023

This report tracks the health status and health system indicators over the past 10 years for St. Joseph County, Indiana. It is based on the reports of the *County Rankings and Roadmaps*, a collaborative program between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. The indicators in this report are designed to measure the progress of building a "Culture of Health."[i]

This is a 13-year look at the health of St. Joseph County residents as expressed in reports from 2011 through 2023.[ii] The aim of the layout of this report is to keep the view visual in nature in such a way as to simplify complex data and provide an at-a-glance view of current status and performance over time.

This report is composed of tables, charts, and numbers. It can be used by any organization with an interest in the local historical health record and changes over time, to express background conditions and input for environmental scans, to identify challenges and celebrate successes, and to compare this County with other geographic areas -counties, state, and nation.

The Big Picture

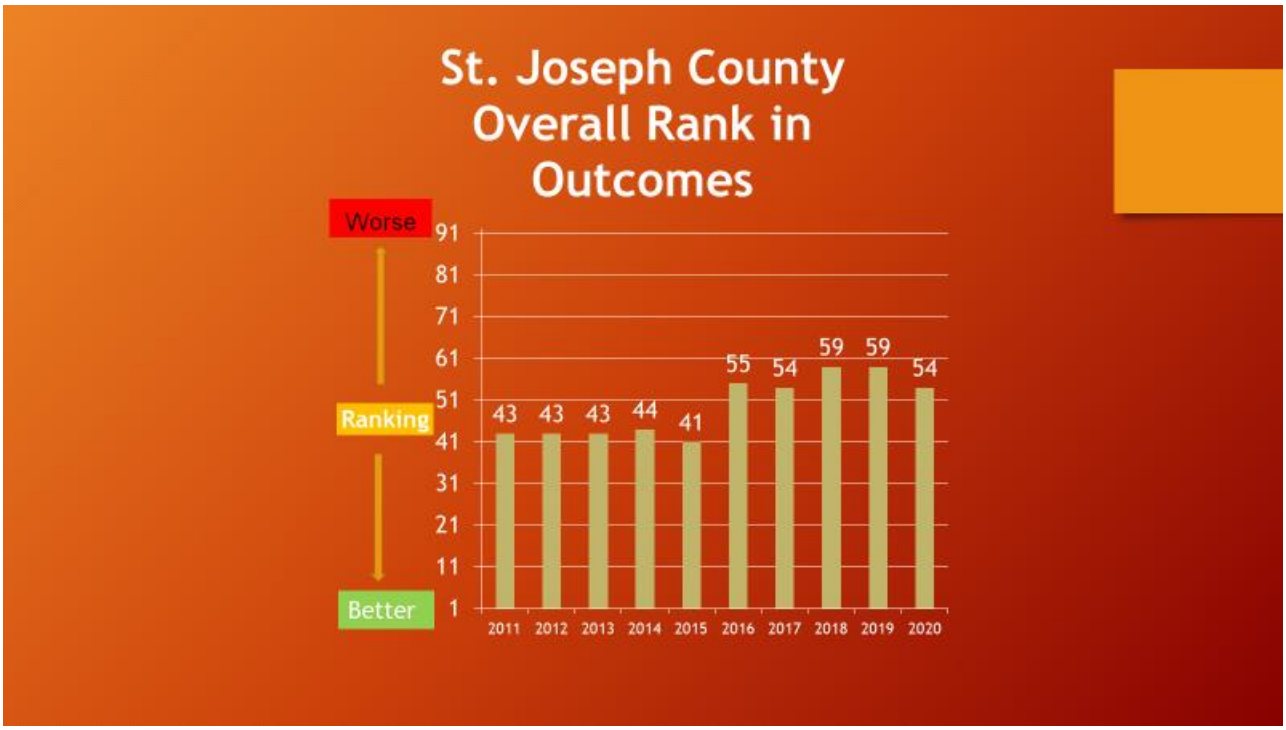
On the basis of health factors that mark the outcomes of the length and quality of life of county residents, out of 91 other counties in the State of Indiana over the past 10 years, St. Joseph County never ranked above the second quartile.

Over these years, the rankings of the County, or its relative position on health outcomes among the other 91 counties in the State, ranged from 41 to 59. However, the average ranking from 2011-2015 was 42.8, but from 2015 – 2022 it worsened to 56.2. This disparity was due in part to differences in methodology and statistical modeling beginning with the 2016 report, although the rankings remain as relative indicators.

A few cautionary remarks are appropriate. Rankings may not be useful for measuring changes over time. Improvements in ranking may be due to real improvements in health or declines in the health in other counties. Conversely, declines in ranking may be due to real declines in health or improvements in other counties. Ranking done on an annual basis may exacerbate this issue. Finally, all rankings are within a state; as such, a ranking of 1 in, say, Indiana, may not be impressive compared, say, with a ranking of 1 in Ohio.

We can parse these aggregated measures to determine which indicators are relatively more or less important.

Figure A. St. Joseph County Overall Ranking in Outcomes. Reporting Years 2011-2020.



Outcomes

The health outcome components are split into two categories of equal weighting: length of life and quality of life.

Length of life is measured indirectly by the number of deaths that were premature, that is, of persons that died 'before their time,' here, before age 75. The total number of years lost is divided by the total population to get a rate, which is the Premature Death Rate, the total number of years of life lost before age 75 per 100,000 population. The population denominator is age-adjusted to a standard population to eliminate any bias from a non-standard population, such as one with a large proportion of elderly citizens.

