SPECTRUM HEALTH

Community Health Needs Assessment for:

Memorial Medical Center of West Michigan d/b/a Spectrum Health Ludington Hospital

Spectrum Health is a not-for-profit health system, based in West Michigan, offering a full continuum of care through the Spectrum Health Hospital Group, which is comprised of 12 hospitals, including Helen DeVos Children's Hospital; 180 ambulatory and service sites; 3,600 physicians and advanced practice providers, including 1,500 members of the Spectrum Health Medical Group; and Priority Health, a health plan with 779,000 members. Spectrum Health is West Michigan's largest employer, with 26,000 employees. The organization provided $372 million in community benefit during its 2017 fiscal year. Spectrum Health was named one of the nation's 15 Top Health Systems—and in the top five among the largest health systems—in 2017 by Truven Health Analytics®, part of IBM Watson Health™. This is the sixth time the organization has received this recognition.

Community Health Needs Assessment – Exhibit A

The focus of this Community Health Needs Assessment (CHNA) attached in Exhibit A is to identify the community needs as they exist during the assessment period (2017-2018), understanding fully that they will be continually changing in the months and years to come. For purposes of this assessment, "community" is defined as the county in which the hospital facility is located. This definition of community based upon county lines, is similar to the market definition of Primary Service Area (PSA). The target population of the assessment reflects an overall representation of the community served by this hospital facility. The information contained in this report is current as of the date of the CHNA, with updates to the assessment anticipated every three (3) years in accordance with the Patient Protection and Affordable Care Act and Internal Revenue Code 501(r). This CHNA complies with the requirements of the Internal Revenue Code 501(r) regulations either implicitly or explicitly.

Evaluation of Impact of Actions Taken to Address Health Needs in Previous CHNA – Exhibit B

Attached in Exhibit B is an evaluation of the impact of any actions that were taken, since the hospital facility finished conducting its immediately preceding CHNA, to address the significant health needs identified in the hospital facility's prior CHNA.

Exhibit A

SPECTRUM HEALTH LUDINGTON HOSPITAL

Community Health Needs Assessment

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February 28, 2018

RESEARCH AND EVALUATION
VISION · INSIGHT · PRAXIS

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INTRODUCTION

Background and Objectives

VIP Research and Evaluation was contracted by the Community Health Needs Assessment (CHNA) team of Spectrum Health to conduct a Community Health Needs Assessment, including a Behavioral Risk Factor Survey (BRFS), for Spectrum Health Ludington Hospital (SHL) in 2017. For the purposes of this assessment, "community" is defined as the county in which the hospital facility is located. This definition of community is based upon county lines, is similar to the market definition of Primary Service Area (PSA). The target population of the assessment reflects the overall representation of the community served by this hospital facility.

The Patient Protection and Affordable Care Act (PPACA) of 2010 set forth additional requirements that hospitals must meet in order to maintain their status as a 501(c)(3) Charitable Hospital Organization. One of the main requirements states that a hospital must conduct a community health needs assessment and must adopt an implementation strategy to meet the community health needs identified through the assessment. The law further states that the assessment must take into account input from persons who represent the broad interests of the community, including those with special knowledge of, or expertise in, public health.

In response to the PPACA requirements, organizations serving both the health needs and broader needs of the SHL communities began meeting to discuss how the community could collectively meet the requirement of a CHNA.

The overall objective of the CHNA is to obtain information and feedback from SHL area residents, health care professionals, and key community leaders in various industries and capacities about a wide range of health and health care topics to gauge the overall health climate of the region covered by SHL.

More specific objectives include measuring:

- The overall health climate, or landscape, of the regions served by SHL, including, primarily, Mason County, but also portions of Lake, Oceana, and Manistee counties
- Social indicators, such as crime rates, education, poverty rates, and adverse childhood experiences
- Community characteristics, such as available resources, collaboration, and volunteerism
- Physical health status indicators, such as life expectancy, mortality, physical health, chronic conditions, chronic pain, and weight status
- Mental health status indicators, such as psychological distress and suicide
- Health risk behaviors, such as smoking and tobacco use, alcohol use, diet, and physical activity
- Clinical preventive practices, such as hypertension awareness, cholesterol awareness, and oral health
- Disparities in health
- Accessibility of health care
- Barriers to healthy living and health care access
- Positive and negative health indicators
- Gaps in health care services or programs

Background and Objectives (Continued)

Information collected from this research will be utilized by the Community Health Needs Assessment team of SHL to:

- Prioritize health issues and develop strategic plans
- Monitor the effectiveness of intervention measures
- Examine the achievement of prevention program goals
- Support appropriate public health policy
- Educate the public about disease prevention through dissemination of information

Methodology

This research involved the collection of primary and secondary data. The table below shows the breakdown of primary data collected, including the target audience, method of data collection, and number of completes:

	Data Collection Methodology	Target Audience	Number Completed
Key Stakeholders	**In-Depth Telephone Interviews**	**Hospital Directors, Clinic Executive Directors**	**6**
Key Informants	**Online Survey**	**Physicians, Nurses, Dentists, Pharmacists, Social Workers**	**46**
Community Residents (Underserved)	**Self-Administered (Paper) Survey**	**Vulnerable and underserved sub-populations**	**149**
Community Residents	**Telephone Survey (BRFS)**	**SHL area adults (18+)**	**514**

Secondary data was derived from various government and health sources such as the U.S. Census, Michigan Department of Health and Human Services, County Health Rankings, Youth Risk Behavior Survey, and Kids Count Database.

Of the 6 Key Stakeholders invited to participate, all 6 completed an in-depth interview (100% response rate). Key Stakeholders are defined as executive-level community leaders who:

- Have extensive knowledge and expertise on public health and/or human service issues
- Can provide a "50,000-foot perspective" of the health and health care landscape of the region
- Are often involved in policy decision-making
- Examples include hospital administrators and clinic executive directors

The number of Key Informants participating in this iteration decreased 17.8% from 56 in 2014 to 46 in 2017. Key Informants are also community leaders who:

- Have extensive knowledge and expertise on public health issues, or
- Have experience with subpopulations impacted most by issues in health/health care
- Examples include health care professionals (e.g., physicians, nurses, dentists, pharmacists, social workers) or directors of non-profit organizations

There were 149 self-administered surveys completed by targeted sub-populations considered to be vulnerable and/or underserved, such as single mothers with children, senior adults, and those who are uninsured, underinsured, or have Medicaid as their health insurance. This number is up substantially from the 44 completed in 2014.

Methodology (Continued)

A Behavioral Risk Factor Survey was conducted among 514 SHL area adults (age 18+) via telephone. The response rate was 33%.

Disproportionate stratified random sampling (DSS) was used to ensure results could be generalized to the larger SHL patient population. DSS utilizes both listed and unlisted landline sample, allowing everyone with a landline telephone the chance of being selected to participate.

In addition to landline telephone numbers, the design also targeted cell phone users. Of the 514 completed surveys:

- 251 are cell phone completes (48.8%), and 263 are landline phone completes (51.2%)
- 173 are cell-phone-only households (33.7%)
- 121 are landline-only households (23.6%)
- 220 have both cell and landline numbers (42.9%)

For landline numbers, households were selected to participate subsequent to determining that the number was that of a residence within the zip codes of the primary or secondary SHL service areas (PSA/SSA). Vacation homes, group homes, institutions, and businesses were excluded. All respondents were screened to ensure they were at least 18 years of age and resided in the SHL PSA/SSA zip codes.

In households with more than one adult, interviewers randomly selected one adult to participate based on which adult had the nearest birthday. In these cases, every attempt was made to speak with the randomly chosen adult; interviewers were instructed to not simply interview the person who answered the phone or wanted to complete the interview.

The margin of error for the entire sample of 514, at a 95% confidence level, is +/- 5.0% or better. This calculation is based on a population of roughly 22,949 Mason County residents alone who are 18 years or older, according to the 2016 U.S. Census estimate. The population of SHL's service area is even larger when areas of Eaton and Ionia counties were included.

Unless noted, consistent with the Michigan BRFS, respondents who refused to answer a question or did not know the answer to a specific question were excluded from analysis. Thus, the base sizes vary throughout the report.

Data weighting is an important statistical process that was used to remove bias from the BRFS sample. The formula consists of both design weighting and iterative proportional fitting, also known as "raking" weighting. The purposes of weighting the data are to:

- Correct for differences in the probability of selection due to non-response and non-coverage errors
- Adjust variables of age, gender, race/ethnicity, marital status, education, and home ownership to ensure the proportions in the sample match the proportions in the larger adult population of the county in which the respondent lived
- Allow the generalization of findings to the larger adult population of each county

Methodology (Continued)

The formula used for the final weight is: Design Weight X Raking Adjustment

Adverse Childhood Experiences (ACEs) data were collected using the CDC-Kaiser 10-item version. The 10 items measure the following adverse groups and subgroups:

- Abuse:
  - Emotional abuse
  - Physical abuse
  - Sexual abuse
- Household Challenges:
  - Intimate partner violence
  - Household substance abuse
  - Household mental illness
  - Parental separation or divorce
  - Incarcerated household member
- Neglect:
  - Emotional neglect
  - Physical neglect

All of the 10 questions have "yes" or "no" response categories. Respondents scored a "0" for each "no" and a "1" for each "yes." Total ACEs scores were computed by adding the sum of the scores across the 10 items. The total ACEs scores were segmented into three groups according to the number of adverse childhood experiences respondents had: none, 1 to 3, and 4 or more.

It should be noted that if the respondent said "don't know" or refused to answer any of the ACEs items then they were not included in the ACEs analyses by groups. This decision was made because the researchers believe that coding "don't know" or "refused" answers as zero and then including them in one of the three groups could possibly create an inaccurate picture of the extent to which adverse childhood experiences exist in the population of SHL area residents. As an example, if someone refused to answer all 10 ACEs questions, rather than coding them as a none (zero), it was determined best to exclude them from the analyses.

In the Executive Summary, VIP Research and Evaluation has identified several key findings, or significant health needs, which we have determined to be the most critical areas of need, derived from primary and secondary data. The process for making such determinations involved analyzing quantitative and qualitative feedback from Key Stakeholders, Key Informants, SHL area adults, and SHL area underserved residents to gain a better understanding of what they deem to be the most important health and health care issues in the community. Information needed to identify and determine the community's significant health needs was obtained by conducting telephone surveys with adult residents, sending out additional community health (paper) surveys to underserved adult residents, and conducting telephone interviews and online surveys with community healthcare professionals and community leaders. This question was asked explicitly of three of these four respondent groups, and additional information was gleaned from all groups via their responses to various questions throughout the surveys or discussion guides. Secondary data was then used to complement the findings from the primary data analyses. The result is a robust process that we are confident depicts an accurate assessment of the most critical health or health care issues in the SHL area.

EXECUTIVE SUMMARY & KEY FINDINGS

Executive Summary & Key Findings

In general, the findings from the 2017 Community Health Needs Assessment portray the SHL area as one of the healthier Spectrum communities. It is not faced with some of the same economic, social, and health challenges of other Spectrum hospital areas. Further, community members see improvement in many areas over the past several years from prior CHNAs and subsequent strategic plans that have been implemented.

The SHL area is considered to be a caring, connected, giving, and philanthropic community where community foundations provide resources that help alleviate some of the social issues. Although resources are more limited compared to other areas (e.g., Ottawa County), there is a strong collaborative spirit among people and organizations that has made up for many resource shortcomings.

The SHL area is a very safe community with low levels of violent crime and homicide. Poverty levels and the unemployment rate are higher than state and national levels; however, the latter has decreased substantially over the past several years and is currently not considered to be a negative social factor. That said, poverty can be an enormous barrier to a healthy life for those who endure it. The community could also benefit from a boost in educational attainment as local residents lag behind residents across the state and the nation.

Environmentally, being a rural area, there is an abundance of natural resources, clean air, and a plethora of outdoor spaces such as lakes, paths for walking/hiking, and biking trails that invite activity. On the other hand, the rural nature of the landscape means the distance to programs, services, and resources can be a barrier for some, and the winter months can be long and deny people a chance to be active or to keep themselves occupied in a healthy way. In sum, the SHL area possesses some of the social and community characteristics that Key Stakeholders say distinguish a community as “healthy.”

Most area residents have health insurance, have a personal health care provider, and are at least somewhat confident they can navigate the health care system and complete medical forms.

Area residents also report good health and relatively low levels of psychological distress. For Mason County residents, the life expectancy rate is on par with the state and national rates, and age-adjusted, child, and infant mortality rates are lower compared to state or national rates.

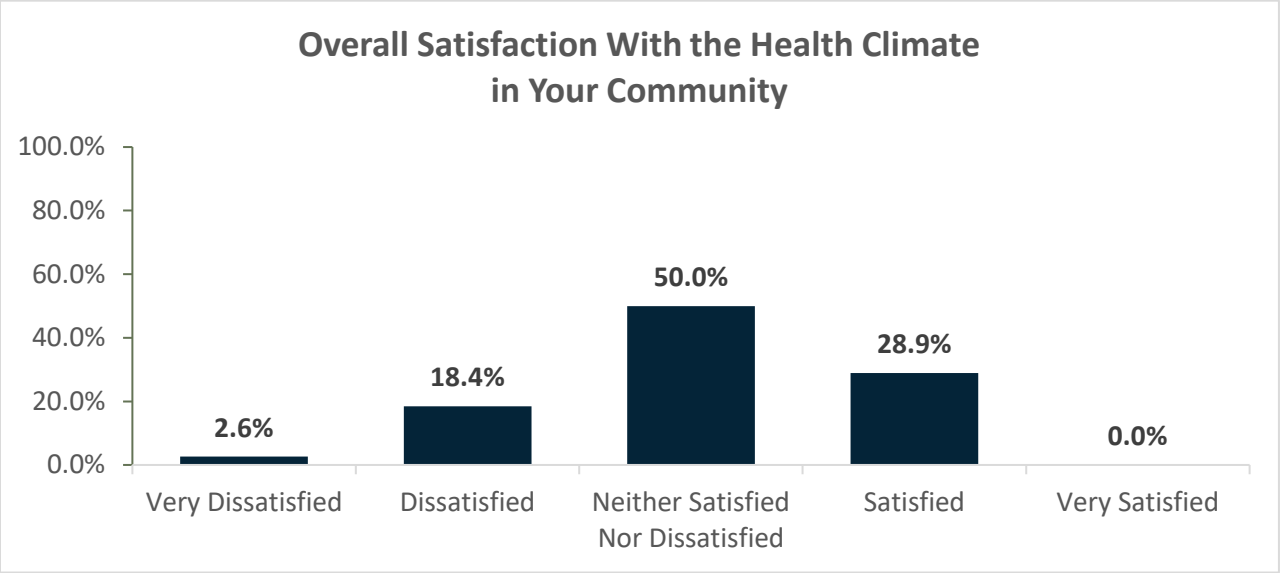
In general, the prevalence of chronic conditions is greater relative to the state and the nation; arthritis, diabetes, COPD, non-skin cancer, stroke, and heart attack rates are higher compared to MI or U.S. rates, while asthma and skin cancer rates are lower than state or national rates.

The prevalence of risk behaviors is mixed for adults. For example, cigarette smoking and heavy drinking are more prevalent among adults in the SHL area compared to the state or nation, but binge drinking is less prevalent compared to the state or nation. Physical activity is less prevalent among both adults and youths in the SHL area vs. the state or nation.

With regard to SHL area youth, the prevalence of risk behaviors is also mixed: smoking and binge drinking are less common among SHL area youth compared to youth across MI or the US., but local teens are more sexually active than teens across the state and the nation. Although the teen birth rate is lower in Mason County vs. the state or national rates, the teen birth rate in Lake County is higher.

Executive Summary & Key Findings (Continued)

All of that said, only three in ten (28.9%) Key Informants – the very people on the ground working in or around the field of health care – are satisfied with the overall health climate in the SHL area. This demonstrates that there is substantial room for improvement, and their comments indicate concerns across several areas but highlight the issue of access to care, especially with regard to mental health care.



Satisfied	The **people in this community are passionate about caring for our most vulnerable**. The **resources to accomplish this task can be limiting**. **We can always do better but I do believe we have great services**. We just **need more coordination and a few more services to fully complement** the current environment.
Neither satisfied nor dissatisfied	There are **pockets of positive change** happening **however there is much work still to do**. There are **some good programs** but there is **always opportunity to provide more/better services/programs**.
Dissatisfied	**No psych at CMH to treat children --** off site, too long of a time to wait for an appointment. **Too many doctors don't accept low income insurance**, so **children don't get treatment** without it being a difficult process. **Lice is a problem in the schools** and causes absenteeism. We've **got a long way to go in mental health services**, and we have an **aging doctor population with apparently an inability to recruit new ones**. **Mid-level providers are not the solution**, although they can help.

Source: SHL Key Informant Survey, 2017, Q11: Taking everything into account, including health conditions, health behaviors, health care availability, and health care access, how satisfied are you overall with the health climate in your community? (n=38); Q11a: Why do you say that? Please be as detailed as possible.

What follows are nine key findings and discussions on each:

- **KEY FINDING [Significant Health Need] #1**: Substance use and abuse – smoking continues to be a problem, and opioid addiction and the abuse of prescription drugs have become more problematic
- **KEY FINDING [Significant Health Need] #2**: Obesity and weight issues – a sizeable majority of area adults are either overweight or obese and this can lead to other major health problems
- **KEY FINDING [Significant Health Need] #3**: Mental health – especially access to treatment, continues to be a critical issue and hasn't improved from 2014 (the last CHNA)
- **KEY FINDING [Significant Health Need] #4**: Health care access – is an issue for everyone because of a lack of specialty care providers, primary care providers not accepting all insurances or all patients, and a lack of specific programs and services
- **KEY FINDING [Significant Health Need] #5**: Chronic conditions – some chronic conditions merit monitoring
- **KEY FINDING [Significant Health Need] #6**: Negative social indicators – addressing certain negative social indicators will improve the overall health and health care climate of the region
- **KEY FINDING [Significant Health Need] #7**: Maternal, child, and teen health – several indicators emerge that demonstrate area children and teenagers are at a disadvantage
- **KEY FINDING [Significant Health Need] #8**: The most appropriate way to address health and health care issues is from an integrated, holistic, or biopsychosocial perspective
- **KEY FINDING [Significant Health Need] #9**: Health disparities exist across several demographics

Executive Summary & Key Findings (Continued)

Key Finding [Significant Health Need] #1: Substance use and abuse – smoking continues to be a problem, and opioid addiction and the abuse of prescription drugs have become more problematic.

- Substance abuse, which is often comorbid with mental illness, is identified as one of the most concerning issues among Key Informants, Key Stakeholders, and area adults.

- Prevalence data demonstrates:
  - 21.0% of adults currently smoke cigarettes, a prevalence rate higher than the state or national rates
  - 9.6% of area youth smoke cigarettes, a rate slightly lower than state or national rates
  - 7.3% of adults are heavy drinkers, a rate higher than the state or national rates, and up significantly from 2014 (the last CHNA)
  - 10.5% are binge drinkers, a rate lower than state and national rates and lower than the rate in 2014
  - 8.7% of area youth engage in binge drinking, a rate lower than the state or national rates
  - 25.8% of adults know someone who has taken prescription drugs to get high
  - 23.5% of area adults report that they lived with someone while growing up who was a problem drinker, alcoholic, or who used street drugs

- Key Stakeholders and Key Informants cite several major reasons for their concern about substance abuse:
  - Prevalence; Key Stakeholders and Key Informants believe smoking, alcohol abuse, illicit drug abuse, and prescription drug abuse exist on a large scale throughout the community
  - The cycle of prescription drug abuse leading to illicit opiate use and vice versa
  - Providers over-prescribing drugs, especially opiates
  - Overdoses are more common and are not limited to adults; further, they can lead to death
  - Lack of treatment options for substance abuse; Key Informants cite substance abuse treatment as the service most lacking in the community and are dissatisfied with the community's response to any substance abuse issue
  - Social factors; negative social factors such as poverty and isolation play a role in substance abuse, which leads to additional family problems.

- Further, 60.2% of area adults believe there is a prescription drug abuse problem in the community.
  - Of these, 88.2% believe prescription opiates are abused
  - Two thirds or more believe there is abuse of prescription stimulants/amphetamines (69.5%) and depressants (66.5%)

- Six in ten (61.8%) area adults think that illicit methamphetamines are a problem in the community, and a similar proportion (60.1%) believe the same about heroin. Roughly half think cocaine (51.9%) and marijuana (48.9%) are currently a problem in the community.

Key Finding [Significant Health Need] #2: Substance use and abuse – smoking continues to be a problem, and opioid addiction and the abuse of prescription drugs have become more problematic. (Continued)

- Exposure to second-hand smoke is an issue in the community, although it is better than many surrounding counties:
  - 20.4% of area adults report smoking inside their home and this proportion doesn't improve much for households with children under age 18 living at home (17.9%)
  - 65.4% of smokers and 8.5% of non-smokers report smoking takes place in their home

How would your community be different if the substance abuse issues went away?

We'd probably have a lot **less access to illicit and licit drugs** in the streets. We'd probably have a **much lower rate of recidivism in jails**. We'd probably have people in general being **quite a bit healthier**. We'd probably **decrease access of those illicit substances to kids** who are now getting them through their parents or their friends whose parents have those drugs in their homes. I think we would be getting a **large number of people who have been addicted to opiates on the road to recovery**, and they'd be **more meaningful participants** - **contributing participants in our communities**. – *Key Stakeholder*

I think there would be **less crime**. I think the **community as a whole would be healthier**, and I think people **would have better access to health care**, too, **because we spend so much time on this and so many resources**, we don't make any progress; it seems like we don't have time to do those other things - those fun things that keep people happy and well. – *Key Stakeholder*

The opioid crisis is really one of just - the **cost**, the **distraction**, the **public health risk that is created with this epidemic** - I think if that goes away, we can **focus time**, **energy**, and **resources** on **other areas of need**. – *Key Stakeholder*

Key Finding [Significant Health Need] #2: Obesity and weight issues – a sizeable majority of adults are either overweight or obese and this can lead to other major health problems.

- Prevalence data demonstrates:
  - 69.0% of adults are either overweight (34.9%) or obese (34.1%) in the SHL area
  - The prevalence of obesity is higher in the SHL area than across Michigan or the U.S. and has not improved from 2014
  - 23.3% of area youth (grades 8-12) are obese; this rate is much higher compared to Michigan or the U.S.

- Area adults and area health professionals consider obesity to be a top health issue in the community primarily because:
  - Prevalence is high in both adults and youth and is not improving over time
  - Obesity is comorbid with other chronic conditions or negative outcomes such as diabetes, sleep apnea, joint problems, hypertension, heart disease, and atrial fibrillation
  - It is a product of social and environmental factors that plague the area, such as poverty, lack of educational opportunities and better access to unhealthy food compared to healthy food
  - There is a lack of resources to address the issue, especially obesity reduction programs and classes on how to cook healthy food
  - Long winter months exacerbate already high levels of inactivity
  - Poor lifestyle choices (diet, lack of exercise) lead to obesity and children learn these behaviors from adults

- Key Informants perceive obesity to be the most prevalent health issue in the area.
  - Further, they are dissatisfied with the community response to obesity

- Compounding the problem is the fact that many adults who are overweight or obese view themselves more favorably so there may be less urgency for them to attempt to lose weight.
  - Only 25.6% of obese adults view themselves as “very overweight” and 34.6% of overweight adults view themselves as “about the right weight”
  - 35.7% and 48.3% of obese and overweight adults, respectively, are currently **not** attempting to lose weight

- Area residents could use more guidance on ways to address their weight since area health care professionals seem to be failing in this area.
  - 76.9% of overweight adults and 62.1% of obese adults report that health professionals have **not** given them advice about their weight

- Almost half (46.3%) of Key Informants say that programs targeting obesity reduction are lacking in the community.

Key Finding [Significant Health Need] #3: Mental health – especially access to treatment, continues to be a critical issue and hasn't improved from 2014.

- Prevalence data demonstrates:
  - 15.6% of area adults are considered to have mild to severe psychological distress per the Kessler 6 Mental Health Scale
  - 8.7% of adults report poor mental health – meaning they experienced 14 or more days, out of the previous 30, in which their mental health was not good due to stress, depression, and problems with emotions; this proportion is slightly higher than the 2014 proportion
  - 29.3% of area youth report depression
  - 13.5% of adults say that growing up they lived with someone who was depressed, mentally ill, or suicidal

- Key Stakeholders and Key Informants consider issues surrounding mental health to be pressing or concerning in the SHL area and cite several major reasons for their concern:
  - Lack of programs, services, and resources to address all mental health issues, from mild to severe, including lack of trained clinical staff with expertise in mental health, specifically psychiatrists
  - Lack of services has led many residents with mental health issues to utilize the ER/ED, contributing to inflated costs and inefficiency in the system
  - Health professionals view mental illness as prevalent among both adults and teens, and the actual prevalence may be even greater since many residents go undiagnosed
  - Continued stigma attached to mental illness, which may prevent many people from seeking, and receiving, needed care

- Key Informants perceive anxiety and depression to be prevalent in the community, and they are dissatisfied with the community response to these issues.

- It is concerning that sizeable proportions of people who currently suffer from some form of mental illness are not undergoing treatment or taking medication for their condition.
  - For example, 25.2% of adults who report poor mental health and 39.9% of those who are considered to be in mild to moderate psychological distress are **not** currently taking medication or receiving treatment for these conditions; the proportions have improved since 2014

- If the vast majority of adults believe that treatment can help people with mental illness lead normal lives, it begs the question: Why do so many people fail to seek treatment that would benefit them?
  - The answer may partly lie in the continued stigma mentioned above: fewer than half (47.4%) of adults think people are caring and sympathetic toward people with mental illness

Key Finding [Significant Health Need] #3: Mental health – especially access to treatment, continues to be a critical issue and hasn't improved from 2014. (Continued)

- The proportions of area youth who think about suicide, or attempt suicide, are lower than the rates for youth across Michigan and the U.S.; still, 13.8% of area youth think about suicide, and of these 6.9% attempt suicide.
  - Also concerning is that the proportions of local youth having suicidal ideation or attempting suicide are much larger than the proportions among local adults

How would your community be different if the mental health issues went away?

> The simple answer is, I think we'd be a **much healthier community**. I think we'd be a **much more economically viable community** with a **thriving workforce**, **lower crime**, and **better health care statistics**. – *Key Stakeholder*

Key Finding [Significant Health Need] #4: Health care access – is an issue for everyone because of a lack of specialty care providers, primary care providers not accepting all insurances or all patients, and a lack of specific programs and services.

- Those with insurance and the ability to afford out-of-pocket expenses such as co-pays and deductibles have an easier time accessing care, but there are still gaps in services which force many residents to travel out of the area for treatment. Those without insurance, or with insurance but unable to afford copays/deductibles/spend-downs, have trouble accessing needed services and this is most problematic for certain vulnerable or underserved subpopulations.

- Prevalence data demonstrates:
  - Although Mason County (83.3) has an equal number of MDs and DOs per capita compared to the state (80.6), Lake County has virtually no MDs or DOs (8.8)
  - 16.0% of all adults have no health care provider (no medical home); this proportion is higher than the state proportion and higher than it was in 2014
  - 15.1% of all area adults aged 18-64 have no health insurance; this proportion is up from 9.1% in 2014
  - 11.8% of all adults have Medicaid for their health insurance
  - 47.8% of children under age 18 in Mason County, and 67.7% of children in Lake County, are insured under Medicaid; both rates are higher than the state rate
  - 7.1% of area adults had to skip or stretch their medication in the past year in order to save on costs, and this rises to 20.3% for underserved adults
  - 23.9% of area adults had to delay needed medical care over the past year due to myriad reasons, but cost was cited most often
  - More than four in ten (42.8%) underserved adults had trouble meeting their own, or their family's, health care needs in the past two years
  - 57.1% of underserved adults report that they, or a family member, has visited the ER/ED at least once in the past year; 34.6% two or more times

- Underserved adults face more challenges when it comes to being health literate; for example:
  - They are less confident than other adults in completing medical forms
  - They are more likely than other adults to experience problems learning about their health condition because of difficulty understanding written information
  - 14.1% are not confident in navigating the health care system and 37.6% are only somewhat confident
  - 10.7% "often" or "always" have someone else help them read medical materials

Key Finding [Significant Health Need] #4: Health care access – is an issue for everyone because of a lack of specialty care providers, primary care providers not accepting all insurances or all patients, and a lack of specific programs and services. (Continued)

- Key Stakeholders and Key Informants recognize that certain subpopulations are underserved when it comes to accessing health care, especially those who are uninsured, underinsured, undocumented immigrants and/or non-English speaking (ESL), for four primary reasons:
  - Even if they have insurance, it may not be accepted by some providers (e.g., Medicaid/Medicare), or they may not utilize it because they can't afford co-pays, deductibles, or spend-downs
  - These groups often have too many barriers to overcome (e.g., cost, transportation, hours of operation, cultural, system distrust, language)
  - Lack of treatment options for the underserved, including primary care, mental health, substance abuse, and dental care
  - Poverty, isolation, and distance – all aspects common to rural areas – are social factors that contribute to poor health and lack of access to care

- In addition to the lack of services for mental health and substance abuse touched on previously, Key Informants report the programs and services most lacking include:
  - Primary care, mental health treatment, and dental care for the uninsured/underinsured and low-income groups
  - Programs/services for people with insurance, but who don't utilize coverage because they cannot afford out-of-pocket expenses
  - Mental health treatment in general (for all), especially psychiatrists/psychiatry
  - Substance abuse treatment (for all)
  - Specialty programs such as cardiology, dermatology, endocrinology, GI, neurology, pulmonary, and urology
  - Services targeting obesity reduction, diabetes management, and those with disabilities

- Underserved residents report that the programs and services most lacking include:
  - Mental health services, especially psychiatry, services for anxiety and depression, and classes/education about mental health issues and mental health awareness
  - Places to exercise that are free or low cost for everyone (adults, children, seniors)
  - Nutrition classes focused on healthy eating and ways to prepare healthy food to encourage increased consumption
  - Parenting classes, especially for new/young parents, including breastfeeding support

Key Finding [Significant Health Need] #4: Health care access – is an issue for everyone because of a lack of specialty care providers, primary care providers not accepting all insurances or all patients, and a lack of specific programs and services. (Continued)

How would your community be different if the health care access issues went away?

I think if we didn't have the risk of Medicaid expansion going away, we'd be in a position where **people would be getting their care needs met in lower-cost settings**. They'd be **getting more done preventatively rather than emergently**. It would be **better all the way around**. The **ERs are an expensive place to get health care delivered when it's non-emergent**, and I think **patients would be much better off from that standpoint**. – *Key Stakeholder*

Key Finding [Significant Health Need] #5: Chronic conditions – some chronic conditions warrant monitoring.

- Prevalence of six of the ten chronic conditions tested was higher for SHL area adults compared to adults across the state or the nation: arthritis, diabetes, COPD, non-skin cancer, stroke, and heart attack. Area adults demonstrate lower prevalence for asthma and skin cancer compared to adults across Michigan or the U.S.

- Prevalence data demonstrates:
  - 34.9% of SHL adults have arthritis; up from 2014
  - 11.2% of area adults have diabetes, down from 2014
  - An additional 20.3% of adults have pre-diabetes
  - 9.5% of SHL adults currently have COPD; up from 2014
  - 8.2% of area adults have/have had non-skin cancer; up from 2014
  - 5.1% of SHL adults have skin cancer; a rate lower than in 2014

- The cancer death rate is lower in Mason County compared to the state rate, but it is higher than the national rate.

- Because the cancer diagnosis rate is lower in Mason County compared to Michigan or the U.S., but the cancer death rate is relatively high, it begs the question: Is better cancer screening needed in order to detect cancer before it is too late to treat the condition?

- Death rates from chronic lower respiratory disease, unintentional injuries, and stroke are all higher in Mason County compared to state and national rates.

- According to area adults, cancer is the most important health problem in their community today, by far.

- On a positive note, large majorities of adults who have the chronic conditions listed above are “very” or “extremely” confident that they can do all things necessary to manage their chronic condition.

- 33.1% of area adults suffer from chronic pain, and of these, 45.7% report barriers to treating their pain, such as inadequate, or lack of, programs and services to help them manage their pain well; too many chronic conditions to manage; immobility; and cost.
  - Interestingly, 6.3% reported that they don’t ask for treatment of their pain

Key Finding [Significant Health Need] #6: Negative Social Indicators – addressing certain negative social indicators will improve the overall health and health care climate of the region.

- Negative social indicators, such as lack of affordable housing, lack of affordable healthy food, and adverse childhood experiences can cultivate negative health outcomes.

- Poverty and isolation can negatively impact the health of residents experiencing it.

- That said, poverty is a macro socioeconomic problem that, in and of itself, is very difficult to ameliorate and beyond the scope of any CHNA implementation plan. However, some of the issues that are connected to poverty can be addressed such as:
  - Finding ways to provide more affordable housing
  - Providing more healthy food options to residents at lower costs in order to improve the nutrition of those who would not otherwise be able to afford healthy food
  - Strengthening social service programs to offset the negative outcomes that can accompany poverty (e.g., broken homes, abusive relationships, household challenges) and help disrupt/break negative family cycles that perpetuate generations of suffering
  - Addressing the economic disparity by ensuring that underserved and vulnerable groups have access to services that will move them closer to participating on a level playing field, such as education

- This research has shown the adverse effects of negative social conditions: people who experience four or more adverse childhood experiences have a far greater chance of experiencing negative outcomes – such as poor physical health, poor mental health, and engaging in risk behaviors – compared to those who experience fewer adverse childhood experiences.

- Further, of the ten adverse childhood experiences tested in this research, SHL area adults were higher on two (meaning they experienced more of them) compared to adults across the nation: emotional abuse and having a household member go to prison.

Key Finding [Significant Health Need] #7: Maternal, child, and teen health – several indicators emerge that demonstrate area children and teenagers are at a disadvantage.

- Prevalence data demonstrates:
  - The rate for confirmed victims of child abuse/neglect is higher in both Mason and Lake counties compared to the rate for the U.S.
  - 30.0% of children under age 18 in Mason County, and 46.0% of children in Lake County, live in poverty; both rates are much higher than state and national rates
  - 48.7% of births in Mason County, and 73.9% of births in Lake County are Medicaid paid; both rates are higher than the state rate
  - 61.1% of Mason County children and 95.9% of Lake County children receive WIC assistance; rates higher than the state rate
  - 51.1% and 91.8% of students in Mason and Lake counites, respectively, are eligible for free or reduced priced school lunches; rates higher than the state rate
  - More than six in ten (61.5%) single-female families with children under age five in Mason County, and 87.2% of single-female families with children under age five in Lake County, live in poverty; rates higher than state and national rates
  - 22.4% of area adults experienced emotional abuse growing up, a rate twice as high as the U.S. rate
  - Additionally, 17.8% of area adults experienced physical abuse growing up, and 11.8% experienced sexual abuse
  - The proportion of children age 19-35 months who are fully immunized is far lower in both Mason and Lake counties compared to state or national proportions

- As mentioned earlier, three in ten area youth report depression, and suicide ideation and attempts are much higher among area youth than for area adults.

- Lake County women who are pregnant are less likely to begin prenatal care in the first trimester, and more likely to have late or no prenatal care, compared to women across Michigan.

- Youth smoking rates are slightly lower the state and national rates, but one in ten area youths smoke cigarettes, so it is still an issue that needs addressing.

- Similar to youth smoking, binge drinking rates for area youth are lower than the state or national rates; however, roughly one in eleven area youths engage in binge drinking.

- Half (51.7%) of area youths have had sexual intercourse; a rate higher than the state or national rates.

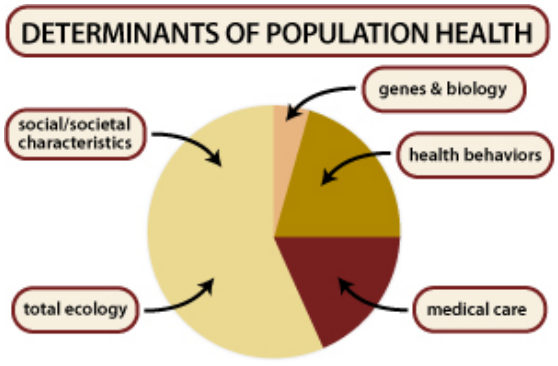
- The rate for teen births and repeat teen births (age 15-19) are lower in Mason County, but higher in Lake County, when compared to state or national rates.

Key Finding [Significant Health Need] #8: The most appropriate and effective way to address health and health care issues is from an integrated, holistic, or biopsychosocial perspective.

- We recommend adopting the tenants of the World Health Organization:
  - Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity
  - The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition
  - The health of all peoples is fundamental to the attainment of peace and security and is dependent upon the fullest co-operation of individuals and States
  - The achievement of any State in the promotion and protection of health is of value to all
  - Unequal development in different countries in the promotion of health and control of disease, especially communicable disease, is a common danger
  - Healthy development of the child is of basic importance; the ability to live harmoniously in a changing total environment is essential to such development
  - The extension to all peoples of the benefits of medical, psychological and related knowledge is essential to the fullest attainment of health
  - Informed opinion and active co-operation on the part of the public are of the utmost importance in the improvement of the health of the people
  - Governments have a responsibility for the health of their peoples which can be fulfilled only by the provision of adequate health and social measures

- Further, the determinants of health that contribute to each person's well-being are biological, socioeconomic, psychosocial, behavioral, and social. The determinants of health include*:
  - Biological (genes) (e.g., sex and age)
  - Health behaviors (e.g., drug use, alcohol use, diet, exercise)
  - Social/environmental characteristics (e.g., discrimination, income)
  - Physical environment/total ecology (e.g., where a person lives, crowding conditions)
  - Health services/medical care (e.g., access to quality care)

- The chart below estimates how each of the five major determinants influence population health:



*Source – World Health Organization; U.S. Department of Health and Human Services, Healthy People 2020; CDC.

Key Finding [Significant Health Need] #9: Health disparities exist across several demographic groups.

- There is also a direct relationship between health outcomes and both education and income. Positive outcomes are more prevalent among adults with higher levels of education and adults from households with higher income levels, while negative outcomes are more prevalent among those with less education and lower incomes. These disparities can be seen in:
  - General health status
  - Physical health and activity limitation
  - Mental health and/or psychological distress
  - Experiencing barriers to care (e.g., transportation, cost)
  - Chronic diseases such as cardiovascular disease and COPD
  - Health risk behaviors such as smoking and physical activity
  - Preventive practices such as visiting a dentist, checking blood cholesterol
  - Health care access such as having a primary care provider, having health insurance, and forgoing health care due to costs

- The link between both education and income and positive health outcomes goes beyond the direct relationship. Those occupying the very bottom groups, for example having no high school diploma and/or household income less than $20K (or living below the poverty line), are most likely to experience the worst health outcomes. Conversely, residents with a college degree and/or household income of $75K or more are most likely to experience the best health outcomes.

- There is also a direct relationship between health outcomes and age. In many cases, negative outcomes are more often associated with younger adult age groups, for example:
  - Engaging in risk behaviors such as smoking cigarettes, heavy drinking, binge drinking, and lack of fruit and vegetable consumption
  - Have mild to severe psychological distress
  - Lacking a personal health care provider (medical home) and lack of health insurance
  - Not visiting a dentist
  - Not checking blood cholesterol

- In other cases, negative outcomes are more associated with older adult groups, such as having:
  - Fair or poor general health status
  - Poor physical health
  - Chronic diseases like diabetes, COPD, arthritis, cancer, and cardiovascular disease
  - High blood pressure and high cholesterol
  - Less leisure time physical activity

Key Finding [Significant Health Need] #9: Health disparities exist across several demographic groups. (Continued)

- There are links between health outcomes and gender. For example:
  - Men are more likely than women to:
    - Have blood cholesterol checked
    - Have high blood pressure
    - Engage in risk behaviors such as smoking, heavy drinking, and binge drinking
    - Experience cost and transportation as barriers to care
    - Have chronic diseases such as cardiovascular disease, pre-diabetes
    - Be obese
  - Women are more likely than men to:
    - Consume fruits and vegetables
    - Be at a healthy weight
    - Take medication for their HBP
    - Have mild to severe psychological distress and poor mental health
    - Be part of a spiritual or religious community
    - Have a health care provider (medical home) and have health insurance
    - Have chronic conditions such as asthma
    - Visit a dentist

- There are also links between race and outcomes.
  - Compared to non-White adults, White adults are more likely to:
    - Have their blood cholesterol checked and take medication for it
    - Take medication for HBP
    - Experience activity limitation
    - Consume adequate amounts of fruits and vegetables
    - Visit a dentist
    - Have mild to severe psychological distress and poor mental health
    - Engage in heavy drinking and binge drinking
    - Be part of a spiritual or religious community
    - Have chronic conditions such as pre-diabetes
  - Conversely, compared to White adults, Non-White adults are more likely to:
    - Perceive health status as fair or poor
    - Experience cost and transportation as barriers to care
    - Have high blood pressure
    - Take medication for their high blood cholesterol
    - Have diabetes, asthma, COPD, cardiovascular disease, and chronic pain
    - Be at a healthy weight

DETAILED FINDINGS

SOCIAL INDICATORS

Demographics of Mason County

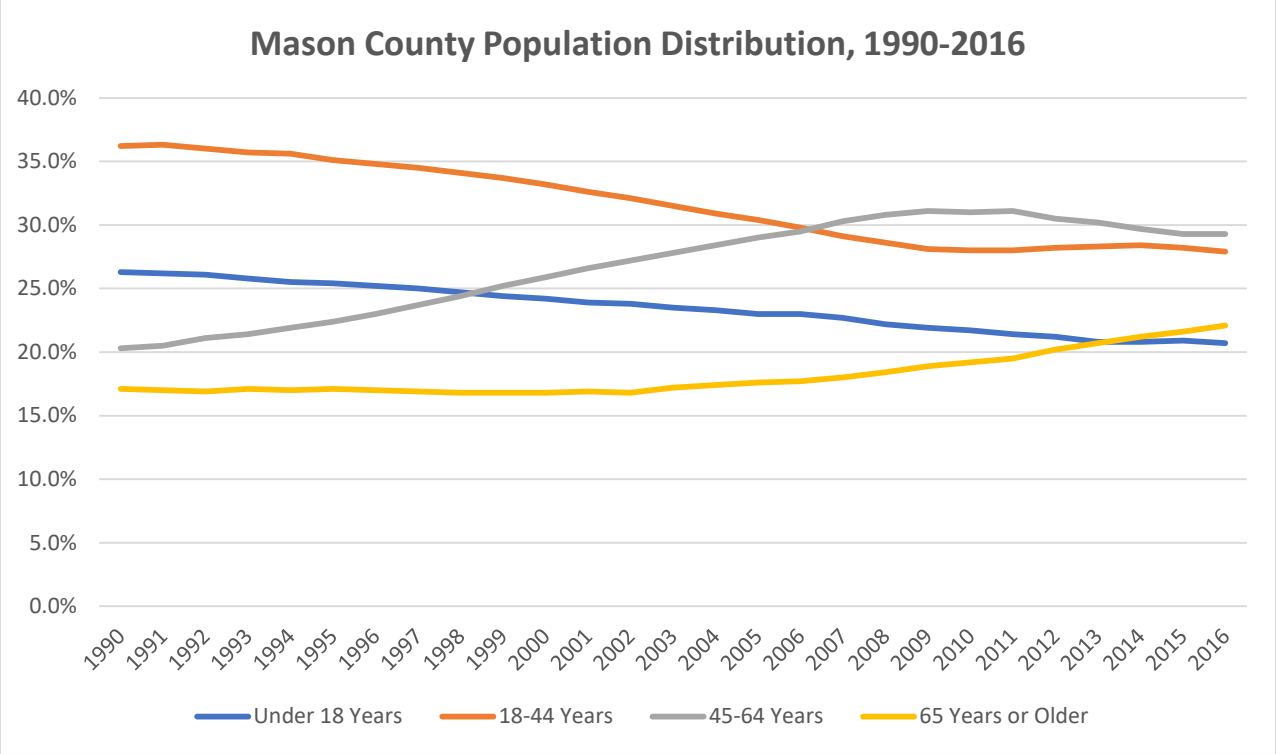
When observing the racial and ethnic population distributions within Mason County, it is evident that the vast majority of residents are White (91.8%) and 4.4% are Hispanic/Latino.

Mason County Demographic Characteristics: Gender and Race		
	N	%
Gender		
Male	14,295	49.7%
Female	14,460	50.3%
Race/Ethnicity		
White/Caucasian	26,407	91.8%
Hispanic/Latino	1,257	4.4%
Black/African American	246	0.9%
American Indian/Alaskan Native	254	0.9%
Asian	160	0.6%
Two or More Races	431	1.5%

Source: U.S. Census Bureau, American Community Survey, 2012-2016.

Demographics of Mason County (Continued)

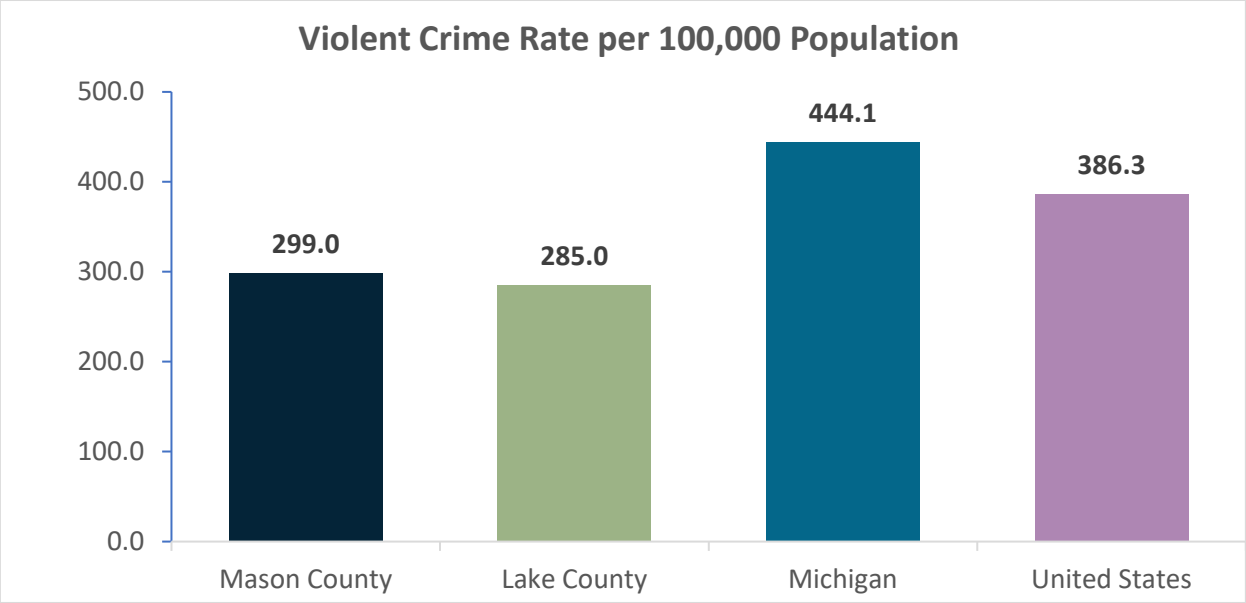
- The age distribution of Mason County has shifted toward an older population over time. In 1990, residents aged 45-64 comprised 20.3% of the population compared to 29.3% in 2016.
- Moreover, the proportion of adults aged 18-44 has declined over time: this group comprised 36.2% of the population of Mecosta County in 1990 compared to 27.9% in 2016.



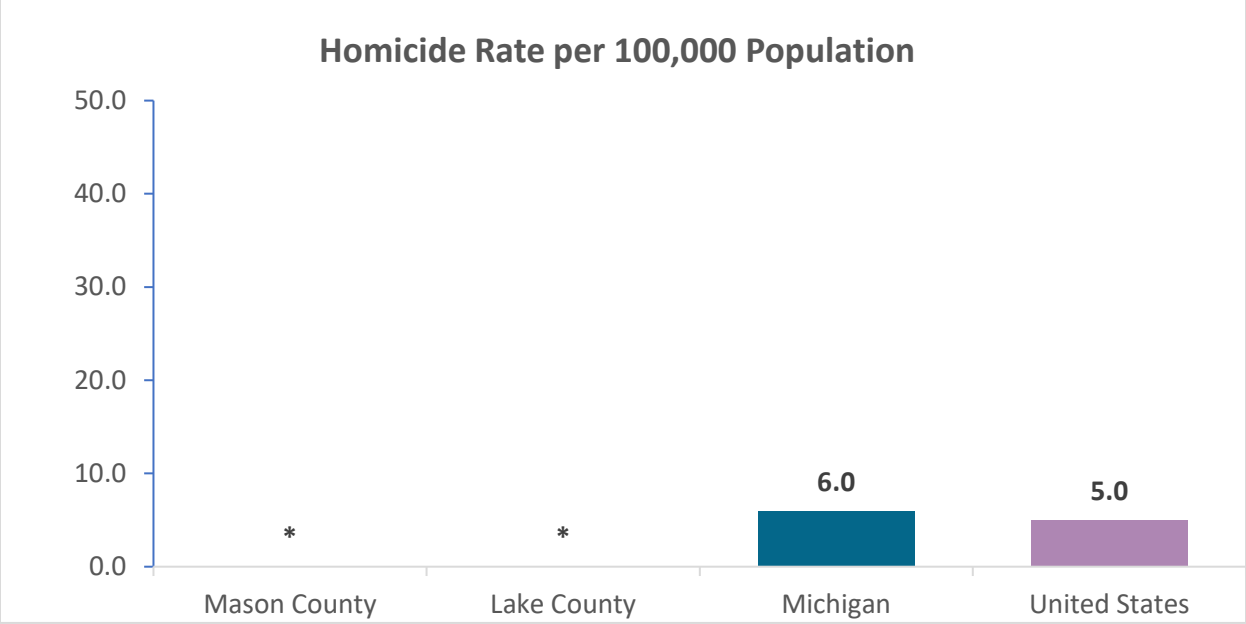
Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.

Crime Rates

The rates for both violent crime and homicide are far lower in Mason and Lake counties compared to Michigan or the United States. Still, an average of almost 300 violent crimes take place, per 100,00 people, in both counties.



Source: County Health Rankings, 2012-2014.

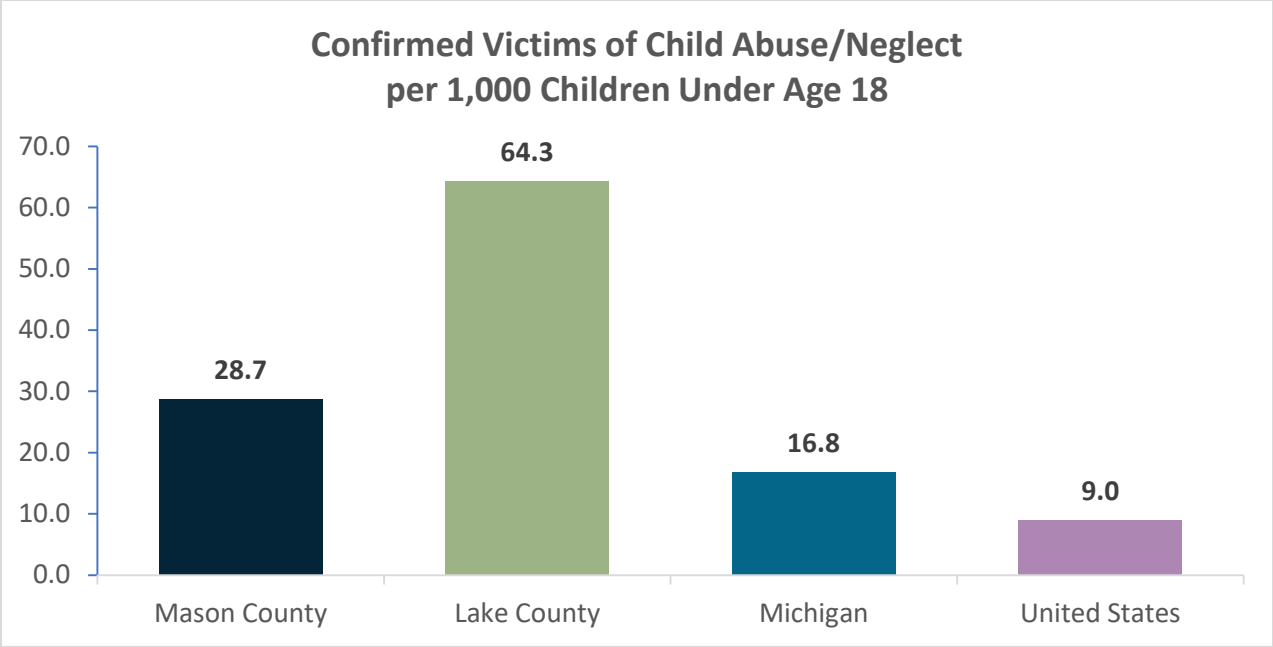


Source: County Health Rankings, 2012-2014. Note: For Mason and Lake County, the number of homicides is too low to calculate rate (<1).

Crime Rates (Continued)

- Confirmed child abuse and neglect rates are much higher in both Mason and Lake counties compared to the rates across Michigan or the U.S. The rate is extremely high in Lake County, where 64 children out of 1,000 suffer from abuse or neglect.

- Of the 32 Key Informants who rated the prevalence of child abuse and neglect in the community in the Key Informant Online Survey, 62.6% believe child abuse and neglect is “somewhat” or “very” prevalent. However, only 45.2% of Key Informants are “somewhat” or “very” satisfied with the community response to child abuse and neglect.

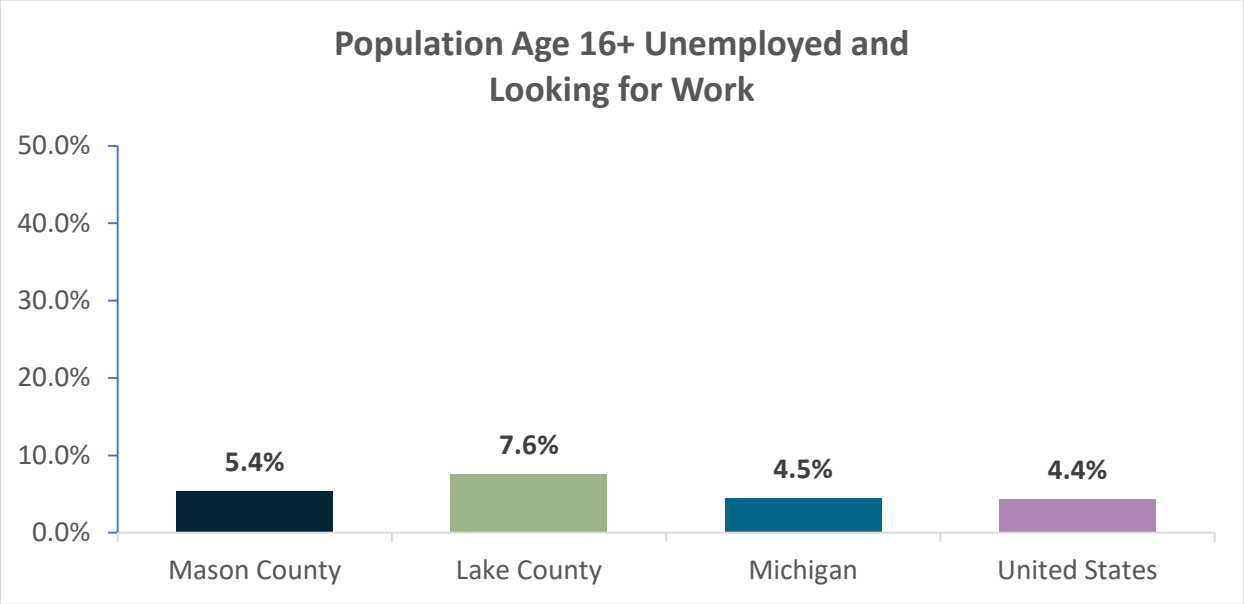


Source: County Health Rankings, 2012-2014.

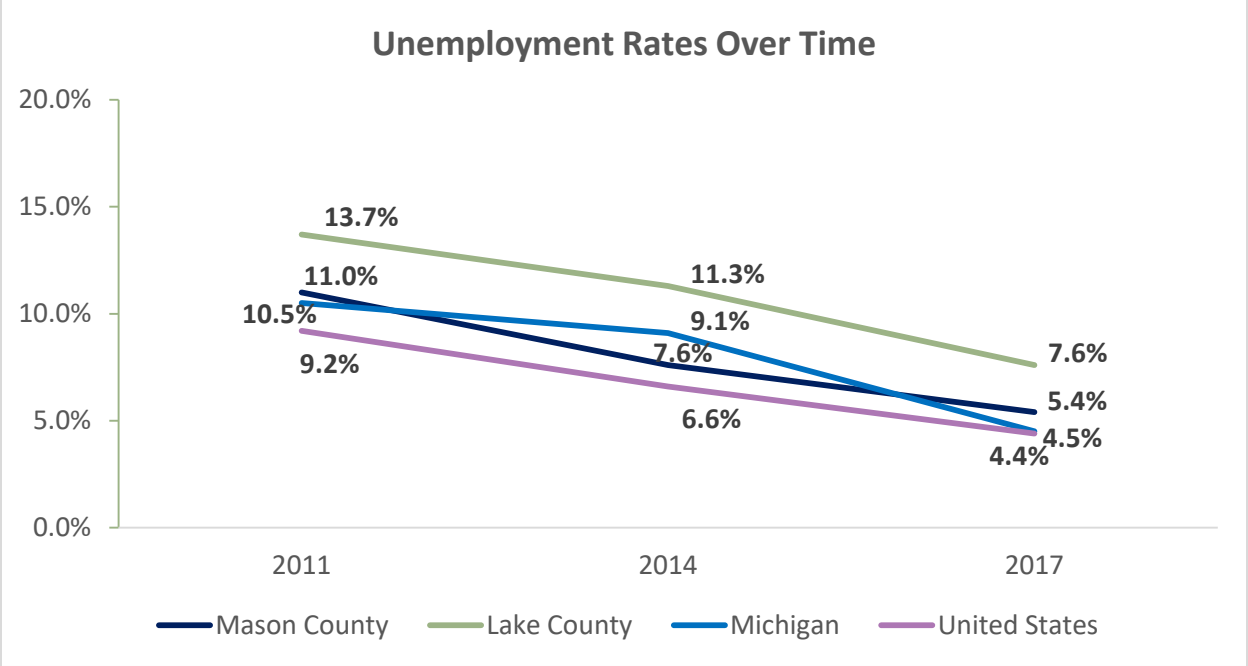
Unemployment

- The most recent unemployment rate for Mason County is slightly higher than the rates for Michigan and the U.S., while the rate for Lake County is much higher than the rate in Mason County, Michigan or the U.S. The unemployment for all regions has dropped significantly since 2011.

- The current unemployment rate is not considered to be a societal issue in Mason County or to have a negative impact on the health of area residents as it was perceived in years past.



Source: Bureau of Labor Statistics, Local Area Unemployment Statistics 2017



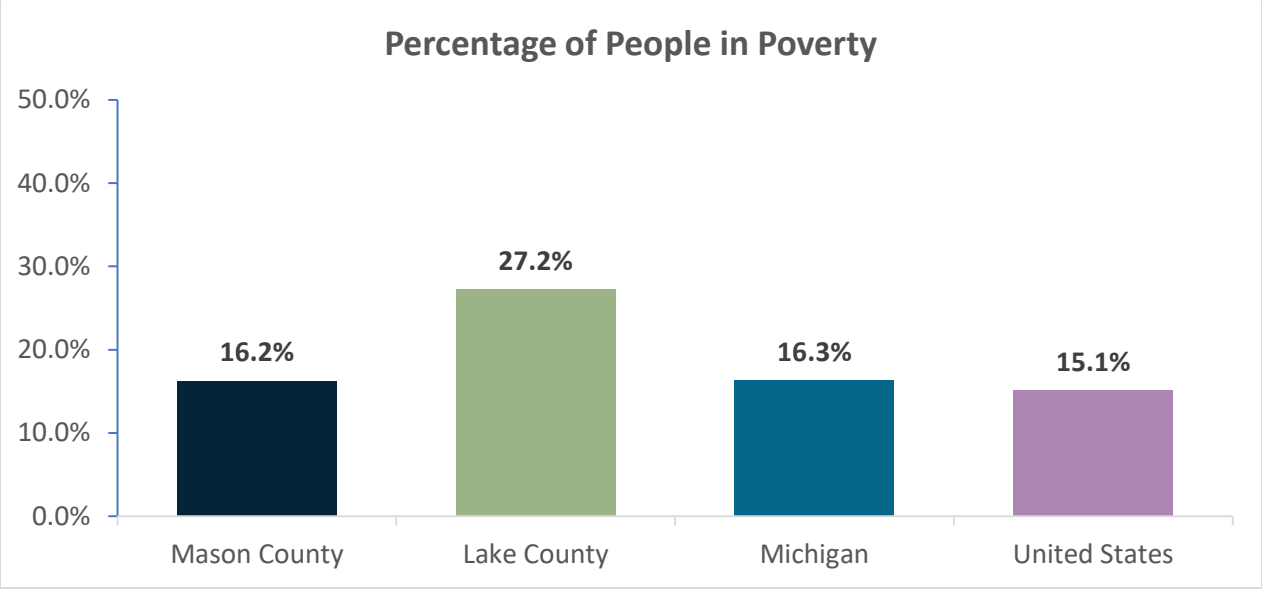
Source: Bureau of Labor Statistics, Local Area Unemployment Statistics 2011, 2014, 2017

Poverty

- Poverty is a critical social problem in the Spectrum Health Ludington area because it is not only prevalent but the impact it has on other domains of life is enormous. Key Stakeholders and Key Informants both reported on the impact of poverty:

> **Poverty is widespread**. – *Key Informant*
>
> The **community is a lower income** community with the **lower income habits such as smoking**, **poor eating** habits and **overall lack of general health and healthy habits**. – *Key Informant*
>
> We're one of the, if not the, **poorest county in the state**. I believe that **our poverty rates are much higher than other areas for the size**. There's **very little economic progress in the area** - **very little opportunity to encourage our young people to stay** and gain employment and **be productive in our own community**. We have young people that leave, and we're left with an aging, chronically ill population. – *Key Stakeholder*
>
> **What makes us unhealthy is our economic status** here and the **lack of employment plays a major role in the unhealthiness, physically**, of the area because that whole issue of **poverty affects so many different areas** that help keep our community unhealthy: **not having adequate food supplies**, **fresh vegetables**, and **poverty has brought a lot of stress to families**. They **don't have money to meet their bills**, so they **kind of live on the fringe**, and they **attempt to be employed sometimes in not so good ways**. So, **poverty**, I believe, **contributes to a lot of the unhealthiness in the area**. – *Key Stakeholder*

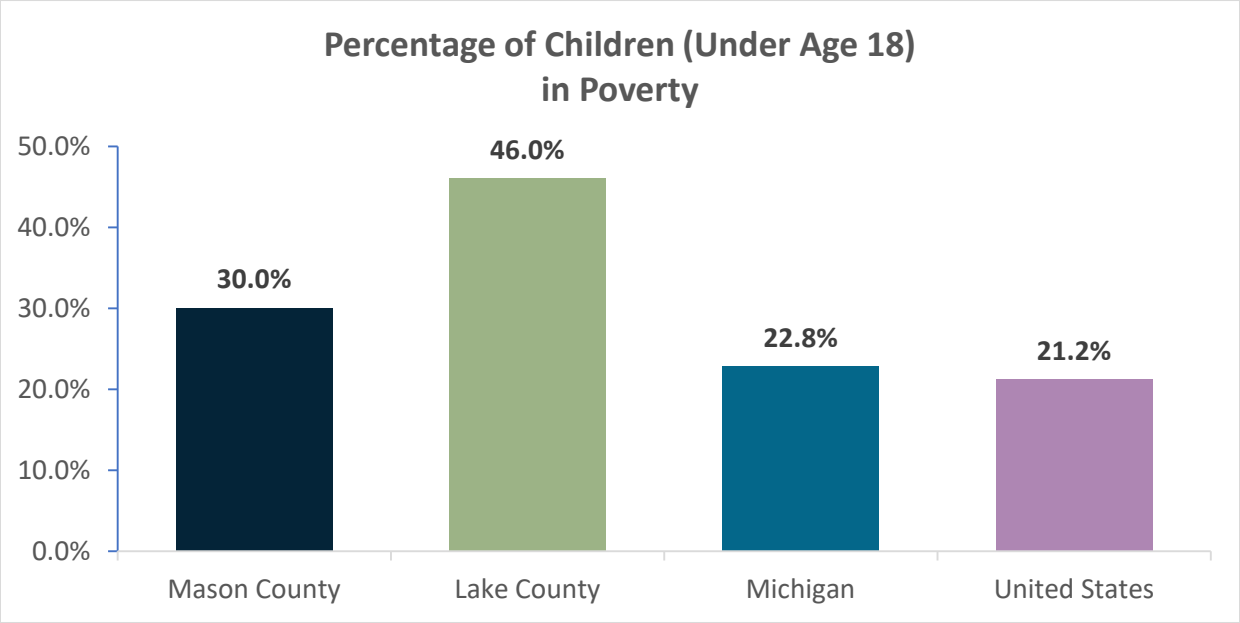
- Nearly one in six Mason County residents, and more than one in four Lake County residents, live in poverty; the latter rate is much higher than the state or national rates.



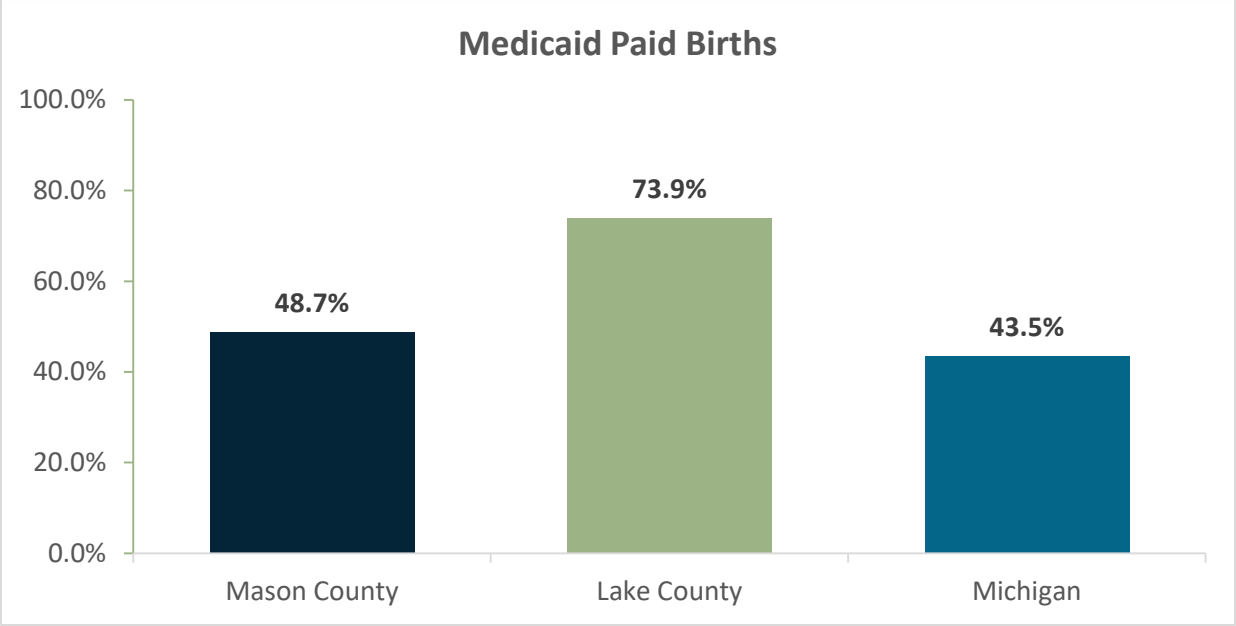
Source: U.S. Census Bureau, 2012-2016, 5-Year American Community Survey.

