2018 Thumb Community Health Assessment Report

Michigan Thumb
Public Health Alliance
www.mithumbpha.org
Huron | Lapeer | Sanilac | Tuscola
Prepared by Kay Balcer
Balcer Consulting and Prevention Services

Acknowledgments

The Michigan Thumb Public Health Alliance would like to acknowledge many people for their contributions to this report.

- ★ Huron County Health Department Staff Members
- ★ Lapeer County Health Department Staff Members
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- ★ Tuscola County Health Department Staff Members
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- ★ 2016 Thumb Community Health Needs Assessment Project Participants
- ★ Community Conversation Participants
- ★ Residents who completed the public survey
- ★ Thumb Rural Health Network
- ★ Michigan Center for Rural Health

Thank you for taking the time to read and comment on the 2018 Thumb Community Health Assessment Report and 2019-2021 Community Health Improvement Plan. For more information, please contact one of the following:

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- Tuscola County: Ann Hepfer, 989-673-8114 or ahepfer@tchd.us

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Section I: Introduction

The challenges of public health across the nation reflects a number of shifting circumstances including changing demographics, causes of disease, increased burden of chronic diseases, funding challenges, and changes in the healthcare system. In light of the complexity of facing these challenges, the health departments in Huron, Lapeer, Sanilac, and Tuscola Counties collaborated in 2015 through a Memorandum of Understanding to create the Michigan Thumb Public Health Alliance. Alliance partners utilized the cross jurisdictional sharing process (CJS) outlined by the Center for Sharing Public Health Services to explore the benefits of sharing and collaborating on various public health activities and needs. Leadership and department directors continue to meet in pursuit of improved health and wellness of residents of the Thumb of Michigan. It is through health promotion, disease prevention, and promotion of an environment that supports wellness that this vision will be achieved. In 2016, four priorities were identified:

1. Chronic Disease
2. Immunization Rates
3. Environmental Health
4. Community Conditions

Cross-jurisdictional sharing (CJS)

CJS is the **deliberate exercise** of public authorities to **enable collaboration across jurisdictional boundaries** to deliver essential public health services. Collaboration allows communities to **solve problems** that cannot be solved — or easily solved — by single organizations or jurisdictions. This CJS roadmap includes three phases that guide jurisdictions through the CJS process:

- *Explore*
- *Prepare and Plan*
- *Implement and Improve*

Center for Sharing Public Health Services

Understanding the health indicators related to these priorities is critical to each of the local counties and for the collective work of the Alliance. This report is intended to further explore the health issues facing the residents in Huron, Lapeer, Sanilac, and Tuscola Counties. It furthermore outlines both regional and local priorities for development of Community Health Improvement Plans.

Living in a rural area has been identified as one of the 14 health disparities recognized by Healthy People 2020. A health disparity is a health difference that is closely linked to a social, geographic, racial, ethnic, or economic characteristic. The foundation for examining rural health disparities has been established in the Rural Healthy People 2020 Report.[1] Rural Healthy People was created to serve as a guide and provide benchmarks for rural health priorities and disparities in the United States. As pointed out by authors, this publication provides a national context for addressing health disparities and differences in rural communities. The 2018 Thumb Community Health Assessment Report examines the degree to which the national priorities are relevant to the counties located in the Thumb.

[1] Bolin JN, Bellamy G, Ferdinand AO, Kash BA, Helduser JW, eds. (2015). *Rural Healthy People 2020.* Vol. 1 and Vol. 2. College Station, Texas: Texas A&M Health Science Center School of Public Health, Southwest Rural Health Research Center.

Section II: Analysis of Health Indicators

Rural Healthy People 2020 Priorities

The following Healthy People 2020 objectives are recognized by leaders in rural health across the nation as the top twenty rural health priorities (n=1214 leaders surveyed).

Figure 1: Top 20 Rural Health Priorities (https://srhrc.tamhsc.edu/rhp2020/index.html)

Healthy People 2020 National Objectives	# of votes	% of voters ranking item in top ten	Priority rank based on votes
Access to quality health services	926	76.3	1
Nutrition and weight status	661	54.5	2
Diabetes	660	54.4	3
Mental health and mental disorders	651	53.6	4
Substance abuse	551	45.4	5
Heart disease and stroke	550	45.3	6
Physical activity and health	542	44.7	7
Older adults	482	39.7	8
Maternal, infant and child health	449	37	9
Tobacco use	429	35.26	10
Cancer	428	35.26	11
Education and community-based programs	400	33	12
Oral health	381	31.4	13
Quality of life and well-being	327	26.9	14
Immunizations and infectious diseases	324	26.7	15
Public health infrastructure	315	26	16
Family planning and sexual health	278	21.8	17
Injury and violence prevention	265	21.8	18
Social determinants of health	258	21.3	19
Health communication and health IT	257	21.2	20

Adapted from Bolin et al., 2015.
Southwest Rural Health Research Center, Texas A & M University

Thumb Health Indicators and Analysis

In this section, you will find data related to the Rural Healthy People 2020 priorities. Each section provides a brief description of the scope of the problem along with data charts related to the four counties located in the thumb.

Figure 2: Data Analysis Legend

An analysis chart illustrates whether there is a favorable or unfavorable trend. You will also find benchmark lines showing the Michigan rate and the Rural Health People target.

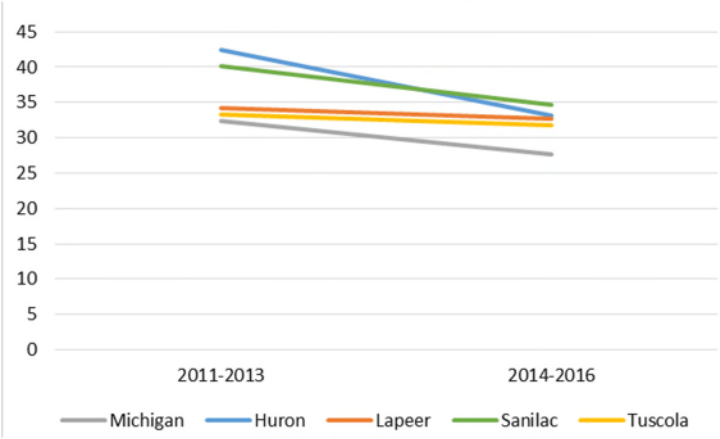
Favorable or Unfavorable Upward Trend ↑↑
Favorable or Unfavorable Downward Trend ↓↓
No change, varying, or unclear trend ↔
Michigan Rate |
US Rate or Rural Healthy People 2020 Target |

Quality of Life and Well-Being

SCOPE OF THE PROBLEM

There are several ways in which one can measure quality of life. The Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) define quality of life along several domains (i.e. social, environment, physical, psychological). Measuring quality of life is complex and involves both subjective and objective measures, therefore it is challenging to identify one perfect measure covering all relevant domains (Rural Healthy People 2020, Vol II). Even with the limitations, it is important to understand how healthy people in a community "feel". The perspective of individuals can greatly influence their physical and mental well-being. How healthy individuals feel, collectively impacts the health of a population and quality of life in a community. National data suggests that rural residents are more likely to report their health as poor compared to their urban counterparts (Bethea TN, Lopez RP, Cozier YC, White LF, McClean MD. Journal of Rural Health). Social and environmental determinants of health play a major role in quality of life and well-being. Five categories have been identified: socio-economic, the built environment, geographic barriers, utilization of programs, and demographic (Rural Healthy People 2020, Vol II).

Figure 3: No Routine Health Check Up



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 4: Health Status Rated Fair/Poor, 2014-2016

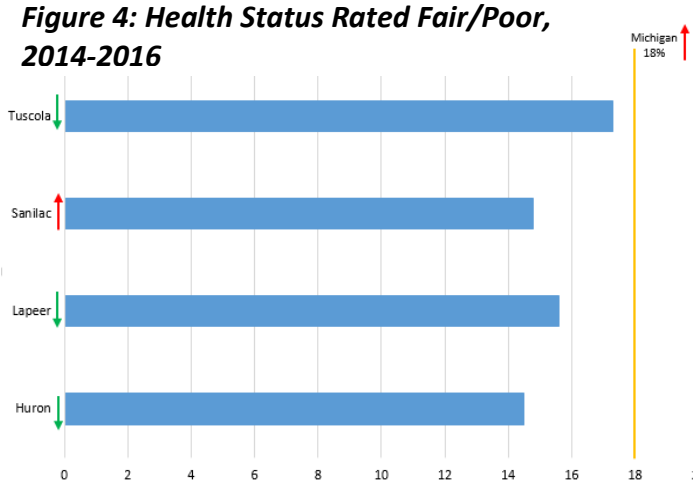
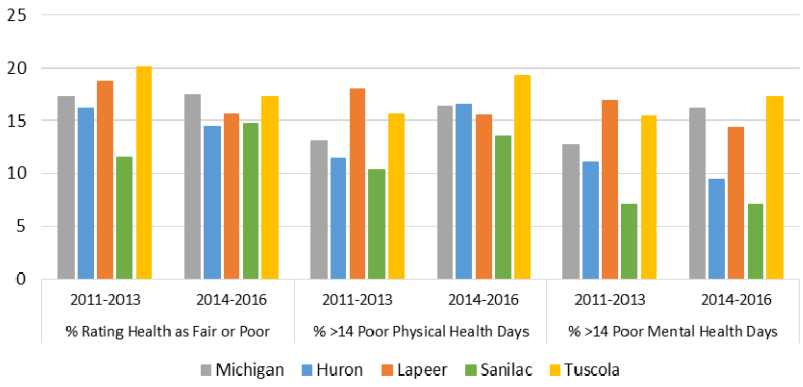


Figure 5: General Health Status

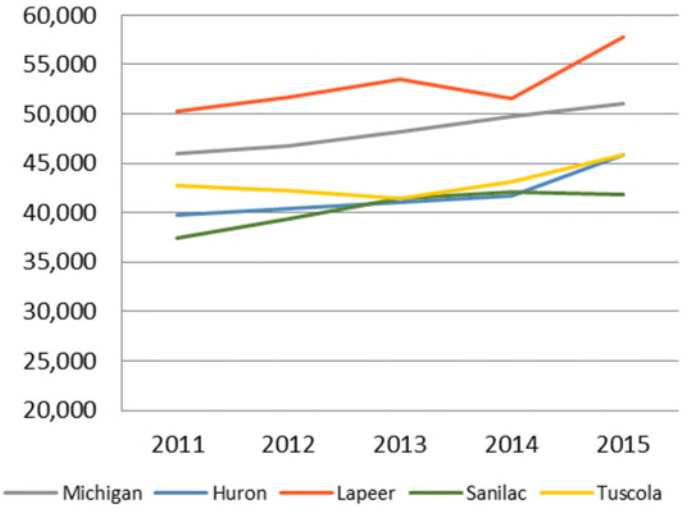


Michigan Department of Health and Human Services
http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_39424-134707--,00.html
Note: If unavailable on state report, data for Huron, Sanilac taken from TRHN oversampling in 2013 as rates were not available on the 2011-2013 state report.

Social Determinants of Health

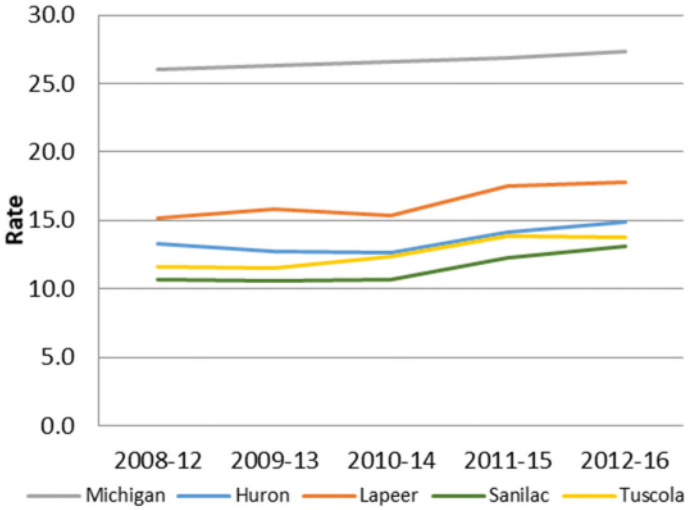
These charts illustrate some of the social determinants of health that impact many of the data indicators outlined in this report. Certain factors, such as employment status, neighborhood quality, food security, educational attainment, and exposure to violence, have been shown to have bearings on individual and community health.

Figure 6: Median Household Income



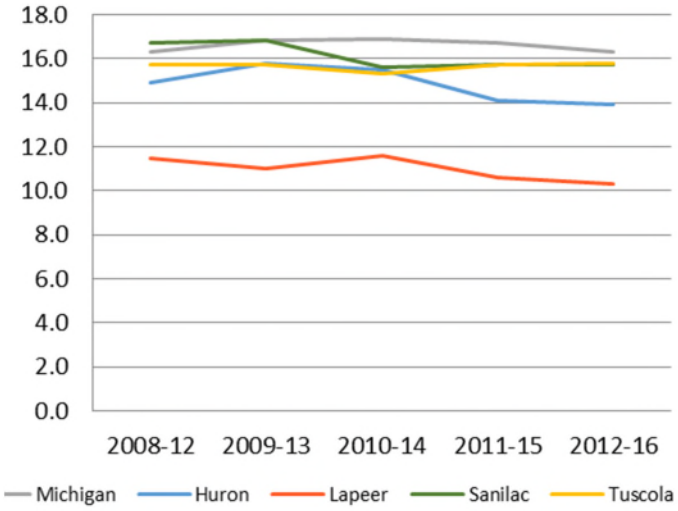
SAIPE web site
www.countyhealthrankings.org

Figure 7: % of People Bachelors Degree or Higher



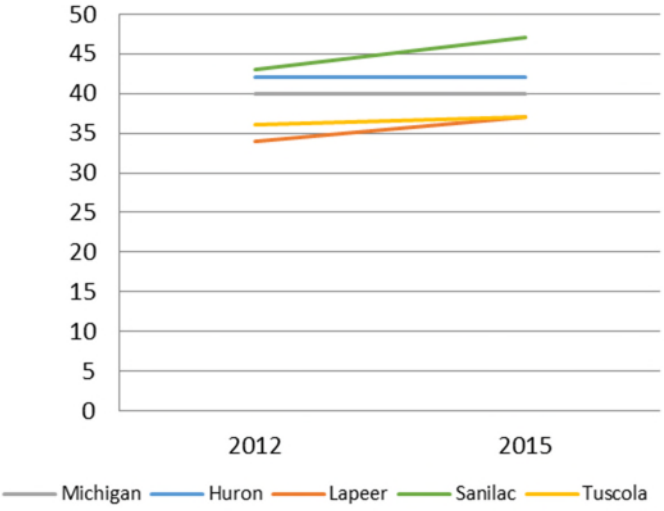
U.S. Census-American Factfinder
https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

Figure 8:% of People Living Below Poverty



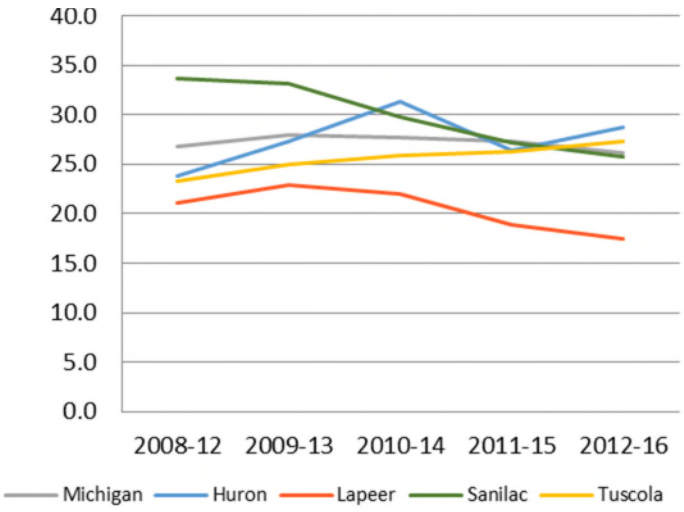
U.S. Census-American Factfinder
https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

Figure 9: % of Households below ALICE Threshold (cost of living)



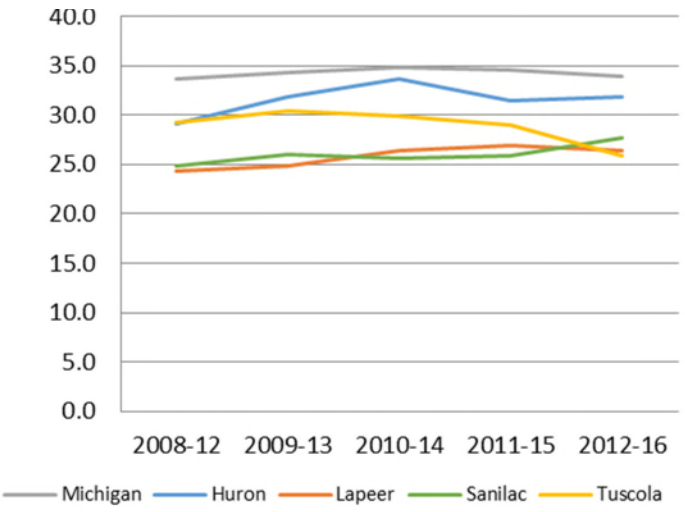
United Way- ALICE Report 2014 and 2017 Editions
ALICE Threshold represents the basic cost of living.

Figure 10: % of Children, Age 0-5 below Poverty



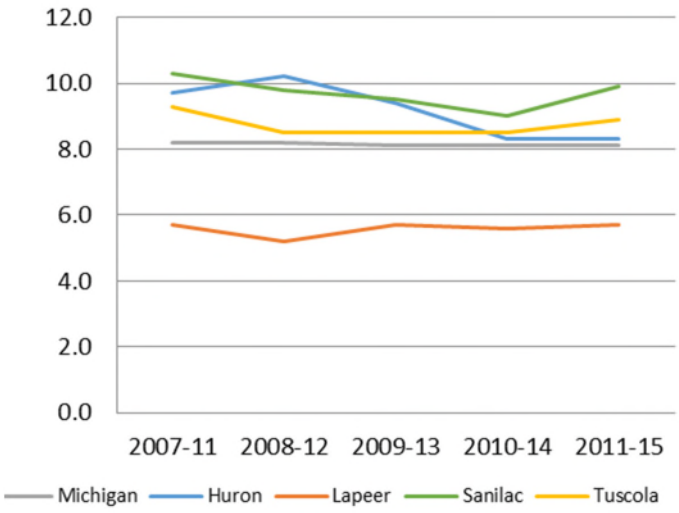
Census-American Community Survey
Great Start Data Set

Figure 11: % of Children Under 18 in Single Parent Families



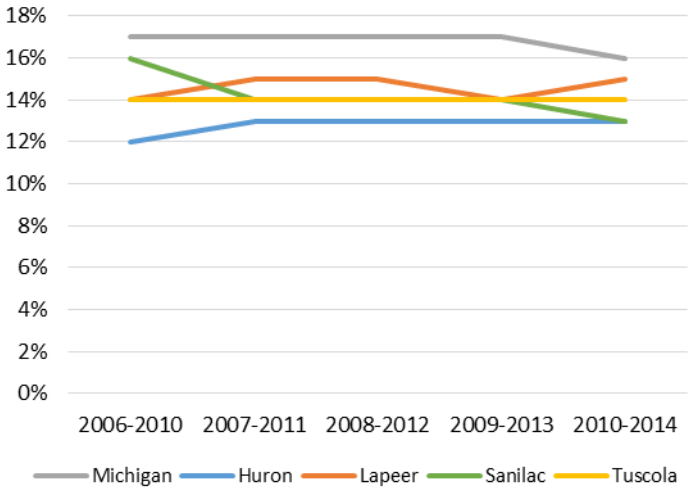
Census-American Community Survey
Great Start Data Set

Figure 12: % of Population 65+, Below Poverty

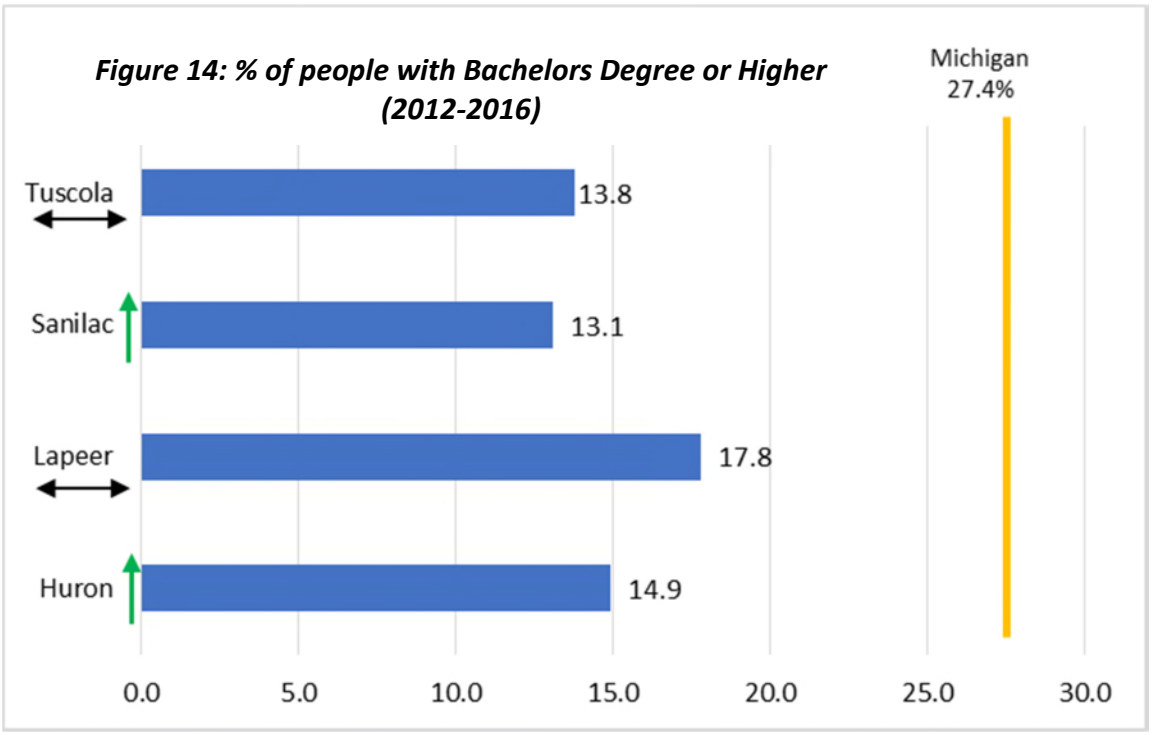


U.S. Census-American Factfinder
https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

Figure 13: % with Severe Housing Problems



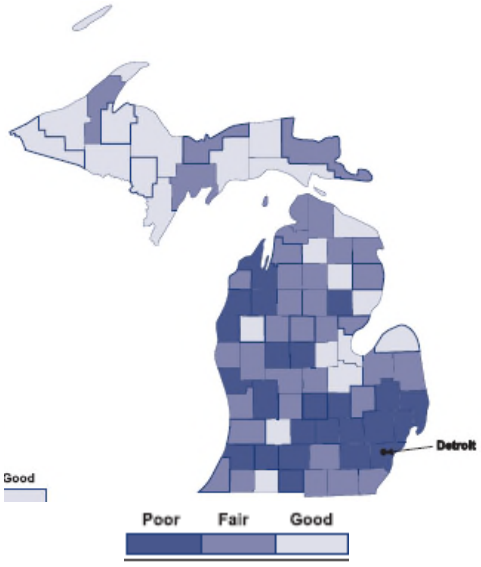
*Percentage of households with at least 1 of 4 housing problems: overcrowding, high housing costs, or lack of kitchen or plumbing facilities
Comprehensive Housing Affordability Strategy-HUD
www.countyhealthrankings.org



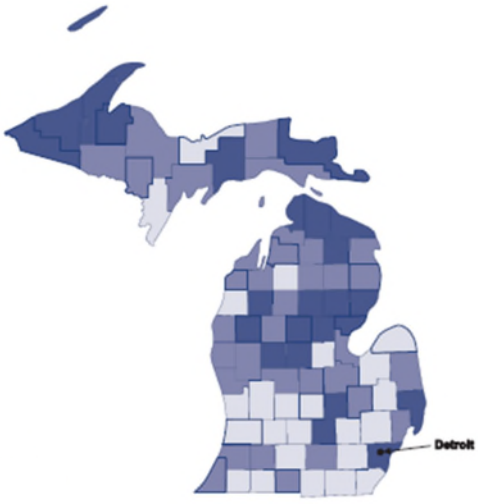
U.S. Census-American Factfinder
https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

Figure 15: ALICE Michigan Maps of Social Support Factors

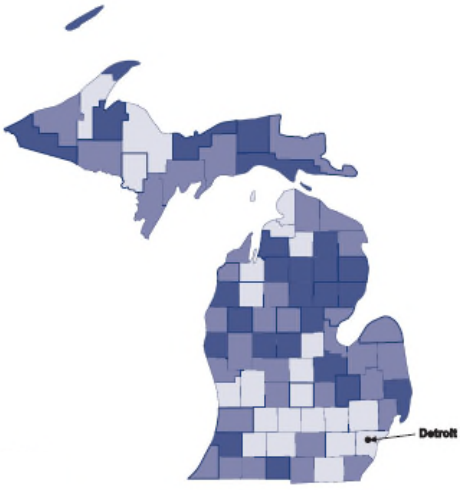
Housing Affordability by County, Michigan



Job Opportunities by County, MIchigan



Community Support by County, MIchigan



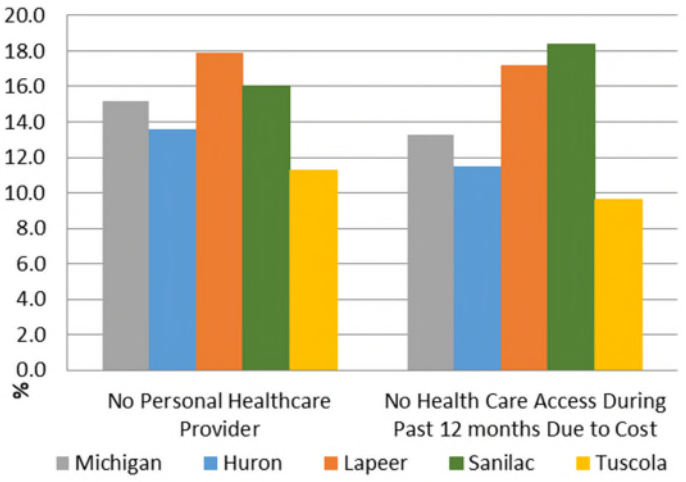
2012 American Community Survey
ALICE Threshold Report

Access to Quality Health Services

SCOPE OF THE PROBLEM

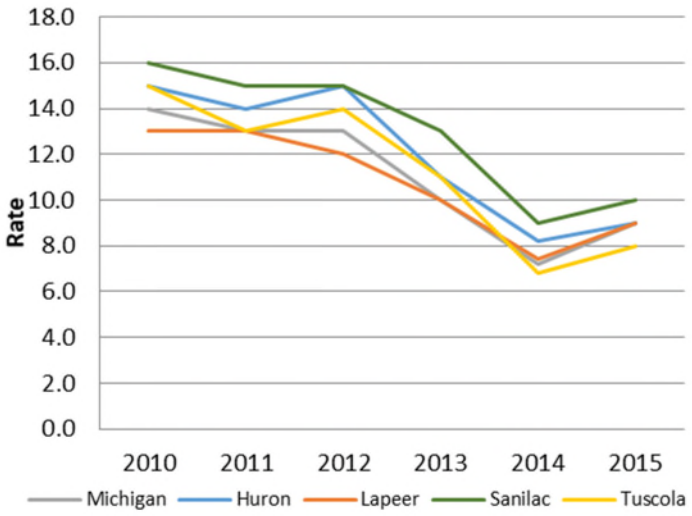
Three major issues impact the degree to which rural residents have access to quality health services. Lack of access to health insurance is creating a financial barrier to health care. This contributes to preventable hospitalizations and use of emergency rooms for non-emergency conditions. Access to primary medical care is also disproportionately impacting rural areas. Sixty-five percent of Health Provider Shortage areas are in rural regions of the United States (Agency for Healthcare Research and Quality-2014). Lastly, access to emergency medical services is more difficult in rural areas. Geographic isolation and provider shortages increase response times and access to advanced life support. Nearly 75% of rural residents live 30 minutes from an emergency care provider (Annals of Emergency Medicine-2009)

Figure 16: Access to Health Care, Michigan BRFSS 2014-2016 combined



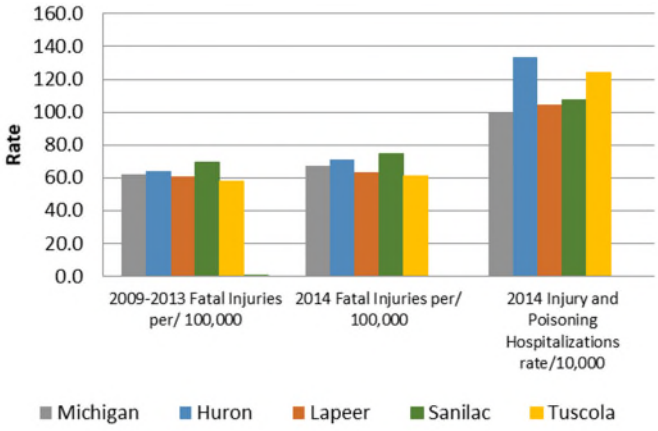
Michigan Department of Health and Human Services
http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_39424-134707--,00.html

Figure 17: Uninsured Rates:- % of people <65



US Census Bureau's Small Area Health Insurance Estimates (SAHIE) program, www.countyhealthrankings.org

Figure 18: Injury Hospitalizations and Deaths



Michigan Department of Health and Human Services,
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

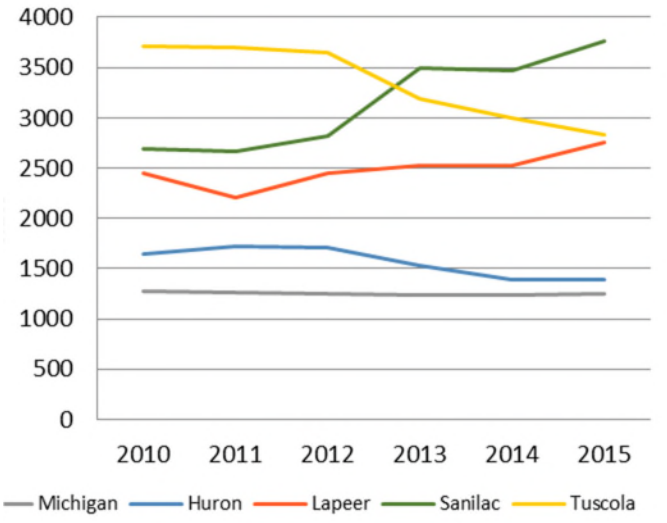
Related Healthy People 2020- Objectives

AHS-1.1, 1.2 Increase persons with health insurance; medical insurance; dental insurance; **AHS-1.3** Increase persons with prescription drug insurance; **AHS-3** Increase persons with a usual primary care provider; **AHS-4.1** Increase the number of practicing medical doctors; **AHS-4.3** Increase the number of physician assistants; **AHS-5.1** Increase the persons with specific source of ongoing care; **AHS-5.2** Increase children and youth aged 17 years and under who have a specific source of ongoing care; **AHS 6.2** Reduce persons who are unable to obtain or delay in obtaining necessary medical care; **AHS-8** Increase persons who have access to rapidly responding pre-hospital emergency medical services; **AHS-8.1** Increase persons who are covered by basic life support; **AHS-8.2** Increase persons who are covered by advanced life support; **AHS-9.1 through 9.6** Reduce Level 1, 2, 3, 4, and 5 hospital emergency department visits in which the wait time to see an emergency department clinician exceeds the recommended timeframe

Access and Availability to Healthcare Providers

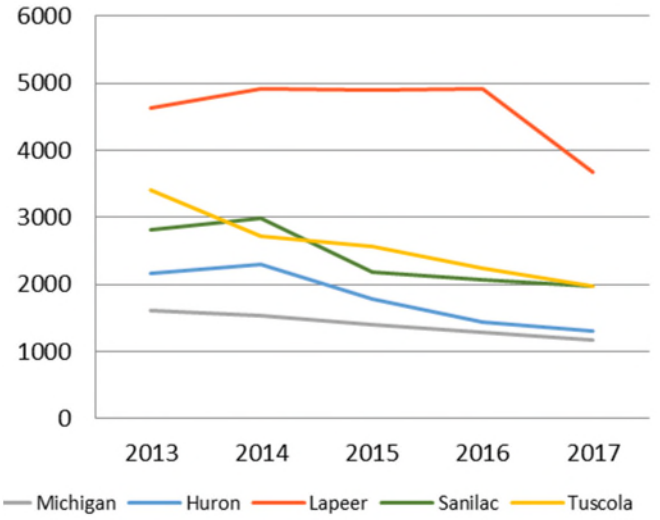
These charts illustrate the ratio of people for every provider. A higher number indicates that there are more people per provider OR fewer providers for the population.