Quality of life is expressed as an aggregate of four measures, three self-reported

- Poor or fair health
- Poor physical health days
- Poor mental health days

and one on the area's newborn population

- Low birthweight

Poor or fair health is the percentage of adults reporting fair or poor health (age-adjusted). Data is from the 2017 CDC's Behavioral Risk Factor Surveillance System.[1]

Poor physical health days is the average number of physically unhealthy days reported in past 30 days (age-adjusted). The measure is based on self-reporting and is age-adjusted.[2]

Poor mental health days is the average number of mentally unhealthy days reported in past 30 days (age-adjusted). This measure is also based on self-reporting and is age-adjusted to reduced age-related biases.[3]

Low birthweight is the percentage of live births with birthweight under 2,500 grams. Rankings for this indicator for the 2020 report are based on the number of live births over a seven-year period of 2012-2018 as reported in the National Center for Health Statistic's Natality File.

Figure B displays the rankings of the County for these two outcome measures. While the *length of life* remains relatively flat, *quality of life* gives evidence of both greater fluctuation as well as a worsening over time. The star (*) indicates caution in comparing this county's experience to prior years. Based on data for the 2016-2020 reporting years, both measures show worsening trends.

[1] **Note.** In 2016, certain methodological changes and modeling techniques were used in the Behavioral Risk Factor Surveillance System that make comparisons with estimates prior to that release year difficult.
[2] **See note above.**
[3] **See note #1.**

Figure B. Ranking of Outcome Components. St. Joseph County, 2011-2020.

The 2020 report showed that 19% of the County's adults reported fair or poor health, up from 17% in 2016. The average number of poor physical health days rose from 3.9 to 4.0, while the average number of poor mental health days increased 0.6 days from 4 to 4.6. The percentage of low birthweight babies increased 3.3 percentage points, from 8.1% to 8.4% over the five reporting years 2016-2020.

Table 1. Quality of Life Measures. St. Joseph County, 2016 – 2020.

Reporting Year	% reporting fair or poor health	Avg. number of poor physical health days	Avg. number of poor mental health days	Percent low birthweight babies
2019	17	3.8	4.0	8.2
2020	19	4.0	4.6	8.4
2021	19	4.2	5.0	8.5
2022	20	4.3	4.9	8.8
2023	15	3.3	4.8	8.8

Source: County Health Rankings. https://www.countyhealthrankings.org/app/indiana/2020/rankings/st-joseph/county/outcomes/overall/ snapshot

Health Factors

According to the researchers, "Health Factors represent those things we can modify to improve the length and quality of life for residents. They are predictors of how healthy our communities can be in the future." The important point to note is that these factors are *multiple* and *modifiable*, and include such variables as clean air and water as well as affordable housing.

Health factors are in the following categories:

- **Behavioral –** ". . . actions individuals take that affect their health. They include actions that lead to improved health, such as eating well and being physically active, and actions that increase one's risk of disease, such as smoking, excessive alcohol intake, and risky sexual behavior."
- **Clinical –** Includes "Access to affordable, quality, and timely health care [that] can help prevent diseases and detect issues sooner, enabling individuals to live longer, healthier lives."
- **Social & Economic –** ". . . factors, such as income, education, employment, community safety, and social supports can significantly affect how well and how long we live. These factors affect our ability to make healthy choices, afford medical care and housing, manage stress, and more."
- **Physical Environment - "**. . . where individuals live, learn, work, and play. People interact with their physical environment through the air they breathe, water they drink, houses they live in, and the transportation they access to travel to work and school. Poor physical environment can affect our ability and that of our families and neighbors to live long and healthy lives."

Figure C expresses a worsening trend in rankings over the 10-year period. The overall Health Factor ranking moved from 40 to 62 out of the 91 other counties in the State. This change was driven by the changes among the four categories and the individual measures that comprise each. Additionally, these categories provide different weights, such that, for example, worsening socio-economic conditions would prove more important to the ranking than clinical measures.

Individual factors and their weightings (%) are:[iii]

Behavioral (30%)

- Tobacco Use, looking at the percentage of adult smokers.
- Diet & Exercise, giving information on access to healthy foods ad exercise opportunities.
- Alcohol & Drug Use, measuring excessive drinking and drug overdose deaths.
- Sexual Activity, showing rates of sexually transmitted infections and teen births.

Clinical (20%)

- Access to care, including, e.g., number of physicians and dentists
- Quality of care, such as measures to prevent hospitalization or improve preventive care

Socio-Economic (40%)