Poverty (Continued)

- Three in ten children in Mason County live in poverty, while almost half of Lake County children live in poverty; the latter rate being more than double the state or national rates.
- Almost half of the births in Mason County are covered by Medicaid, while almost three-fourths of Lake County births are covered by Medicaid.



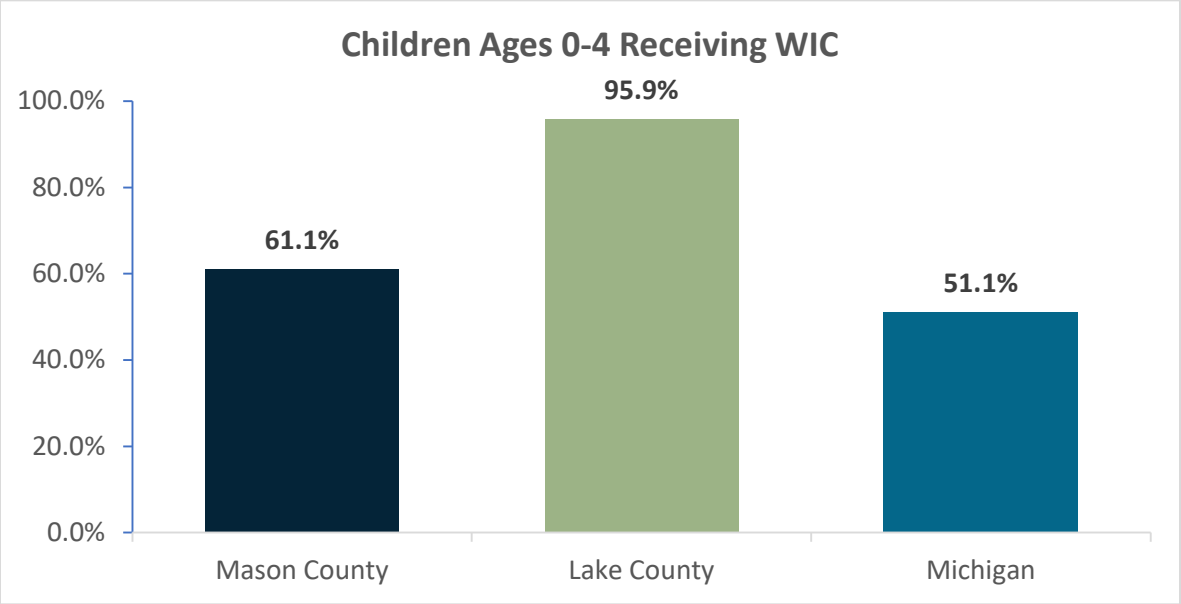
Source: U.S. Census Bureau, 2012-2016, 5-Year American Community Survey.



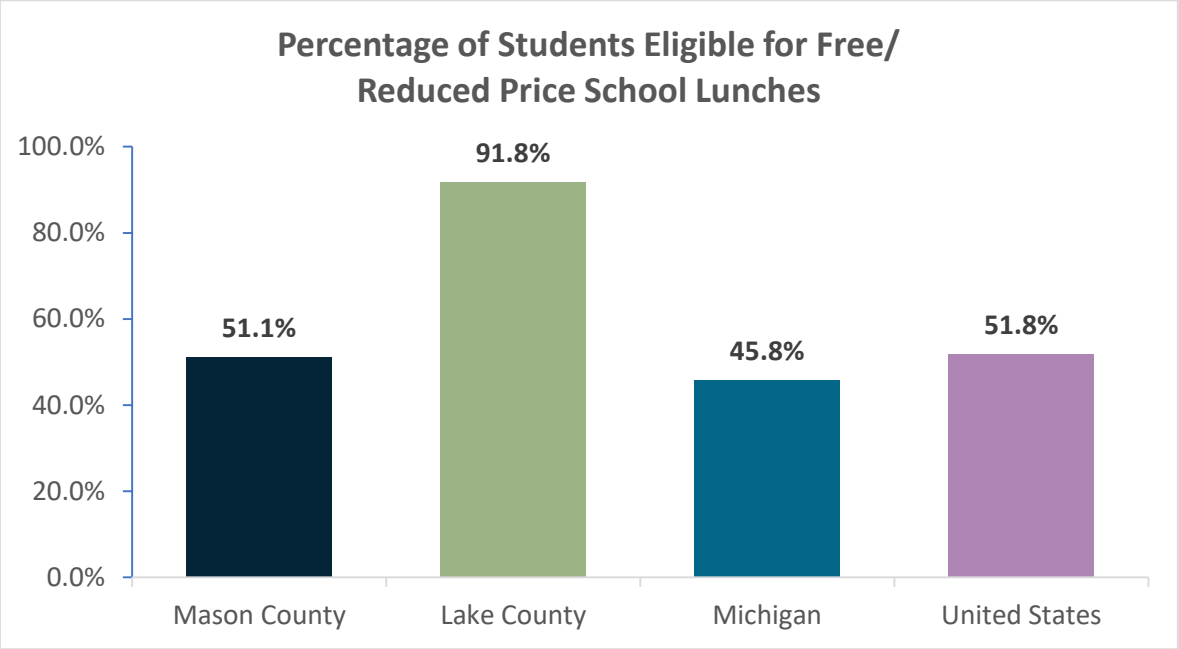
Source: Kid's Count Data Book, 2015.

Poverty (Continued)

- Six in ten Mason County children four years old or younger receive WIC assistance, while almost all Lake County children of the same age receive WIC.
- Furthermore, half of Mason County students, and more than nine in ten Lake County students, are eligible for free or reduced priced school lunches.



Source: Kid's Count Data Book, 2015.



Source: Kid's Count Data Book for MI and counties, 2016; Digest of Education Statistics for U.S., 2016.

Poverty (Continued)

- The proportion of families from Lake County living in poverty is higher than in the state or the nation and the proportion from Mason County is on par with MI and the U.S.
- Married couple families are less likely to be living in poverty compared to single-female households.
- Six in ten single-female families with children under five years old from Mason County, and nearly nine in ten from Lake County, live in poverty.
- All told, the proportions of single female families living in poverty in Mason and Lake counties are higher than the state or national proportions.

Poverty Levels				
	Mason County	Lake County	Michigan	U.S.
All Families				
With children under age 18	**24.1%**	**40.5%**	**19.4%**	**17.4%**
With children under age 5	**29.0%**	**50.6%**	**25.2%**	**21.8%**
Total	**11.4%**	**18.7%**	**11.5%**	**11.0%**
Married Couple Families				
With children under age 18	**8.9%**	**16.5%**	**8.1%**	**7.9%**
With children under age 5	**16.0%**	**28.0%**	**11.1%**	**10.3%**
Total	**5.1%**	**9.8%**	**5.2%**	**5.5%**
Single Female Families				
With children under age 18	**51.5%**	**76.5%**	**44.3%**	**39.7%**
With children under age 5	**61.5%**	**87.2%**	**57.3%**	**51.7%**
Total	**38.5%**	**56.5%**	**32.9%**	**29.9%**

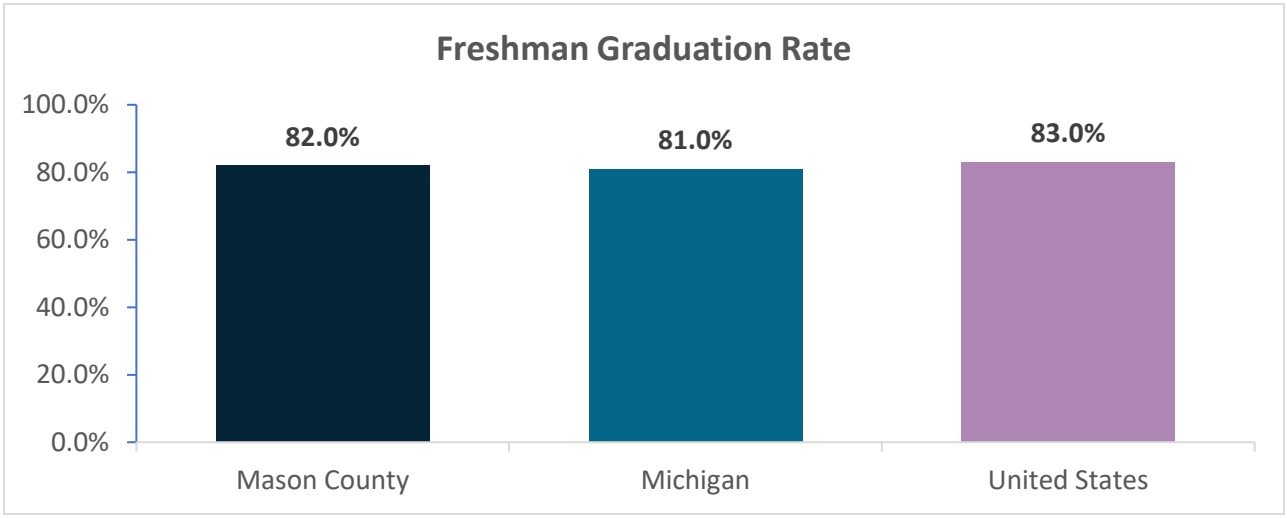
Source: U.S. Census Bureau, 2012-2016, 5-Year American Community Survey.

Education

- Greater proportions of men and women in Lake County have failed to graduate from high school in comparison to Michigan or the U.S.; Mason County women fare much better.
- Fewer men and women from Mason or Lake counties graduate college compared to men and women across Michigan or the U.S.
- On the other hand, the freshman graduation rate in Mason County is on par with MI and the U.S.

Educational Level (Among Adults Age 25+)								
	Men				Women			
	Mason County	Lake County	Michigan	U.S.	Mason County	Lake County	Michigan	U.S.
Did Not Graduate High School	11.8%	21.8%	10.5%	13.5%	6.7%	17.1%	9.2%	12.1%
High School Graduate, GED, or Alternative	33.2%	43.6%	30.1%	28.4%	34.9%	41.5%	28.7%	26.8%
Some College, No Degree	26.4%	22.0%	23.6%	20.5%	24.8%	23.8%	23.7%	21.0%
Associate's Degree	9.3%	5.4%	8.0%	7.3%	12.7%	10.0%	10.4%	9.1%
Bachelor's Degree	12.5%	5.5%	16.9%	18.8%	14.0%	6.1%	17.1%	19.2%
Master's Degree	5.8%	2.5%	7.2%	7.5%	5.5%	2.5%	8.6%	8.9%
Professional School Degree	1.3%	0.4%	2.1%	2.4%	0.8%	0.3%	1.2%	1.6%
Doctorate Degree	0.9%	0.5%	1.5%	1.7%	0.8%	0.3%	0.9%	1.1%

Source: U.S. Census Bureau, 2012-2016, 5-Year American Community Survey.



Source: County Health Rankings, 2015. Note: Lake County data not available.

Environmental Factors

Environmental factors that positively impact health include a wealth of natural resources that make it easier to be active, a safe community where people don't have to worry about being outside, and farmer's markets offering healthy food, for those who can afford it.

Natural resources are conducive to recreation and outdoor activities	I think just our environment in general, like our **hiking trails**, our **city park**, our **waterfront**. I think for just the **outdoors** here - we couldn't really ask for more. I think all **state parks** should be like **Ludington State Park**. I drive past **Lake Michigan** every day coming to work, and I think I really don't enjoy it. – *Key Stakeholder* We live in a **beautiful community** with **many natural resources** and **parks**. – *Key Informant* We have **plenty of outdoor recreation** to participate in between **walking**, **hiking**, **bike riding**, **swimming**, **running**, etc.—*Underserved Resident* **Outdoor access**, **beaches**, **play spaces**, **beautiful parks**, **affordable places to do things** outside - all of those things I think are things that favorably affect our community for sure. – *Key Stakeholder* Given the amount of things there are to do here - **outdoor recreation** and **activities**, we're sitting on **Lake Michigan** - there's certainly resources available for **people to be able to get out and be physically active**. I think that's a general benefit. There are **bike trails** throughout the area for **biking** and **hiking** - things like that. There's certainly a **lot of recreational opportunities available**, and not all of them are necessarily going to cost a whole lot. We've got **access to clean water and clean air** and the **great outdoors**, if you want to characterize it that way. – *Key Stakeholder*
Safe community	Just the **safety** of the community; I mean, **the community's safe**. – *Key Stakeholder* **Safe** places to **walk**, **hike**, **bike**, **lakes** to swim, and community **pools**.—*Underserved Resident*
Farmer's markets/fresh food	**Farmers markets**, **biking paths**. – Underserved Resident **Fresh fruits and veggies everywhere**, **places to walk and exercise**. – *Key Informant*

Source: Key Stakeholder In-Depth Interviews, Key Informant Online Survey, Underserved Resident Self-Administered Survey, 2017.

Environmental Factors (Continued)

There are two major environmental factors that negatively impact the health of residents in the SHL area: lack of housing (both affordable and decent/adequate) and the possibility of chemicals and toxins infiltrating the land and water supply and the negative health consequences that come with that.

Lack of affordable housing/substandard housing	I think **affordable housing** is an issue in our jurisdiction. It has an **economic impact** because you constantly hear from employers that are complaining because they **can't attract new employees to the area** because they don't have housing for them. – *Key Stakeholder* It's really **hard to find good rental property**. There's just not good adequate housing for lower-income people in Lake County. It is a huge barrier for our population, so **they tend to live in some pretty bad places**. There's **plumbing issues**, and we had some senior citizens **without running water** and **broken pipes** from the winter, they **don't have electricity**. There are **people living in tents**, people **living in shacks**. You just wouldn't think it would happen in this day, but it does. It happens in Lake County. – *Key Stakeholder* **Affordable housing** is important. We don't have many apartment or low-income housing for people other than the elderly. I **don't think the road structure is incredibly safe** for people who want to ride bikes and run and be active. – *Key Informant*
Chemicals/toxins	I **worry a little bit about our water supply**, but that's not founded in anything other than **years of chemical and railroads** and things like that in our community. – *Key Stakeholder* I think we do have pockets in our jurisdiction of **elevated lead levels in homes**, not from water, but **from lead paint** because of the age of the homes, and we do have some **issues with lead**. Water issues - I think we're starting to see some issues - **vapor intrusion** issues related to contamination from **trichloroethylene**, which was a common degreaser that was used in dry cleaning establishments. The DET was estimating there were at least four thousand of these sites statewide. We've had a couple in our jurisdiction where we have these **chemicals** - **plumes of these chemicals expanding underground** and **vapors kind of circulating up through the ground** and **into homes** and **into businesses**. – *Key Stakeholder*.

Source: Key Stakeholder In-Depth Interviews, Key Informant Online Survey, Underserved Resident Self-Administered Survey, 2017.

Adverse Childhood Experiences

Area adults were more likely to have experienced emotional abuse and/or lived with a household member who had been to prison, compared to adults across the U.S.

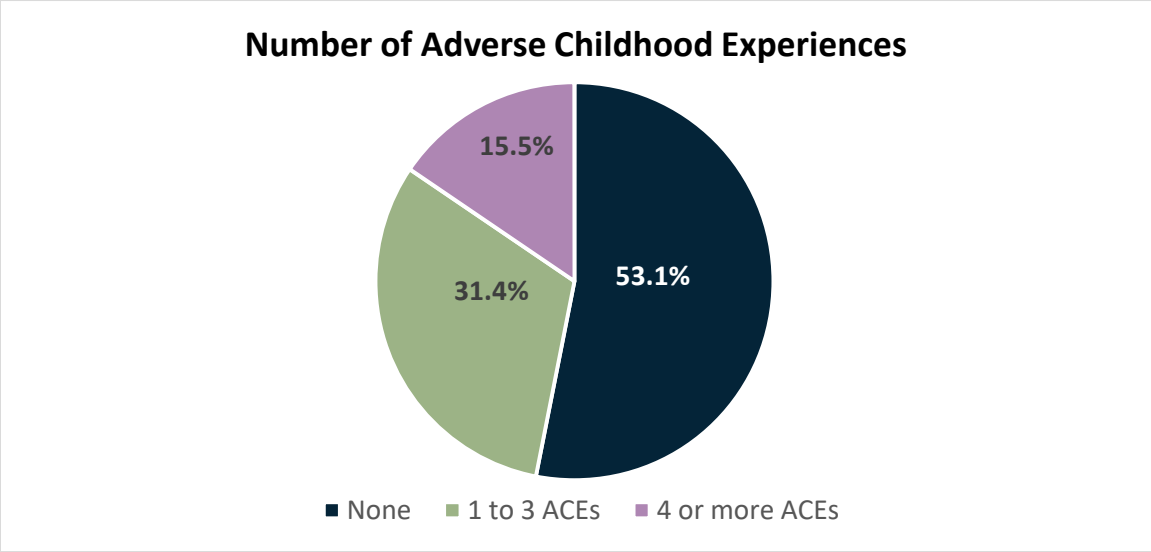
ACE Questions	Percent of People with Each ACE					
	SHL Area			United States		
	Total	Women	Men	Total	Women	Men
Did a parent or other adult in the household often swear at you, insult you, put you down, or humiliate you, **OR**, act in a way that made you afraid that you might be physically hurt? (n=495)	**22.4%**	**25.3%**	**20.1%**	**10.6%**	**13.1%**	**7.6%**
Did a parent or other adult in the household often push, grab, slap, or throw something at you, **OR**, ever hit you so hard that you had marks or were injured? (n=494)	**17.8%**	**14.5%**	**16.8%**	**28.3%**	**27.0%**	**29.9%**
Did an adult or person at least 5 years older than you ever touch or fondle you or have you touch their body in a sexual way, **OR**, try to or actually have oral, anal, or vaginal sex with you? (n=496)	**11.8%**	**11.3%**	**2.4%**	**20.7%**	**24.7%**	**16.0%**
Did you often feel that no one in your family loved you or thought you were important or special, **OR**, your family didn't look out for each other, feel close to each other, or support each other? (n=494)	**12.4%**	**16.7%**	**6.8%**	**14.8%**	**16.7%**	**12.4%**
Did you often feel that you didn't have enough to eat, had to wear dirty clothes, and had no one to protect you, **OR**, your parents were too drunk or high to take care of you or take you to the doctor if you needed it? (n=494)	**7.7%**	**7.3%**	**5.0%**	**9.9%**	**9.2%**	**10.7%**
Were your parents ever separated or divorced? (n=490)	**22.9%**	**30.3%**	**16.5%**	**23.3%**	**24.5%**	**21.8%**
Was your mother or stepmother often pushed, grabbed, slapped, or had something thrown at her, **OR**, Sometimes or often kicked, bitten, hit with a fist, or hit with something hard, **OR**, ever repeatedly hit over at least a few minutes or threatened with a gun or knife? (n=487)	**11.4%**	**12.5%**	**6.9%**	**12.7%**	**13.7%**	**11.5%**
Did you live with anyone who was a problem drinker or alcoholic or who used street drugs? (n=494)	**23.5%**	**27.9%**	**18.6%**	**26.9%**	**29.5%**	**23.8%**
Was a household member depressed or mentally ill or did a household member attempt suicide? (n=492)	**13.5%**	**14.8%**	**8.6%**	**19.4%**	**23.3%**	**14.8%**
Did a household member go to prison? (n=491)	**5.9%**	**5.4%**	**4.5%**	**4.7%**	**5.2%**	**4.1%**

ABUSE | NEGLECT | HOUSEHOLD CHALLENGES

Source: BRFS Survey for SHL respondents, 2017; Centers for Disease Control and Prevention, Kaiser Permanente. The ACE Study Survey Data, U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2016.

Adverse Childhood Experiences (Continued)

- Almost half (46.9%) of SHL area residents have experienced at least one adverse childhood experience and 15.5% have experienced four or more.
- It's clear that those who have had adverse childhood experiences are more likely to suffer negative outcomes as adults.



Source: BRFS Survey for SHL respondents, 2017. (n=472)

	Number of ACEs		
	None	1-3	4 or More
General health is fair/poor	11.4%	26.9%	39.6%
Poor physical health	7.7%	21.6%	27.2%
Poor mental health	5.8%	5.3%	20.7%
Have any cardiovascular disease	7.4%	11.3%	20.9%
Have COPD	5.7%	8.1%	23.0%
Have chronic pain	15.6%	45.7%	62.7%
Obesity	20.8%	47.1%	48.2%
Cigarette smoker	12.2%	28.8%	34.2%
Mild to severe psychological distress	7.4%	15.2%	36.3%
Suicide ideation	0.3%	2.5%	12.8%
Suicide attempts (of those with ideation)	0.0%	0.0%	50.0%

COMMUNITY CHARACTERISTICS

Characteristics of a Healthy Community

- When asked to describe what a healthy community looks like, Key Stakeholders moved beyond common physical metrics (e.g., lifestyle choices, chronic conditions), although these are certainly important. Their responses focused more on the social determinants of health, such as education, employment, engagement, collaboration, the importance of family, access to places to be active, and access to resources. This demonstrates that they view health and health care from a holistic or biopsychosocial lens.
  - ✓ Adolescents are drug free, involved in athletic and academic activities, well-connected and there's no bullying
  - ✓ It takes care of all of its citizens, values all of its citizens (citizens with illnesses, disabilities, mental health conditions)
  - ✓ People would support people with mental illness the way they support their friends and family members with cancer or with diabetes or with heart disease as opposed to stigmatizing, segregating, discriminating against those groups
  - ✓ Appropriately funds all of its community's health needs, including mental health needs
  - ✓ Wraps a variety of supports around people in the community who are healthy to keep them healthy
  - ✓ Coordinates and collaborates to support and manage people with the most complex needs and overcomes obstacles to coordination
  - ✓ Elderly would have clean places where they can live, have good food, have intellectual stimulation, are kept safe so they don't fall and hurt themselves
  - ✓ People managing chronic disease conditions effectively and staying out of the hospital
  - ✓ Access to local healthy food options, healthy eating options, access to healthy food
  - ✓ Is active, where people are doing physical activity multiple times over the course of any given week
  - ✓ Conducive to walking and biking
  - ✓ Multiple collaborators come together to work for the common good of the community and bring the resources to the table, and it goes beyond health care (e.g., economy and jobs)
  - ✓ Good quality school systems
  - ✓ Good health care system with the availability of health care to people of all economic classes
  - ✓ Jobs that pay enough so that people aren't just meeting their basic needs

- Key Stakeholders are consistent in their view of the SHL service area; it is a community that is somewhat healthy, but they certainly see opportunities for improvement.

I think **there's a lot of work to be done**. I think they're partially healthy; **it's a partially healthy community**.

I think **in some ways**. We have this question that I have to ask every patient: rate your health as excellent, very good, fair or poor. I would go with **good**, **but I don't think it's excellent, and I'd be pretty hard-pressed to say it's very good**.

I think **they're trying to get there**. I think there are **efforts underway to try to get there**, but I think that's **not a scenario that you can create overnight**, and it's **going to take some realization** on some of the **partners** that they **can't do it themselves and they need to be part of a larger group effort**.

As in most communities, I think there's **plenty of room for improvement there**.

Source: SHL Key Stakeholder In-Depth Interviews: Q2: In your opinion, what is a healthy community? In other words, what does a healthy community look like? (n=6); Q2a: Is the SHP service area made up of healthy communities? (n=6)

Characteristics That Make the SHL Area Healthy

Characteristics that make the SHL service areas healthy communities are: (1) outdoor recreational opportunities, (2) a collaborative spirit manifested by agencies and organizations coordinating programs and services, (3) programs and services in place that address many resident needs, and (4) a focus on children with the realization that healthy behaviors and healthy lifestyles begin at an early age.

Outdoor recreational opportunities	There's certainly a **lot of outdoor activities available**, whether it's on the **water** or at the **beach** or on **bike trails**. There's certainly **opportunities** for people who have a **bike to be able to get out and get exercise** that way and **enjoy being outdoors**. You **can take a nice walk and go down to the beach**. That's healthy for **people at every age**, so that when I'm elderly, I **can still go down to the lake and put my toes in the water**.
Collaboration	I would say what makes it healthy is a movement over the past four years, of **organizations coming together to collaborate** and **work together** around some of these issues, such as the **Employer Resource Network** - the 12 companies coming together to have a success coach on-site. We expanded **Pathways to Potential** into the schools to become more of a community schools model where we have an **on-site community schools coordinator** with a psych team clinician to all work within each of the school districts in Mason County to help address kids' needs. We've been able to establish an **on-site dental clinic** by partnering with Northwest Michigan Health Services. We're creating the **Lakeshore Food Club**, which hopefully will **consolidate some of our food pantries under one umbrella**, so I think some of those things have made movement towards making Mason County healthier.
Programs in place	We have **bike clubs**, **chess clubs**, **reading clubs**, an **art center**, and a **children's museum** - so, **fun things** that are **intellectually** and **physically stimulating**, and to me, **that's a healthy community**.
Focus on early childhood	We're **paying a lot more attention to early childhood**. I think we're **paying a lot more attention to kids in school** who might fall between the cracks because of insurance or because of level of need.

Source: SHL Key Stakeholder In-Depth Interviews: Q2b: What makes the SHL service areas healthy communities? (n=6)

Community Strengths

Key Stakeholders believe the community foundations and other non-profit organizations like United Way are the greatest strength or resources upon which to build programs or initiatives to address health needs or issues. Additional resources include the local hospital/health care system, a strong collaborative spirit among people and organizations to address problems, as well as a strong philanthropic spirit and caring people who want to make the area the best it can be.

Community Foundations/Non-Profit Organizations	I would say **United Way** and **some of our community foundations are huge resources** for sure. There's a **community foundation** and there's a **couple of other nonprofit organizations** that focus on a **variety of social needs and issues**. There certainly are some resources available - **private money as well as some foundations** that are **available to help support education**, help support **health care**, things like that. I think with the **community foundation** and the **Pennies from Heaven foundation**, which even has more of an impact on the community because they are **putting money towards initiatives**, **money towards structure**, and they just have a lot more flexibility.
Health care system	I think the **major strength is Spectrum Health**. The era of the independent community hospital is pretty much passed into history, and I think the **resources that Spectrum can put to an issue gives the community access to services and resources that would otherwise simply not exist** in the town of 9 or 10 thousand people; we're a county of 26,000. If we start with young people, then we have our **pediatric practice**, which is very thriving. We have a **strong Michigan Department of Public Health**, which I think **supports our infant health**.
Collaboration/ connectedness	I think seeing employers - **12 employers come together and working together**, and then they're **seeing their strength in numbers** and how they can **work together** to **leverage resources**, so I think that that has been a positive thing around the health of our community.
Philanthropic/caring spirit	**Ludington does have a pretty good history of being pretty generous when it comes to fundraising** and things like that. We raised a million dollars for the renovation project for our inpatient OB unit last year. That's a lot of money in a town the size of Ludington.

Source: SHL Key Stakeholder In-Depth Interviews: Q8: In order to improve the health of your community, please talk about some of the strengths/resources that your community has to build upon. (n=6)

Characteristics That Make the SHL Area Unhealthy

Conversely, many characteristics that make the SHL area unhealthy stem from the fact that it is a rural area and the by-product of that: isolated residents that have a difficult time accessing programs/services, lack of affordable healthy food for people with low incomes, and lack of things to do for adolescents, especially during winter months. Additionally, there is a lack of collaboration and coordination among and between area agencies and organization. Finally, existing stigmas toward people with mental illness, substance abuse issues, and disabilities that may prevent many people from seeking needed treatment and care.

Lack of affordable healthy food	You **don't have a lot of healthy eating options**. You might even have what would be considered **food desert areas** in some of the communities. I think it's **inability to access low-cost, healthy foods**. As in most communities, people with less resources are going to be buying cheaper fast food rather than fresh fruits, vegetables, things like that.
Lack of collaboration and coordination	I think the **dump-and-run is one of them**. I think to a certain extent, **people only coordinate when they feel like they have to**, like **when resources are scarce or when they get stuck**. I think that we still have a **community that sort of fights for its piece of the pie** and **doesn't necessarily want to share that pie** amongst us and share those resources amongst us.
Landscape contributes to being unhealthy	The simple fact that we're rural contributes to that. If you look at statistics, **rural communities tend to be less healthy**. I mean, you have **less access to health care**, again, in that broad sense. **Transportation issues** contribute to some of those where you don't have buses to get people around or get them access services. It's not a walkable community; you don't have any sidewalks; you don't have any pathways; you're walking on the curb if you're trying to get someplace.
Existing stigmas	I think we really, as a whole, still have **very stigmatizing and bad attitudes towards people with mental illness, with developmental disabilities, and substance abuse disorders**.
Lack of things to do	I think the biggest thing is the **lack of things to do for adolescents, especially in the winter**. We don't ever have a mall for them to walk around in. Even when they go down to the beach, there's a big police presence there.

Source: SHL Key Stakeholder In-Depth Interviews: Q2c: What makes the SHL area unhealthy? (n=6)

Resource Limitations

- Despite the fact that community foundations and their available funds are a resource strength, some Key Stakeholders suggest there are not enough funds to go around to address all of the issues facing SHL area residents. Additionally, agencies and organizations compete for the same funds and work in silos instead of collaborating better. Furthermore, there are government policies that restrict the scope of what organizations can do with their funds.
- There are capacity issues as there are not enough people to do the necessary work, which is why it is critical that community residents become more involved in the health of their community.

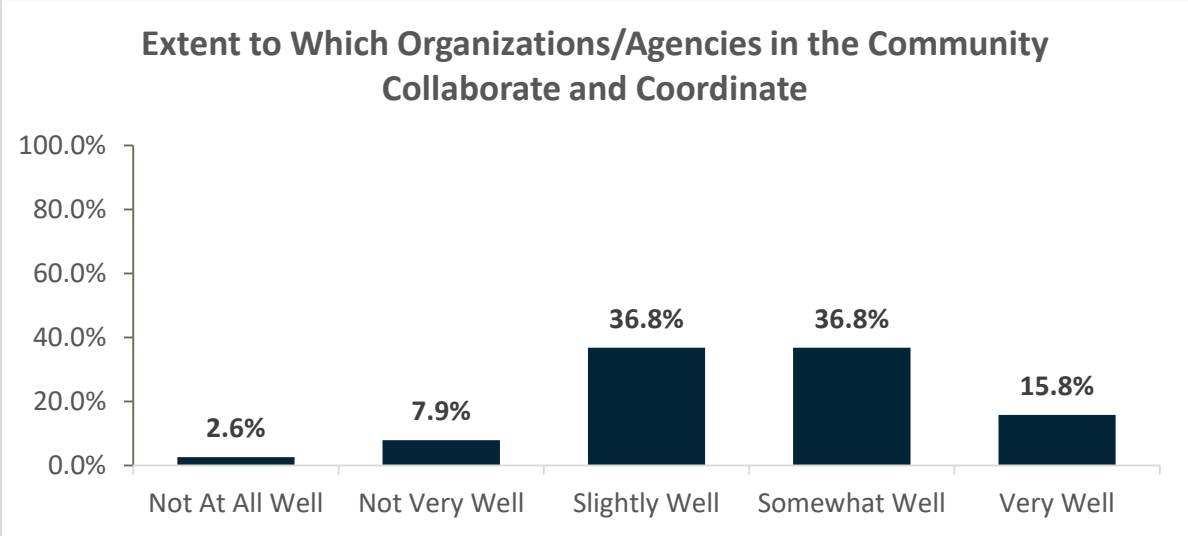
Funding and funding issues	We **don't have money**, either. It really is a lot of the big things that we do - we **rely on donors**, on **philanthropy**. The limitations are the **finite dollars available** that you can fundraise for. I think there's **limitations** on how much any single agency or foundation can do to try to contribute solutions on the problem. There's **only so many dollars that are going to be available**.
Lack of people	**Funding** and just **staff time** to actually accomplish some things. We all deal with pretty **small staff**. We talk about that **community involvement** - that **resident involvement** in addressing these issues is an important piece that - we need to figure out how to be successful with that.
Lack of collaboration and coordination	I think other limitations are **just people** - they're **wanting to protect their turf** and **work within their silo** and **think that they're the most important organization in the community**.
Policy restrictions	I would say just **restrictions that our state and federal government put on us that don't allow people to - agencies to utilize the money** - their dollars for how they could best be used in Mason County in trying to work within those parameters.

Source: SHL Key Stakeholder In-Depth Interviews: Q8a: What are any resource limitations, if any? (n=6)

Collaboration and Coordination

- Half (52.6%) of Key Informants, and five of six Key Stakeholders, report that area organizations and agencies collaborate and coordinate "somewhat well" or "very well" together in order to make programs and services more accessible to area residents.

- Limited resources have forced community organizations and leaders to collaborate and coordinate well; however, some have suggested there is room for improvement in this area with regard to the local hospital and other organizations (e.g., CMH).



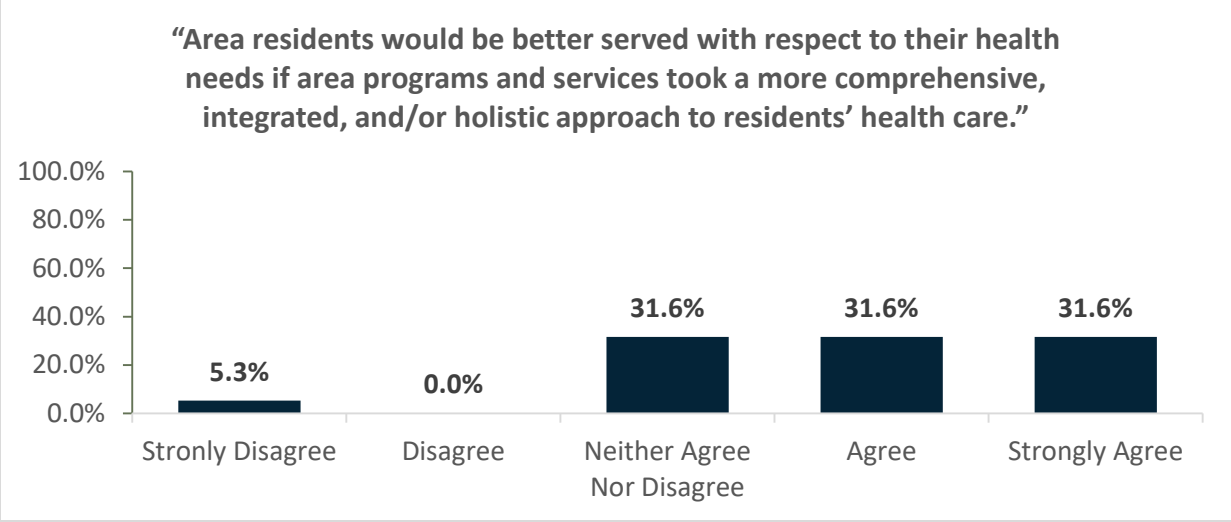
Source: SHL Key Informant Online Survey, Q9/Q9a; Key Stakeholder Interviews, Q5/Q5a: How well do organizations and agencies in your community collaborate and coordinate together in order to make programs and services more accessible to area residents? Why do you say that? (n=38/n=6)

Somewhat Well/Very Well	**Good working relationships between most entities** and they **invite appropriate players into the dialogs**. – *Key Informant* I think it has **gotten much better**, and I think it's gotten much better because we've been **forced to do that because the pie itself is getting so much slimmer**. There's less resources to go around that it's **forcing us to collaborate together more**. – *Key Stakeholder*
Not At All Well/Not Very Well	A **lot of siloed activity**, **different agencies working on similar priorities but not together** to coordinate efforts, **lack of ownership or lack of vision for the whole county**, very Ludington centric. – *Key Informant* The **hospital could do a better job of being a team player with the rest of the agencies** in the community. **Agencies in general need to stop operating in silos**. – *Key Stakeholder*

Holistic/Biopsychosocial Approach

- Five of six Key Stakeholders report area programs and services are attempting to take a comprehensive, integrated, and/or holistic approach to serving the health and health care needs of area residents. Almost two-thirds (63.2%) of Key Informants believe area residents would be better served if local programs and services took this approach.

- These community leaders see the benefit in serving area residents' health and health care needs in a comprehensive, integrated, and/or holistic manner – a biopsychosocial approach. They understand that health, or illness, depends on physical, mental, spiritual, and social well-being, and integration of services would improve efficiency and reduce costs.



Source: SHL Key Stakeholder Interviews, Q5b/Q5c: In your opinion, do area programs and services take a comprehensive, integrated, and/or holistic approach to serving the health and health care needs of area residents? Why do you say that? (n=6); Key Informant Online Survey, Q10/Q10a: Please indicate your level of agreement with the following statement. Why do you say that? (n=38)

A holistic approach can **make connections between situations and health behaviors**. – *Key Informant*

When any health issue is approached as a holistic approach that **considers all factors**, then there are **typically better and more realistic outcomes**. – *Key Stakeholder*

Integration leads to better communication and reduces redundancy. This increase in communication can assure residents and those providing services understand the breadth of services available to **most appropriately address needs**. – *Key Informant*

Coordinated care/efforts is always better, if you address one need of a person, but leave them lacking in another area the sustainability of health care will wane. – *Key Informant*

A **comprehensive and integrated approach can improve the coordination of services**, which would reduce costs to the patient. – *Key Informant*

Barriers to Care Coordination

- All six Key Stakeholders believe there are barriers to care coordination, such as: funding limitations; lack of specific staff positions that could better coordinate care such as care managers or behavioral health specialists; dealing with HIPPA regulations or requirements; a lack of integrated technology where information could be shared; and the ability of many individuals or organizations to see the larger, more global, picture when thinking about health and health care.

- Stigma is also considered to be a major barrier to care coordination as it not only prevents providers from collaborating and coordinating services to best address individual needs, but it also prevents many people from seeking needed care.

I think **resources**. I think we have doctors and nurses, but we **don't really have care managers** and **behavioral health specialists**, and those are the two things I talked about that are **big problems**.

I think it's just **challenging to try to get people organized** and **getting people to look more globally** at the episode of care rather than just the acute care that we provide, or the portion that's long-care that the nursing home provides or somebody who's based in the community delivering care. I just think it's a **lot more challenging to get people to look beyond just the borders of their part of the delivery system**.

Yes, **individual agendas**. Potentially, **funding limitations**. You may have **funds that are so narrowly focused** that you can't do anything else.

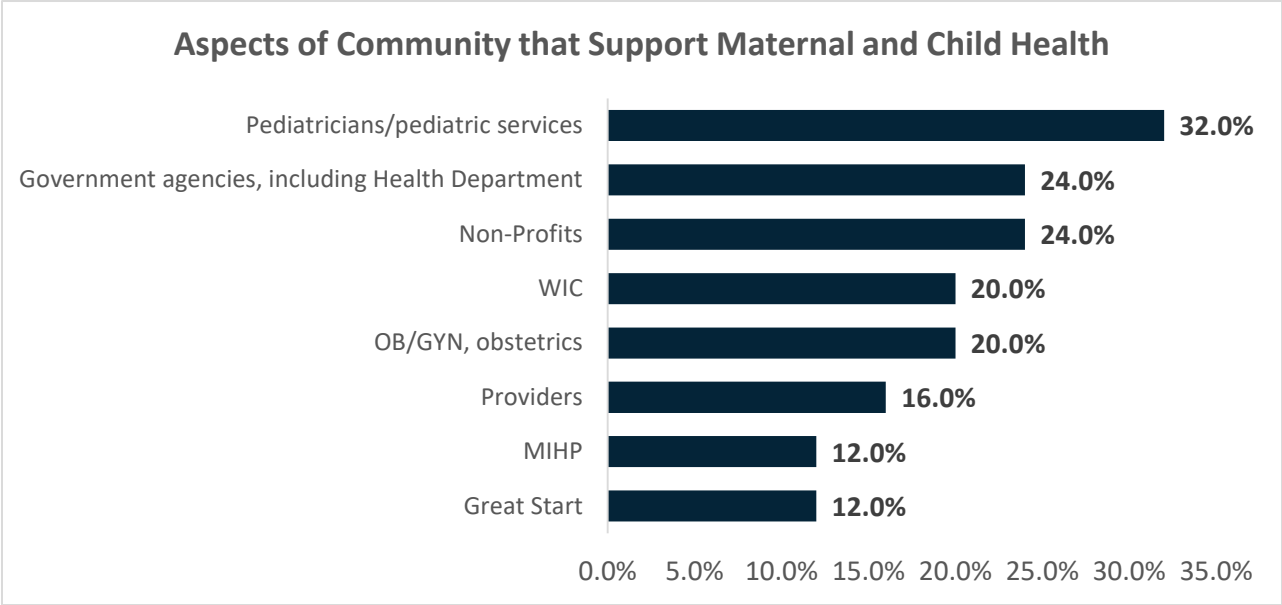
I honestly think that there's some **artificial barriers like HIPAA** and stuff like that that are navigable, but I think **stigma** is a huge barrier, both around **mental illness** and **substance use**, but also around **poverty**. I **don't think we as a community believe everybody needs or deserves access to everything**. For substance abuse, it's more a matter "**willpower**; straighten yourself out." On the mental health side, I think it's more about **fear**, or an anxiety or a **discomfort**. I just think **we have a long way to go in the community in recognizing mental illness/substance use disorders/developmental disabilities as real physical disorders**. They're not issues of willpower, they're not issues of choice, they're true disorders that require treatment and intervention just like broken legs and cancer and diabetes and heart disease, and they are probably more prevalent than most of those conditions.

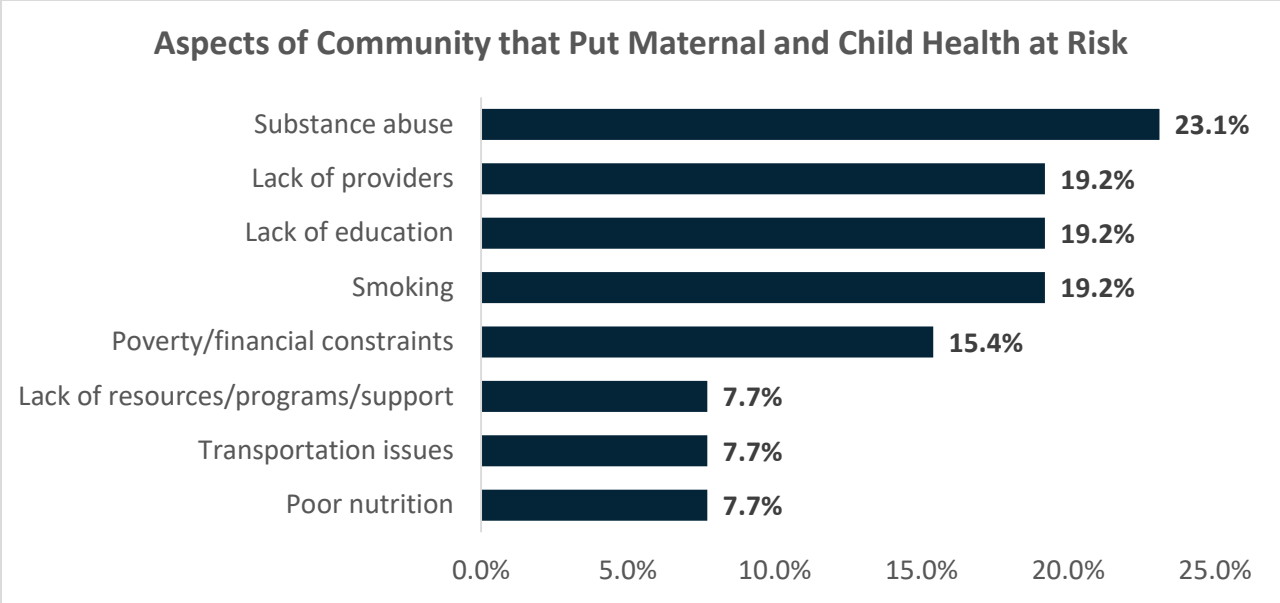
I think **HIPAA** is one barrier. I think that another barrier is **technology**; **we're under the assumption that everybody has access to technology, and they don't, or they don't know how to use it**. Even to get DHS assistance, you have to do it all online. Some state and federal requirements prevent people from providing that comprehensive approach. I think people like to hide behind HIPAA, although I feel like there are workarounds.

Source: SHL Key Stakeholder Interviews, Q5d: Are there any barriers to care coordination? (n=6)

Maternal and Child Health

- Key Informants name pediatric services as the top aspect of the community that supports maternal and child health, followed by government services, non-profits, WIC, and OB/GYN services.
- Conversely, aspects that put maternal and child health at risk include substance abuse, lack of providers, lack of education, and smoking.



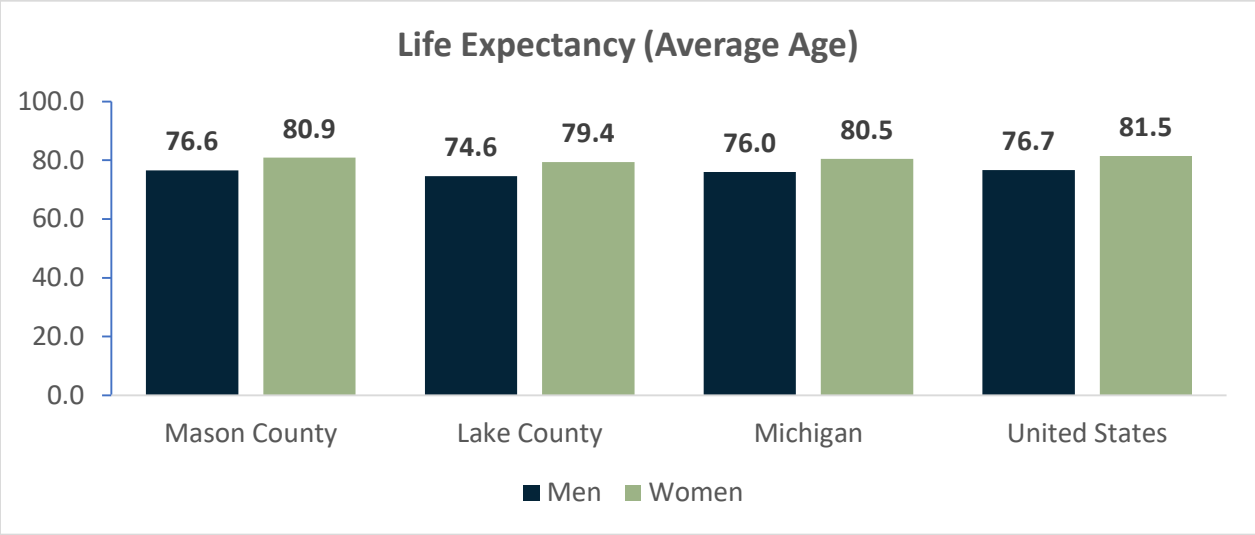


Source: SHL Key Informant Online Survey, 2017, Q13: What about this community supports maternal and child (age birth-18) health? Please be as detailed as possible. (n=25); Q14: What about this community puts maternal and child (age birth-18) health at risk? Please be as detailed as possible. (n=26)

HEALTH STATUS INDICATORS

Life Expectancy and Years of Potential Life Lost

- With regard to life expectancy rates, both men and women in Lake County have lower rates compared to men and women across Michigan or the U.S., while men and women in Mason County are on par with the state and national rates.
- Compared to residents in Mason County or across Michigan, residents of Lake County are more likely to lose years of potential life overall, and due to malignant neoplasms or heart disease.
- Residents of Mason County are more likely than Michigan residents to lose years of life due to malignant neoplasms, accidents, or chronic lower respiratory disease.



Source: Institute for Health Metrics and Evaluation at the University of Washington, 2014.

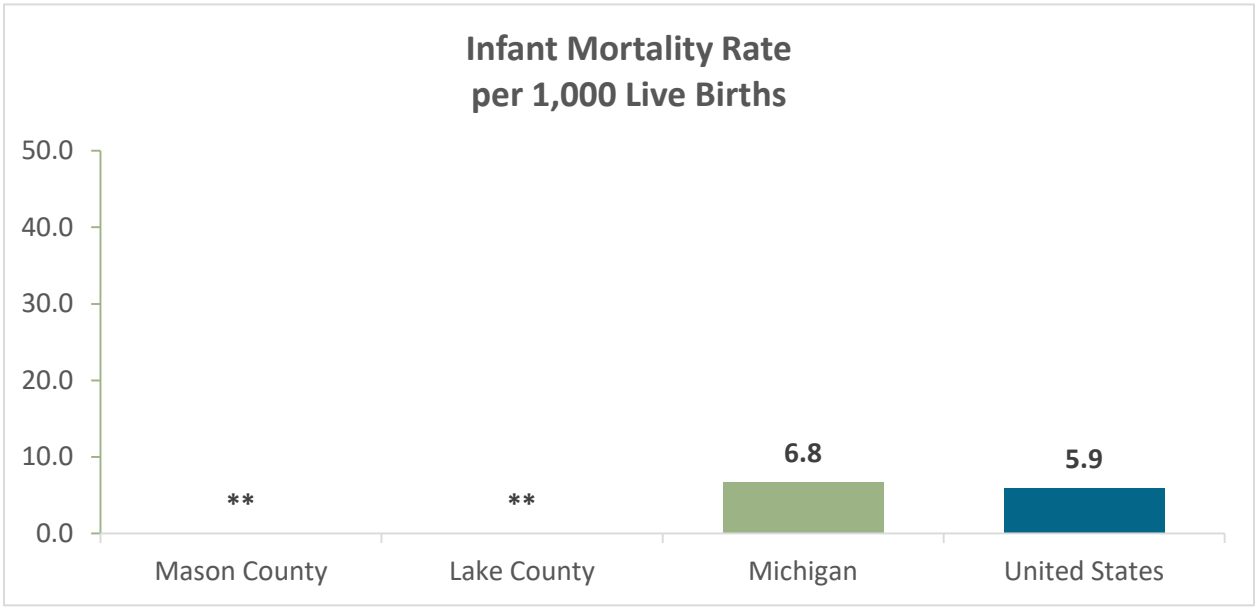
Rates of Years of Potential Life Lost (YPLL) (Below Age 75)

	Michigan		Lake County		Mason County	
	Rank	Rate	Rank	Rate	Rank	Rate
All Causes		7697.6		9312.8		7639.4
Malignant neoplasms (All)	1	1620.8	1	2245.2	2	1624.2
Diseases of the heart	2	1276.0	1	2245.2	3	1012.7
Accidents	3	1136.4		**	1	1815.3
Drug induced deaths	4	791.0		**		**
Intentional self-harm (Suicide)	5	428.4		**		**
Chronic lower respiratory diseases	6	255.4		**	4	573.2

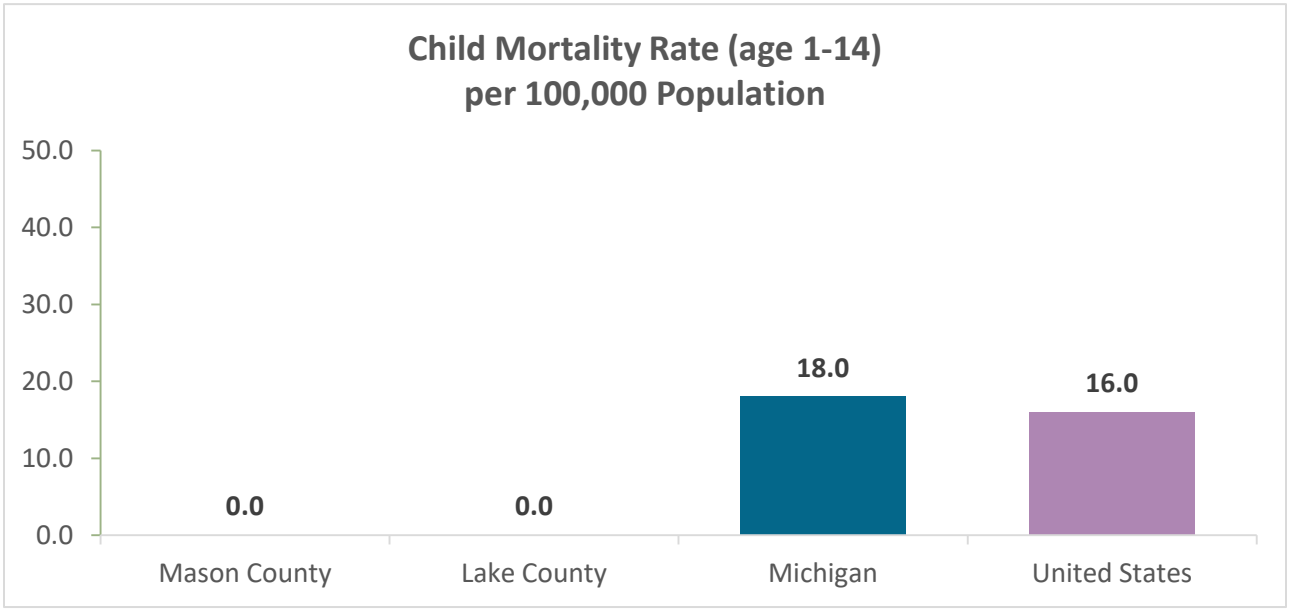
Source: Michigan DHHS, Division of Vital Records and Health Statistics, Geocoded Michigan Death Certificate Registry, 2015.
Note: ** = data do not meet standards of reliability and precision OR have a zero value.

Mortality Rates

The infant and child mortality rates are lower in both Mason and Lake counties compared to the state or national rates; in fact, fewer than six deaths occurred in either county during the corresponding years and thus a rate was not calculated.



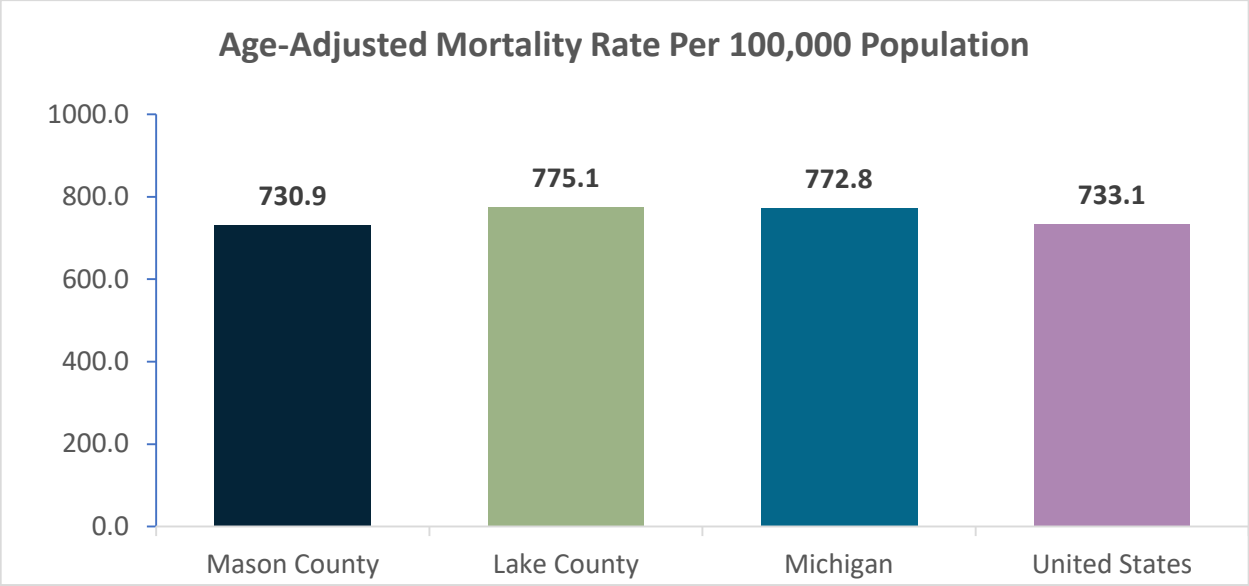
Source: Michigan DHHS, Division of Vital Records and Health Statistics, 2014. **Note: Mason and Lake counties are not included because they had fewer than six cases in 2014, and thus rates were not calculated.



Source: Michigan DHHS, Division of Vital Records and Health Statistics, MI and US, 2015. **Note: Mason and Lake counties are not included because they had fewer than six cases in 2014, and thus rates were not calculated.

Mortality Rates (continued)

The age-adjusted mortality rate for Lake County is higher than the state or the national rates, while Mason County's rate is lower compared to the Michigan or U.S. rate.



Source: Michigan Resident Death File, Vital Records & Health Statistics Section, Michigan Department of Health and Human Services, 2015.

Leading Causes of Death

- Heart disease and cancer are the leading causes of death in Mason County, Lake County, the state, and the nation.
- Compared to the other regions in the table below, the death rate for heart disease is highest in Lake County, while the death rate for cancer is higher is Mason County vs. Lake County or the U.S.
- The death rates for chronic lower respiratory diseases, unintentional injuries, and stroke are much higher in Mason County compared to the state or national rates.
- The death rates for cancer and heart disease in both Mason and Lake counties decreased from the last CHNA iteration in 2014.

	Michigan		United States		Lake County		Mason County	
	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate
Heart Disease	1	195.5	1	168.5	1	198.7	2	155.7
Cancer	2	164.9	2	158.5	2	153.3	1	160.4
Chronic Lower Respiratory Diseases	3	46.7	4	41.6		**	4	67.9
Unintentional Injuries	4	42.9	3	43.2		**	3	71.9
Stroke	5	36.8	5	37.6		**	5	54.5
Alzheimer's Disease	6	29.7	6	29.4		**		**
Diabetes Mellitus	7	22.2	7	21.3		**		**
Kidney Disease	8	15.4	9	13.4		**		**
Pneumonia/Influenza	9	15.0	8	15.2		**		**
Intentional Self-Harm (Suicide)	10	13.6	10	13.3		**		**
All Other Causes		190.1		191.1		214.7		160.4

Source: Michigan Department of Health and Human Services, 2015.
Note: ** = data do not meet standards of reliability and precision OR have a zero value.

Leading Causes of Preventable Hospitalization

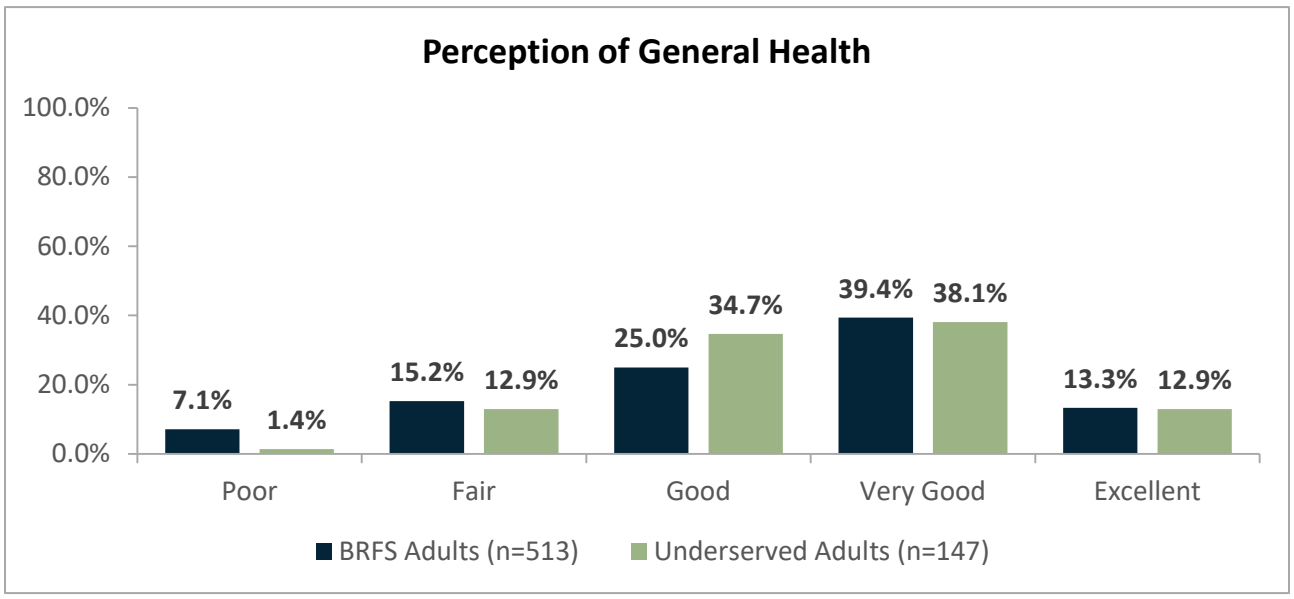
- Preventable hospitalizations are more common in Lake County compared to Mason County or the state.
- Congestive heart failure and bacterial pneumonia are the leading causes of preventable hospitalization in both counties and across Michigan, but the proportion for both conditions are higher in both counties compared to the state.
- Residents of Lake County are more likely to be hospitalized for chronic obstructive pulmonary disease than residents in Mason County or across Michigan.
- On the other hand, residents across Michigan are more likely to be hospitalized for kidney/urinary infections and asthma, compared to residents in Lake or Mason counties.

	Michigan		Lake County		Mason County	
	Rank	% of All Preventable Hospitalizations	Rank	% of All Preventable Hospitalizations	Rank	% of All Preventable Hospitalizations
Congestive Heart Failure	1	14.0%	2	16.8%	1	17.2%
Bacterial Pneumonia	2	9.7%	1	18.8%	2	14.7%
Chronic Obstructive Pulmonary Disease	3	9.1%	3	12.9%	3	10.9%
Kidney/Urinary Infections	4	6.8%	7	2.6%	6	4.3%
Cellulitis	5	6.5%	5	5.8%	4	6.4%
Diabetes	6	5.9%	4	6.5%	5	4.5%
Asthma	7	5.3%	6	3.6%	9	1.6%
Grand Mal and Other Epileptic Conditions	8	3.3%	7	2.6%	7	2.7%
Dehydration	9	1.8%		**		**
Gastroenteritis	10	1.7%	9	2.3%	8	1.90%
Convulsions			10	1.6%	10	1.30%
All Other Ambulatory Care Sensitive Conditions		36.1%		26.5%		34.5%
Preventable Hospitalizations as a % of All Hospitalizations		19.9%		21.3%		19.4%

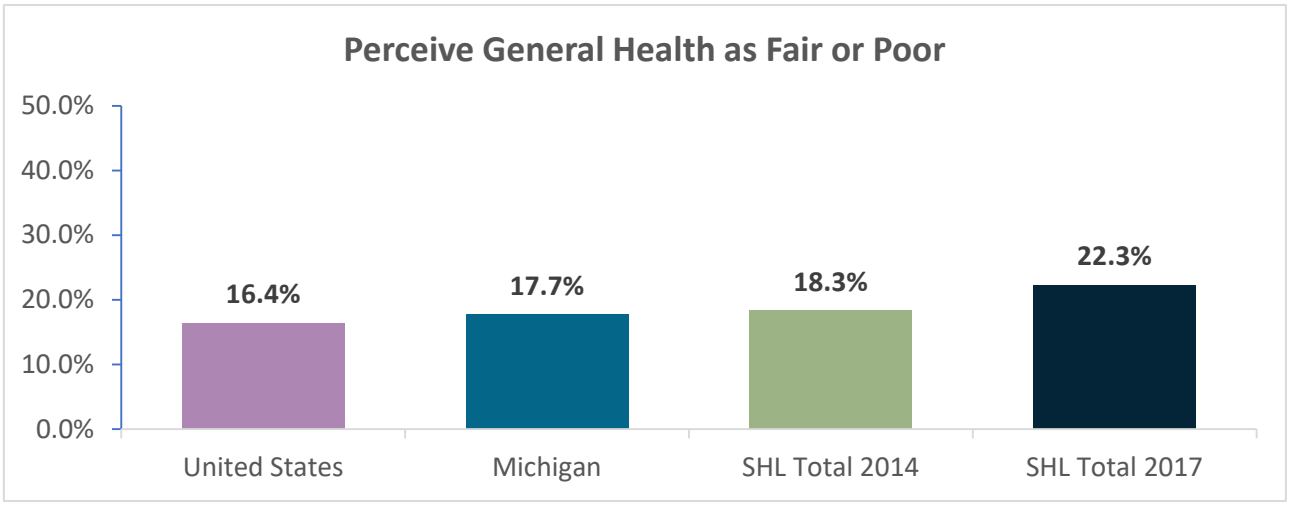
Source: MDHHS Resident Inpatient Files, Division of Vital Records. Counties and MI, 2014.
Note: ** = data do not meet standards of reliability and precision OR have a zero value.

General Health Status

- More than one in five (22.3%) SHL area adults reports fair or poor general health; this proportion is lower for underserved adults (14.3%).
- The proportion of area adults reporting fair or poor health has increased since the last CHNA and is still higher than the state or national proportion.



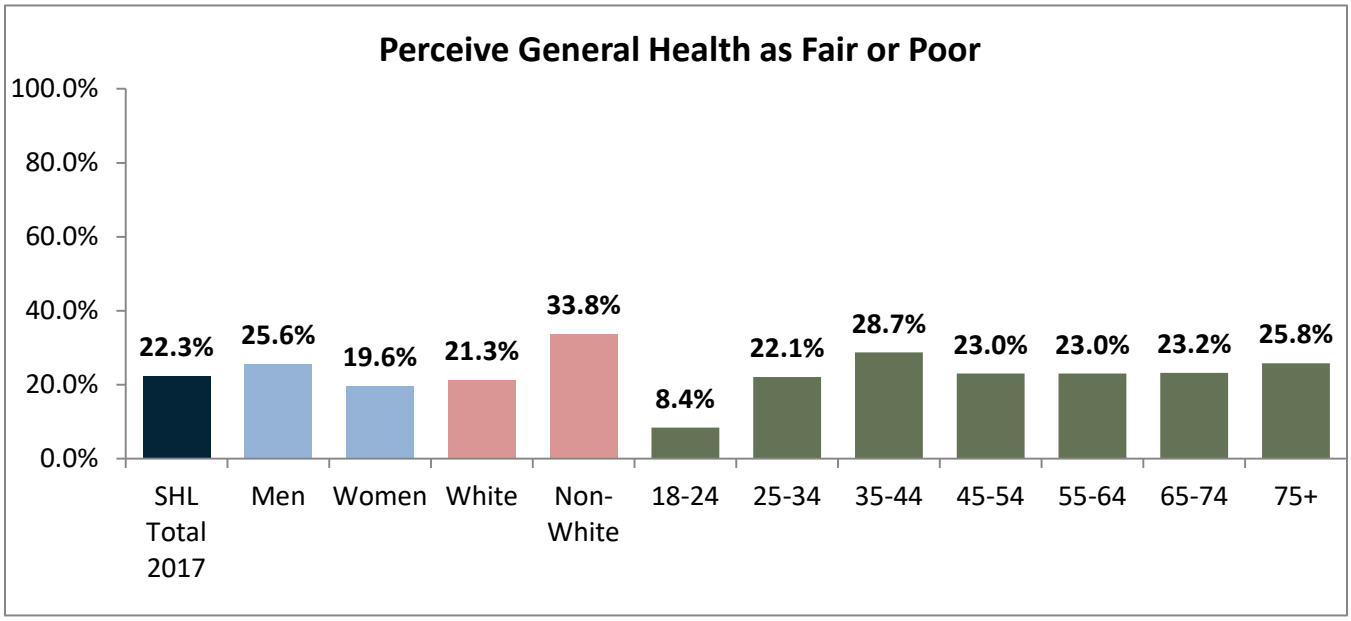
Source: SHL Behavioral Risk Factor Survey, 2017, Q1.2/SHL Underserved Resident Survey, 2017, Q1: Would you say your general health is excellent, very good, good, fair, or poor?