Figure 19: Primary Care Provider Ratios (Lower indicates greater access)



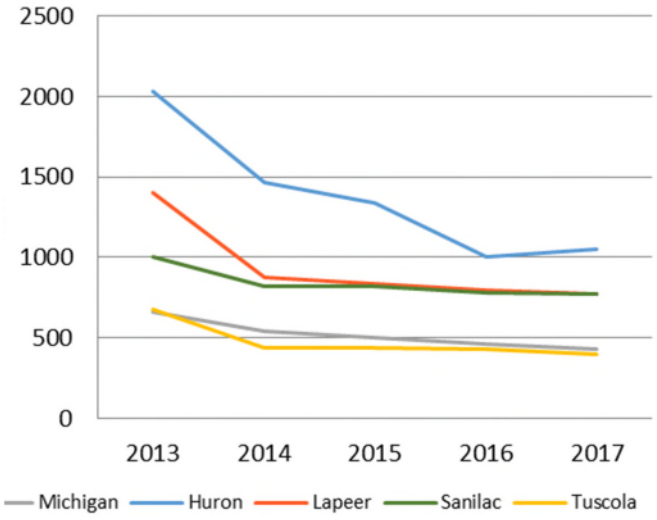
Health Resources and Services Administration; US Department of Health and Human Services
www.countyhealthrankings.org

Figure 20: Other PCP Provider Ratios (Lower indicates greater access)



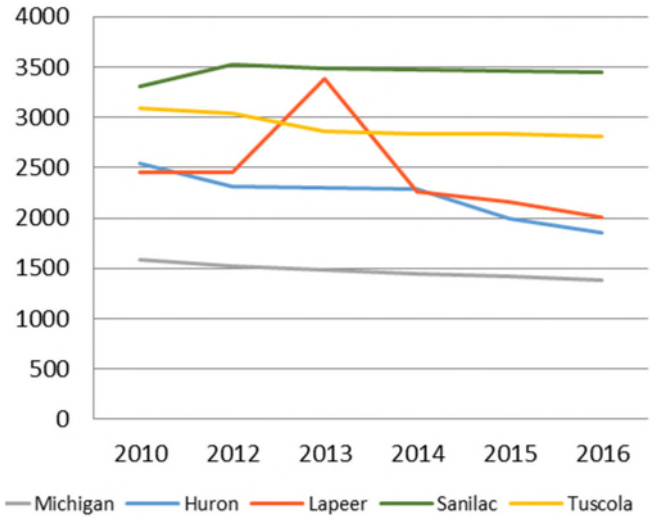
Health Resources and Services Administration; US Department of Health and Human Services
www.countyhealthrankings.org

Figure 21: Mental Health Provider Ratios (Lower indicates greater access)



Health Resources and Services Administration; US Department of Health and Human Services
www.countyhealthrankings.org

Figure 22: Dentist Provider Ratios (Lower indicates greater access)



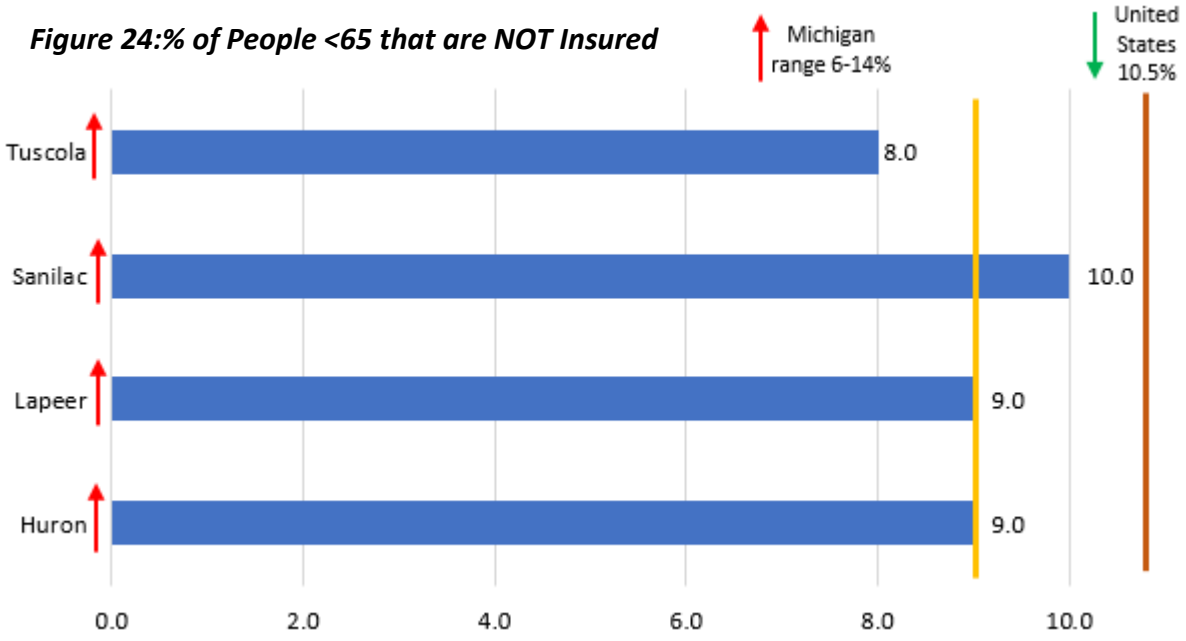
Health Resources and Services Administration; US Department of Health and Human Services
www.countyhealthrankings.org

Figure 23: Health Professional Shortage Areas (HPSA)- See appendix for complete listing

HPSAs are designated by HRSA as having shortages of primary care, dental care, or mental health providers and may be geographic (e.g., county or township), population (e.g., Medicaid eligible) or facilities (e.g., rural health center).

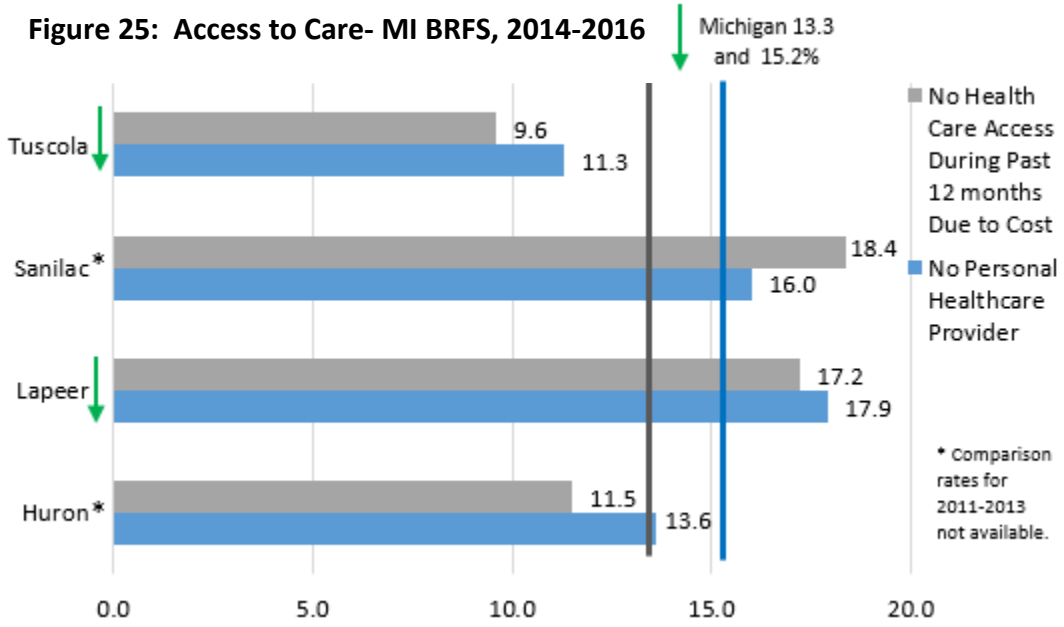
Huron HPSAs	Lapeer HPSAs	Sanilac HPSAs	Tuscola HPSAs
Primary Care-Entire County	Primary Care-Corrections	Primary Care-Entire County	Primary Care- 26 Townships
Mental Health-Entire County	Primary Care- 8 Townships	Mental Health- Entire County	Mental Health-Entire County
Dental-Entire County		Dental-Entire County	Dentist-Entire County

Figure 24:% of People <65 that are NOT Insured



US Census Bureau's Small Area Health Insurance Estimates (SAHIE) program
www.countyhealthrankings.org

Figure 25: Access to Care- MI BRFS, 2014-2016



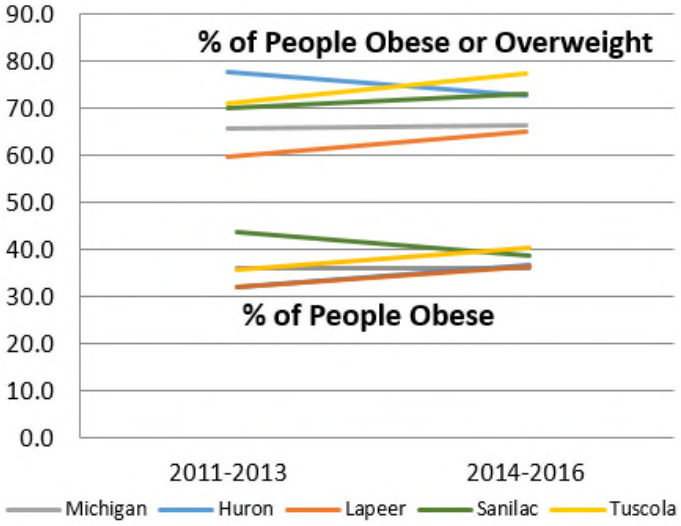
Michigan Department of Health and Human Services
http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_39424-134707--,00.html

Weight Status- Nutrition & Physical Activity

SCOPE OF THE PROBLEM

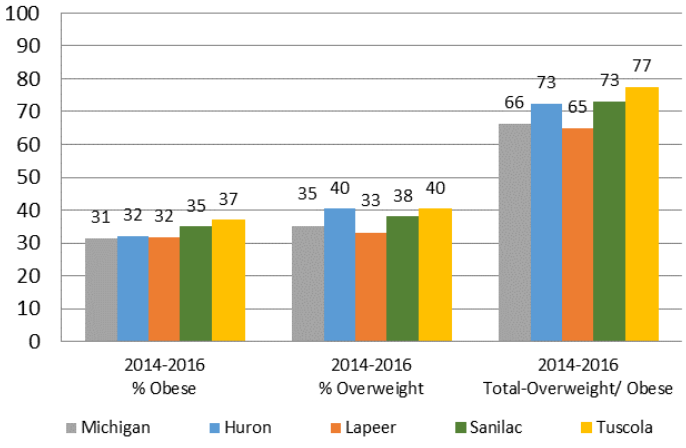
Evidence linking weight, nutrition, and physical activity to health status is strong. Studies document the correlation between food insecurity and obesity with chronic conditions such as type 2 diabetes, stroke, cardiovascular disease, and depression. Unhealthy eating combined with a sedentary lifestyle increases an individual's risk for hypertension, some cancers, sleep apnea, gall bladder disease, and osteoporosis. Onset of obesity in childhood increases the extent of this risk and the damage to the body. Most rural areas experience barriers to healthy eating and physical activity including fewer fitness and nutrition classes, cultural attitudes toward food and weight, less social support for healthy lifestyle choices, busy schedules, fewer preventive care messages, transportation and distance to stores that sell healthy foods, higher prices for healthy foods, and skewed perceptions of weight status. (Adapted from Healthy People 2020- US Department of Health & Human Services)

Figure 26: Adult Weight Status



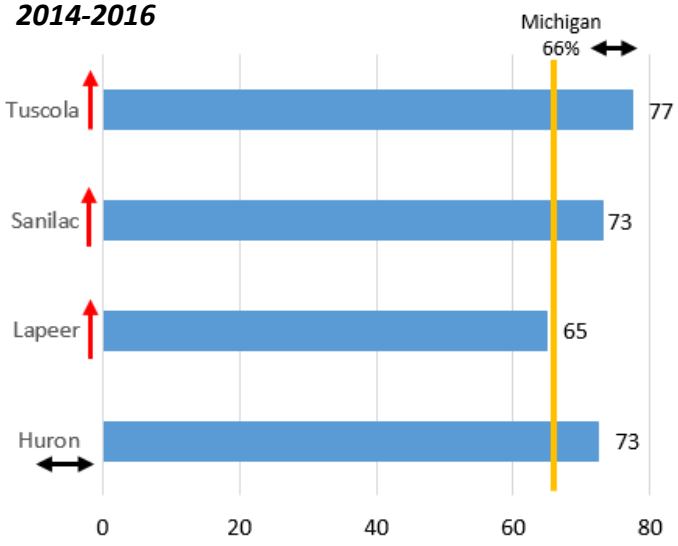
Michigan Department of Health and Human Services
http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_39424-134707--,00.html

Figure 27: 2014-2016 Weight Status BRFS



Michigan Department of Health and Human Services
http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_39424-134707--,00.html

Figure 28: % Overweight or Obese, 2014-2016



*Trends arrows compare 2011-2013 to 2014-2016 averages for Obesity.

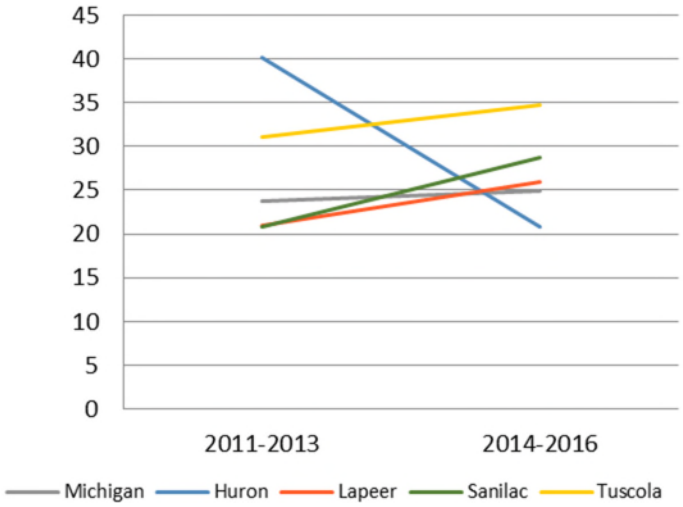
Michigan Department of Health and Human Services
http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_39424-134707--,00.html

Related Healthy People 2020- Objectives

NWS-8 Increase the proportion of adults who are at a healthy weight**;**
NWS-9 Reduce the proportion of adults who are obese;
NWS-10 Reduce the proportion of children and adolescents who are considered obese

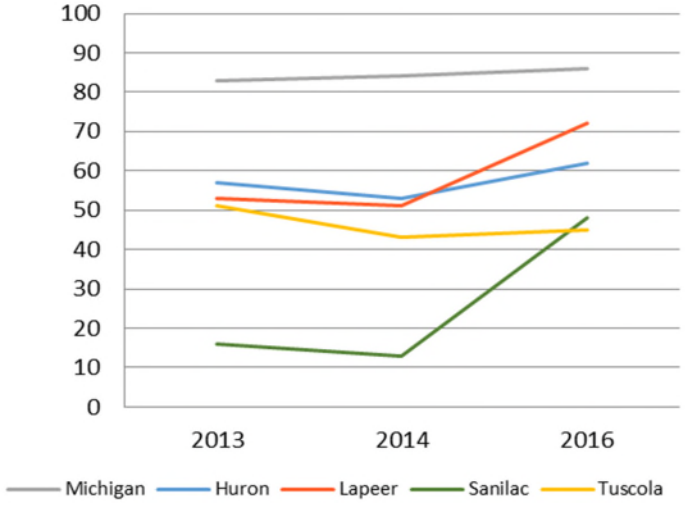
Contributing Factors: Many nutrition and physical activity indicators contribute to weight status and obesity rates.

Figure 29: % with No Leisure Time Physical Activity

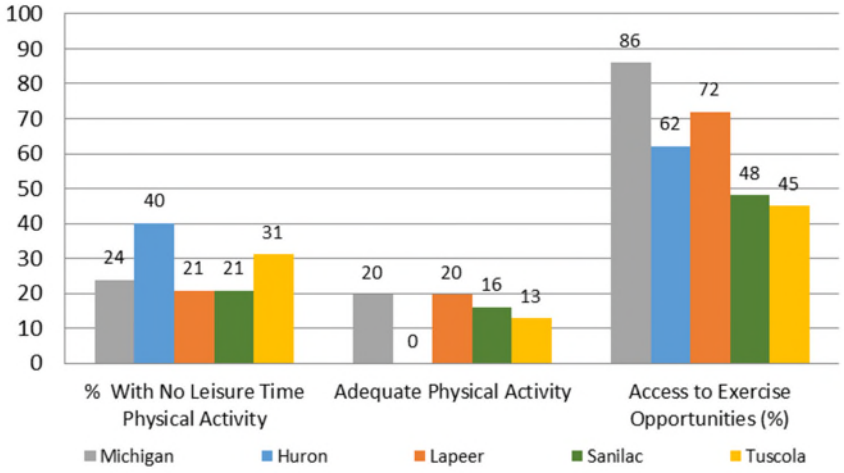


Michigan Department of Health and Human Services
http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_39424-134707--,00.html

Figure 30: % with Access to Exercise Opportunities

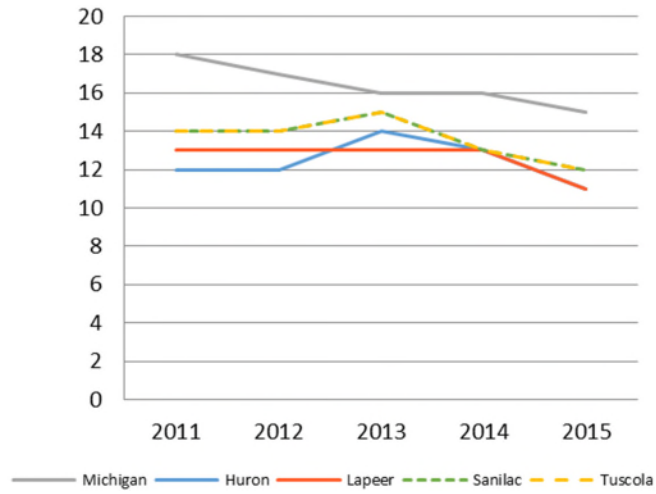


Business Analyst, Delorme map data, ESRI, & US Census Tigerline Files
www.countyhealthrankings.org



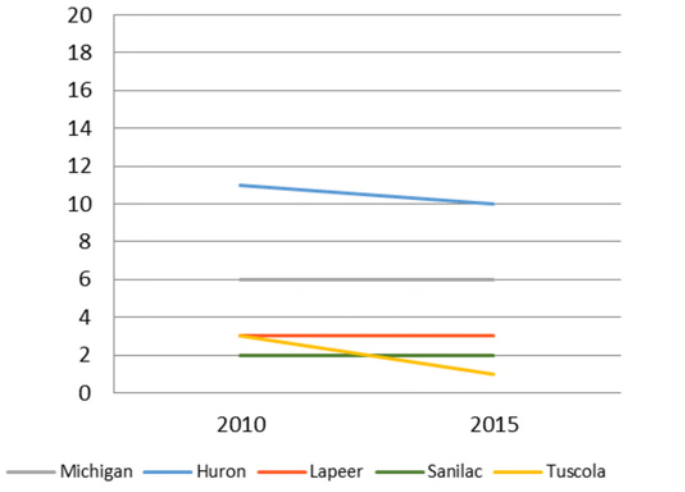
Michigan Department of Health and Human Services- http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_39424-134707--,00.html

Figure 31: % with Food Insecurity



Map the Meal Gap
www.countyhealthrankings.org

Figure 32: % with Limited Access to Healthy Food



USDA Food Environment Atlas
www.countyhealthrankings.org

Diabetes

SCOPE OF THE PROBLEM

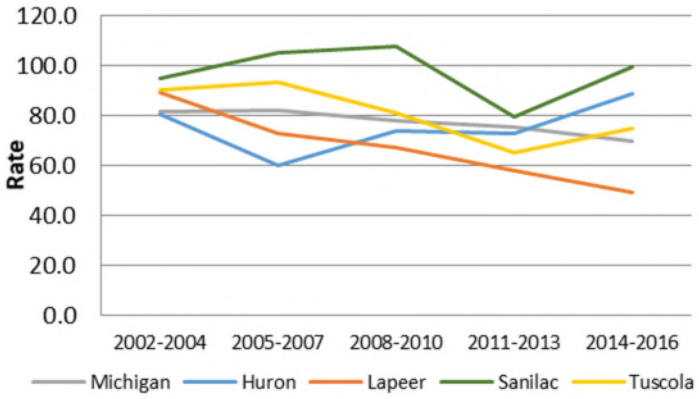
Diabetes mellitus is a metabolic disease that is caused by the body's inability to produce or respond appropriately to insulin. Insulin is a crucial hormone required for absorbing and using glucose (sugar) for fuel. If insulin is not produced or used, serious health complications can arise. There are three types of diabetes:

- Type 1: The body does not produce insulin; highly linked to genetic predisposition.
- Type 2: Caused by resistance to insulin. Prevalence is higher with patients over age 60 and is associated with diets high in sugar, obesity and overweight status, and lack of physical activity. Depression and diabetes also have a high rate of comorbidity.
- Gestational: Occurs during pregnancy and can lead to complications for the mother and baby. This type is also known to be associated with type 2 diabetes later in life.

Rural areas have an overall diabetes prevalence rate of 15 to 17 percent higher than urban areas. However, different ethnicities and geographic regions of the United States vary. In Rural communities, there are unique challenges and barriers to self-management of Type 2 diabetes. Lack of diabetes education programs, lack of knowledge regarding the importance of different types of screenings (i.e. eye exams, foot exams), financial burdens of medication and diabetes supplies, readily available fast food, lack of access to healthy food and physical activity opportunities, and cultural eating patterns all impact the prevalence of diabetes in rural areas. Additionally, those with depression face additional hurdles to accessing mental health including a lack of mental health providers and stigma. (Healthy People 2020- US Department of Health & Human Services)

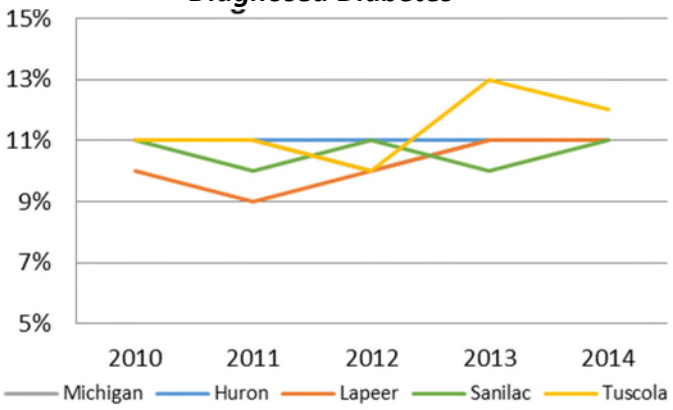
DIABETES- 7TH LEADING CAUSE OF DEATH

Figure 33: Diabetes Mortality Trends, Age Adjusted Rate/100,000



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 34: % of Adults age 20 and Above with Diagnosed Diabetes

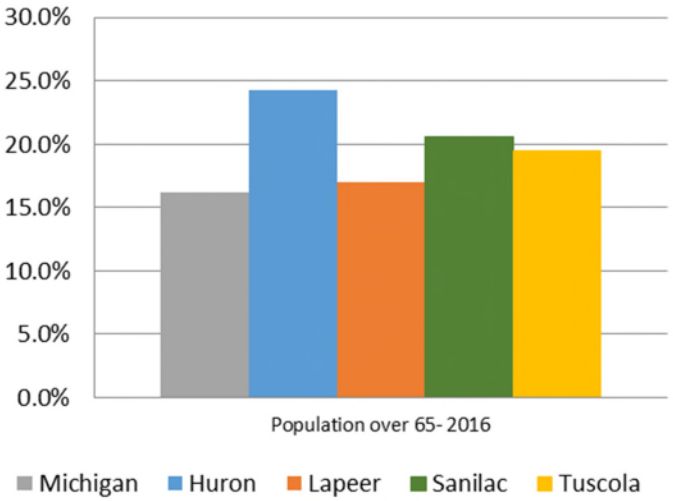


CDC Diabetes Interactive Atlas
www.countyhealthrankings.org

Related Healthy People 2020- Objectives

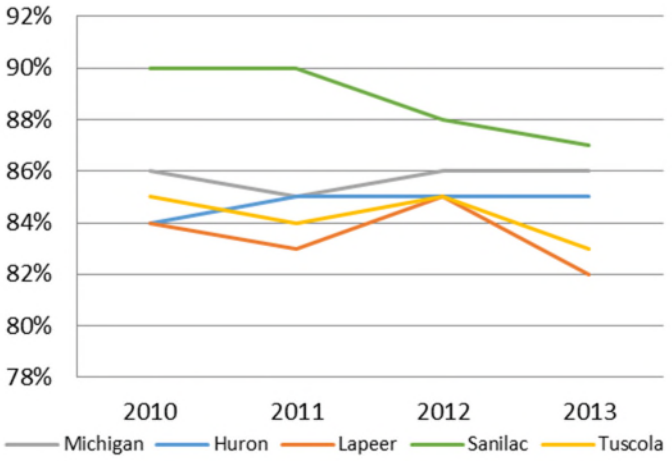
D-1 Reduce the annual number of new cases of diagnosed diabetes; **D-3** Reduce diabetes death rate; Among person with diabetes… **D-4** Reduce rate of lower extremity amputations; **D-5** Improve glycemic control; **D-6** Improve lipid control; **D-7** Increase blood pressure control; **D-8** Increase annual dental examination; **D-9** Increase annual foot examination; **D-10** Increase annual dilated eye examination; **D-11** Increase glycosylated hemoglobin measurement at least twice a year; **D-12** Increase annual urinary microalbumin measurement; **D-13** Increase self-blood glucose-monitoring daily; **D-14** Increase formal diabetes education; **D-15** Increase diagnosis; D-16 Increase prevention behaviors

Figure 35: % of Population over age 65 (2016)



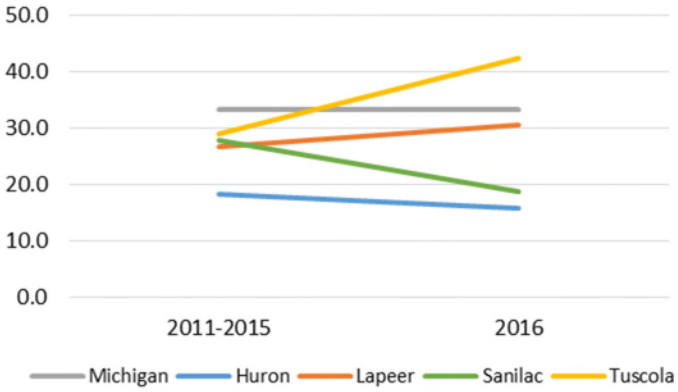
U.S. Census
www.countyhealthrankings.org

Figure 36: % of Diabetic Medicare Enrollees Ages 65-75 that receive HbA1c Monitoring



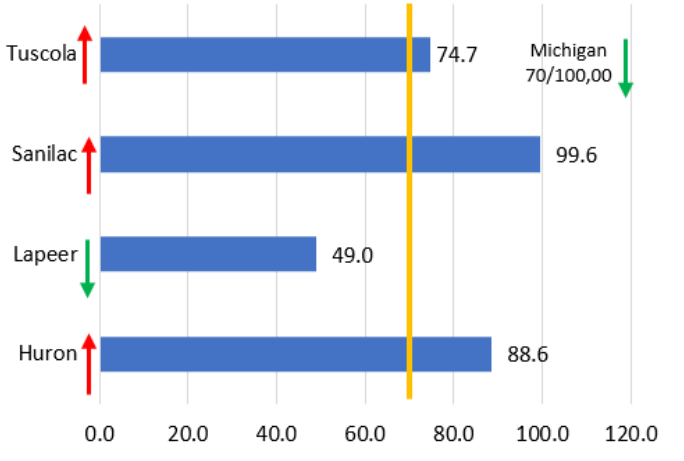
Dartmouth Atlas of Health Care
www.countyhealthrankings.org

Figure 37: Hospitalizations- Diabetes age 65+



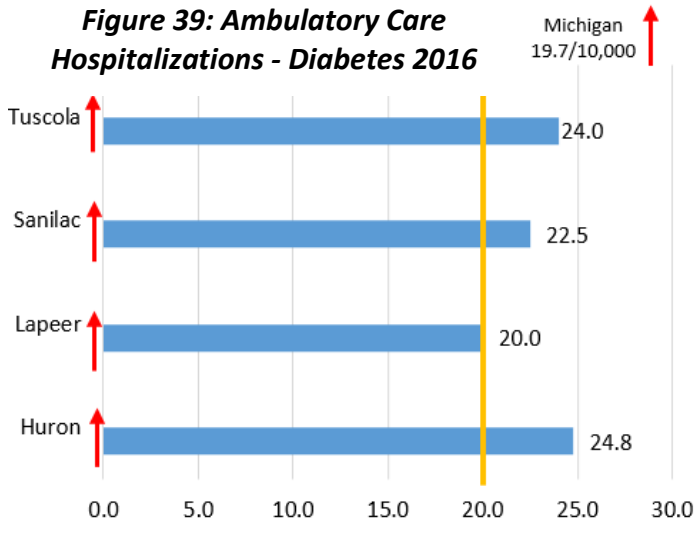
Michigan Department of Health and Human Services
http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_39424-134707--,00.html

Figure 38: Diabetes Mortality Trends, 2014-2016



Michigan Department of Health and Human Services
http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_39424-134707--,00.html

Figure 39: Ambulatory Care Hospitalizations - Diabetes 2016



Michigan Department of Health and Human Services
http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_39424-134707--,00.html

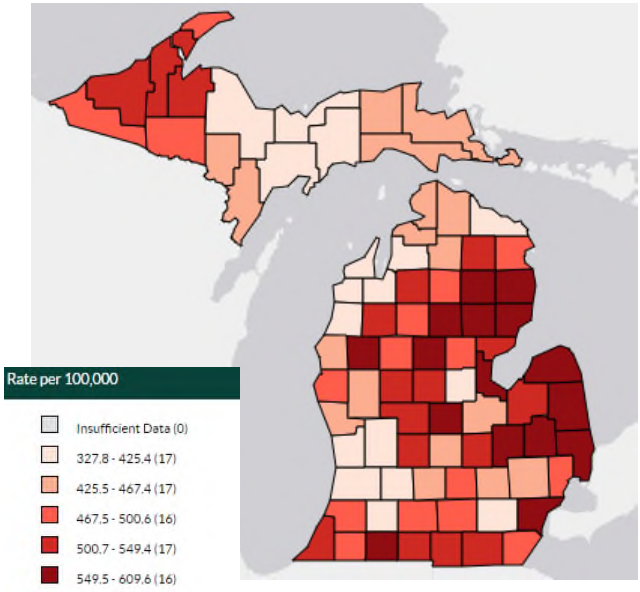
Heart Disease

SCOPE OF THE PROBLEM

Heart Disease is the leading cause of death in both Michigan and the United States. Factors such as hypertension, cholesterol levels, and obesity all play a role in the prevalence of cardiovascular disease. The after-effects of a stroke can be particularly debilitating and the degree of after-effects are closely linked to the passage of time between the onset of a stroke and treatment. While genetics plays a role in the incidence of cardiovascular disease, many risks are modifiable such as hypertension, obesity, diabetes, high cholesterol, smoking, illegal drug use, and excessive alcohol use. The single most effective prevention therapy for stroke has been blood pressure control. The repositioning of stroke as the fourth, rather than third leading cause of mortality has been attributed to improvements in the control of hypertension (Go AS, Mozaffarian D, Roger VL, et al.). Diseases of the heart represent about three-fourths of all mortality from cardiovascular diseases. The most common form of heart disease is coronary heart disease, often referred to as hardening of the arteries. Rural disparities in healthcare related to access to emergency treatment, effective acute management of stroke, and rehabilitation therapy can contribute to decreased patient outcomes. Additionally, rural residents may not have as many opportunities to receive essential education on prevention of cardio-vascular disease (lifestyle modification or self-management of risk factors) and recognizing the signs and symptoms of heart disease and stroke. Access barriers such as cost, transportation, lack of primary care providers, and social isolation also play a role in modifying risks. (Healthy People 2020- US Department of Health & Human Services)