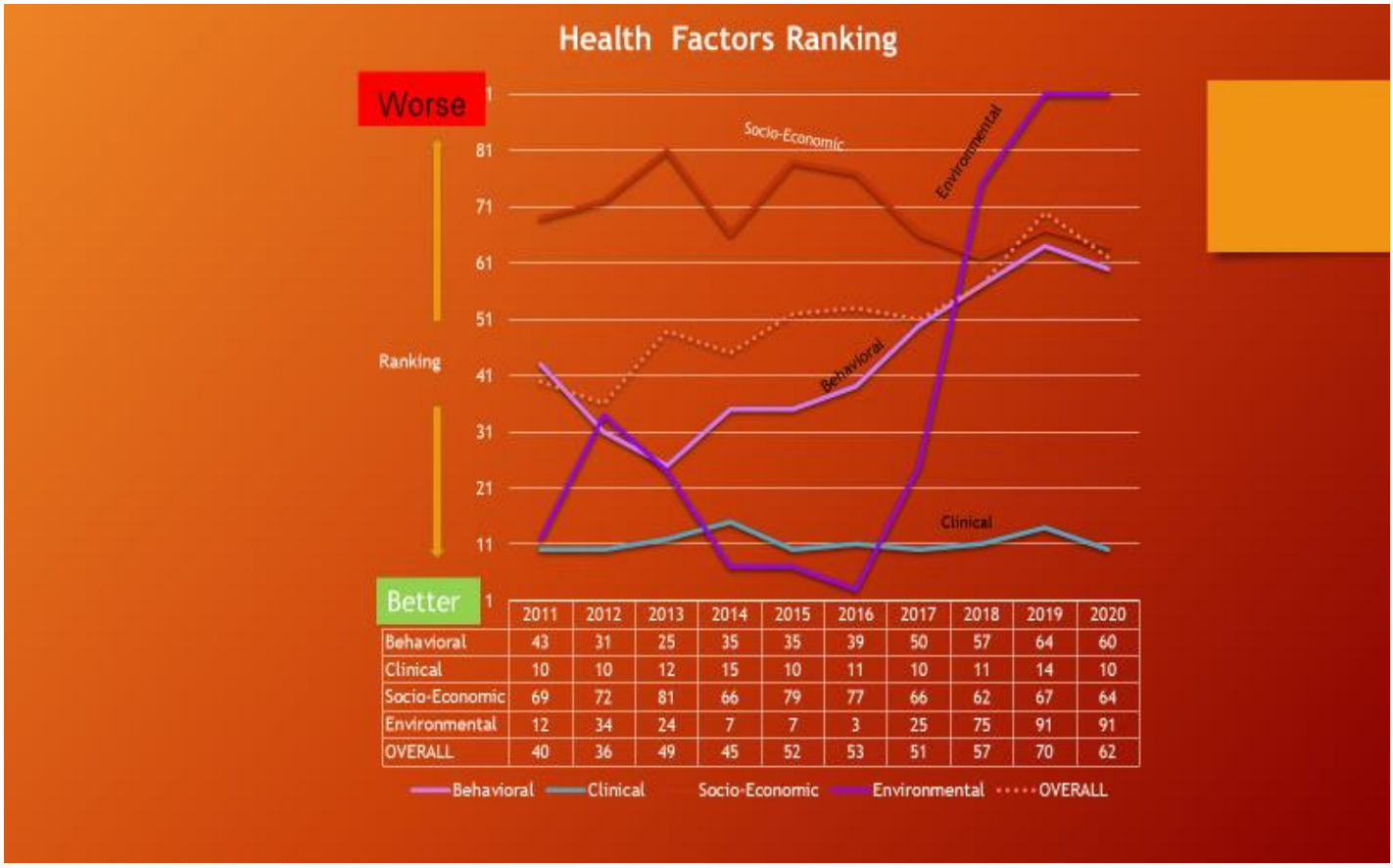
- Education, showing who in a community has graduated high school or attended some college in addition to the percentage of teens and young adults ages 16-19 who are neither working nor in school.
- Employment, detailing unemployment statistics.
- Income, looking at children in poverty and income inequality.

- Family & Social Support, providing information on children in single-parent households and access to social opportunities.
- Community Safety, measuring violent crime and injury deaths.

Physical Environment (10%)

- Air & Water Quality, providing information on the safety of the air and water for a community.
- Housing & Transit, looking at those in a community who have severe housing cost burdens or those with long commutes to work.

Figure C. Ranking of Health Factors: Overall and for Each Category, St. Joseph County, 2011-2020.



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Behavioral	43	31	25	35	35	39	50	57	64	60
Clinical	10	10	12	15	10	11	10	11	14	10
Socio-Economic	69	72	81	66	79	77	66	62	67	64
Environmental	12	34	24	7	7	3	25	75	91	91
OVERALL	40	36	49	45	52	53	51	57	70	62

Behavioral Factors

Behavioral factors that negatively affect St. Joseph County's health status and ranking are adult smoking rates, adult obesity, physical inactivity, alcohol-impaired driving, and sexually transmitted infections. A worsening of these variables affected the overall behavioral category as it moved from a ranking of 43 in 2011 to 60 in 2020.

- The County's population is becoming more obese, going from 30% of the adult population (age 20 and older) that reported a body mass index (BMI) greater than or equal to 30 kg/m2 in 2011 to 33% in 2020.
- Sexually transmitted infections – measured by the number of newly diagnosed Chlamydia cases per 100,000 population - rose from 408 as reported in 2011 to 623 in 2020 – over 52 percent.

Figure E. Percent Adults Obese. St. Joseph County, 2004-2016.