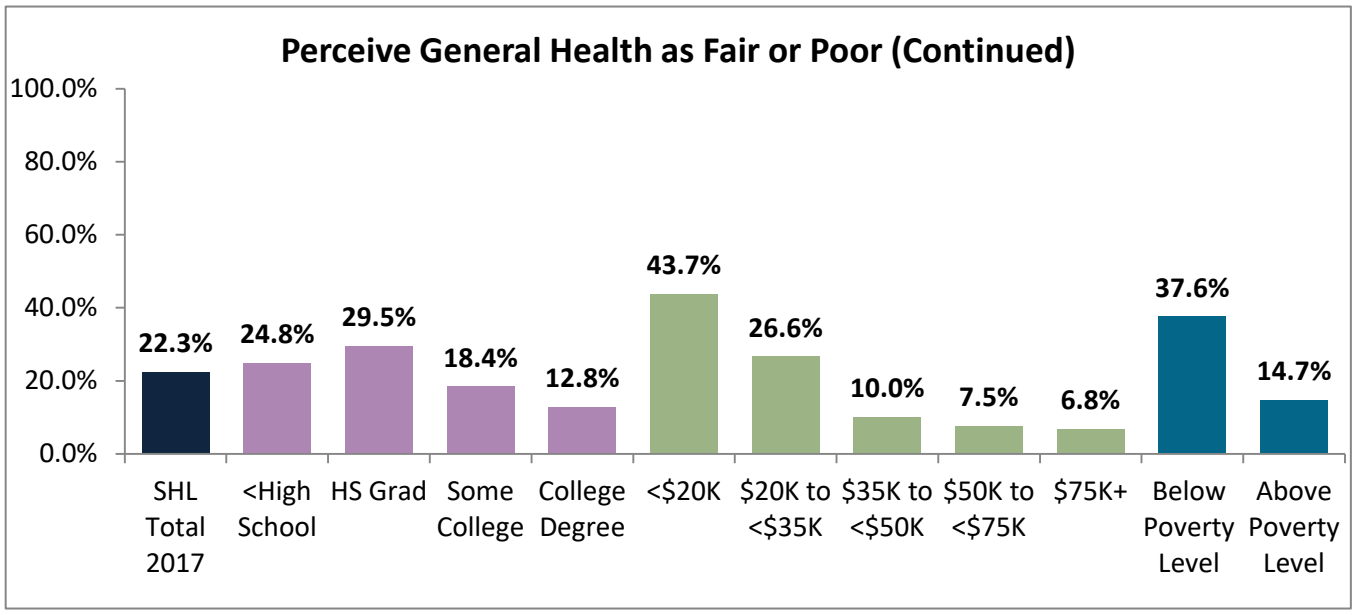


Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2016; Preliminary Estimates for Risk Factor and Health Indicators, State of Michigan, Michigan BRFS, 2015; SHL Behavioral Risk Factor Survey, 2014, 2017, Q1.2. Note: the proportion of adults who reported that their health, in general, was either fair or poor.

General Health Status (continued)

- The proportion of area adults who perceive their health as fair or poor is inversely related to level of education and household income.
- Adults living below the poverty line are more likely to report fair or poor health than adults above the poverty line.
- Men and non-White adults are more likely to perceive their health as fair or poor compared to women and White adults, respectively.

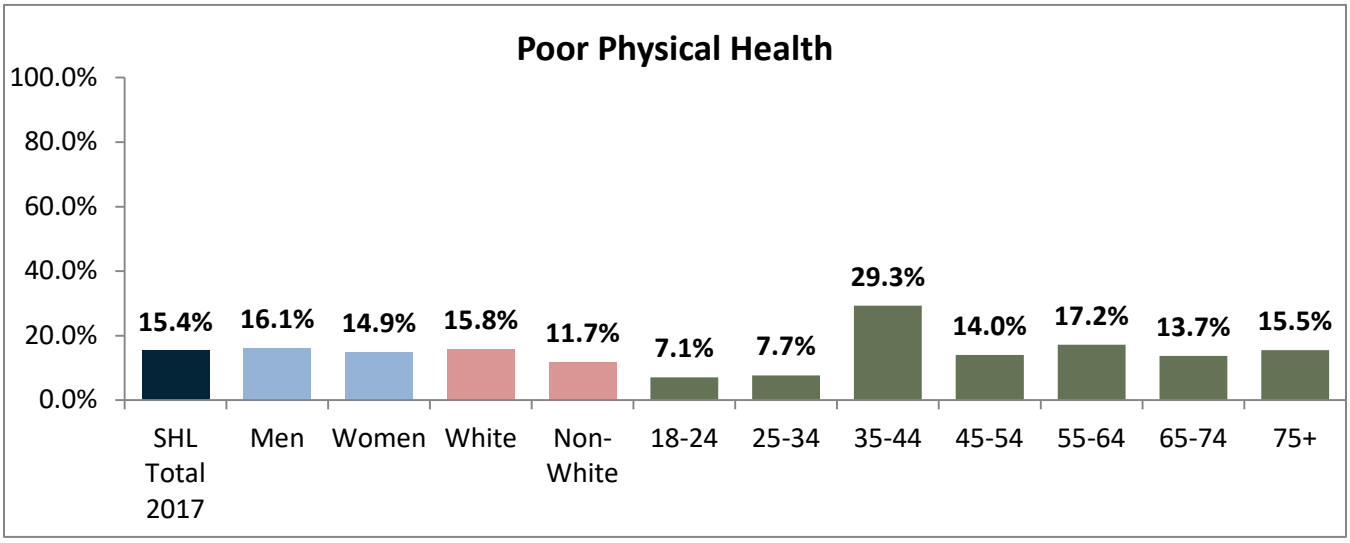


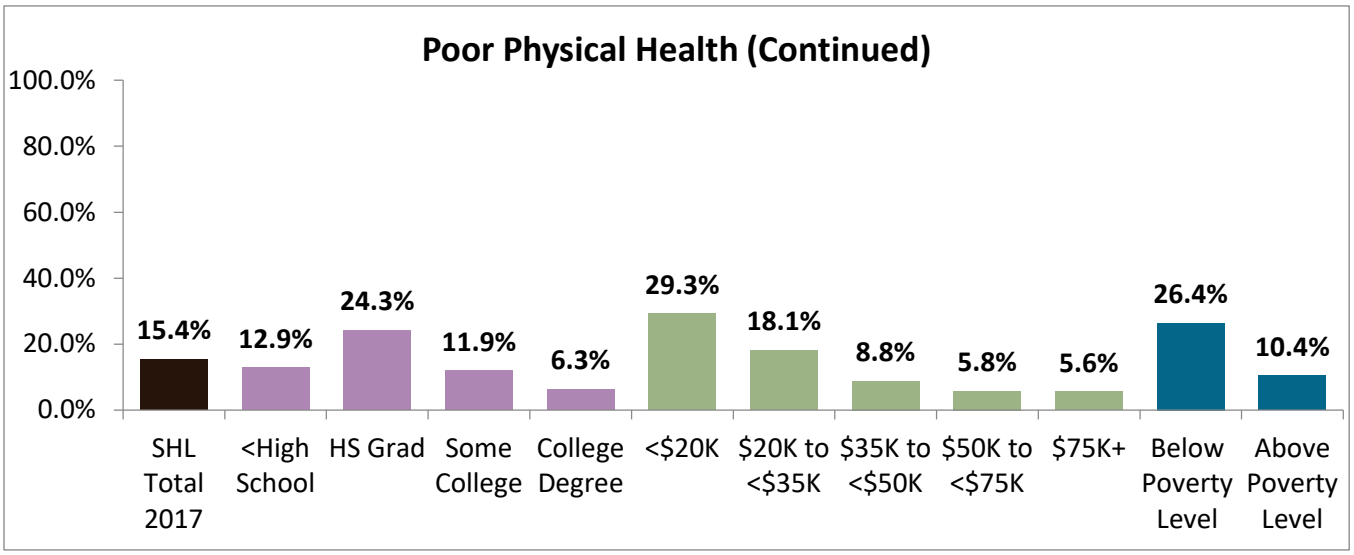


Source: SHL Behavioral Risk Factor Survey, 2017, Q1.2.

Physical Health Status

- Roughly one in six (15.4%) SHL area adults have poor physical health, which means they experienced fourteen or more days of poor physical health, which includes physical illness and injury, during the past 30 days.
- The prevalence of poor physical health is lowest among adults age 18-34, those with a college degree, and/or those with household incomes of $50K or more.
- Further, White adults experience poor physical health slightly more than non-White adults.

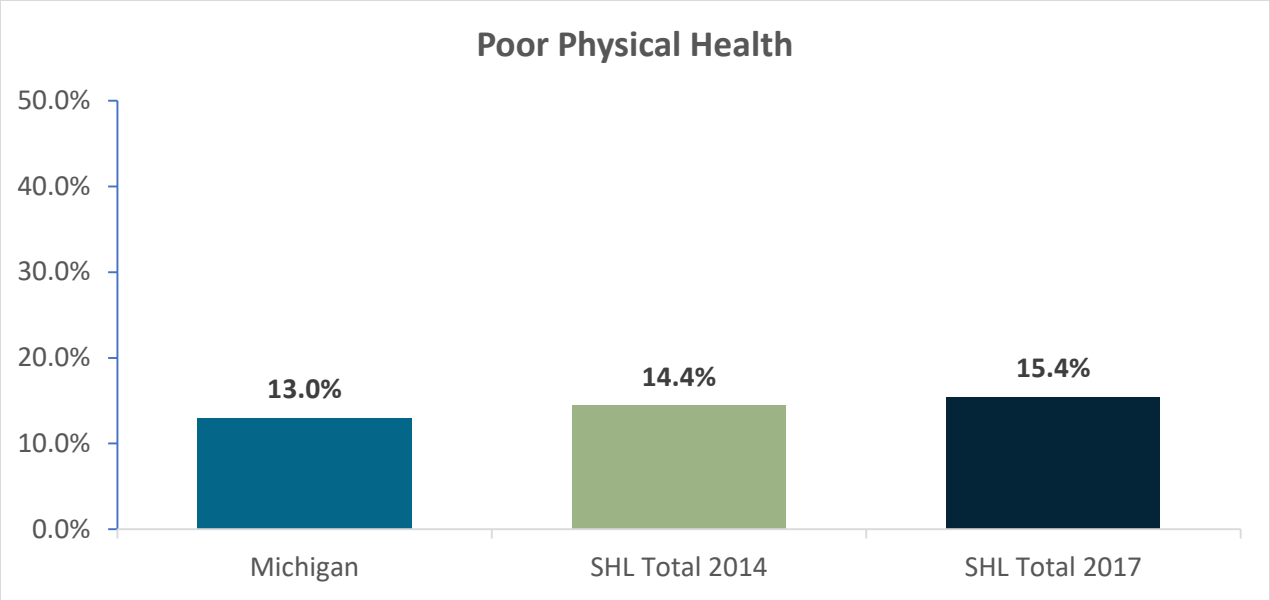




Source: SHL Behavioral Risk Factor Survey, 2017, Q2.1: Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good? (n=512). Note: The proportion of adults who reported 14 or more days, out of the previous 30, on which their physical health was not good, which includes physical illness and injury

Physical Health Status (continued)

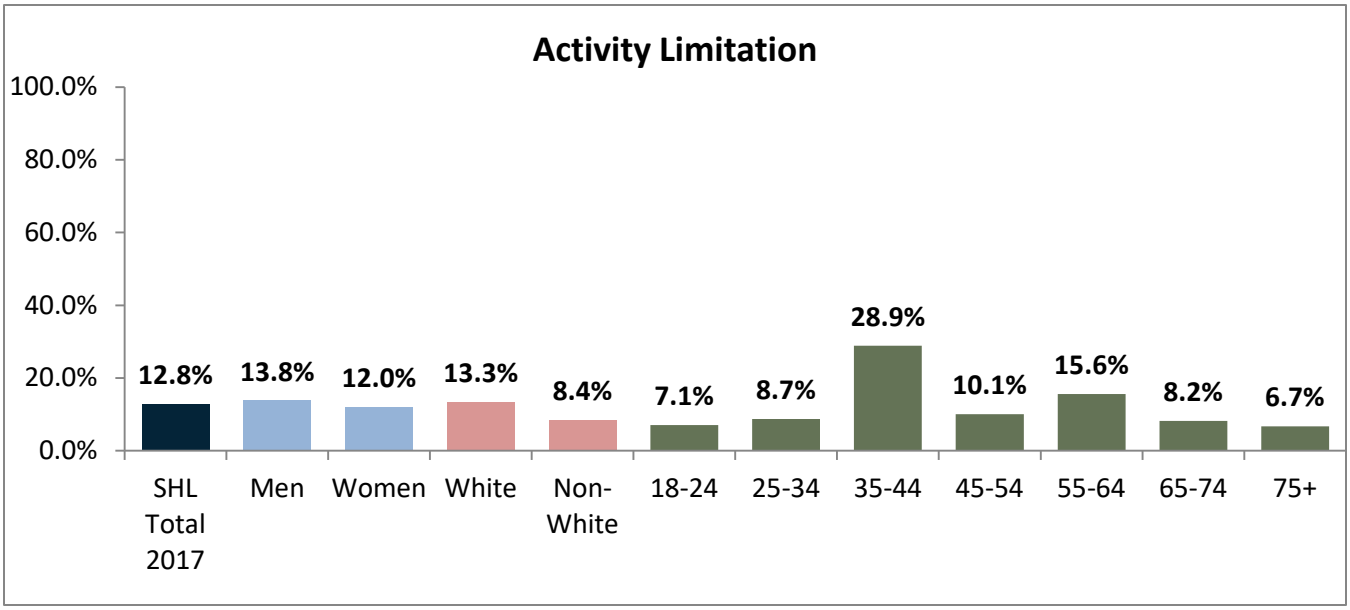
The proportion of area adults who have poor physical health is higher compared to the last CHNA and still higher than the state proportion.

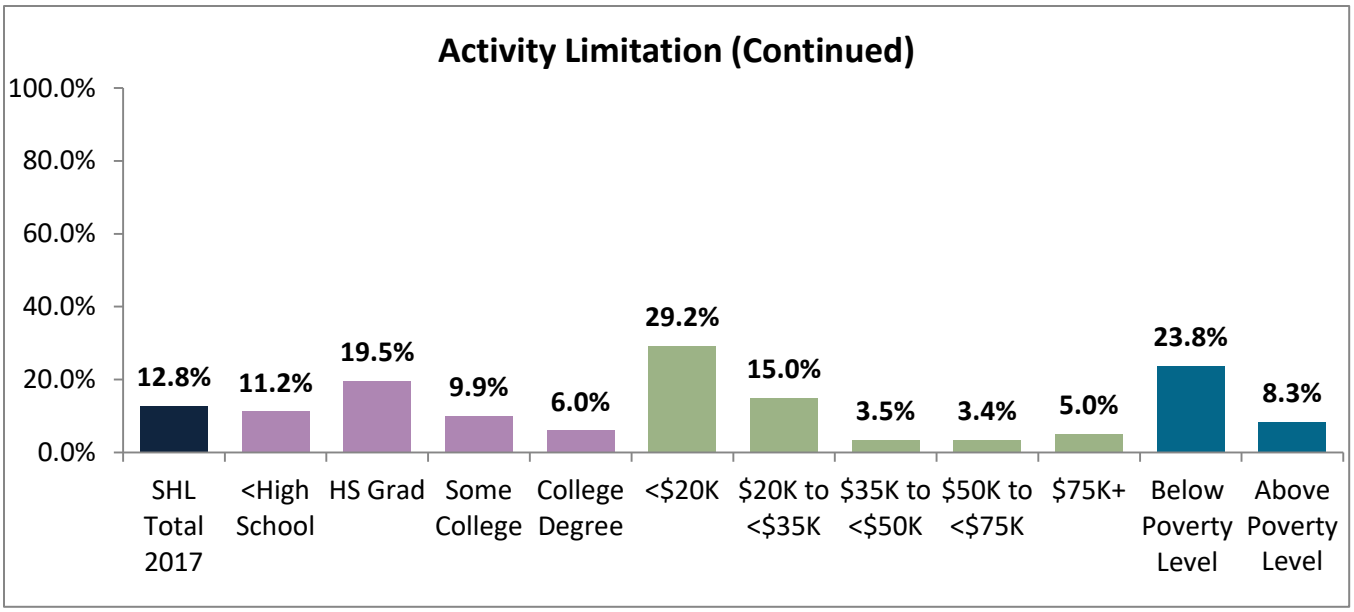


Source: Preliminary Estimates for Risk Factor and Health Indicators, State of Michigan, Michigan BRFS, 2015; SHL Behavioral Risk Factor Survey, 2014, 2017, Q2.1. Note: The proportion of adults who reported 14 or more days, out of the previous 30, on which their physical health was not good, which includes physical illness and injury.

Activity Limitation

- Overall, 12.8% of area adults are prevented from doing their usual activities (e.g., self-care, work, recreation) due to poor physical or mental health.
- The largest proportions of adults who experience activity limitation are found among the poorest adults.

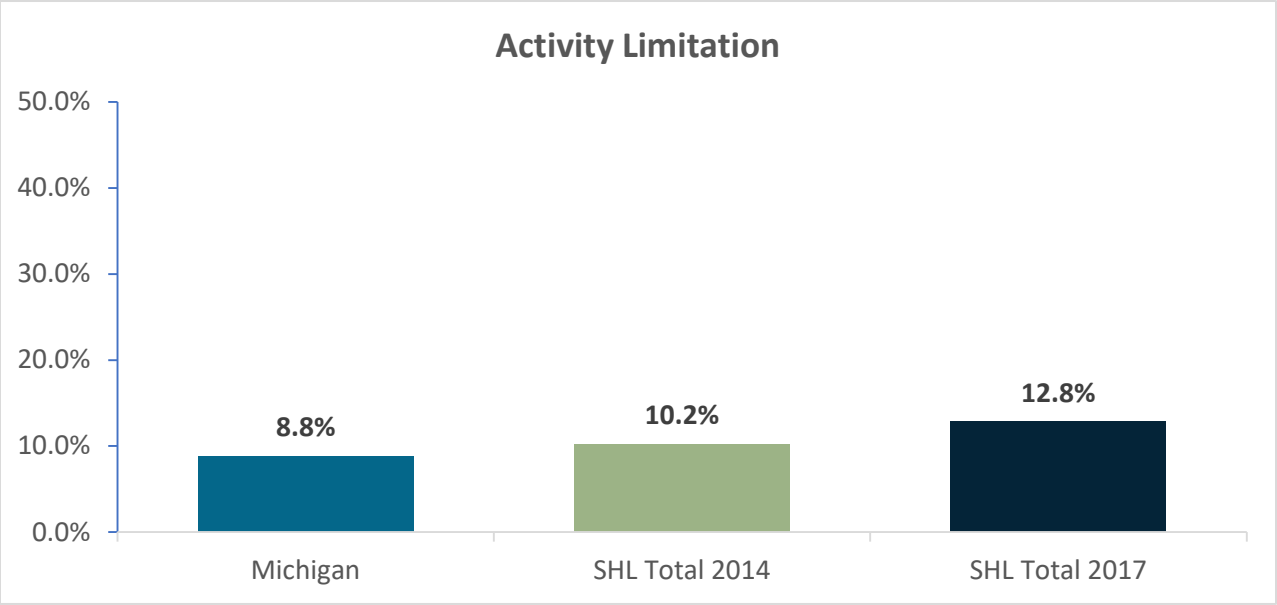




Source: SHL Behavioral Risk Factor Survey, 2017, Q2.3: During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation? (n=512). Note: The proportion of adults who reported 14 or more days, out of the previous 30, on which either poor physical health or poor mental health kept them from doing their usual activities, such as self-care, work, and recreation.

Activity Limitation (continued)

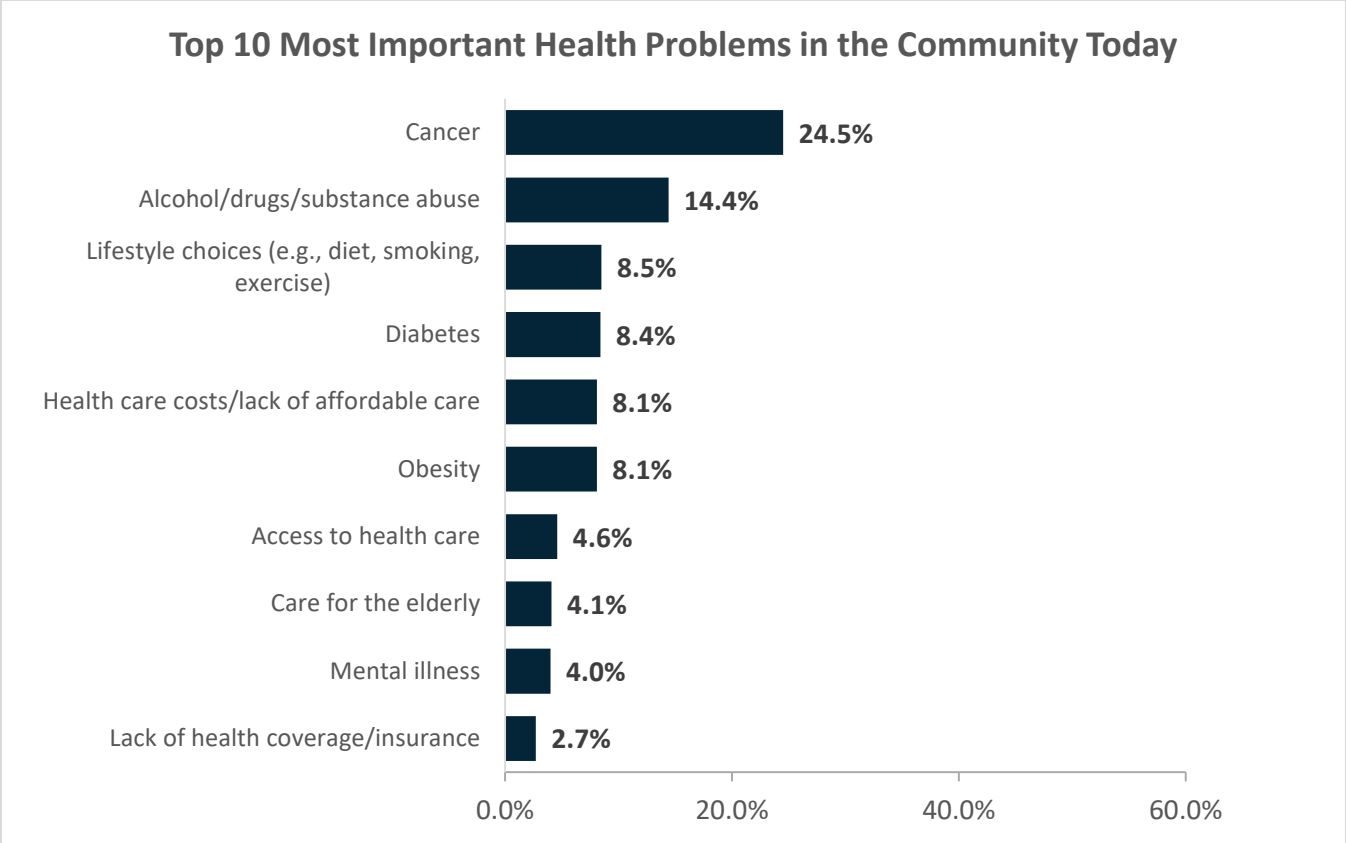
The proportion of area adults whose activity is limited has increased since the last CHNA in 2014 and is higher than the state proportion.



Source: Preliminary Estimates for Risk Factor and Health Indicators, State of Michigan, Michigan BRFS, 2015; SHL Behavioral Risk Factor Survey, 2014, 2017, Q2.3. Note: The proportion of adults who reported 14 or more days, out of the previous 30, on which either poor physical health or poor mental health kept them from doing their usual activities, such as self-care, work, and recreation.

Most Important Health Problems in the Community

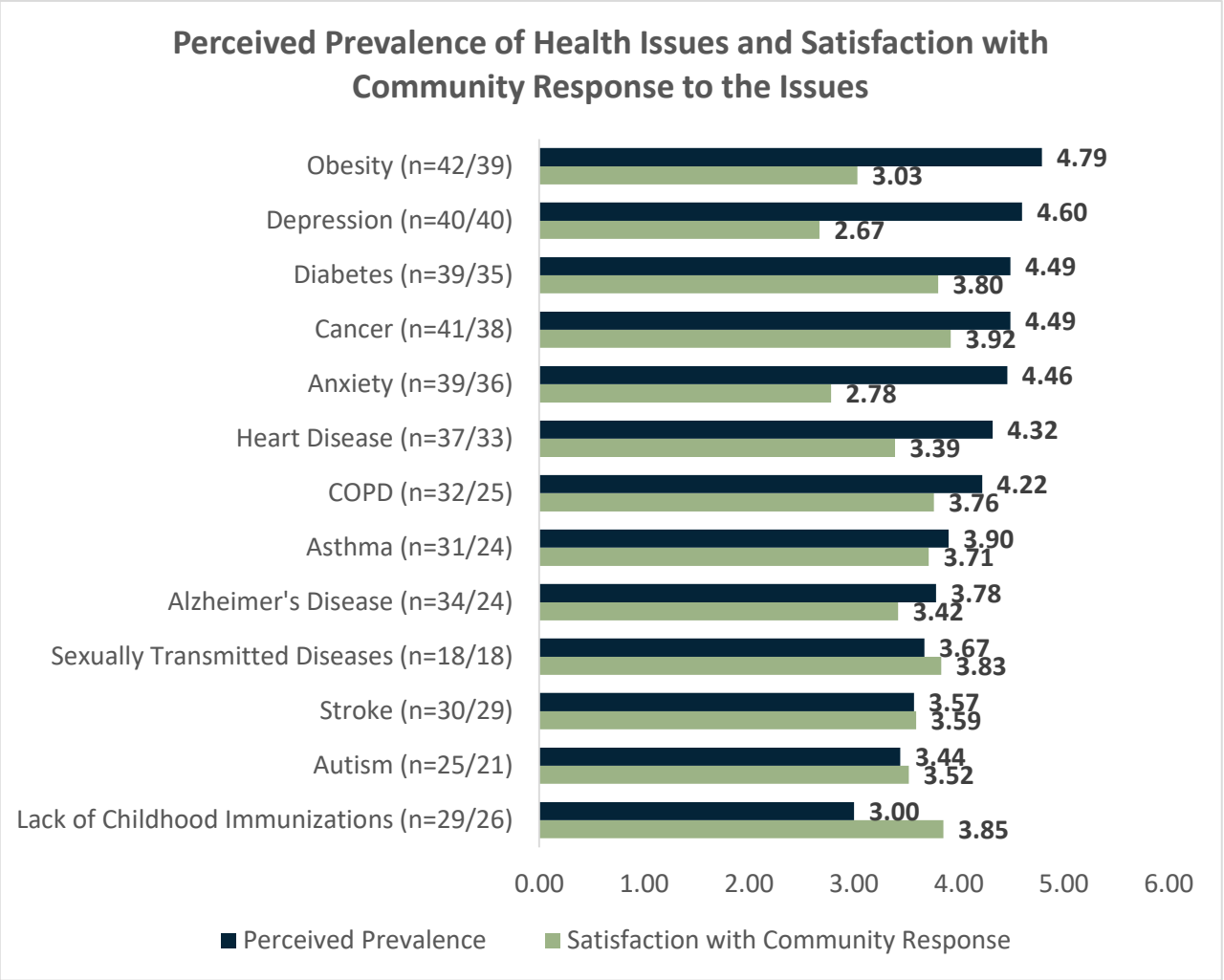
Area adults consider cancer to be the top health problem in the SHL area, followed by substance abuse, lifestyle choices, diabetes, the cost of health care, and obesity.



Source: SHL Behavioral Risk Factor Survey, 2017, Q1.1: What do you feel is the most important health problem in your community today? (n=520)

Most Prevalent Health Issues in the Community

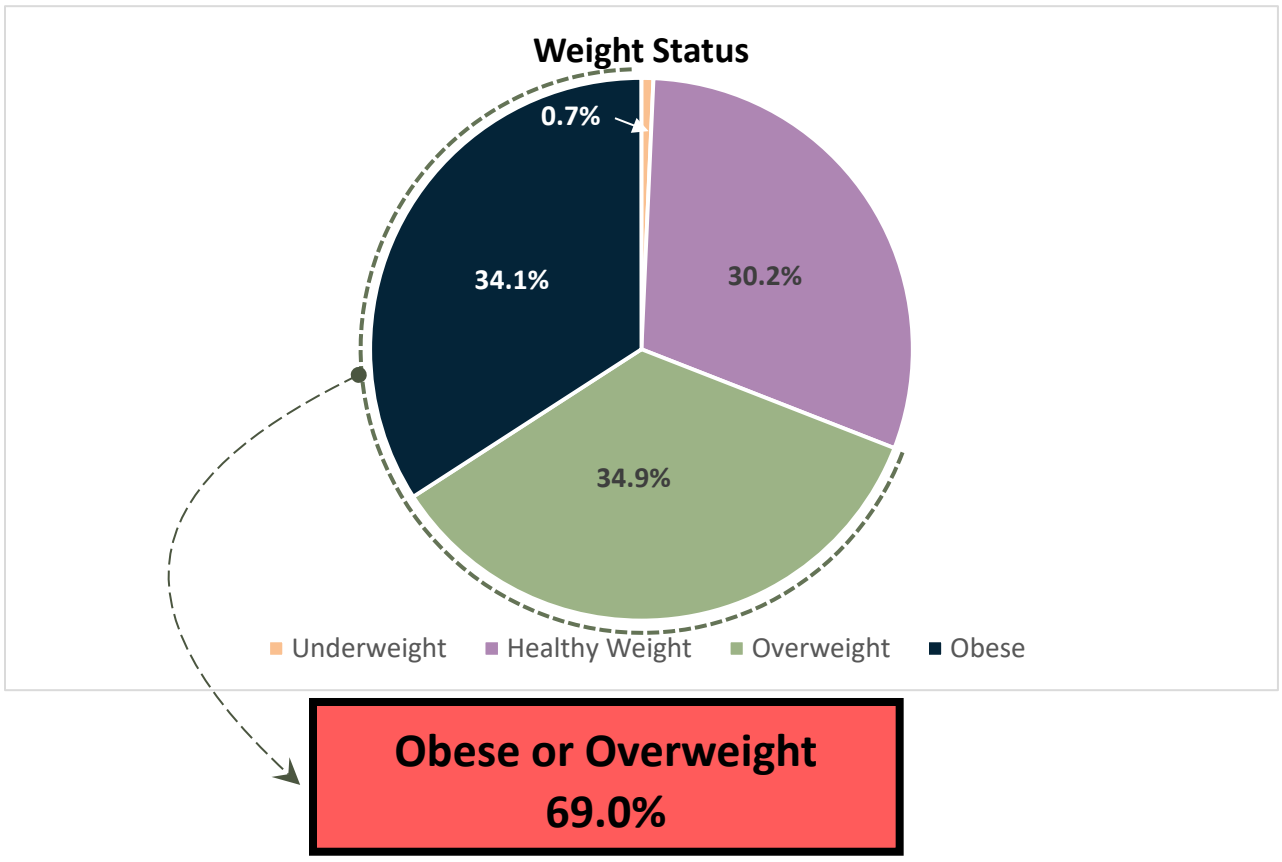
- Like 2014, Key Informants view obesity as the top health issue in terms of prevalence in the SHL area; however, last time diabetes was ranked second, but now ranks third this iteration behind depression.
- Cancer, anxiety, heart disease, and COPD are also perceived to be prevalent.
- More concerning is that Key Informants are least satisfied with the community's response to the issues perceived to be most prevalent, especially obesity, depression, and anxiety.
- Other health issues perceived by some to be prevalent are issues of access (affordable care, dental care, mental health care), lack of providers (primary/specialty), women smoking during pregnancy, and gun safety.



Source: SHL Key Informant Online Survey, 2017, Q2: Please tell us how prevalent the following health issues are in your community. Q2a: How satisfied are you with the community's response to these issues?; SHL Key Informant Online Survey, 2017, Q2b: What additional health issues are prevalent in your community, if any? (n=15). Note: Prevalence scale: 1=not at all prevalent, 2=not very prevalent, 3=slightly prevalent, 4=somewhat prevalent, 5=very prevalent; Satisfaction scale: 1=not at all satisfied, 2=not very satisfied, 3=slightly satisfied, 4=somewhat satisfied, 5=very satisfied.

Weight Status

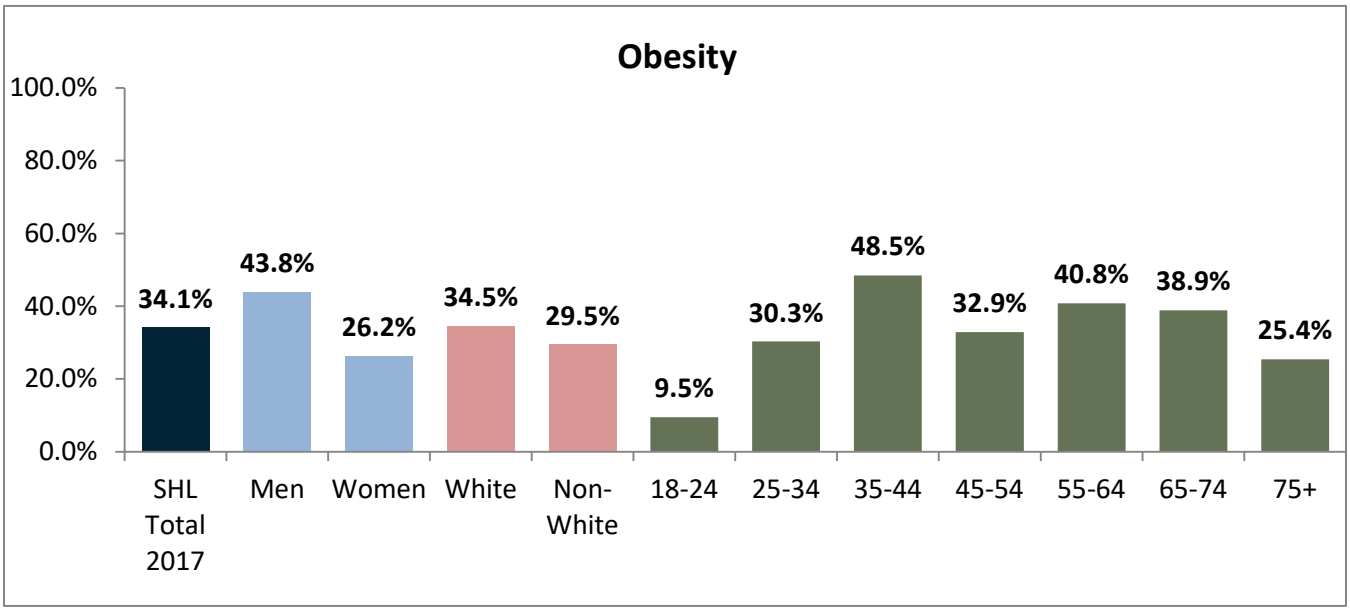
More than one-third (34.1%) of area adults are obese per their BMI score, while an additional 34.9% are overweight; all told, 69.0% area adults are either overweight or obese.

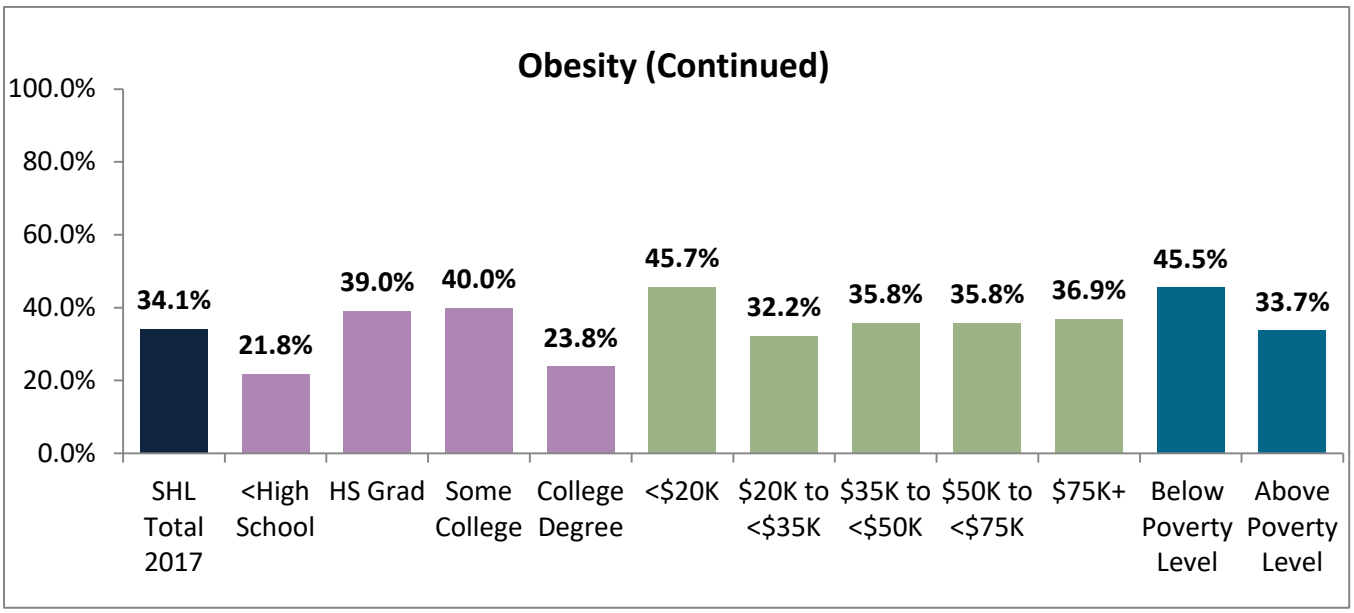


Source: SHL Behavioral Risk Factor Survey, 2017, Q12.9: About how much do you weigh without shoes? Q12.10: About how tall are you without shoes? (n=494)
Note: BMI, body mass index, is defined as weight (in kilograms) divided by height (in meters) squared [weight in kg/(height in meters)2]. Weight and height were self-reported. Pregnant women were excluded. Obese = the proportion of adults whose BMI was greater than or equal to 30.0; overweight = the proportion of adults whose BMI was greater than or equal to 25.0, but less than 30.0; healthy weight = the proportion of adults whose BMI was greater than or equal to 18.5, but less than 25.0; underweight = the proportion of adults whose BMI was less than 18.5.

Weight Status (continued)

Obesity is more common in area men than women and more common in those adults with household incomes less than $20K compared to those with higher incomes.

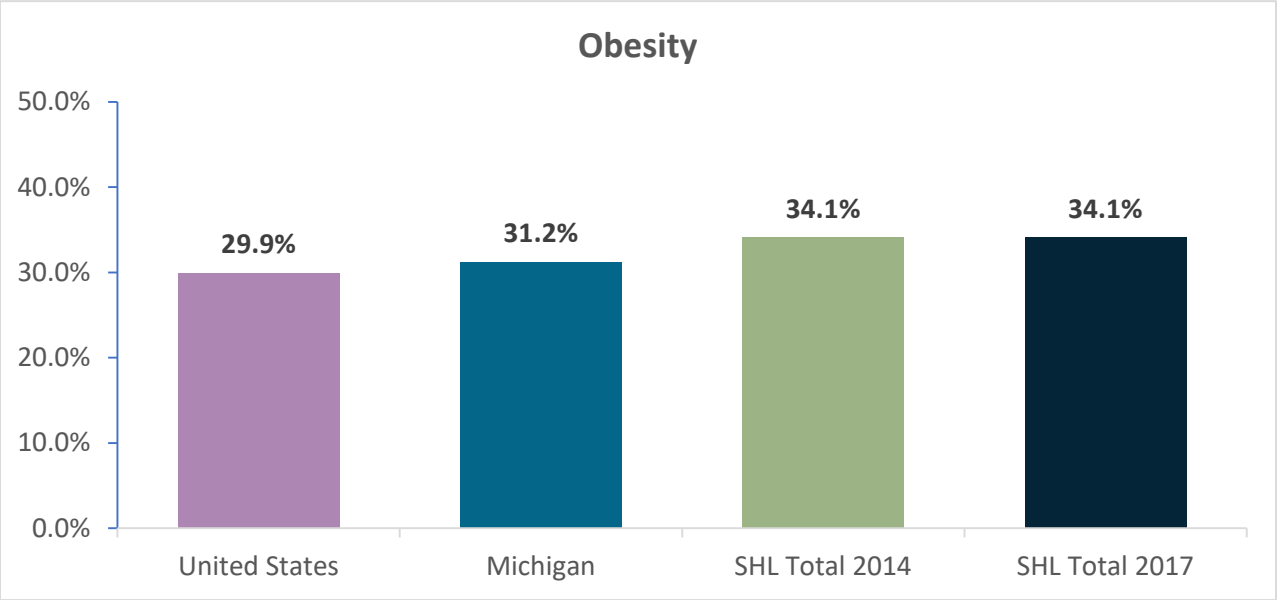




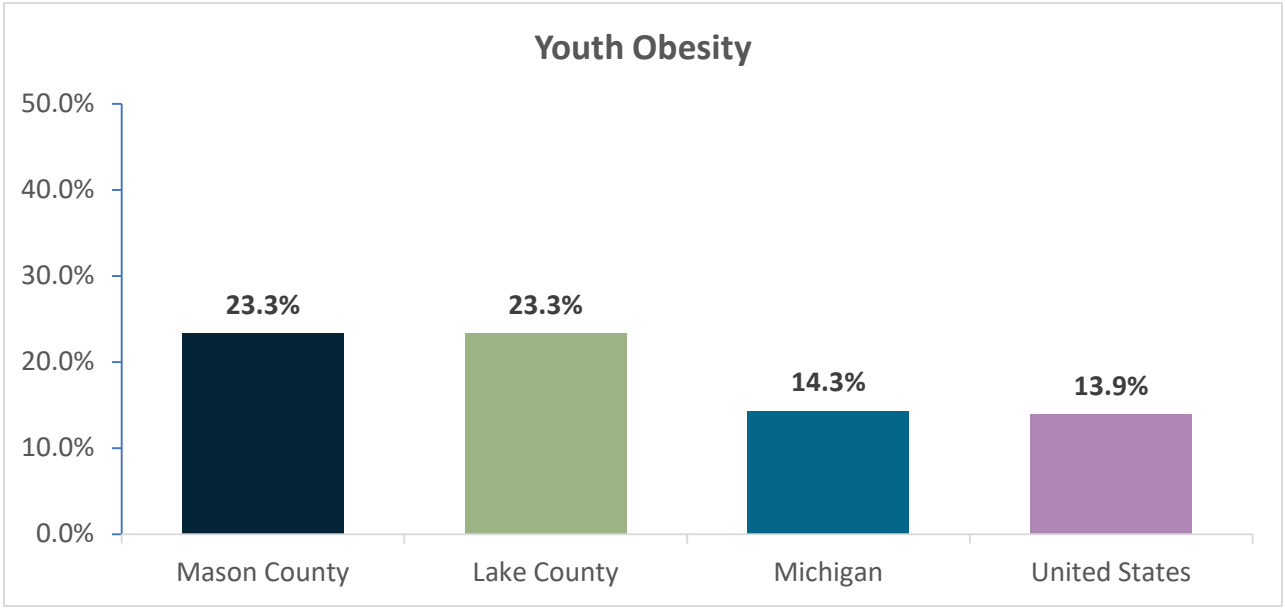
Source: SHL Behavioral Risk Factor Survey, 2017. (n=494)
Note: the proportion of adults whose BMI was greater than or equal to 30.0.

Weight Status (continued)

- The proportion of obese adults and youth in the SHL area is greater than the proportions across Michigan or the U.S.
- The proportion of obese adults remains unchanged from the last CHNA (2014).



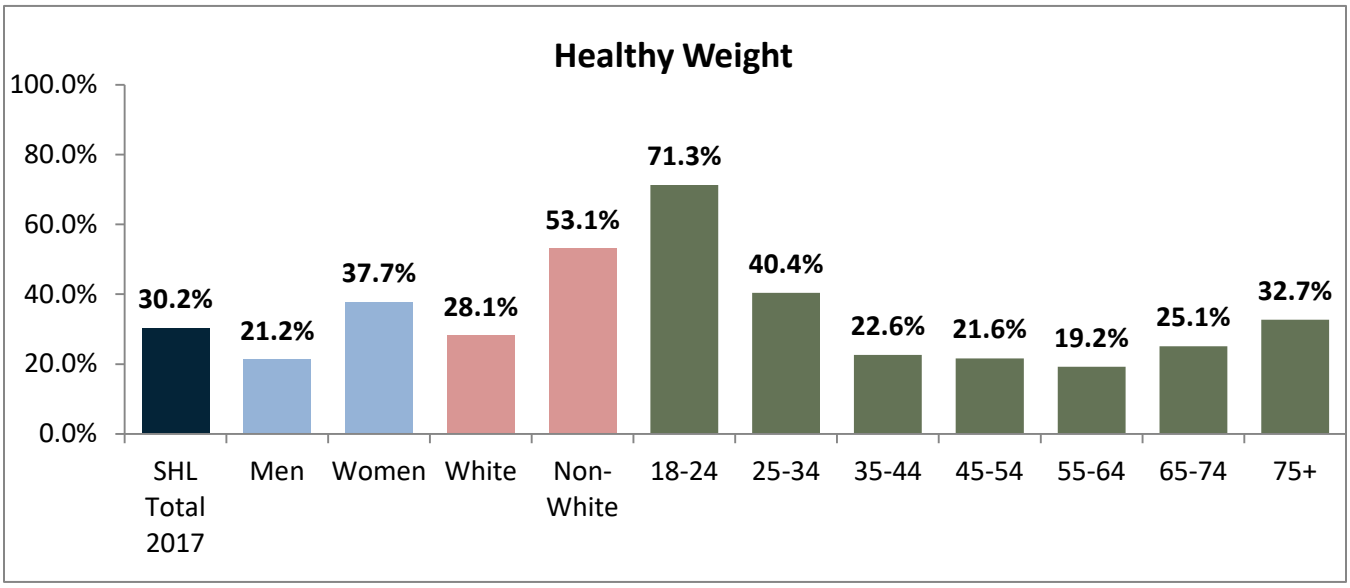
Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2016; Preliminary Estimates for Risk Factor and Health Indicators, State of Michigan, Michigan BRFS, 2015; SHL Behavioral Risk Factor Survey, 2014, 2017. Note: the proportion of adults whose BMI was greater than or equal to 30.0.

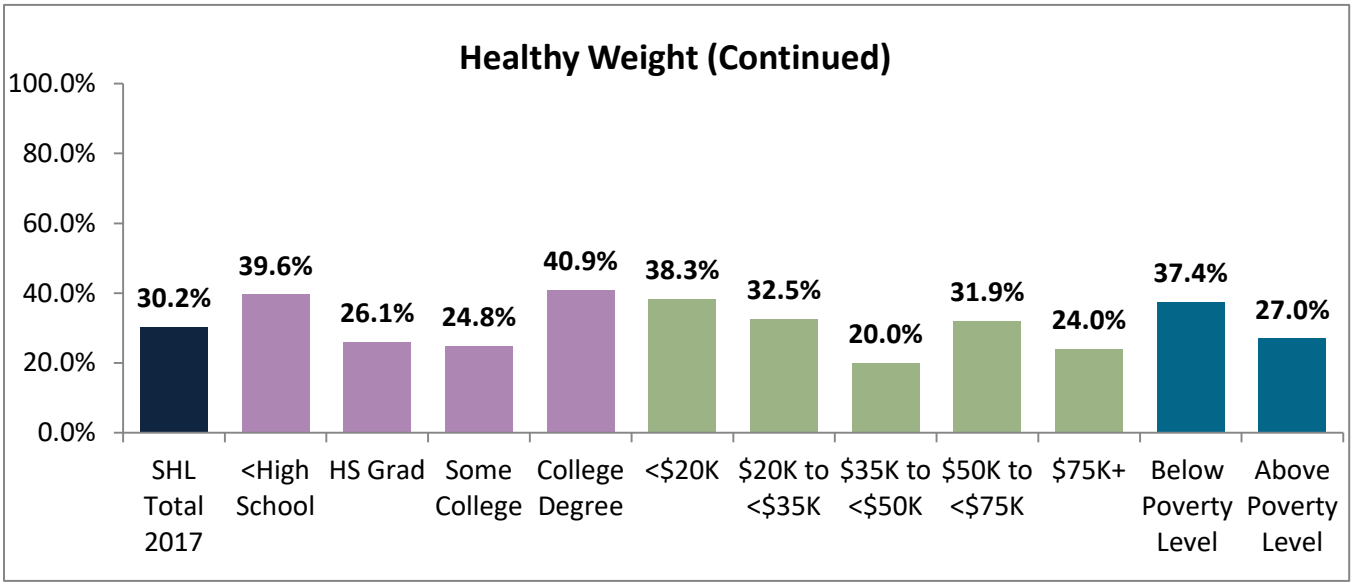


Source: Mason and Lake counties are combined in the Michigan Profile for Healthy Youth (MiPhy), 2013-2014; For MI and US: Youth Behavior Risk Survey (YRBS), 2015.

Weight Status (continued)

- Three in ten (30.2%) area adults are at a healthy weight per their BMI.
- More women are at a healthy weight compared to men, more non-White adults are at a healthy weight than White adults, and the youngest (18-34) adults are more often at a healthy weight compared to adults age 35+.





Source: SHL Behavioral Risk Factor Survey, 2017, (n=494).
Note: the proportion of adults whose BMI was greater than or equal to 18.5, but less than 25.0.

Weight Status (continued)

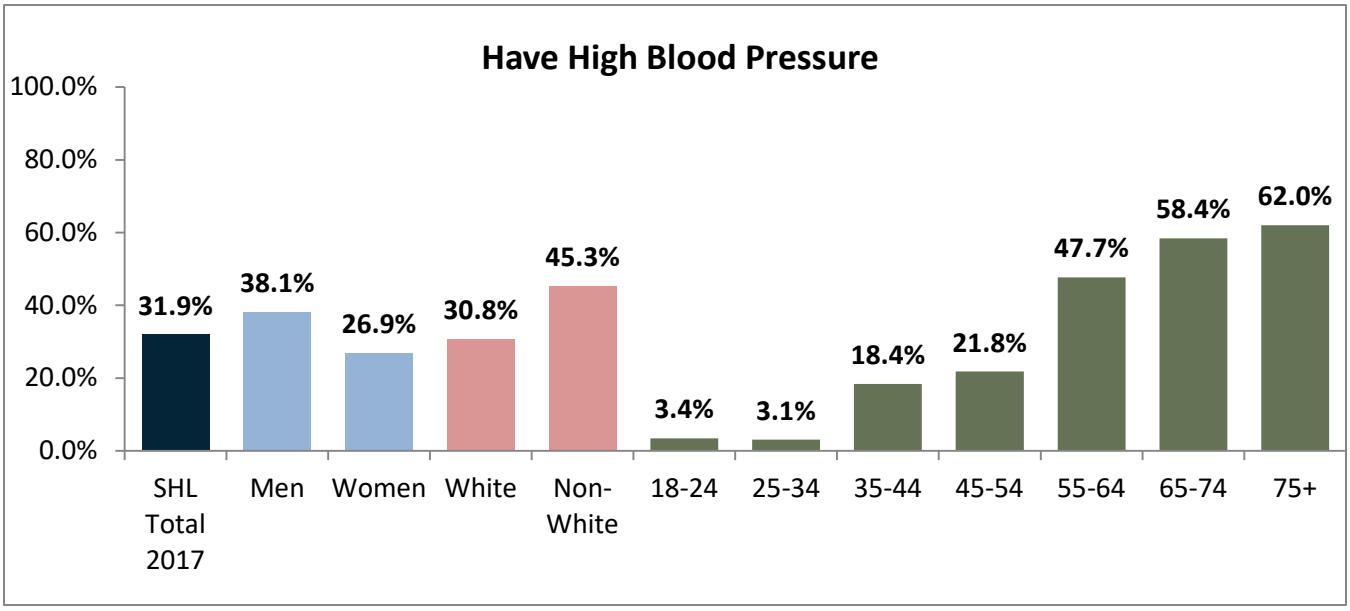
Key Stakeholders and Key Informants consider obesity to be one of the most pressing or concerning health issues in the SHL area, not only because it's highly prevalent, but more importantly: (1) it's highly co-morbid with other conditions, or negative outcomes, such as diabetes, heart disease and high blood pressure, (2) it can often be prevented through lifestyle changes in nutrition and exercise patterns, and (3) it is partly a by-product of an environment because of lack of places to be active, especially in the winter.

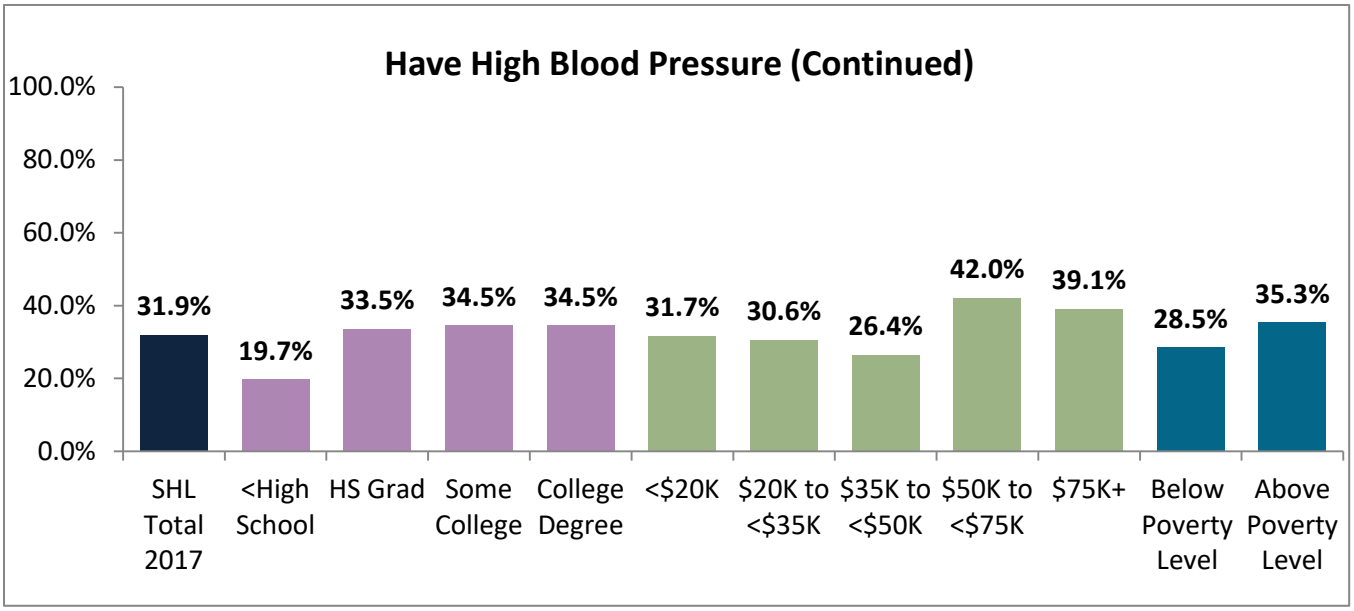
Co-morbidity	**Creates many other issues**. – *Key Informant* **Obese** people have **poorer health**. – *Key Informant* **Widespread** and **related to many other health issues**. – *Key Stakeholder* High incidence of **obesity related health problems**. – *Key Informant* **Hypertension**, **diabetes**, **hyperlipidemia**, **heart disease**, **sleep apnea**, **atrial fibrillation**. – *Key Informant*
Lifestyle choices	**Poor eating habits**, **lack of nutritional education**. – *Key Stakeholder* Families are **eating fast food** (cheaper than fresh), **lack of exercise**, **gaming**, etc. – *Key Informant* I think that **poor eating habits** and **lack of exercise** are a major problem in our community. – *Key Informant*
Lack of area resources to aid weight loss	This area is a large vacation area with **not much to do year-round**. It is a ghost town come October with **not many events for the locals year-round**, and **does not support good healthy lifestyles for those who are here year-round**. – *Key Informant* **Long winters** and laziness. – *Key Informant*

Source: SHL Key Stakeholder Interviews, 2017, Q1: What do you feel are the two or three most pressing or concerning health issues facing residents in your community? (n=6); SHL Key Informant Online Survey, 2107, Q1/Q1a: To begin, what are one or two most pressing health issues or concerns in your community? Why do you think it is a problem in the community? Please be as detailed as possible. (n=46).

Hypertension

- Three in ten (31.9%) area adults have high blood pressure, and not surprisingly, it is more prevalent with age.
- It is also more common in men than women and more common in non-White adults compared to White adults.

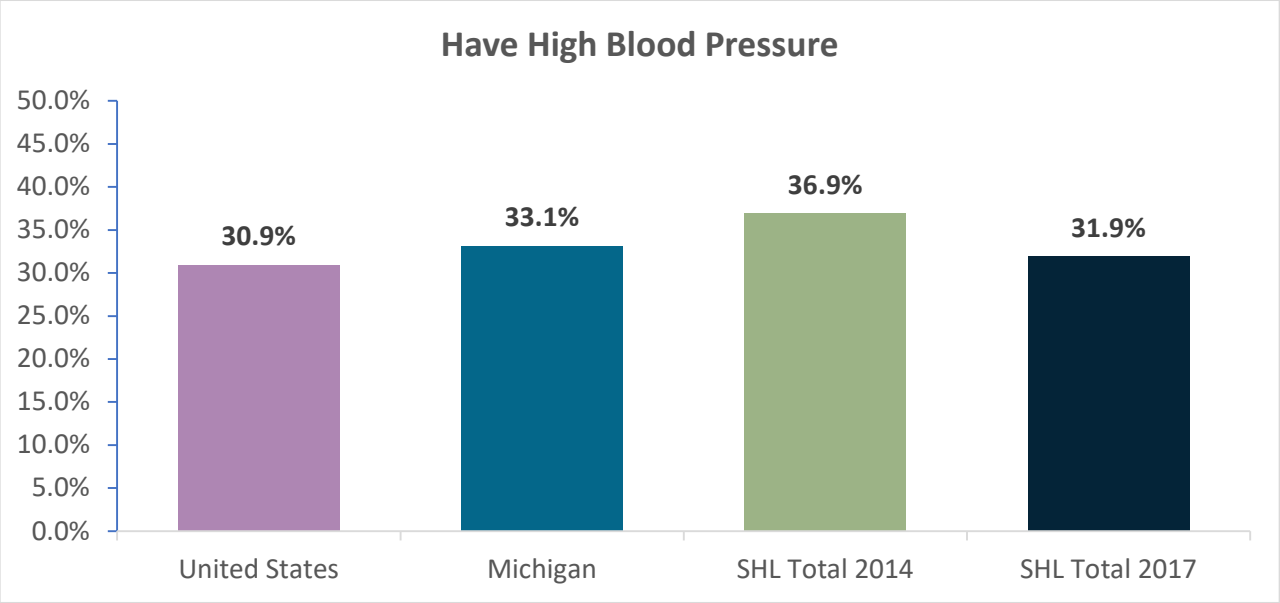




Source: SHL Behavioral Risk Factor Survey, 2017, Q6.1: Have you EVER been told by a doctor, nurse, or other health professional that you have high blood pressure? (n=514). Note: adults who reported they were told by a health care professional that they had high blood pressure. Does not include women who were told they had high blood pressure only during pregnancy.

Hypertension (continued)

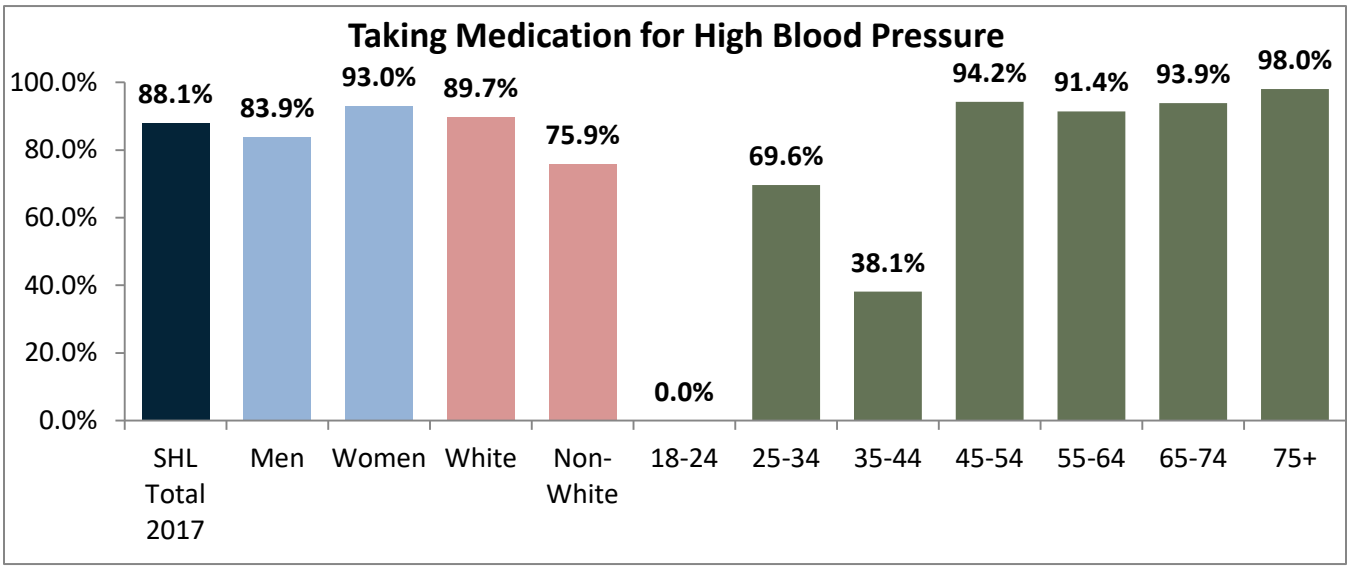
The proportion of adults with high blood pressure in the SHL area has dropped slightly since the last CHNA, and is lower than the state proportion, but higher than the national proportion.

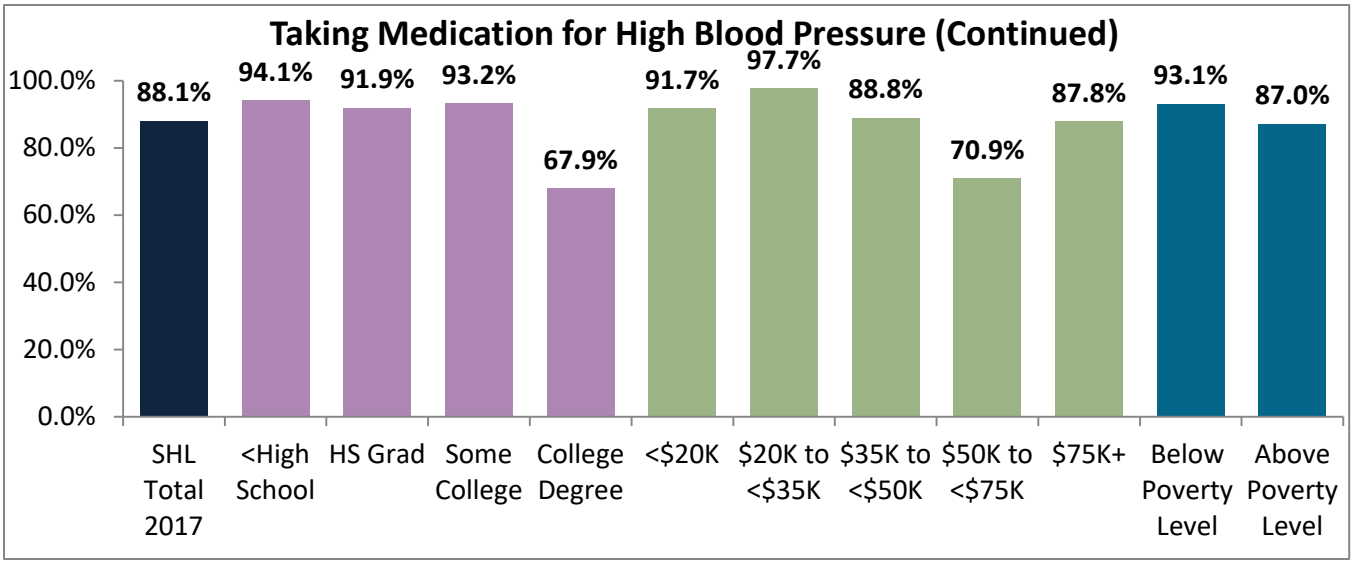


Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2016; Preliminary Estimates for Risk Factor and Health Indicators, State of Michigan, Michigan BRFS, 2015; SHL Behavioral Risk Factor Survey, 2014, 2017.

Hypertension (continued)

- Among area adults who have high blood pressure, almost nine in ten (88.1%) are taking medication for their condition and this is up from the last CHNA (81.4%)
- Men and non-White adults are less likely to take HBP medication than women and White adults, respectively.
- Younger adults (age 18-44) are far less likely to take HBP medication than older adults.

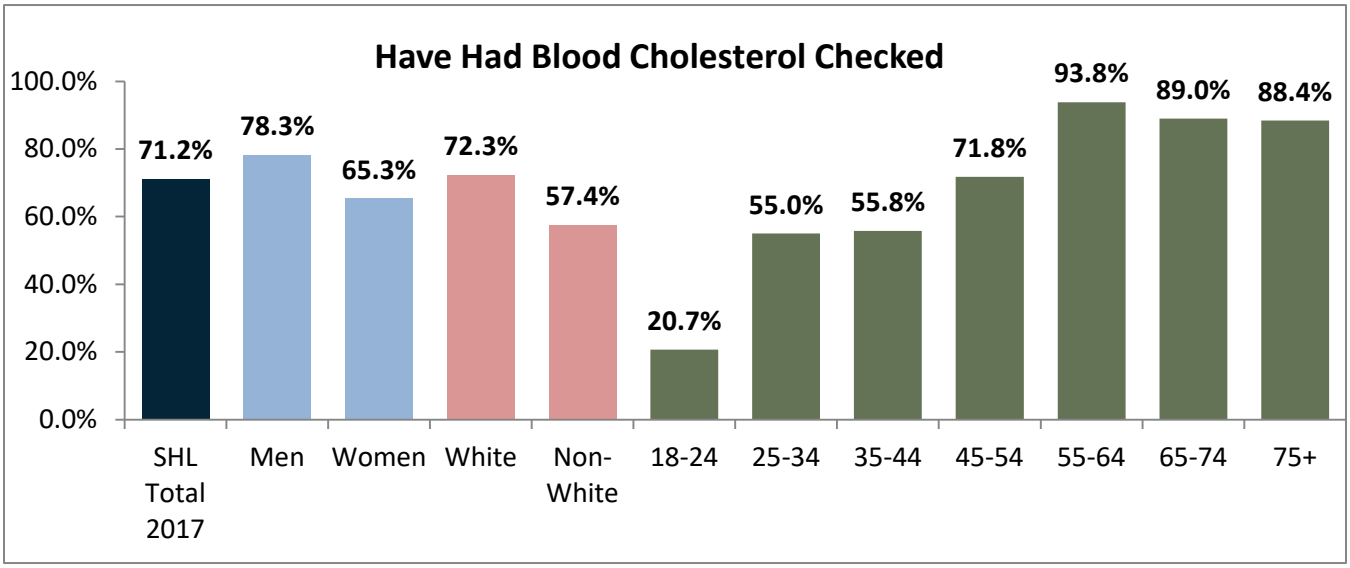


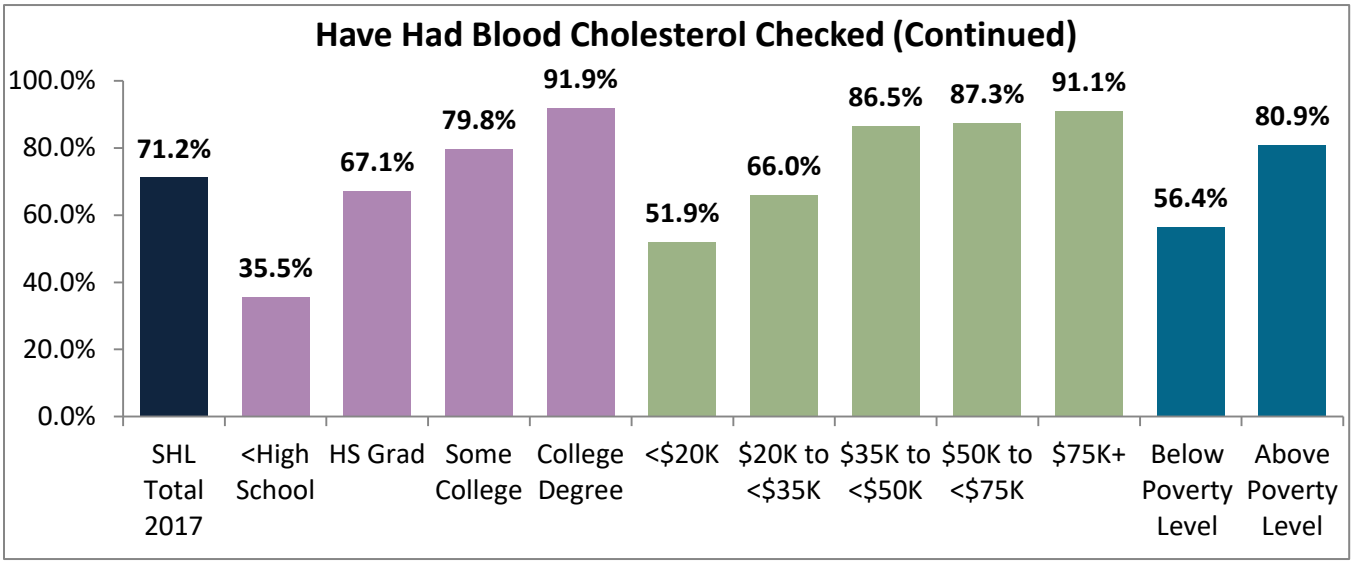


Source: SHL Behavioral Risk Factor Survey, 2017, Q6.2: Are you currently taking medicine for your high blood pressure? (n=226).
Note: adults who reported they were told by a health care professional that they had high blood pressure.