Figure 40: Map of Heart Disease Death Rates

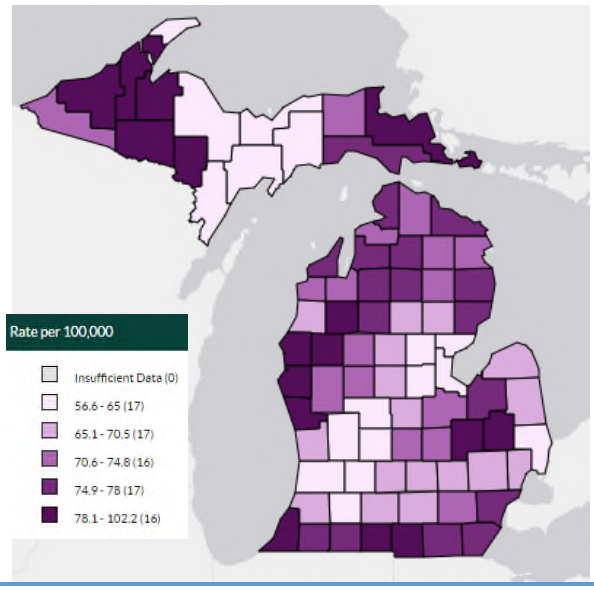
LEADING CAUSE OF DEATH



2013-2015 Center for Disease Control; Interactive Atlas
https://nccd.cdc.gov/DHDSPAtlas/Default.aspx

Figure 41: Map of Stroke Death Rates

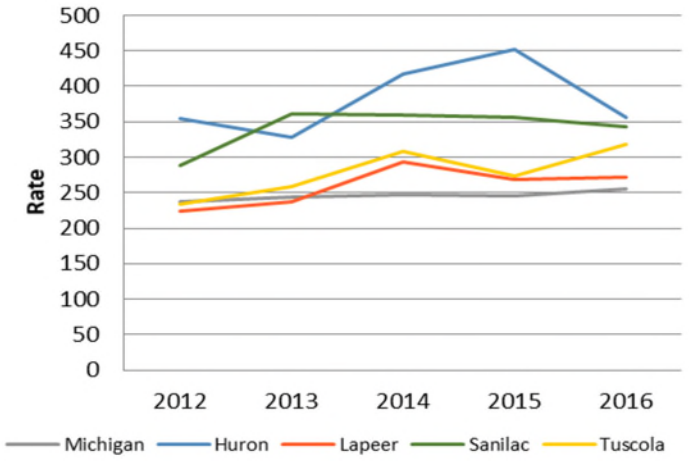
4TH LEADING CAUSE OF DEATH



Related Healthy People 2020- Objectives

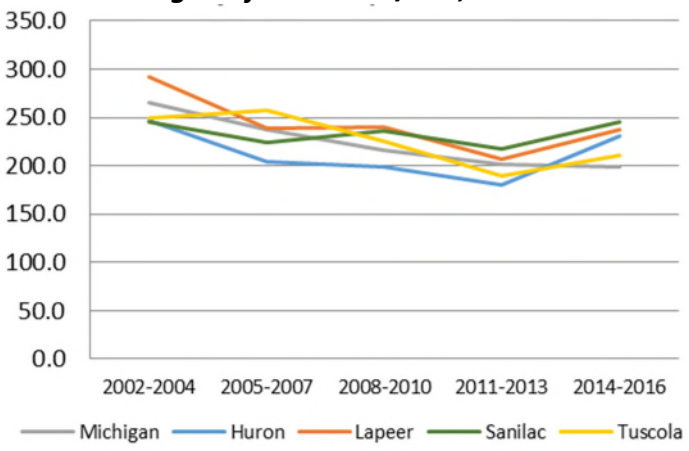
HDS-1 Increase overall cardiovascular health in the U.S. population**; HDS-2** Reduce coronary heart disease deaths; **HDS-3** Reduce stroke deaths; **HDS-4** Increase the proportion of adults who have had their blood pressure measured within the preceding two years and can state whether their blood pressure was normal or high; **HDS-5** Reduce the proportion of persons in the population with hypertension; **HDS-6** Increase the proportion of adults who have had their blood cholesterol checked within the preceding five years; **HDS-7** Reduce the proportion of adults with high total blood cholesterol levels; **HDS-8** Reduce the mean total blood cholesterol levels among adults; **HDS-10** Increase the proportion of adults with hypertension who meet the recommended guidelines

Figure 42: Heart Disease Crude Death Rates/100,000



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 43: Heart Disease Mortality Trends Age Adjusted Rate/100,000



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 44: Heart Disease, Rate/100,000 Years of Potential Life Lost

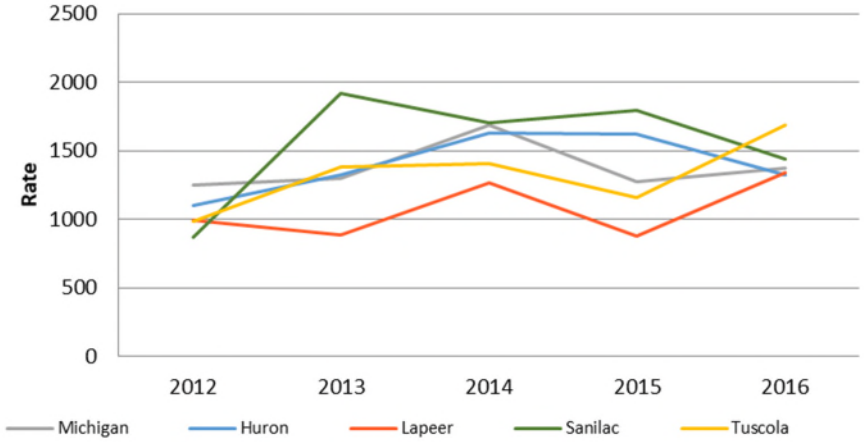
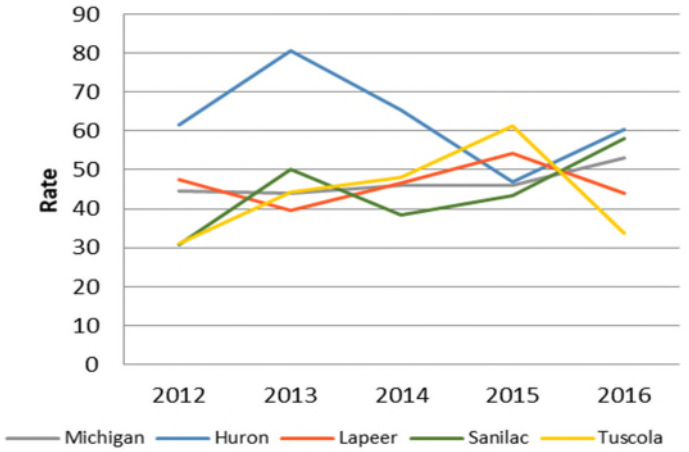
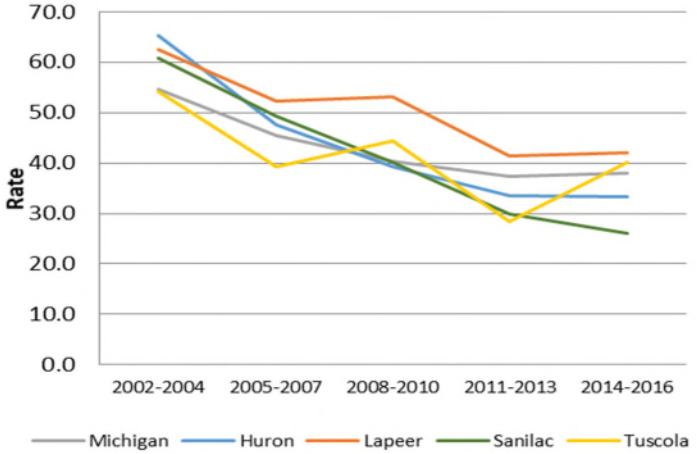


Figure 45: Stroke Crude Death Rates/100,000



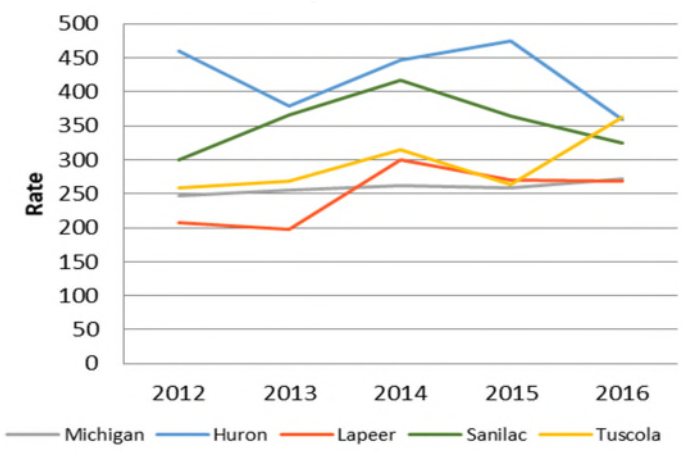
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 46: Stroke Age Adjusted Mortality Trend



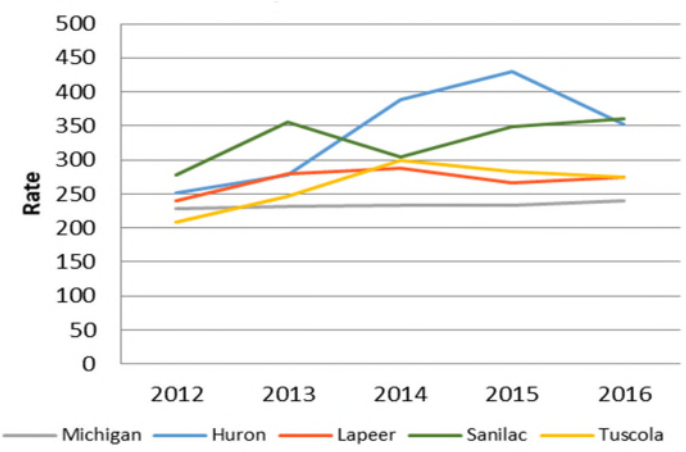
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 47: Heart Disease Crude Death Rates/100,000- Males



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 48: Heart Disease Crude Death Rates/100,000- Females



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 49: 2016 Heart Disease Years of Potential Life Lost Rate/100,000

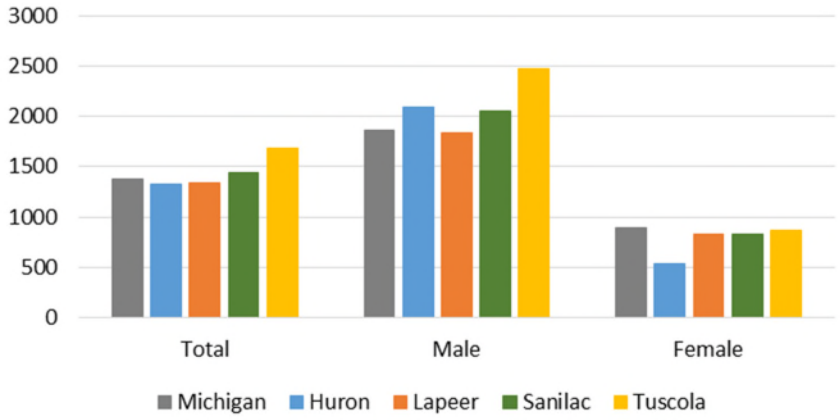
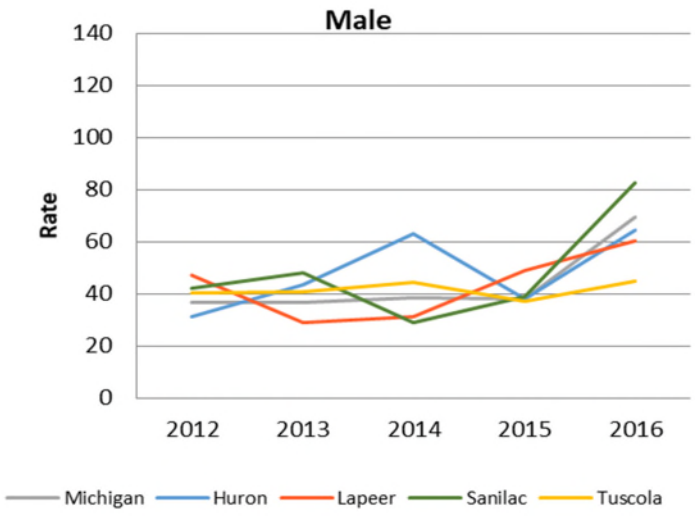
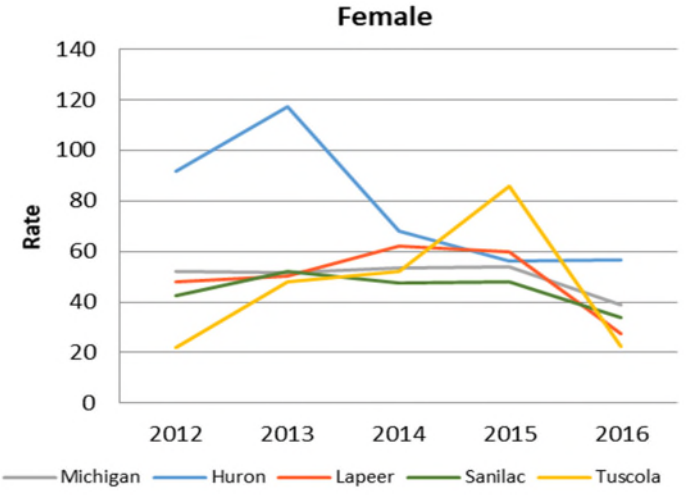


Figure 50: Stroke Crude Death Rates/100,000



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

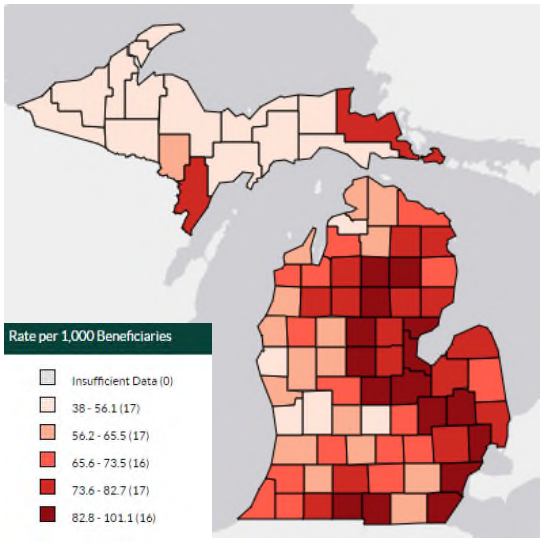
Figure 51: Stroke Crude Death Rates/100,000



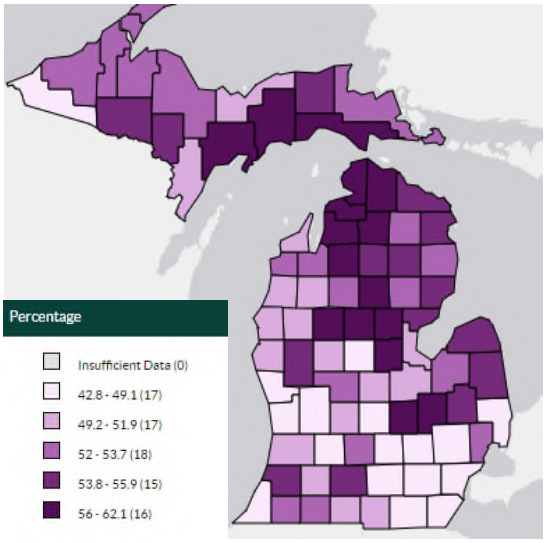
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 52: Medicare Hospitalization Maps for Heart Disease and Stroke

2014 HEART DISEASE HOSPITALIZATIONS RATE/1000 FOR MEDICARE, AGE 65+

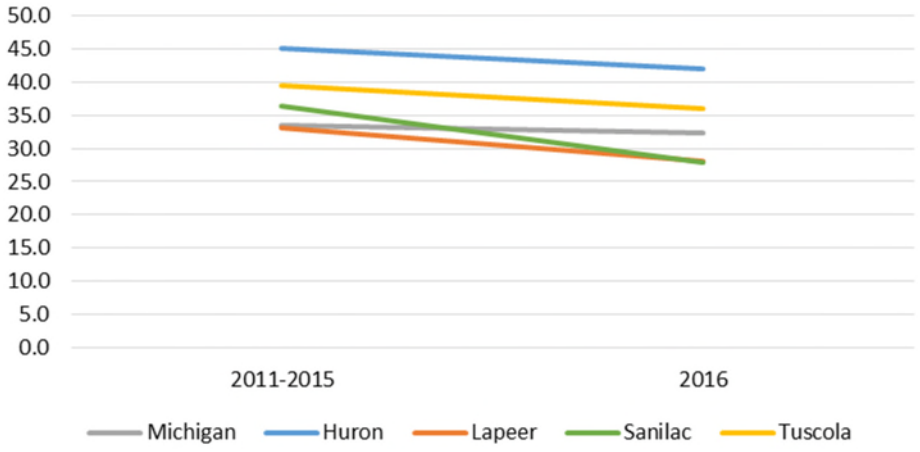


2014 STROKE HOSPITALIZATIONS; PERCENTAGE DISCHARGED HOME FOR MEDICARE, AGE 65+



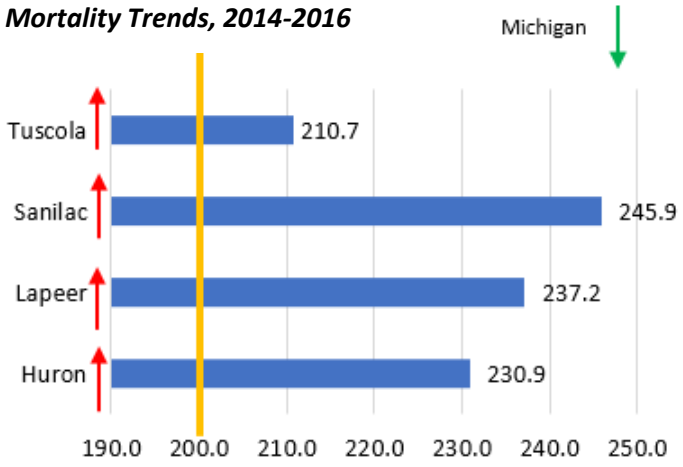
2013-2015 Center for Disease Control; Interactive Atlas
https://nccd.cdc.gov/DHDSPAtlas/Default.aspx

Figure 53: Ambulatory Care Sensitive Hospitalizations/10,000 Cerebrovascular Disease



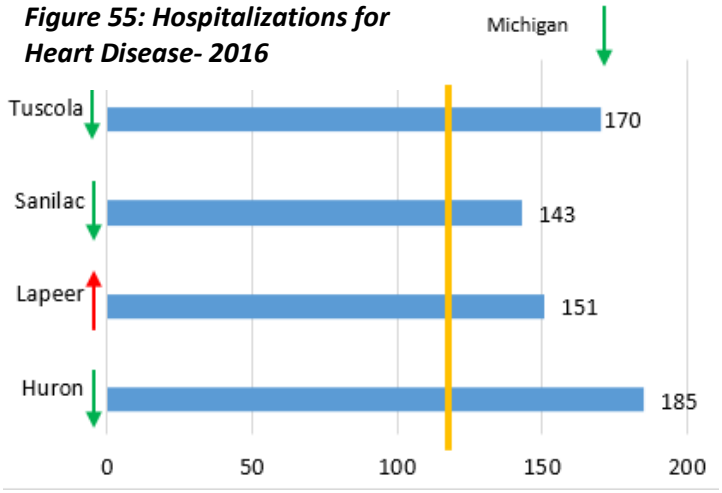
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 54: Heart Disease Age Adjusted Mortality Trends, 2014-2016



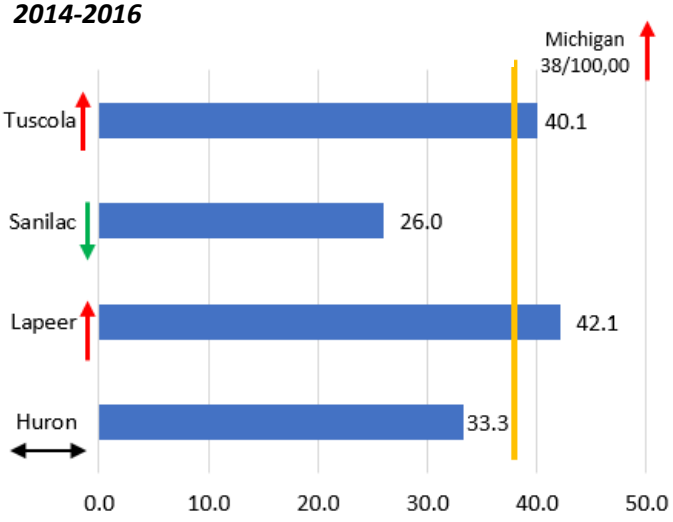
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 55: Hospitalizations for Heart Disease- 2016



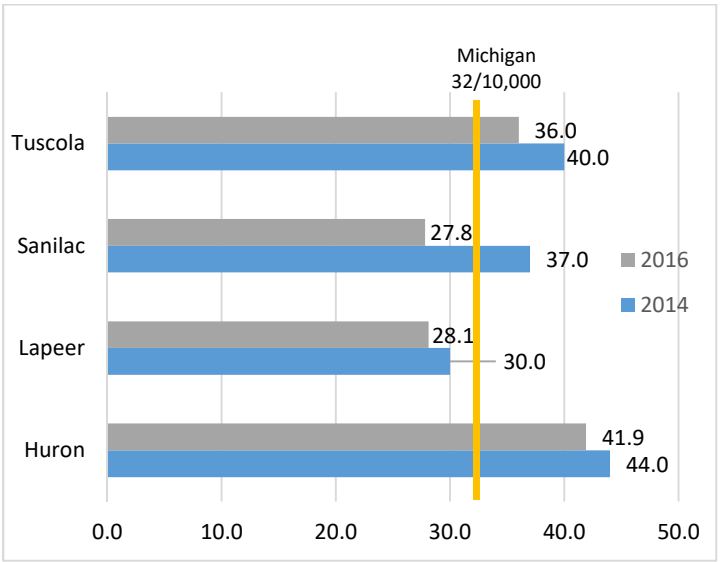
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 57: Stroke Mortality Trends, 2014-2016



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 56: Hospitalizations Cerebrovascular Disease



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

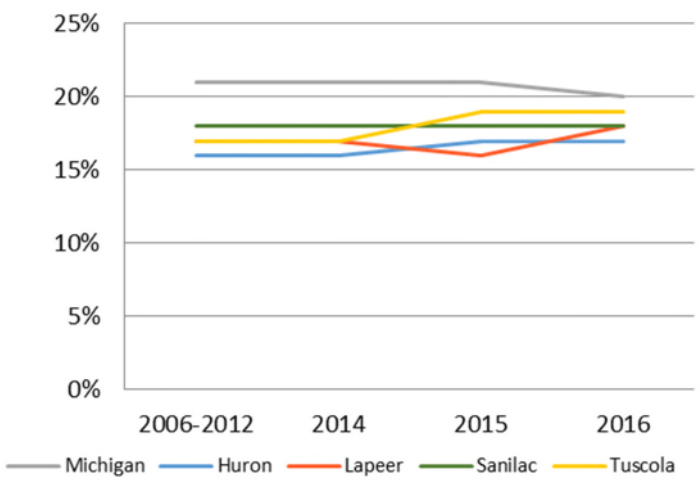
Tobacco Use

SCOPE OF THE PROBLEM

Tobacco use is significantly associated with the four main preventable causes of death in the United States: cancer, heart disease, cardiovascular disease, and pulmonary disease. Rural populations are already significantly disadvantaged by lack of access to health care generally, but when combined with tobacco addiction, rural populations significantly increase their risk for chronic conditions. In addition to being at a greater risk for tobacco-related morbidity and mortality due to their own tobacco use, rural populations are also disproportionately affected by secondhand smoke. (Vander Weg MW CC, Howren MB, Cai X., Vander Weg MW CC, Howren MB, Cai X.) While adult smoking rates have leveled off in the area and are lower than the state, two populations are of particular concern.

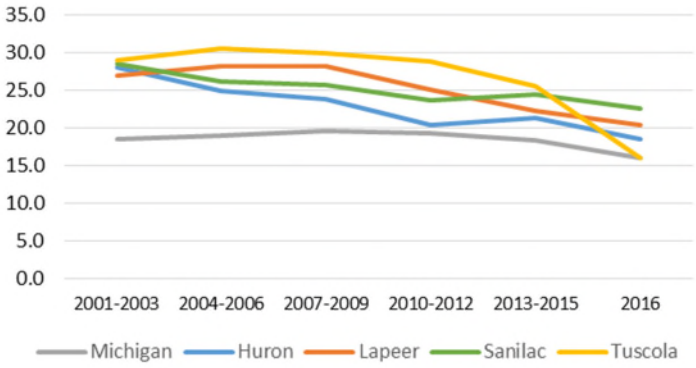
1) Rural youth have higher rates of cigarette and smokeless tobacco use than urban counterparts. Research indicates that rural youth initiate tobacco use at an earlier age and, therefore, are more nicotine dependent, making cessation more difficult. Rural youth tobacco users may be at an increased risk for anxiety and depression because smoking and mental health issues tend to co-occur among this population. (Rural Healthy People 2020, Vol I). Vaping is also a new trend that may replace tobacco use and increase risk of substance use disorder.
2) Pregnant women are almost three times more likely to smoke compared to their urban counterparts even when other factors are accounted for (American Lung Association). Recent rates have seen a slight decrease.

Figure 58: % of Adults who Smoke



Behavioral Risk Factor Surveillance System
www.countyhealthrankings.org

Figure 59: % of Live Births to Women Who Smoked During Pregnancy



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Related Healthy People 2020- Objectives

TU-1&2 Reduce tobacco use by adults; adolescents; **TU-4-5-6** Increase smoking cessation attempts by adult smokers; during Pregnancy; **TU-9&10** Increase tobacco screening and cessation counseling in health care settings; **TU-11** Reduce the proportion of nonsmokers exposed to secondhand smoke; **TU-12** Increase the proportion of persons covered by indoor worksite polices that prohibit smoking; **TU-13** Establish laws on smoke-free indoor air that prohibit smoking in public places and worksites

Michigan Profile for Healthy Youth
Data not available for Michigan and Lapeer
https://mdoe.state.mi.us/schoolhealthsurveys/ExternalReports/CountyReportGeneration.aspx

Figure 60: % of 9th and 11th graded students who report it is easy to get cigarettes

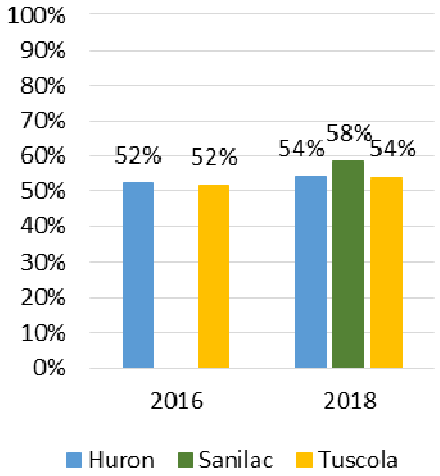


Figure 61: % of 9th and 11th grade students who report smoking cigarettes is a moderate or great risk

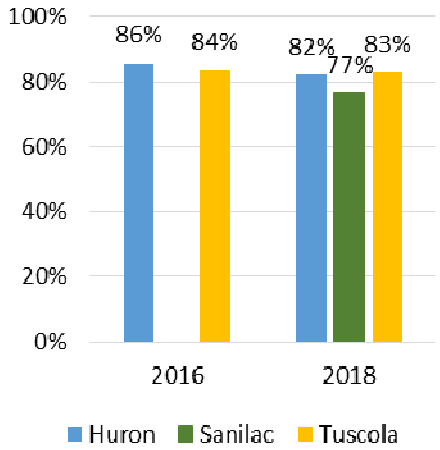


Figure 62: Among current 9th and 11th grade smokers, % who tried to quit in past 12 months

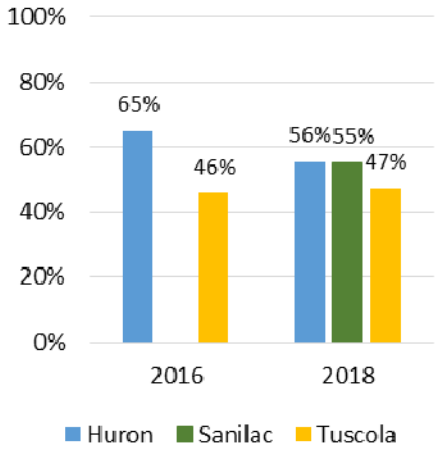
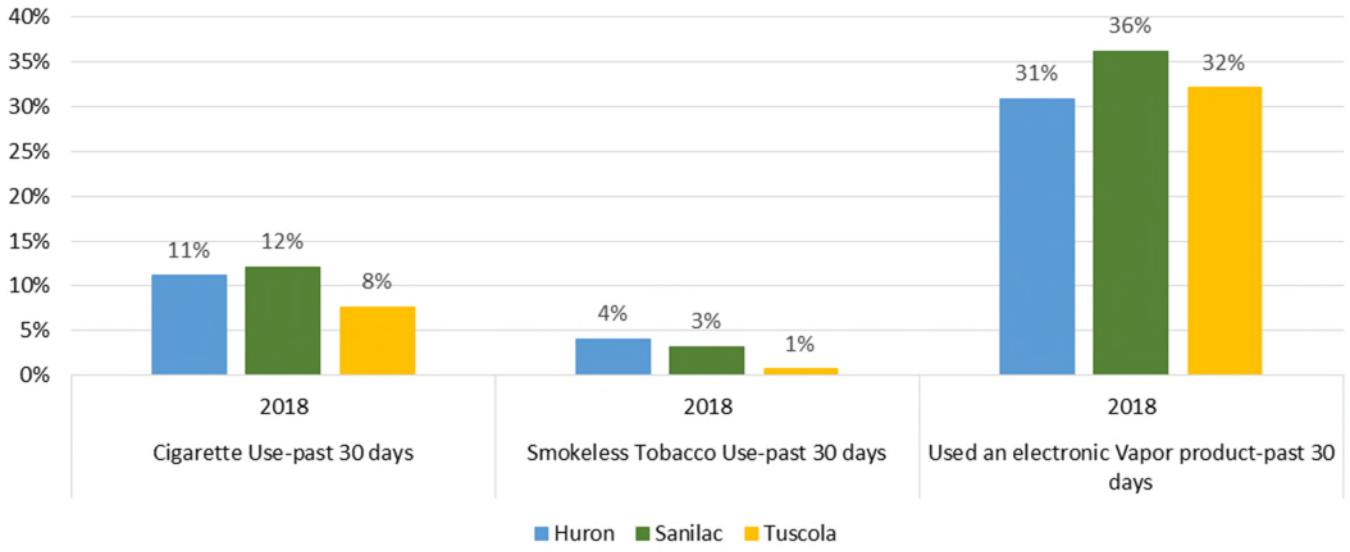


Figure 63: Ninth and Eleventh Grade Tobacco Use



SCOPE OF THE PROBLEM

Cancer is the second leading cause of death in the United States and the local region. Cancer incidence and death rates are higher in rural communities. Many cancers are highly treatable if detected early. In rural areas, detection is not as timely and there are also differences in treatment. In particular breast, colorectal, and cervical cancer screenings have been shown to be less frequent in rural areas.

There are a number of barriers to prevention, screening, and treatment for cancer.

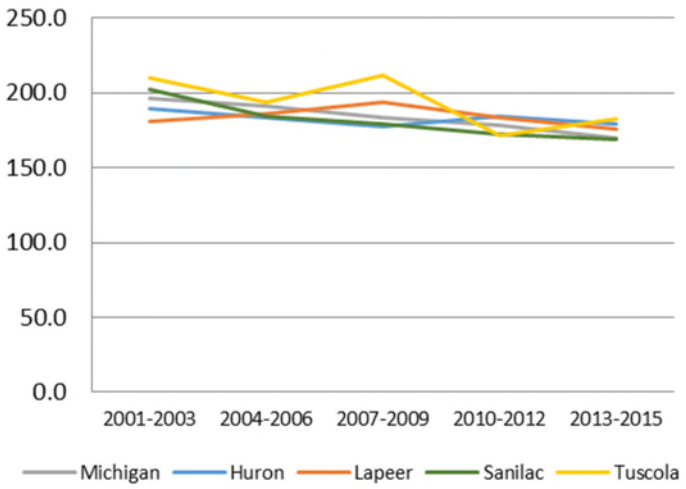
- Personal level barriers include knowledge, attitudes, and beliefs about cancer. Lack of insurance and cost barriers also play a factor alongside lack of transportation.
- System level barriers also exist included distance to a facility, inadequate physician recommendation, overall shortage of healthcare providers in rural areas, and lower participation in clinical trials.