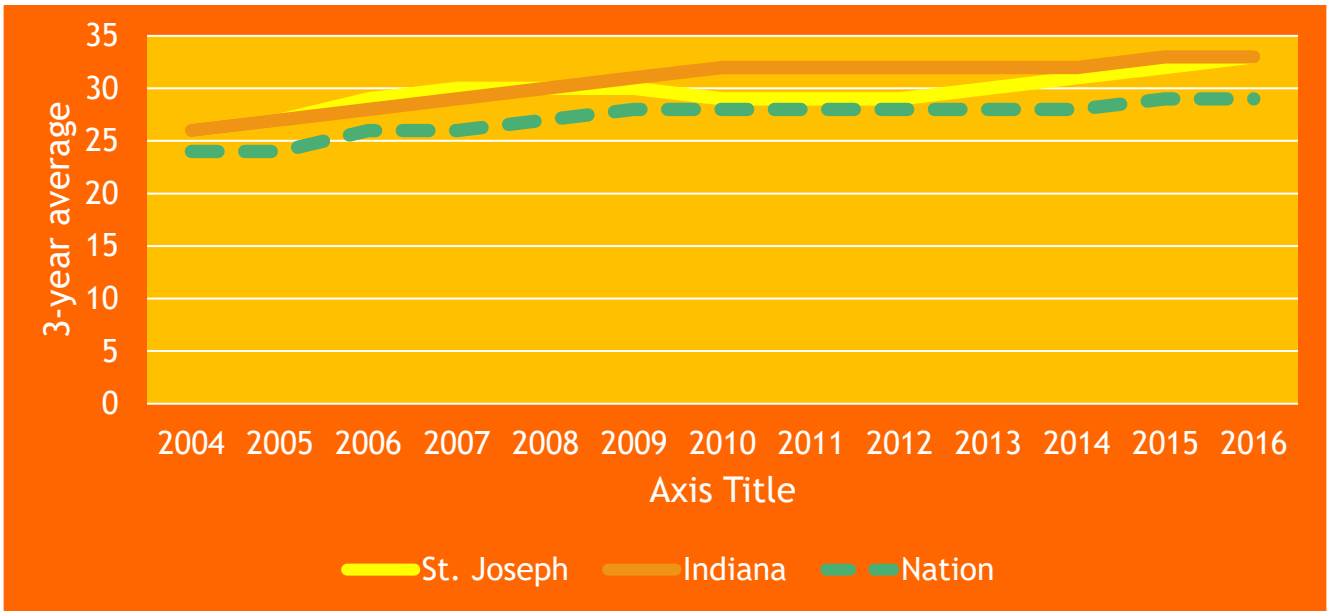
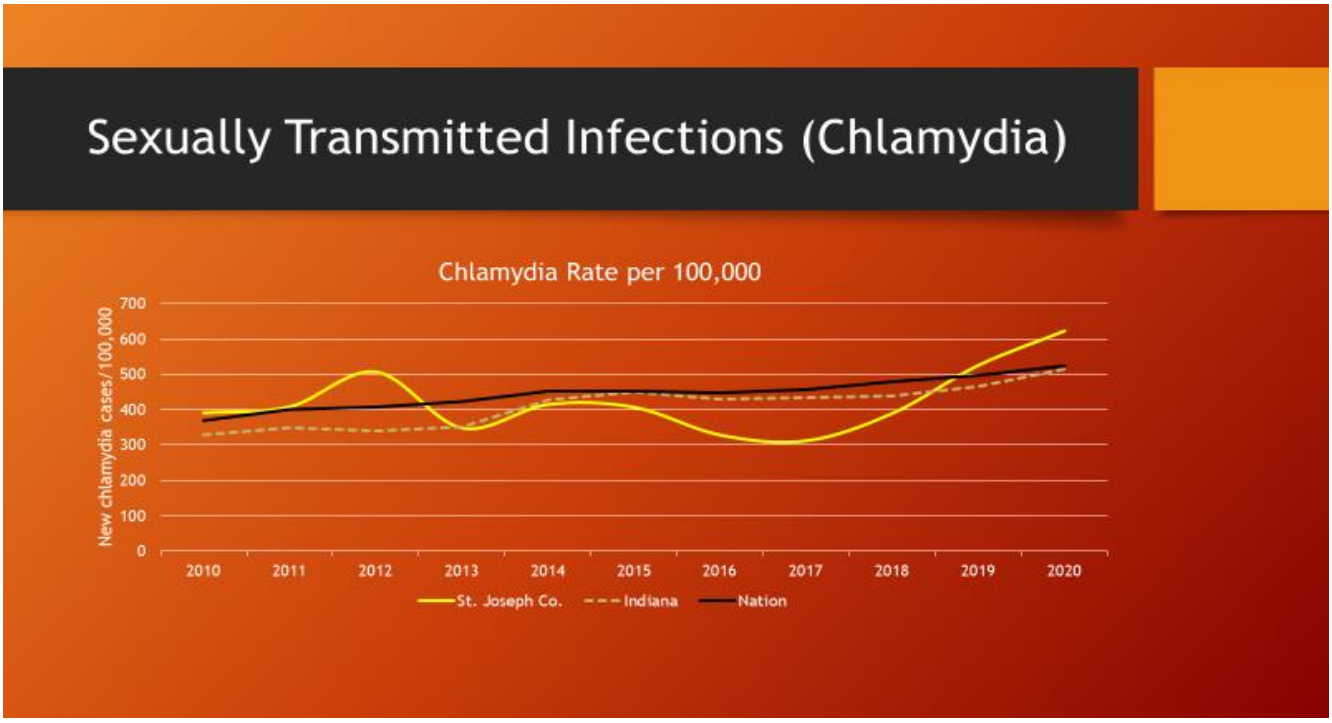