Cholesterol

- Seven in ten (71.2%) SHL area adults have had their cholesterol checked and the likelihood of this preventive practice occurring is directly related to age, education and income.
- Men and White adults are more likely to have had their cholesterol checked than women and non-White adults, respectively.

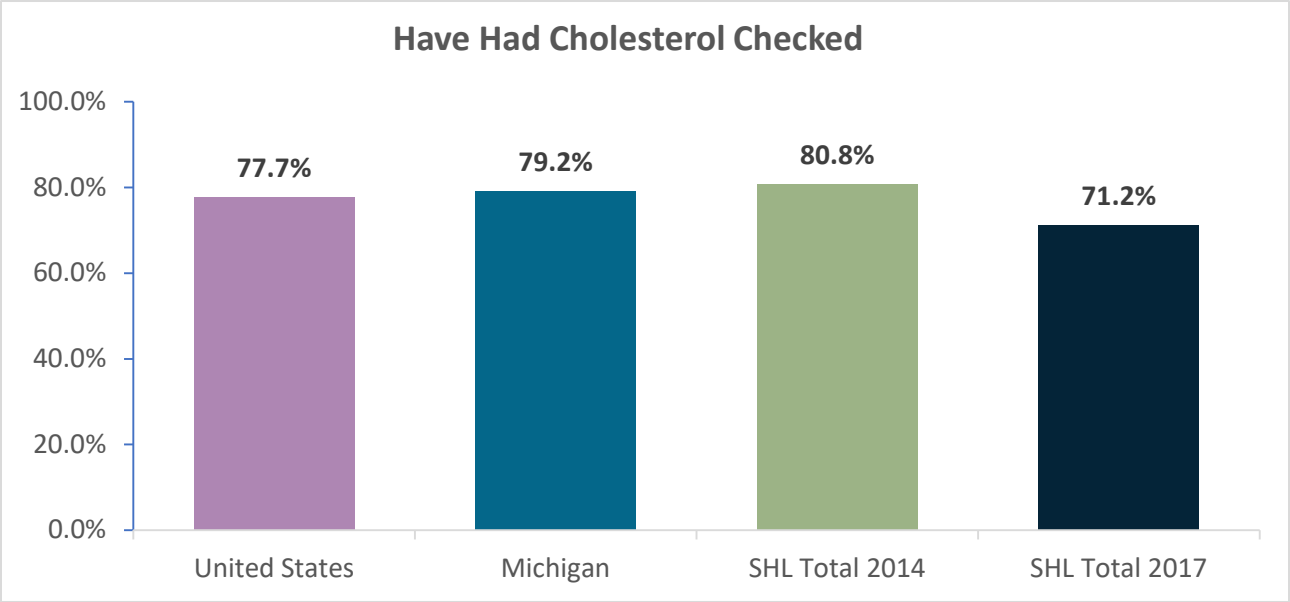




Source: SHL Behavioral Risk Factor Survey, 2017, Q7.1: Blood cholesterol is a fatty substance found in the blood. Have you EVER had your blood cholesterol checked? (n=509).

Cholesterol (continued)

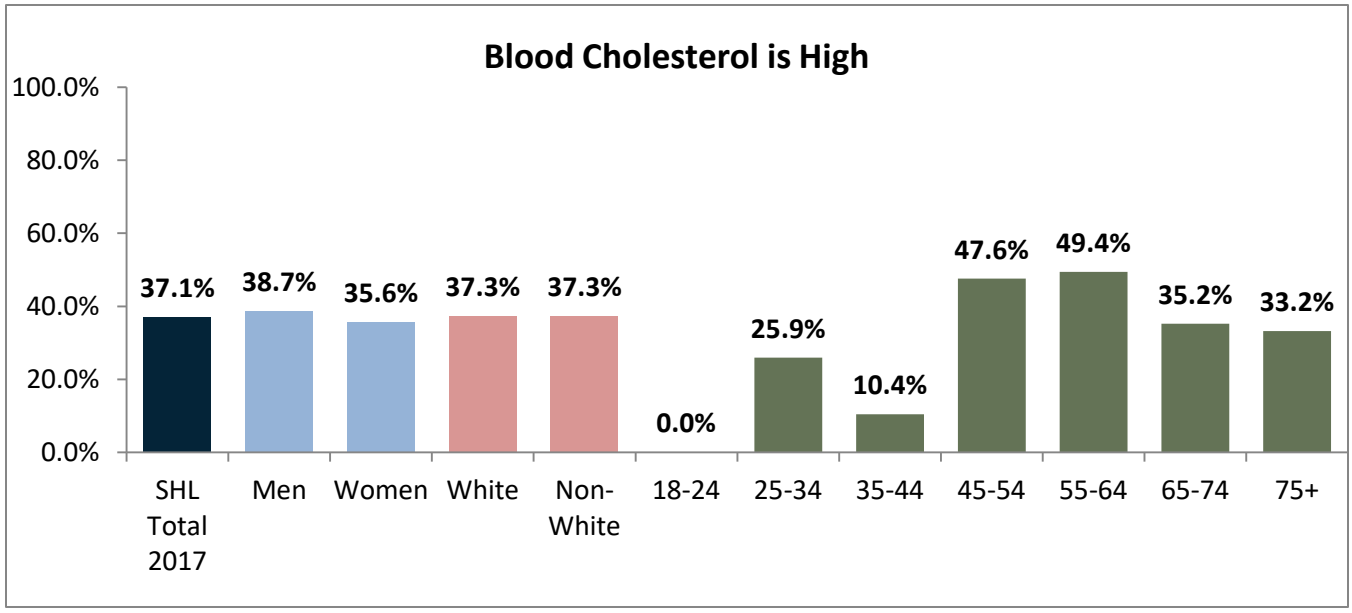
- Fewer SHL area adults have their cholesterol checked compared to adults across the state or the nation.
- The proportion of adults who have their cholesterol checked has decreased since the last CHNA.

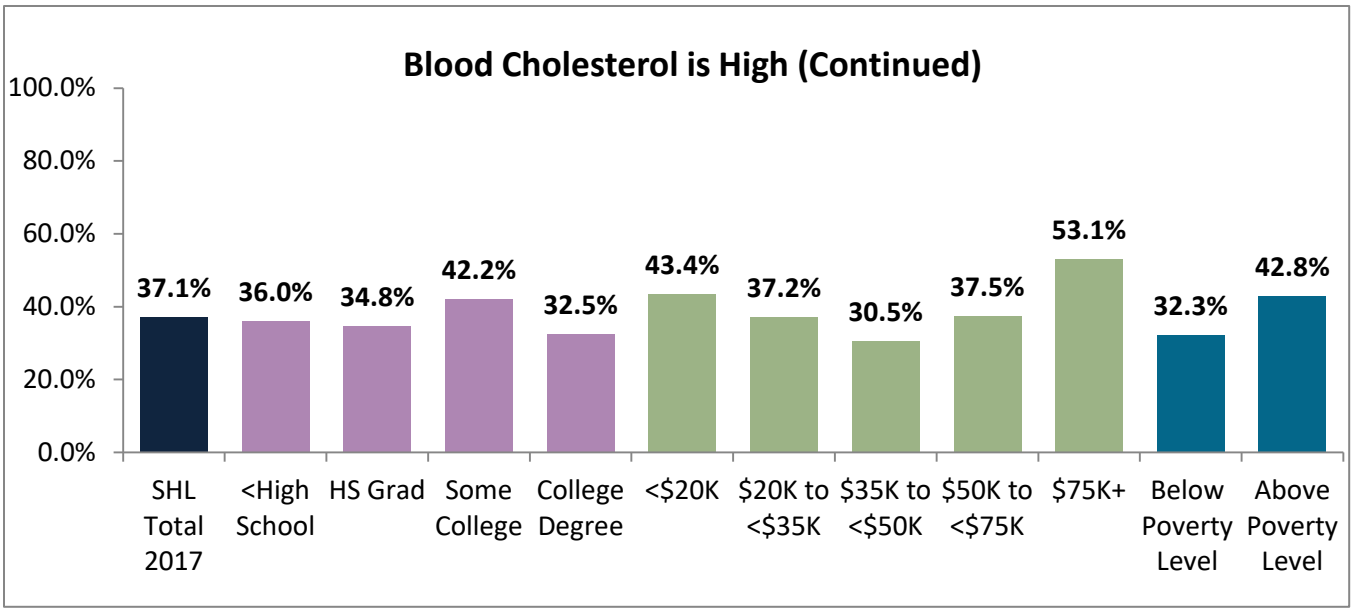


Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2016; Preliminary Estimates for Risk Factor and Health Indicators, State of Michigan, Michigan BRFS, 2015; SHL Behavioral Risk Factor Survey, 2014, 2017.

Cholesterol (continued)

- More than one-third (37.1%) of SHL area adults who have had their cholesterol checked have been told their blood cholesterol is high.
- High cholesterol is more prevalent among adults 45 years or older compared to those younger.

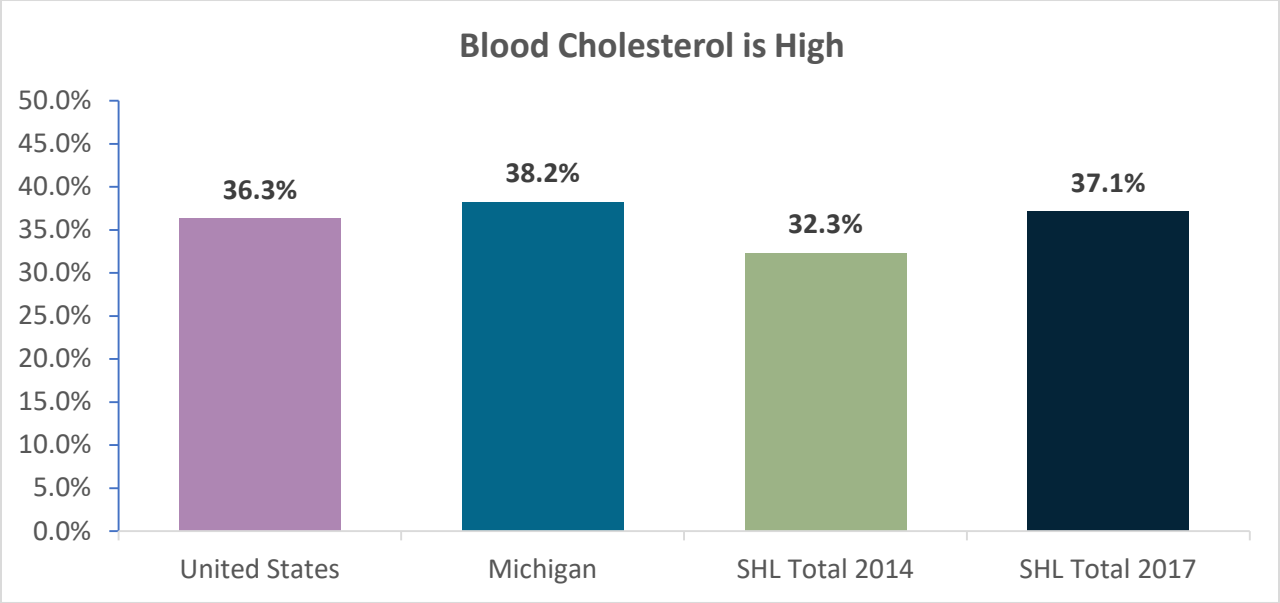




Source: SHL Behavioral Risk Factor Survey, 2017, Q7.2: Have you EVER been told by a doctor, nurse or other health professional that your blood cholesterol is high? (n=422).
Note: adults who reported they have had their blood cholesterol checked.

Cholesterol (continued)

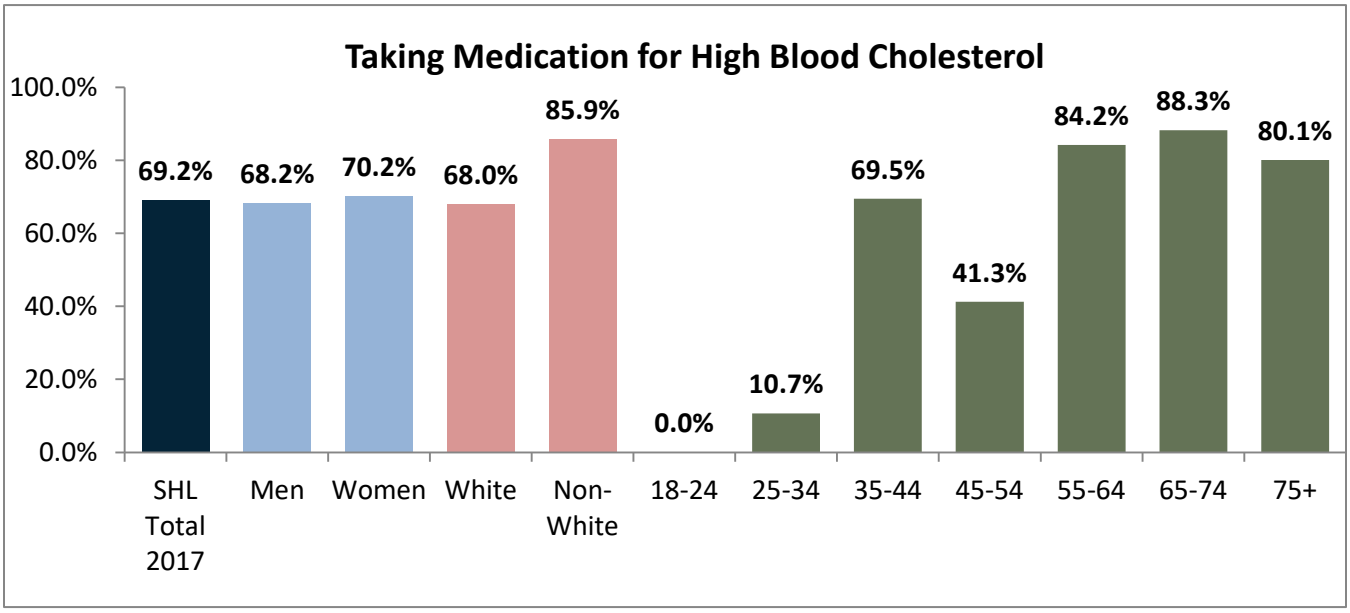
The prevalence of high cholesterol among SHL area adults is higher than the national rate but slightly lower than the state rate; the local rate is also higher than it was in 2014 (last CHNA).

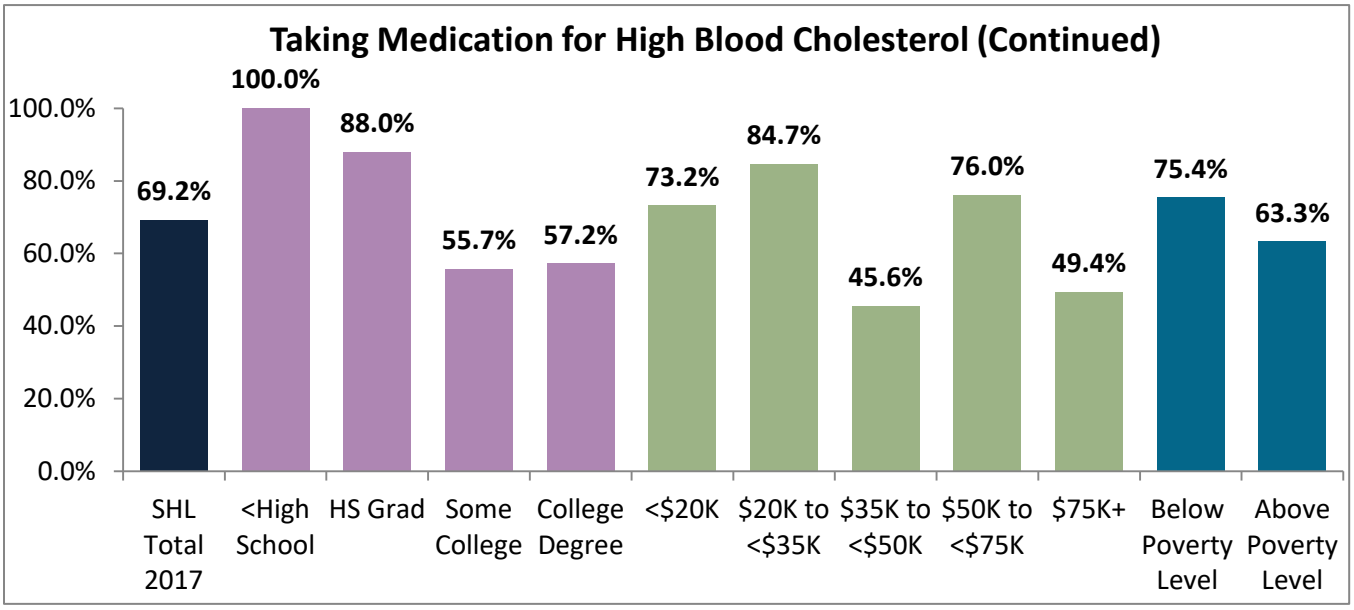


Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2016; Preliminary Estimates for Risk Factor and Health Indicators, State of Michigan, Michigan BRFS, 2015; SHL Behavioral Risk Factor Survey, 2014, 2017.

Cholesterol (continued)

- Seven in ten (69.2%) area adults who have high cholesterol currently take medication for their condition.
- Non-White adults are far more likely to take cholesterol medication compared to White adults.
- The chances of adults taking medication for high cholesterol increases with age.





Source: SHL Behavioral Risk Factor Survey, 2017, Q7.3: Are you currently taking medicine for your high cholesterol? (n=159).
Note: adults who reported they have high blood cholesterol.

Mental Health

Key Stakeholders and Key Informants offer several reasons why mental/behavioral health is their top concern, but three main themes rise to the top. First, with several units/offices having closed, there is a lack of resources to deal with the problem, such as a lack of trained personnel to serve people with these issues, especially psychiatrists. Second, and related to this, now there is an overutilization of ER/ED departments as people with mental illness have no other options for immediate treatment. Third, there is still a stigma attached to mental illness, which may explain its lower priority status and why some people don't seek needed care.

Lack of resources/loss of resources	We really **don't have a strong behavioral health structure** here in Ludington. We **had an inpatient unit that we closed**. We **had a psychiatry practice** that really was serving a very small population for the resources that we were using to support them. [After they left] we had to make a change, and we partnered with Community Mental Health, and we **have a psychiatrist in our office that does telemed**; we call it MedNow. – *Key Stakeholder* **Loss of in-patient treatment facility**, **loss of locally practicing psychiatrists**, **too many barriers** to CMH treatment. – *Key Informant* There is **no local service for mental health care**. All mental health patients are **transported out of the area making it difficult on families**. – Key Informant We had a **two-man psychiatrist office closed** by Spectrum as well as an **inpatient program** that **closed**. No replacement for this loss. The community needs this back as mental health issues are a problem. – *Key Informant* **No psychiatric 'ward'** at the hospital, **no psychiatrist** and **difficult to get in to services**; **lack of coverage** for these services. – *Key informant* Mental health **impacts all aspects of life** and of our **community**. We see a **continual pattern of people needing services that can't get help**. There are **not enough providers**, **nothing for those without insurance**, **nothing unless the need is emergent and dire**. – *Key Informant* Our **available resources have changed** with availability of resources being more restricted. **Mental health is being managed more in the primary care setting**. – *Key Informant*
Misuse of ED/ER	**Trend of increasing volumes of ED patients with psych/mental health** (acute & chronic) issues with very limited access to care. – *Key Informant*
Stigma	**Untreated**, **stigmas**, **misdiagnosed**, addictions, **over prescribed drugs** used as a permanent rather than temporary solution. – *Key Informant*

Source: Key Stakeholder Interviews, 2017, Q1: What do you feel are the two or three most pressing or concerning health issues facing residents in your community, especially the underserved? (n=6); Key Informant Online Survey, 2017, Q1: To begin, what are one or two most pressing health issues or concerns in your community? (n=46); Key Informant Online Survey, 2017, Q1a: Why do you think it's a problem in your community? Please be as detailed as possible. (n=46)

Mental Health (continued)

- More than eight in ten (84.4%) area adults are considered to be mentally healthy, or psychologically well, according to the Kessler 6 Psychological Distress Questionnaire.*
- Conversely, 12.8% experience mild to moderate psychological distress and 2.8% are severely distressed.

	During the Past 30 Days, About How Often Did You….					
Frequency of Feeling	**Feel Nervous (n=512)**	**Feel Hopeless (n=511)**	**Feel Restless or Fidgety (n=512)**	**Feel So Depressed That Nothing Could Cheer You Up (n=512)**	**Feel That Everything Is an Effort (n=509)**	**Feel Worthless (n=507)**
None of the time	**55.3%**	**84.4%**	**56.0%**	**86.8%**	**67.9%**	**88.6%**
A little	**22.8%**	**6.8%**	**22.1%**	**6.5%**	**16.0%**	**7.1%**
Some of the time	**11.0%**	**7.4%**	**13.3%**	**4.6%**	**8.0%**	**1.9%**
Most of the time	**9.2%**	**0.5%**	**4.0%**	**1.1%**	**3.0%**	**1.7%**
All of the time	**1.7%**	**0.9%**	**4.6%**	**0.9%**	**5.0%**	**0.7%**

Mentally Healthy/Psychologically Well = 84.4%

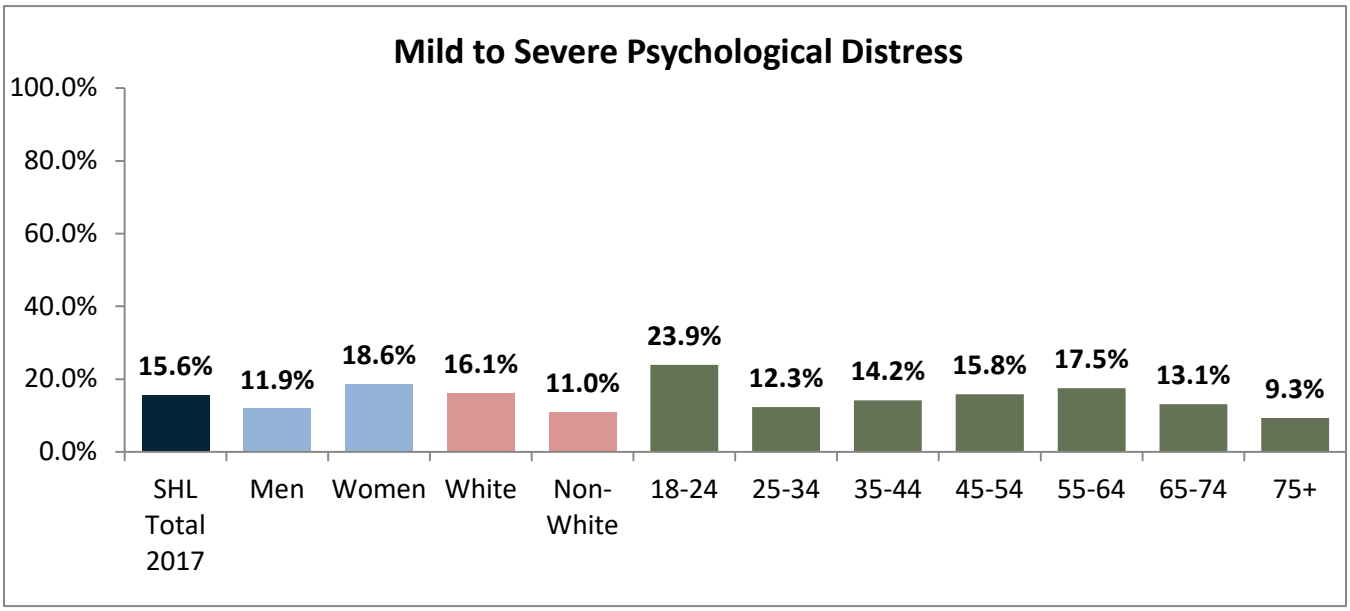
Mild to Moderate Psychological Distress = 12.8%

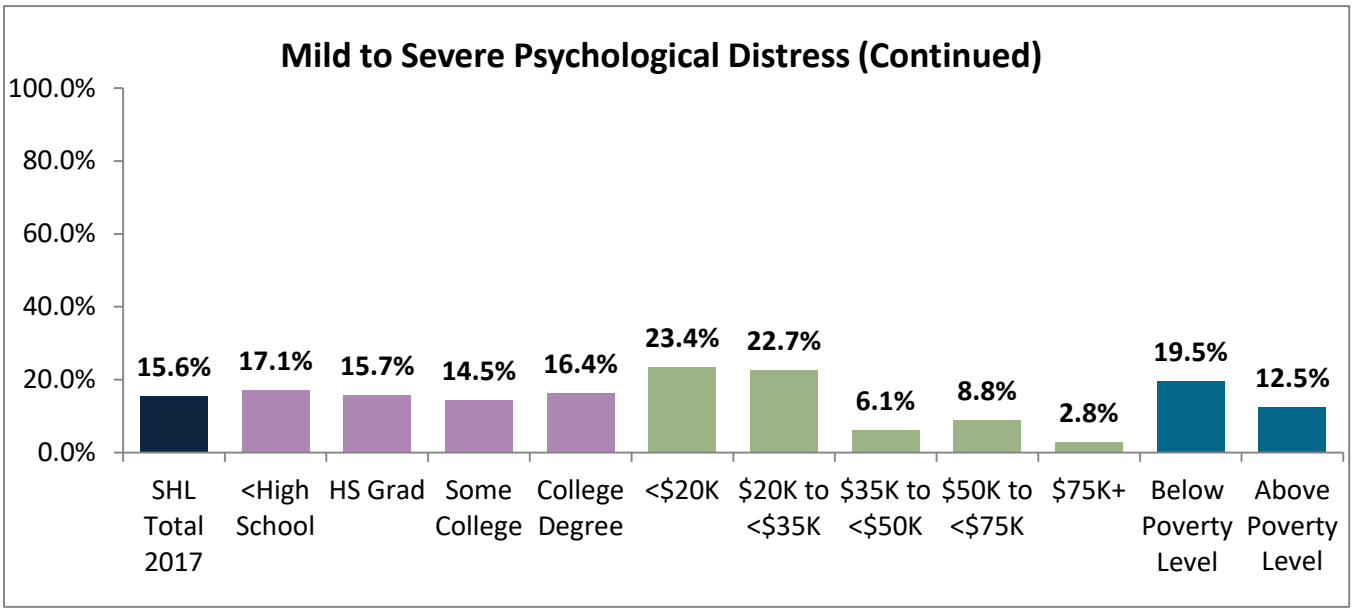
Severe Psychological Distress = 2.8%

Source: SHL Behavioral Risk Factor Survey, 2017, Q18.1-Q18.6: During the past 30 days, about how often did you feel….? (n=507).
Note: *Calculated from responses to Q. 18.1- 18.6, where none of the time = 1, a little = 2, some of the time = 3, most of the time = 4, and all of the time = 5. Responses were summed across all six questions with total scores representing the above categories: mentally well (6-11), mild to moderate psychological distress (12-19), and severe psychological distress (20+).

Mental Health (continued)

Among SHL area adults, the groups most likely to have mild to severe psychological distress include those who: are younger (< age 25), are women, and have household incomes less than $35K. To this last point, one glaring difference is between those who have incomes of less than $20K (23.4%) and those who incomes of $75K or more (2.8%).

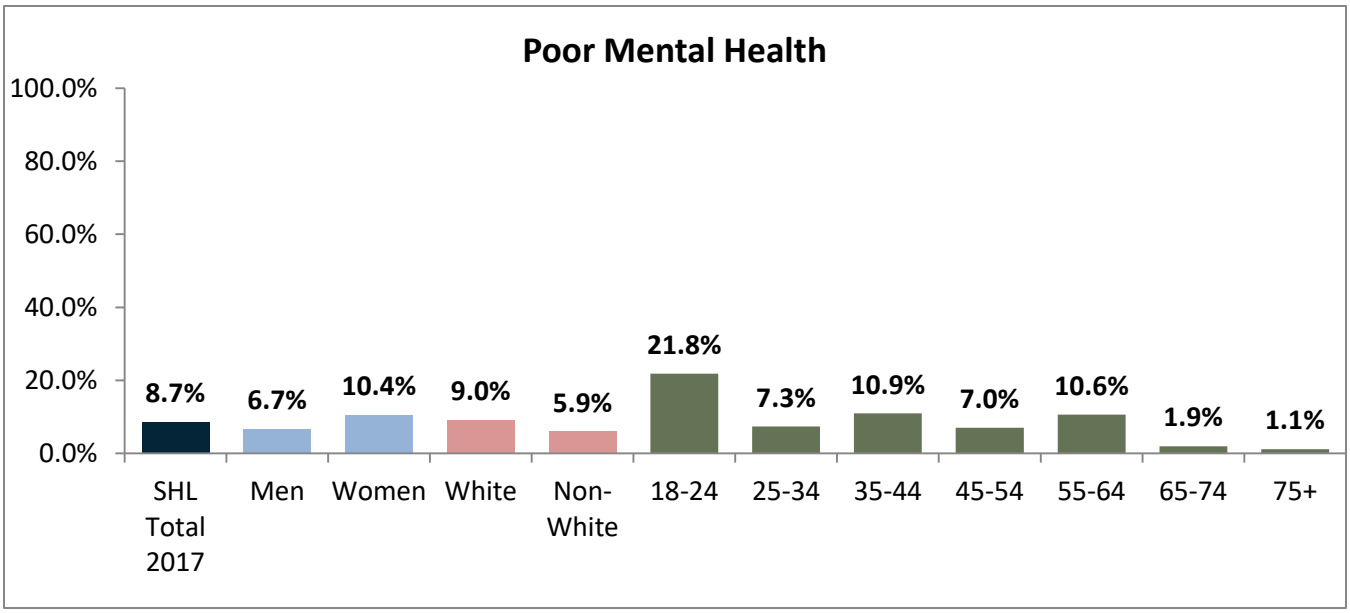


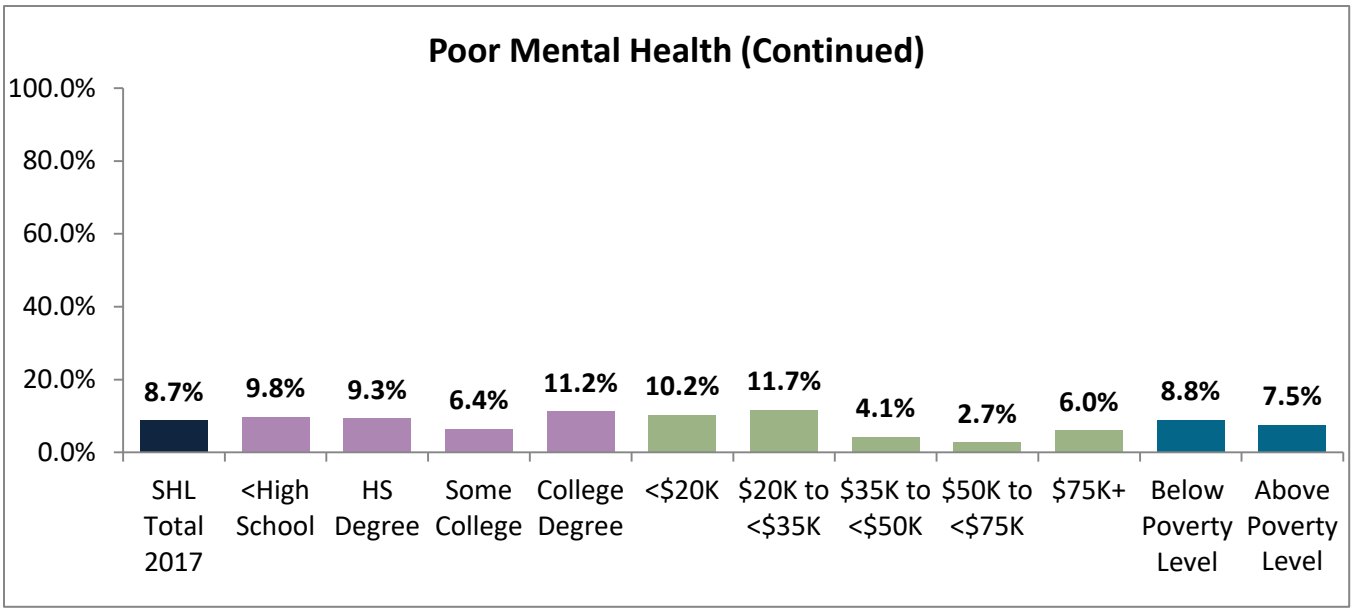


Source: SHL Behavioral Risk Factor Survey, 2017, Q18.1-Q18.6: During the past 30 days, about how often did you feel….?
Note: those adults who scored 12 or higher on the Kessler 6 instrument.

Mental Health (continued)

- Among SHL area adults, 8.7% have poor mental health, which means they experienced fourteen or more days in which their mental health was not good, which includes stress, depression, and problems with emotions, during the past 30 days.
- The prevalence of poor mental health is highest among adults aged 18-24, and higher among women and White adults compared to men and non-White adults, respectively.

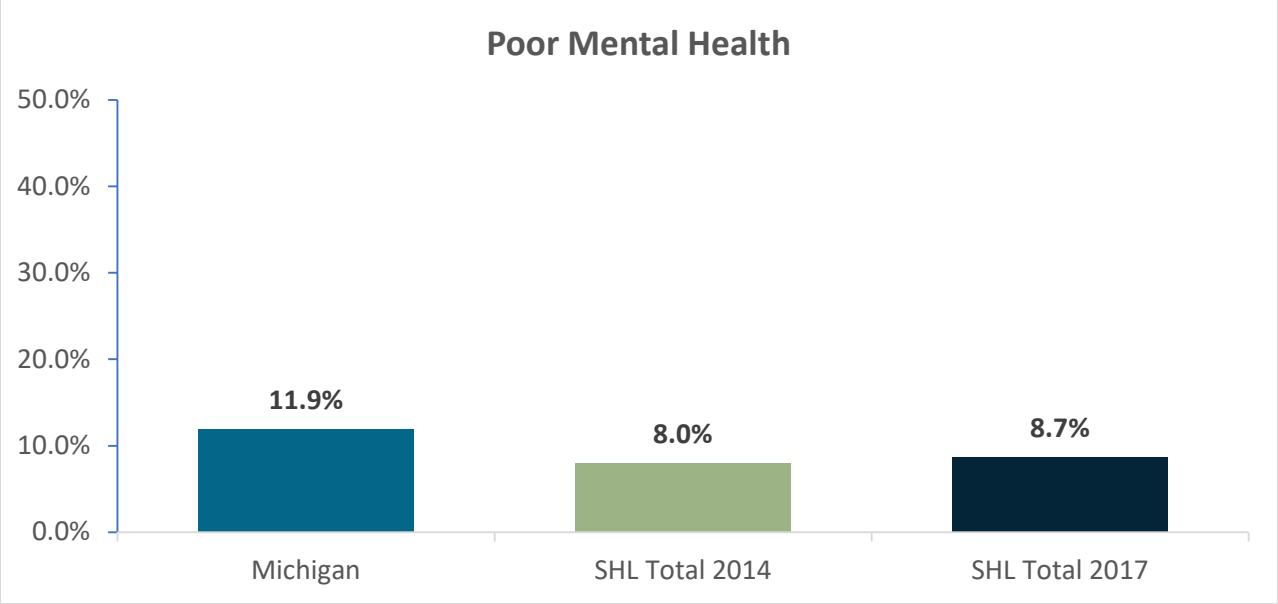




Source: SHL Behavioral Risk Factor Survey, 2017, Q2.2: Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good? (n=514).
Note: The proportion of adults who reported 14 or more days, out of the previous 30, on which their mental health was not good, which includes stress, depression, and problems with emotions.

Mental Health (continued)

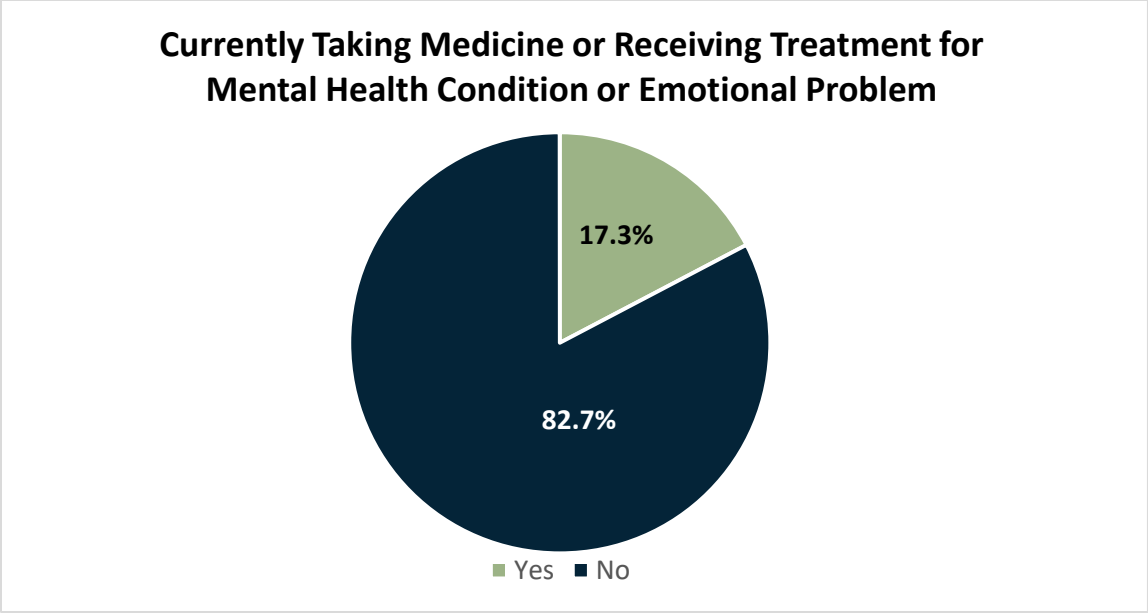
The prevalence of poor mental health among SHL area adults is higher this iteration of the CHNA but remains lower than the state's prevalence rate.

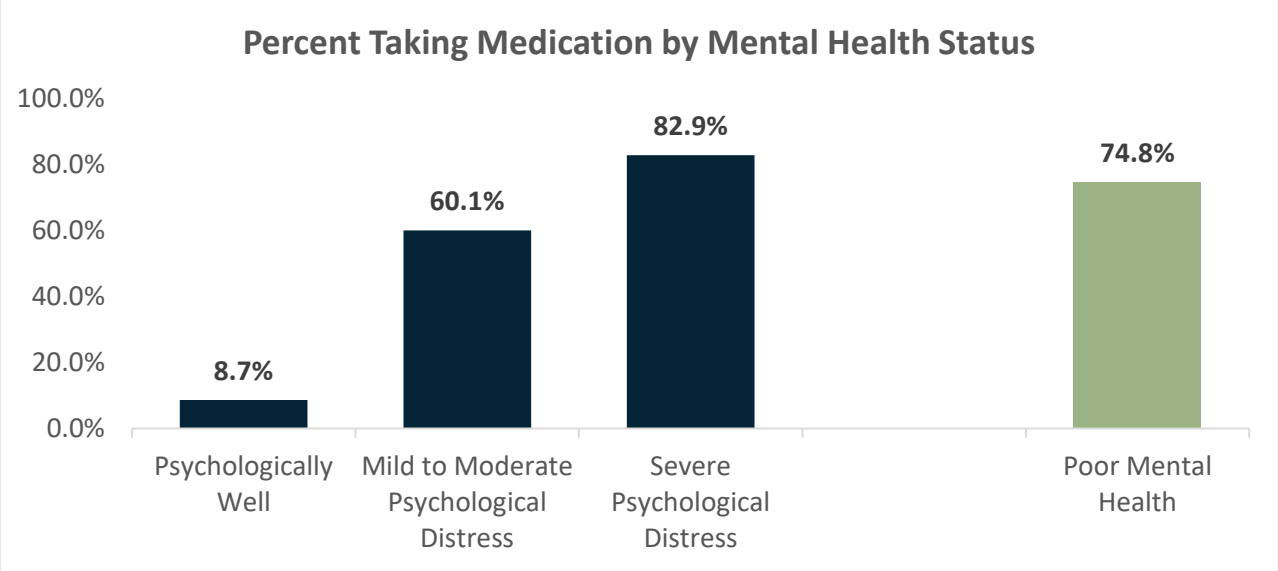


Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2016; Preliminary Estimates for Risk Factor and Health Indicators, State of Michigan, Michigan BRFS, 2015; SHL Behavioral Risk Factor Survey, 2014, 2017.

Mental Health (continued)

- Of all SHL area adults, 17.3% currently take medication or receive treatment for a mental health condition or emotional problem.
- However, many of those who could benefit the most from medication/treatment are not getting it: six in ten (60.1%) of those classified as having "mild to moderate psychological distress," 74.8% of those reporting poor mental health, and 82.9% of those classified as having "severe psychological distress" currently take medication and/or receive treatment for their mental health issues.



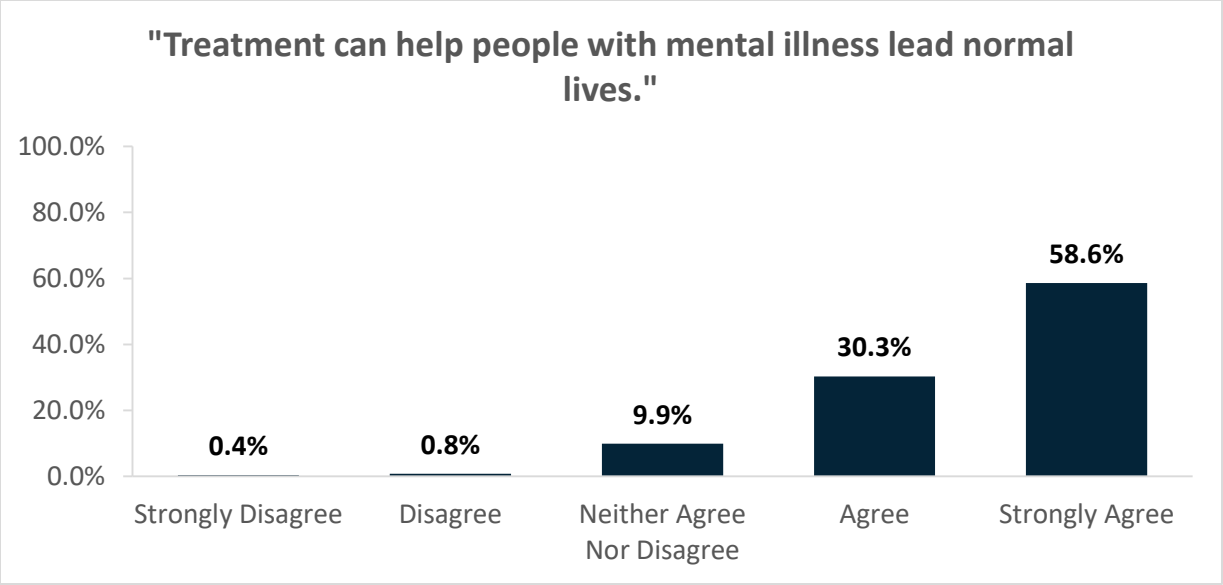


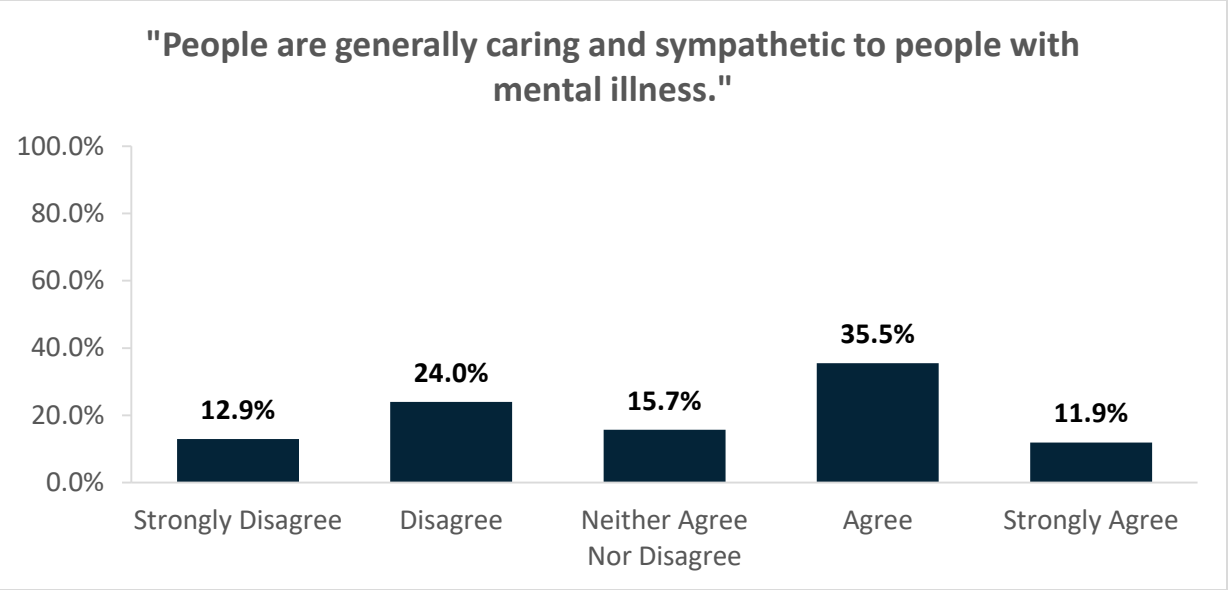
Source: SHL Behavioral Risk Factor Survey, 2017, Q18.7: Are you now taking medicine or receiving treatment from a doctor or other health professional for any type of mental health condition or emotional problem? (n=514).

Mental Health (continued)

- Even though nine in ten (88.9%) area adults believe treatment can help people with mental illness lead normal lives, fewer than half (47.4%) think people are generally caring and sympathetic to people with mental illness, and this drops to 26.8% among those with severe psychological distress.

- This continued stigma could be the reason more people don't seek treatment even though they could benefit from it.

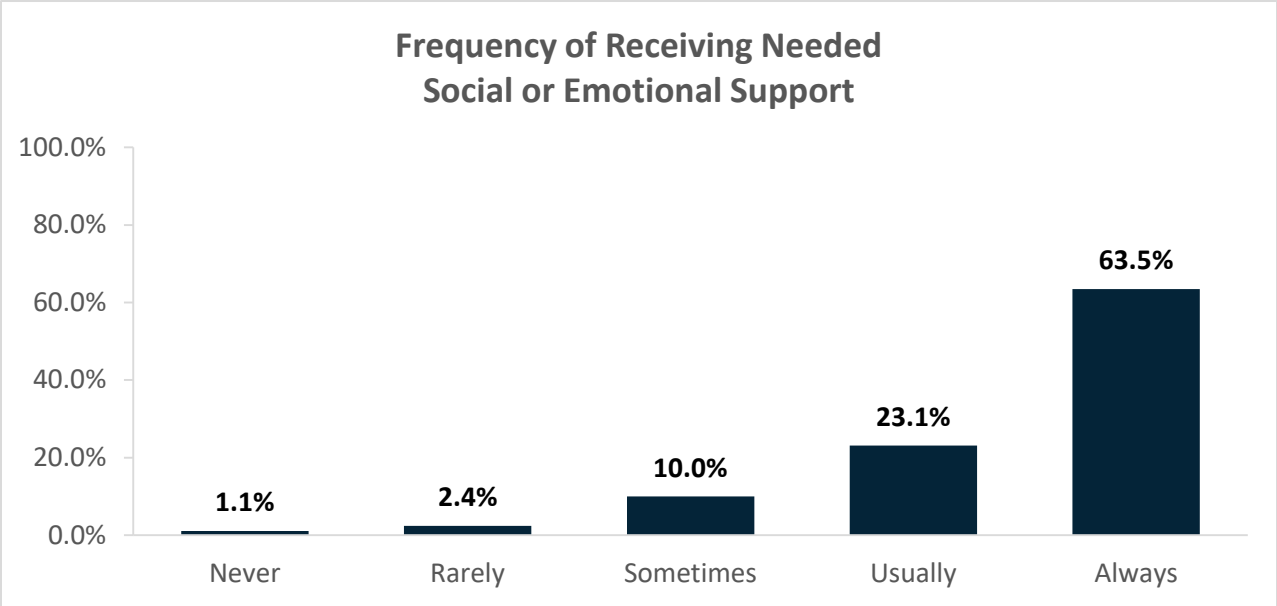




Source: SHL Behavioral Risk Factor Survey, 2017, Q18.8: What is your level of agreement with the following statement? "Treatment can help people with mental illness lead normal lives." Do you – agree slightly or strongly, or disagree slightly or strongly? (n=505); Q18:9: What is your level of agreement with the following statement? "People are generally caring and sympathetic to people with mental illness." Do you – agree slightly or strongly, or disagree slightly or strongly? (n=504)

Mental Health (continued)

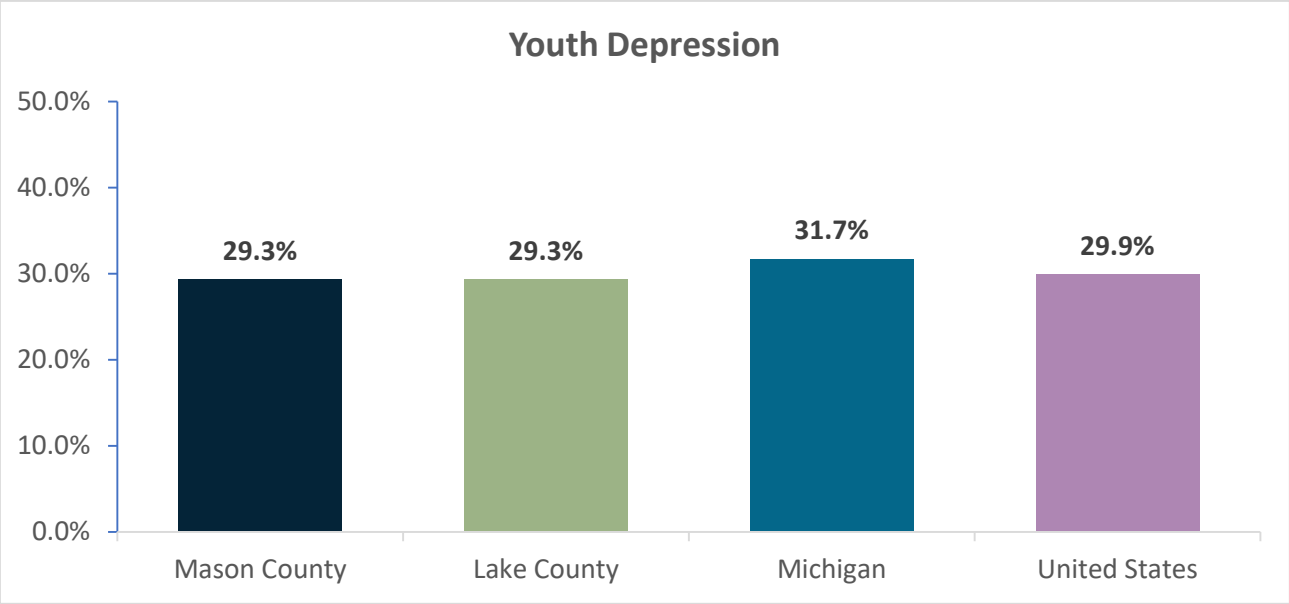
The vast majority (86.6%) of area adults “usually” or “always” receive the social or emotional support that they need.



Source: SHL Behavioral Risk Factor Survey, 2017, Q18.10: How often do you get the social and emotional support you need? (n=514).

Mental Health (continued)

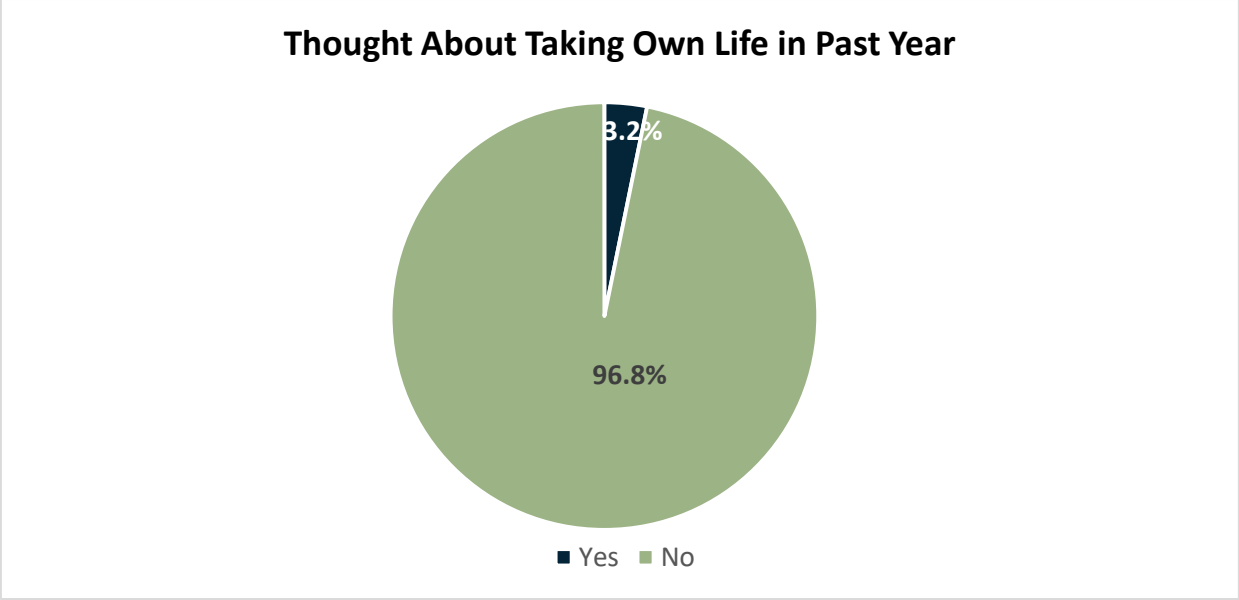
Three in ten (29.3%) area youth report depression during the past year, a rate lower than state or national rates.



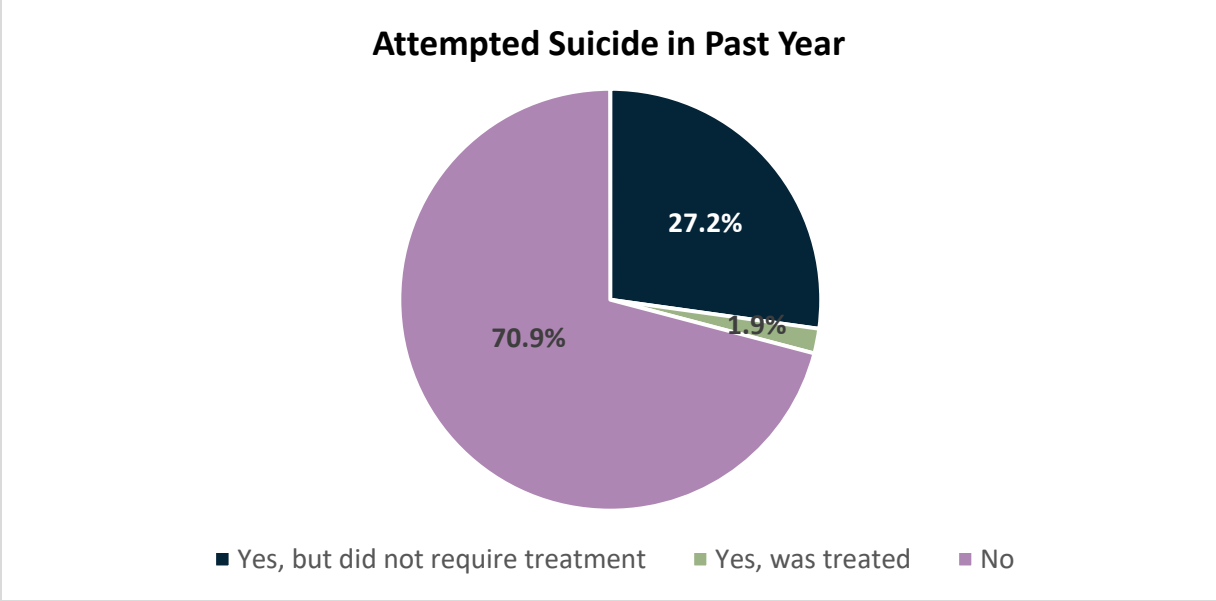
Source: Mason and Lake counties are combined in the Michigan Profile for Healthy Youth (MiPhy), 2013-2014; For MI and US: Youth Behavior Risk Survey (YRBS), 2015.

Suicide

Very few (3.2%) SHL area adults have thought about committing suicide in the past year, and of those 27.2% actually attempted suicide in the past year.



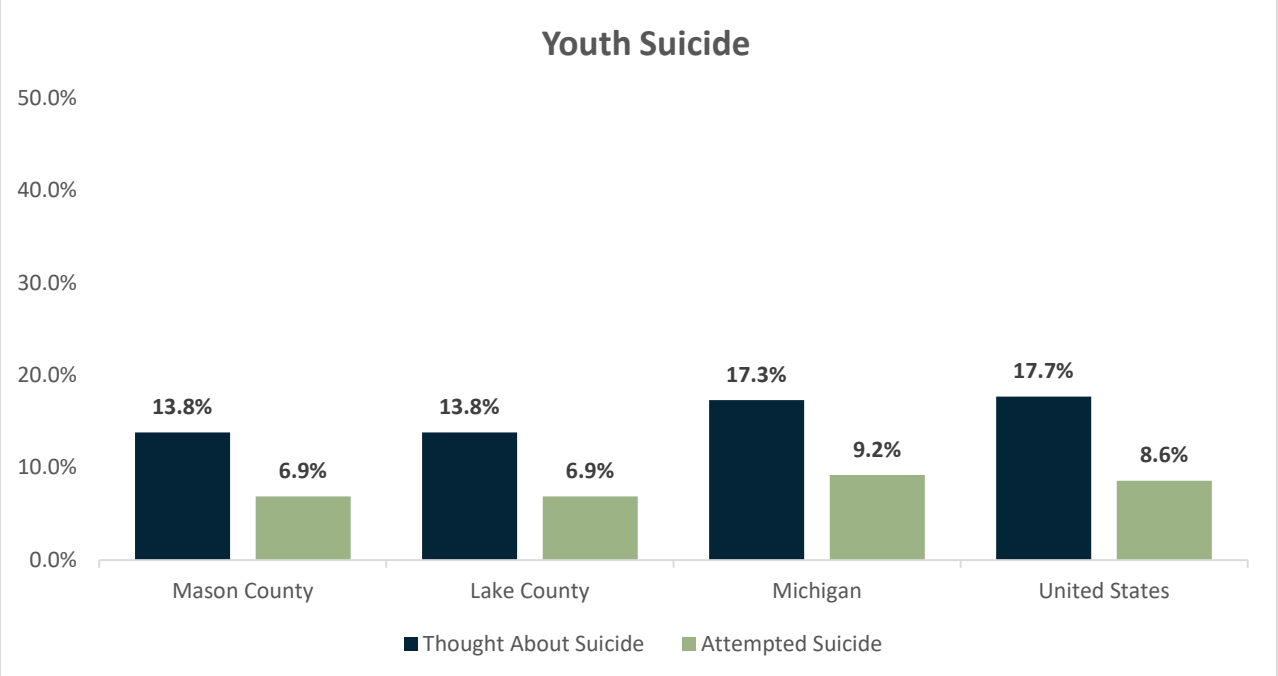
Source: SHL Behavioral Risk Factor Survey, 2017, Q20.1: Has there been a time in the past 12 months when you thought of taking your own life? (n=504).



Source: SHL Behavioral Risk Factor Survey, 2017, Q20.2: During the past 12 months, did you attempt to commit suicide (take your own life)? Would you say… (n=16).
Note: among those who said they thought about taking their own life in the past year.

Suicide (continued)

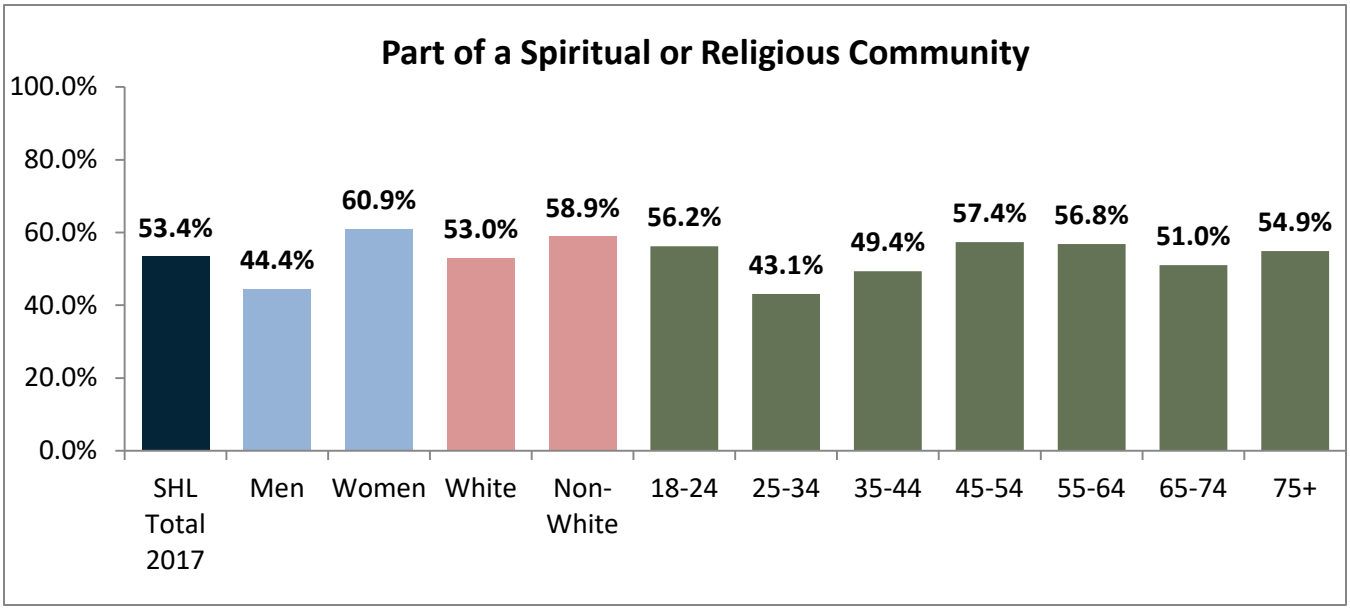
- Almost one in seven (13.8%) area youth have thought about committing suicide in the past year, a rate lower than the state or national rates.
- Of those are youth who have thought about suicide, 6.9% have actually attempted suicide, a rate lower than the state or national rates.

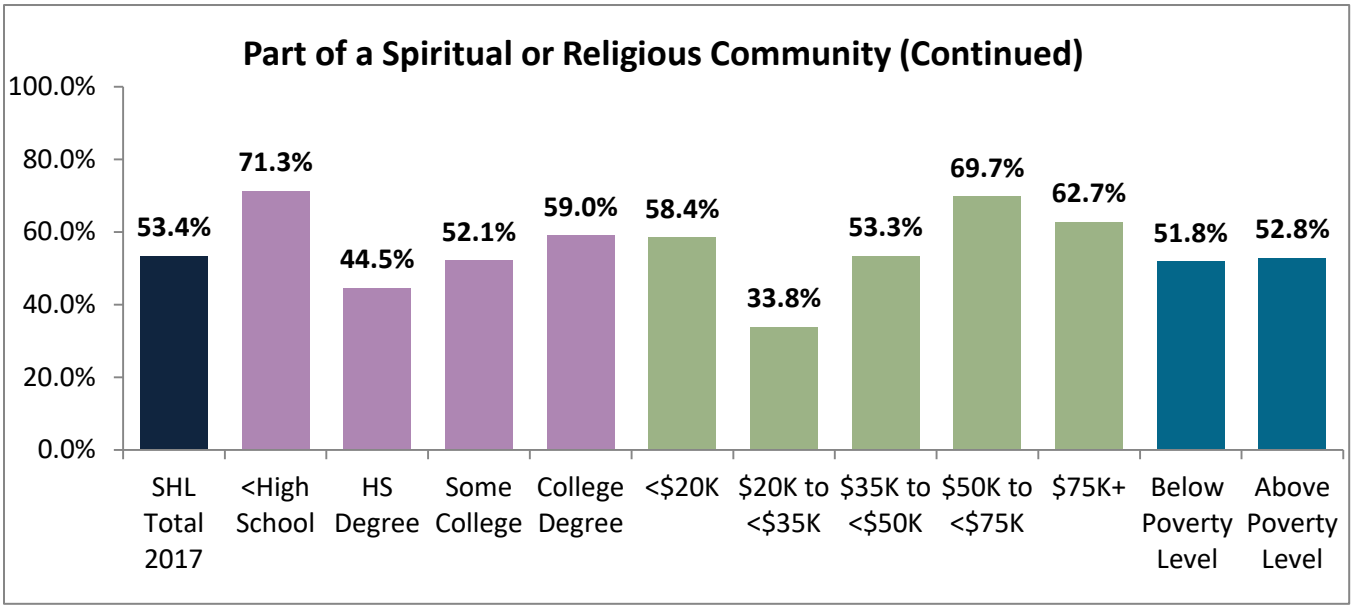


Source: Mason and Lake counties are combined in the Michigan Profile for Healthy Youth (MiPhy), 2013-2014; For MI and US: Youth Behavior Risk Survey (YRBS), 2015.

Spirituality

- More than half (53.4%) of area adults are part of a spiritual or religious community.
- Those most likely to be part of a spiritual or religious community are: women, non-White, and those with higher incomes ($50+).





Source: SHL Behavioral Risk Factor Survey, 2017, Q18.11: Are you part of a spiritual or religious community? (n=513).

Spirituality (continued)

- Area adults who are part of spiritual or religious communities fare better on a number of health outcomes vs. those adults who are not part of a spiritual or religious community.