Rural residents also tend to have higher risk factors. Tobacco use is associated with higher incidence of cancer and rural areas tend to have higher rates than their urban counterparts. Studies have also shown that healthy eating and physical activity are protective factors. As discussed in other sections, rural residents have higher rates of obesity and barriers to accessing healthy foods and opportunities for physical activity.

(Rural Healthy People 2020)

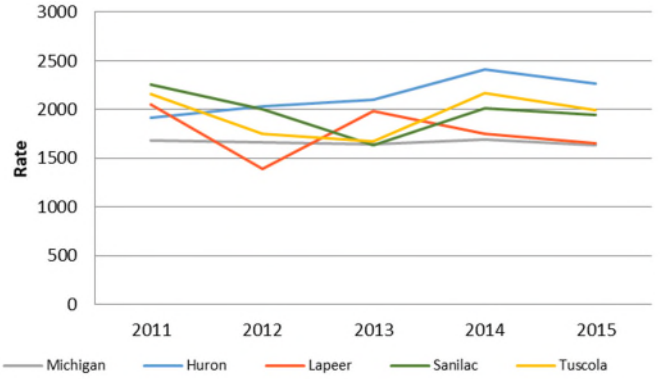
Figure 64: Cancer Mortality Trends Age Adjusted Rate/100,000

CANCER-2ND LEADING CAUSE OF DEATH



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 65: Cancer Years of Potential Life Lost Rate/100,000

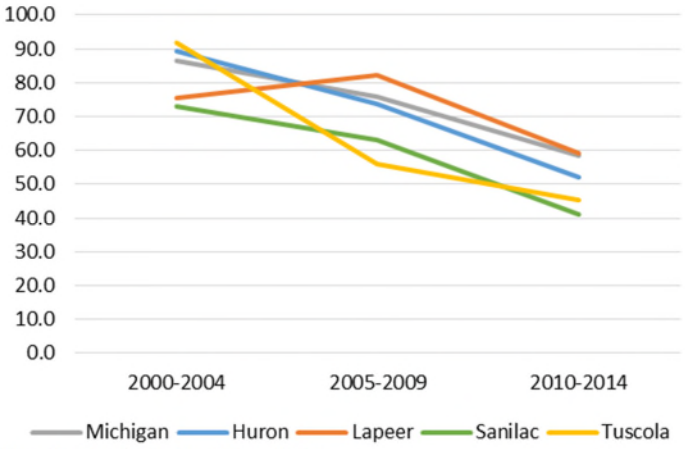


Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Related Healthy People 2020- Objectives

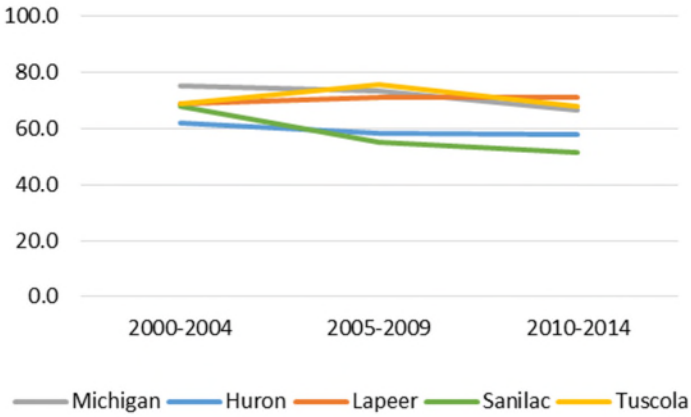
C-1 Reduce the overall cancer death rate; **C-9** Reduce invasive colorectal cancer; **C-10** Reduce invasive uterine cervical cancer; **C-11** Reduce late-stage breast cancer; **C-**13 Increase the proportion of cancer survivors who are living five years or longer after diagnosis; **C-15** Increase the proportion of women who receive a cervical cancer screening based on the most recent guidelines; **C-16** Increase the proportion of adults who receive a colorectal cancer screening based on the most recent guidelines; **C-17** Increase the proportion of women who receive a breast cancer screening based on the most recent guidelines

Figure 66: Prostrate Cancer Incidence Rates/100,000



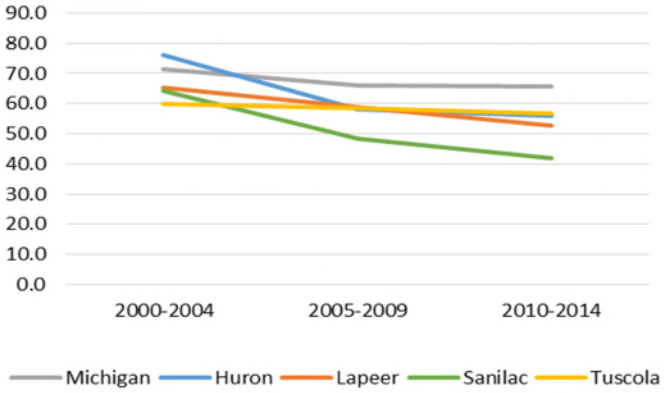
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 67: Lung and Bronchus Incidence Rates/100,000



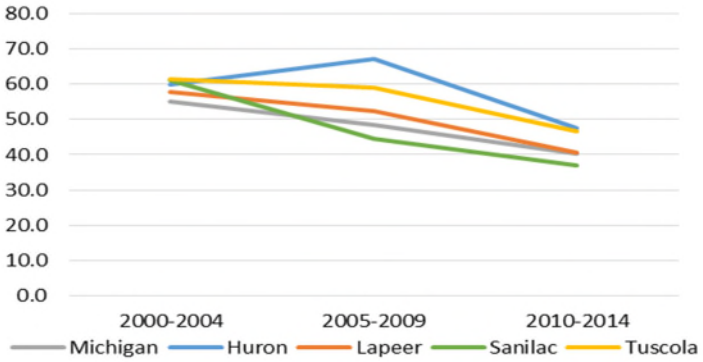
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 68: Breast Cancer Incidence Rates/100,000



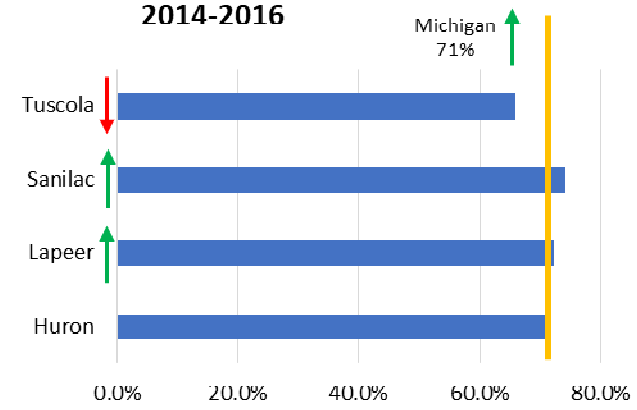
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 69: Colorectal Cancer Incidence Rates/100,000



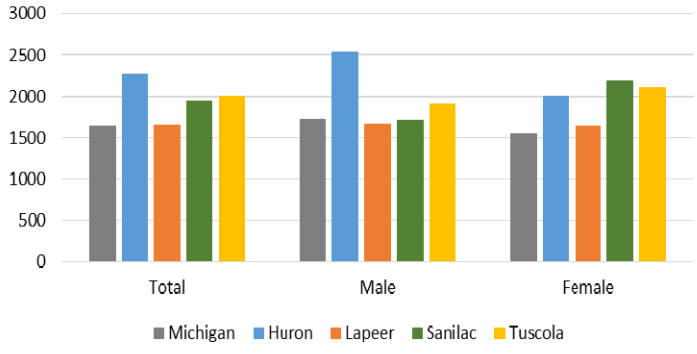
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 70: Colorectal Cancer Screening 2014-2016



Michigan Department of Health and Human Services
http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_39424-134707--,00.html

Figure 71: 2015 Cancer Years of Potential Life Lost Rate/100,000

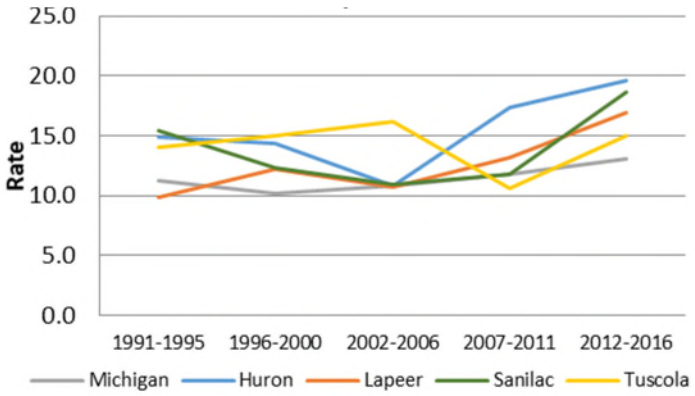


Michigan Department of Health and Human Services
http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_39424-134707--,00.html

SCOPE OF THE PROBLEM

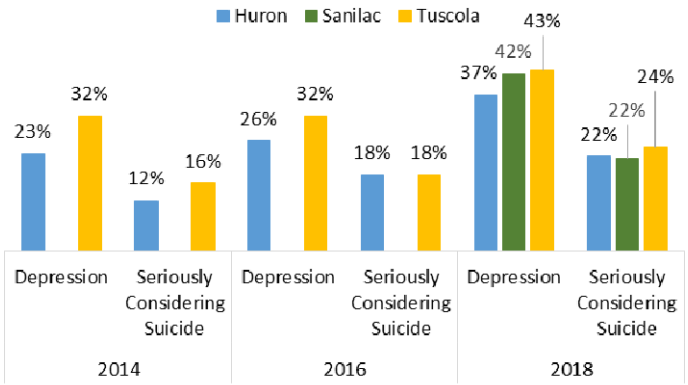
Mental health disorders are often associated with significant impairment and disability and result in substantial financial costs. It is estimated that mental illness costs the U.S. at least $300 billion annually, with disability benefit payments of about $24 billion, health care expenditures of $100 billion, and lost earnings and wages of approximately $193 billion (Kessler RC, Heeringa S, Lakoma MD, et al...) The impact of mental health conditions are exacerbated by lack of available services, limited specialty service, stigma association with mental health disorders, transportation to services, and cost of medications. The disability caused by mental health conditions can also interfere with self-management of health leading to co-morbidities. The shortage of mental health providers may contribute to a workforce that has a lower level of certification and is susceptible to burnout. Determining the prevalence of mental health disorders is challenging. It is estimated that over 46 percent of adults in the U.S. will develop a mental illness at some point during their lifetime (Kessler RC, Wang PS). It is estimated that 1 in 4 individuals has a mental health disorder. When substance use is included in that estimation, 1 in 3 people have a behavioral health disorder. It is estimated that among the 25% of the population with a mental health disorder, 40% experienced mild disorders, 37% experienced moderate disorders, and 22% experienced serious mental disorders (Bagalman E, Napili A.). Under-utilization of mental health services for rural residents translates into the increased likelihood that they will enter treatment with more severe disorders (Brossart DF, Wendel ML, Elliott TR, Cook HE, Castillo LG, Burdine JN) Research also shows that children and senior citizens are at risk for having an untreated mental health disorder. (Healthy People 2020- US Department of Health & Human Services)

Figure 72: Suicide Mortality Trends, Age Adjusted Rate/100,000



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 73: 9th and 11th grade Depression and Suicidal Ideations

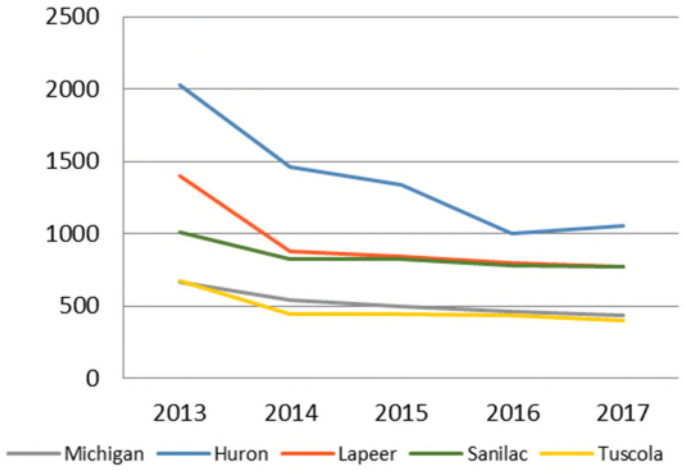


Data not available for Michigan and Lapeer. Sanilac only 2018 data available.
"% of 9th & 11th grade students who felt so sad or hopeless almost every day for two weeks or more in a row that they stopped doing some usual activities during the past 12 months"
Percentage of students who seriously considered attempting suicide during the past 12 months
Michigan Profile for Healthy Youth
https://mdoe.state.mi.us/schoolhealthsurveys/ExternalReports/CountyReportGeneration.aspx

Related Healthy People 2020- Objectives

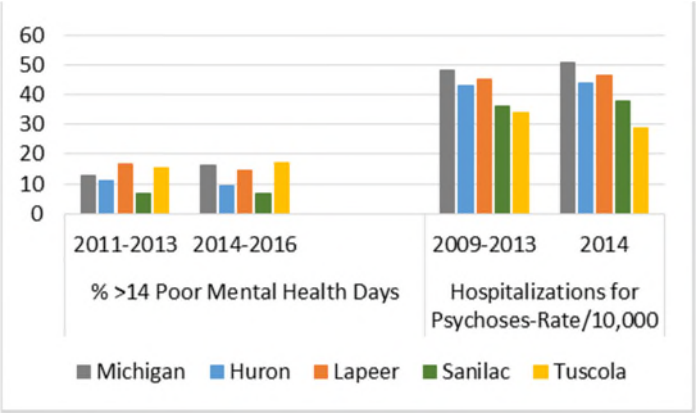
MHMD-1 Reduce the suicide rate; **MHMD-4.1** Reduce the proportion of adolescents aged 12 to 17 years who experience major depressive episodes (MDEs); **MHMD-6** Increase treatment for children with mental health problems; **MHMD-9** Increase treatment for adults with mental health disorders

Figure 74: Mental Health Provider Rates (Lower indicates greater access)



"Health Resources and Services Administration; US Health-Human Services "www.countyhealthrankings.org

Figure 75: Mental Health Indicators

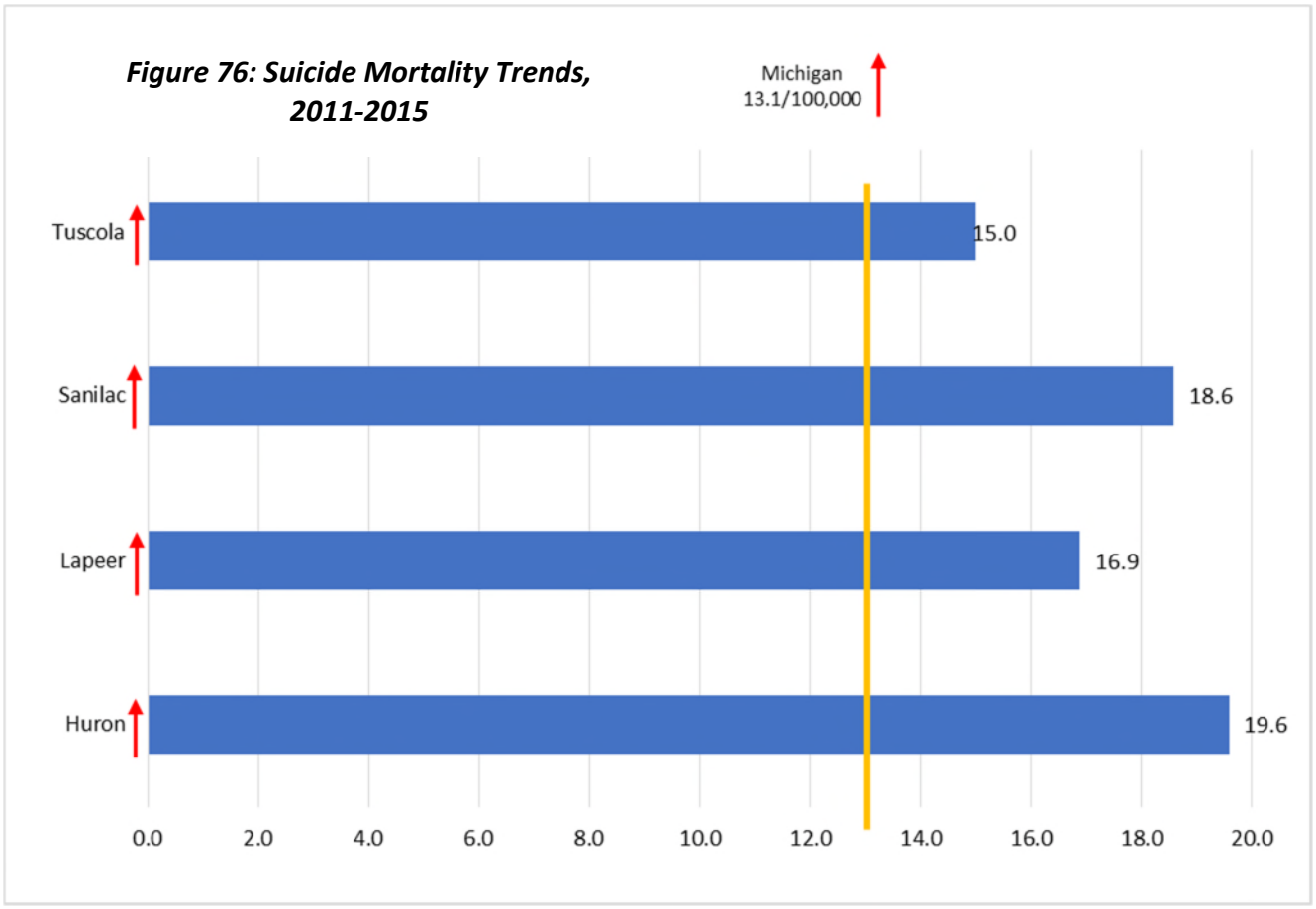


Michigan Department of Health and Human Services
http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_39424-134707--,00.html

Note: Data for Huron, Sanilac taken from TRHN oversampling in 2013 as rates were not available on the 2011-2013 state report.

Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 76: Suicide Mortality Trends, 2011-2015



Michigan Department of Health and Human Services
http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_39424-134707--,00.html

Substance Use Disorders

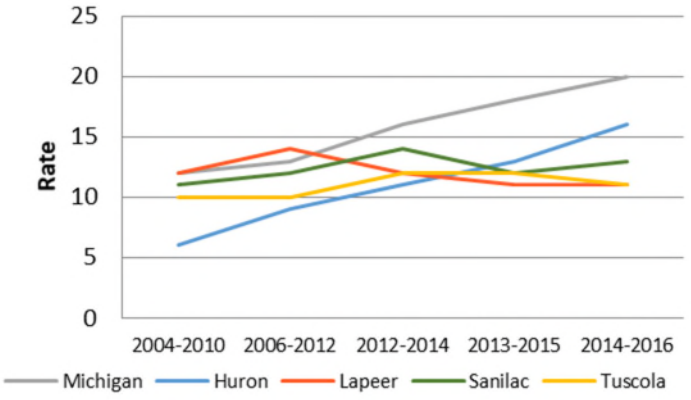
SCOPE OF THE PROBLEM

Substance Use Disorders (SUD) are "maladaptive patterns of substance use" that contribute to a myriad of health problems and, for certain individuals, leads to increased incidence of violence and accidents (American Psychiatric Association). Substances can be separated into two categories:

1) Licit Drugs: alcohol, tobacco, caffeine, drugs as appropriately prescribed and used
2) Illicit Drugs: substances used illegally such as meth-amphetamines, cocaine, and prescription drugs such as opioids when used improperly.

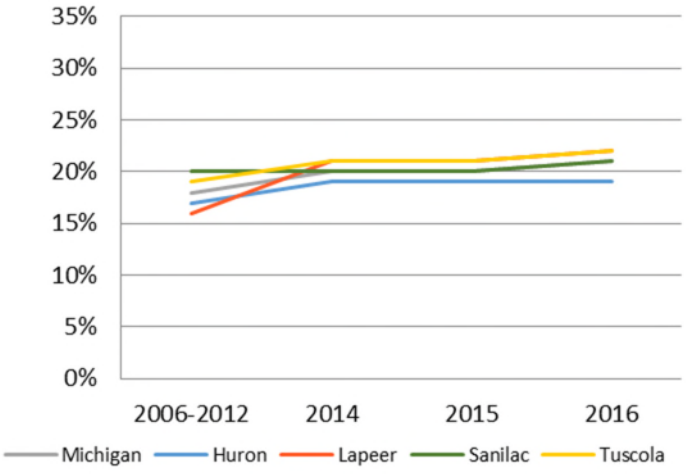
Prevalence of SUD appears to have characteristics that reflect both rurality and geographic regions across the United States. Across the United States and especially in rural communities there is a recent trend of increased nonmedical prescription drug use. One of the most recognized and expected barriers to lowering the number of people with SUD in rural America is the lack of access to appropriate treatment and interventions, combined with the lack of resources for SUD and mental health services in rural areas. (Curran GM, Ounpraseuth ST, Allee E, Small J, Booth BM.) However, rural residents who have SUD have lower treatment utilization even when services are available. A recent study of over 700 rural drug users found that, despite high levels of recent and lifetime self-reported SUD among rural residents, available treatment services were underutilized. (Curran GM, Ounpraseuth ST, Allee E, Small J, ooth BM.) (Healthy People 2020- US Department of Health & Human Services)

Figure 77: Drug Poisoning Deaths



Center for Disease Control- Compressed Mortality File
www.countyhealthrankings.org

Figure 78: % of Adults who have Engaged in Excessive Drinking

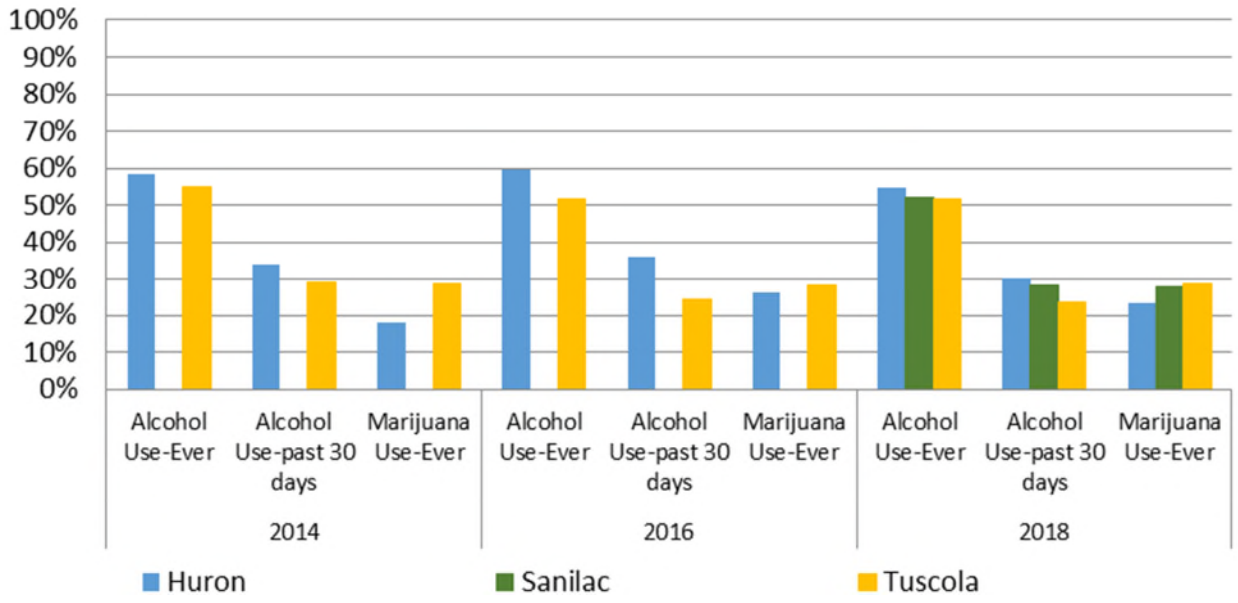


Behavioral Risk Factor Surveillance System
www.countyhealthrankings.org

Related Healthy People 2020- Objectives

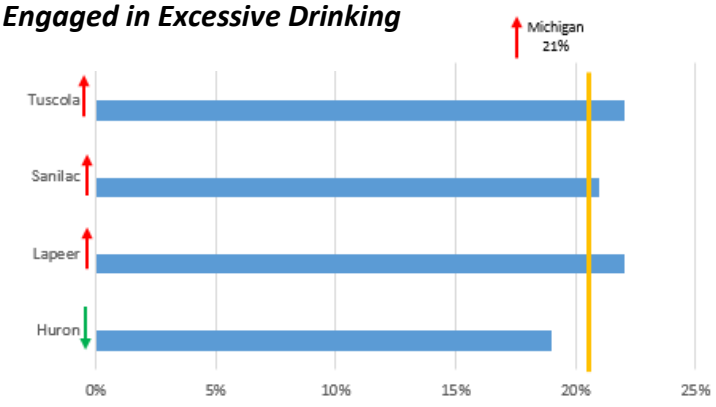
SA-2 Increase the proportion of adolescents never using substances; **SA-3** Increase the proportion of adolescents who disapprove of substance abuse; **SA-4** Increase the proportion of adolescents who perceive great risk associated with substance abuse; **SA-7** Increase the number of admissions to substance abuse treatment for injection drug use; **SA-10** Increase the number of Level 1 and Level 2 trauma centers and primary care settings that implement evidence-based alcohol Screening and Brief Intervention (SBI); **SA-12** Reduce drug-induced deaths; **SA-13** Reduce past-month use of illicit substances; **SA-14** Reduce the proportion of persons engaging in binge drinking of alcoholic beverages; **SA-16** Reduce average annual alcohol Consumption; **SA-17** Reduce the rate of alcohol-impaired driving (0.08+ blood alcohol content [BAC]) fatalities; **SA-19** Reduce the past-year nonmedical use of prescription drugs; **SA-20** Reduce the number of deaths attributed to alcohol

Figure 79: 9th & 11th Grade Alcohol and Marijuana Use



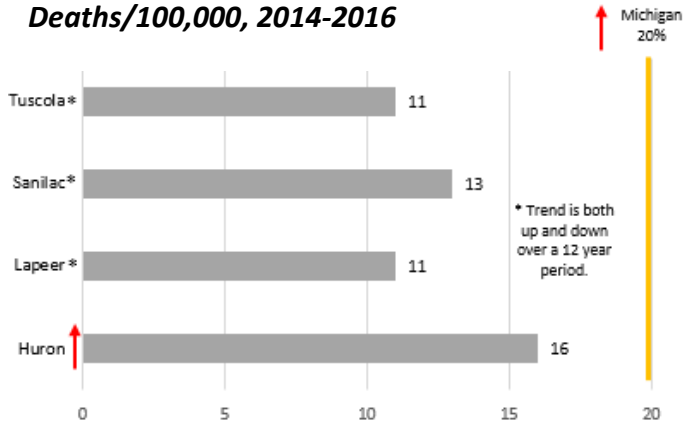
Data not available for Michigan and Lapeer. Sanilac is only available for 2018.
Michigan Profile for Healthy Youth
https://mdoe.state.mi.us/schoolhealthsurveys/ExternalReports/CountyReportGeneration.aspx

Figure 80: % of Adults Engaged in Excessive Drinking



Behavioral Risk Factor Surveillance System
www.countyhealthrankings.org

Figure 81: Drug Overdose Deaths/100,000, 2014-2016



Center for Disease Control- Compressed Mortality File
www.countyhealthrankings.org

Figure 82: Incidence of Neonatal Abstinence Syndrome by Perinatal Region

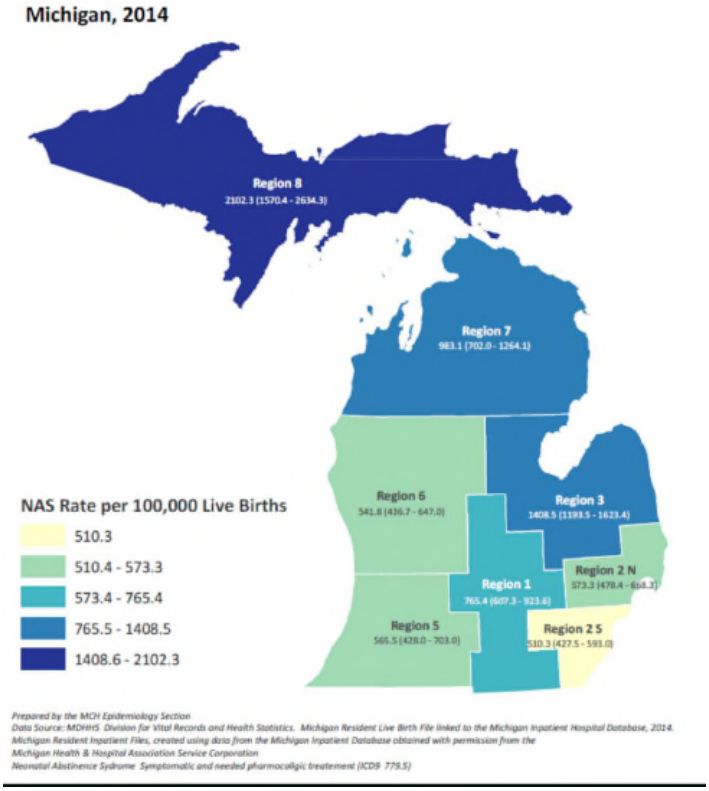
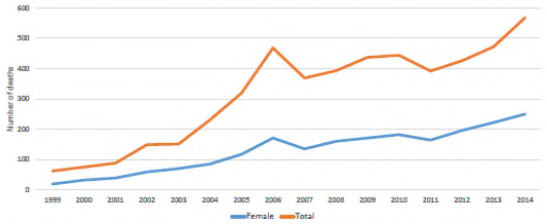


Figure 83: Number of Opioid-related Drug Poisoning Deaths, Females, Michigan (1999-2014)



Source: Michigan Death Certificate Files, Division for Vital Records and Health Statistics, MDHHS

*Opioid-related includes opioid w/o heroin or cocaine; opioid w/ heroin, w/o cocaine; opioid w/ cocaine, w/o heroin; opioid with heroin and cocaine

Perinatal Region 3

	Births	N with Treated NAS (779.5)	Rate per 100,000
2010	12,107	54	446.0
2011	11,749	96	817.1
2012	11,633	96	825.2
2013	11,632	118	1014.4
2014	11,715	165	1408.5

Michigan Resident Inpatient Files
Michigan Health and Hospital Association Service Corporation

https://www.michigan.gov/documents/mdhhs/Burden_of_Neonatal_Abstinence_Syndrome_in_Michigan_548268_7.pdf

Figure 84: Neonatal Abstinence Syndrome Rate per 100,000 Births Michigan -Perinatal Region 3

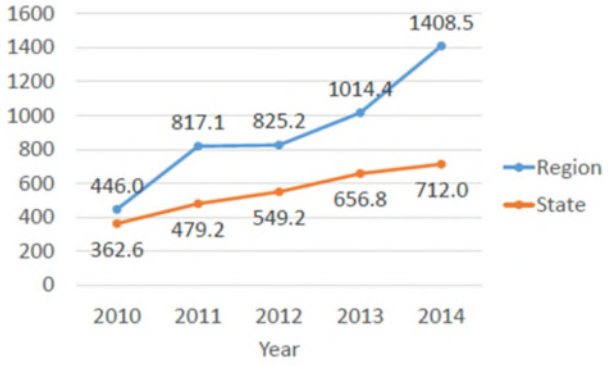
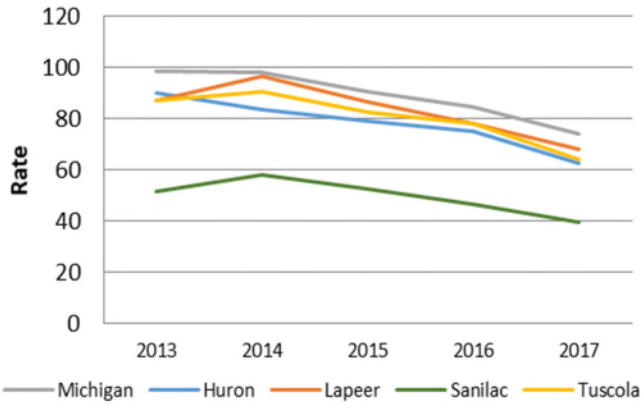


Figure 85: Opioid Prescribing Rate/100 People



Center for Disease Control
https://www.cdc.gov/drugoverdose/maps/rxrate-maps.html

Note: Michigan was tied for 10th highest rate for opioid prescribing in 2017.