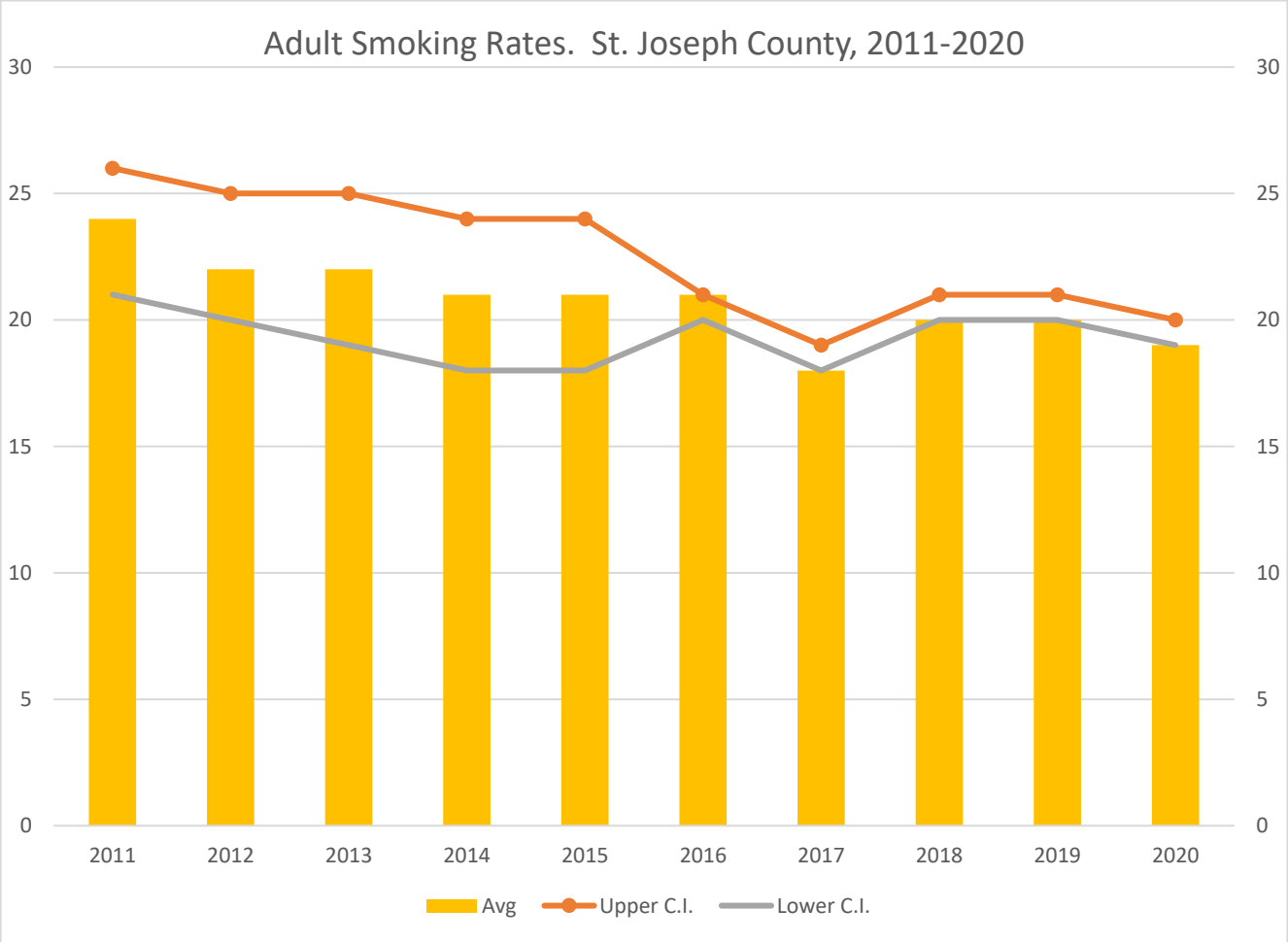