	Part of Spiritual or Religious Community	
	Yes	No
General health is fair/poor	15.7%	29.6%
Poor physical health	10.4%	21.3%
Poor mental health	5.2%	12.8%
Activity limitation	8.8%	17.5%
Current smoker	9.9%	33.5%
No physical activity	25.9%	44.6%
Heavy drinker	6.2%	8.5%
Mild to moderate psychological distress	8.4%	17.9%
Mild to severe psychological distress	10.4%	21.6%
Asthma	5.4%	11.2%
COPD	5.6%	13.7%
Diabetes	8.7%	13.8%
Chronic pain	28.8%	37.9%

CHRONIC CONDITIONS

Prevalence of Chronic Health Conditions

- The prevalence of six of the ten chronic conditions measured in 2017 is higher among SHL area adults compared to the prevalence among adults across the state or nation.
- Furthermore, the prevalence of seven of the ten conditions measured is higher this CHNA iteration compared to 2014.

Prevalence of Chronic Conditions				
	SHL Area 2014	SHL Area 2017	Michigan	U.S.
Arthritis	29.2%	● 34.9%	30.0%	25.8%
Pre-diabetes	--	20.3%	--	--
Lifetime asthma	11.9%	● 13.5%	15.7%	14.0%
Diabetes	13.1%	● 11.2%	10.7%	10.8%
Current asthma	8.0%	● 8.1%	10.2%	9.3%
COPD	6.9%	● 9.5%	7.7%	6.3%
Other (non-skin) cancer	7.5%	● 8.2%	7.0%	6.7%
Skin cancer	6.2%	● 5.1%	6.1%	5.9%
Stroke	2.4%	● 4.8%	3.3%	3.1%
Heart attack	4.8%	● 5.0%	4.7%	4.4%
Angina/coronary heart disease	5.8%	4.5%	4.6%	4.1%

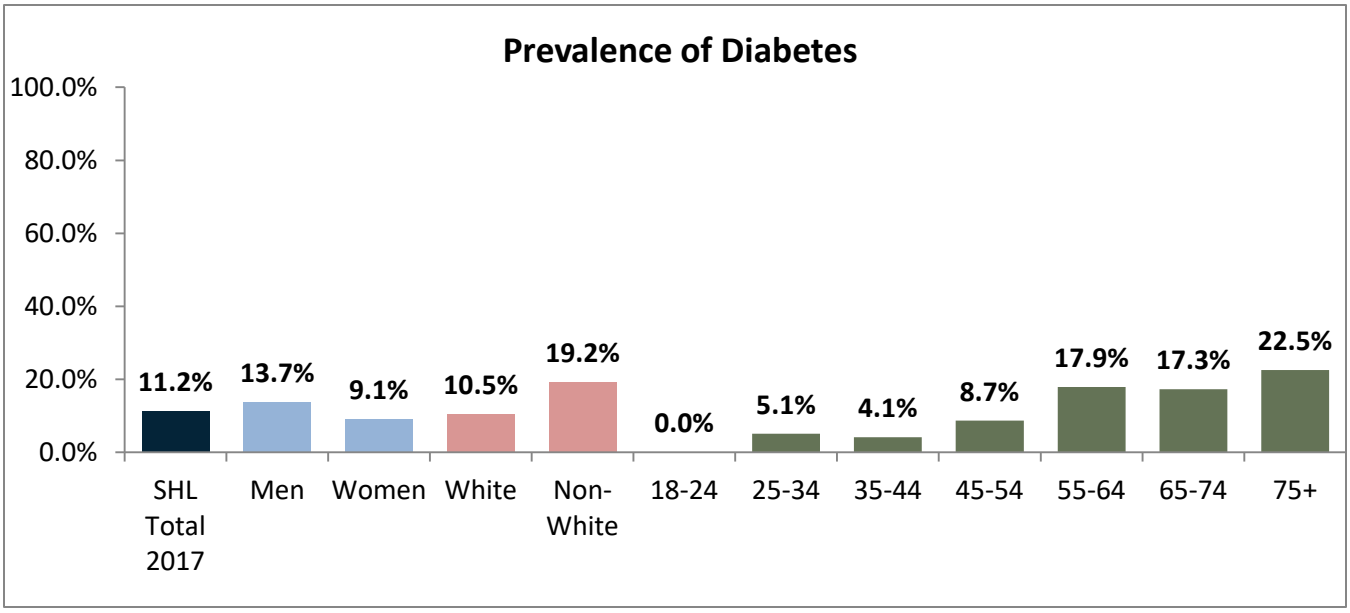
● = SHL area is best compared to MI and U.S.

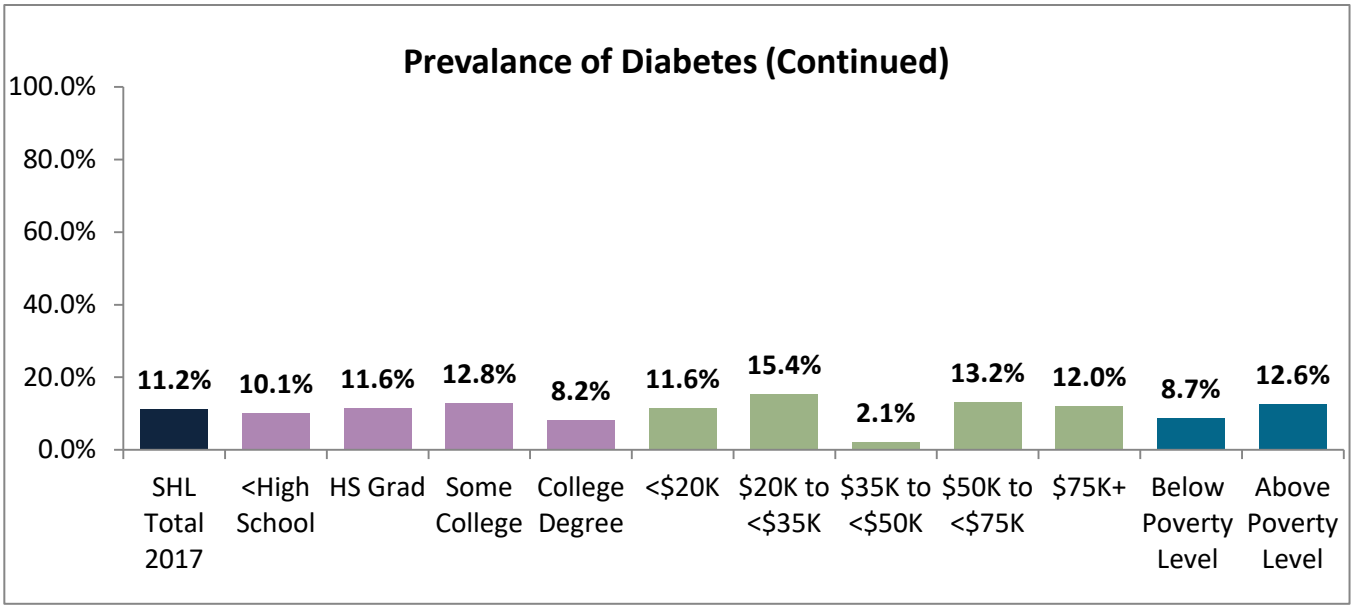
● = SHL area is worst compared to MI and U.S.

Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2016; Preliminary Estimates for Risk Factor and Health Indicators, State of Michigan, Michigan BRFS, 2015; SHL Behavioral Risk Factor Survey, 2014, 2017.

Diabetes

- Roughly one in nine (11.2%) area adults have been told by a health care professional that they have diabetes.
- The prevalence of diabetes is greater for older adults (55+) compared to younger, greater for men than women, and greater for non-White adults.

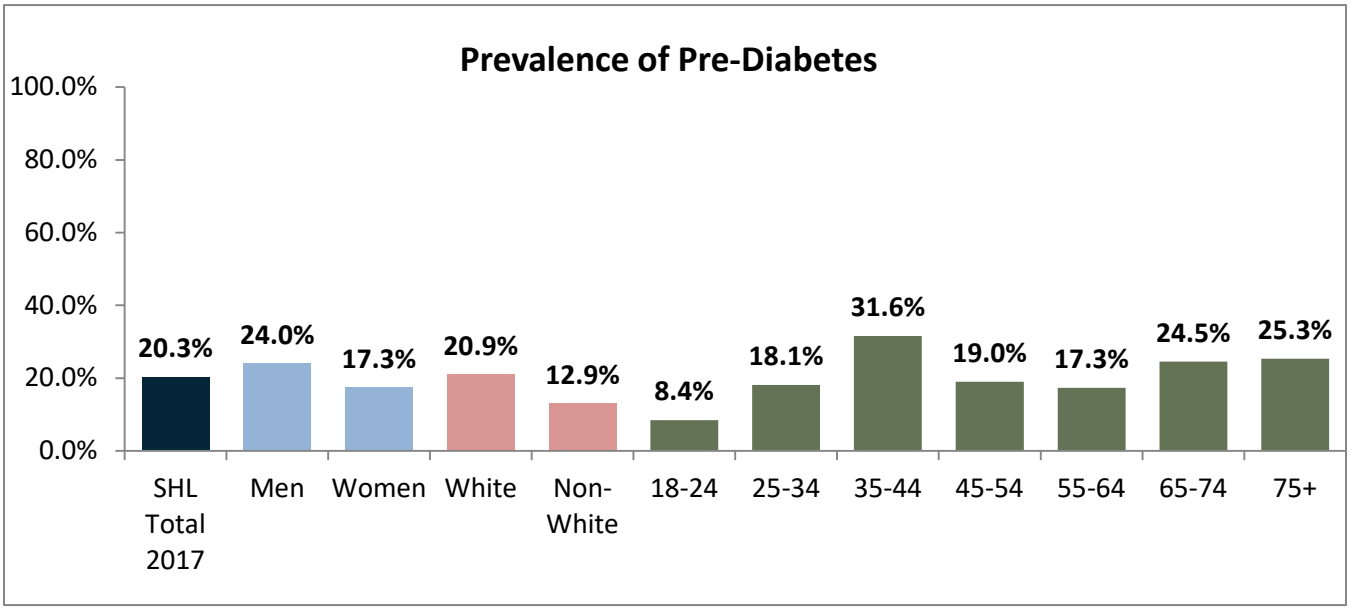


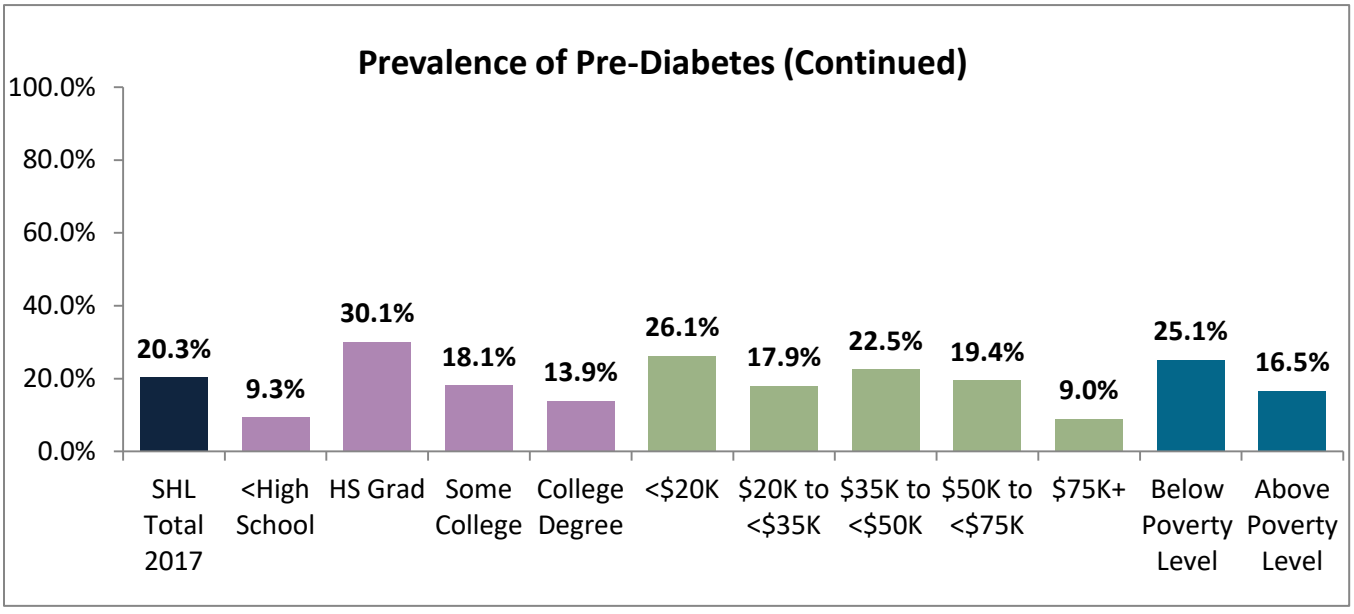


Source: SHL Behavioral Risk Factor Survey, 2017, Q4.3: Has a doctor, nurse, or other health professional EVER told you that you had diabetes? (n=514).
Note: excludes women who had diabetes only during pregnancy.

Pre-Diabetes

- Additionally, one in five (20.3%) SHL area adults has been told by a health care professional that they have pre-, or borderline, diabetes.
- The prevalence of pre-diabetes is greater for men than women and greater for Whites adults compared to non-White adults.
- Prevalence of pre-diabetes is lowest among adults aged 18-24 and/or those with the highest incomes.

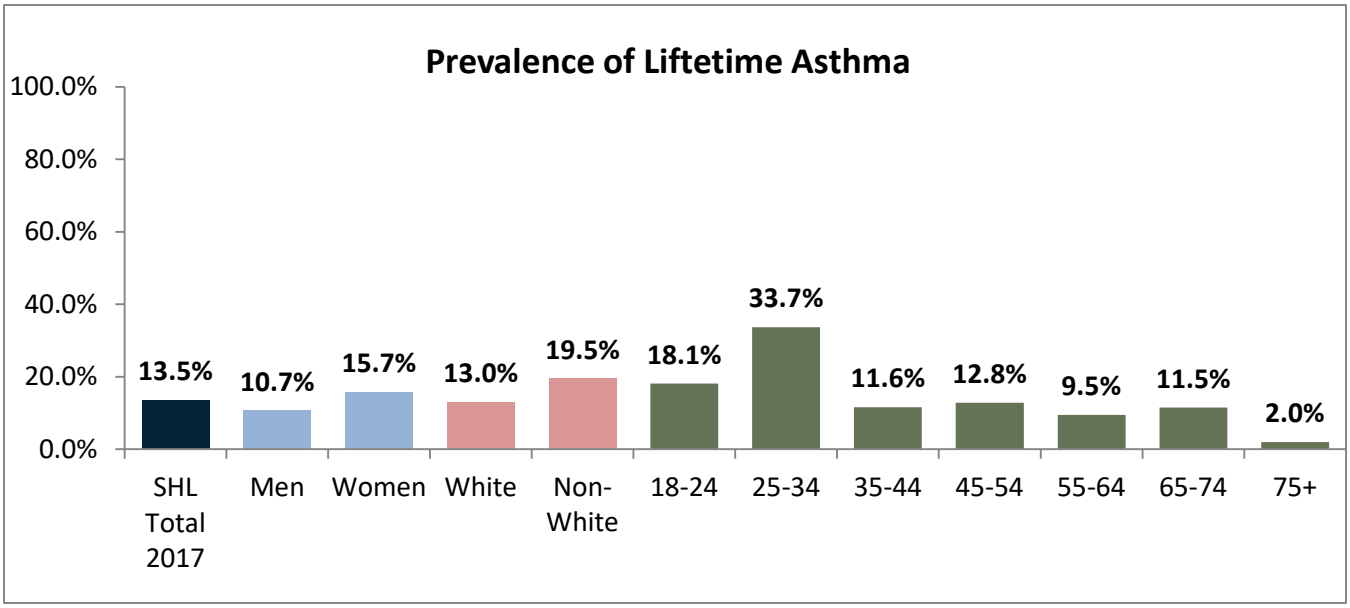


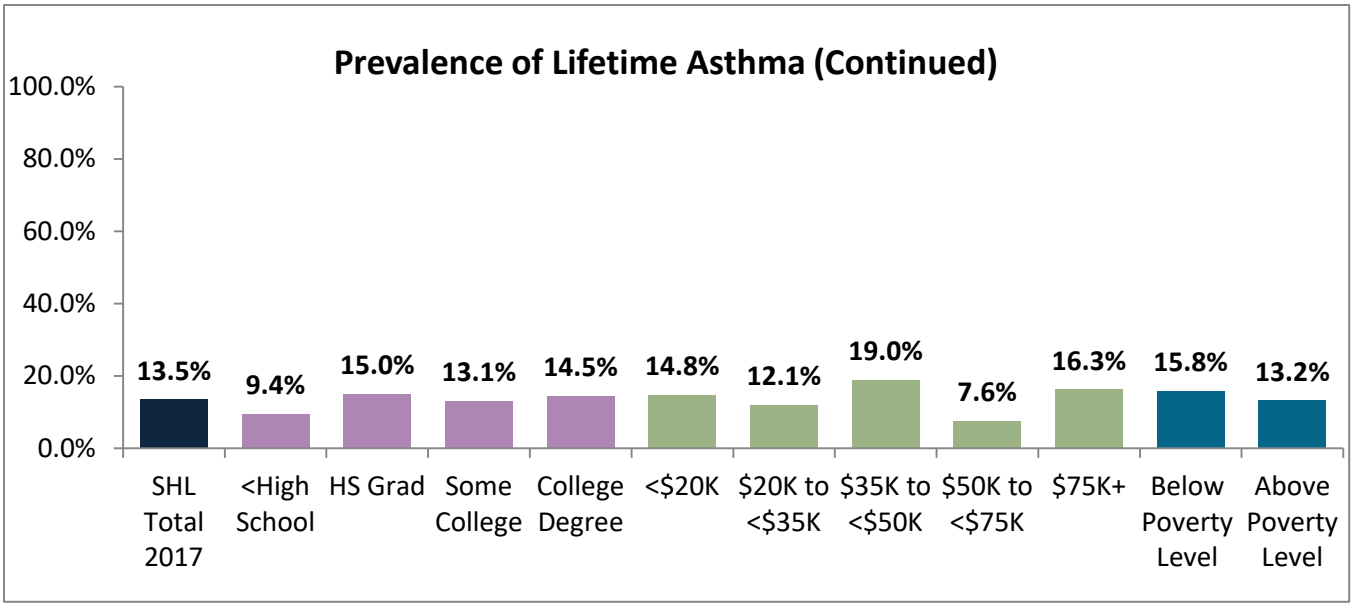


Source: SHL Behavioral Risk Factor Survey, 2017, Q4.3: Has a doctor, nurse, or other health professional EVER told you that you had pre-diabetes or borderline diabetes? (n=436). Note: excludes those who currently have diabetes.

Asthma

- Roughly one in seven (13.5%) area adults have been told by a health care professional at some point in their life that they had asthma.
- The prevalence of lifetime asthma is greater for women than men, non-White adults compared to White adults, and those under age 35 compared to those adults who are older.

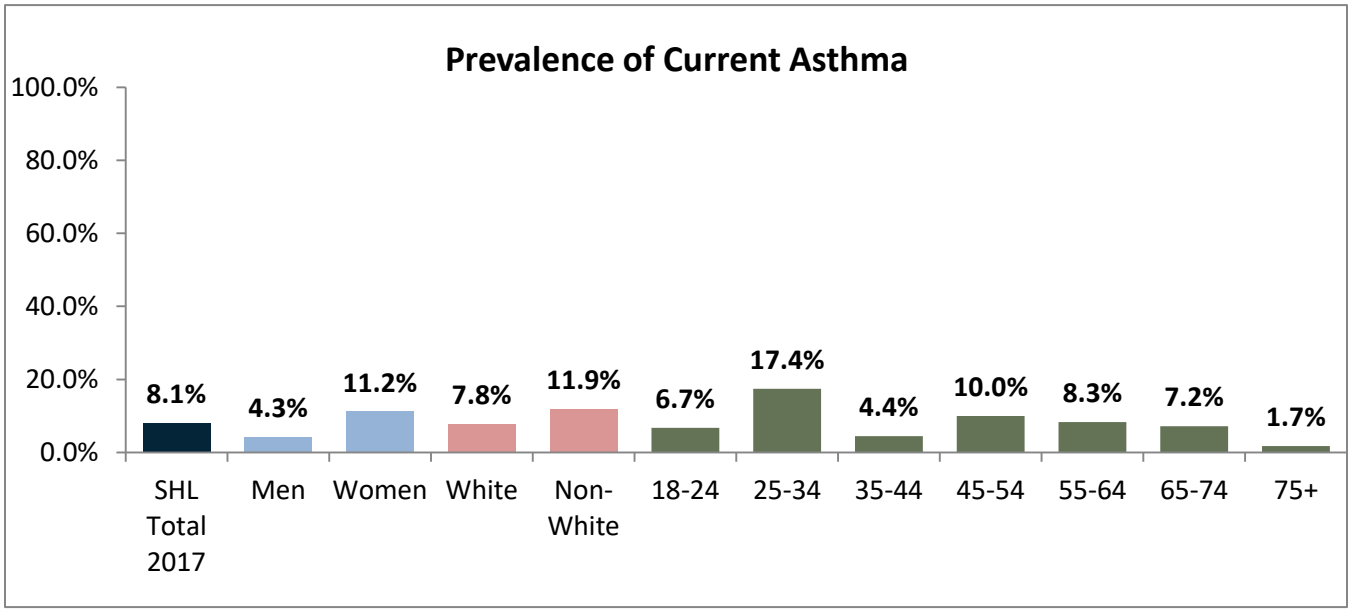


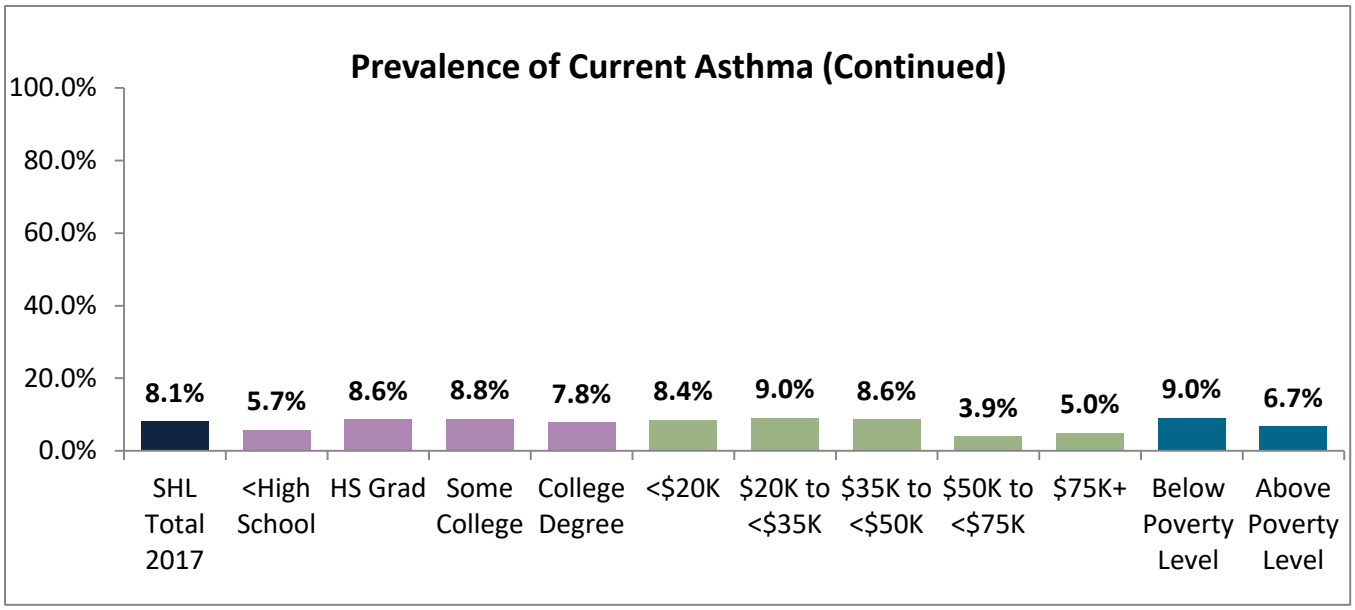


Source: SHL Behavioral Risk Factor Survey, 2017, Q4.1: Has a doctor, nurse, or other health professional EVER told you that you had asthma? (n=514).

Asthma (continued)

- Roughly one in twelve (8.1%) area adults currently have asthma.
- Like lifetime asthma, the prevalence of those who currently have asthma is greater for women than men and greater for non-White adults than White adults.

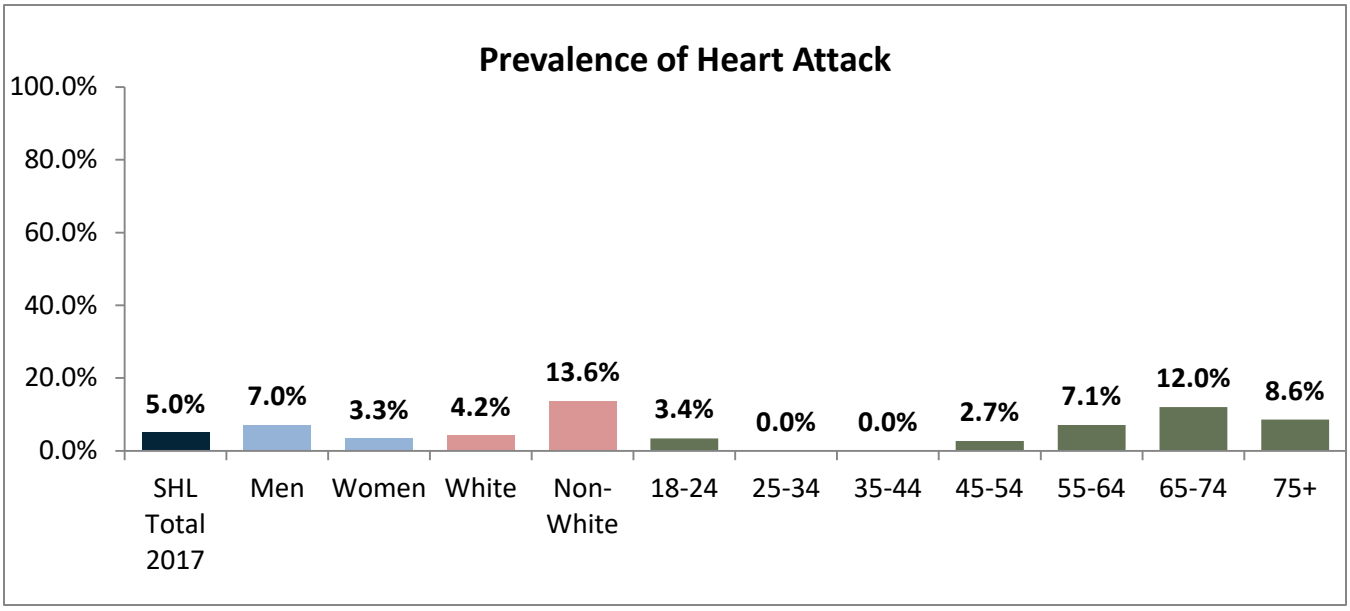


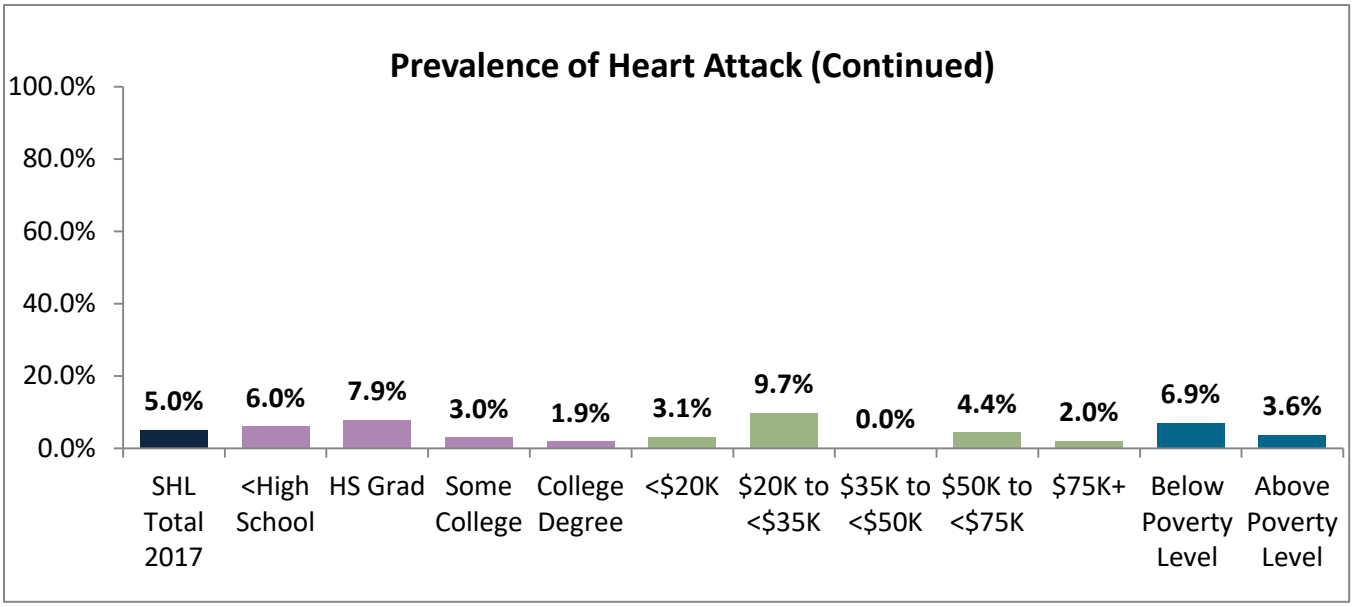


Source: SHL Behavioral Risk Factor Survey, 2017, Q4.2: Do you still have asthma? (n=76).
Note: based on all adults, (n=513).

Cardiovascular Disease and Stroke

- The prevalence of having a heart attack is low (5.0%) but most likely to occur among the oldest adults (55+).
- Prevalence is higher in: men compared to women, non-White adults compared to White adults, and those with less than a college education compared to adults with more education.

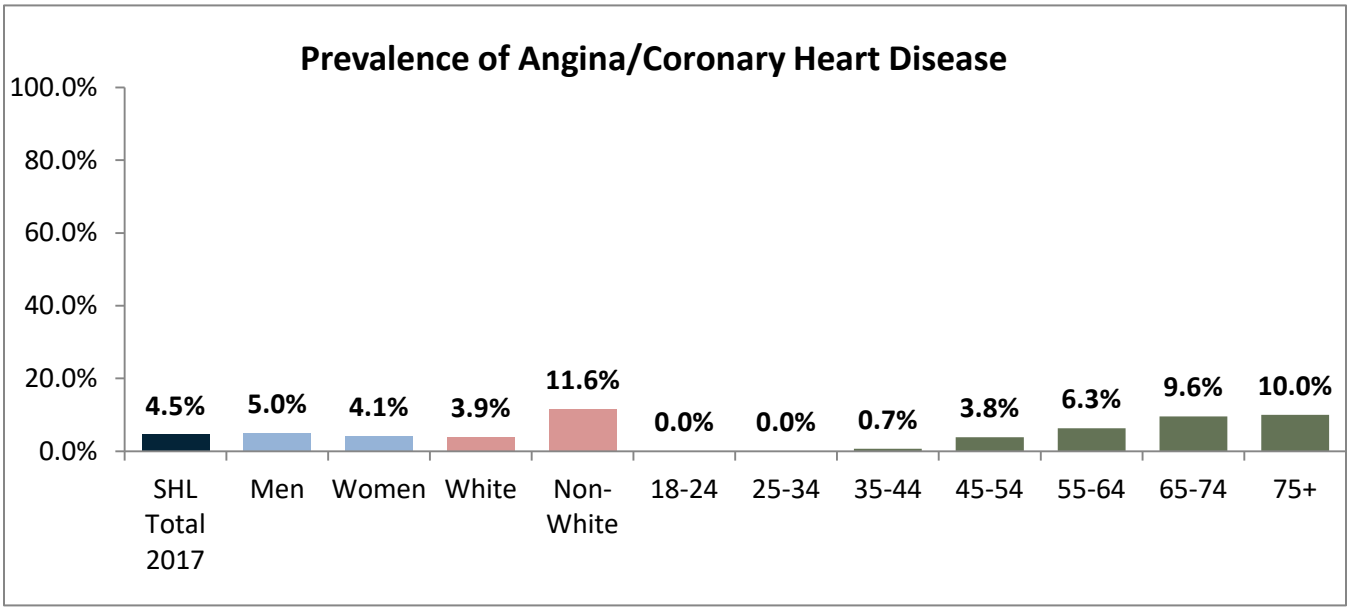


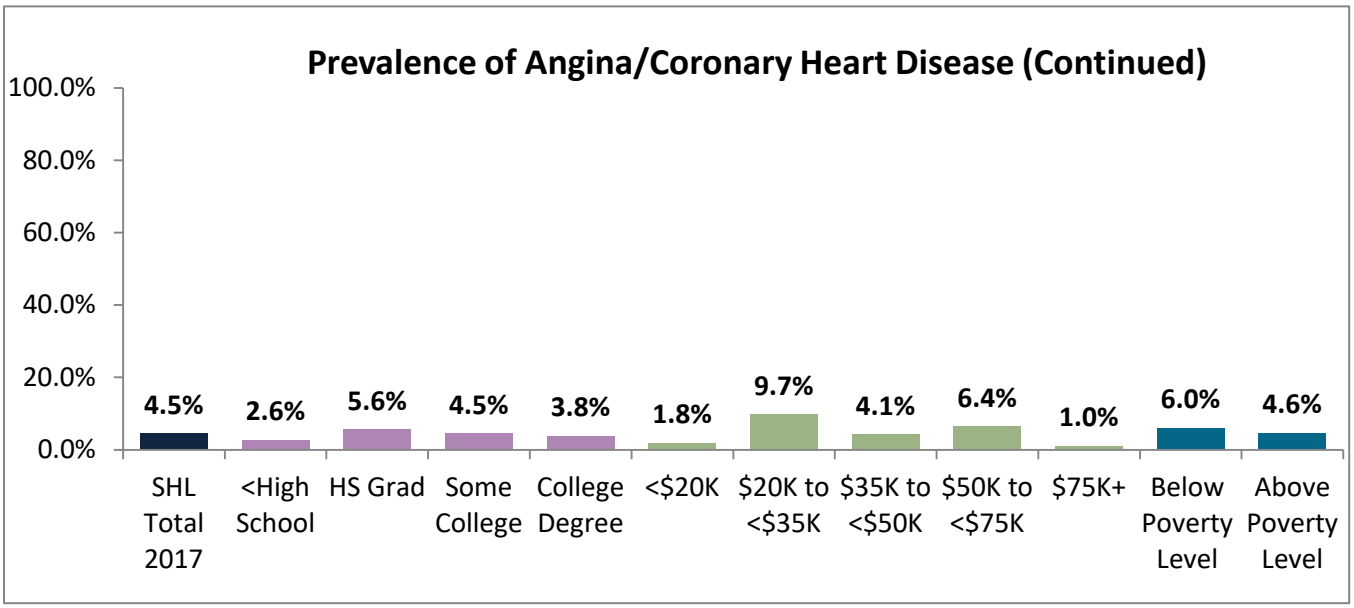


Source: SHL Behavioral Risk Factor Survey, 2017, Q4.5: Has a doctor, nurse, or other health professional EVER told you that you had a heart attack also called a myocardial infarction? (n=514).

Cardiovascular Disease and Stroke (continued)

- The prevalence of angina is low but is highest among those aged 65 or older.
- Angina/CHD is also more common in non-White adults compared to White adults.

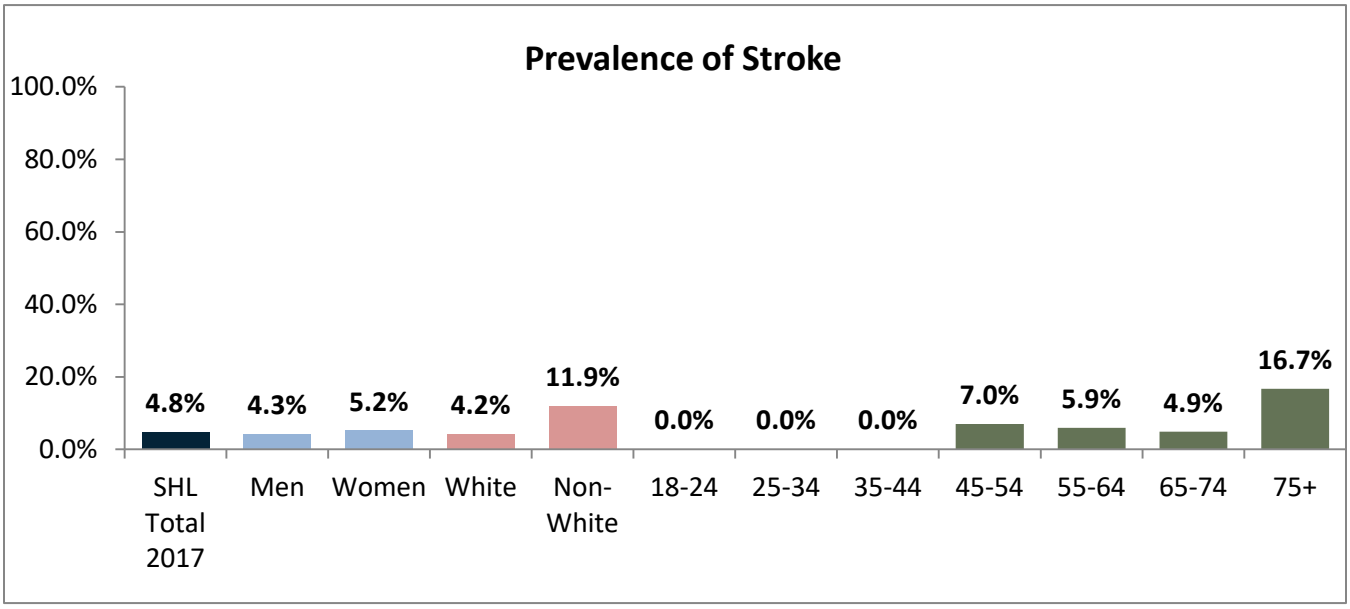


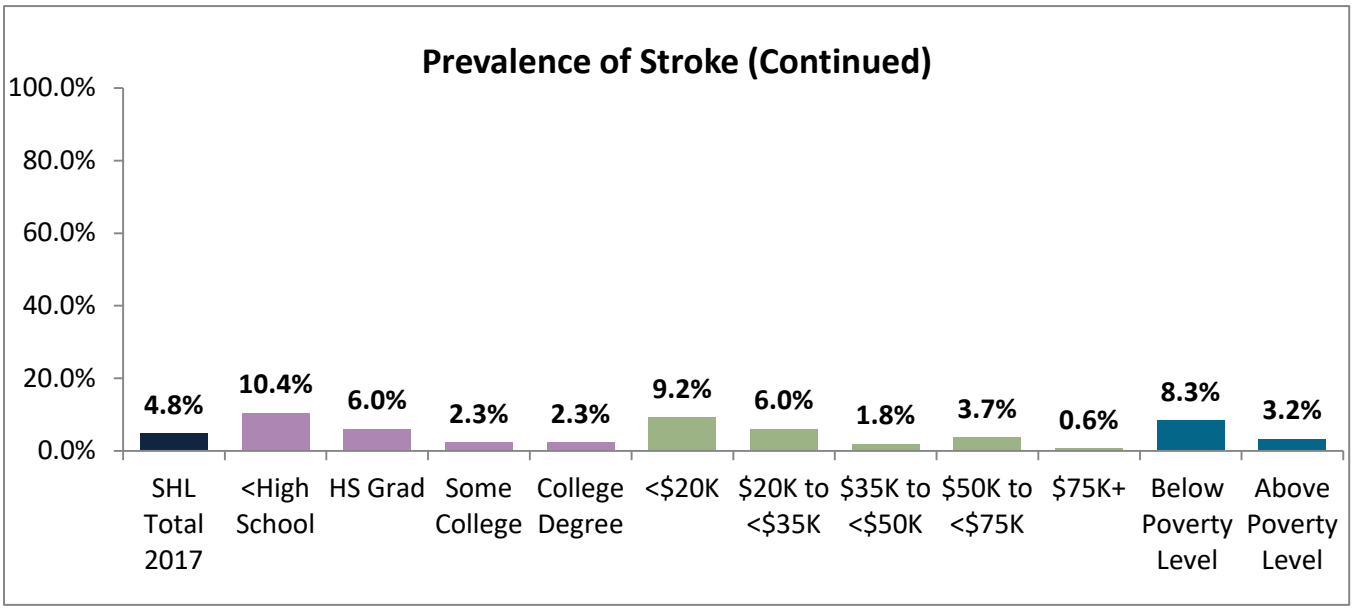


Source: SHL Behavioral Risk Factor Survey, 2017, Q4.6: Has a doctor, nurse, or other health professional EVER told you that you had angina or coronary heart disease? (n=512).

Cardiovascular Disease and Stroke (continued)

- In 2017, 4.8% of SHL area adults reported they had been told by a health professional that they had a stroke at some point in their life.
- The prevalence of stroke is higher in non-White adults compared to White adults, higher for those aged 45+ compared to those younger, and highest in the lowest income groups.

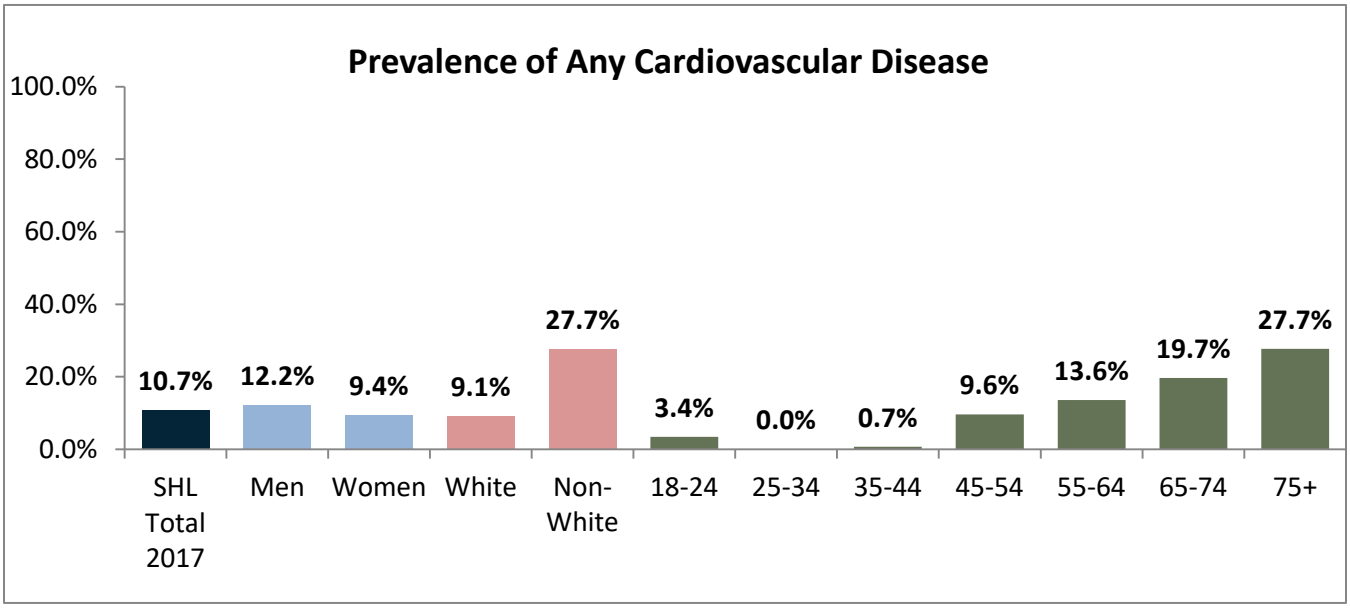


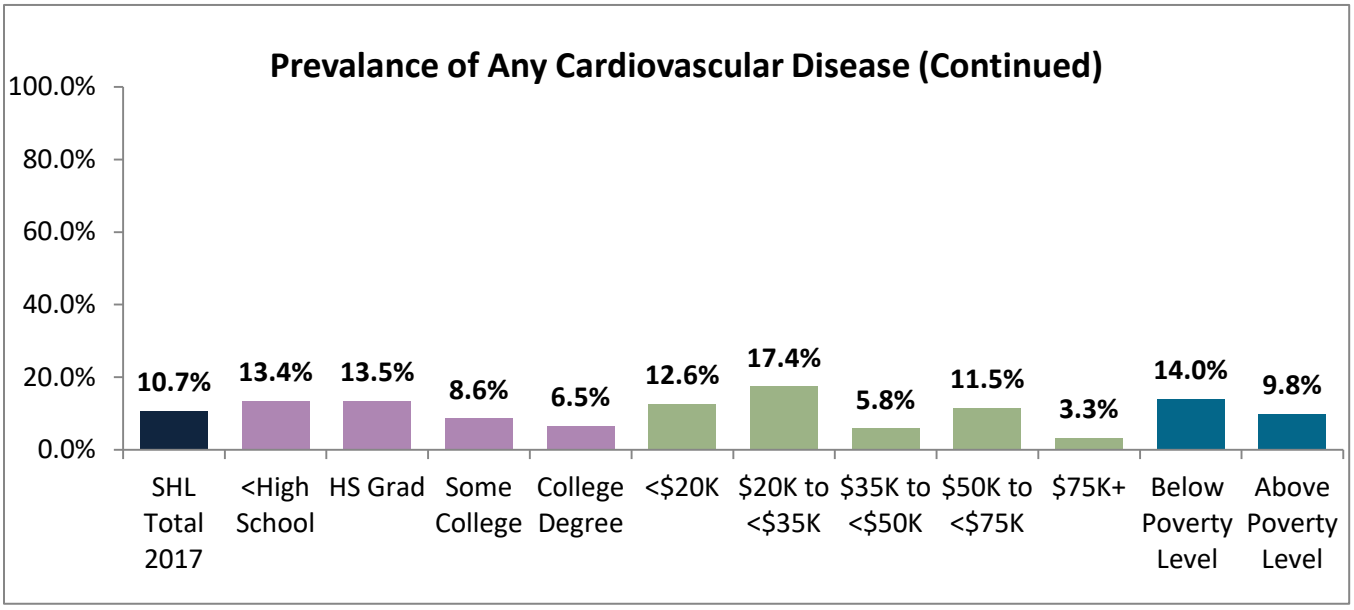


Source: SHL Behavioral Risk Factor Survey, 2017, Q4.7: Has a doctor, nurse, or other health professional EVER told you that you had a stroke? (n=514).

Cardiovascular Disease and Stroke (continued)

- One in ten (10.7%) area adults have had a heart attack, angina/CHD, and/or stroke.
- The highest prevalence of cardiovascular disease can be found in non-White adults, the highest age group (65+), and the lowest income groups.

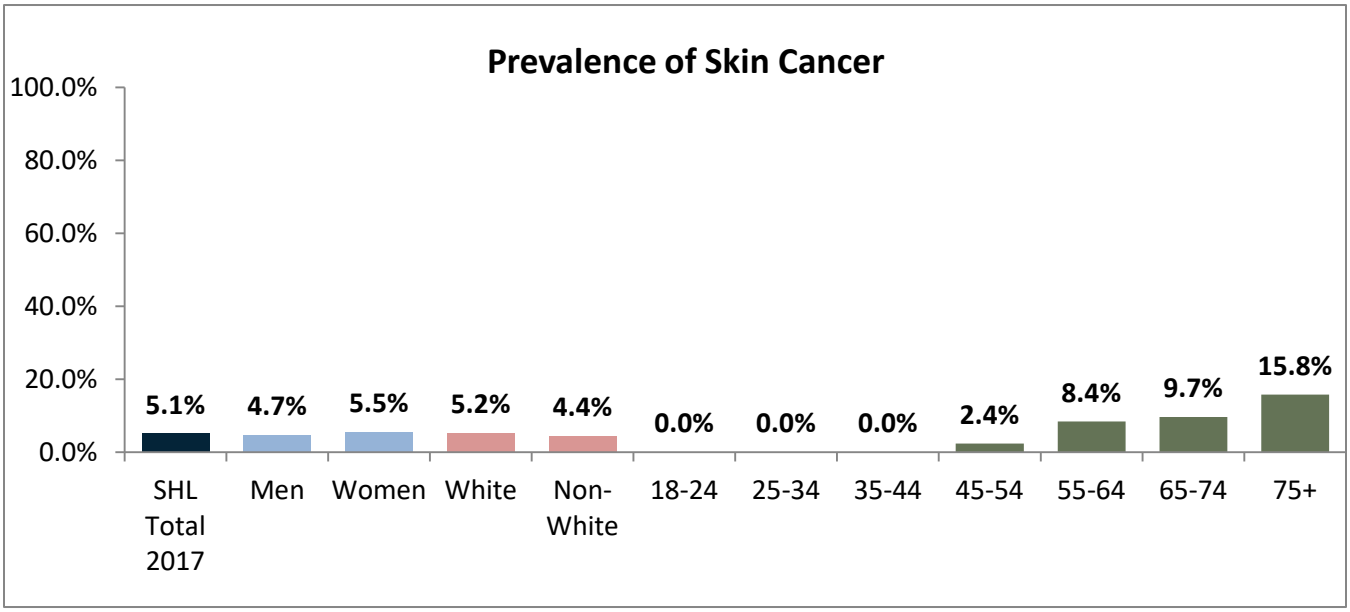


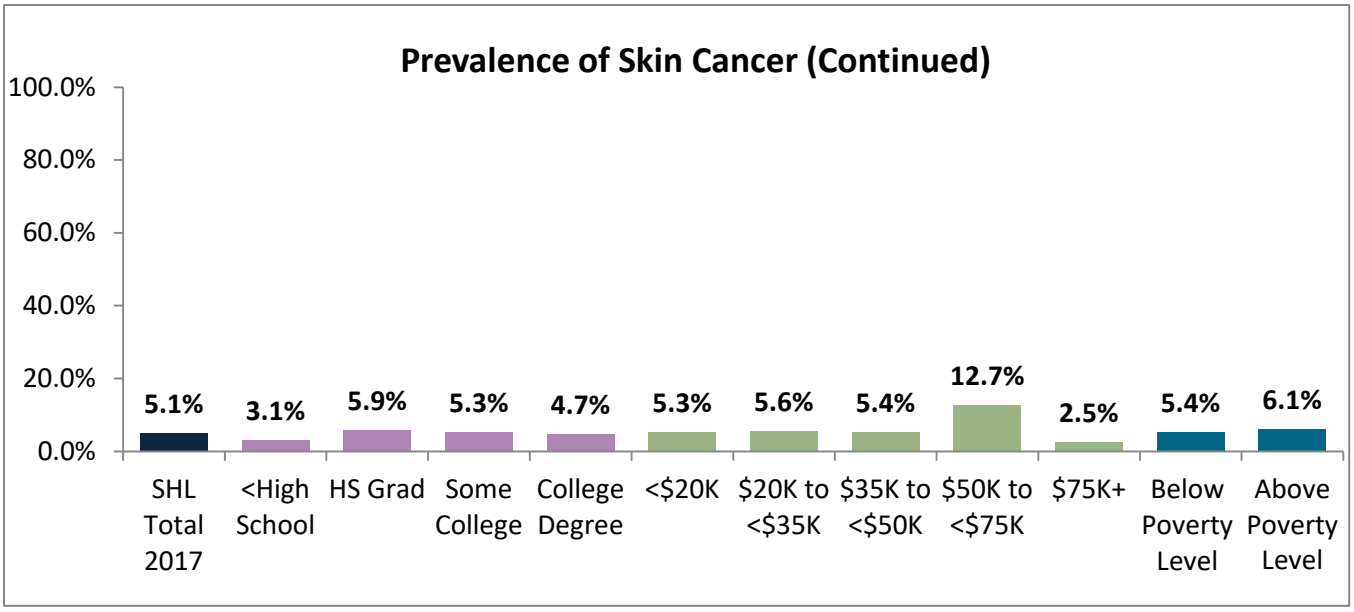


Source: SHL Behavioral Risk Factor Survey, 2017, Q4.5/Q4.6/Q4.7.
Note: among all adults who have had some form of cardiovascular disease (heart attack, angina/CHD, stroke). (n=513)

Cancer

- One in twenty (5.1%) SHL area adults has been told they have skin cancer.
- The prevalence of skin cancer is higher among the oldest groups (55+).

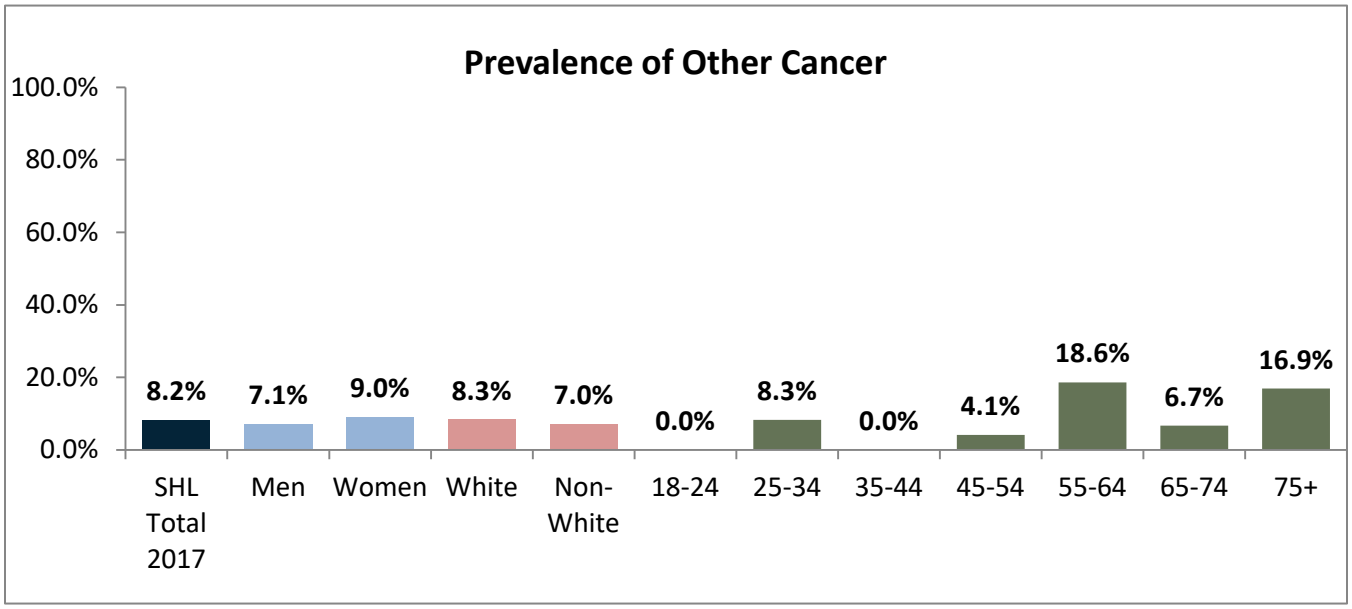


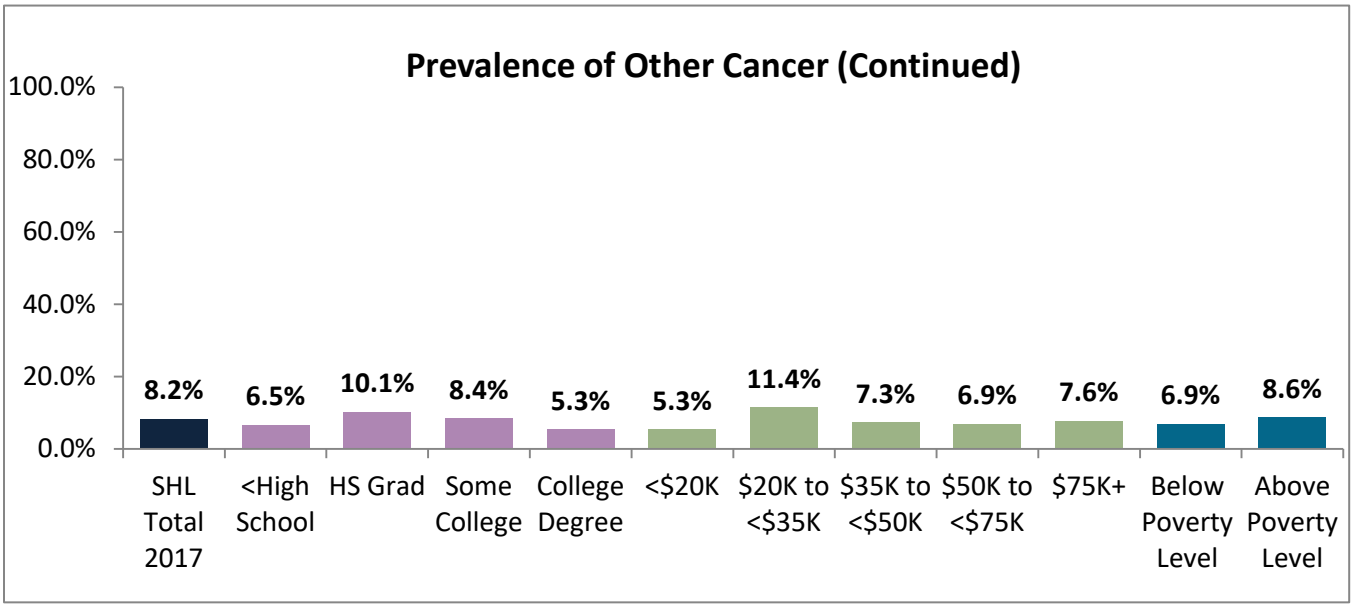


Source: SHL Behavioral Risk Factor Survey, 2017, Q4.8: Has a doctor, nurse, or other health professional EVER told you that you had skin cancer? (n=514)

Cancer (continued)

Roughly one in twelve (8.2%) area adults have been told they have other forms of cancer (non-skin), and this proportion rises dramatically with age, especially beginning around age 55.

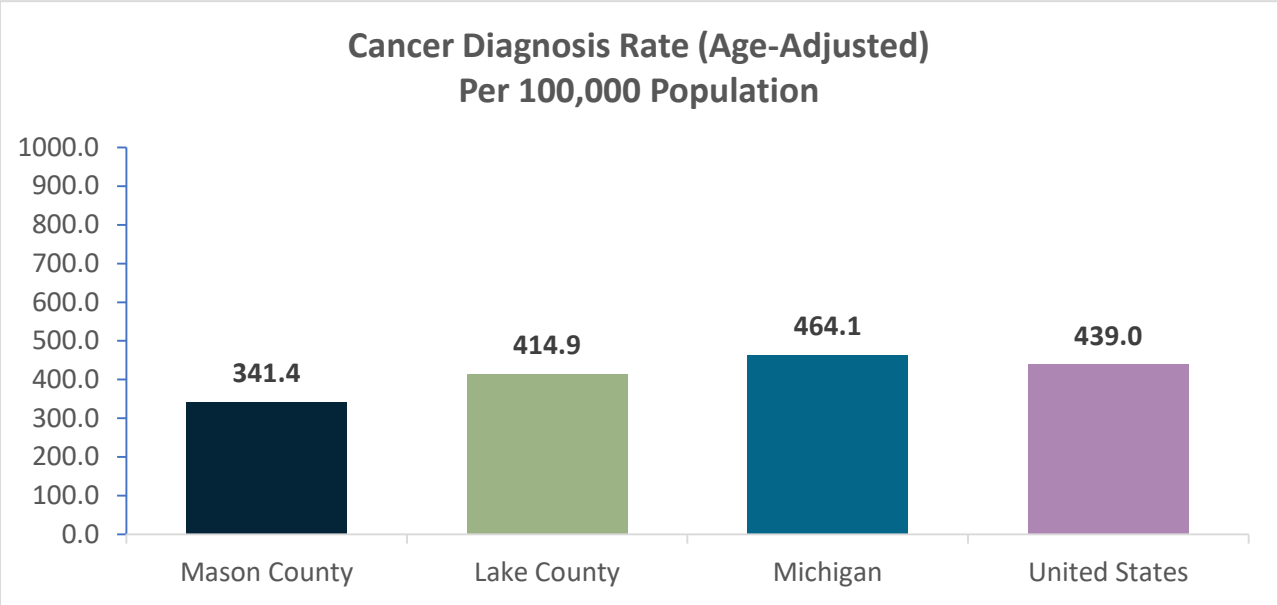




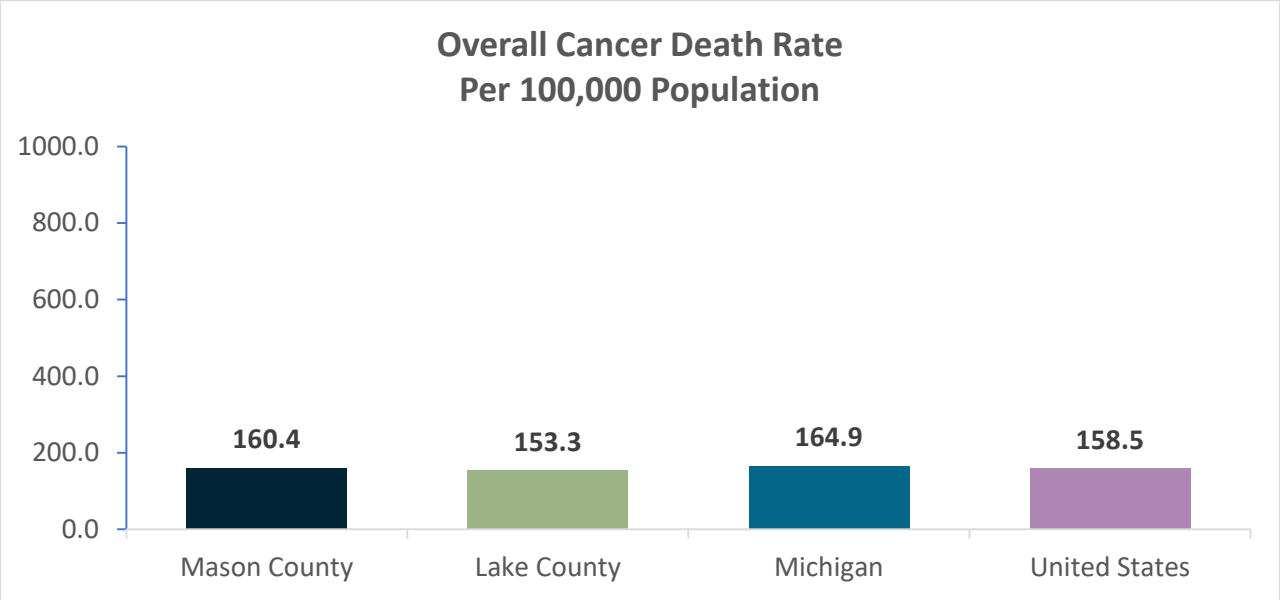
Source: SHL Behavioral Risk Factor Survey, 2017, Q4.9: Has a doctor, nurse, or other health professional EVER told you that you had any other types of cancer? (n=514).

Cancer (continued)

- The cancer diagnosis rates for both Mason and Lake counties are lower than the rates for Michigan or the U.S.
- While the cancer death rate is lower in Lake County compared to the state and national rates, the cancer death rate in Mason County is higher than the national rate.



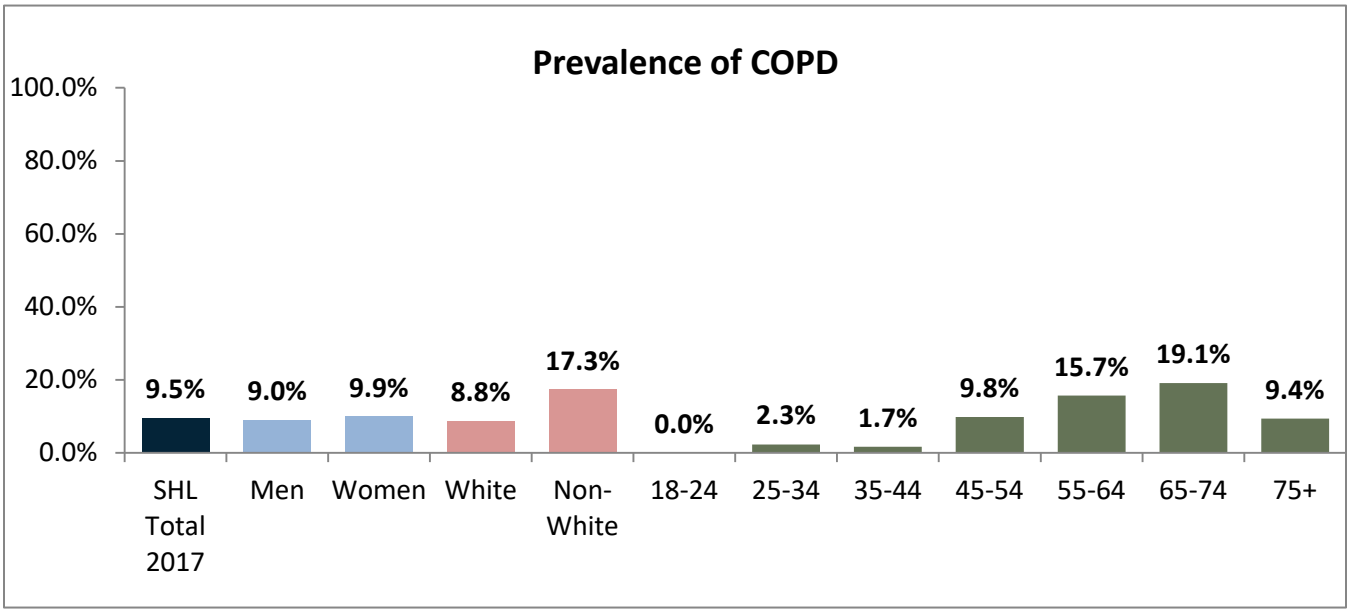
Source: MDCH Cancer Incidence Files. Counties and MI 2010-2015 5-year average, US: Kaiser Family Foundation Health Facts, 2013.

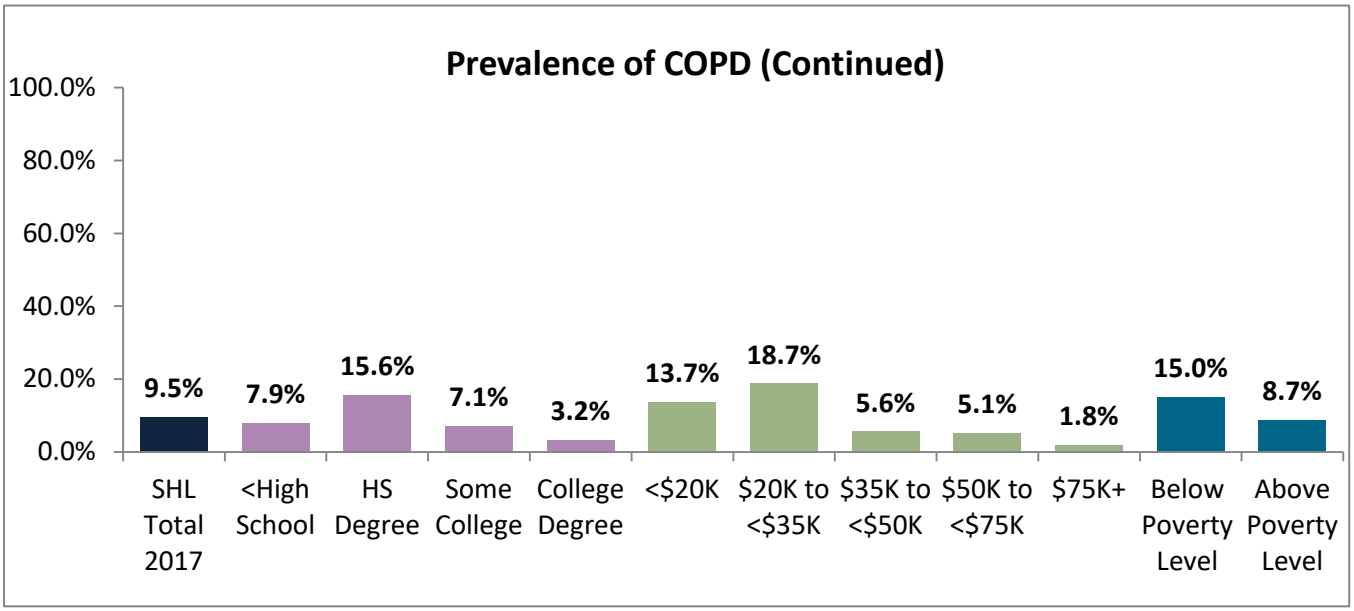


Source: MDHHS counties, MI, and U.S., 2015.