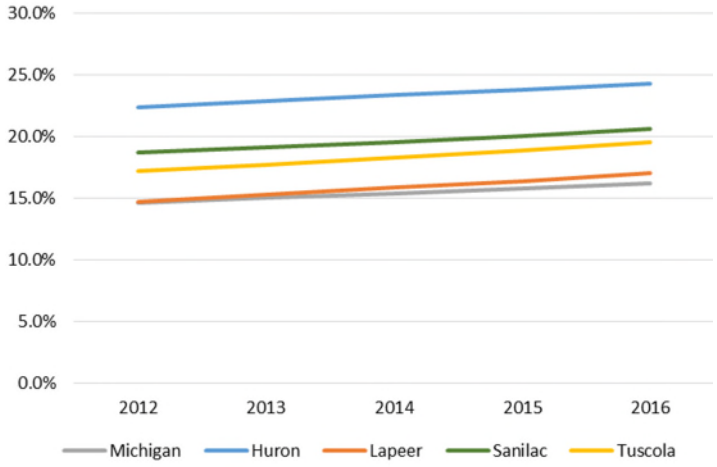
Older Adults

SCOPE OF THE PROBLEM

Older adults account for more than 17% of the population in all four counties in the Michigan Thumb Public Health Alliance. In Huron County, nearly one out of four people were over the age of 65 in 2014. (US Census) The American generation known as the "Baby Boomers" began reaching age 65 around 2010. There is an increase in health conditions that often develop as people age. Considering the health needs of this demographic population is important to both the quality of life of individuals and the overall cost of healthcare in rural areas. Among the older adult population, upwards of 91% have at least one chronic condition, while 73% have two or more chronic conditions (Anderson G. Chronic care: making the case for ongoing care). Increasing the quality of life and decreasing the extent of disability for the elderly population is possible through evidence based prevention programs and supports for chronic care self-management. Ensuring that there are adequate resources to support these efforts in rural communities is a challenge. This challenge is exacerbated by an overall shortage in healthcare providers, a lack of providers with geriatric credentials, and access barriers such as cost and transportation. Programs that address specific health conditions in the elderly population will also help to improve health outcomes for those over age 65. Data shows that a number of rural disparities exist for colorectal cancer screening, Alzheimer's care, physical activity and healthy eating, diabetes self-management, depression and mental health, and fall risks often due to environmental factors. (Healthy People 2020- US Department of Health & Human Services)

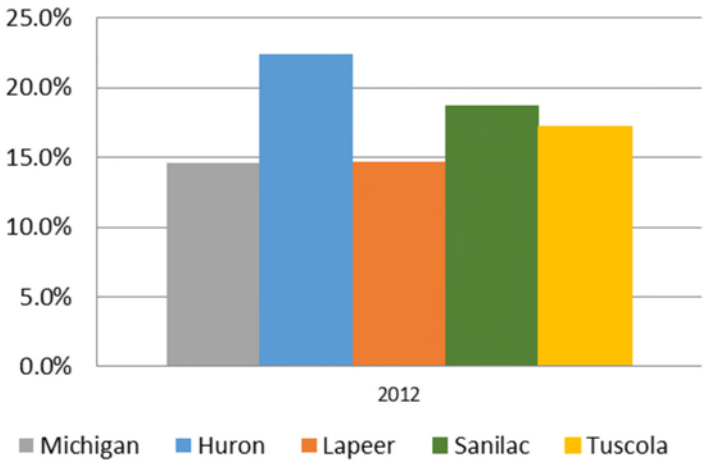
Figure 86: % of Populations over age 65, 2012-2016

A GROWING POPULATION



U.S. Census
www.countyhealthrankings.org

Figure 87: % of Population over age 65, 2014

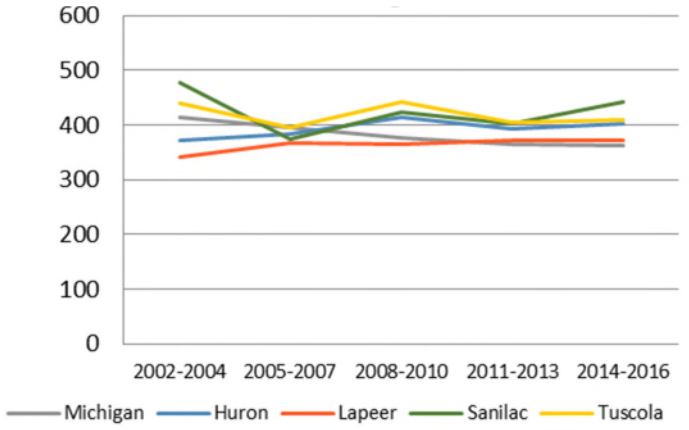


U.S. Census
www.countyhealthrankings.org

Related Healthy People 2020- Objectives

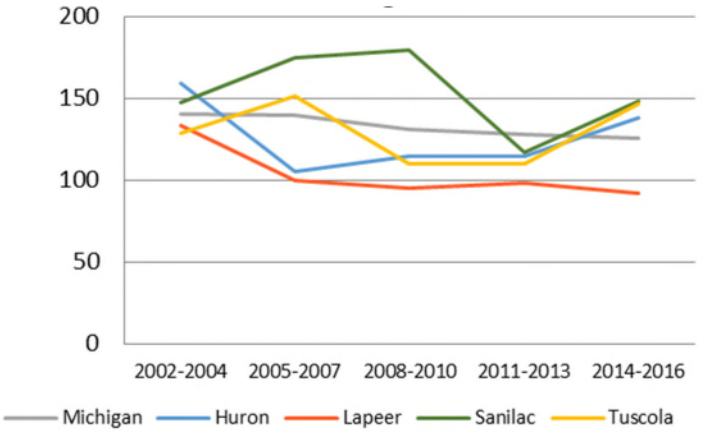
OA-3 Increase the proportion of older adults with one or more chronic health conditions who report confidence in managing their conditions; **OA-4** Increase the proportion of older adults who receive Diabetes Self-Management Benefits; **OA-5** Reduce the proportion of older adults who have moderate to severe functional limitations; **OA-6** Increase the proportion of older adults with reduced physical or cognitive function who engage in light, moderate, or vigorous leisure time physical activities; **OA-7** Increase the proportion of the health care workforce with geriatric certification; **OA-9** Reduce the proportion of unpaid caregivers of older adults who report an unmet need for caregiver support services; **OA-10** Reduce the rate of pressure ulcer-related hospitalizations among older adults; **OA-11** Reduce the rate of emergency department (ED) visits due to falls among older adults

Figure 88: Cancer Death Rates/100,000 Residents Age 50-75



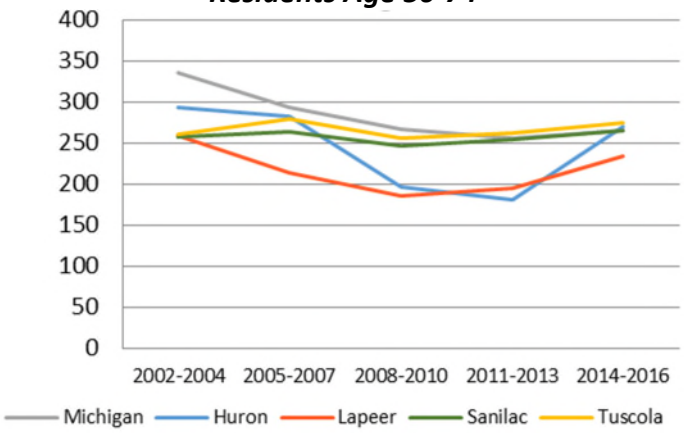
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 89: Diabetes Death Rates/100,000 Residents Age 50-74



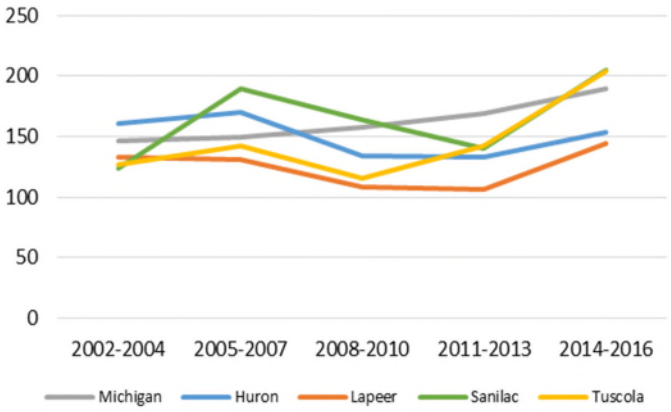
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 90: Heart Disease Death Rates/100,000 Residents Age 50-74



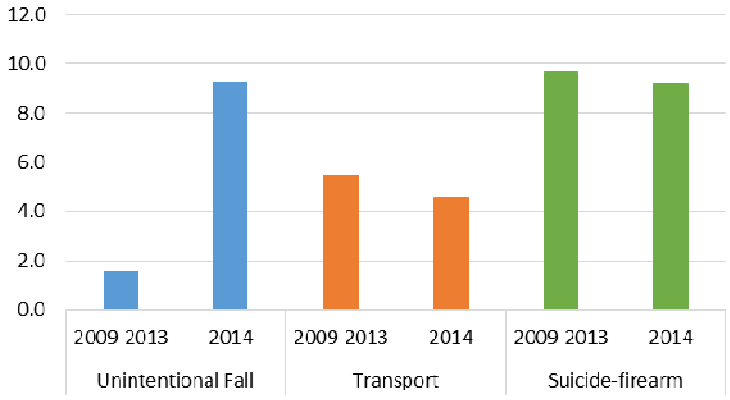
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 91: Unintentional Injuries Death Rate/100,000 Age 75+



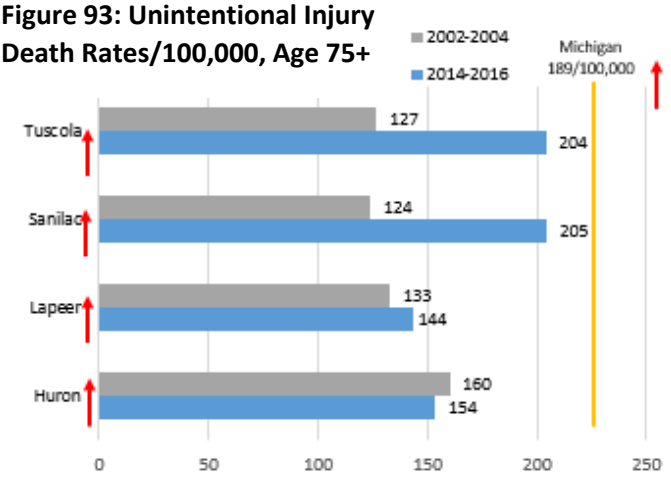
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 92: Top Three Causes of Fatal Injuries Michigan Rate/100,000 age 65+



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 93: Unintentional Injury Death Rates/100,000, Age 75+



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 94: Map of Persons 65+ Living Alone, 2012-2016

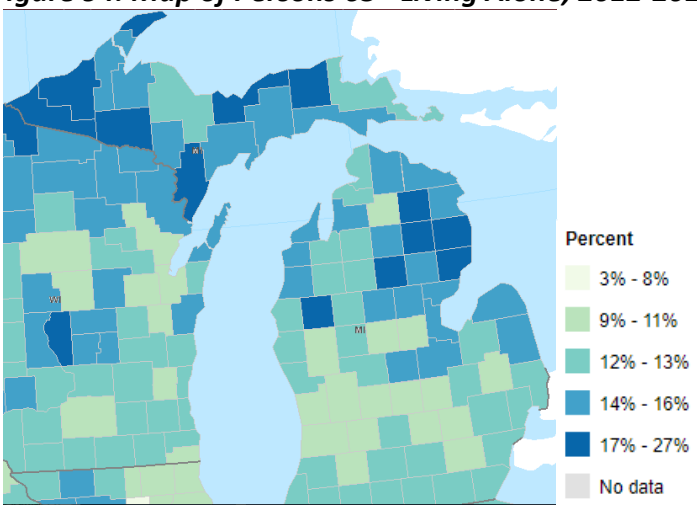
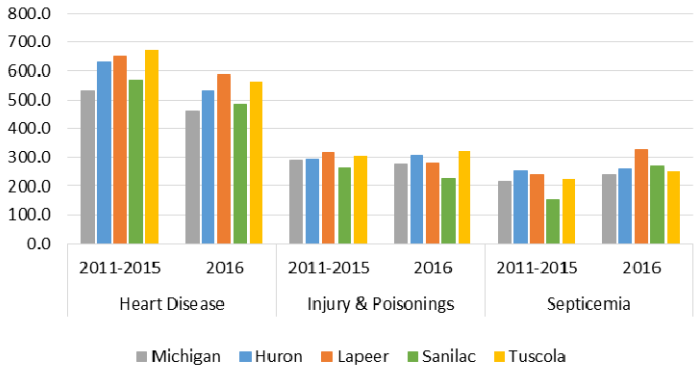


Figure 95: 2009-2013 Top Three Hospitalizations Rate/10,000 for those age 65+



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 96: % of Diabetic Medicare Enrollees ages 65-75 that Receive HbA1c Monitoring

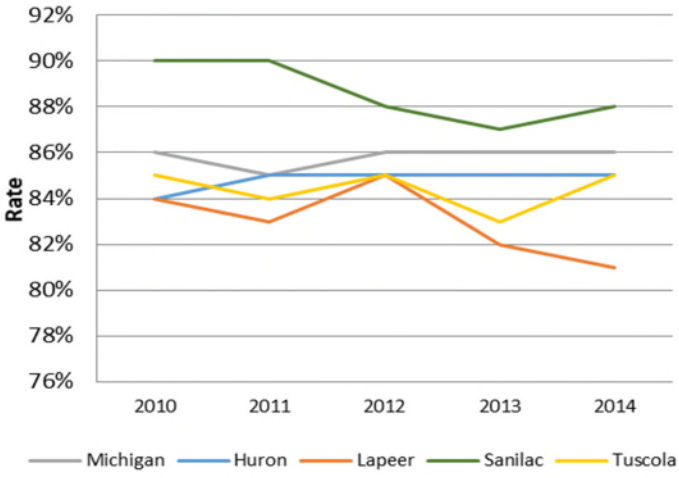
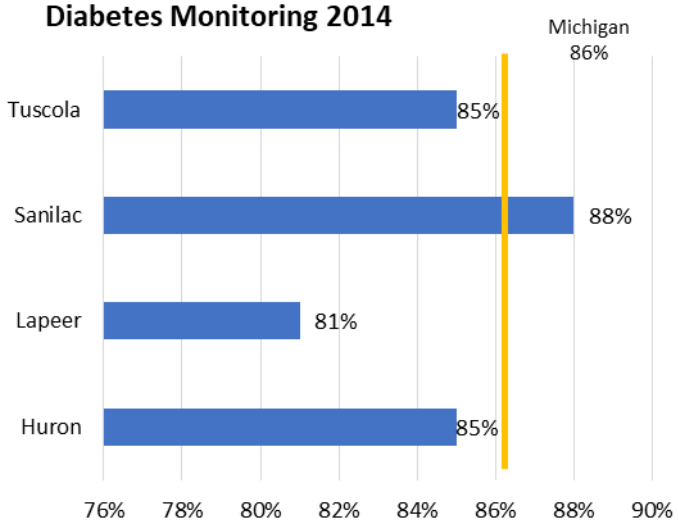


Figure 97: Diabetes Monitoring 2014



Dartmouth Atlas of Health Care
www.countyhealthrankings.org

Figure 98: % Disabled Residents of Huron, Sanilac, and Tuscola in 2013

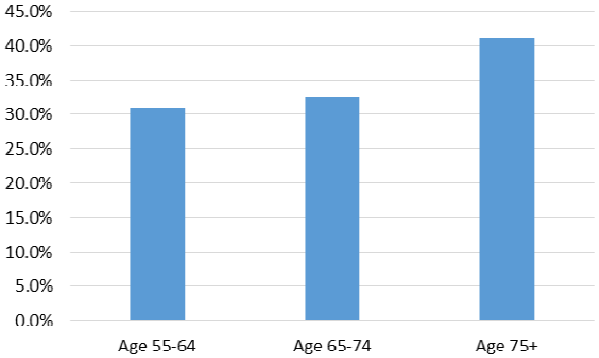
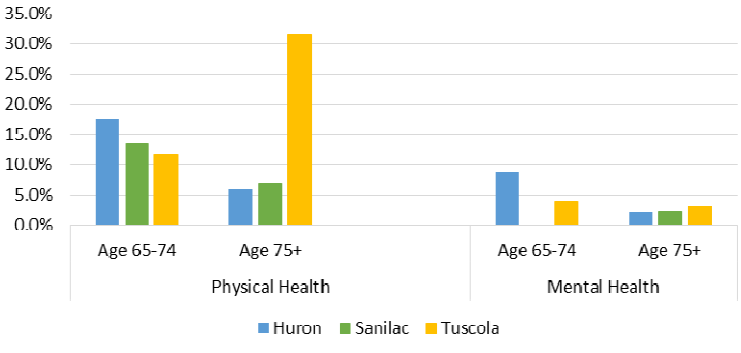


Figure 99: % who Reported Health was not Good for 14 or More of Previous 30 days



Thumb BRFS Oversampling Report- 2013, Lapeer data not available
Thumb Rural Health Network (Note: Age Breakdowns available for a wide variety of Behaviors)

Injury and Violence Prevention

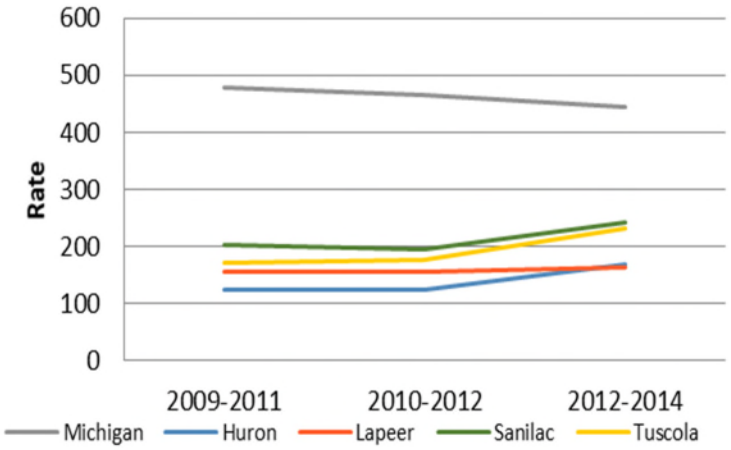
SCOPE OF THE PROBLEM

Injuries and violence have a significant impact on residents in rural communities. Aside from the resulting deaths, injuries account for a high cost in lost work, productivity, and quality of life. Pain from injuries can be long lasting and increase risk for opioid prescription use and addiction. Injuries among seniors can result in confinement and loss of independence. While rural communities typically see a lower rate of injuries resulting from crime and homicides, accidents and suicides are disproportionately higher in rural communities as compared to their urban counterparts. Injuries most frequently seen in rural communities are related to four main categories:

- Domestic violence and child abuse
- Traffic Accidents
- Personal injuries such as senior falls or farm accidents
- Injuries related to mental health or substance use such as accidental overdoses, impaired driving, and suicide.

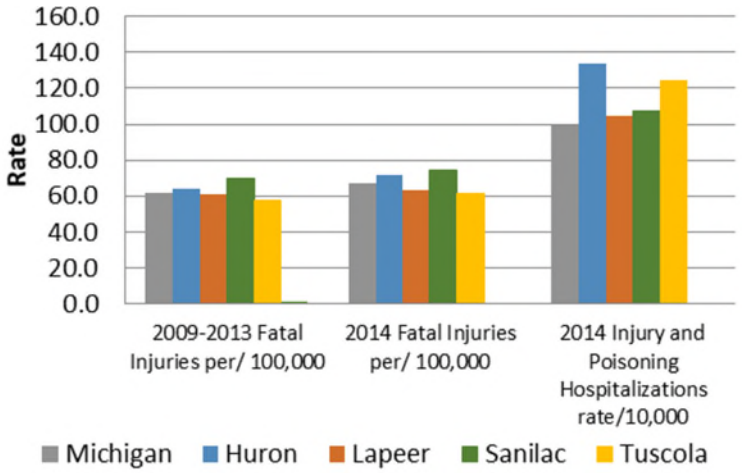
One of the major contributing factors to injuries and violence in rural communities is widespread isolation and geographic distance from social support or rescue services. Availably of services such as mental health or shelters are also lower in rural communities. Lower economic status compounds many of these issues. Many rural areas also depend on high risk occupations such as farming or operating heavy equipment. One of the main rural industries, agriculture, has one of the highest occupational fatality rates, and injury from farm machinery is a source of injury among rural residents. This impacts both children and adults. (National Safety Council) (Healthy People 2020- US Department of Health & Human Services)

Figure 100: Violent Crime Rates



Uniform Crime Reporting-FBI
www.countyhealthrankings.org

Figure 101: Injury Hospitalizations and Deaths

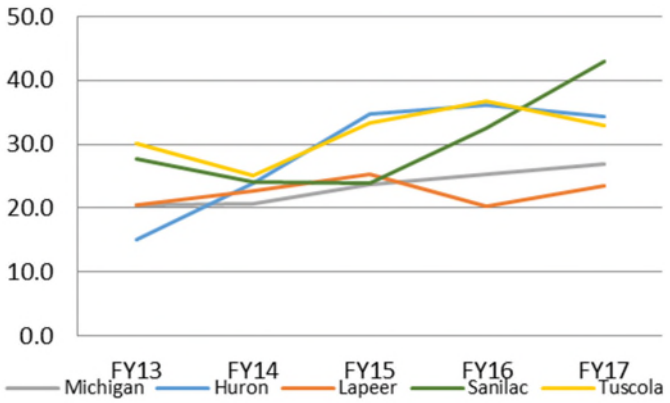


Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Related Healthy People 2020- Objectives

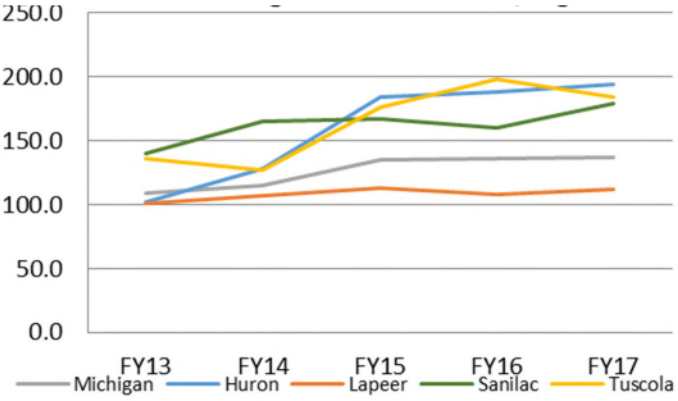
IVP-1 Reduce fatal and nonfatal injuries; **IVP-11** Reduce unintentional injury deaths; **IVP-12** Reduce nonfatal unintentional Injuries; **IVP-13** Reduce motor vehicle crash-related deaths; **IVP-30** Reduce firearm-related deaths; **IVP-33** Reduce physical assaults; **OSH-1** Reduce deaths from work-related injuries; **OSH-2** Reduce nonfatal work-related injuries

Figure 102: Rate/1000 Children Ages 0-8 who lived in families substantiated for child abuse/neglect



DHHS- Child Protective Services
Great Start Data Set

Figure 103: Rate/1000 Children Ages 0-8 who lived in families investigated for child abuse/neglect



DHHS- Child Protective Services
Great Start Data Set

Figure 104: Rate/1000 Substantiated Child Abuse/Neglect

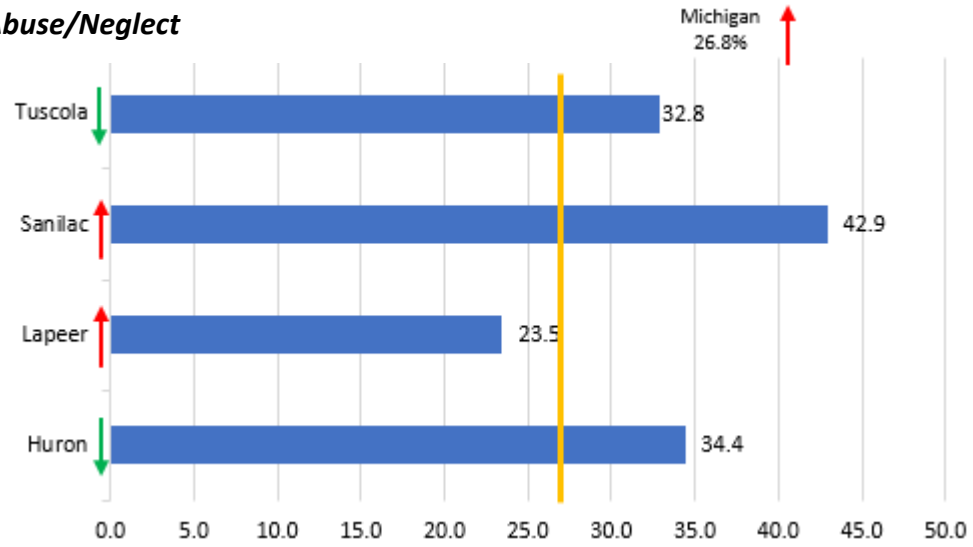
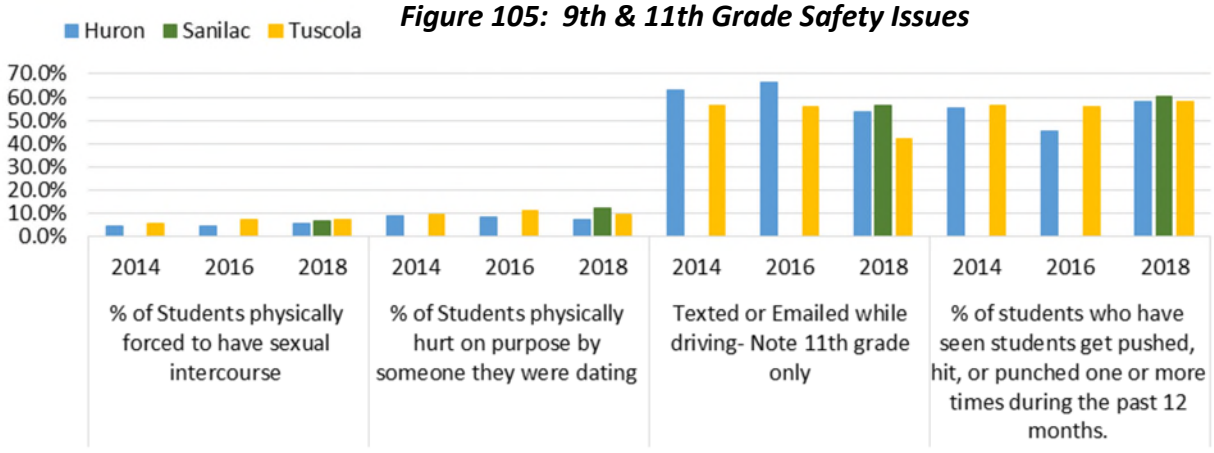


Figure 105: 9th & 11th Grade Safety Issues



Data not available for Michigan, Lapeer
Michigan Profile for Healthy Youth
https://mdoe.state.mi.us/schoolhealthsurveys/ExternalReports/CountyReportGeneration.aspx

Figure 106: 2017 Rates of Crashes Involving Drugs

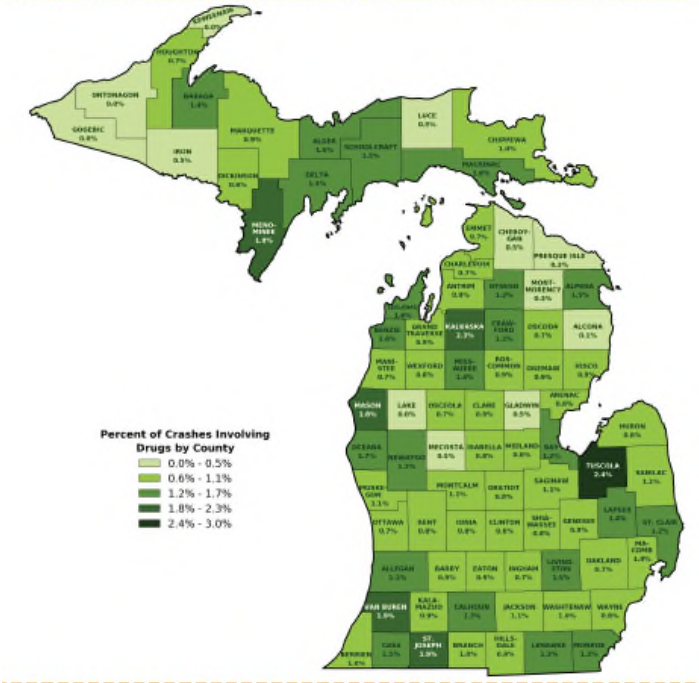
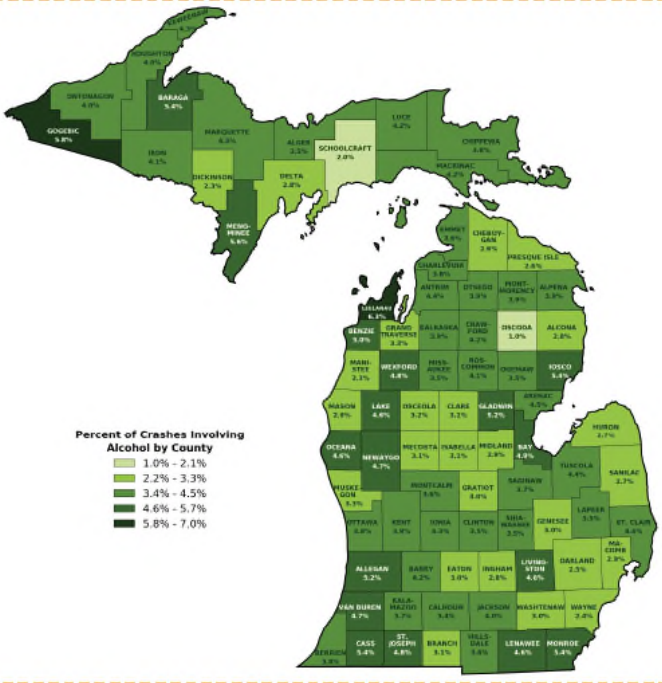
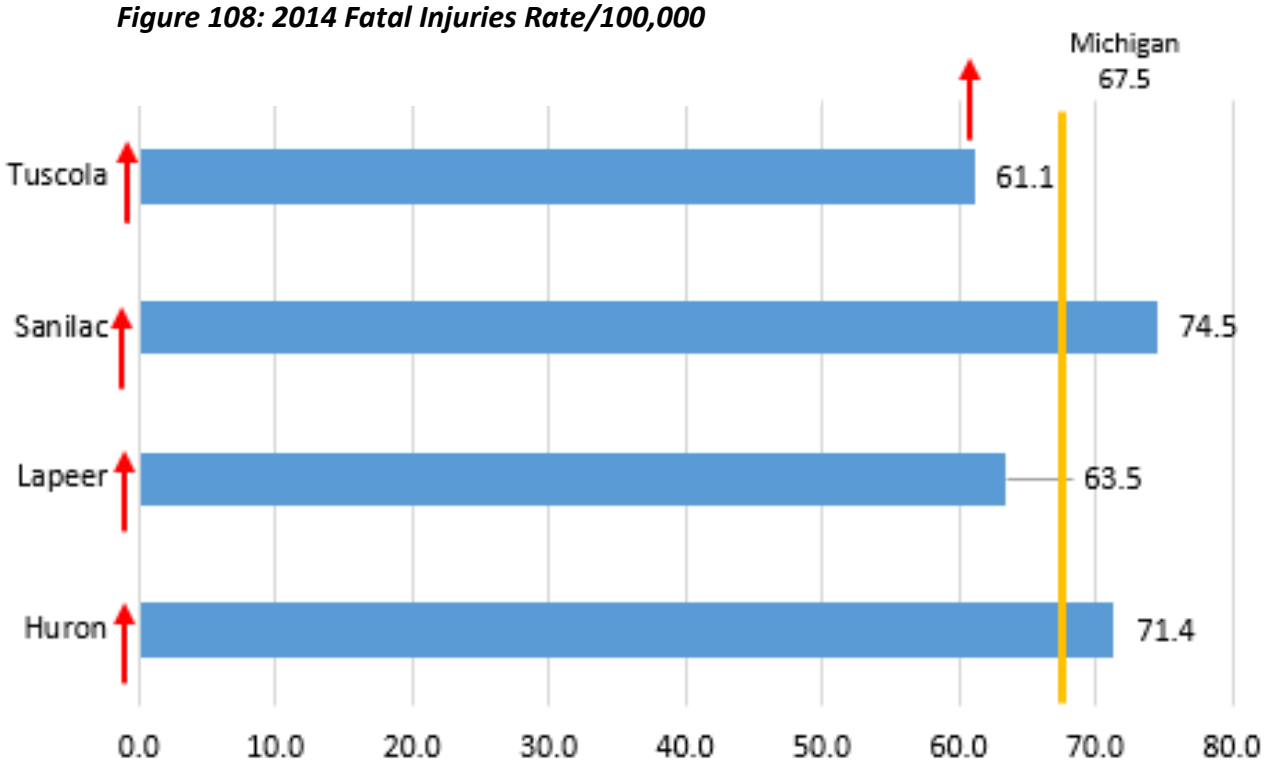


Figure 107: 2017 Rates of Crashes Involving Alcohol



https://www.michigantrafficcrashfacts.org/

Figure 108: 2014 Fatal Injuries Rate/100,000



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Oral Health and Dental Care

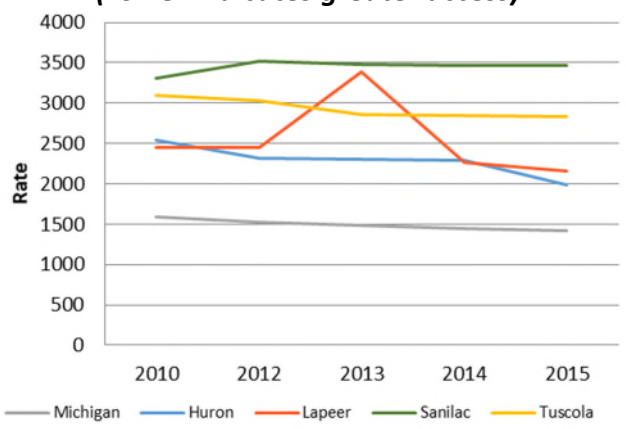
SCOPE OF THE PROBLEM

Oral Health and overall physical health are directly linked. Acute and chronic diseases, such as acute myocardial infarction, strokes, and coronary heart disease, are increased with untreated periodontal disease. There is an established relationship between tooth-loss and other health problems, such as low functional status, subclinical cardiovascular diseases, cognitive decline, ischemic stroke, coronary heart disease, diabetes, pneumonia, nutritional deficiencies, social isolation, and mortality. Oral health issues can also interfere with the effectiveness of medications. Disparities in oral health status are associated with poverty, ethnicity, and geographic isolation. Barriers to dental health are varied. They include:

- Availability of care evidenced by shortage of providers or lack of providers accepting Medicaid;
- Affordability of care including lack of insurance and low income (not eligible for Medicaid);
- Access issues such as transportation, lack of time, and knowledge of services; and
- Limited knowledge about importance and need for dental hygiene, dietary impact on dental health, preventive dental care, and the need to address dental issues before complications emerge.