Figure F. Chlamydia Cases per 100,000 population. St. Joseph County, 2010-2020 (reporting years)



On the positive side, adult smoking rates show a steady decline from 2011 – 2020 reports (2008-2017 data). The following graph shows that decline and based on confidence intervals (C.I.) set for a 5% rate, the change from 2011 – 2015 are significantly higher compared with those from 2016-2020. In the 2020 Report, 19 percent of the County's adult population were smokers, and this compared favorably not only to prior years in the County, but also against the rate of 22 percent for State of Indiana as a whole.

Figure D. Adult Smoking Rates, 2011-2020



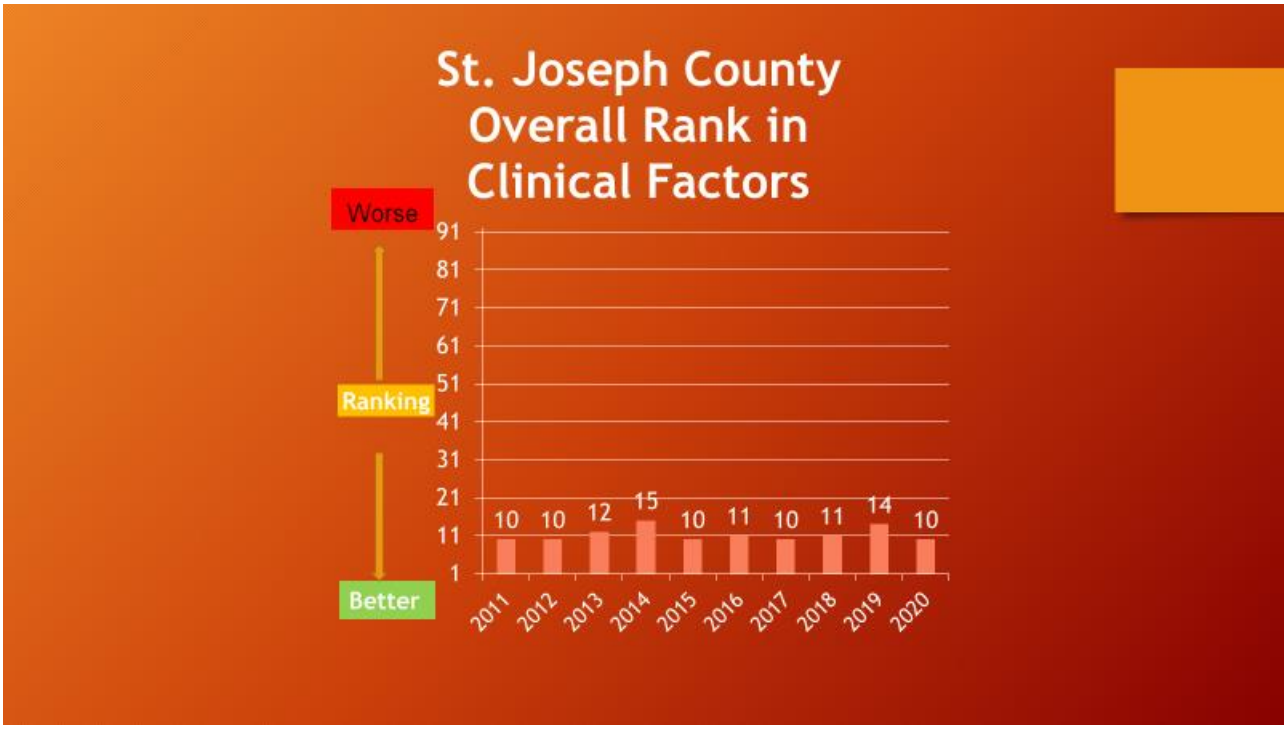
Clinical Factors

Clinical factors comprise those elements that affect access to quality health care. Measures include not only the supply of health, mental health and dental health providers, but also the nature of the system's components that aim to prevent disease and disability as well as the appropriate use of treatment.

Over the 10-year reporting period, 2011-2020, St. Joseph County maintained an average clinical factor rating of 11.3. This score was driven by the decline in the percent of health uninsured persons. For example, from the time major provisions of the Affordable Care Act went into effect in 2013, the proportion of uninsured dropped from 17 percent to 10 percent in 2017.

The average number of persons served by primary care physicians in the County in 2017 (1,099:1) was 20 percent higher than the United States in general (1,325:1), and 37 percent more than the State (1,511:1).

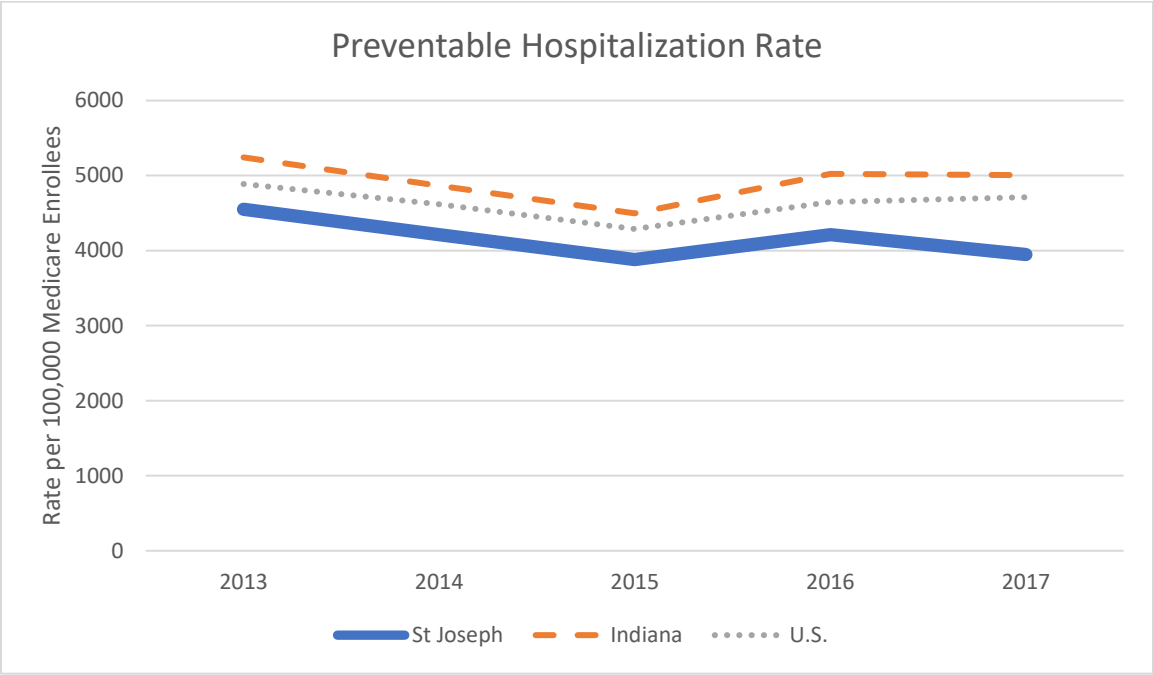
Figure G. Ranking of Clinical Factors



In addition to the supply of health care providers, access to care is largely determined by the availability of health insurance. Figure G illustrates the effect of the Affordable Care Act on the proportion of the population the County that are lacking health insurance. The 2020 County Ranking Report states that the county's ratio of population to health care providers was 1099:1 for primary care, 436:1 for mental health care, and 1725:1 for dental care in 2017. Those ratios compared favorably to the State where on average there were 37%, 43%, and 3% more primary care, mental health care, dental care patients respectively served by available health care personnel.