COPD

- One in ten (9.5%) area adults have chronic obstructive pulmonary disease (COPD).
- The disease is more common in adults who are non-White, older (55+) and/or who have low incomes.

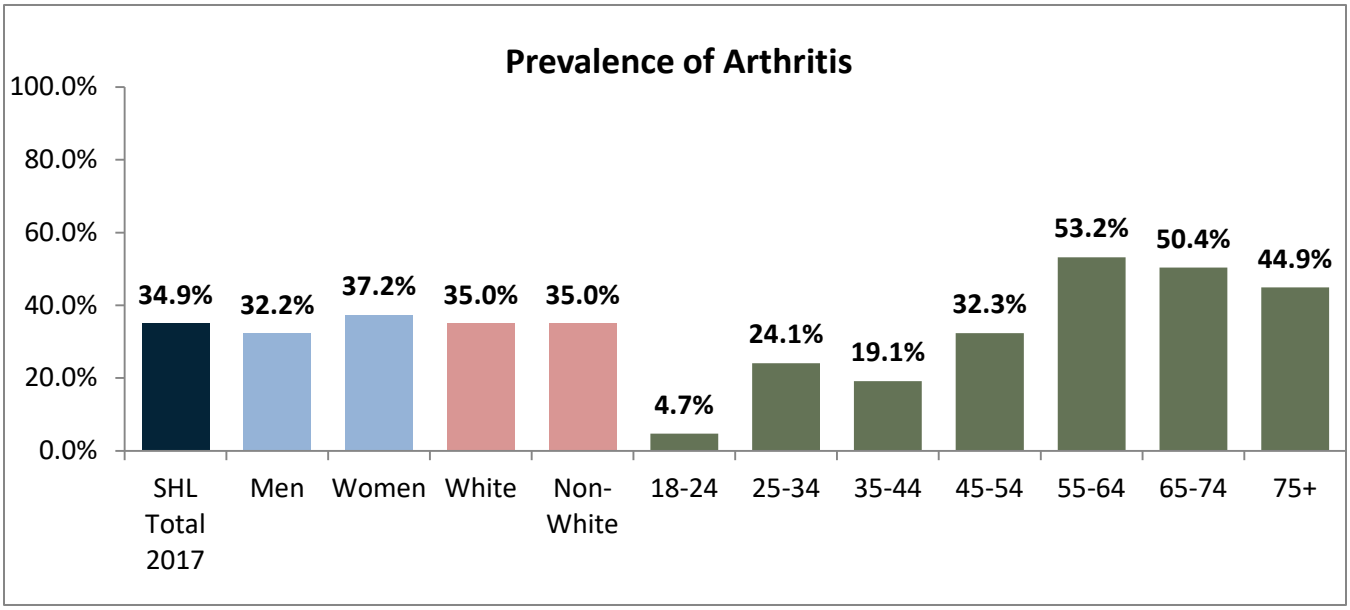


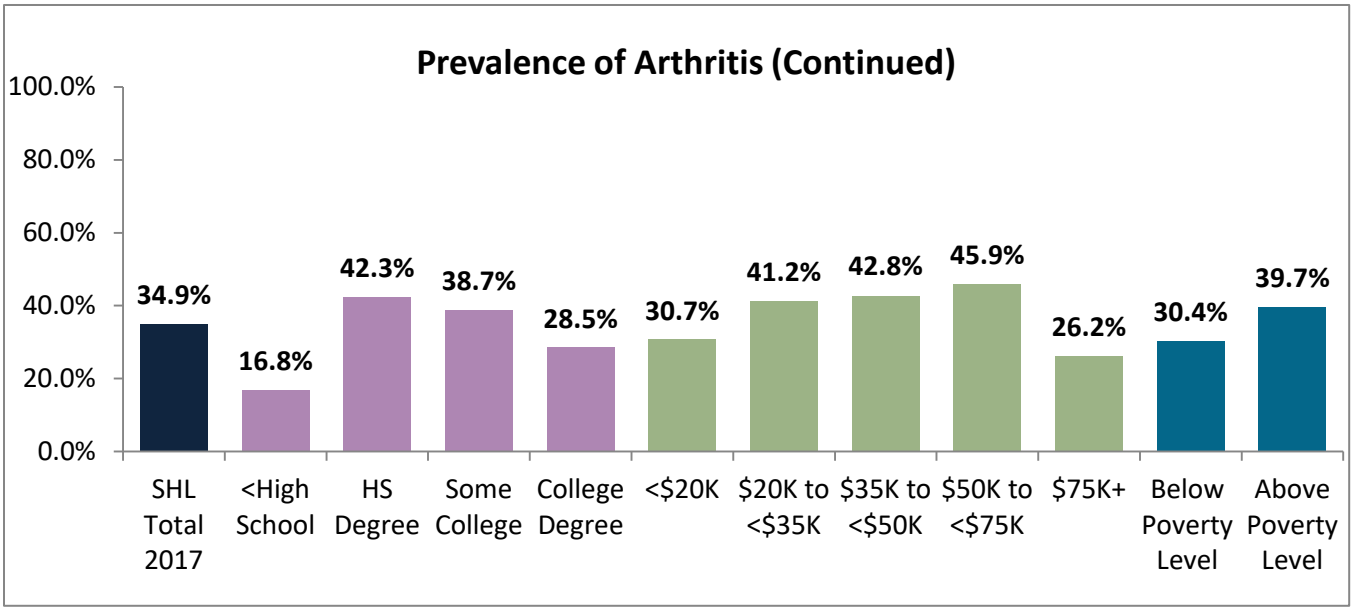


Source: SHL Behavioral Risk Factor Survey, 2017, Q4.10: Has a doctor, nurse, or other health professional EVER told you that you had COPD (chronic obstructive pulmonary disease), emphysema or chronic bronchitis? (n=514).

Arthritis

- One-third (34.9%) of area adults have arthritis, and this is largely a condition that comes with age.
- The disease is also slightly more common in women than men, and more common among adults with incomes below $75K compared to adults with higher incomes.

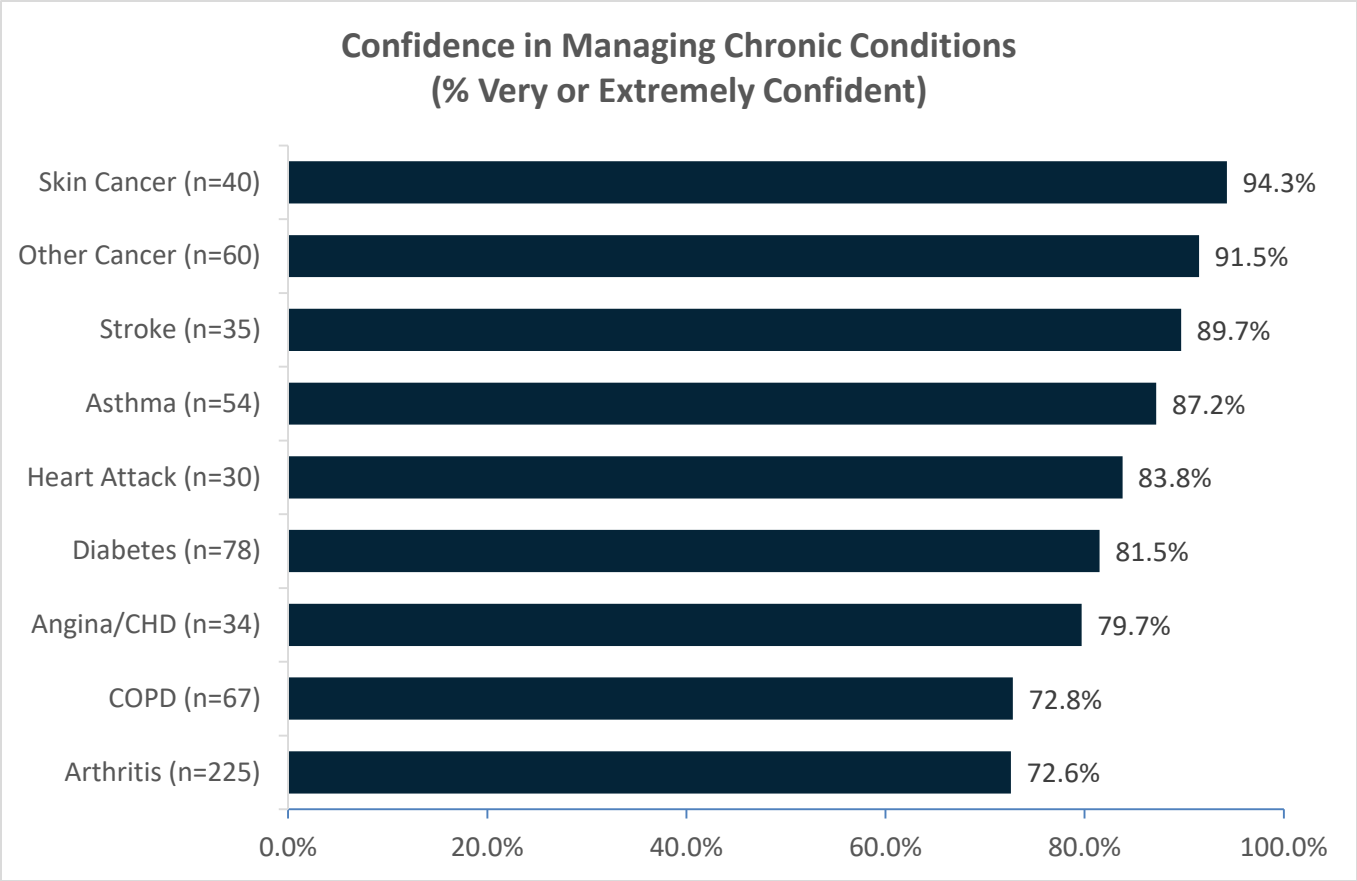




Source: SHL Behavioral Risk Factor Survey, 2017, Q4.11: Has a doctor, nurse, or other health professional EVER told you that you have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia? (n=512).

Management of Chronic Conditions

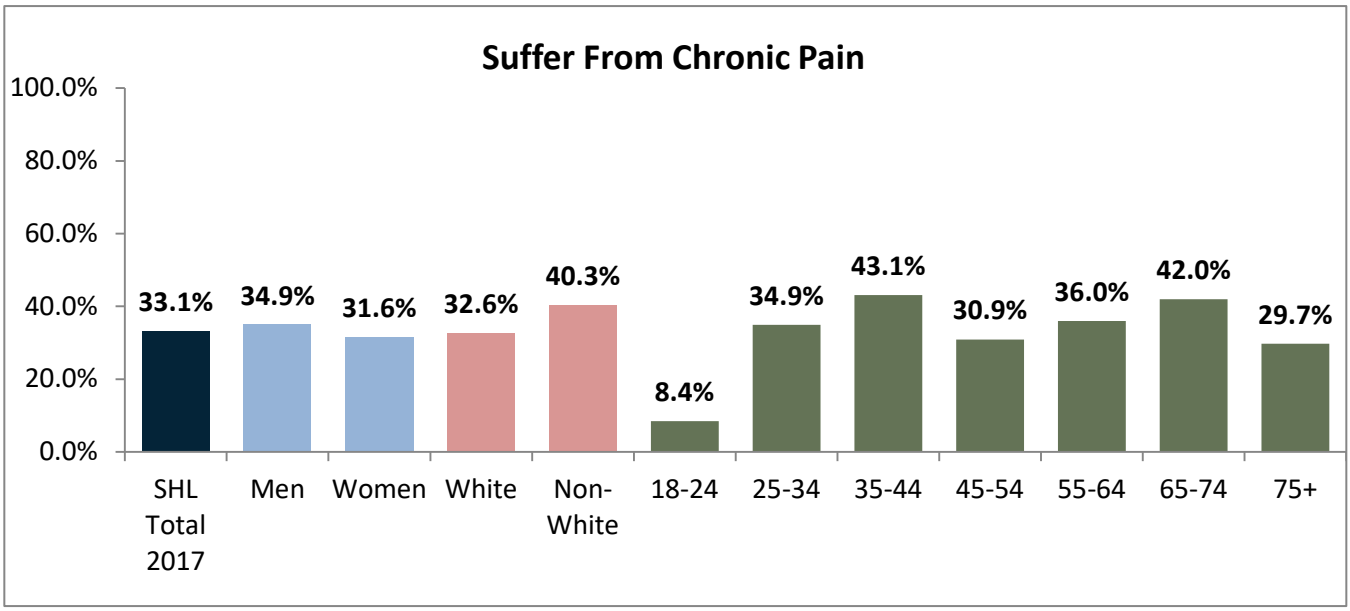
- A sizeable majority of adults with chronic conditions are confident that they can do all things necessary to manage their condition, especially those with who have, or have had, cancer.
- The greatest barriers to confidence are inadequacy, or lack, of existing programs and services to assist them in managing their condition and/or having multiple chronic conditions that makes management difficult.

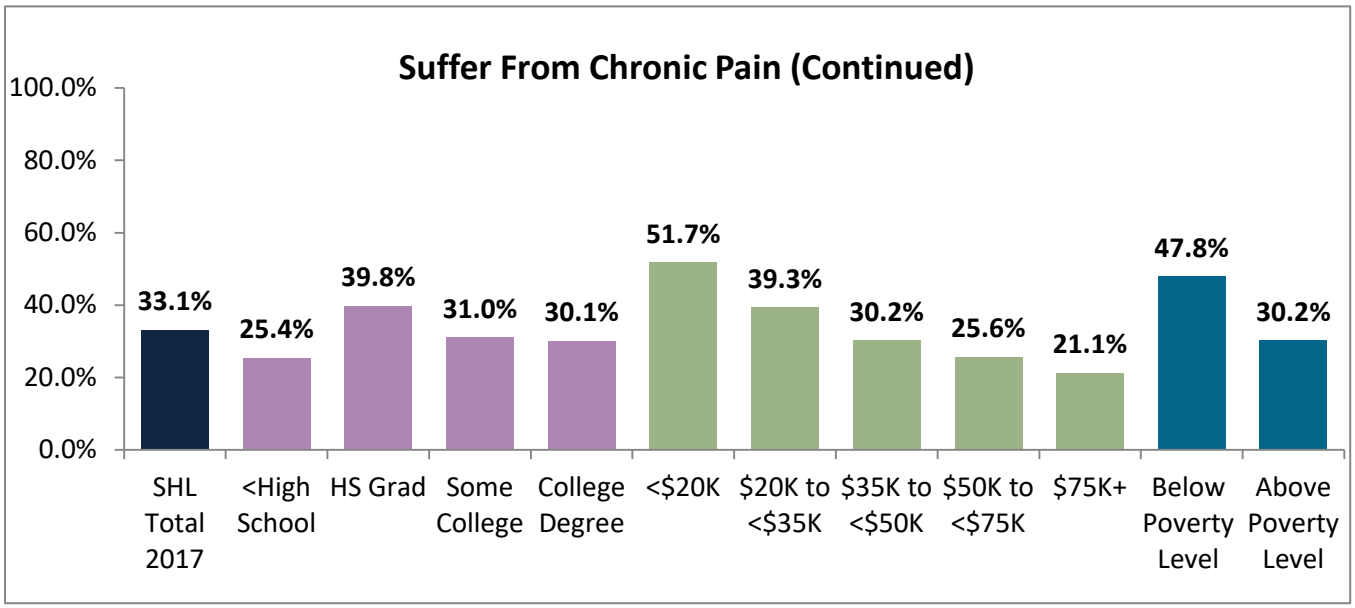


Source: SHL Behavioral Risk Factor Survey, 2017, Q5.1: Having an illness often means doing different tasks and activities to manage your condition. How confident are you that you can do all the things necessary to manage your [insert condition]? Would you say you are not at all confident, not very confident, somewhat confident, very confident, or extremely confident?; Q5.2: (If not very or not at all confident) Why do you say you are [insert rating from ABOVE] that you can do all the things necessary to manage your [insert condition]?

Chronic Pain

- One-third (33.1%) of area adults suffer from chronic pain; it is more common among non-White adults than White adults, and is more common in adults living below the poverty line compared to those living above the poverty line.
- In fact, the prevalence of chronic pain decreases with annual income.
- Two-thirds (68.5%) of those adults with chronic pain report their pain is managed well.

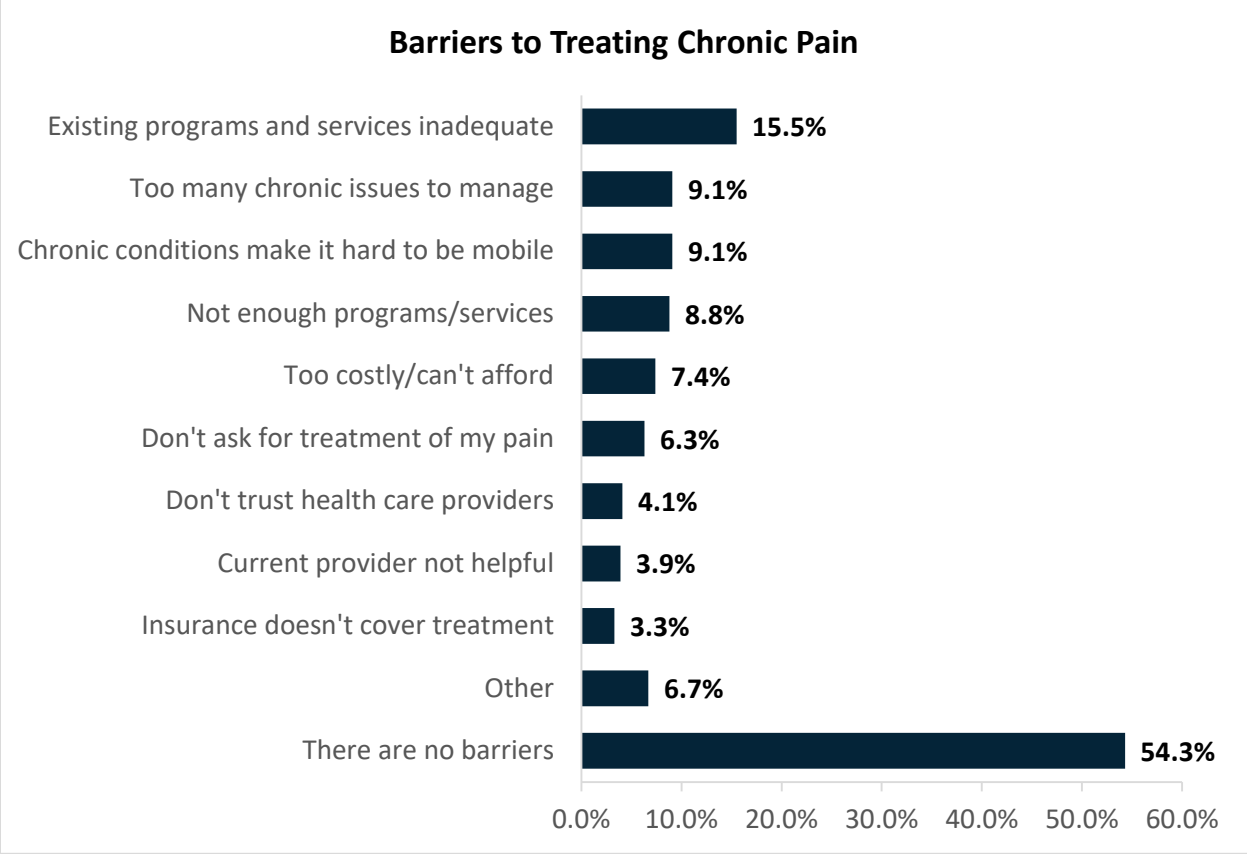




Source: SHL Behavioral Risk Factor Survey, 2017, Q8.1: Do you suffer from any type of chronic pain; that is, pain that occurs constantly or flares up frequently? (n=514); Q8.1: (If yes) Do you feel your pain is managed well? (n=179).

Barriers to Treating Chronic Pain

Almost half (45.7%) of area adults suffering from chronic pain report myriad barriers to treating their pain, including: inadequate, or lack of, programs and services that could help them deal with their pain better; too many chronic conditions to manage; immobility; and cost.



Source: SHL Behavioral Risk Factor Survey, 2017, Q8.3: What are some of barriers to treating your pain? (n=173)
Note: The proportion of adults who reported they suffer from chronic pain.

HEALTH CARE ACCESS

Overall State of Health Care Access in the Community

According to Key Stakeholders, access to primary care is much better in Mason County than it is in Lake County. Access to specialty care remains a challenge for SHL area residents as many have to travel out of the region for it. Several steps have been taken to address gaps in services, such as opening convenient care clinics and increased access to dental care via area FQHCs. Access to mental health treatment remains a challenge.

Well, **we're** [Baldwin Family Health] **it in terms of primary care**, and that includes **medical**, **dental**, and **behavioral health** therapy services. We **have a pharmacy here**, so **we are it for the county**. The population is quite small. The majority of the population has Medicare and Medicaid, and there are a fair number of veterans who are in the area as well, and in the summer months, our population can double and triple with people who are here to vacation, and the health center serves those people as well.

I think **each community could probably use another three to four, maybe five, primary care providers** in their communities to see patients. I think **the dental piece, to some extent, is being addressed**. We've got FQHCs in our communities that are doing some dental work. We've got the Michigan My Community Dental Clinic, MCDC, that's providing some dental services. The **behavioral health piece**, it's probably a **combination of not enough providers or not having coverage to be able to access what is available to them**. We're **trying to integrate behavioral health and physical health together** and trying to address some of the issues and getting at some of those **psychosocial** issues that are out there. For example, if someone's not taking their blood pressure medication, is it because they just forget, or is it because they can't afford to buy their medication because they have to buy food, they have to buy bus tokens, they have to put gas in their car, or their electricity is going to be shut off? Those are the other issues that kind of compound and contribute to the area that we're starting to look at and take into consideration now.

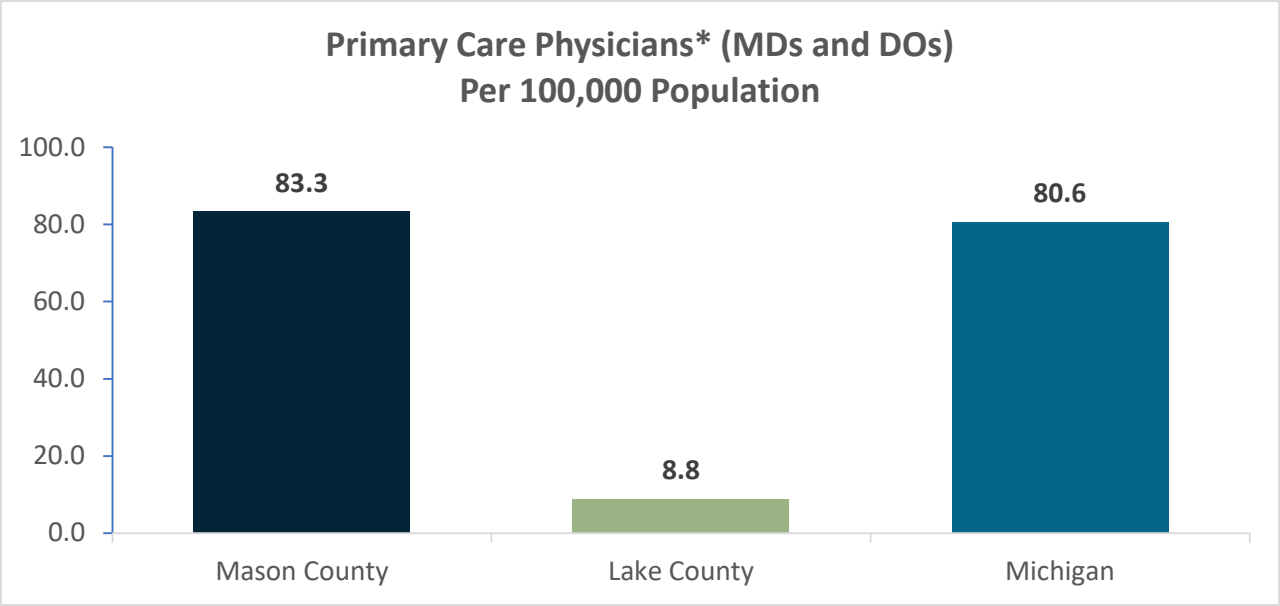
I think there is a **huge psychiatry issue in our community**. People who don't want to do telepsych access to psychiatry have no choices. Particularly **if you have private insurance; you have to travel to Muskegon or Grand Rapids**. Likely, if you're in Spectrum, you get sent to Grand Rapids, **which is an hour and a half away**, which is an **awful long way to go if you're a person with a mental illness who needs treatment**, so I think that's an issue.

We've **done a lot at Spectrum Health to try to address access**. I **think we're there for primary care** - we opened up these clinics; they're called **convenient care**, and it's a **walk-in clinic**, but it's for a primary care visit, so it's the same thing you would go with your primary care physician for. We see colds, sinus infections, urinary tract infections, rashes, lacerations - those things that you go to the family doctor for - that's what we have open, and we found that, consistently since it's been open - that only 30% of those people don't have a primary care physician, so the vast majority of those people maybe could get into their physician's office; they just want - "I think I've got a few minutes at 3:00; I think I'll run in there then." **They can pick their own time**. We have a vast - a wide variety of ways to access primary care, so we have **MedNow visits**. I feel pretty good about primary care. **You can get an appointment there pretty much any day of the week**, and if not, you could go over to **Convenient Care,** and you don't have to take your child to the emergency room. **Specialty care is a little more of a challenge**, and that we work on all the time - to get people specialty care.

Source: SHL Key Stakeholder Interviews, 2017, Q3: Describe the current state of health care access in the community. (n=6)

Health Care Providers

- There are far fewer primary care physicians (MDs or DOs) per capita in Lake County compared to the state rate; in fact, the state rate for primary care physicians is almost ten times the rate for Lake County.
- Key Stakeholder comments suggest there may be an adequate number of PCPs in the area, but it is still a challenge for some residents to gain access (e.g., not accepting all insurance such as Medicaid).



Source: County Health Rankings, 2015. *Note: Physicians defined as general or family practice, internal medicine, pediatrics, obstetrics or gynecology.

Not enough primary care providers. – *Key Informant*

We still **struggle with getting primary care for about 150 to 200 of the people that we serve** - some of the higher-needs folks - more intensive mental health service needs - we're still having a hard time getting access for those folks for primary care. – *Key Stakeholder*

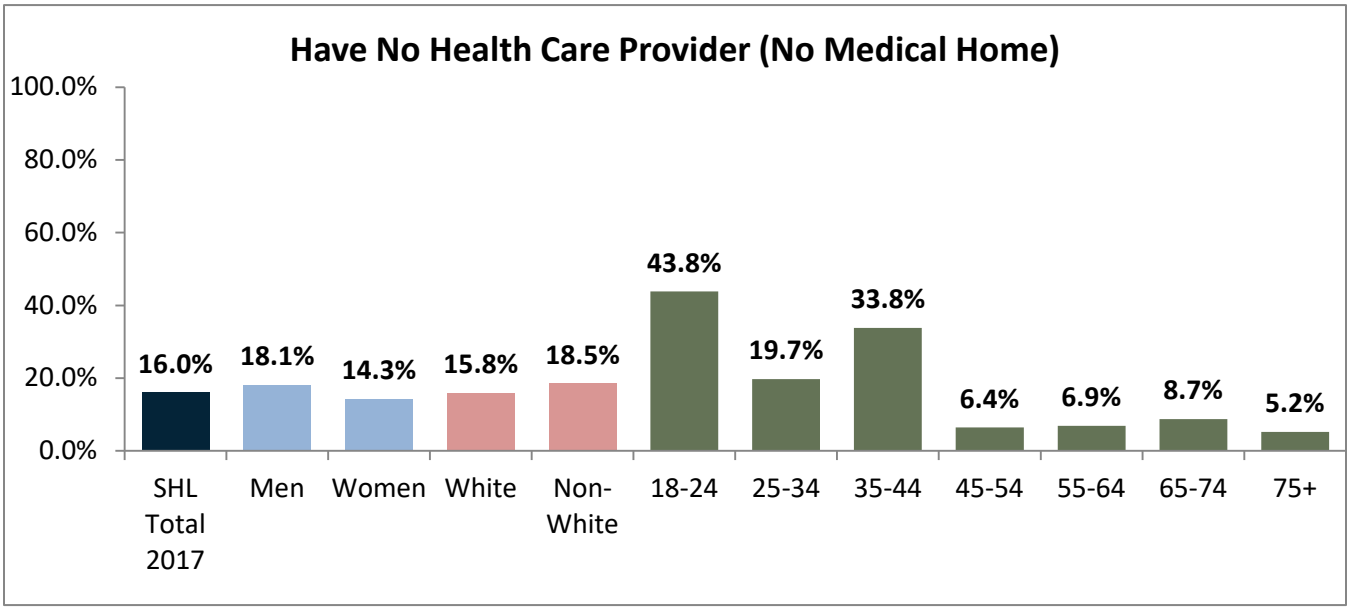
Access - when you look at raw numbers, **it looks like we've got the right number of primary care physicians** - primary care being internal medicine, family practice, obstetrics, pediatrics, in particular. It looks like we've got the right number of physicians overall, **but getting access into those practices is sometimes not as easy as you'd like to think it would be**. – *Key Stakeholder*

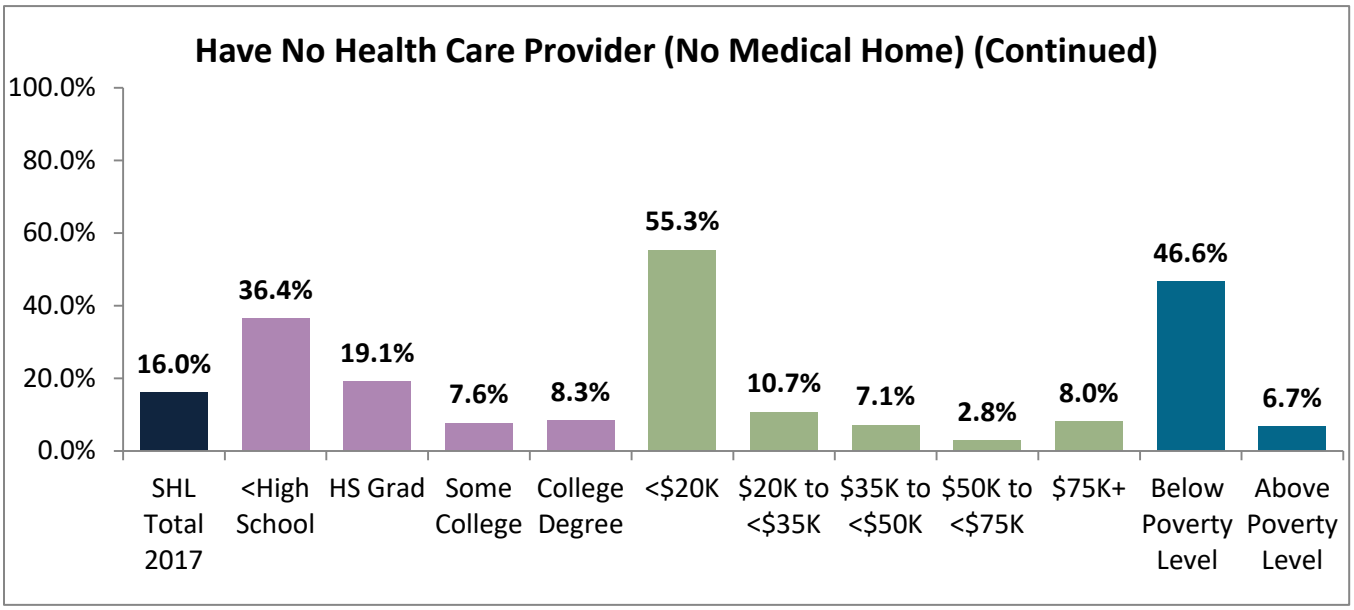
I **think it's fair to say there's an adequate availability of primary care when you look at the number of providers relative to the population**. I think the **challenge is coming in a few years when we have a disproportionate share of primary care physicians approaching retirement age**. We're okay right now, but in the coming two/three/four/five years, I think we're going to be stretched - if we don't get replacements in the pipeline. – *Key Stakeholder*

Source: SHL Key Stakeholder Interviews, 2017, Q3a: Is there a wide variety/choice of primary health care providers? (n=6); SHL Key Informant Online Survey, 2017, Q1a: Why do you think [lack of providers] is a problem in the community? Please be as detailed as possible. (n=6)

Health Care Providers (continued)

- Almost one in six (16.0%) SHL area adults have no personal health care provider, and this rises to 55.3% for those with incomes less than $20K.
- Adults aged 18-44 and adults without a college education are less likely to have a medical home than older adults or those with a college education, respectively.

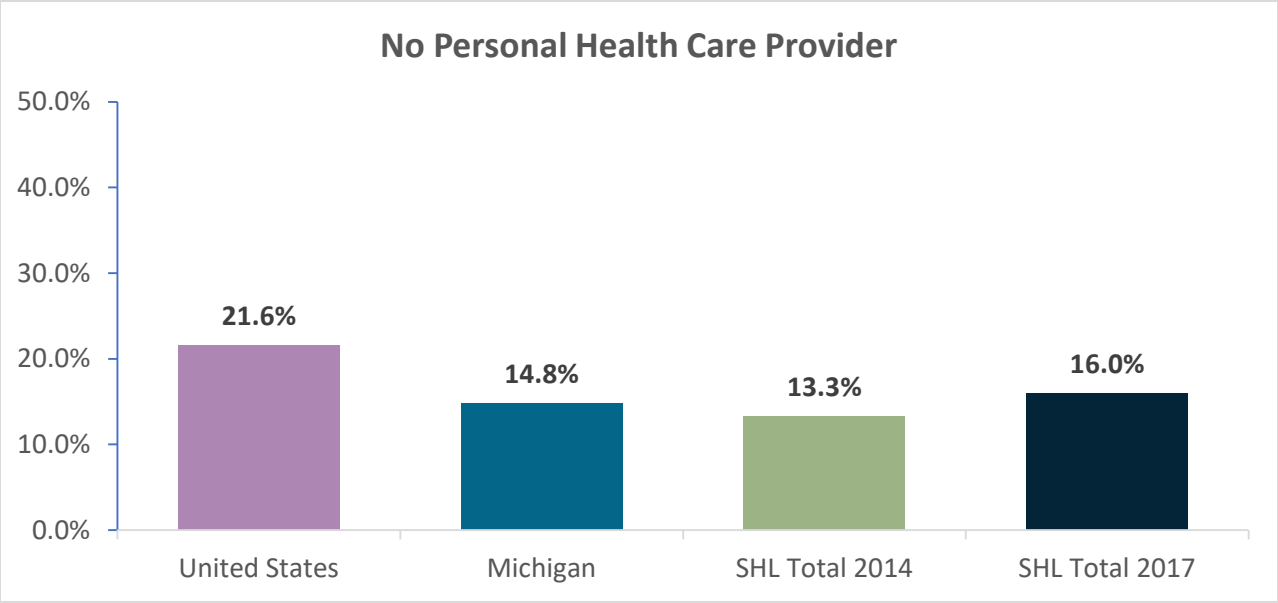




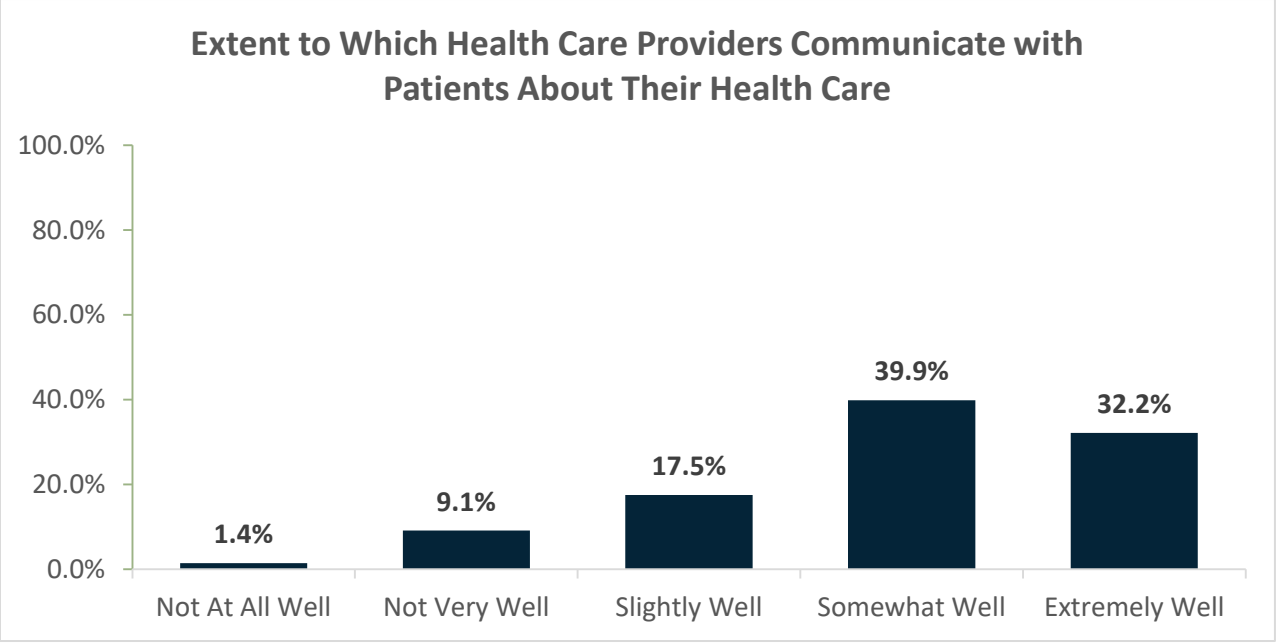
Source: SHL Behavioral Risk Factor Survey, 2017, Q3.4: Do you have one person you think of as your personal doctor or health care provider? (n=514).

Health Care Providers (continued)

- The proportion of area adults with no personal health care provider has increased since the last CHNA in 2014 and is now higher than the state proportion (but lower than the U.S. proportion).
- A large majority (72.1%) of underserved adults believe health care providers communicate with them well.



Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2016; Preliminary Estimates for Risk Factor and Health Indicators, State of Michigan, Michigan BRFS, 2015; SHL Behavioral Risk Factor Survey, 2014, 2017.



Source: SHL Underserved Resident Survey, 2017, Q8: How well do you feel health care providers communicate with you about your health care? (n=143)

Health Care Providers (continued)

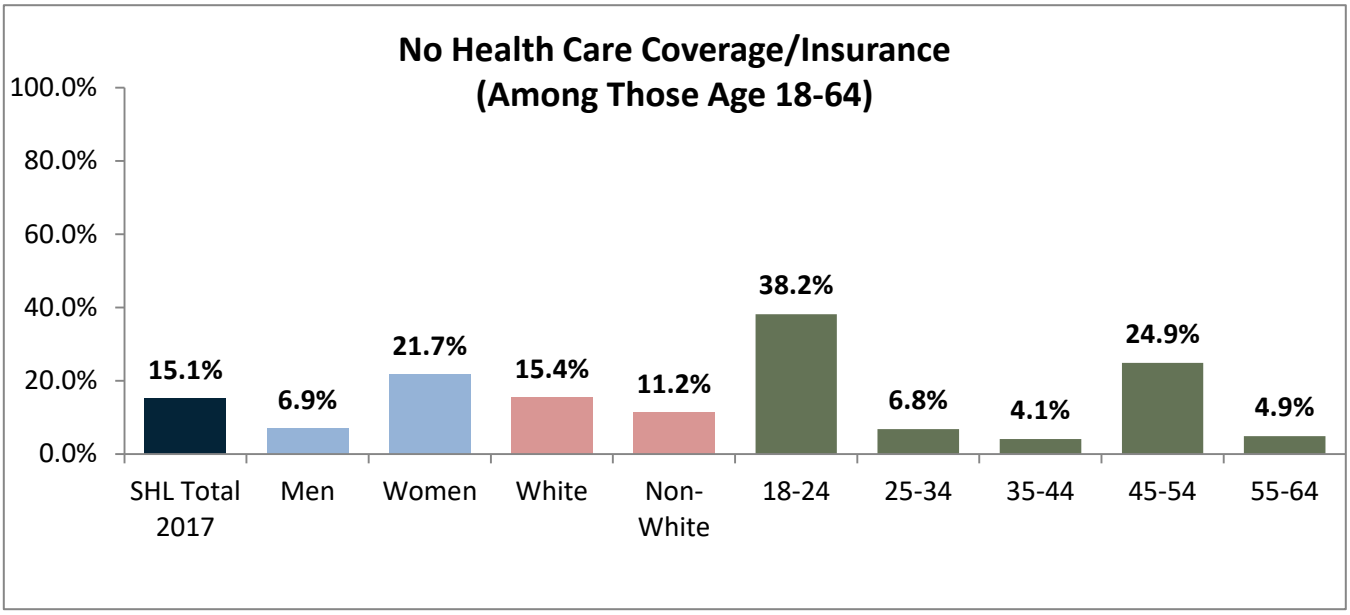
- Underserved residents seek providers who are: good listeners, knowledgeable, caring, honest, friendly, accessible and available to see them, professional, competent, and thorough. Being a good listener also means they should communicate well; they should ask questions and answer questions, be attentive, and explain things as thoroughly as necessary. Additionally, providers should show genuine concern, have a good bedside manner, and take time to visit with patients without making them feel rushed.

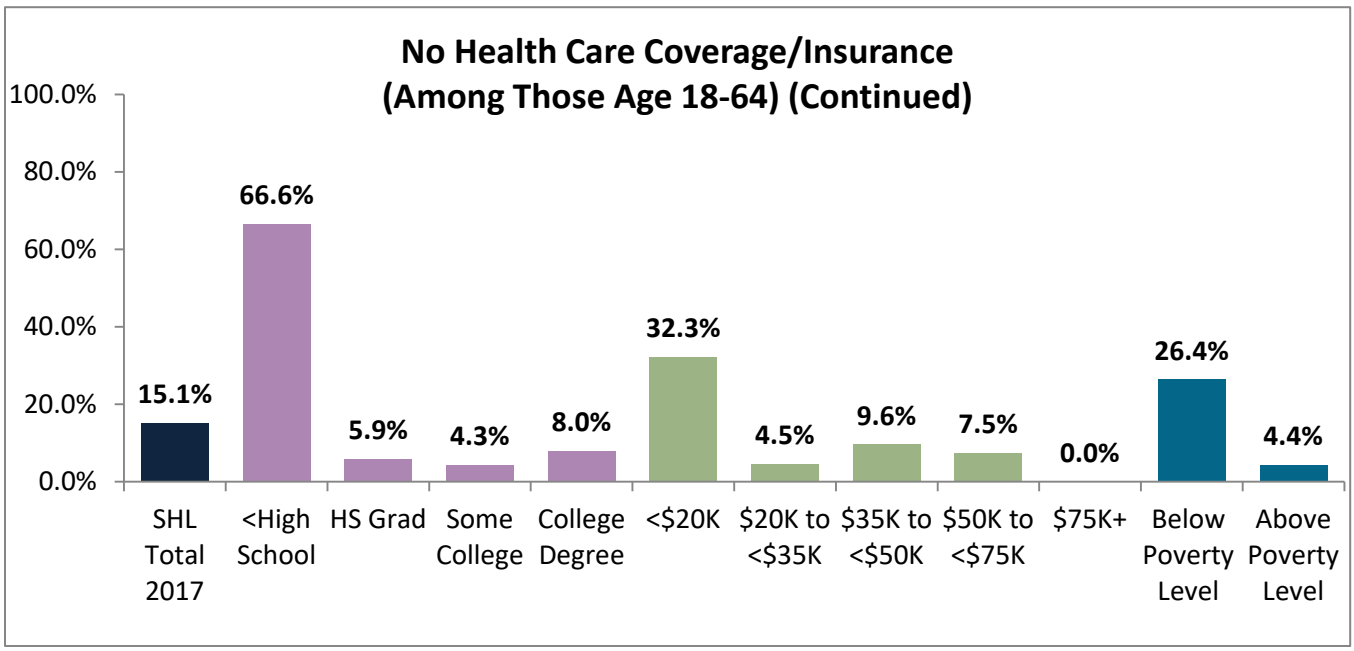
- Moreover, but not mentioned as frequently, are desired provider qualities such as being open to alternative treatment and therapies, a focus on prevention and wellness, and working with patients collaboratively to craft the best treatment plan.

Source: SHL Underserved Resident Survey, 2017, Q3: What is the most important quality you look for in a health care provider? Please be as detailed as possible. (n=149)

Health Care Coverage

- Among SHL area adults aged 18-64, 15.1% have no health care coverage or insurance, and this proportion is higher than the state (12.0%) or national (12.3%) proportions.
- The proportion of those without coverage is also up from 9.1% in 2014.
- Aside from those without a high school diploma, area adults less likely to have health insurance include women, those aged 18-24, and those with the lowest incomes.





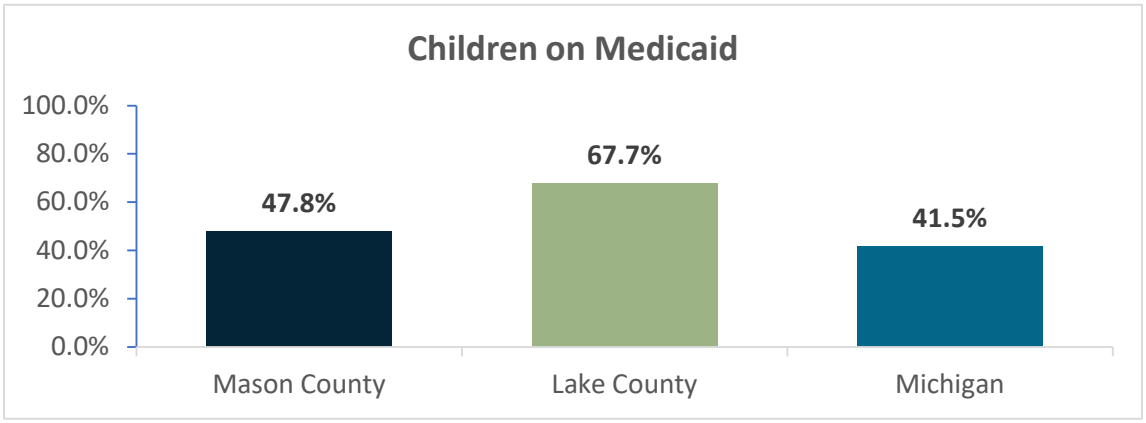
Source: SHL Behavioral Risk Factor Survey, 2017, Q3.1: Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare or Indian Health Service? (n=288). Note: among adults aged 18 to 64.

Health Care Coverage (continued)

- More often, the primary source of health coverage for area adults is a plan purchased through an employer or union, followed by Medicare.
- More children are on Medicaid in both Mason and Lake counties compared to Michigan.

	Primary Source of Health Coverage of All Adults	
	BRFS (n=511)	Underserved* (n=145)
A plan purchased through an employer or union	36.5%	57.2%
Medicare	26.7%	22.1%
A plan that you or another family member buys on your own	11.6%	4.1%
Medicaid or other state program	11.8%	15.9%
Tricare, VA, or military	1.2%	2.8%
Medicare supplement	NA	14.5%
None	12.1%	4.1%

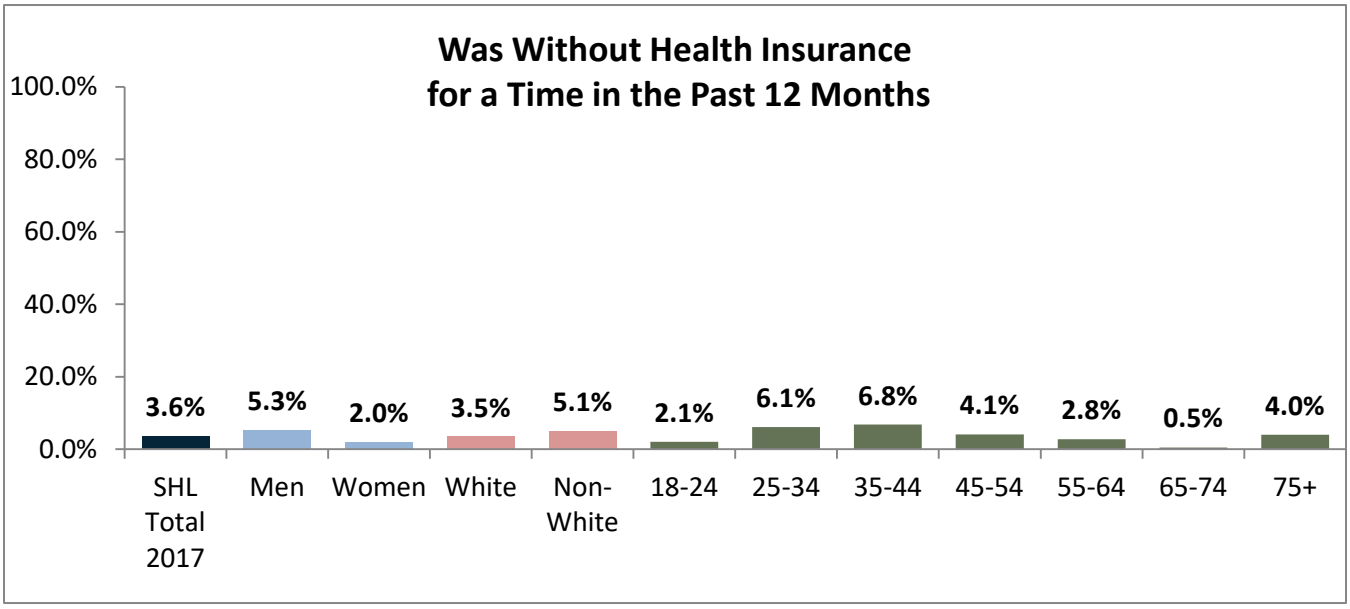
Source: SHL Behavioral Risk Factor Survey, 2017, Q3.2: What is the primary source of your health care coverage? Is it…?; SHL Underserved Resident Survey, 2017, Q9: Which of these describes your health insurance situation? *Note: multiple response question for underserved residents.

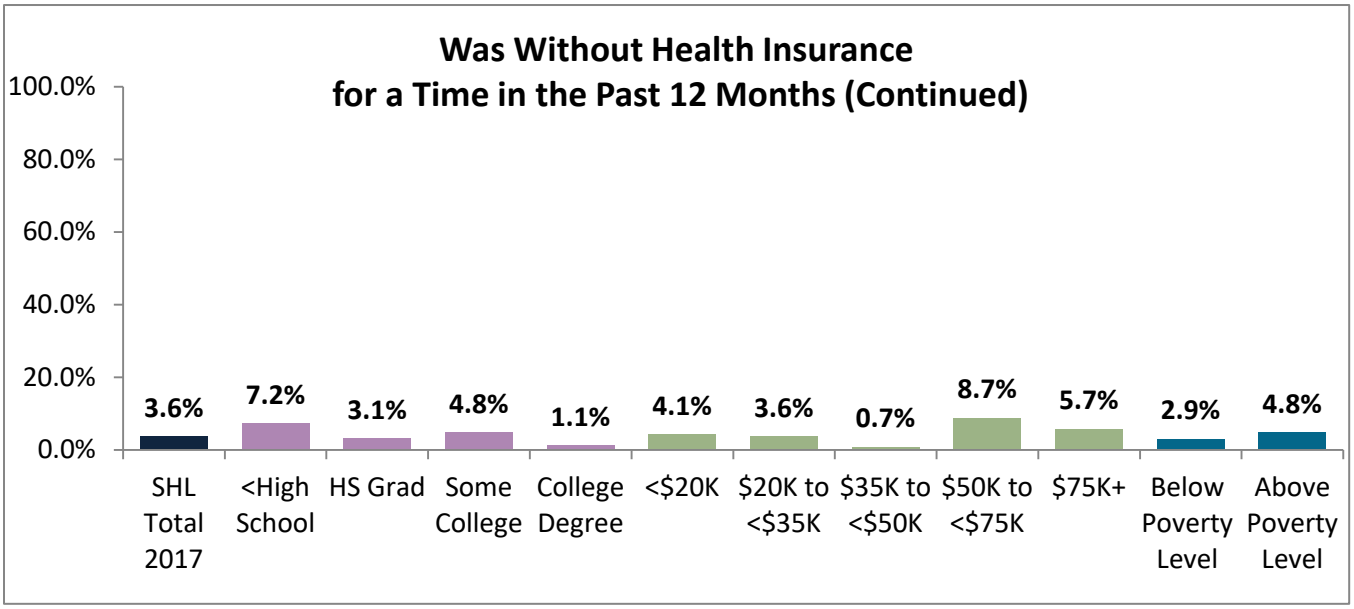


Source: Kids Count Data Book, 2016.

Health Care Coverage (continued)

Among area adults with health insurance, 3.6% went without insurance at some time during the past year, and this proportion rose to 7.2% for those without a high school diploma.

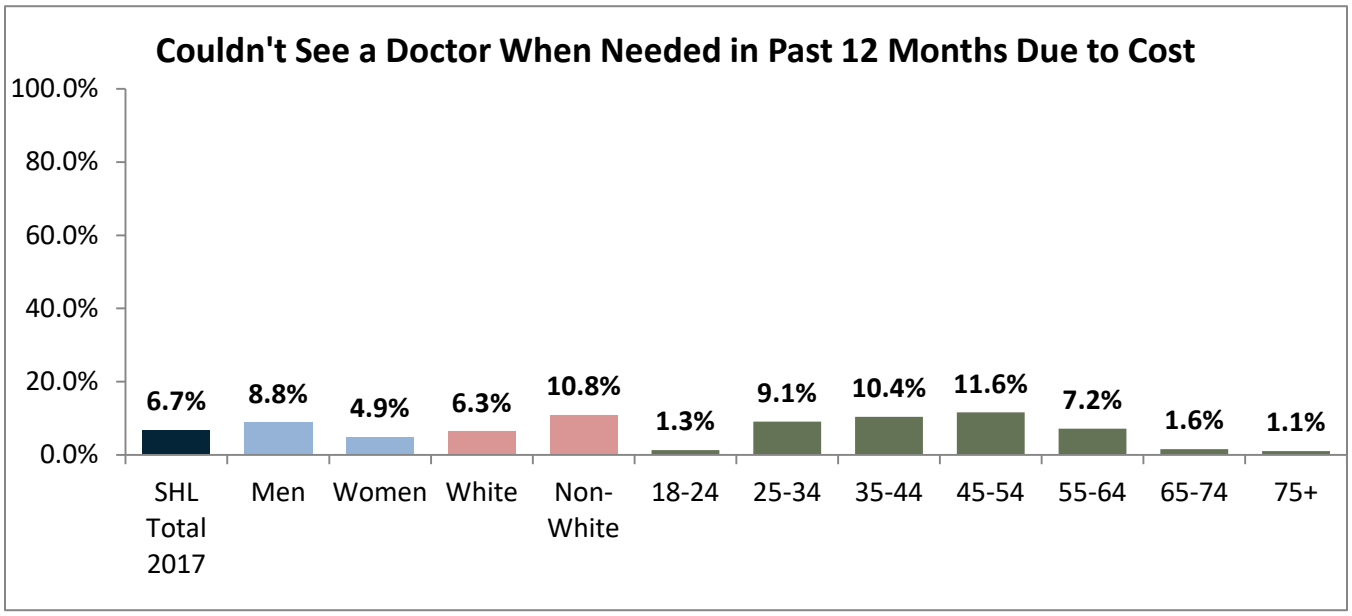


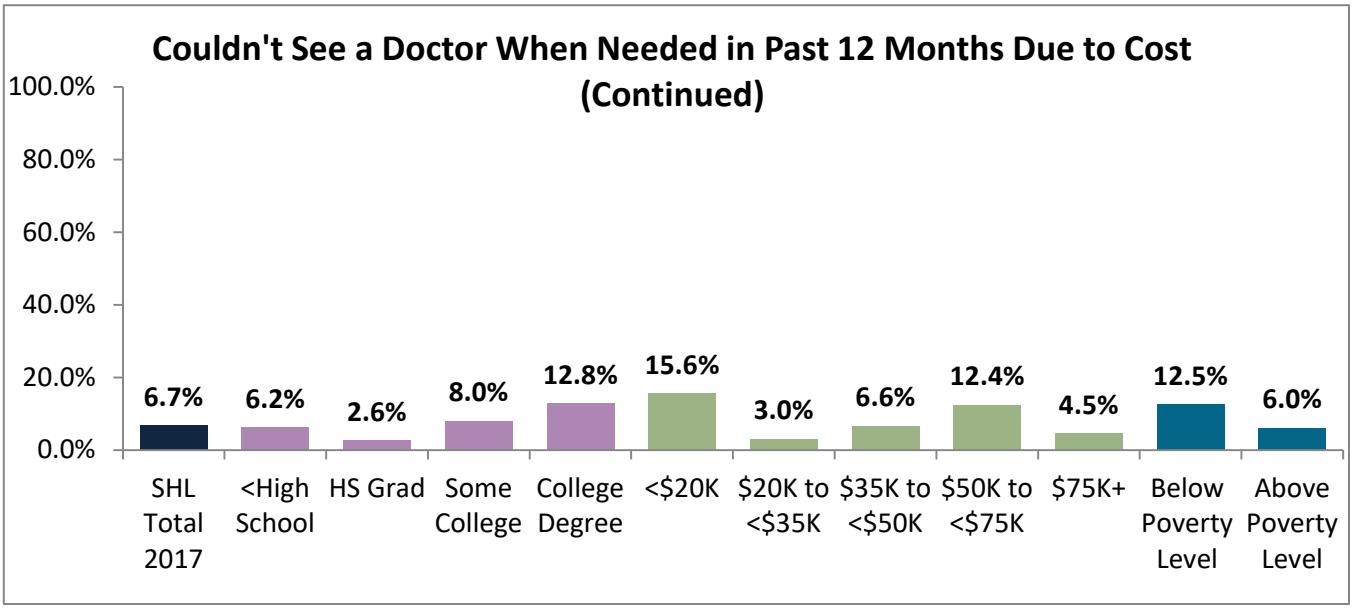


Source: SHL Behavioral Risk Factor Survey, 2017, Q3.3: In the past 12 months was there any time when you did not have any health insurance or coverage? (n=488). Note: among all adults who had health insurance.

Problems Receiving Health Care

- Among all SHL area adults, 6.7% have foregone health care in the past year due to cost, and this was more common among men and non-White adults compared to women and White adults, respectively.
- This rate is lower than the state (12.7%) or national (12.0%) rates.

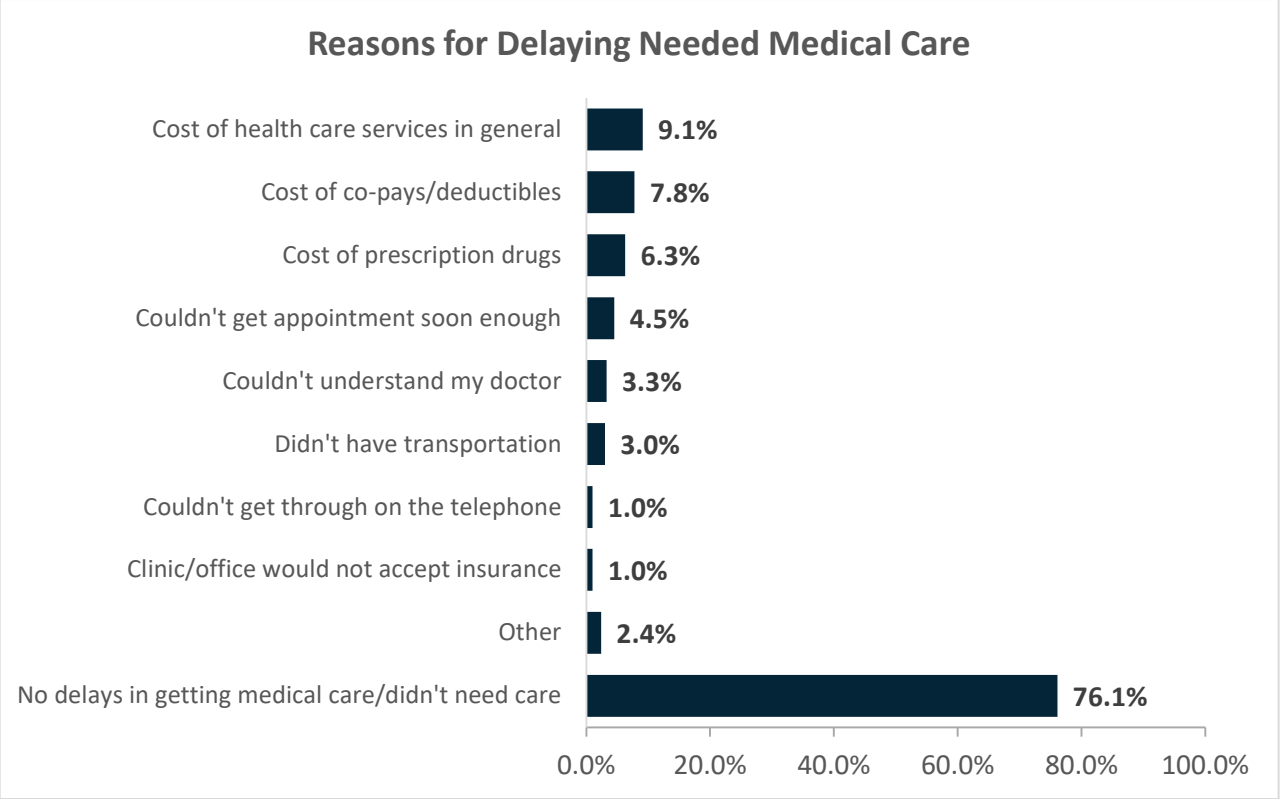




Source: SHL Behavioral Risk Factor Survey, 2017, Q3.5: Was there a time in the past 12 months when you needed to see a doctor but could not because of cost? (n=514)

Problems Receiving Health Care (continued)

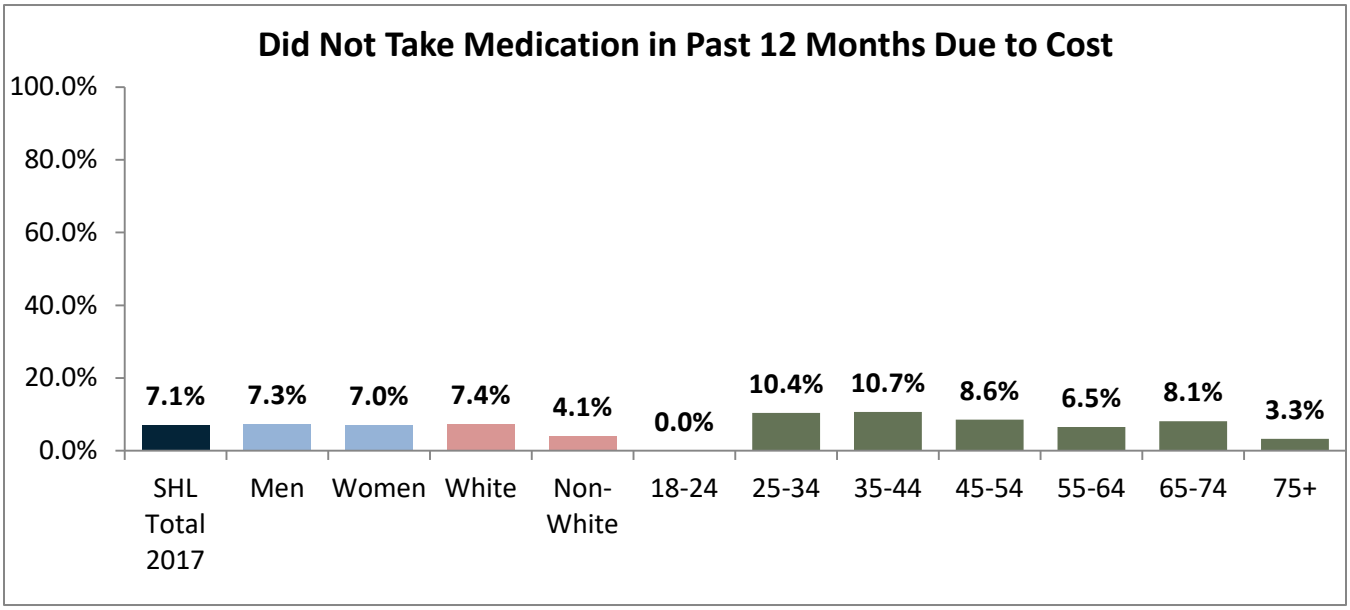
Three-fourths (76.1%) of area adults did not experience delays in receiving needed medical care in the past year, but those who did cite general health care costs; the inability to afford out-of-pocket expenses such as co-pays, deductibles, and prescription drugs; and inability to get a timely appointment as top barriers to needed care.

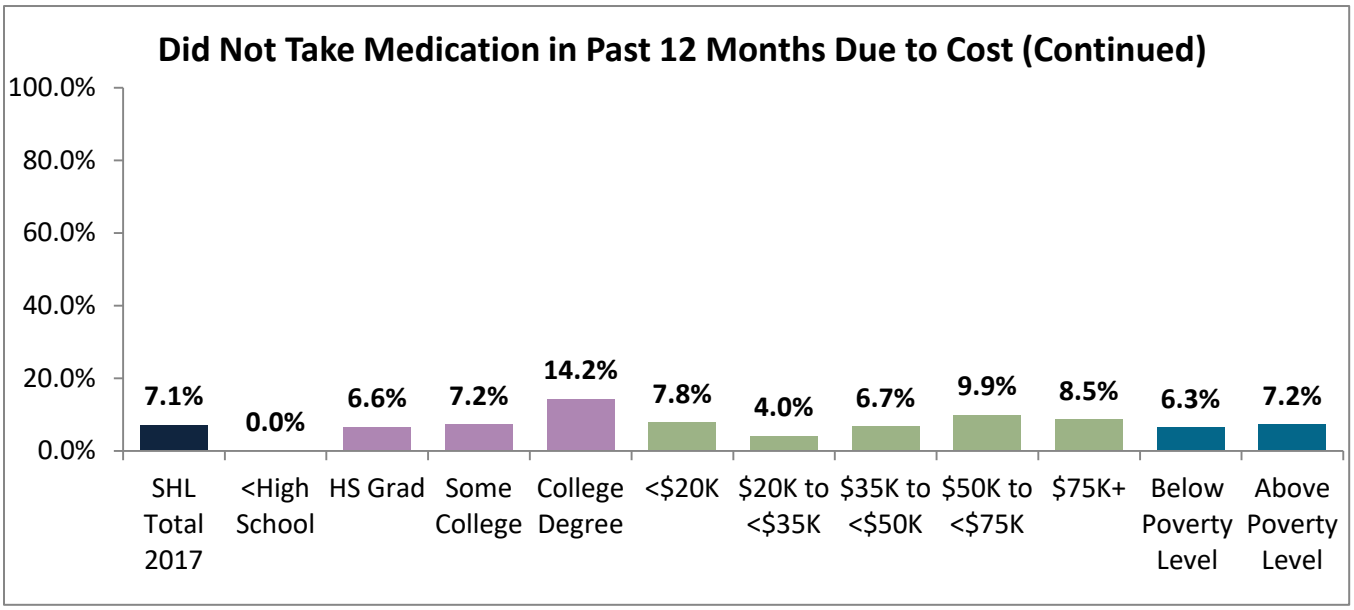


Source: SHL Behavioral Risk Factor Survey, 2017, Q3.6: There are many reasons why people delay getting needed medical care. Have you delayed getting needed medical care for any of the following reasons in the past 12 months? (n=511)

Problems Receiving Health Care (continued)

- One in fourteen (7.1%) adults did not take their medication as prescribed due to costs, and this proportion rises to 20.3% for underserved adults.
- Prescription costs tend to impact adults between the ages of 25-44 more than adults aged 45 or older.