Fear of dental care adds to these barriers. In a survey of rural residents in West Virginia, 27 reported fear of seeking dental care (Frisbee SJ, Chambers CB, Frisbee JC, Goodwill AG, Crout RJ). With the scientific evidence connecting oral health to other physical health conditions, it is critical to shift mindsets around oral healthcare from an optional service to a necessary service which impacts overall health. (Summary of findings in Rural Healthy People 2020, Vol II)

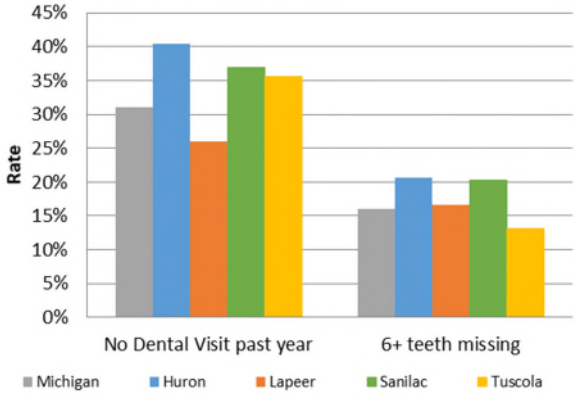
Figure 109: Dentist Provider Ratio (Lower indicates greater access)



Health Resources and Services Administration; US Department of Health and Human Service
www.countyhealthrankings.org

Health Provider Shortage Areas- Dental
Huron: Medicaid Eligible and Single County
Lapeer: None
Sanilac: Medicaid Eligible and Single County

Figure 110: Oral Health Indicators

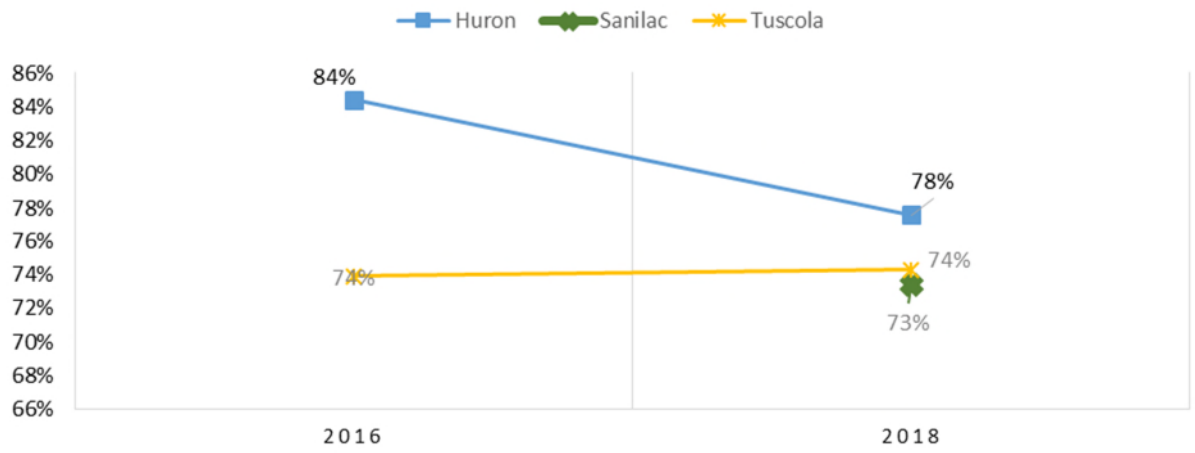


Michigan Department of Health and Human Services
http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_39424-134707--,00.html

Related Healthy People 2020- Objectives

OH-1.1 and 1.2 Reduce children aged 3 to 5 years and 6-9 years with dental caries in their primary teeth; **OH-3.3** Reduce adults aged 75+ years with untreated root surface caries; **OH-4.1** Reduce adults aged 45 to 64 years who have ever had a permanent tooth extracted because of dental caries or periodontal disease; **OH-4.2** Reduce adults aged 65 to 74 years who have lost all of their natural teeth; **OH-6** Increase oral and pharyngeal cancers detected at the earliest stage; **OH-7 and 8** Increase children, adolescents, and adults who used the oral health care system in the past year and who received any preventive dental service during the past year; **OH-9.1 thru OH-9.3** Increase school-based health centers with an oral health component that includes dental sealants (OH-9.1), dental care (OH-9.2), and topical fluoride (OH-9.3); OH-10.1 Increase Federally Qualified Health Centers (FQHCs) that have an oral health care program; **OH-10.2** Increase local health departments that have oral health programs; **OH-11** Increase patients who receive oral health services at FQHCs; **OH-13** Increase the U.S. population served by community water systems with optimally fluoridated water; **OH-14.2 and 14.3** Increase adults who received an oral and pharyngeal cancer screening; referred for glycemic control from a dentist or hygienist

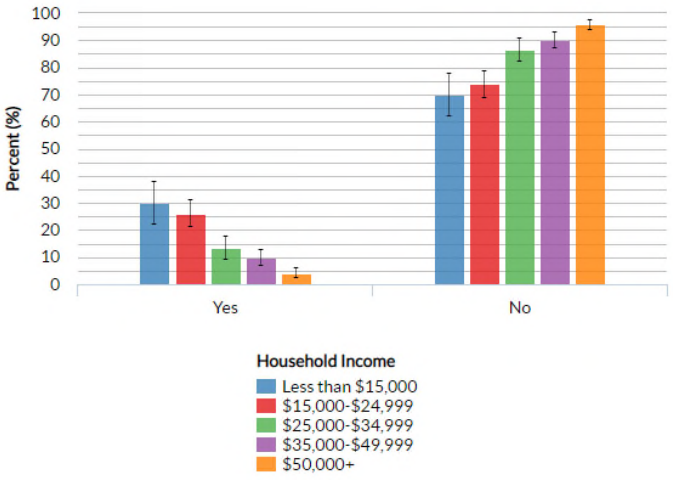
Figure 111: 9th & 11th Grade Students who have Seen a Dentist for a Checkup in the Past 12 Months



Data not available for Michigan, Lapeer
Michigan Profile for Healthy Youth
https://mdoe.state.mi.us/schoolhealthsurveys/ExternalReports/CountyReportGeneration.aspx

Figure 112: Adults Have Visited Dentist in Past Year Michigan 2016, by Income

Figure 113: Adults age 65+ who have had all their natural teeth extracted Michigan 2016, by Income



Behavioral Risk Factor Survey
https://www.cdc.gov/brfss/brfssprevalence

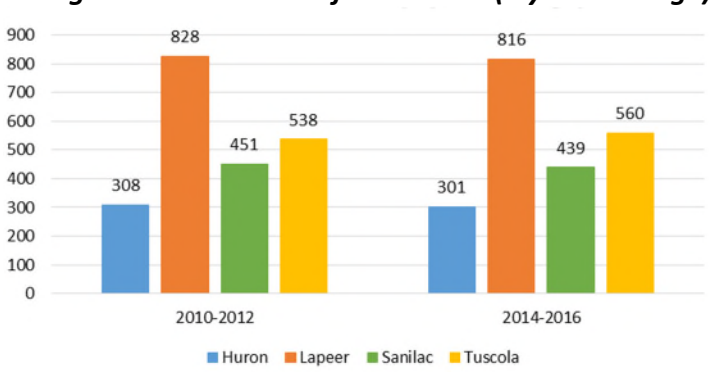
Maternal and Child Health

SCOPE OF THE PROBLEM

The health of the next generation predicts the future challenges for public health systems, as well as challenges to our society and local communities. Preventing unhealthy pregnancy outcomes allows for decreasing rates of disability and death, and provides for a population of healthier adults. (Rural Healthy People 2020, Vol I).

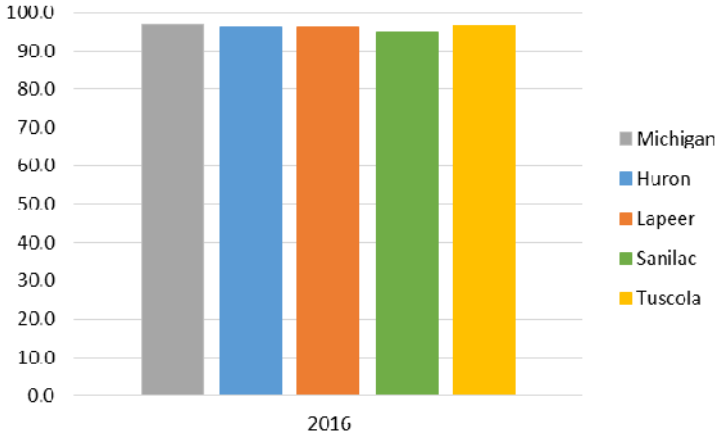
Many factors impact maternal and child health including health prior to conception, availability of prenatal and pediatric healthcare, access barriers to healthcare, poverty, and chronic stress. Smoking while pregnant, less-than-optimal pregnancy weight (on either ends of the scale), and poverty may contribute to poorer rural maternal, infant, and child health outcomes. Low birth weight is defined as birth weight of less than 2,500 grams, or five pounds and eight ounces. Low birth weight has two causes – the infant is born too small due to intrauterine growth restriction, or the infant is born at a low gestational age. The latter is described as preterm birth (PTB), which is any birth before 37 weeks gestation. Both are important predictors of infant mortality. Very rural geographic areas and urban centers with concomitant poverty and unemployment have the highest rates of infant mortality. (Kotch JB)

Figure 114: Number of Live Births (3 year average)



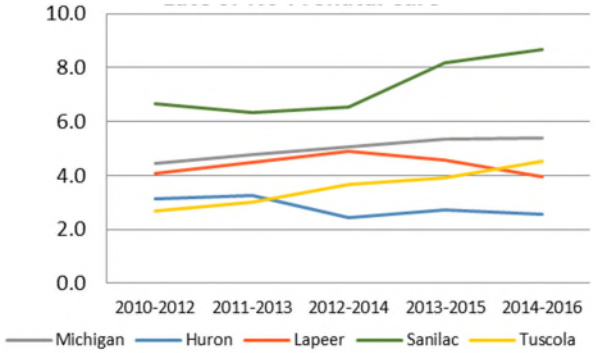
Michigan Department of Health and Human Services, http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp
Great Start Data Set

Figure 115: % of Children 0-18 Who are Insured



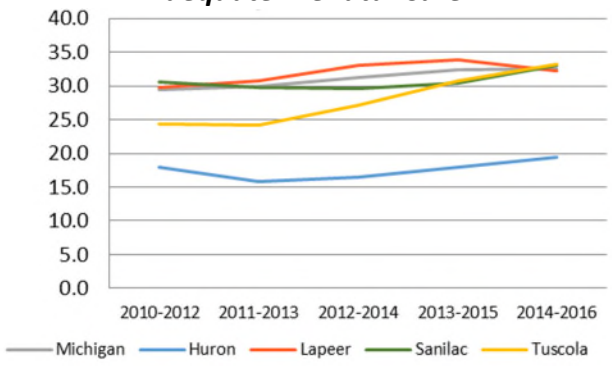
SAHIE web site
Great Start Data Set

Figure 116: % of Live Births to Women with Late or No Prenatal Care



Michigan Department of Health and Human Services, Great Start Data Set

Figure 117: % of Live Births to Women with Less than Adequate Prenatal Care

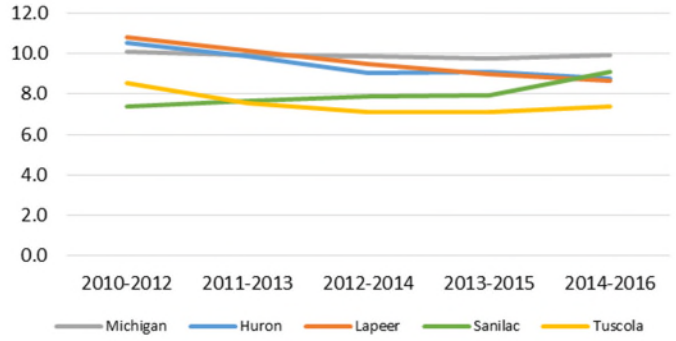


Michigan Department of Health and Human Services, Great Start Data Set

Related Healthy People 2020- Objectives

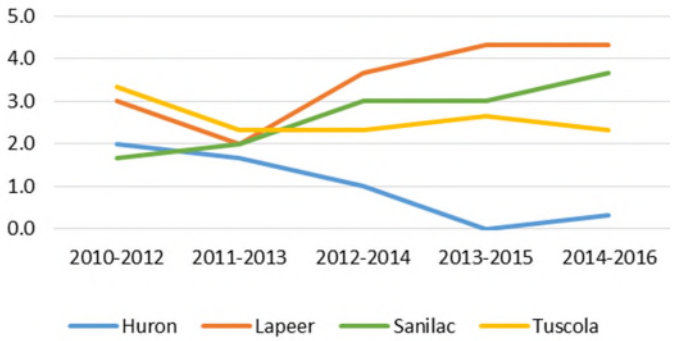
MICH-8 Reduce low birth weight (LBW) and very low birth weight (VLBW); **MICH-9.1** Reduce total preterm births

Figure 118: % of Live Births that are Preterm (<37 weeks)



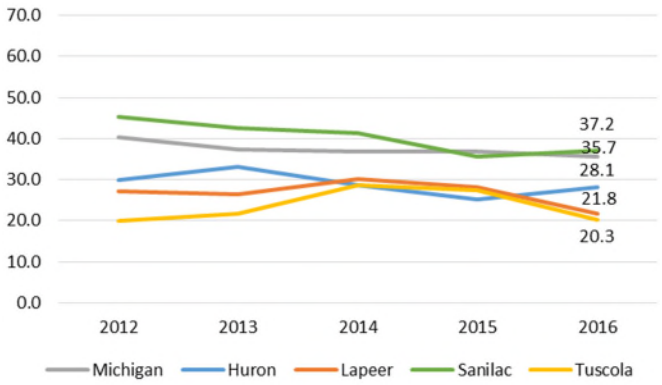
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp
Great Start Dataset

Figure 119: Infant Mortality 3-year Average Number of Deaths



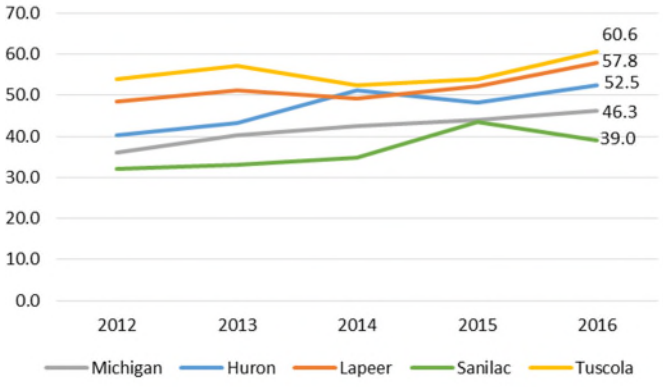
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp
Great Start Dataset

Figure 120: % of Mothers Planning to Breastfeed



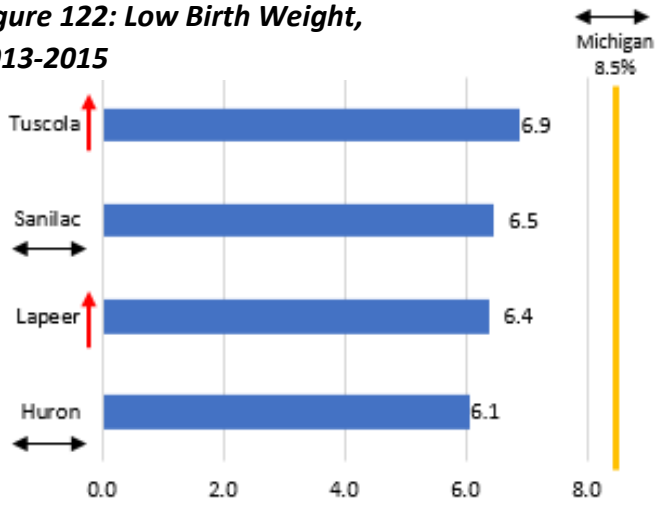
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 121: % of Mothers Initiated Breastfeeding



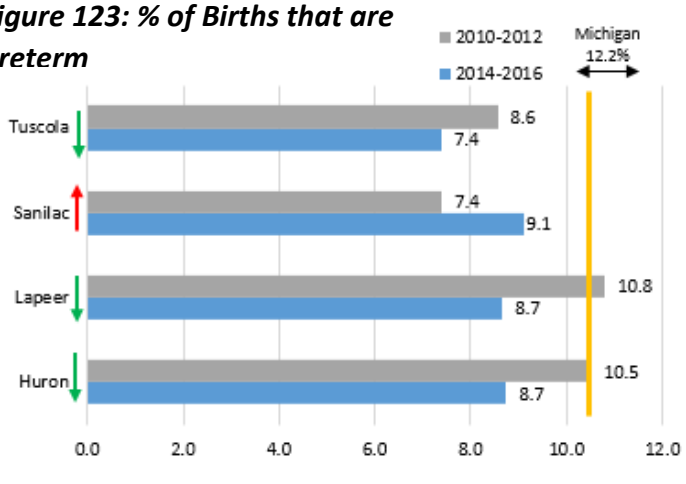
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 122: Low Birth Weight, 2013-2015



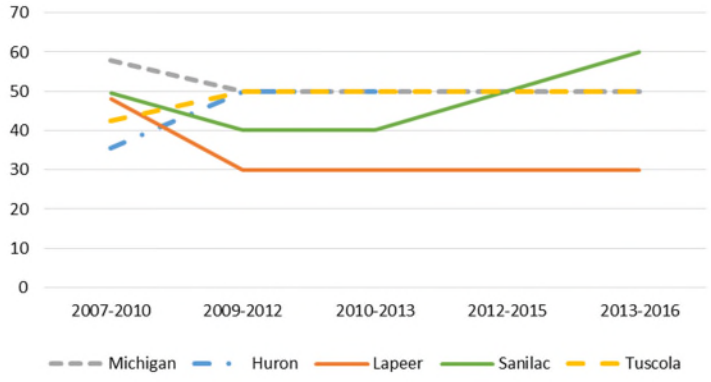
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 123: % of Births that are Preterm



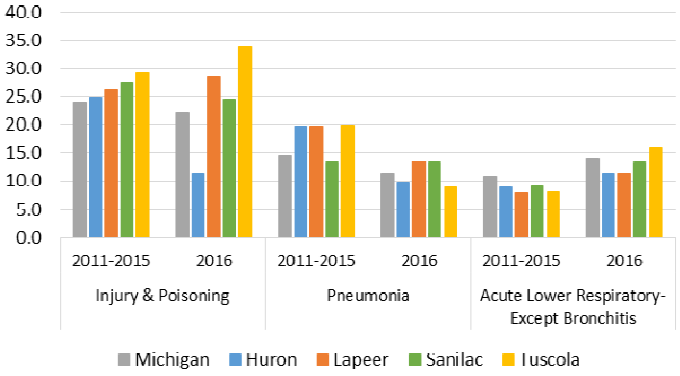
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 124: Child Mortality Rate/100,000 Children < age 18



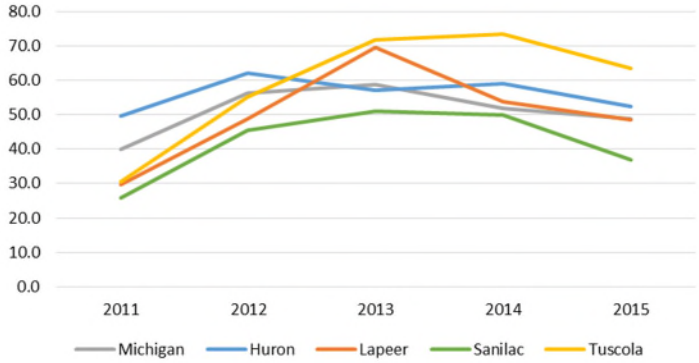
CDC WONDER Mortality
www.countyhealthrankings.com

Figure 125: Top Three Hospitalizations Rate/10,000 for those <age 18



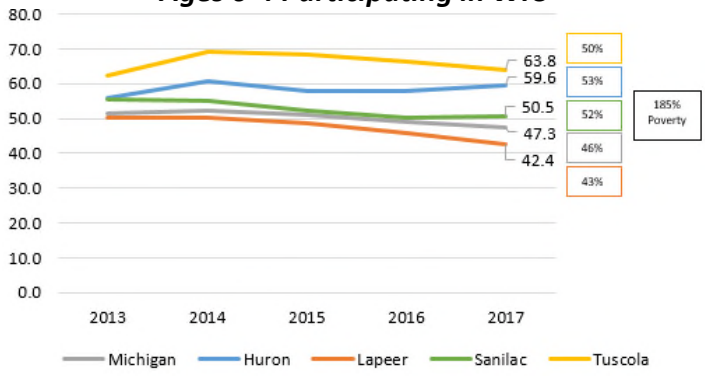
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 126: % of Medicaid-eligible 1-2 Year Olds Tested for Lead



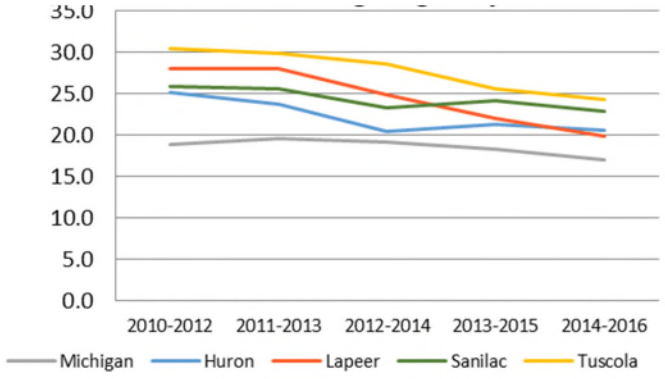
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Figure 127: % of Children Ages 0-4 Participating in WIC



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp
Great Start Dataset

Figure 128: % of Live Births to Women who Smoked During Pregnancy



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp
Great Start Dataset

Figure 129: Neonatal Abstinence Syndrome Rate/100,000 Births; Michigan Perinatal Region 3

Michigan Resident Inpatient Files
Michigan Health and Hospital Association Service Corporation
https://www.michigan.gov/documents/mdhhs/Burden_of_Neonatal_Abstinence_Syndrome_in_Michigan_548268_7.pdf

Family Planning and Reproductive Health

SCOPE OF THE PROBLEM

Sexual and reproductive health is more than simply the absence of sexual and reproductive disease and dysfunction. A healthy sexual and reproductive state encompasses physical, emotional, mental, and social well-being as it relates to sexuality (Rural Healthy People 2020, Vol II).). In rural areas, leaders nationwide have identified access to reproductive health services and lack of reproductive health education and awareness of sexual risks as priorities. Reproductive health outcomes that are often monitored include unintended pregnancies, adolescent pregnancy, sexually transmitted infections and diseases, and risk behaviors for pregnancy and disease transmission. Behavioral risks include multiple partners, not using contraception, use of drugs or alcohol, and risk associated with internet relationships. Untreated STDs can have greater consequences including low birth weight, preterm births, infection of infants during birth, infertility, and even death. Disparities in rural areas vary geographically across the nation but include access to services, later detection of disease, higher rates of pregnancy, younger and teen pregnancies, and lower utilization of contraception and testing services. Issues related to sexual orientation may be more pronounced in rural areas and can result in greater sexual risks among members of the lesbian, gay, bisexual, and transgender (LGBT) community. Fear and stigma in some rural communities may deter the LGBT community from seeking reproductive health services and result in increased emotional stress.

Figure 130: Chlamydia Rates

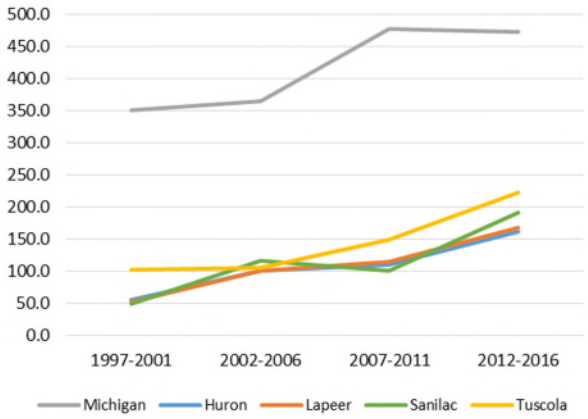


Figure 131: Gonorrhea Rates

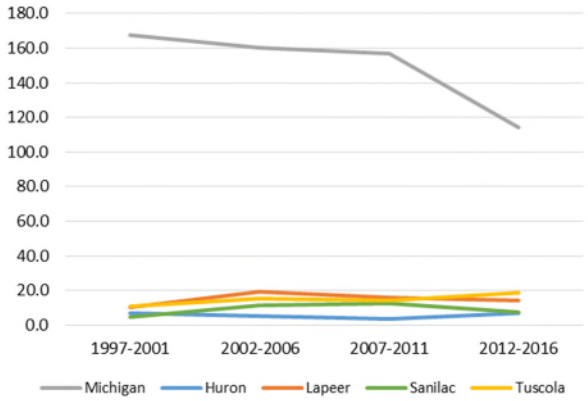
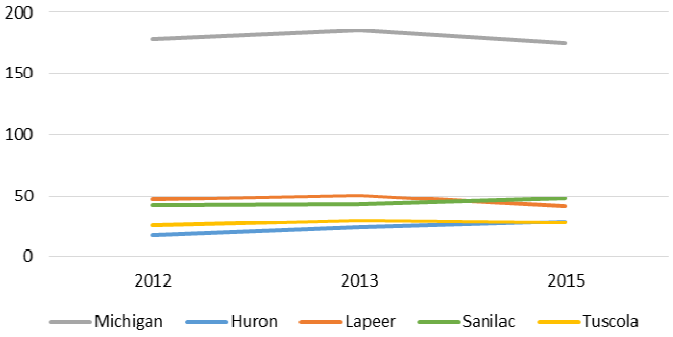


Figure 132: HIV Prevalence

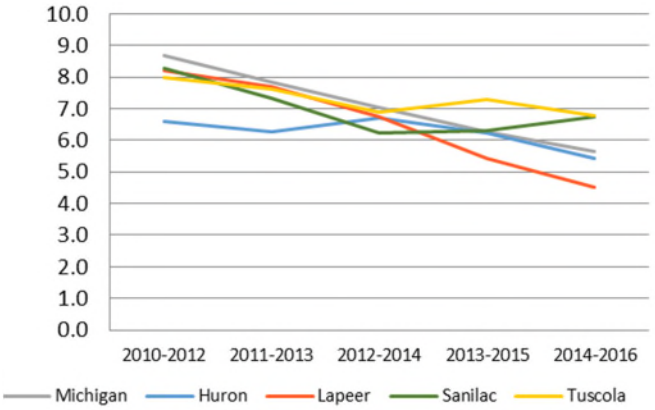


Michigan Department of Health and Human Services, http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp

Related Healthy People 2020- Objectives

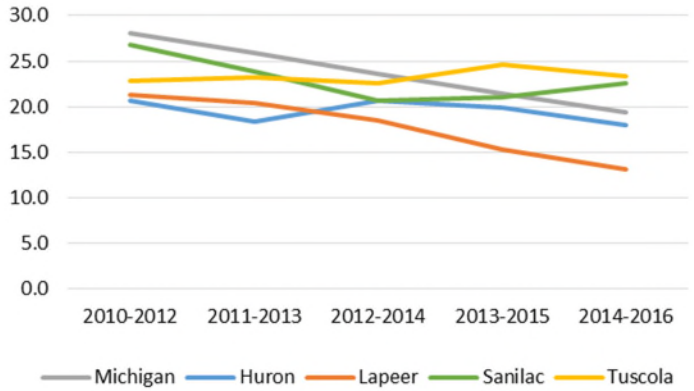
FP-3 Increase the proportion of publicly funded family planning clinics that offer the full range of Federal Drug Administration-approved methods of contraception; **FP-7** Increase the proportion of sexually experienced persons who received reproductive health services; **FP-8** Reduce pregnancies among adolescent women; **HIV-2** Reduce the number of new HIV infections among adolescents and adults; **HIV-3** Reduce the rate of HIV transmission among adolescents and adults; **HIV-14** Increase the proportion of adolescents and adults who have been tested for HIV in the past 12 months

Figure 133: % of Births to Mothers <age 20



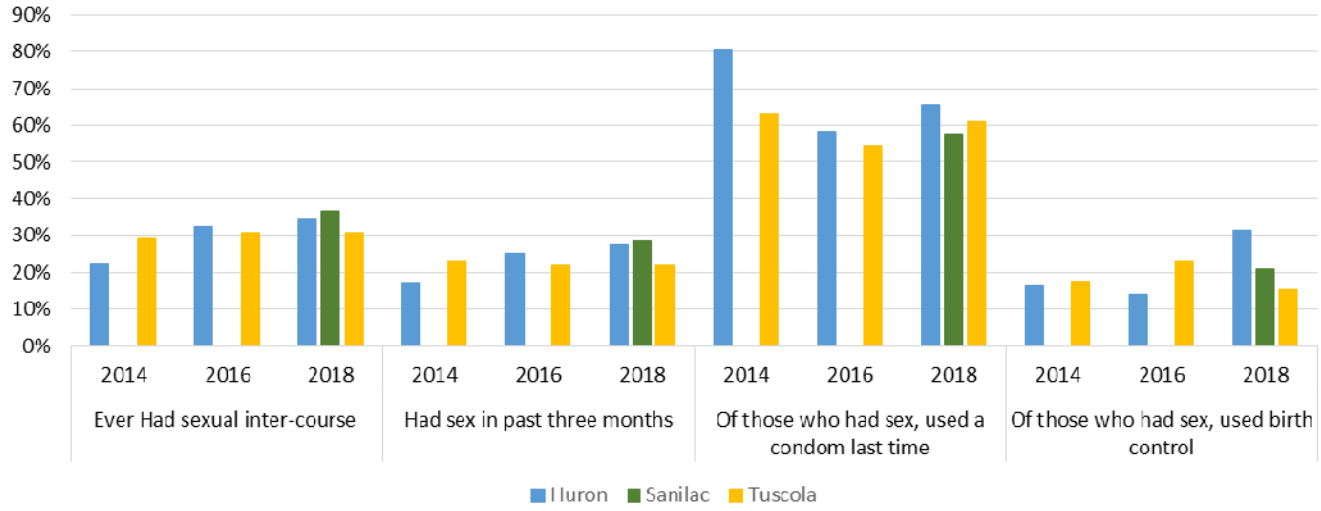
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp
Great Start Dataset