Appropriate utilization and quality of care in this model is measured by the number of preventable hospital stays. Hospitalization for ambulatory conditions suggests inappropriate and sometimes overuse of resources in cost ineffective ways. The number of preventable hospital days in St. Joseph County per 100,000 Medicare enrollees for the year 2017 was 3,950, considerably below the State rate of 5,006. Over the past five reporting periods, that rate has declined over 18 percent (Figure G)

Figure H. Preventable Hospital Stays. Rate per 100,000 Medicare Enrollees



Socio-Economic Factors.

This sector is the most heavily weighted among the other three, with 40 percent of the outcome accounted for by the following measures:

Education
- High school graduation (5%)[iv]
- Some college (5%)

Employment
- Unemployment (10%)

Income
- Children in poverty (7.5%)
- Income inequality (2.5%)

Family & Social Support
- Children in single-parent households (2.5%)
- Social associations (2.5%)

Community Safety
- Violent crime (2.5%)
- Injury deaths (2.5%)

The ranking for this group of indicators ranged from a high of 81 to a low of 64. The overall trend shows an improvement. The greatest gains came in the percentage of change seen for children in poverty,

unemployment, and injury deaths, where change was rendered in the differences in z-scores between 2016 and 2020 reporting periods. What did not improve and got worse over time was income inequality, quantified as the ratio of household income at the 80th percentile to income at the 20th percentile, and the violent crime rate. In 2020, the inequality ratio was 4.6:1, meaning that those in the higher (i.e., 80th percentile) household income levels were making 4.6 times those in the lower, i.e., 20th percentile, levels. The violent crime rate - the number of homicides, rapes, robberies, and aggravated assaults per 100,000 population - climbed from 370 to 426 over five years.