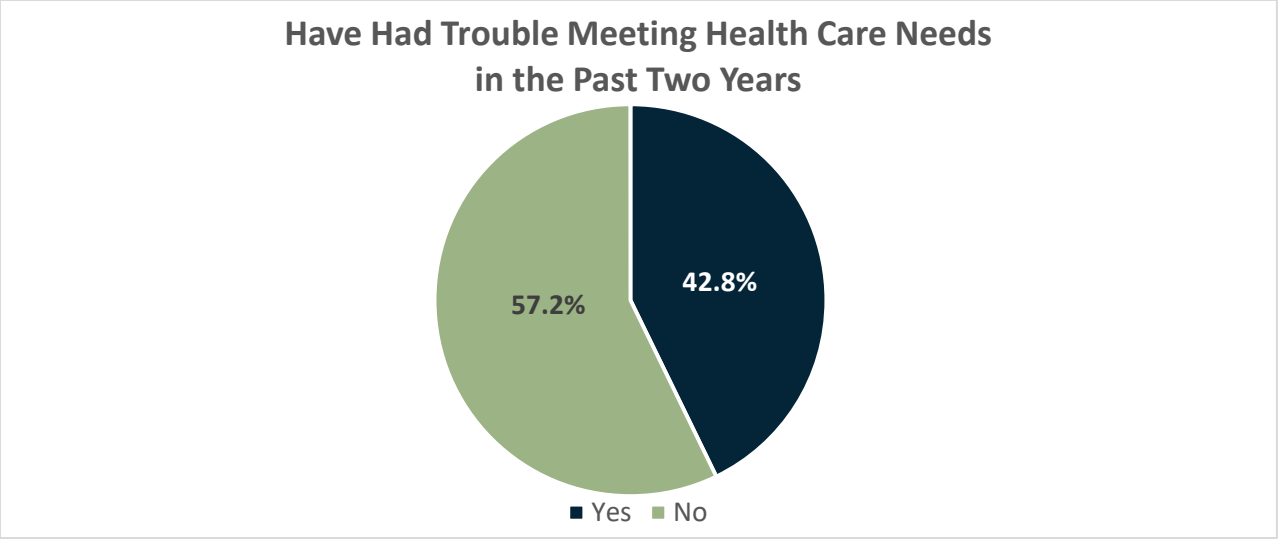


Source: SHL Behavioral Risk Factor Survey, 2017, Q3.7: Was there a time in the past 12 months when you did not take your medication as prescribed, such as skipping doses or splitting pills, in order to save on costs? Do not include over-the-counter (OTC) medication. (n=514); Underserved Resident Survey, 2017, Q12: Have you ever skipped your medication, or stretched your supply of medication, in order to save costs? (n=143)

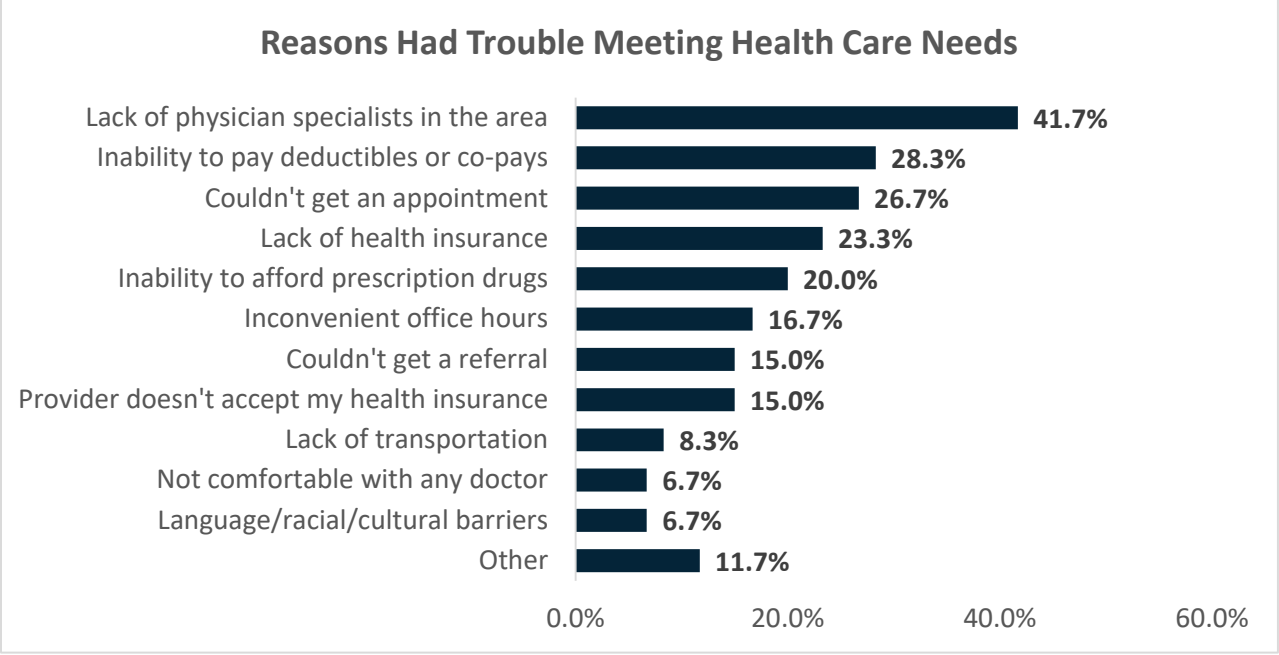
Problems Receiving Health Care (continued)

- Four in ten (42.8%) underserved adults have had trouble meeting their own or their family's health care needs in the past two years.

- Common barriers for those who had trouble meeting these needs are lack of specialists in the area, out-of-pocket expenses (co-pays, deductibles, prescription drugs), the inability to get an appointment, and lack of insurance.



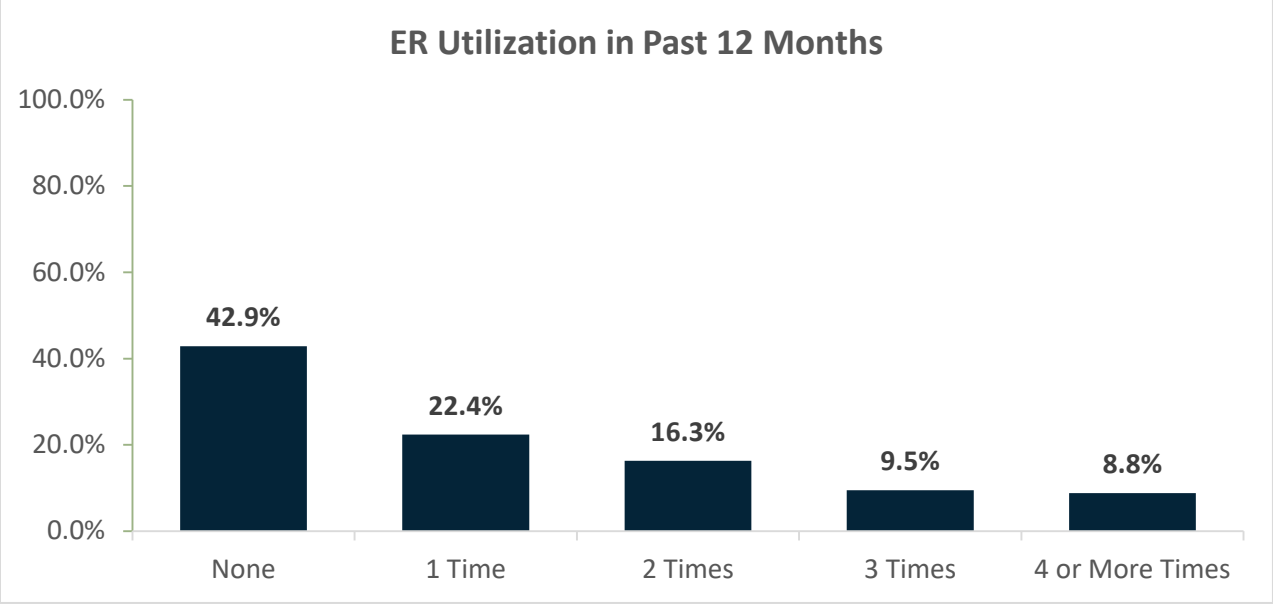
Source: SHL Underserved Resident Survey, 2017, Q10: In the past two years, was there a time when you had trouble meeting the health care needs of you and your family? (n=145)



Source: SHL Underserved Resident Survey, 2017, Q11: What are some of the reasons you had trouble meeting the health care needs of you and your family? (n=60). Note: among those who had trouble meeting health care needs of themselves/their family.

Problems Receiving Health Care (continued)

- Among underserved adults, more than half (57.1%) report either they or an immediate family member have visited the Emergency Room (ER) in the past year, and 34.6% visited two or more times.
- Key Stakeholder and Key Informant comments support the notion that ER/ED use occurs far more often than is warranted either because the circumstances are unavoidable or they are the result of mental health and/or substance abuse issues for which treatment is lacking.



Source: SHL Underserved Resident Survey, 2017, Q13: In the past 12 months, how many times have you, or an immediate family member, visited the Emergency Room (ER)? (n=147)

Patients need preventative care and **education** about diet, exercise, smoking, **proper use of emergency services**, etc. – *Key Informant*

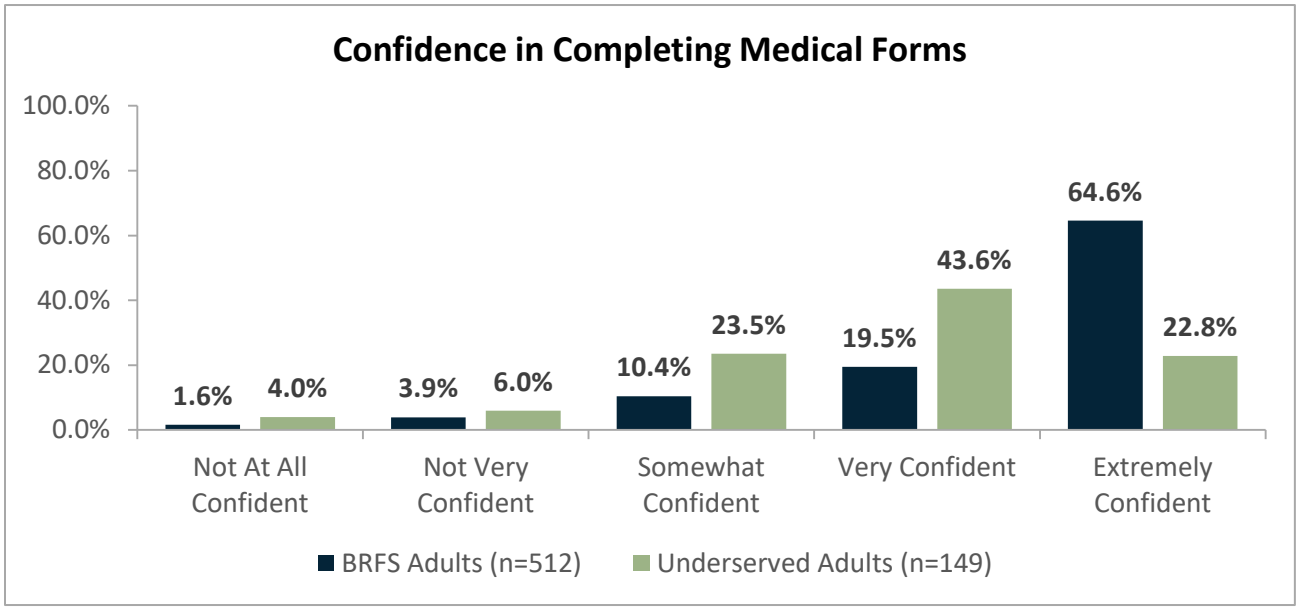
Trend of **increasing volumes of ED patients** with **psych/mental health (acute & chronic) issues** with very limited access to care. – *Key Stakeholder*

The new walk in clinics have been a great step, but **something that is open 24/7 would be ideal**. **People are forced to use the ER** (at a great expense to everyone) **due to a lack of anywhere to go 'after hours'**. I've had both my provider and our pediatrician recommend going to the ER simply because they had no appointments available at the office! There needs to be another option. – *Key Informant*

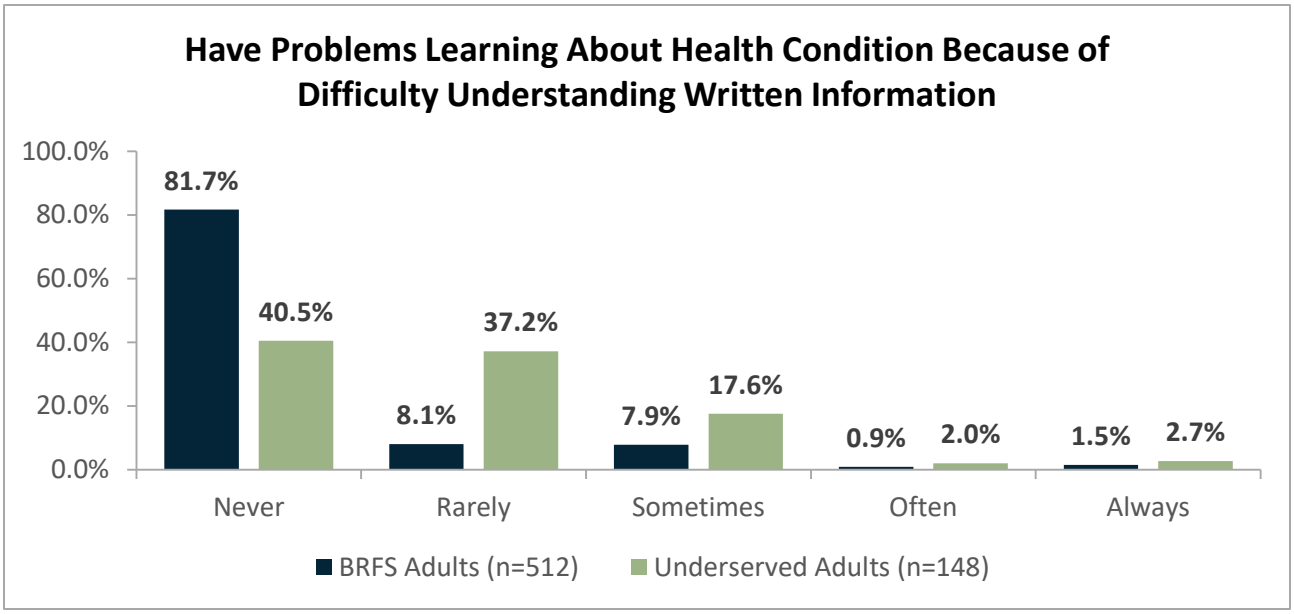
Increasing reports of overdoses in the community and the **number of patients coming to the ED with drug related issues**. – *Key Informant*

Health Literacy

Underserved adults are more challenged when it comes to health literacy compared to adults in the general population. For example, 64.6% of adults in the general population are extremely confident in completing medical forms compared to 22.8% of underserved adults.



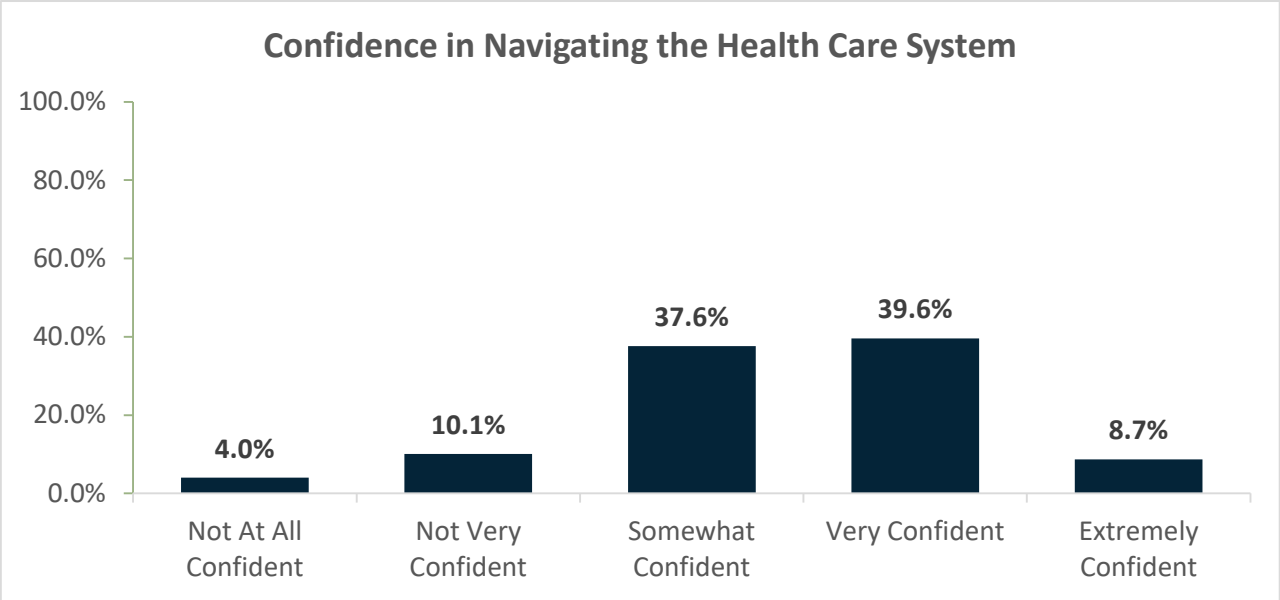
Source: SHL Behavioral Risk Factor Survey, 2017, Q9.1/SHL Underserved Resident Survey, 2017, Q19: How confident are you in filling out medical forms by yourself? For example, insurance forms, questionnaires, and doctor's office forms. Would you say….?



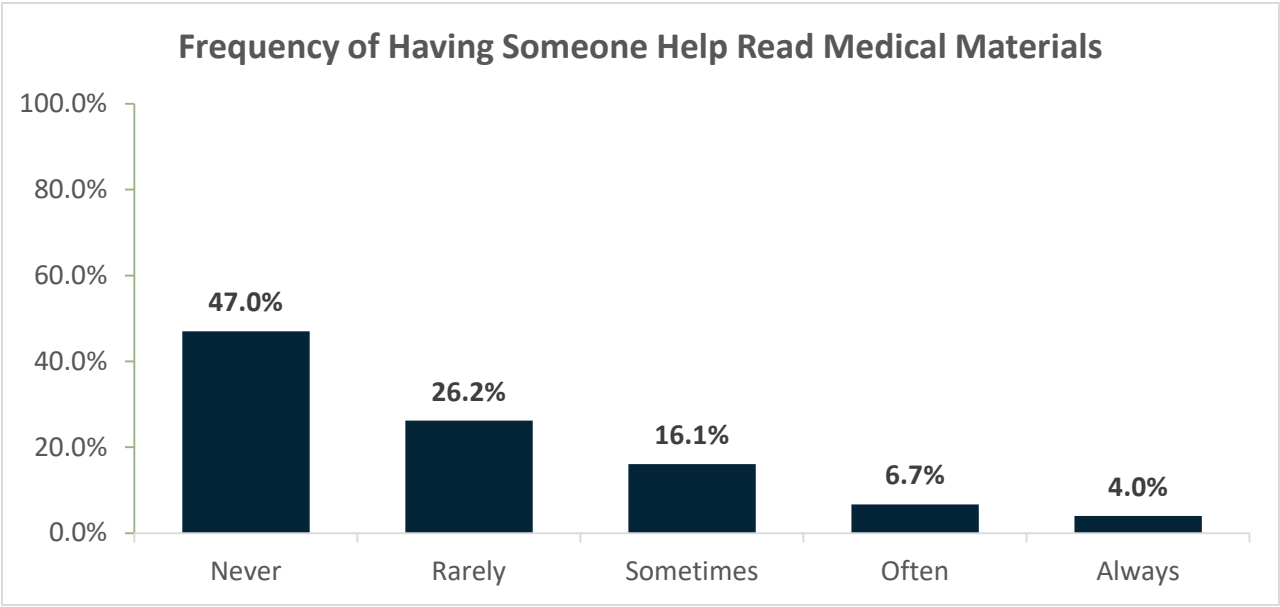
Source: SHL Behavioral Risk Factor Survey, 2017, Q9.2/SHL Underserved Resident Survey, 2017, Q21: How often do you have problems learning about your health condition because of difficulty in understanding written information? Would you say…?

Health Literacy (continued)

- One in seven (14.1%) underserved adults are not confident in navigating the health care system and an additional 37.6% are only somewhat confident.
- Further, 26.8% require someone to, at least sometimes, help them read medical materials.



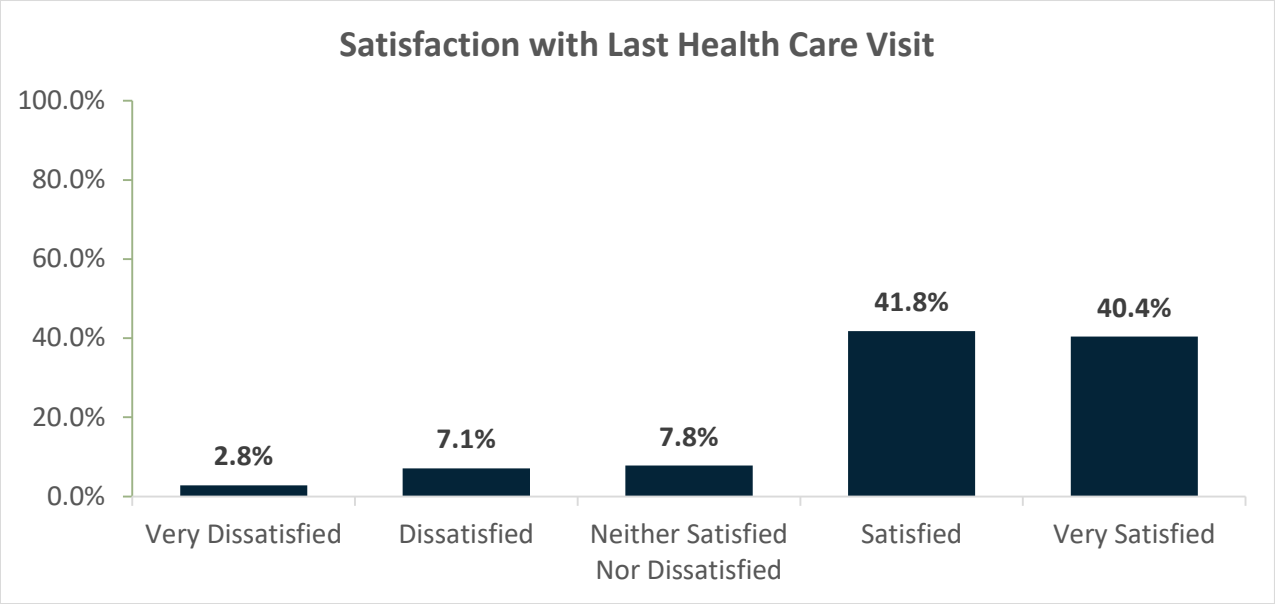
Source: SHL Underserved Resident Survey, 2017, Q18: How confident are you that you can successfully navigate the health care system? By navigating the health care system, we mean knowing: how to use your health plan or insurance, what your plan covers, how to read your statements, where to go for services, how to find a primary care provider, what your options are for treatment, etc. Would you say…? (n=149)



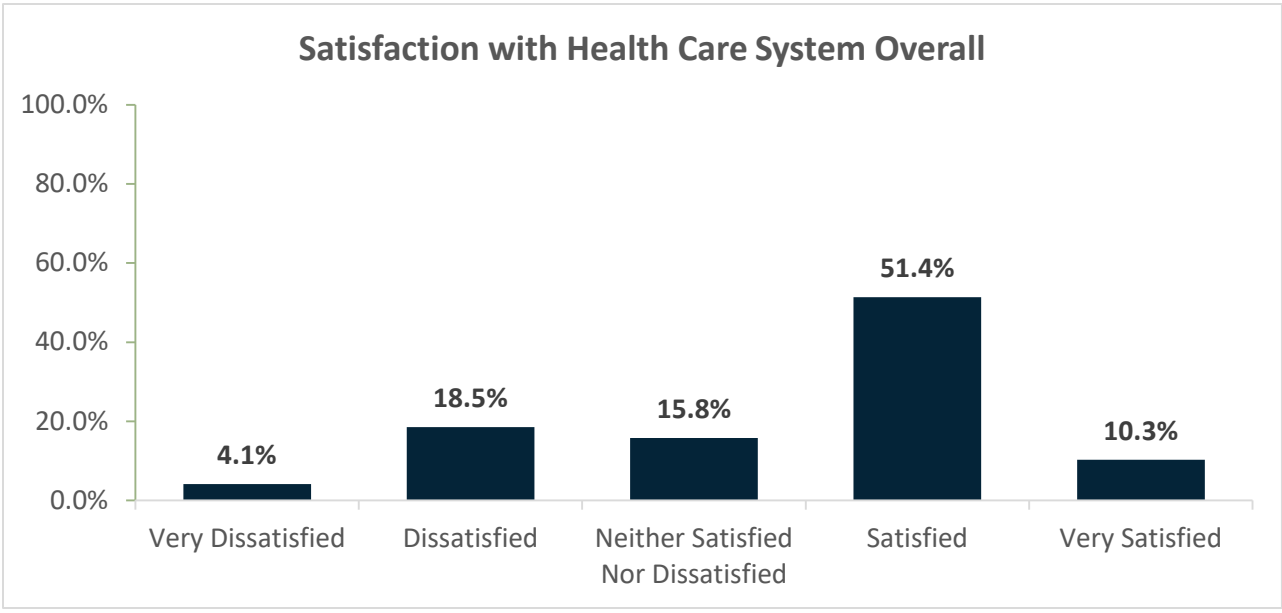
Source: SHL Underserved Resident Survey, 2017, Q20: How often do you have someone help you read medical materials? For example, a family member, friend, caregiver, doctor, nurse, or other health professional? Would you say…? (n=149)

Satisfaction with Health Care System

The vast majority (82.2%) of underserved adults are satisfied with their last health care visit and more than six in ten (61.7%) are satisfied with the health care system overall.



Source: SHL Underserved Resident Survey, 2017, Q4: How satisfied were you with your last visit for health care? (n=141)



Source: SHL Underserved Resident Survey, 2017, Q6: How satisfied are you with the health care system overall? (n=146)

Satisfaction with Health Care System (continued)

Underserved residents who are satisfied with their last health care visit cite the quality of care, providers offering solutions to problems, attentive providers who listen, and being able to easily schedule an appointment and get in to see the provider when necessary, as reasons for satisfaction.

Quality of care	Our **doctors are wonderful** - **caring**, **knowledgeable** and **not afraid to refer out** when needed. Moved in and out in a **timely manner** but still **treated us as a person who matters**. **Follow-up visits with good communication** with **physician through nursing staff rather than repeat physician visit**. Wait time in office appropriate. My doctor **listens to my concerns**, **takes the time to explain** everything and **is not always rushed to the next patient**.
Offers solutions/meet needs	My **issue was resolved** and **I felt confident and comfortable** with my physician. My doctor is **working with me for a solution**. The physician's assistant **thoroughly went over test results**, **contacted specialists**, **ordered appropriate tests**, and **diagnosis** was made. She also **went over the plan** (summarized) it at end of appointment.
Attentive providers	Doctor is very **caring**, **thorough** and **listens**. I felt that the **provider actually listened** to understand what my issue was that I presented with. Doctor is **on top of my information** - **works with me**, shows **concern** and **compassion**.
Easily accessible	**Same day care** treated the issue. **Appointment was timely** and completed my needs. **Appointment was on time**, **prompt**, **quick**, and **informative**.

Source: SHL Underserved Resident Survey, 2017, Q5: (If satisfied with last health care visit) Why do you say that? Please be as detailed as possible. (n=108)

Satisfaction with Health Care System (continued)

Conversely, those dissatisfied with their last health care visit cite incorrect or ineffective treatment; wait times that were too long; and incompetent, rude or pushy providers, as reasons for dissatisfaction.

Incorrect/no treatment	**Couldn't figure out what was wrong**. Doctor addressed **three concerns** - **none successfully** - **spent lots of time and money, nothing achieved**. **Does not support or provide ideas to improve**. I have **several health problems going on at once and no one knows how to handle some of them**. **Very short visits** - **rushed through appointments**; **offered to prescribe meds vs. education on preventive measures**.
Wait time/scheduling problems	My son had cramp. ER got us in quick then **left us sit for over two hours with nobody even checking** until I called for nurse **then it took her 20 minutes to get answers**. **Couldn't get an appointment**. **Had to go to emergency room**. **Long waiting time**. The **phone system is terrible**. Call your doctor and get someone who says you **can't schedule an appointment** without speaking to a medical assistant. They don't answer. You **have to call several times and then they ask who your doctor is**.
Unfriendly/rude	**Felt rushed through** - doctor did talk, but **was rushing** - **no time for questions**. **Office help unfriendly** and **not helpful** - **never answer phone calls** or very hard to get through. The **doctors were too pushy**. **Very poor interaction with pediatrician**.

Source: SHL Underserved Resident Survey, 2017, Q5: (If dissatisfied with last health care visit) Why do you say that? Please be as detailed as possible. (n=15)

Satisfaction with Health Care System (continued)

Underserved residents who are satisfied with the health care system overall value their health insurance, the quality of care they receive, the attentive and caring providers, and the accessibility of care when they need it.

Good insurance	They **work well with my insurance**. I don't see a provider often, but when I have, I felt it **went well**. Truly **my insurance is good and that is what determines the overall satisfaction of my health care provider**. Now have **Medicare** and **secondary insurance**, it's not cheap even as a retiree but **covers me well**. That **was not true 6-7 years ago**, had an expensive "catastrophic" policy that paid nothing. I **have great health insurance**.
Quality of care	**Been really good health care** at hospital and doctor office. I was able to **get excellent care in a timely manner**. I feel that our **family has received excellent care**. I love that I can go to Grand Rapids and they still see info from our Ludington files. **Pediatric office awesome**! **OB dept of hospital awesome**! **Great nurses**.
Attentive providers	**Nurses were attentive**, **check-in was simple**. The facilities are nice, **most staff professional and attentive**. I have had issues with hospital billing services and hospital procedure scheduling. All tests run the **person doing the test has been nice and caring**. Had surgery and was hospitalized overnight and the **care was great**.
Easily accessible	**Able to access competent comprehensive care locally**.

Source: SHL Underserved Resident Survey, 2017, Q7: (If satisfied with the health care system) Why do you say that? Please be as detailed as possible. (n=130)

Satisfaction with Health Care System (continued)

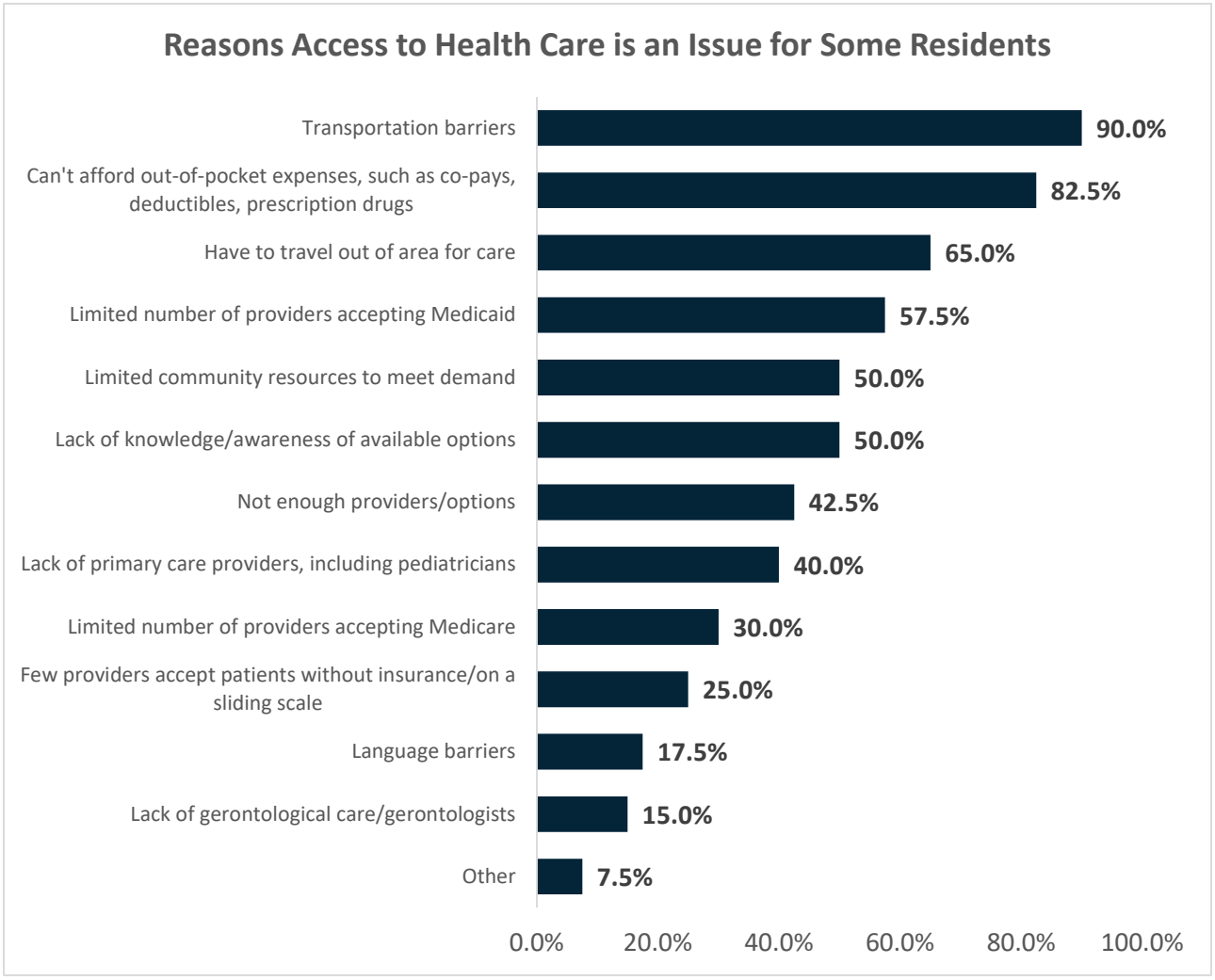
Conversely, those dissatisfied see a system that is all about profit at the expense of quality of care, inflated costs, wait times that are too long, difficulty accessing services, and a complex and complicated system to navigate.

Bad model/for profit	Its **focus is on money** - billable services - **seeing as many patients as possible** - **not the individual**. I **feel the insurance companies are in charge of my health instead of my doctor**. **Insurance should not dictate plan of care**. There is **little advocacy for patients**. We as users **have become products of mass production**. It's **not what is truly best for the patients** but **what's best for the bottom line**. Way **too dependent on cost and paying insurance companies**.
Cost	**Insurance costs too much**, **meds are too expensive**. My **husband does not go to the doctor because he doesn't want a big bill**. **Health care is very expensive**, **services are very expensive**, doctor/providers **do not have evening hours for people who work during the day**.
Wait times too long/hard to get appointments	It **takes way too long to get in to see specialists**. I feel it is **more difficult than ever to get into the doctor** and it **takes way too long when you go to the emergency room**. You are **waiting** and the **nurses are sitting at the desks**.
Complicated/complex	It's **overwhelming**, **long waits for good doctors**, **billing comes from everywhere**! Especially surgery bills. You **never get down to the bottom line**.
Lack of quality	I **don't feel quality care is provided at the hospital in Ludington** - **difficult to access specialists without months of waiting**.

Source: SHL Underserved Resident Survey, 2017, Q7: (If dissatisfied with the health care system) Why do you say that? Please be as detailed as possible. (n=35)

Barriers to Health Care

- Almost all (92.9%) Key Informants believe access to health care is a critical issue for some residents in the community.
- Nine in ten (90.0%) believe the top barrier to care for this group is transportation issues.
- Other major barriers are the inability to afford out-of-pocket expenses such as co-pays, deductibles, spend-downs, and prescription drugs; having to travel for services; limited number of providers accepting Medicaid; limited community resources to meet the demand; and lack of awareness of the programs and services that currently exist.

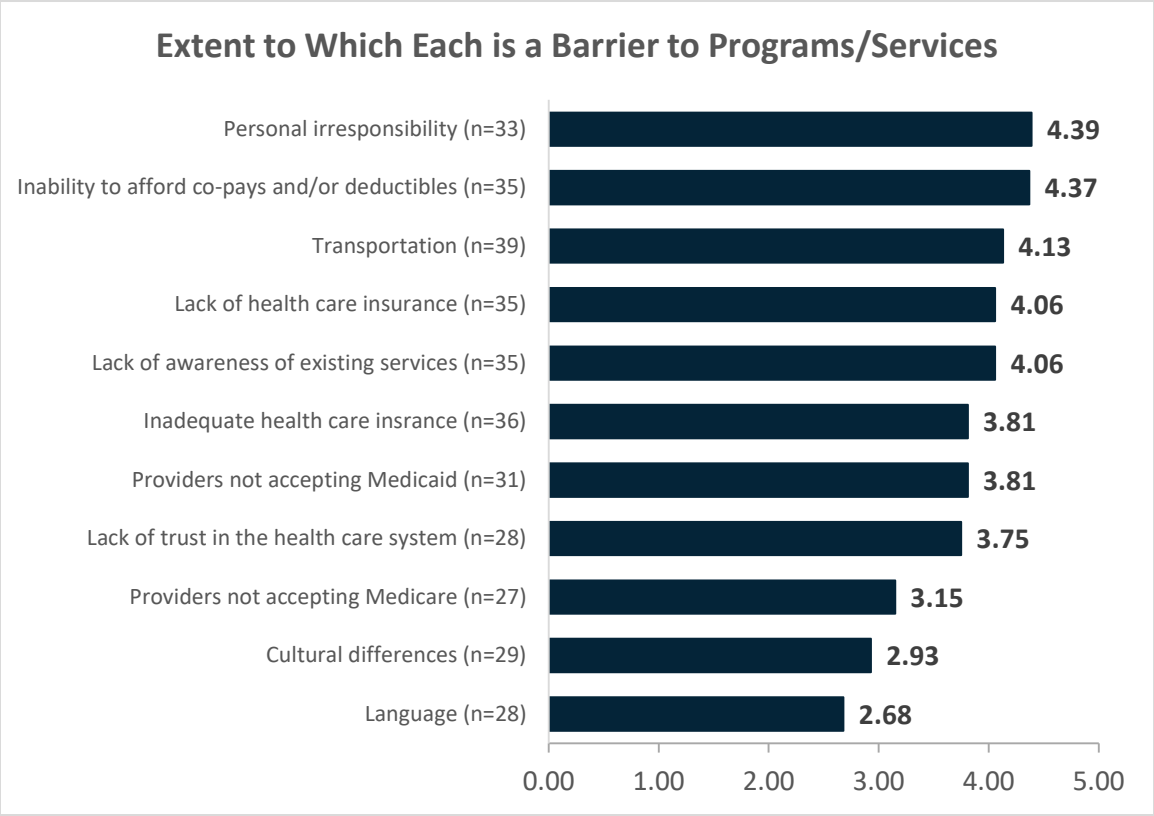


Source: SHL Key Informant Online Survey, 2017, Q4: Do you believe that access to health care is a critical issue for some residents in your community? (n=42); Q4a (If yes) In your opinion, why is access to health care an issue for some residents in your community? (n=40)

Barriers to Health Care (continued)

- When rating the extent to which something is a barrier to health care, Key Informants place personal irresponsibility at the top, followed by an inability to afford out-of-pocket costs, transportation, lack of insurance, and lack of awareness of existing programs/services.

- Key Stakeholders also highlight the cultural barriers in terms of distrust of the system.



Source: SHL Key Informant Online Survey, 2017, Q8: To what extent is each of the following a barrier or obstacle to health care programs and services? Note: 1-5 scale, where 1=not at all, 2=not very much, 3=slightly, 4=somewhat, 5=very much.

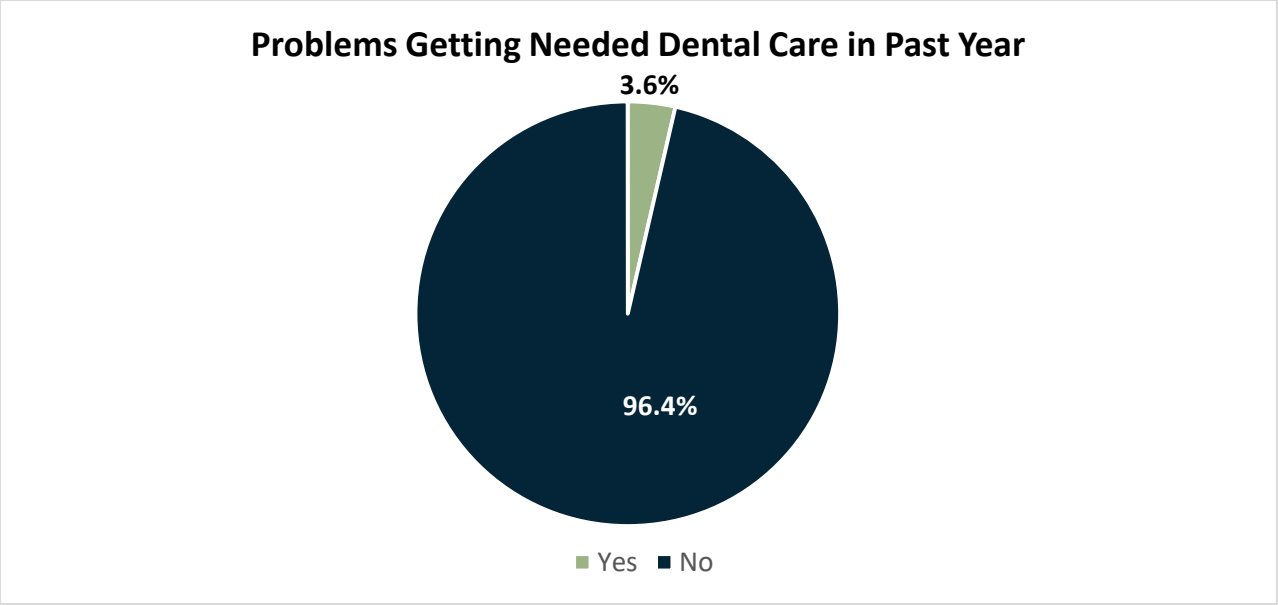
I think one of the big things is **people have to travel to get to specialty care**. So, **we have patients who will refuse radiation because they don't want to travel to Muskegon to get their radiation** or that they don't want to drive down to Grand Rapids, or they don't have a car that will make it that far. I would say probably the biggest thing is the **distance**, and then I think it's an **unawareness of the providers that are available**. If you don't practice in a big tertiary health system - in the hub of that health system, then you're not always aware of what the new services are and what's possible. – *Key Stakeholder*

There are **cultural differences and distrust of the medical community in some groups** and **in some families**, and I think that's an **ongoing issue whether you live in rural or urban areas**. – *Key Stakeholder*

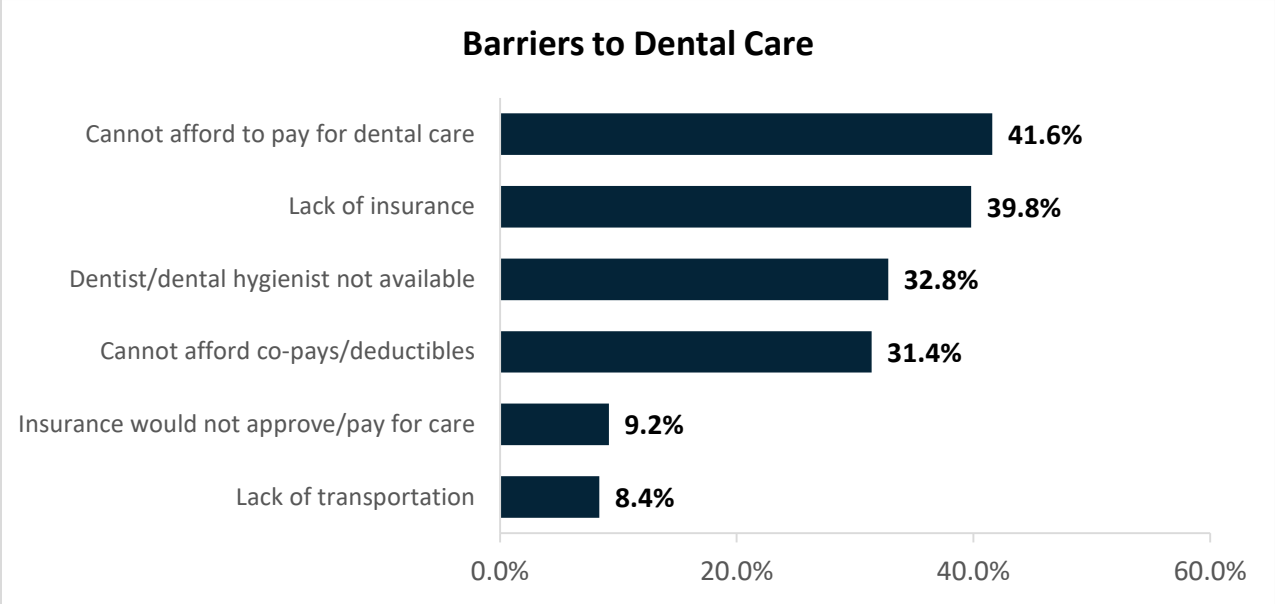
Source: SHL Key Stakeholder Interviews, 2017, Q7: Are there any barriers or obstacles to health care programs/services in your community?' Q7a: (If yes) What are they? (n=6)

Barriers to Dental Care

- Few (3.6%) area adults had problems receiving needed dental care in the past year, but those who did reported costs (general dental costs and out-of-pocket costs), lack of insurance, and the dentist being unavailable.



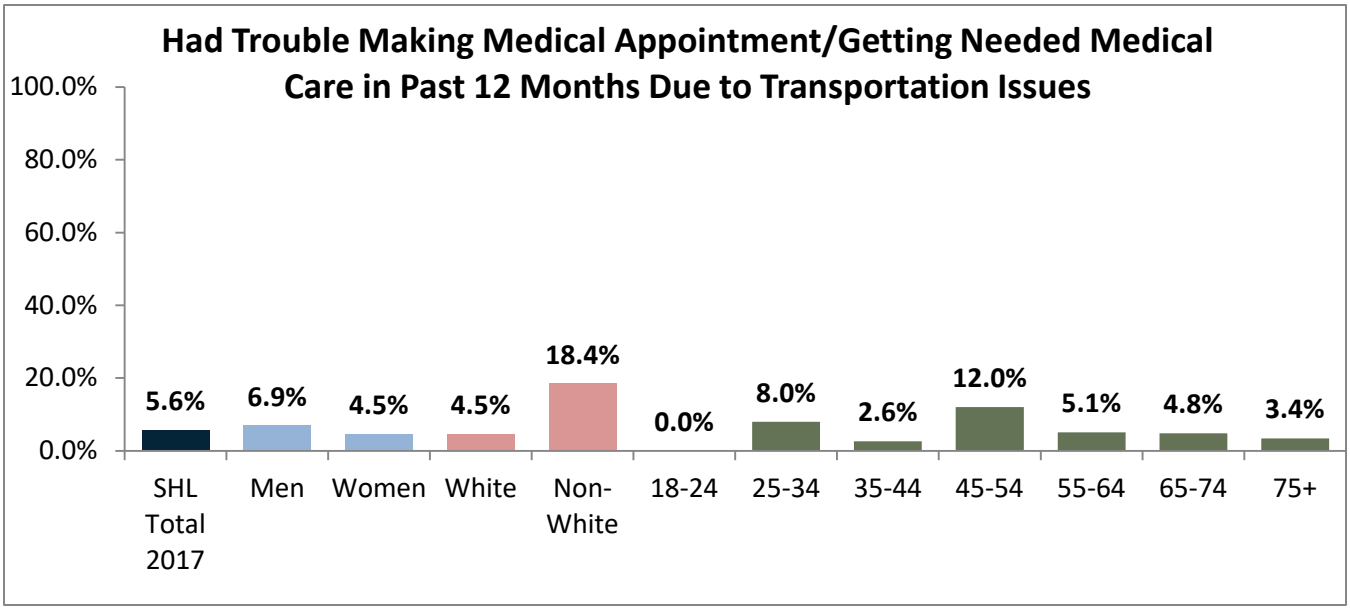
Source: SHL Behavioral Risk Factor Survey, 2017, Q19.2: In the past 12 months, have you had problems getting needed dental care? (n=513)

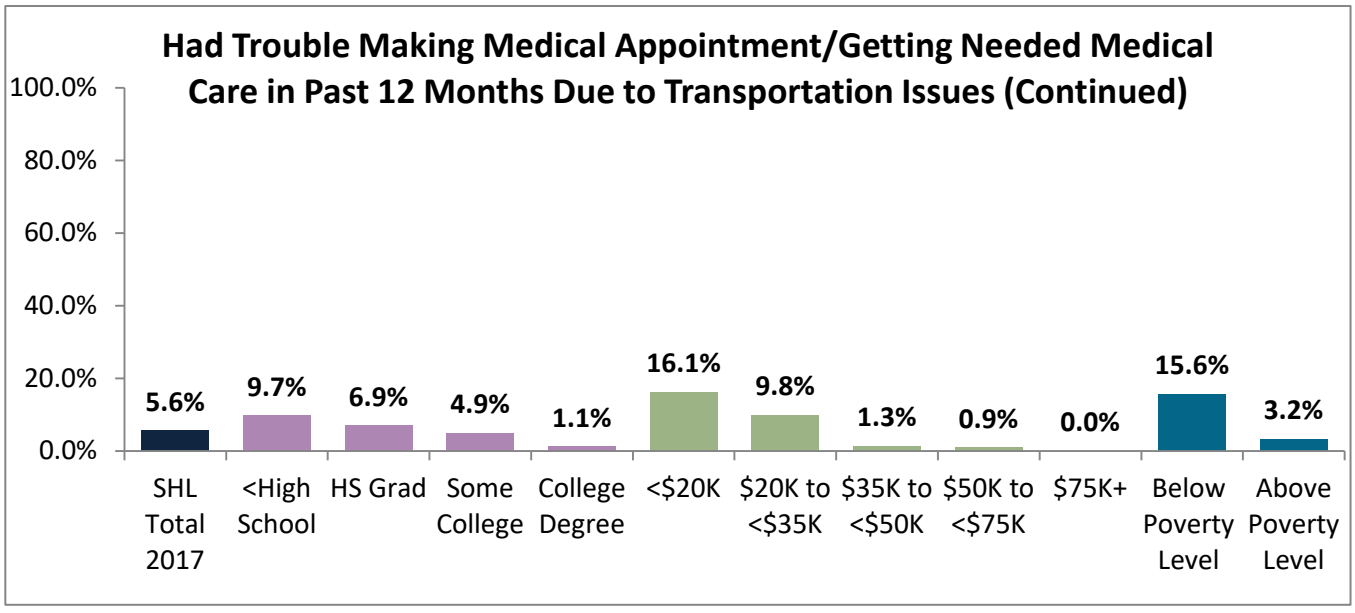


Source: SHL Behavioral Risk Factor Survey, 2017, Q19.3: (If yes) Please provide the reason(s) for the difficulty in getting dental care. (Multiple response) (n=25)

Transportation as a Barrier to Care

- Almost one in eighteen (5.6%) SHL area adults had trouble making a medical appointment or getting needed medical care in the past year because of transportation issues.
- Those most likely to have transportation issues come from groups that are non-White, have less than a high school diploma, and have incomes below $35K.

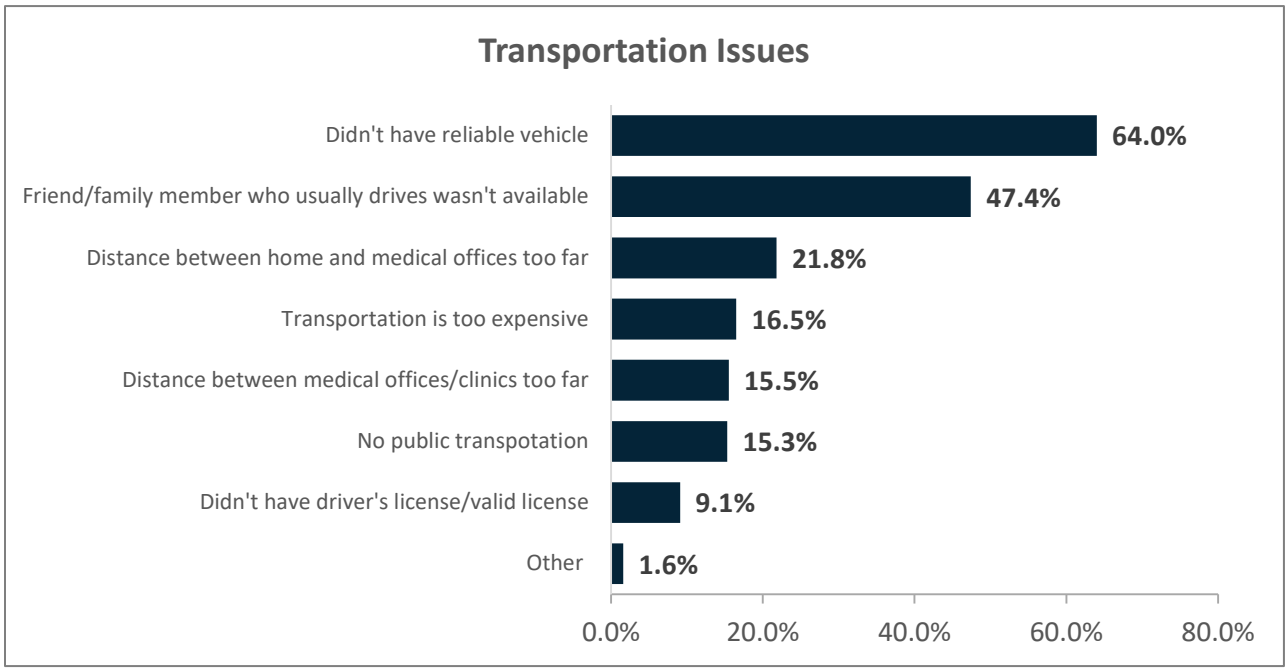




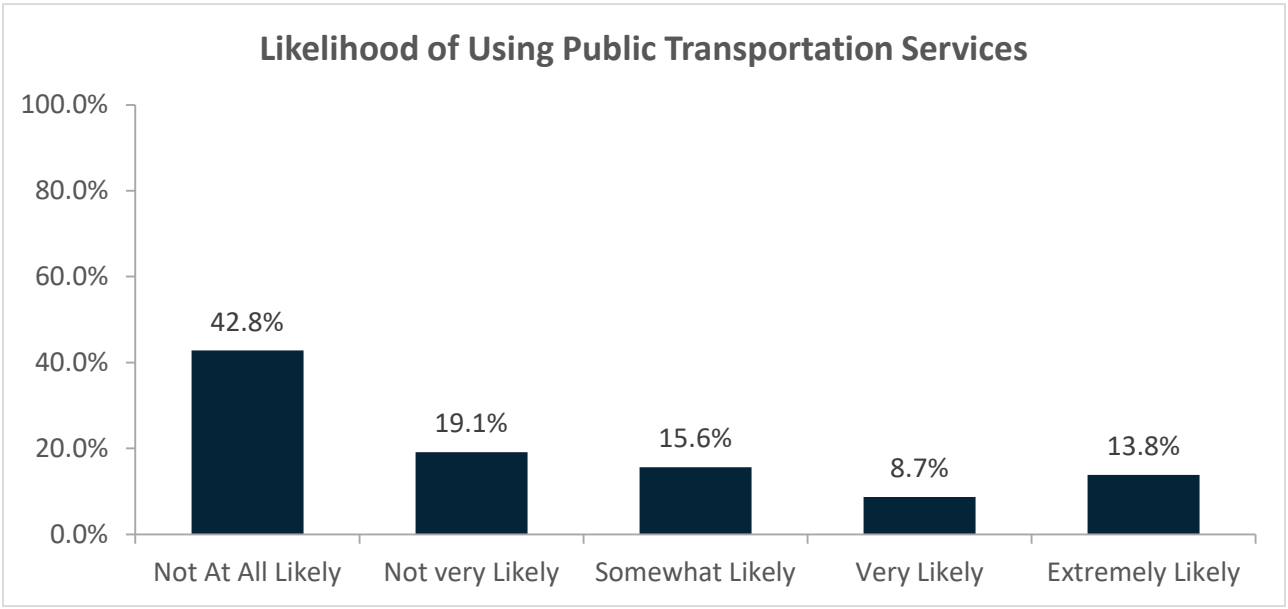
Source: SHL Behavioral Risk Factor Survey, 2017, Q3.8: In the past 12 months, did you have trouble making a medical appointment or getting needed medical care because of transportation issues? (n=514)

Transportation as a Barrier to Care (Continued)

- Among those who had transportation issues, lack of a reliable vehicle was the main barrier, followed by family or friends being unavailable.
- When all area adults were asked how likely they were to use public transportation if it were available, six in ten (61.9%) said not likely; on the other hand, 22.5% would likely use it.



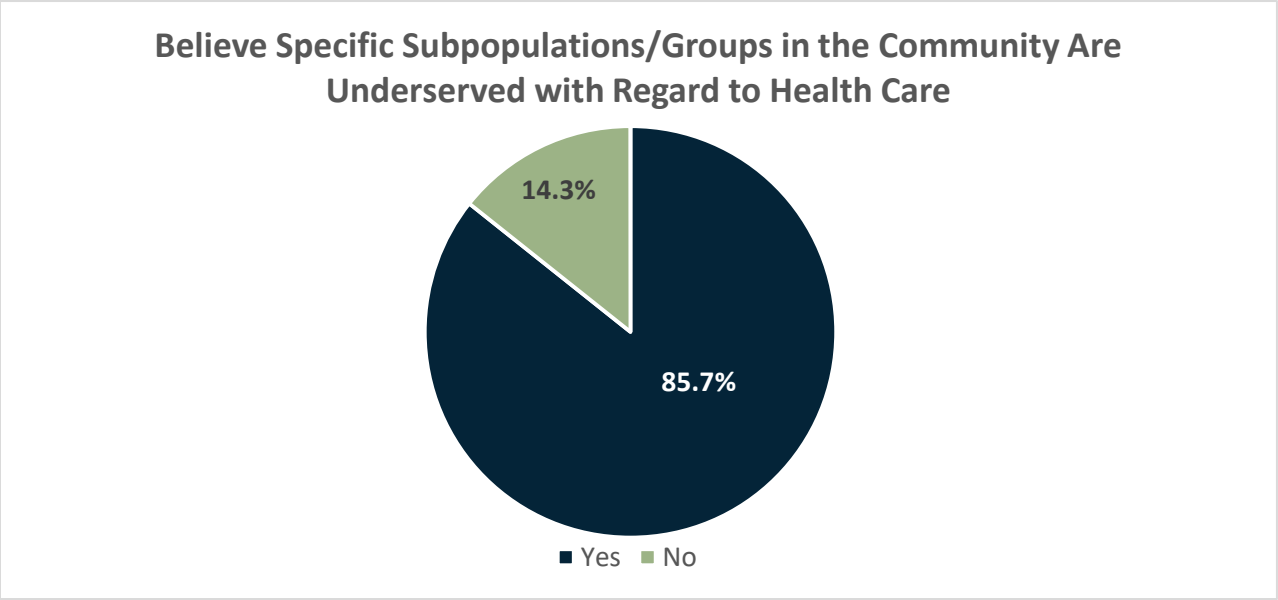
Source: SHL Behavioral Risk Factor Survey, 2017, Q3.9: (If yes) What were the transportation issues? (Multiple response) (n=29)

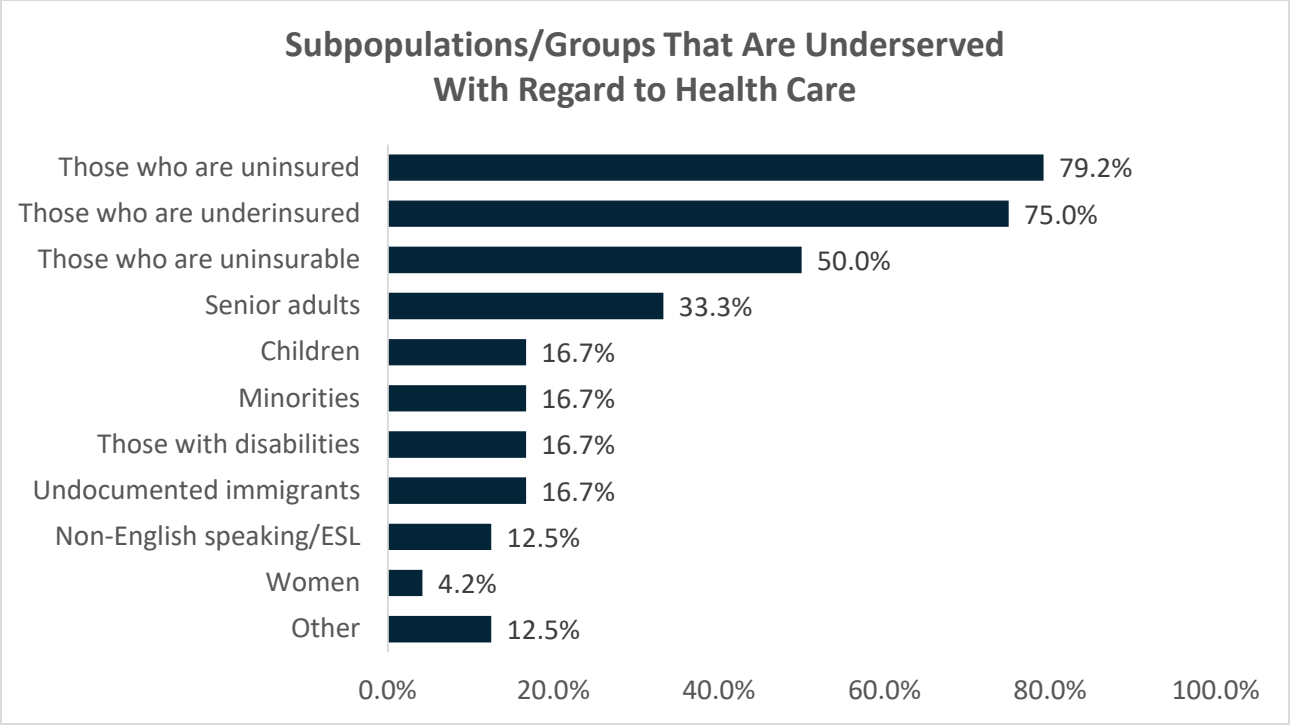


Source: SHL Behavioral Risk Factor Survey, 2017, Q3.10: If public transportation were made more available (e.g., community vans, Uber, buses, etc.), how likely would you use these services? Are you….? (n=505)

Underserved Subpopulations

Nearly nine in ten (85.7%) Key Informants believe specific subpopulations, or groups, in the community are underserved with regard to health care, and those most underserved are the uninsured and the underinsured.





Source: SHL Key Informant Online Survey, 2017, Q5: Are there specific subpopulations or groups of people in your community that are underserved with regard to health care? (n=28); Q5a: (If yes) Which of the following subpopulations are underserved? (n=24)

Underserved Subpopulations (continued)

Key Stakeholders and Key Informants believe access to health care programs and services is a critical issue for vulnerable and/or underserved subpopulations, because in addition to experiencing obstacles receiving care even when they have coverage, there are numerous other barriers preventing them from living optimally healthy lives. That said, those who have coverage may face obstacles to utilization, such as an inability to afford out-of-pocket expenses or providers refusing to accept their insurance coverage. Those without insurance may be forced to utilize the ER/ED and one must believe this group is not receiving prevention or wellness care.

Insurance not utilized because of out-of-pocket expenses	I think even people that are well-insured in today's era - the out of pocket expenses are tough to meet, especially if you happen to be insured through the ACA. Even good health plans now have large copays and deductibles. It's just part of the overall problem that exists in health care in the country right now, so yeah, I think for a lot of people it's the challenge of being able to manage that. – *Key Stakeholder* I think there are issues with individuals who have purchased first a policy off the Marketplace, and you have a high deductible with it. I think there are people with insurance that can't use it because of the deductibles and copay costs. – *Key Stakeholder*
Insurance not accepted	They will accept one Medicaid but not another Medicaid, so it's kind of like learning - it's helping people that are on Medicaid to figure out what providers are taking what type of Medicaid. – *Key Informant* Some of the individually-owned practices, and what I mean by that is - most of the practices now are owned by the hospitals or the health care systems, so they kind of dictate what that mix of patients will be, but there are still some independent providers who have their practice and say, "No, I'm not taking Medicaid anymore," or "I'm not taking any." – *Key Stakeholder*

Source: SHL Key Stakeholder Interviews, 2017, Q1: What do you feel are the two or three most pressing or concerning health issues facing residents in your community, especially the underserved? (n=6); Key Informant Online Survey, 2017, Q1: To begin, what are one or two most pressing health issues or concerns in the community? (n=46); Q1a: Why do you think it's a problem in your community? (n=12)

Effectiveness of Existing Programs and Services

- Key Stakeholders say the existing programs and services in the SHL area meet the needs and demands of area residents somewhat well because the core services are in place.
- However, the lack of certain specialty services forces some residents to travel out of the area for services.
- Additionally, collaboration and coordination between area agencies and organizations could be strengthened.

Because there are a **lot of specialty services that people absolutely can't get locally**, and they **have to leave town** for that.

I think **sometimes we'll put programs in place based on what we think is best for the community versus what the residents think is best for the community or what the residents think is best for them**, and I think that we have to also take into consideration what they feel is of importance in the community. If we think that healthy eating is a great need in the community, but the vast majority of the community says, "Well, you can put all the healthy eating options in, but we can't get there, and if we don't have a bus service or if we don't have transportation, it's not going to do any good," so while we might spend a bunch of resources on trying to create these healthy eating opportunities, the vast majority of the community may not be able to take advantage of them because they can't get to them.

Just because I do think that **there's a lot of room for improvement on the coordination of services and collaboration**.

The **access issue is a huge thing**. I think that if folks knew how much we would do to support doctors and providing service - primary care and providing services to people with mental health needs - if we could sort of convince folks that we **would be there and we would support that process** - **not just their mental health process**, but their **process for taking their meds**, for **getting their blood sugar checked** - all of those things. I really **think that would incentivize coordination**, but right now, like I said, **there's like this artificial wall around our high-needs folks**. Now, we have some docs who will take and will coordinate and do a great job, but we have others who just really want nothing to do with the population of folks we serve. I think **coordination would be one of the best things to improve**.