Figure 134: Births to Teens Rate/1000 Females age 15-19



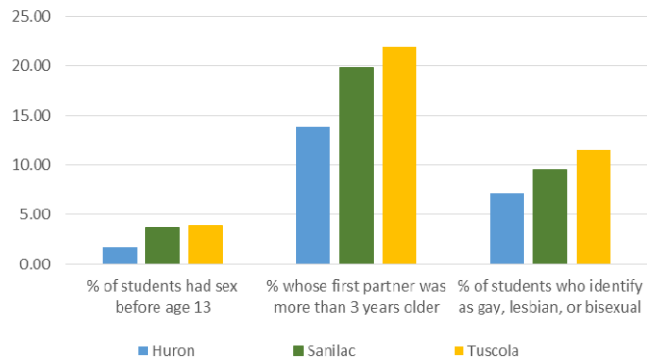
Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp
Great Start Dataset

Figure 135: 9th and 11th Grade Self-Reported Sexual Activity



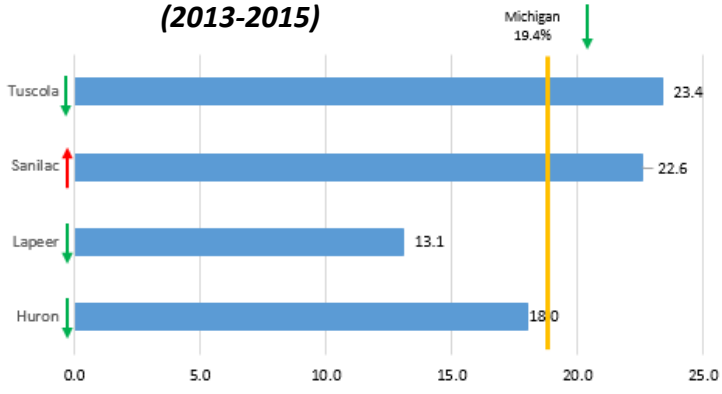
Michigan Profile for Healthy Youth. Data not available for Michigan, Lapeer.
https://mdoe.state.mi.us/schoolhealthsurveys/ExternalReports/CountyReportGeneration.aspx

Figure 136: 9th and 11th Grade Sexual Behaviors



Michigan Profile for Healthy Youth. Data not available for Michigan, Lapeer.
https://mdoe.state.mi.us/schoolhealthsurveys/ExternalReports/CountyReportGeneration.aspx

Figure 137: Teen Birth Rate/1000 (2013-2015)



Michigan Department of Health and Human Services
http://www.mdch.state.mi.us/pha/osr/chi/IndexVer2.asp
Great Start Dataset

Education and Community Programs

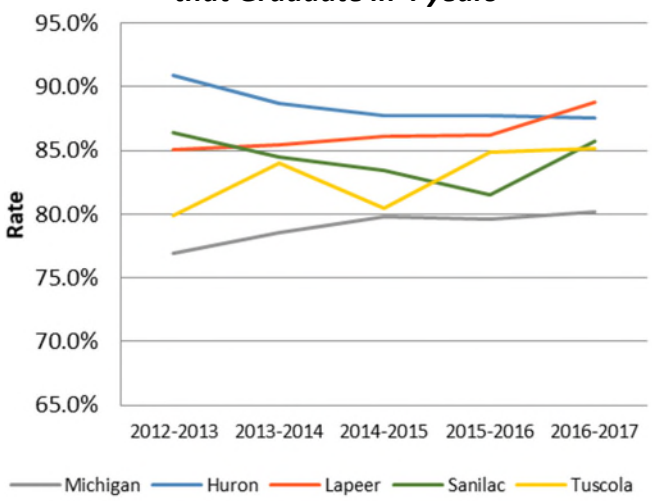
SCOPE OF THE PROBLEM

Adequate health education programs are essential to increasing healthy behaviors in rural communities. Many theories of change include require individuals and organizations to have access to information and skills to make necessary changes. Education in three settings is especially important to shifting the health of rural Americans: Schools, Worksites, and Communities. While objectives have been established for each of these settings, the data to measure progress is not easily accessible. The primary barrier to education and community based programs is the general lack of resources in rural communities (Rural Healthy People 2020, Vol II). Small populations and therefore a low volume market in rural communities, means that many organizations cannot afford staff to carry out education and community based programs. These responsibilities are often incorporated into the role of existing staff that already wear multiple hats and have limited time for assigned responsibilities. When staff is hired or designated to provide these programs, they are often shared between multiple sites, programs, or organizations and staff often encounters significant travel time to provide programs. Socio-economic barriers also exist in rural communities that limit access to and understanding of information. Lower general education levels create a barrier for understanding health information and building necessary skills. In addition, a high middle/low income population that does not have access to worksite education often does not have flexibility to leave work for education programs. They may be working shifts that make it difficult for employees to attend existing education programs. Reliable transportation is also a major barrier to attending programs in rural areas.

There is limited publically accessible data related to the Healthy People 2020 Objectives on Education and Community Based Programs. Questions that could be researched in order to assess progress at the local level include:

- How is health education incorporated into the PreK-12 curriculums in each school district?
- What schools have a school Registered Nurse and what is the School Nurse to student ratio?
- What is the extent to which worksites provide health promotion programs and events?
- To what extent are community organizations providing population based primary prevention programs?
- How are local public health departments providing culturally appropriate programs?
- Are there medical continuing education programs including prevention in the local area?

Figure 138: Graduations Rates: % of 9th Grade Students that Graduate in 4 years



Michigan Department of Education
www.mischooldata.org

Related Healthy People 2020- Objectives

School-based objectives: Increase Early Head Start and Head Start health education programs to prevent health problems; Increase elementary, middle, and senior high schools health education programs to prevent health problems, that have health education goals or objectives, and that have registered school nurse to student ratio of 1:750; Increase high school graduation completion; increase college and university students who receive health risk behavior information
Worksite-based objectives: Increase worksites with employee health promotion programs; Increase the number of employees who participate in employer sponsored health promotion activities
Community-based organization objectives: Increase community-based organizations providing population-based primary prevention services; Increase health departments with culturally and linguistically appropriate programs

Immunizations and Infectious Disease

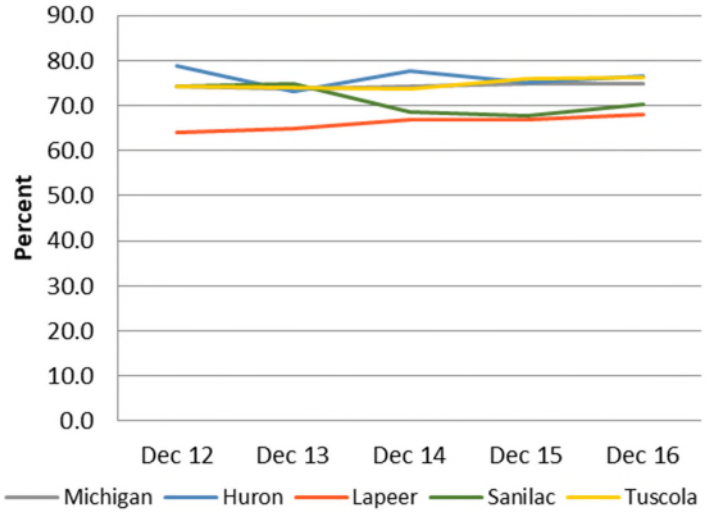
SCOPE OF THE PROBLEM

Infectious diseases are caused by organisms — such as bacteria, viruses, fungi or parasites. Vulnerable populations with under developed or weakened immune systems such as the elderly, children, or those with other illnesses, have the greatest risk of complications from infectious disease. In the United States, approximately 300 children and 42,000 adults die from infectious diseases annually (Office of Disease Prevention and Health Promotion, Immunization, and Infectious Diseases). A distinguishing characteristic of infectious diseases, unlike diabetes or heart disease, is that they are passed from one person to another through direct or indirect contact. Some infectious disease is easier to transmit than others. Foodborne illness for example can be passed through unsafe food handling and the common cold can be transmitted through casual contact. Other infectious diseases such as Hepatitis C are blood borne and can only be transmitted through contact with blood or body fluids. The control of infectious diseases has greatly increased due to a variety of factors:

- Food handling regulations and education,
- Control of germs through handwashing and sanitation,
- Prevention of infection through immunizations,
- Universal precautions and safer sex practices to reduce exposure to blood borne infectious disease.

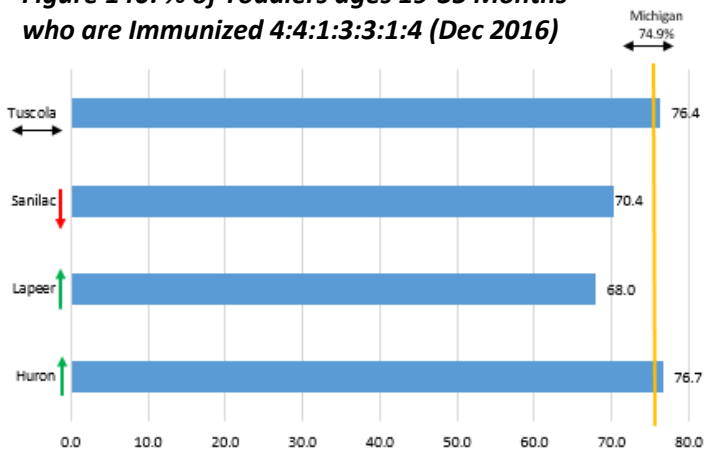
Through immunization, some diseases such as polio have been almost eradicated with 80% of the world population living in polio free regions. Even with these improvements, there are still challenges in many rural areas including mobility among certain subpopulations, poor access to care, cultural norms, impoverished communities, and a high elderly population in rural areas.

Figure 139: % of Toddlers ages 19-35 Months who are Immunized (4:4:1:3:3:1:4)



Michigan Department of Health and Human Services
Great Start Dataset

Figure 140: % of Toddlers ages 19-35 Months who are Immunized 4:4:1:3:3:1:4 (Dec 2016)

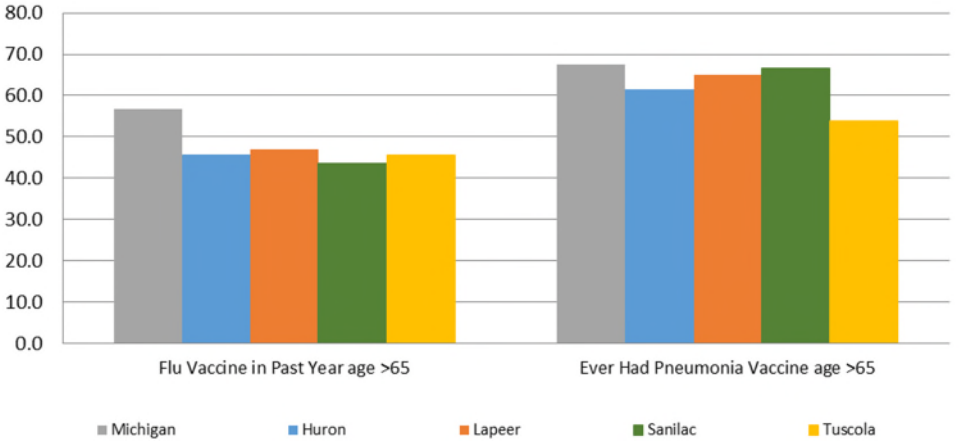


Michigan Department of Health and Human Services
Great Start Dataset

Related Healthy People 2020- Objectives

IID-1 Reduce, eliminate, or maintain elimination of vaccine-preventable diseases; **IID-7** Achieve and maintain effective vaccination coverage for universally recommended vaccines amount young children; **IID-8** Increase children aged 19 to 35 months who receive the recommended doses of diphtheria-tetanus-pertussis, polio, measles-mumps-rubella, Haemophilus-influenza type B, hepatitis B, varicella, and pneumococcal conjugate vaccine; **IID-9** Decrease children in the United States who receive 0 doses of recommended vaccines by age 19 to 35 months; **IID-10** Maintain vaccination coverage levels for children kindergarten; **IID-11** Increase routine vaccination coverage for adolescents; **IID-12** Increase the percentage of children and adults who are vaccinated against seasonable influenza; **IID-16** Increase the scientific knowledge on vaccine safety and adverse events; **IID-29** Reduce tuberculosis

Figure 141: Adult Vaccinations, 2014-2016 combined from BRFS



Michigan Department of Health and Human Services: http://www.michigan.gov/mdhhs/0,5885,7-339-71550_5104_5279_39424-134707--,00.html

Figure 142: County Quarterly Immunization Report Card *Data as of: September 30, 2018*	**Huron**	**Lapeer**	**Sanilac**	**Tuscola**	**Michigan**	**HP 2020 Goal**
19 through 35 months	%	%	%	%	%	
Birth Dose Hep B coverage	83.3	72.0	79.1	82.3	79.6	85.00
4313314 coverage†	74.2	66.0	69.1	74.7	74.6	80.00
43133142 coverage†	59.1	47.7	48.2	56.7	58.4	
2+ Hep A	61.3	49.7	49.5	57.8	60.2	85.00
4+ DTaP	77.3	72.8	73.7	77.5	77.8	90.00
4+ PCV	82.9	77.4	82.0	83.8	83.5	90.00
Rota. Complete†† (8-24 months)	77.9	59.1	64.3	68.3	71.20	
WIC coverage (4313314)	85.4	67.9	81.4	80.8	79.4	
Medicaid coverage (4313314)	78.2	65.1	73.1	76.2	74	
13 through 17 years						
132321 coverage‡	85.3	79.3	79.8	82.7	76.4	
1323213 coverage‡	46.3	27.4	32.8	36.6	40.3	
1+ Tdap	88.5	84.0	83.6	85.8	79.8	80.00
1+ MenACWY	87.8	83.6	83.1	85.8	79.8	80.00
HPV Complete (Females)	49.9	29.5	36.0	38.7	43.2	80.00
HPV Complete (Males)	44.4	27.0	31.0	36.1	39.4	–
MenACWY Complete†† (17 yrs)	36.6	38.6	45.2	42.1	47.3	–
Adults (Census Denominators)						
1+ Tdap (19-64yrs)	55.4	40.8	45.3	51.3	53.8	
1+ PPSV23 (65+ yrs)	42.8	34.1	38.7	42.7	43	
1+ PCV13 (65+ yrs)	47.0	32.6	37.1	41.5	48.1	
1+ PCV13 & 1+ PPSV23 (65+ yrs)	27.0	17.4	22.8	22.4	27.8	
1+ Zoster (60+ yrs)	24.8	18.7	21.1	22.0	25.3	30.00
2017-18 Mid Season Flu	Huron	Lapeer	Sanilac	Tuscola	Michigan	
Flu Complete†† (6mos-8yrs)	24.8	16.7	15.5	19.3	29.8	
1+ Flu (6mos through 17yrs)	22.5	16.7	17.1	20.3	28.6	70.00
1+ Flu (18yrs+)	30.6	22.3	24.3	27.2	27.9	70.00
School/CC Immunization Reports	Huron	Lapeer	Sanilac	Tuscola	Michigan	
School Completion (Feb '17)	94.7	86.8	92.1	92.4	93.8	
Percent Waived (K+7+O)	4.9	10.9	5.9	4.3	3.6	
Child Care Completion (Oct '17)	83.8	83.5	90.6	89.4	87.1	
Percent Waived	1.4	7.1	3.2	2.4	2.5	

Public Health Infrastructure

SCOPE OF THE PROBLEM

The public health infrastructure is responsible for protecting people's health and safety, providing credible information for better health decisions, and promoting good health through a network of partnerships (Center for Disease Control). Rural health disparities in public health infrastructure are prominent in comparison to urban settings. Several limitations exist within rural public health organizations, these include: small workforces, restricted finances, inadequate data and information systems, lack of standardization in law and policy, and an absence of formalized structure in public health (NORC Walsh Center for Rural Health Analysis). Challenges to public health infrastructure include an expansion of public health responsibilities in the direction of population health outcomes while at the same time many governmental resources are shrinking. In the future, three key factors that will distinguish successful public health agencies from struggling public health agencies:

- ability to diversify funding sources,
- ability to identify community needs and advocate for resources to meet those needs, and
- ability to create collaborative linkages with other healthcare providers.

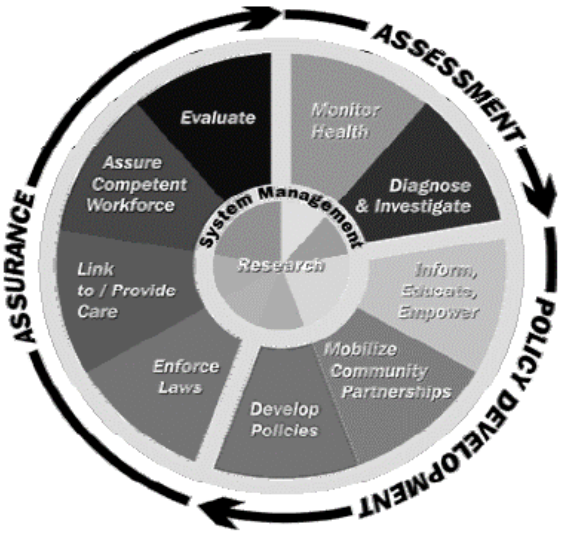
Successful public health agencies must address the challenges of maintaining an educated and skilled workforce, adequate data and information systems, and the ability to carry out the essential services of public health agencies (Rural Healthy People 2020).

Healthy People 2020 identified five main areas of concern that related to local public health departments:

1) Local Health Department Community Health Improvement Plans
2) Disease Prevention and Surveillance
3) Integrated Data Management for Environmental Health
4) Laboratory Capacity
5) Emergency Preparedness

Workforce	Data and Information Systems	Public Health Organizations
Core Competencies Public Health Accredited Schools	Tracking of HP 2020 Objectives	State- comprehensive laboratory services
	Recording of Vital Events	State- comprehensive epidemiology
		LHD Use of National Performance Standards (as applicable)
	Application of Telehealth	
		LHD Accreditation

Figure 143: Aspects of Public Health Infrastructure



Source[9]: Public Health Functions Steering Committee, Adopted Fall 1994. Available at: http://www.cdc.gov/nphpsp/essentialservices.html

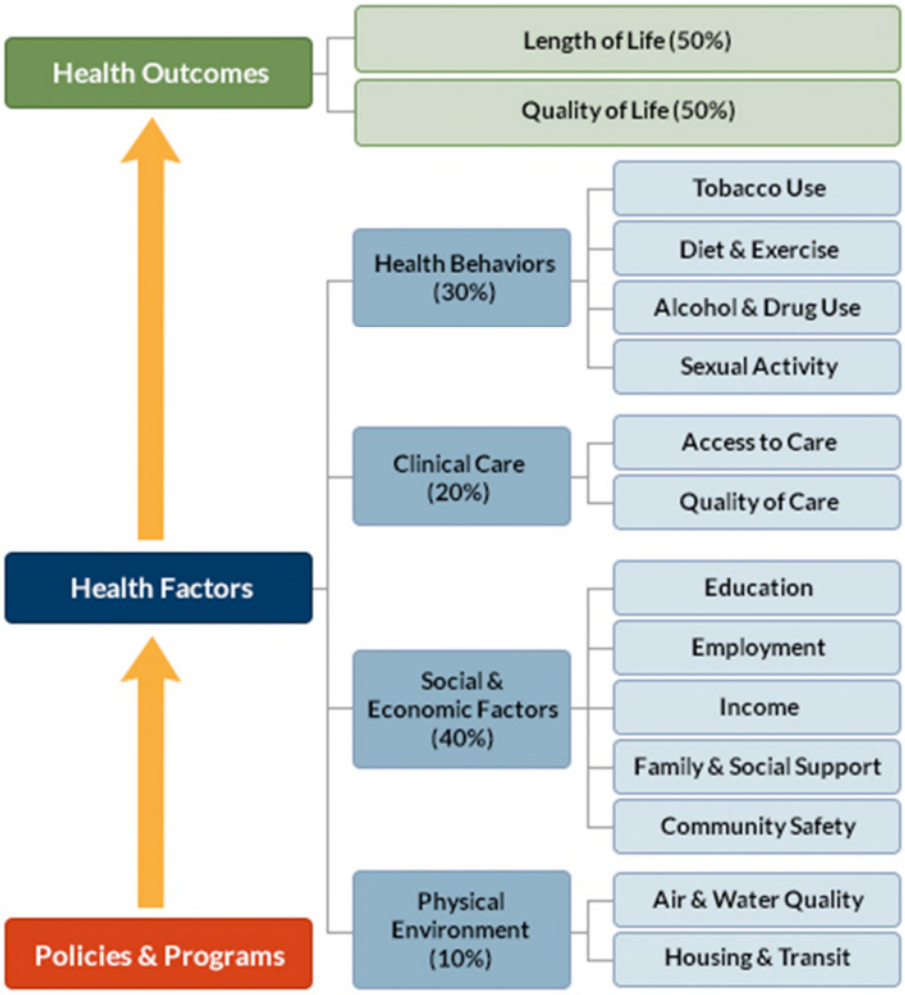
Related Healthy People 2020- Objectives (related to local public health)

PHI-1 Increase local public health agencies that incorporate Core Competencies for Public Health Professionals into job descriptions and performance evaluations; **PHI-13** Increase the proportion of local public health agencies that provide or assure comprehensive epidemiology services to support essential public health services; **PHI-14** Increase the proportion of local public health jurisdictions that conduct a public health system assessment using national performance standards; **PHI-17** Increase the proportion of local public health agencies that are accredited

Section III. Regional and Local Priorities

Setting the Stage for Health Improvement

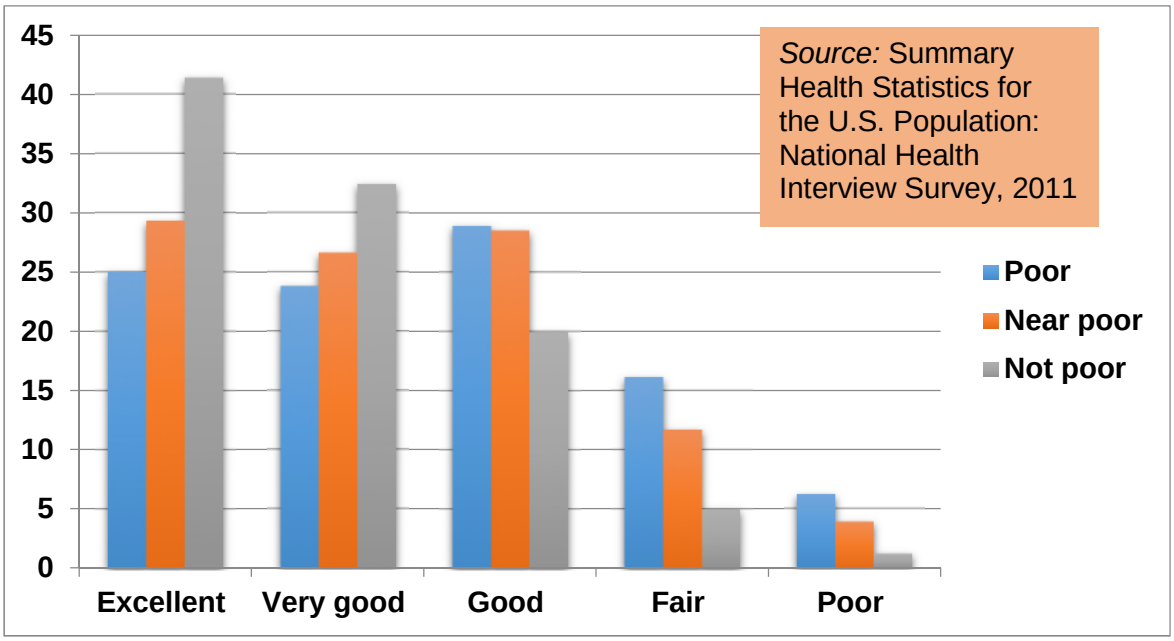
What impacts the health and well-being of our community[2]? Data is very powerful to identify factors which contribute to health in our community. A population health approach strives to improve the health outcomes of a group of individuals. In national studies of data by County Health Rankings, there are common elements that have been identified and are outlined on the illustration below. In the county health ranking model, both the length of life and quality of life are equally important. Data shows that certain health factors have a predictive value on both the length and quality of life. Social and economic factors have the highest degree or correlation closely followed by health behaviors. Clinical care accounts for approximately 20% of health outcomes and the environment 10%.



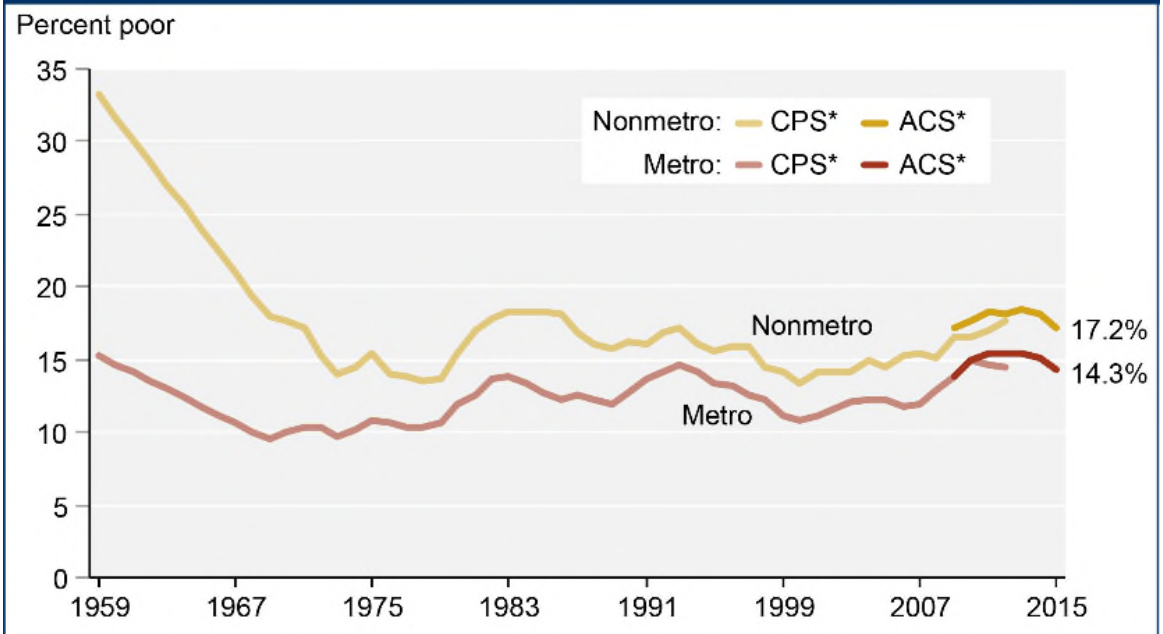
This data is important to the manner in which resources are allocated and direction of programs. It is critically important to ensure that all residents have a healthy environment in which to live and access to high quality healthcare. However, without addressing health behaviors and the social and economic factors of a population, progress on health outcomes will be limited.

[2] www.countyhealthrankings.org *The County Health Rankings & Roadmaps program is a collaboration between the Robert Wood Johnson Foundation and University of Wisconsin Population Health Institute.*

Age-Adjusted Percentage Distributions of Respondent-Assessed Health Status, by Selected Characteristics: United States, 2011



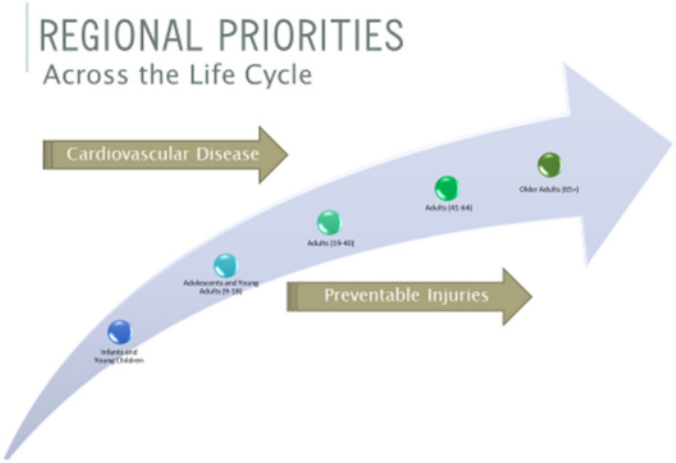
Poverty rates by metro/nonmetro residence, 1959-2015



Note: Metro status of some counties changed in 1984, 1994, 2004, and 2014.
Source: Calculated by USDA, Economic Research Service using data from the U.S. Census Bureau's Current Population Survey (CPS) 1960-2013 and annual American Community Survey (ACS) estimates for 2009-2015.
*CPS poverty status is based on family income in prior year and ACS poverty status is based on family income in the past 12 months.

Identifying Data Driven Priorities

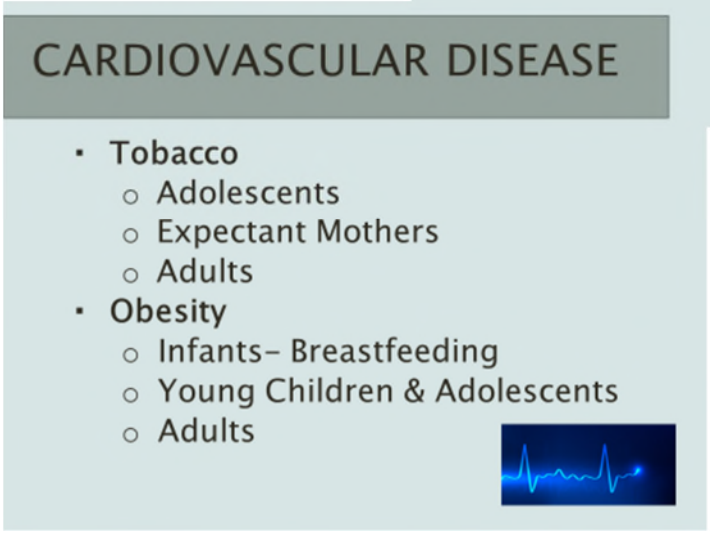
The data presented in section II of this report was analyzed by local public health departments of the Thumb (Huron, Lapeer, Sanilac, and Tuscola Counties). Data was analyzed based on trends over time, comparison to the state of Michigan, and comparison between counties. Public health leaders agreed that all 20 priorities outlined in the Rural Healthy People 2020 publication were important to the health of local residents. While all twenty of the issues have some action, leaders also recognized that it would be impossible to target all twenty for focused change and that in local communities some issues have more compelling needs data than others.