Figure I. Ranking of the County for Socio-Economic Factors

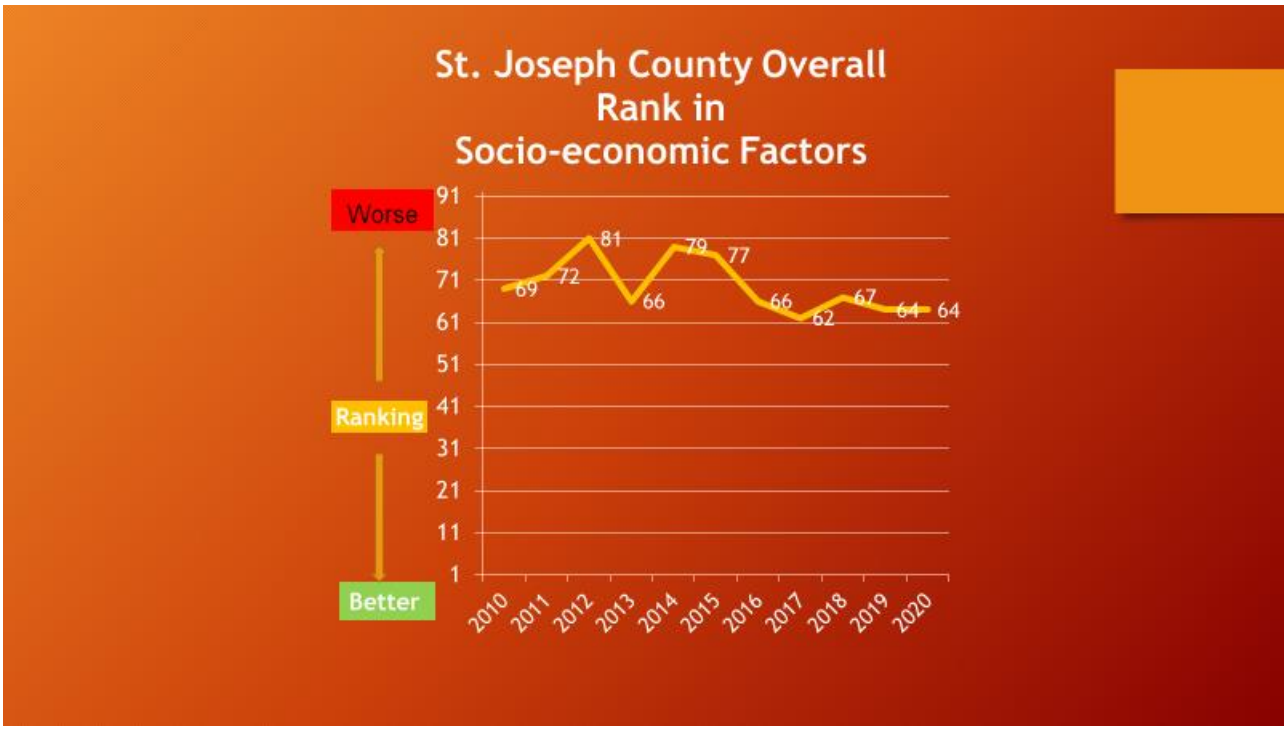
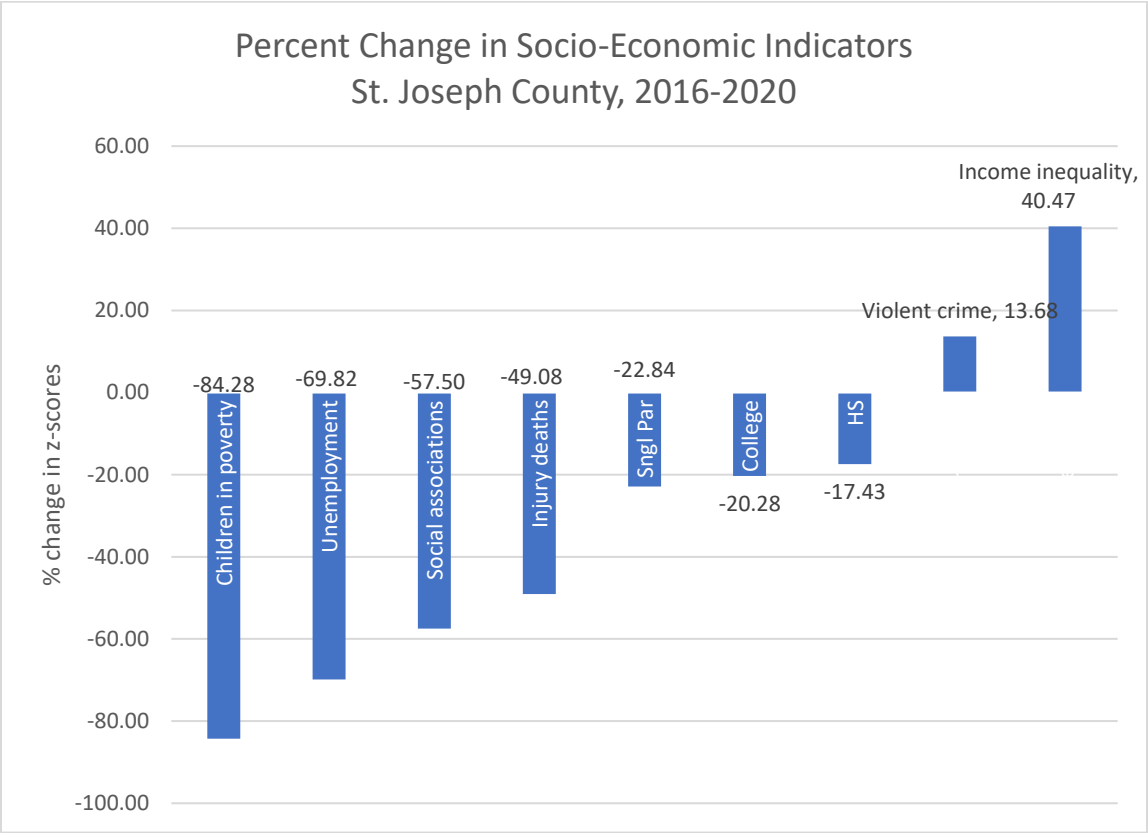


Figure J. Percent Change in Socio-Economic Factors in St. Joseph County. Report Years 2016-2020.[v]



Physical Environment Factors

This domain includes answers to questions about how clean is the air we breathe, how safe our drinking water, whether our housing is affordable as well as "safe and free from physical hazards," and whether there are sufficient public transportation alternatives traveling to workplaces.

The specific measures and their weights (%) are:

- Air pollution (particulate matter) (
- Drinking water violations
- Severe housing problems
- Driving alone to work
- Long commute – driving alone

Air pollution, that is, the average daily density of fine particulate matter in micrograms per cubic meter, increased slightly, from 12.8 to 13.1 between 2011 and 2014. Drinking water violations ("yes" or "no") went from "No" in 2013 to "Yes" in 2018. The percentage of households with at least 1 of 4 housing problems: overcrowding, high housing costs, lack of kitchen facilities, or lack of plumbing facilities, declined from 14% in

2008-2012 to 13% in 2012-2016. The percentage of the workforce of the County that was driving alone to work remained unchanged from an average of 82% in 2010-2014 to that over 2014-2018. Finally, among workers who commuted in their car alone, the percentage that commuted more than 30 minutes as measured over 2010-2014 was unchanged by 2014-2018 at 22 percent.

[i] http://uwphi.pophealth.wisc.edu/ and https://www.cultureofhealth.org/

[ii] Dates are for the reports issued by *County Health Rankings*, although the data typically lag by 2-3 years, depending on the measure used. For the 2020 report, see all of the measures, sources of data, and years of data used. https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/2020-measures

[iii] https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/social-and-economic-factors#

[iv] Percentage indicates weight of the indicator

[v] The following table lists the factors and dates of data used for each report for the Socio-Economic domain.

Factor	Data years For 2016 Rpt	Data years For 2020 Rpt
High school graduation	2012-13	2016-2017
Some college	2010-14	2014-2018
Unemployment	2014	2018
Children in poverty	2014	2018
Income inequality	2010-14	2014-2018
Children in single-parent households	2010-14	2014-2018
Social associations	2013	2017
Violent crime	2010&2012	2014&2016
Injury deaths	2009-2013	2014-2018

Source: https://www.countyhealthrankings.org