Based on this premise, each county set forth to utilize the data analysis to select health issues across the life cycle. 2016 Community Health Needs Assessment (CHNA) priorities for hospitals in the region were also reviewed during the selection process (See Appendix). These priorities will be used to target focused action at the county level. Based on this review, each county selected priorities for five stages of life:

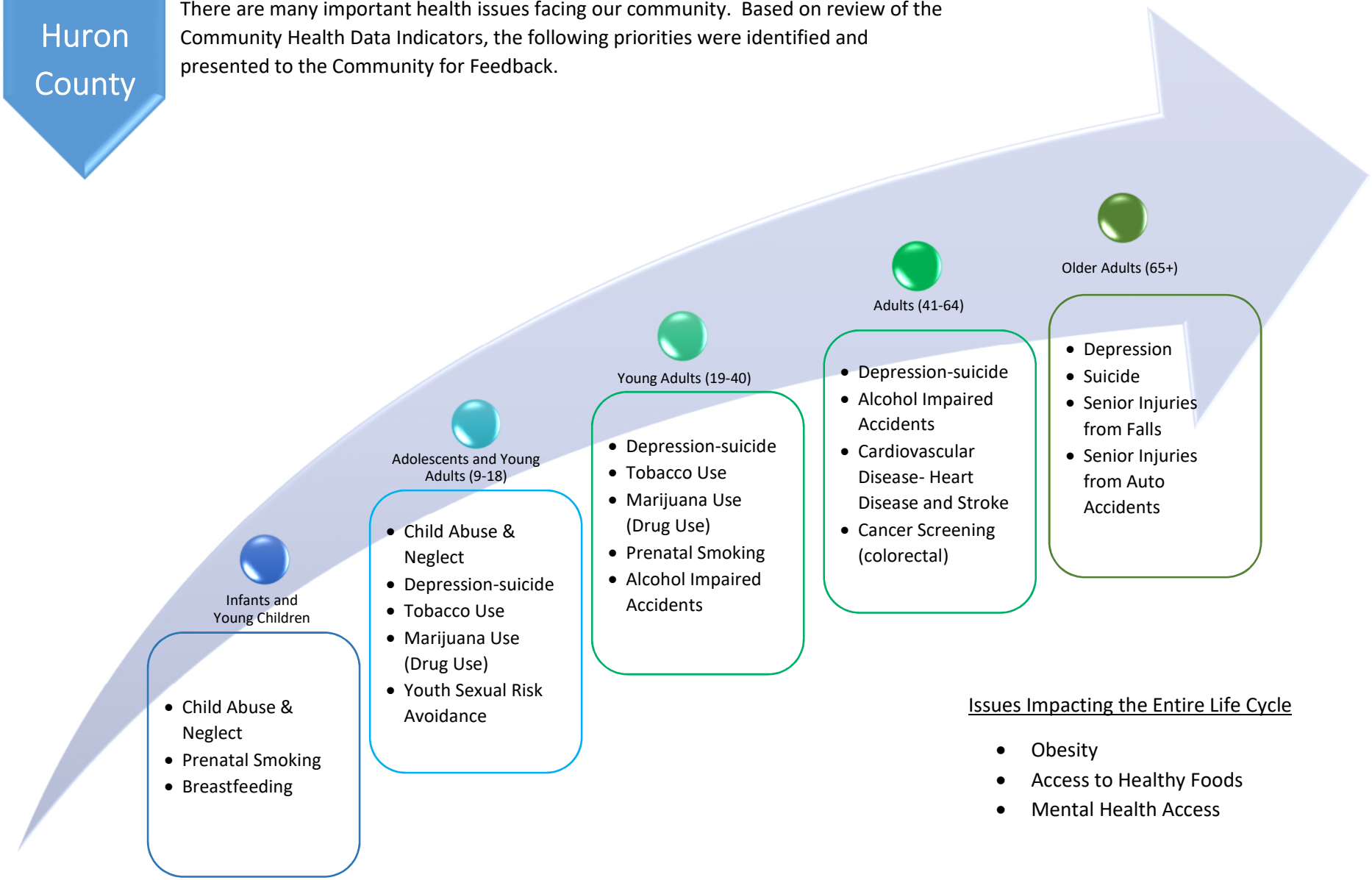
- Infants and Young Children (age 0-8)
- Adolescents and Young Adults (age 9-18)
- Young Adults (age 19-40)
- Adults (age 41-64)
- Older Adults (Age 65+)

The priorities for each county are outlined on pages 51-54. Following the county prioritization process, the county priorities were compared (see Appendix-Regional Priorities Comparison). Areas of focus were identified and grouped into two categories.



Huron County

There are many important health issues facing our community. Based on review of the Community Health Data Indicators, the following priorities were identified and presented to the Community for Feedback.

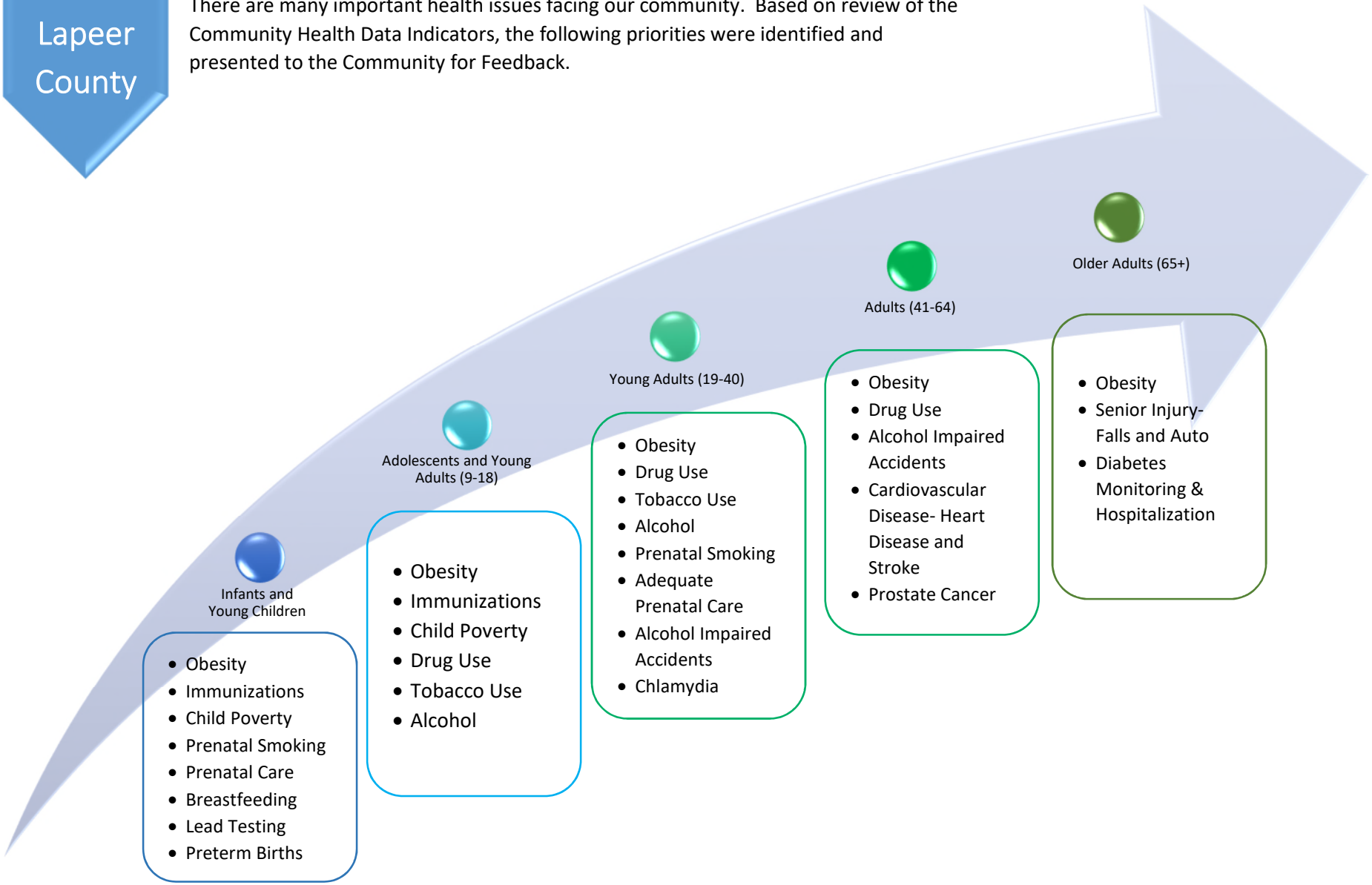


Issues Impacting the Entire Life Cycle

- Obesity
- Access to Healthy Foods
- Mental Health Access

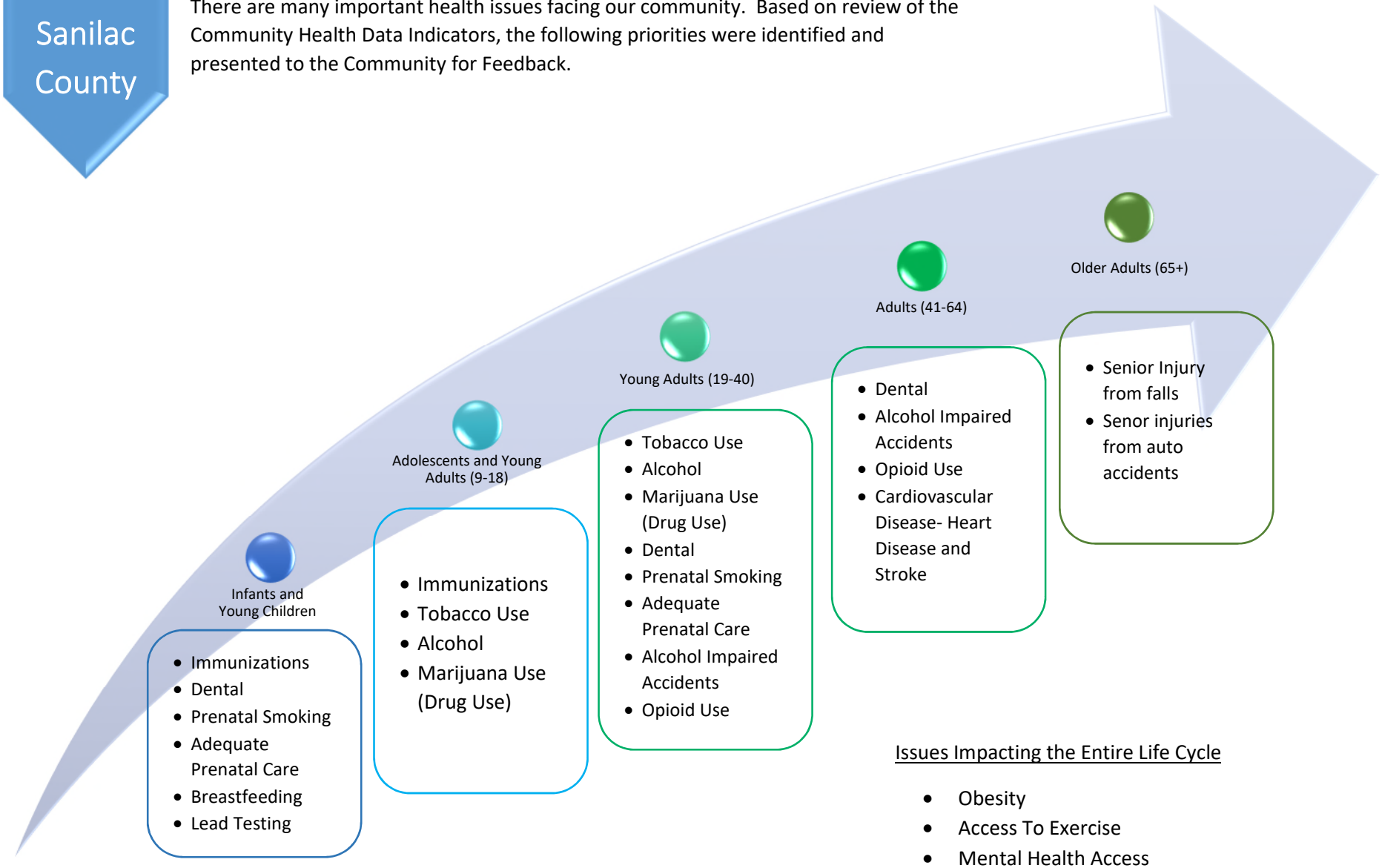
Lapeer County

There are many important health issues facing our community. Based on review of the Community Health Data Indicators, the following priorities were identified and presented to the Community for Feedback.



Sanilac County

There are many important health issues facing our community. Based on review of the Community Health Data Indicators, the following priorities were identified and presented to the Community for Feedback.

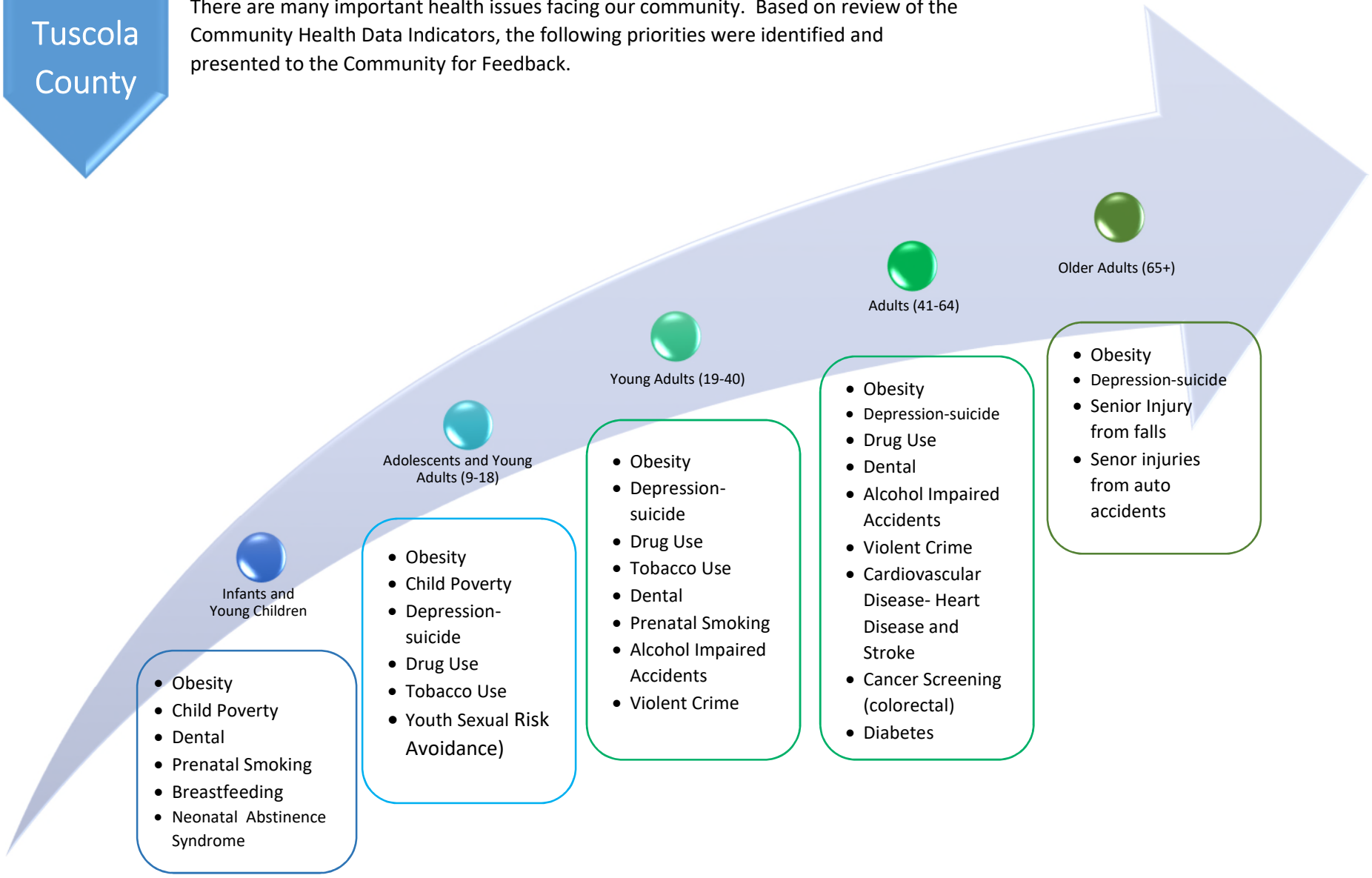


Issues Impacting the Entire Life Cycle

- Obesity
- Access To Exercise
- Mental Health Access

Tuscola County

There are many important health issues facing our community. Based on review of the Community Health Data Indicators, the following priorities were identified and presented to the Community for Feedback.

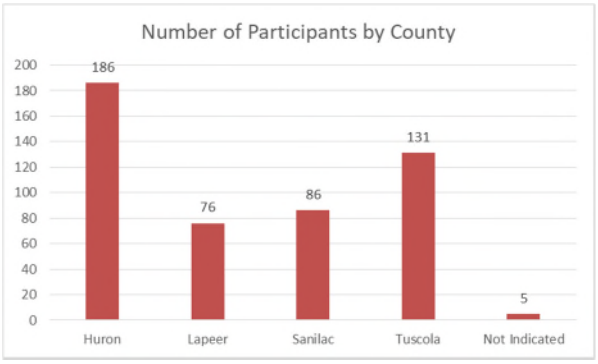


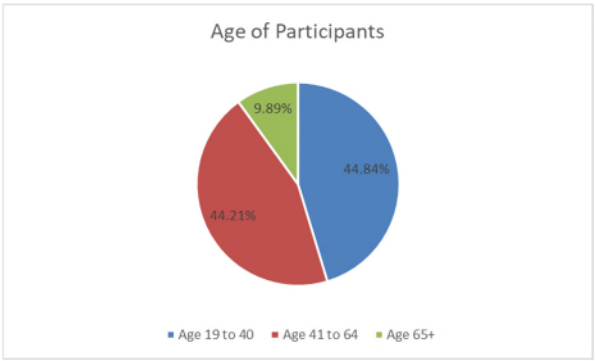
Community Input

Obtaining community input is key step in effective Community Health Improvement Planning. It is challenging to collect sufficient data from the community and from various sub-populations. The length of a survey has an inverse relationship to the number of individuals willing to complete the survey. With this factor in mind, the Michigan Thumb Public Health Alliance choose to focus community input efforts on areas that quantitative data indicated were a disparity for the region. Two target groups were identified for data collection.

1. Stakeholders: Stakeholders were identified as agency and community leaders that have a wide knowledge base regarding the impacts of the selected regional priorities and available local resources. Stakeholders were first invited to attend one of seven Community Conversations. Participants in the Community Conversations included human service agencies, hospitals, physician, Emergency Medical Services, Behavioral Health Agencies, Great Start Collaboratives, Education, Government, Law Enforcement, and MSU Extension. A follow up online survey that aligned with the Stakeholder Community Conversation Design (Appendix) was later emailed to stakeholders that did not attend the meetings. Combined participants of Community Conversations and Surveys result in 168 participants related to cardiovascular disease and 154 participants related to preventable injury. The purpose of the conversations and survey were to:
    a. Obtain input on the priorities identified during data review
    b. Understand perceptions about contributing factors of cardiovascular disease and preventable injuries
    c. Learn more about what resources already exist to address these issues and where there are gaps in resources
    d. Gather suggestions for ways to improve these health issues

2. Residents of the Region: A public survey was distributed online and on paper. The survey had four sections: 1) general feedback on priorities, 2) cardiovascular disease, 3) senior injuries, and 4) impaired driving. The purpose of the survey was to gain a deeper understanding of contributing factors and community perceptions for priority issues. The questions on these surveys were guided by the data from the Community Conversations. Across all four counties, 484 individuals participated in the survey. Women represented 88% of the participants. Seniors over age 65 were the smallest age group, only 10%. County participation ranged between 76 and 186.





Community Input Findings

Input on Priorities: In stakeholder conversations and surveys, participants were asked, "What do you think about priorities that have been selected?" The most common feedback was that the priorities were on target and accurate for the community. In the public survey, participants were asked to rank the priorities included in the categories of cardiovascular disease and preventable injuries. The following table represents this ranking:

Rating- 1 to 3 3 being most important	Huron Average	Lapeer Average	Sanilac Average	Tuscola Average	Regional Average
Heart Disease and Stroke	2.8	2.76	2.86	2.88	2.83
Obesity, Nutrition, and Physical activity	2.89	2.77	2.77	2.78	2.82
Impaired Driving Auto Accidents	2.76	2.78	2.73	2.79	2.76
Smoking During Pregnancy	2.66	2.7	2.69	2.71	2.69
Tobacco Use (including vaping)	2.69	2.7	2.65	2.6	2.66
Fall Accidents for Senior Citizens	2.59	2.61	2.66	2.71	2.64
Breastfeeding Support for Women	2.58	2.49	2.6	2.55	2.56
Auto Accidents for Senior Citizens	2.4	2.38	2.39	2.46	2.41

Both stakeholders and participants of the community survey were asked to indicate if there were any missing priorities from the list. The following represents the top items appearing in the list.

Stakeholders

- Substance Abuse-14
- Mental Health-13
- Suicide-4

Community Survey

- Substance Abuse-111
- Mental Health-58
- Suicide-27

Input on Strategies: Community Survey

If we plan education programs or information for the public, what is the best way to reach people with those messages? (Check up to three options)

Answer Choices	Huron	Lapeer	Sanilac	Tuscola	Regional Total
Facebook	84%	96%	79%	81%	84%
Mailings	35%	41%	45%	52%	42%
Newspaper	44%	43%	41%	38%	41%
Radio	51%	28%	44%	32%	41%
Community Presentations	33%	22%	33%	38%	33%
Flyers	25%	22%	28%	24%	24%
Billboards	24%	12%	28%	19%	21%
Email Notification	15%	32%	21%	18%	20%
YouTube	8%	27%	12%	8%	11%

Additional Strategies

Huron

- most public buildings
- Other community organizations like HDC, libraries, schools, DHHS
- Information boards
- at sporting events or other public gatherings, church events
- Church and school organizations
- Streaming ads
- FAX NOTIFICATION TO NURSING HOMES AND BUSINESS.
- Text! If you want the young people to know what's going on you have to text them!
- POD CASTS
- Get the world out in schools. Education should start young to prevent health issues as we age
- community presentations with food seems to help draw people in
- School presentation
- news and a place for addicts to get help without getting in trouble

Lapeer

- Have current service providers give the info to the populations they serve.
- Instagram advertising
- text message
- Twitter, Instagram and other social media

Sanilac

- small group community presentations
- Instagram. News on TV.
- Twitter, Instagram
- Pandora, Spotify
- free events
- message in a bottle

Tuscola

- Health fairs
- TV (3)
- First x offenders should be put away in jail
- Participate with local businesses to provide such in services
- Church presentations

Input about Cardiovascular Disease

How do you see cardiovascular disease impacting people you know in our county? Stakeholders			Are you aware of particular populations or groups in the area that are medically underserved? Stakeholders	
Decreased Physical Abilities	10		Low and medium income	20
Decreased Health and Quality of Life	9		Uninsured	5
Shortened life expectancy	8		Mental Health Patients	5
Increase in number of people diagnosed	8		Low education levels	4
What do you think are the reasons that cardiovascular disease is impacting our county? Stakeholders			**What do you think gets in the way of people eating healthy and exercising? Community Survey**	
Mindsets	25		Cost	177
Access to Medical Services-screening, insurance, prenatal, specialists, transportation, choice of providers	18		Time	158
Personal Financial Constraints	18		Habits	62
Lack of Physical Activity	18		Emotional Barriers	52
Nutrition habits- 1 cited cooking skills, 1 cited lack of time, access to healthy food	17		Lack of Information	50

What would you like to see done to address Cardiovascular Disease in our community?

Stakeholders			Community Survey	
Health and Wellness Education	27		Access to Affordable Fruit and Vege	178
Increased affordable access to physical activity	14		Walking & Exercise programs	28
Promotion of Physical Activity Opportunities	8		Affordable, Accessible, Fitness Center	27
Standard of Care that includes patient education	6		Weight loss Programs	21
Awareness-Marketing Campaign	5		Emotional Support	9
Better coverage for medical care-information about getting insurance	5		Health Fairs	178

Both stakeholders and community members were asked to rate a list of evidence based strategies.

Stakeholders-Top 4			Community Survey- Average score (3 highest)	
Increase walking opportunities for the public (i.e. more sidewalks, walking trails, walking programs)	26		Public education and awareness	2.83
A collaborative approach to public education and awareness about cardiovascular disease	24		Access to education and health screenings at work	2.8
Increase access to affordable fresh fruits and vegetables using community gardens.	22		Increased access to fruits and vegetables	2.78
Offer after school or summer programs that promote health to youth and includes gardening.	21		Active and educational after school or summer programs for youth	2.78

Input about Preventable Injuries

How do you see preventable injuries impacting people you know in our county? Stakeholders	
Seniors more isolated	9
Long-term injury and death	9
Distracted driving causes many accidents	7
Senior health declining	6

Are you aware of particular populations or groups in the area that are medically underserved? Stakeholders	
Senior Citizens-living alone, on medication, inactive lifestyle	13
Lower to Middle Income Families	7

What do you think are the reasons that preventable injuries is impacting our county? Stakeholders	
Lack of alternative transportation	25
Decline in skills and cognitive ability of seniors- medication, nutrition, mental health, vision.	18
Environmental fall risks in homes and communities	18
Lack of knowledge about the risks	18
Lack of local support	17

What do you think gets in the way of … Community Survey	
Preventing Senior Falls and Auto Accidents	
Resistance from Seniors to Accept Help	78
Lack of Social Support	32
Physical barriers	22
Impaired Driving	
Culture of Alcohol Use	124
Lack of Alternative Transportation	61
Lack of Information-Awareness-planning	56

What would you like to see done to address preventable injuries in our community?

Stakeholders	
More affordable, convenient transportation options (Uber, Lyft)	12
Affordable Senior fitness programs and balance classes	8
Fall Prevention Risk Assessments and education	7

Community Survey	
Senior Falls & Injuries	
Increased social support	19
In home help with daily activities	18
Environmental Assists	9
Impaired Driving	
Stricter laws and penalties	45
Accessible and affordable SUD services	6
Physical change	6

Both stakeholders and community members were asked to rate a list of evidence based strategies.

Stakeholders-Top 4			Community Survey- Average score (3 highest)	
Senior Injuries				
Provide transportation support for seniors (to doctor visits, delivery of medication and groceries, etc.)	38		Transportation support for seniors	2.89
Activity programs designed for senior citizens.	29		Promote home delivery services for groceries, prescriptions, etc.	2.81
Offer falls prevention assessments for senior citizens.	20		Well check services for seniors (phone call/in person)	2.81
Impaired Driving				
Work with community organizations and businesses to promote safe rides home for bars and events.	24		Work with community organizations and businesses to promote safe rides home for bars and events	2.9
Comprehensive youth drug education that includes impaired driving.	20		Comprehensive youth drug education that includes impaired driving	2.85
Community education and awareness about dangers of impaired driving and options for avoiding.	19		Promote and increase services for addiction	2.82

Next Steps: Community Health Improvement Plan

Based on review of all the quantitative and qualitative data collected during the Community Health Assessment Process, the Michigan Thumb Public Health Alliance will be developing a Community Health Improvement plan that includes:

1) Goals and objectives to guide community actions and efforts.
2) Share resources for identifying evidence based programs and strategies to address county and regional priorities (See Appendix-Responding Community Needs)
3) Increase coordination of services, decrease duplication of efforts, and promote collaboration within and across public sectors.



Evidence Based Programs and Strategies

What does Evidence Based Mean?

Many models for promoting population health and addressing community health needs, include a step for identifying strategies and programs. Ideally, strategies and programs that are selected for implementation will be based on evidence and research that indicates the programs have a high likelihood of resulting in the desired impact. There are four main categories of evidence based programs[3]:

Category of Evidence	Publication of Evidence	Number of Locations	Results	Potential Use
Evidence-Based	A review study of the approach in a peer-reviewed publication.	Approach tried in more than one location or setting.	Overall results were positive for the approach, may vary by setting/ location.	Useful in all formal contexts.
Effective	Reported in a peer-reviewed publication.	May include a single location/ setting or multiple.	Reported results were positive.	Citing in formal project proposals & grant applications when there is a lack of relevant evidence-based research/ programs.
Promising	A formal program evaluation was conducted and results are available publicly OR have been confirmed by RHIhub staff and are available on request from the program contact.	Typically includes only a single location or setting.	Program evaluation shows positive results.	Can be used in FORHP grant proposals when there is a lack of evidence-based or effective programs available.
Emerging Any projects not labeled as evidence-based, effective, or promising are considered part of this category.	Anecdotal account of a program, without documentation of a formal evaluation.	Typically includes only a single location or setting.	Program result may be positive (success story), negative (lesson learned), or mixed.	• Inspiration. • Connecting with and learning from others who have attempted to address similar issues. • Locating programs applicable to a specific or niche topic, issue, or population.

[3] Categories adapted by RHI Hub https://www.ruralhealthinfo.org/project-examples/criteria-evidence-base from Brennan, L., Castro, S., Brownson, R.C., Claus, J., & Orleans, CT. (2011). Accelerating Evidence Reviews and Broadening Evidence Standards to Identify Effective, Promising, and Emerging Policy and Environmental Strategies for Prevention of Childhood Obesity. *Annual Review of Public Health, 32,* 199-223.

Programs and Interventions are Necessary, but not Sufficient without System Change

The body of knowledge related to the importance of system change to addressing population health needs is growing. Programs and interventions are only part of the solution needed to address population health issues. The ABLe Change Framework is a model designed to help communities more effectively address significant issues affecting children, youth, and families. The model is based upon that premise that communities can achieve transformative results when they make the system and community conditions the intentional targets of their change initiatives, when they pursue the effective implementation of their efforts, and when they build a community engagement infrastructure that supports real-time learning and action across diverse stakeholders and sectors. Designed by Drs. Pennie Foster-Fishman and Erin Watson at Michigan State University, the ABLe Change Framework draws upon research from the successes and failures of prior organizational, community, service system, and international change efforts. The ABLe change website[4] includes tools and processes used as part of the ABLe Change approach. Access to the materials is free to the public through registration.

How do organizations identify evidence based programs?

There are many resources available online and in print for evidence based programs. The challenge is often to find programs in this wide world of information that meet a specific need. The Michigan Thumb Public Health Alliance has identified six websites that have vetted research programs and organized information with the goal of making it easier for research results to be implemented in communities. We encourage community organizations to seek information at the following sites prior to selecting and committing resources to a new program or intervention. Three of these sites have a rural focus which is or particular interest to residents in the Thumb and other rural areas.

1. **Rural Health Research Gateway**- https://www.ruralhealthresearch.org/ The Rural Health Research Gateway provides easy and timely access to research conducted by the Rural Health Research Centers (1997-present), funded by the Federal Office of Rural Health Policy. The Gateway goal is to help move new research findings to various end users as quickly and efficiently as possible. This site can be used to find:
    - Completed rural health research products and journal articles;
    - Information about the research centers;
    - Information about individual researchers; and,
    - Current research center projects

2. **Rural Healthy People 2020 (Volumes I/II)-** https://srhrc.tamhsc.edu/rhp2020/index.html Nearly 20% of the U.S. population resides in non-metropolitan areas where they experience many of the same health challenges as their urban counterparts. In fact, some of the distinctive cultural, social, economic and geographic characteristics which define rural America also place rural populations at greater risk for a myriad of diseases and health disorders. It is this recognition of the unique health challenges faced by rural America that serves as the impetus for the Rural Healthy People 2020 project. The primary goal of this research effort is to identify and address the priority health concerns of rural America. For each rural health priority identified, a brief review of literature on this disease or condition in rural America is provided and illustrative solutions summarized. For each rural health priority, researchers contacted select rural communities across the nation to find innovative programs and practices which address these concerns. These Models for Practice illustrate promising approaches by rural communities to address their health priorities.

[4] http://ablechange.msu.edu/

3. **RHI Hub**- https://www.ruralhealthinfo.org/ Rural Community Health Gateway is located on the RHI Hub. The Federal Office of Rural Health Policy (FORHP) supports a range of programs and toolkits to help rural communities improve the health of their residents. This section highlights a number of these resources segmented into four steps.
    - STEP 1: Identifying an Intervention- You've identified a need in your community but are unsure of how to address it.
    - STEP 2: Funding an Intervention-You've identified a rural health intervention but are unsure how to fund it.
    - STEP 3: Evaluation and Sustainability-You want to make sure that the program you're planning will last and meet the needs of your community and your funder.
    - STEP 4: Dissemination- You want to share your experience with other rural stakeholders and help build the rural evidence base.

4. **County Health Rankings**- What Works for Health Searchable Database: www.countyhealthrankings.org/whatworks and written publications such as "What Works? Strategies to Improve Rural Health". These resources have been added to the County Health Rankings Website to promote the use of evidence based practices. What Works for Health is a tool to help communities find evidence-informed policies, programs, systems, and environmental changes that can make a difference locally.

5. **Center for Disease Control**. Two specific CDC projects, may be of particular interest. The 6/18 initiative, https://www.cdc.gov/sixeighteen/index.html, targets 6 high costs health issues with 18 evidence based interventions: tobacco use, high blood pressure, unintended pregnancy, asthma, antibiotics use, and type 2 diabetes. "HI-5": Health Impact in 5 Years, https://www.cdc.gov/policy/hst/hi5/index.html, is an initiative that highlights non-clinical, community-wide approaches that have evidence reporting 1) positive health impacts, 2) results within five years, and 3) cost effectiveness and/or cost savings over the lifetime of the population or earlier.

6. **The Community Guide** (https://www.thecommunityguide.org): The Guide to Community Preventive Services (The Community Guide) is a collection of evidence-based findings of the Community Preventive Services Task Force (CPSTF). Reviews included in the guide are designed to answer three questions:
    - What has worked for others and how well?
    - What might this intervention approach cost and what am I likely to achieve through my investment?
    - What are the evidence gaps?

    The CPSTF issues findings based on systematic reviews of effectiveness and economic evidence that are conducted with a methodology developed by the Community Guide Branch. The CPSTF reviews intervention approaches across a wide range of health topics. The interventions are applicable to groups, communities, or other populations and include strategies such as healthcare system changes, public laws, workplace and school programs and policies, and community-based programs. All intervention approaches are intended to improve health directly; prevent or reduce risky behaviors, disease, injuries, complications, or environmental or social factors; or promote healthy behaviors and environments.

List of Appendices

1. County Health Rankings Summary
2. HPSA Designations
3. Thumb CHNA Summary
4. Stakeholder Community Conversation Design
5. Stakeholder Report
6. Community Survey Tool
7. Community Survey Report
8. Regional Priorities-County by County Comparison
9. Feedback Evaluation