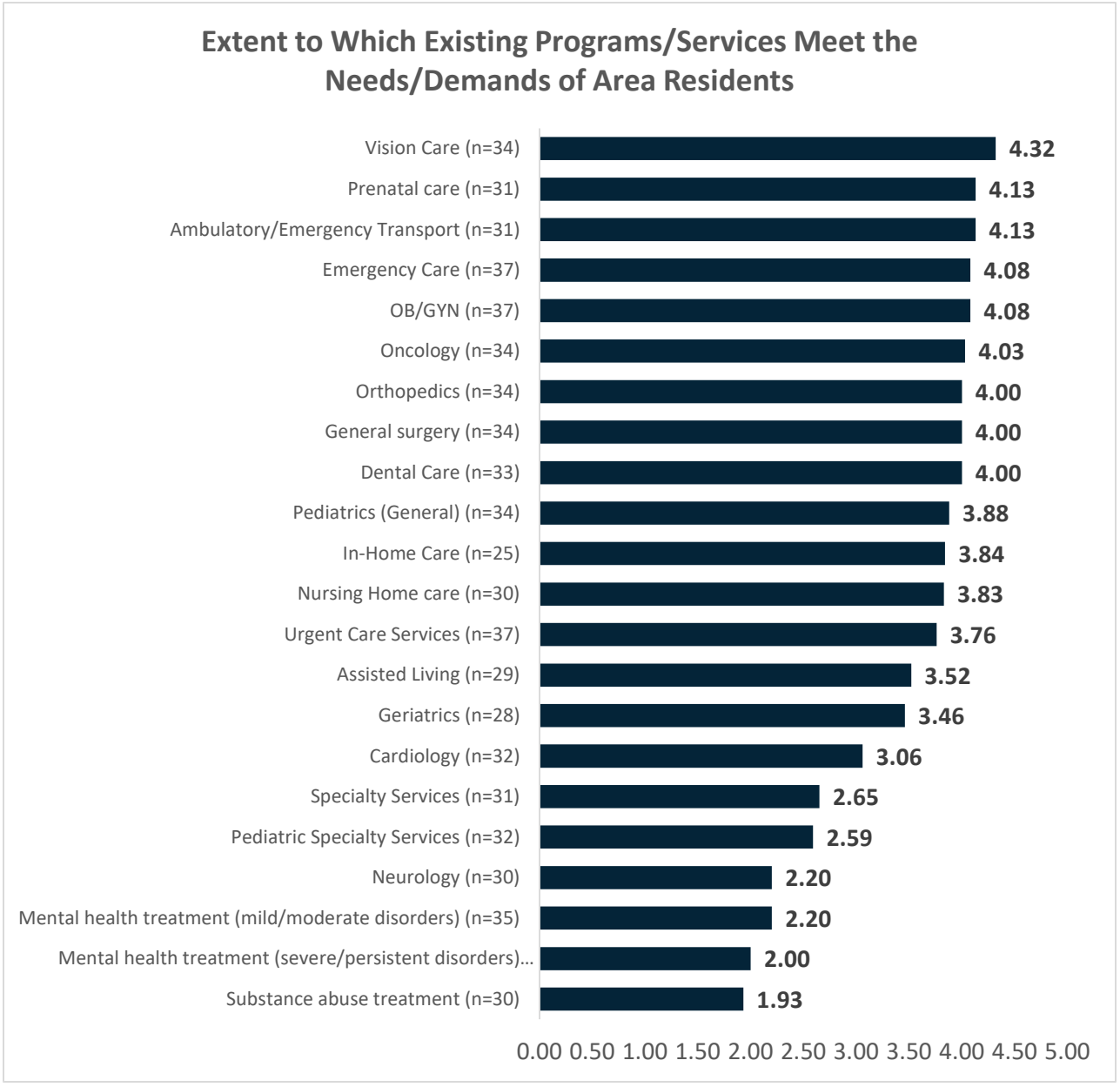
We **have the core services**, so we have family medicine, internal medicine, pediatrics, orthopedics, OB/GYN, and general surgery, and those are the areas where **we're doing very well in meeting our community needs**. **Orthopedics is probably the biggest struggle** because it's hard to be an orthopedic surgeon in a small group. I think we're doing well, but there are a few exceptions; one is the birthing unit. We're to get a new birthing unit.

Source: SHL Key Stakeholder Interviews, 2017, Q4: How well do existing programs and services meet the needs and demands of people in your community? Would you say they meet them not at all well, not very well, somewhat well, very well, or exceptionally well? (n=6); Q4a: Why do you say that? (n=6)

Gaps in Programs and Services

- Key Informants say the programs and services that meet the needs and demands of area residents best include vision care, prenatal care, ambulatory transport, emergency care, OB/GYN, oncology, orthopedics, general surgery, and dental care.

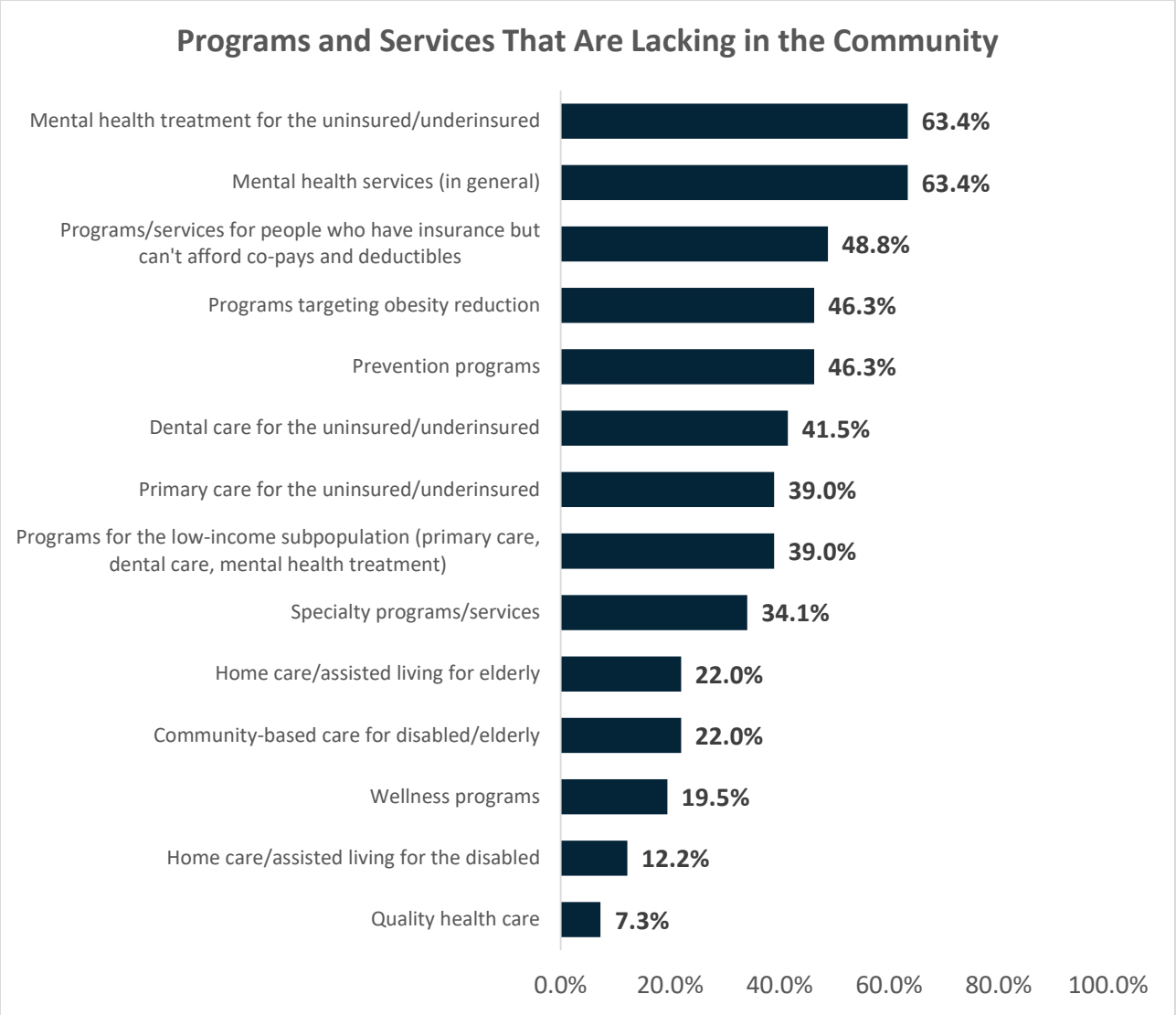
- Conversely, substance abuse treatment, mental health treatment for all disorders (from mild to severe), neurology, pediatric specialty services, and specialty services (in general) do not meet the needs and demands of area residents well.



Source: SHL Key Informant Online Survey, 2017, Q6: How well do the following programs and services meet the needs and demands of residents in your community? Note: 1-5 scale, where 1=not at all well, 2=not very well, 3=slightly well, 4=somewhat well, 5=very well.

Specific Programs and Services Lacking in the Community

- According to Key Informants, the SHL area most lacks programs or services focusing on mental health treatment, but also programs and services for the most vulnerable: low income, the uninsured, the underinsured, and those with insurance but who can't afford to utilize it.
- There is also a lack of services targeting obesity or focusing on prevention.



Source: SHL Key Informant Online Survey, 2017, Q7: What programs and services are lacking in the community, if any? (n=41)

Specific Programs and Services Lacking in the Community (continued)

- Key Informants report on a number of specialty services that are lacking in the community, including mental health services, cardiology, dermatology, GI, neurology, substance abuse treatment, endocrinology, psychiatry, and radiation therapy for cancer.

- Further, Key Informants discussed the frustration of residents having to travel out of the area for specialty services such as cardiology because it is not only difficult for patients but places a burden on the system. Because driving out of county for services can be burdensome, many choose to forego needed treatment.

- ✓ Mental health services (7)
- ✓ Cardiology (5)
- ✓ Dermatology (5)
- ✓ Gastroenterology (5)
- ✓ Neurology (4)
- ✓ Substance abuse treatment (3)
- ✓ Endocrinology (2)
- ✓ Psychiatry (2)
- ✓ Radiation treatment/therapy for cancer (2)
- ✓ Allergist
- ✓ Crohn's specialist
- ✓ Diabetes specialist
- ✓ Elder care
- ✓ Inpatient nephrology
- ✓ Long term care
- ✓ Low cost dental
- ✓ Orthopedics
- ✓ Pulmonology
- ✓ Sleep lab
- ✓ Specialty surgeons
- ✓ Urology

Difficult to recruit physicians to the area.

The **cardiology care** in the SHL service area is primarily provided by Mercy Health. **SH offers no inpatient consultation and very limited local access to cardiology**. A **large number of transfers occur each year out of the community for cardiology care** that is **fractured in the coordination back to the primary care provider**. Many **residents** of this service area **have difficulty traveling the 200-mile round trip route to Grand Rapids** for a multitude of reasons (lack of financial resources, lack of transportation).

It **appears that Spectrum Health is eliminating providing certain services at the local hospital** and **requiring people to go out of town for services**.

We **need more treatment available so patients will not need to travel** to Muskegon, Big Rapids, or Grand Rapids **for radiation**.

Source: SHL Key Informant Online Survey, 2017, Q6a: What specialty services are currently lacking in your community? (n=25)

Specific Programs and Services Lacking in the Community (continued)

Underserved residents cite myriad programs, services, or classes that they perceive are lacking in the community; however, the three greatest areas of need are (1) access to mental health services/treatment, (2) access to fitness/exercise programs and facilities, including activities for families and children, as well as seniors, and athletic opportunities such as basketball, swimming, and yoga, and (3) nutrition programs that focus on healthy eating and cooking and access to healthy grocery stores.

- ✓ Mental health services/treatment/support (11)
- ✓ Bring back Win with Wellness (5); that was a wonderful service, especially for the elderly population
- ✓ Exercise facilities/programs open later/lower cost (5)
- ✓ Cardiologist/cardiac care (4)
- ✓ Clinic open after hours/24 hours/walk-in (4)
- ✓ Dental care/dentists (4)
- ✓ Education/classes on healthy choices/lifestyles (4)
- ✓ Nutrition/cooking classes (4)
- ✓ Dermatologist (3)
- ✓ Fitness classes for senior adults (3)
- ✓ Healthy grocery stores/farmers markets (3)
- ✓ Specialists (3)
- ✓ Breastfeeding support/classes (2)
- ✓ Endocrinologist (2)
- ✓ General surgeons (2)
- ✓ Head lice prevention classes/treatment (2)
- ✓ Neurology (2)
- ✓ OBGYN (2)
- ✓ Substance abuse treatment (2)
- ✓ Yoga classes (2)
- ✓ Alternative medical treatment (holistic health)
- ✓ Anxiety disorder class
- ✓ Birthing facility with certified nurse midwives working collaboratively with OB/GYNs
- ✓ Daycare at a gym
- ✓ Education about the dangers of opioid addiction
- ✓ Educational seminars on Parkinson's, allergies, diabetes, caregiver support
- ✓ Eye doctor who accepts military insurance
- ✓ Full service cardiac care unit
- ✓ GI specialist
- ✓ Hearing specialist
- ✓ IBCLC (lactation consultant) at hospital
- ✓ Indoor running track
- ✓ More specialists for backs and knees
- ✓ Pain and MS specialist
- ✓ Patient advocates
- ✓ Pediatric audiologists
- ✓ Programs in our schools on health, smoking, and drug education
- ✓ Programs that help people meet their deductible
- ✓ Psychiatrist
- ✓ Women's health care

Source: SHL Underserved Resident Survey, 2017, Q14: What health care related programs, services, or classes are lacking in your community? In other words, what programs, services, or classes do you want that are currently unavailable? Please be as detailed as possible. (n=88)

Specific Programs and Services Lacking in the Community (continued)

- Similar to Key Informants, Key Stakeholders report the SHL area lacks programs and services related to mental health and substance abuse. Also, echoing underserved residents, there is a real need for opportunities to purchase healthy food and to learn ways to properly cook fruits and vegetables, as well as a need for places to be active and exercise, especially in the winter months.

I think one of the biggest things would be **access to substance use services** which is one thing that is **not available here**. They **have to go to Grand Rapids or Muskegon**, and then it's just **extremely uncoordinated**. The **providers aren't willing to work together**. Also, there are **no mental health services available here**. That's why we put an on-site mental health clinician in the schools. So, there's no availability of sliding fee scale mental health services - behavioral health services in our county, so **if you're poor and are feeling depressed, you're out of luck**.

Birthing unit; mainly, it's facility-based, it's not provider-based. I would say **neurology**. Our **cardiology** services for our Spectrum Health patients - we only have a cardiologist once a week, so it's **hard to get people to Grand Rapids**, especially when they're critically ill, and that is an insurance-based problem.

I think if you're looking for some **specialty pediatric care**, you're **going to have to go to Grand Rapids** for that. Here, you can get kind of the run-of-the-mill orthopedic services taken care of - hips, knees, things like that, but if you've got **more complex orthopedic care** - those more complicated cases, you're **going to need to leave town** for that. **Neurosurgery**, obviously - brain, spine, those kinds of things - that's **going to have to be done out of town**. You can get **routine urology services locally**. If you've got **more complex urology issues**, you're **going to be going downtown for something like that**. Obviously, if you need **heart surgery** - anything like that - you're going to be **going out of town for that** either to Grand Rapids or Traverse City.

I think it would be **nice to have more options for activities in the winter**. I think **access to healthy food** - it would be nice to have **better access to some farmers' markets** and fresh fruits and vegetables in some of our communities. I think **education on what to do with those things**. If you bring someone a squash or an eggplant, they have no idea what to do with those. They don't know what to do with it, they're not going to take it - they're not going to use it.

I would say what is **really lacking are services for mental health**. We do cognitive behavioral therapy, but there's a lot of **other kinds of things that we probably need**, and there's always the gray area of "What is Community Mental Health - what is their domain and what isn't?". That moves a lot, and part of that is because of revenues and what Community Mental Health has to work with for their internal resources, and they have - because they're funded through the General Fund in the State, they've had a lot of cuts.

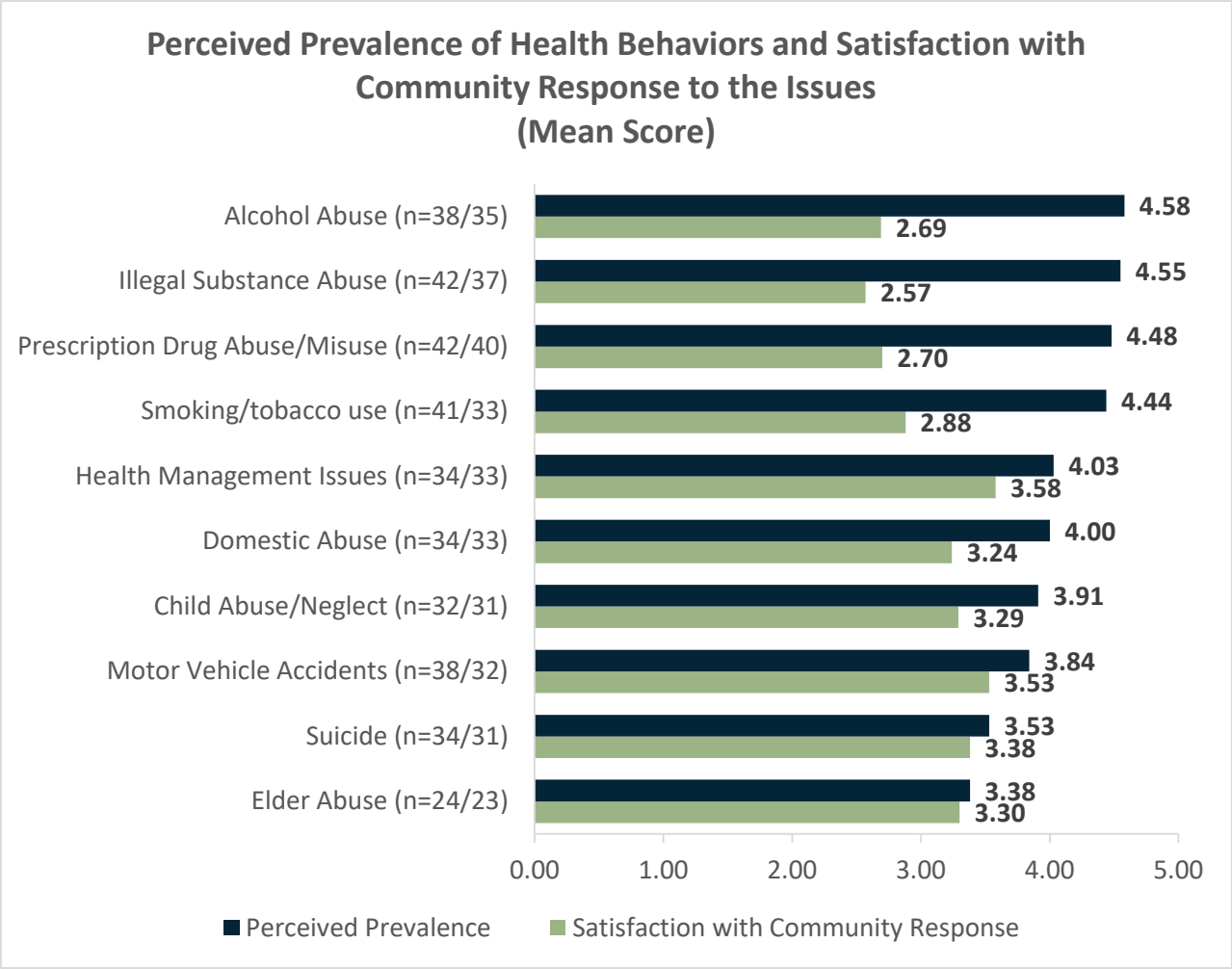
Medication-assisted treatment, coordinated substance abuse treatment. It really requires a **combination** of **medical**, **mental health**, **case management**, **peer providers working together to be effective**, so that's just **completely lacking**. I would say **medication-assisted treatment** not just for opiates but for alcohol abuse as well, so like methadone - some of those things are also very, very effective for alcohol, so we need some of that access as well.

Source: SHL Key Stakeholder Interviews, 2017, Q4b: What programs or services are lacking in the community? (n=6)

RISK BEHAVIOR INDICATORS

Prevalence of Health Behavior Issues

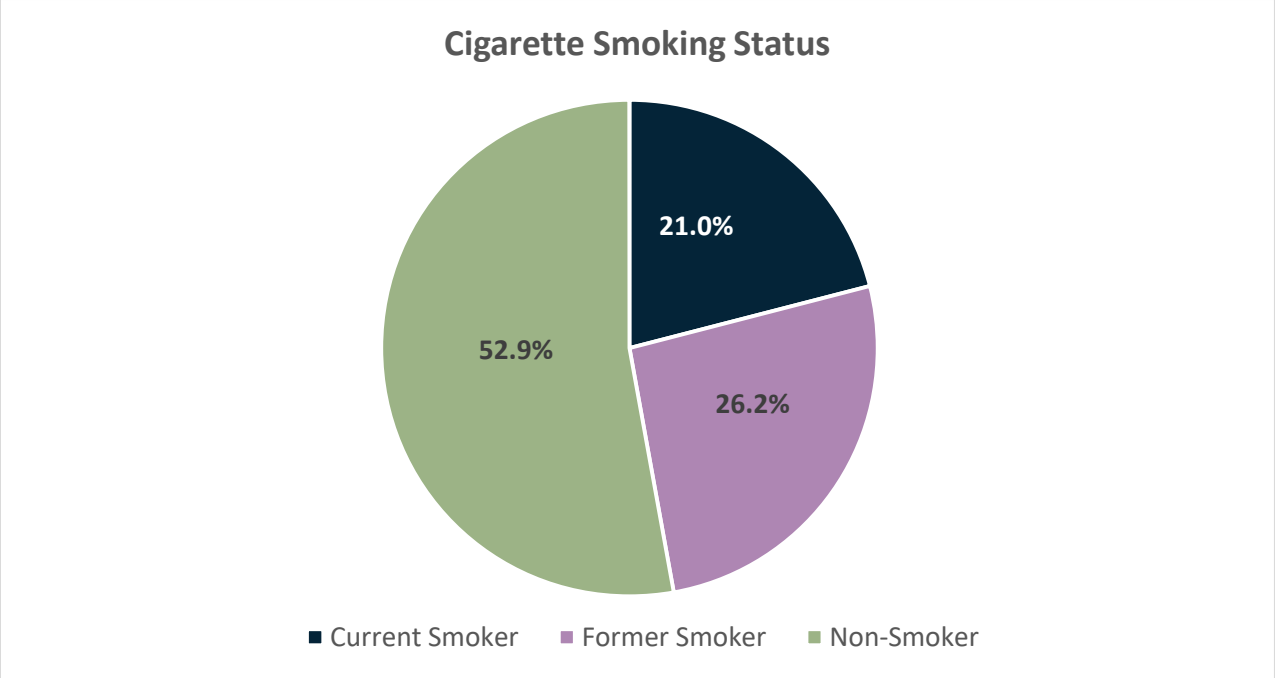
- Similar to 2014, Key Informants perceive the top four most prevalent health behavior issues to be alcohol abuse, illegal substance abuse, prescription drug abuse, and smoking, although smoking was first and alcohol abuse fourth in 2014.
- Health management issues are also perceived to be prevalent.
- More concerning is that Key Informants are least satisfied with the community's response to anything related to substance abuse, licit or illicit.
- Additional health behaviors perceived to be prevalent include poor nutrition and unhealthy eating habits, as well as other lifestyle choices such as lack of exercise and lack of cleanliness.



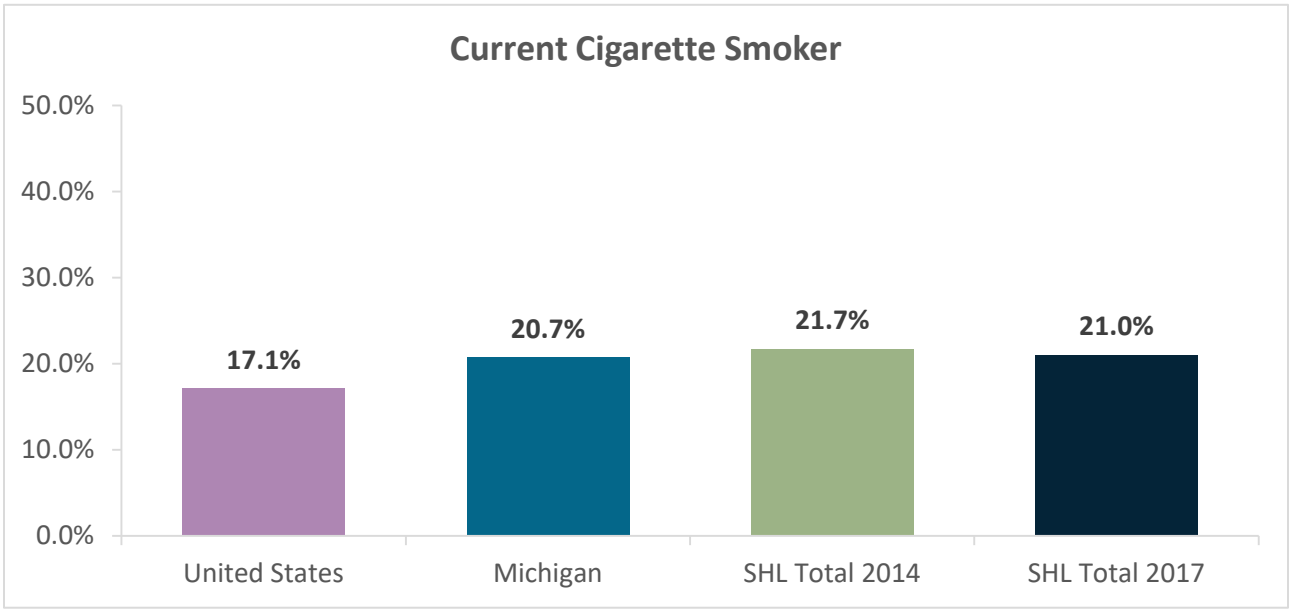
Source: SHL Key Informant Online Survey, 2017, Q3: Please tell us how prevalent the following health behaviors are in your community. Q3a: How satisfied are you with the community's response to these issues?; SHL Key Informant Online Survey, 2017, Q3b: What additional health behaviors are prevalent in your community, if any? (n=10). Note: Prevalence scale: 1=not at all prevalent, 2=not very prevalent, 3=slightly prevalent, 4=somewhat prevalent, 5=very prevalent; Satisfaction scale: 1=not at all satisfied, 2=not very satisfied, 3=slightly satisfied, 4=somewhat satisfied, 5=very satisfied.

Smoking and Tobacco Use

One in five (21.0%) SHL area adults are cigarette smokers, a rate higher than the state and national rates, but slightly lower than the previous CHNA iteration from 2014.



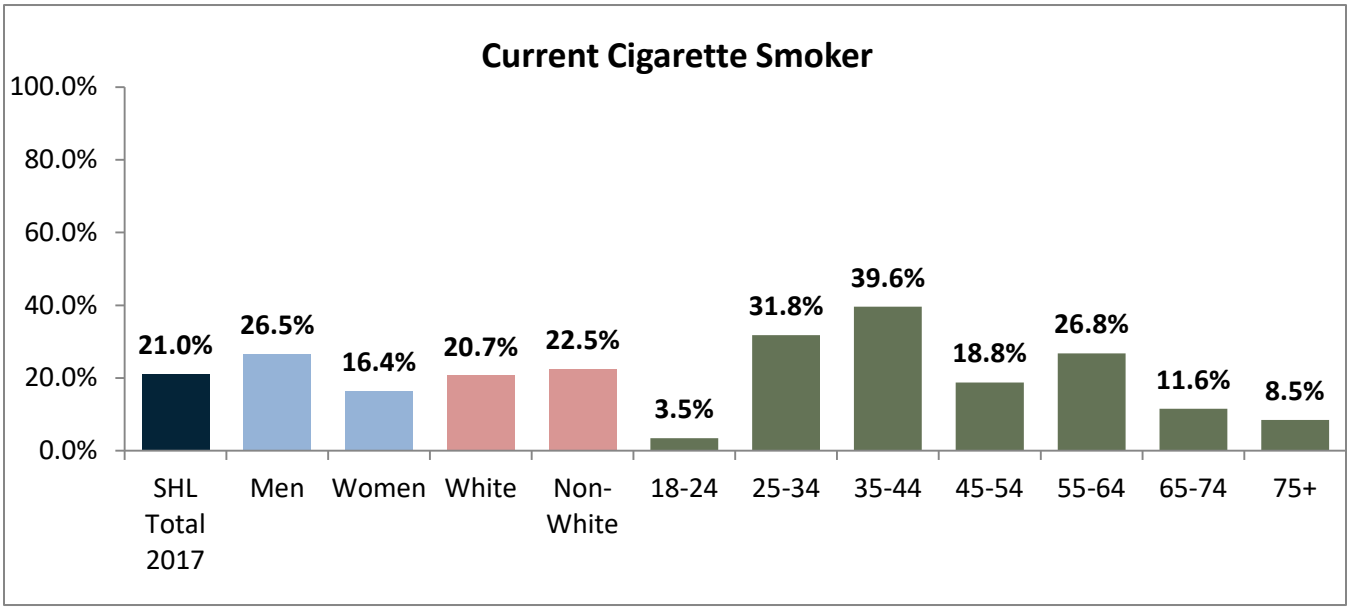
Source: SHL Behavioral Risk Factor Survey, 2017, Q10.1: Have you smoked at least 100 cigarettes in your entire life? (n=514); q10.2: Do you now smoke every day, some days, or not at all? (n=305).
Note: current smoker = among all adults, the proportion reporting that they had ever smoked at least 100 cigarettes (5 packs) in their life and that they smoke cigarettes now, either every day or on some days.

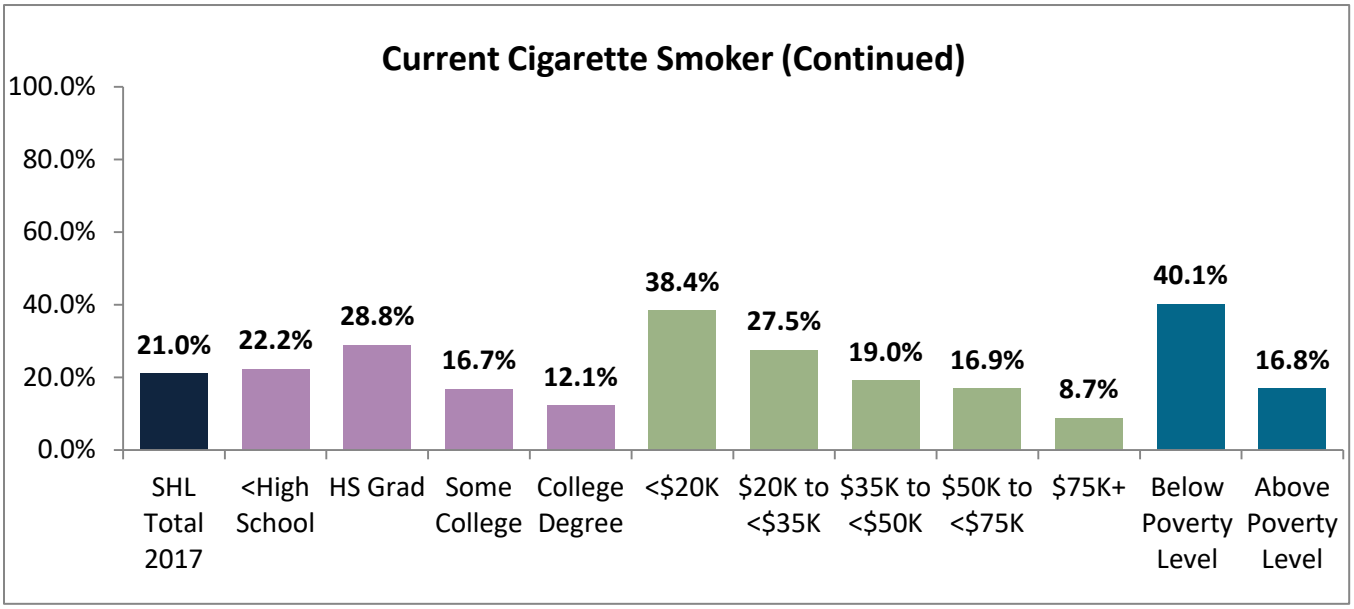


Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2016; Preliminary Estimates for Risk Factor and Health Indicators, State of Michigan, Michigan BRFS, 2015; SHL Behavioral Risk Factor Survey, 2014, 2017.

Smoking and Tobacco Use (continued)

The prevalence of cigarette smoking is inversely related to education and income and is more common in adults aged 25-44 compared to adults who are younger or older.

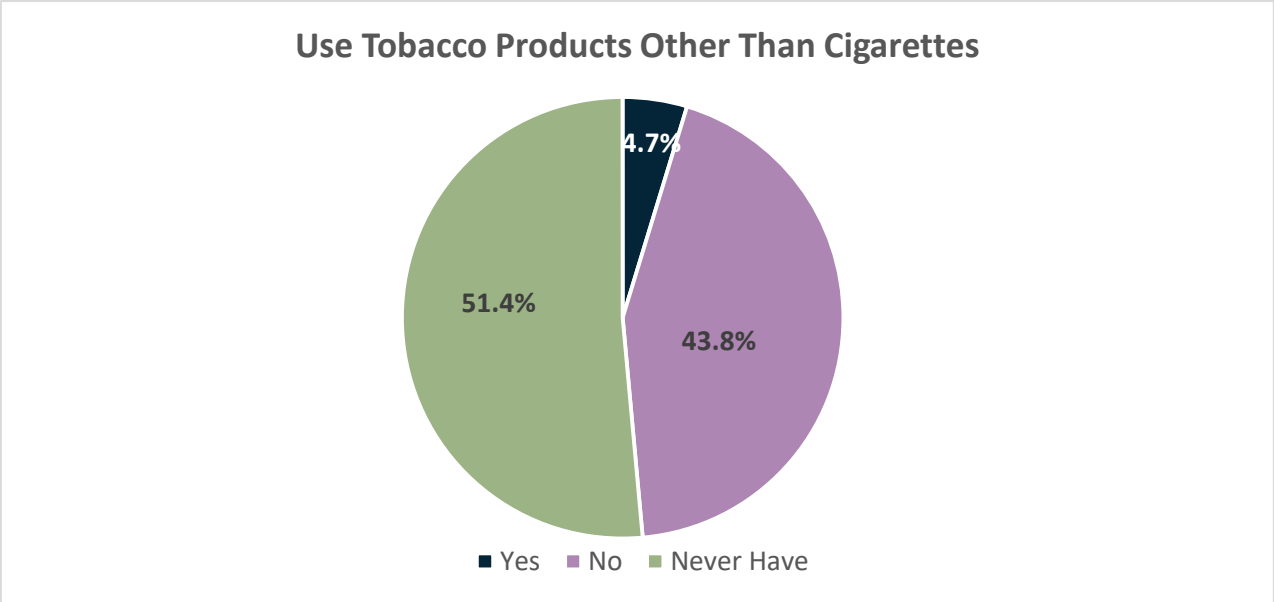




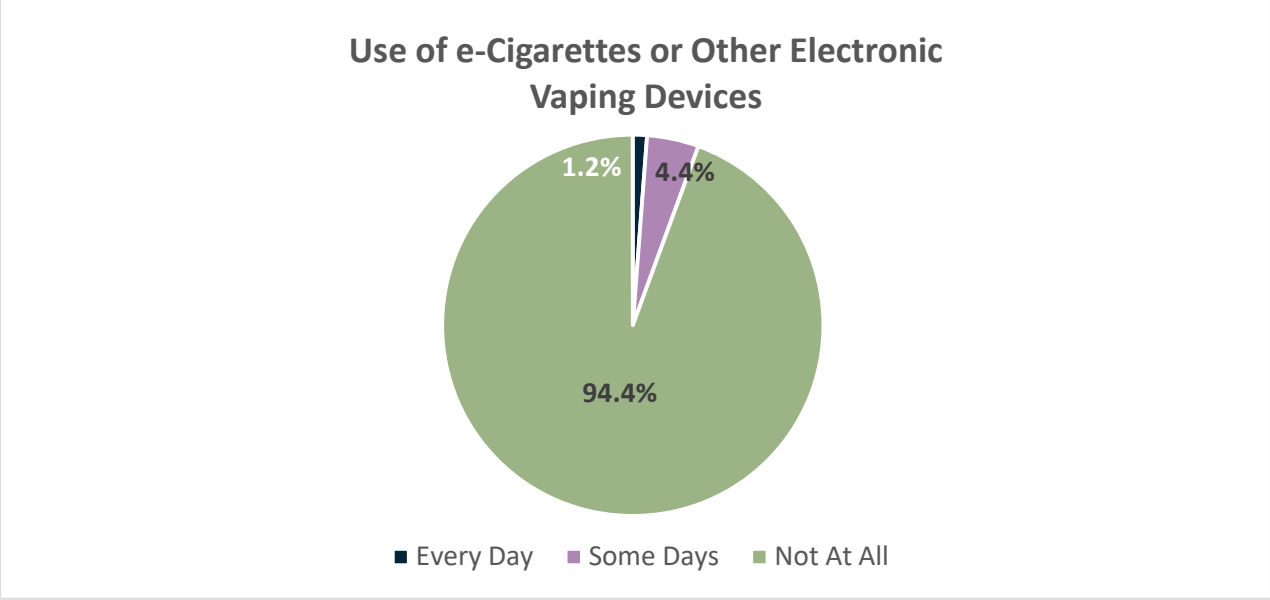
Source: SHL Behavioral Risk Factor Survey, 2017, Q10.1/Q10.2, status = smoker. (n=514).

Smoking and Tobacco Use (continued)

- Fewer than one in twenty (4.7%) area adults use tobacco products other than cigarettes and more than one in twenty (5.6%) report using e-cigarettes or vaping devices.



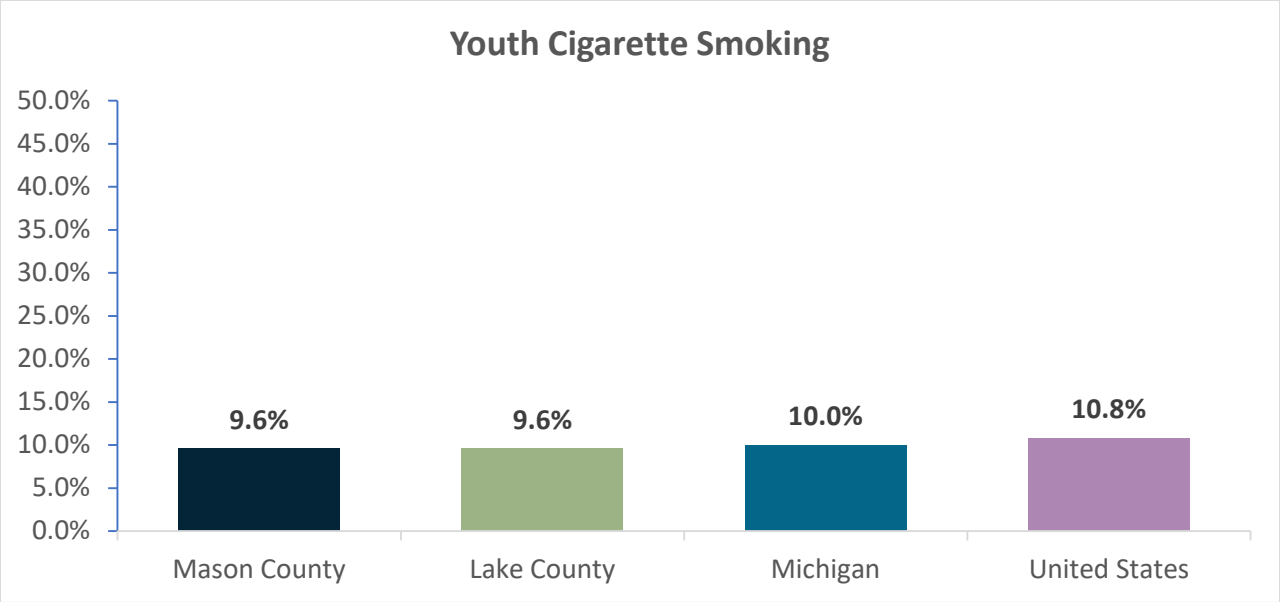
Source: SHL Behavioral Risk Factor Survey, 2017, Q10.3: Do you currently use any tobacco products other than cigarettes, such as chew, snuff, cigars, pipes, bidis, kreteks or any other tobacco product? (n=511).



Source: SHL Behavioral Risk Factor Survey, 2017, Q10.5: Do you now use e-cigarettes or other electronic "vaping" products every day, some days, or not at all? (n=507).

Smoking and Tobacco Use (continued)

- The prevalence of smoking among youth in Mason and Lake counties is slightly lower than the state or national rates. Still, nearly one in ten area youth smoke cigarettes.
- Some Key Stakeholders and Key Informants cite smoking among youth and pregnant women (especially teens) as a pressing health issue in the community.



Source: Mason and Lake counties are combined in the Michigan Profile for Healthy Youth (MiPhy), 2013-2014; For MI and US: Youth Behavior Risk Survey (YRBS), 2015.

Much **more prevalent** than in other communities. – *Key Informant*

Women and smoking when pregnant [is a prevalent health behavior issue]. – *Key Stakeholder*

Higher smoking and drug use by **child-bearing women**. – *Key Informant*

The **community needs programs to address smoking** and healthy eating habits. – *Key Informant*

Smoking and Tobacco Use (continued)

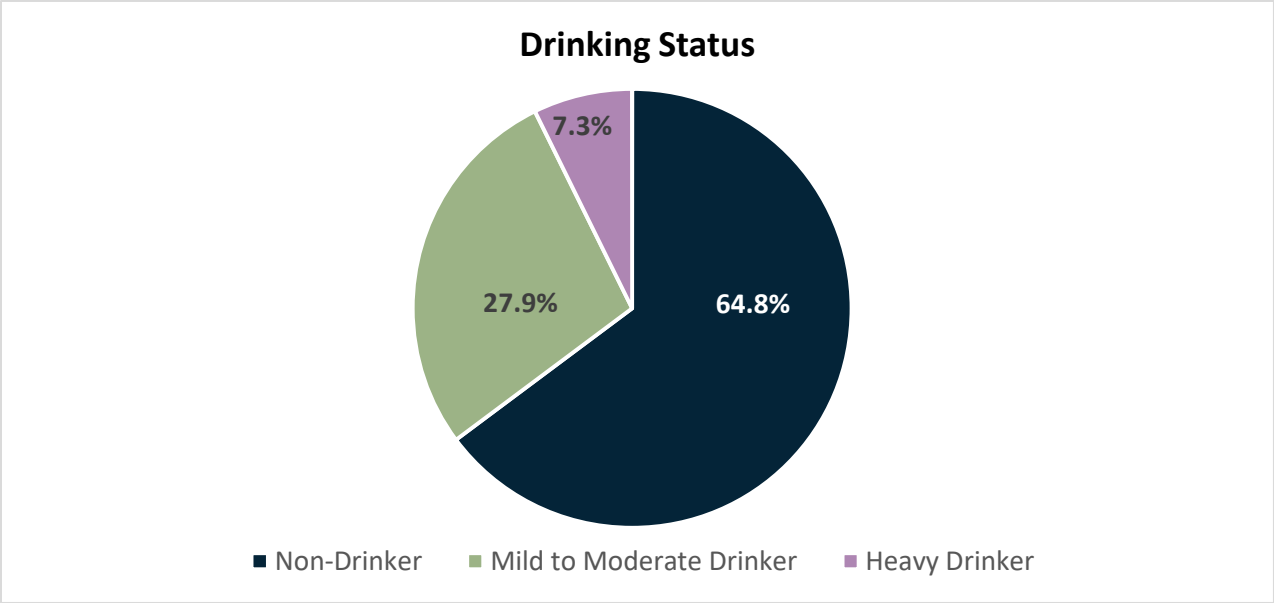
- One in five (20.4%) area adults report smoking inside their home; 17.9% for households with children in the home.
- Among non-smoking area adults, 8.5% are exposed to smoking in their home.

	Smoking in the Home				
	Total (n=514)	Have Children in the Home (n=102)	No Children in the Home (n=411)	Non-Smokers (n=425)	Smokers (n=89)
None	79.6%	82.1%	78.4%	91.5%	34.6%
1 person	14.9%	5.2%	19.2%	7.4%	42.9%
2 or more people	5.6%	12.7%	2.4%	1.1%	22.5%

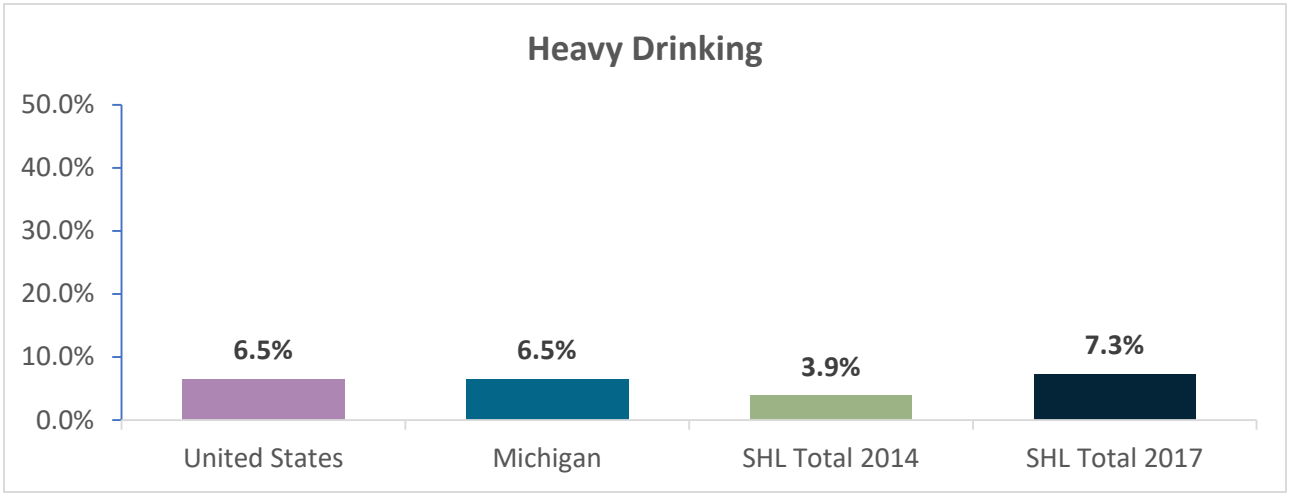
Source: SHL Behavioral Risk Factor Survey, 2017, Q10.4: Now I would like to ask you a few questions about smoking where you live. How many people that live with you smoke cigarettes, cigars, little cigars, pipes, water pipes, hookah, or any other tobacco products in the home? Do you now use e-cigarettes or other electronic "vaping" products every day, some days, or not at all?

Alcohol Use

- Among area adults, 64.8% are considered to be non-drinkers because they have not consumed alcohol within the past month, while 27.9% are mild to moderate drinkers and 7.3% are considered to be heavy drinkers.
- The prevalence of heavy drinking among area adults is higher than state or national rates and has increased substantially from the last CHNA in 2014.



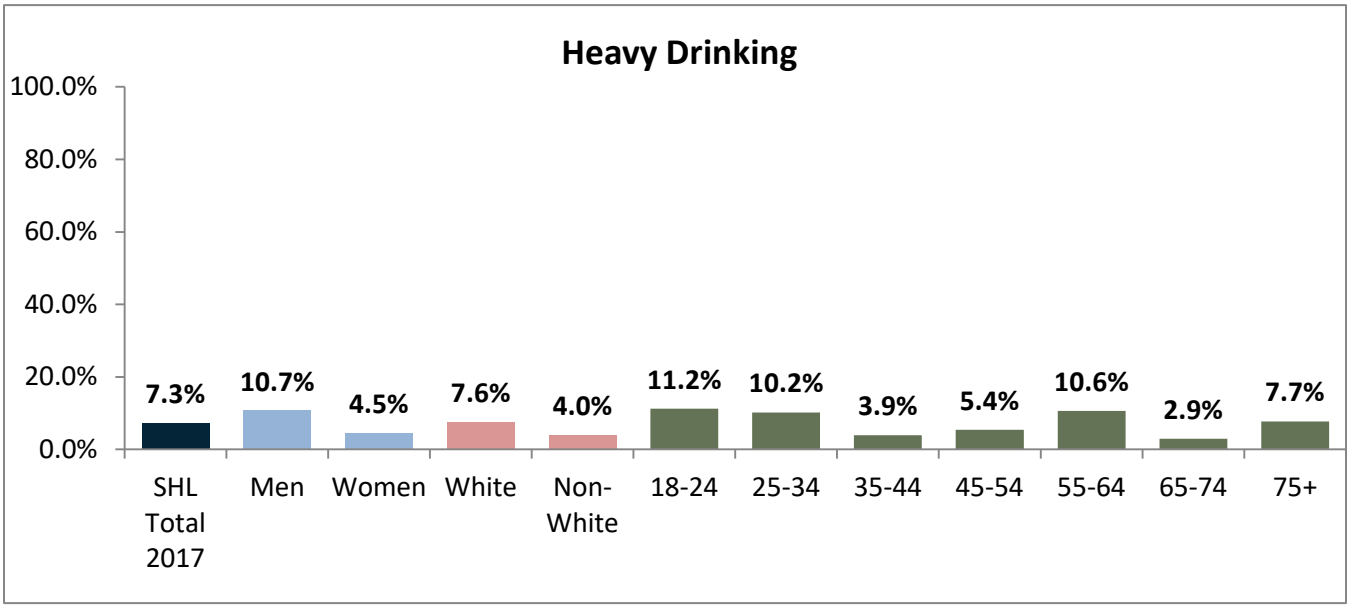
Source: SHL Behavioral Risk Factor Survey, 2017, Q17.1: During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage such as beer, wine, a malt beverage or liquor? (n=511); Q17.2: One drink is equivalent to a 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor. During the past 30 days, on the days when you drank, about how many drinks did you drink on the average? (n=175). Note: heavy drinkers = the proportion who reported consuming an average of more than two alcoholic drinks per day for men or more than one per day for women in the previous month.

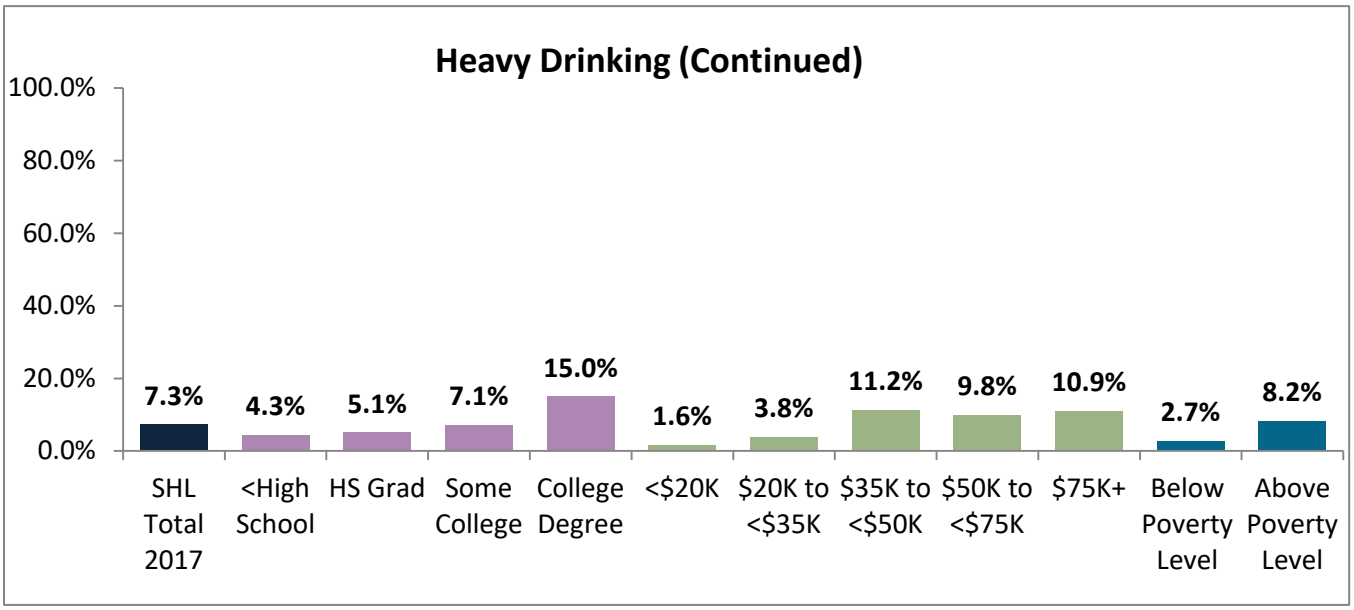


Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2016; Preliminary Estimates for Risk Factor and Health Indicators, State of Michigan, Michigan BRFS, 2015; SHL Behavioral Risk Factor Survey, 2014, 2017.

Alcohol Use (continued)

- Among SHL area adults, men are more likely to engage in heavy drinking than women, and White adults are more likely to drink heavily compared to non-White adults.
- Prevalence of heavy drinking increases with education and income.

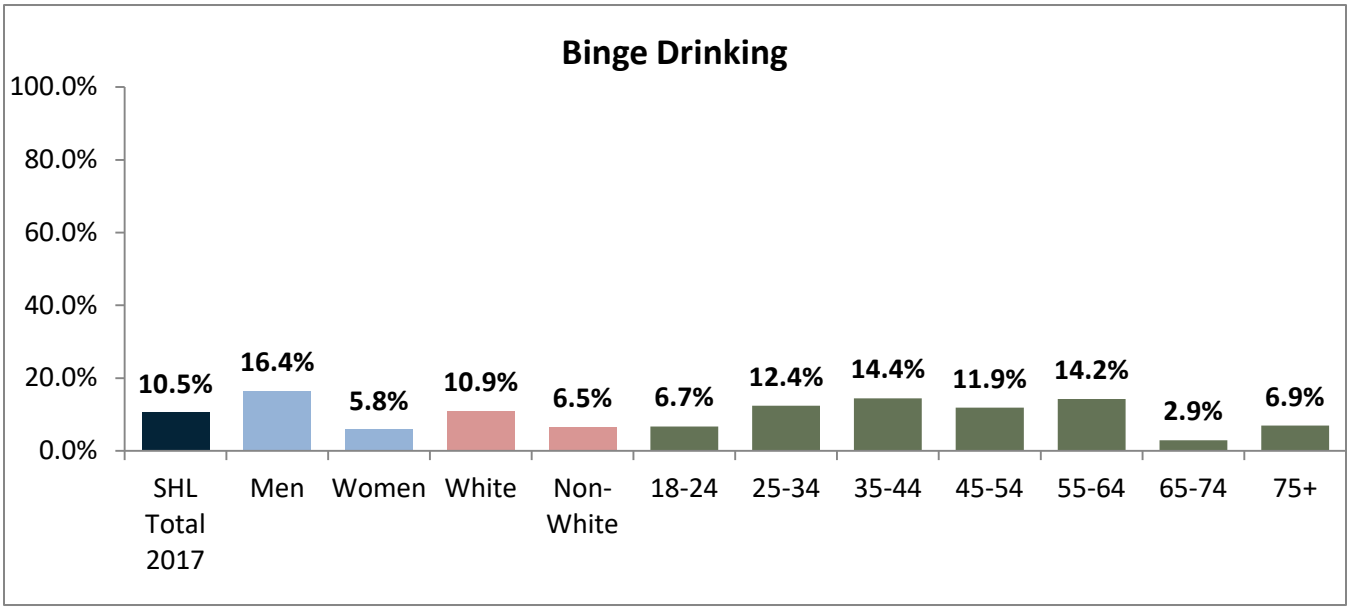


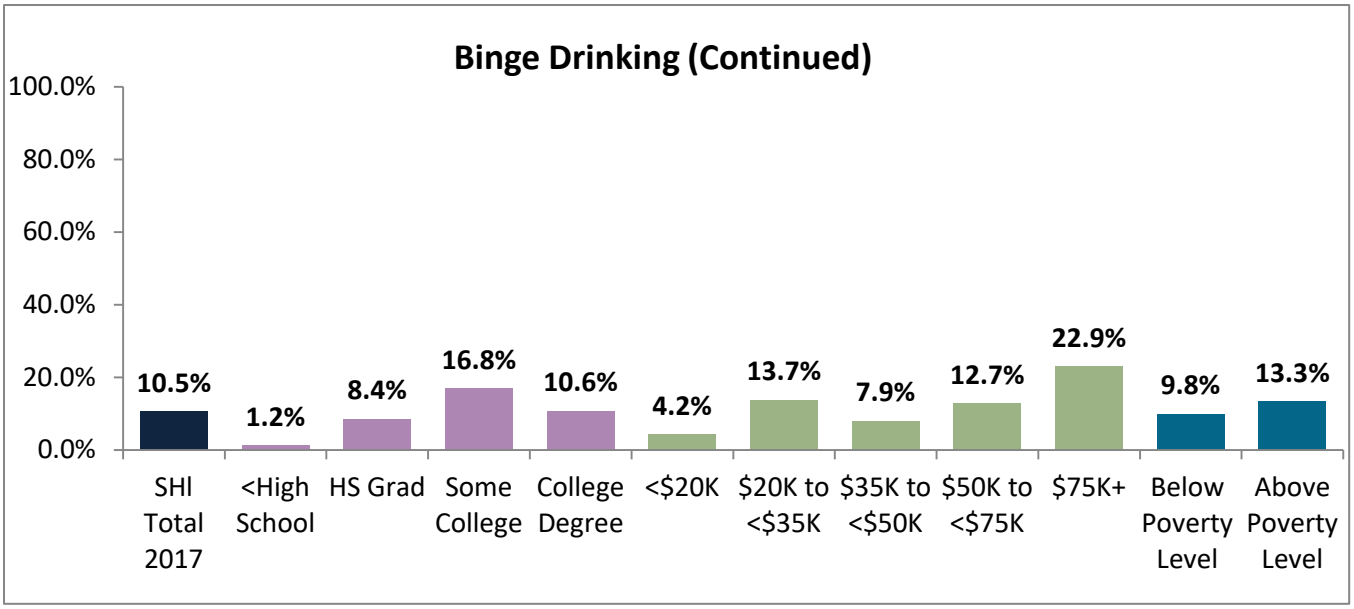


Source: SHL Behavioral Risk Factor Survey, 2017, Q17.1: During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage such as beer, wine, a malt beverage or liquor? (n=562); Q17.2: One drink is equivalent to a 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor. During the past 30 days, on the days when you drank, about how many drinks did you drink on the average? (n=176). Note: heavy drinkers = the proportion who reported consuming an average of more than two alcoholic drinks per day for men or more than one per day for women in the previous month.

Alcohol Use (continued)

- One in ten (10.5%) area adults engage in binge drinking and the prevalence increases with education and income.
- Binge drinkers are more likely to come from groups that are men, White adults, and aged 25-64.



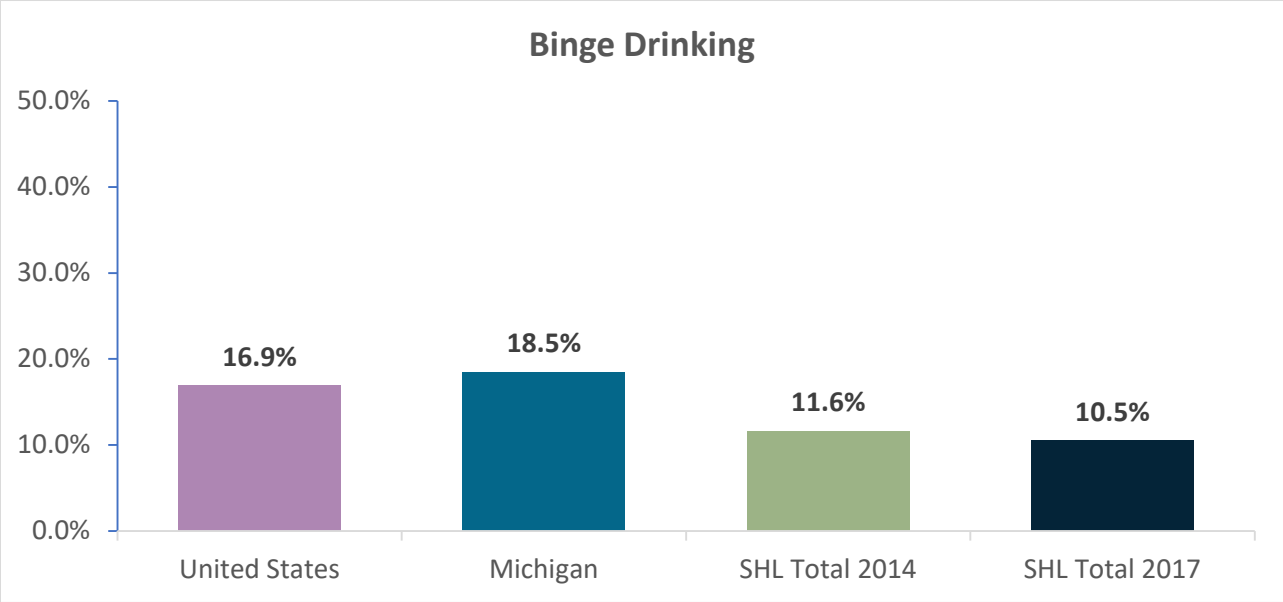


Source: SHL Behavioral Risk Factor Survey, 2017, Q17.3: Considering all types of alcoholic beverages, how many times during the past 30 days did you have X (CATI X = 5 for men, X = 4 for women) or more drinks on an occasion? (n=509)

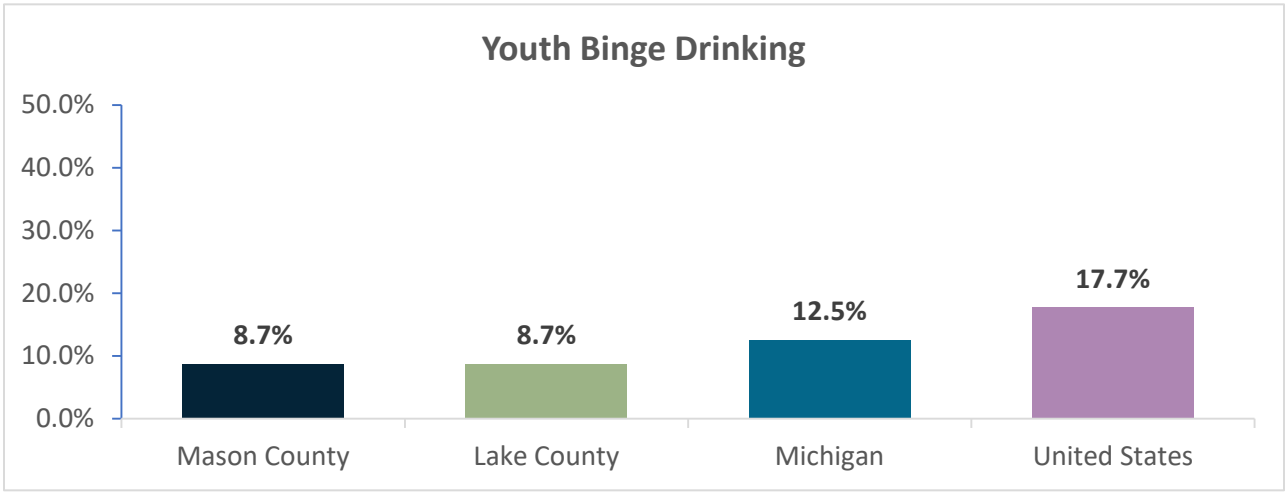
Note: among all adults, the proportion who reported consuming five or more drinks per occasion (for men) or 4 or more drinks per occasion (for women) at least once in the previous month.

Alcohol Use (continued)

- Among area adults and youth, the prevalence of binge drinking is lower than state or national rates.
- Further, the binge drinking rate for area adults is slightly lower in 2017 compared to the rate during the last CHNA.



Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2016; Preliminary Estimates for Risk Factor and Health Indicators, State of Michigan, Michigan BRFS, 2015; SHL Behavioral Risk Factor Survey, 2014, 2017.



Source: Mason and Lake counties are combined in the Michigan Profile for Healthy Youth (MiPhy), 2013-2014; For MI and US: Youth Behavior Risk Survey (YRBS), 2015.

Substance Abuse

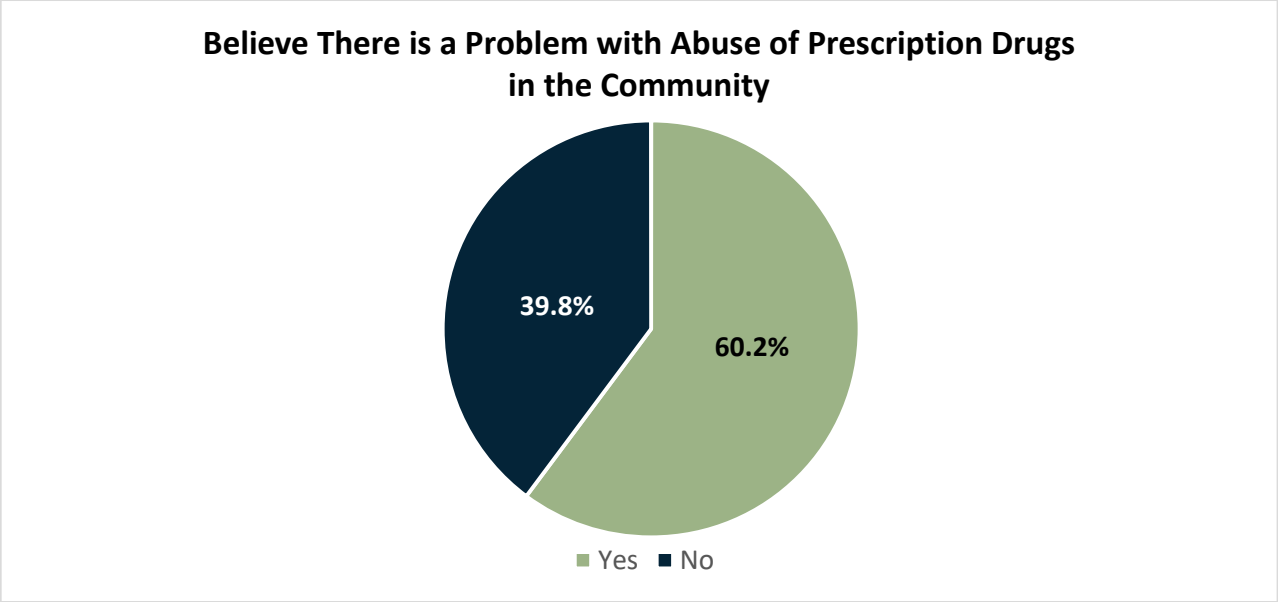
Key Stakeholders and Key Informants consider substance abuse to be one of the most pressing or concerning health issue in the SHL area. Not only is substance abuse prevalent, but like many rural areas there is an opioid epidemic that has had an enormous impact of many facets of the community, including overdoses. Complicating things further, there is a lack of adequate programs and services to treat substance abuse.

Over-prescribing/licit use to leading to illicit use	**Over prescribing** of **medications** and substance abuse. – *Key Informant* I believe it is an issue from **prescription drug abuse of opiates that leads to heroin usage**. The problem seemed to escalate when 20 years ago 'pain' became the 5th vital sign and it has perpetuated a **culture of over-prescribing of narcotic pain medicine**. – *Key Informant* **Constant drug issues** in the community. **Many stem from post-surgical addiction**. – *Key Stakeholder*
Overdoses	To date we **have had 17 heroin overdose reversals** pre-hospital (young people). – *Key Informant* **Increasing reports of overdoses** in the community and the amount of **patients coming to the ED with drug related issues**. – *Key Informant* There seems to be **more and more area overdoses** and alcohol related incidents. – *Key Informant*
Prevalence	A majority of the clients I work with disclose **marijuana use** and do not consider the negative effects that can result. It's **almost a 'normal' thing to use**. – *Key Informant* **Heroin has established a foothold** in our community. **Meth**, **synthetic marijuana** and **alcohol** are also problematic. – *Key Stakeholder*
Lack of treatment options	**Lack of early interventions**, **lack of local treatment facilities**, **lack of transportation to treatment facilities**. – *Key Stakeholder* **Lack of treatment options**. – *Key Informant*

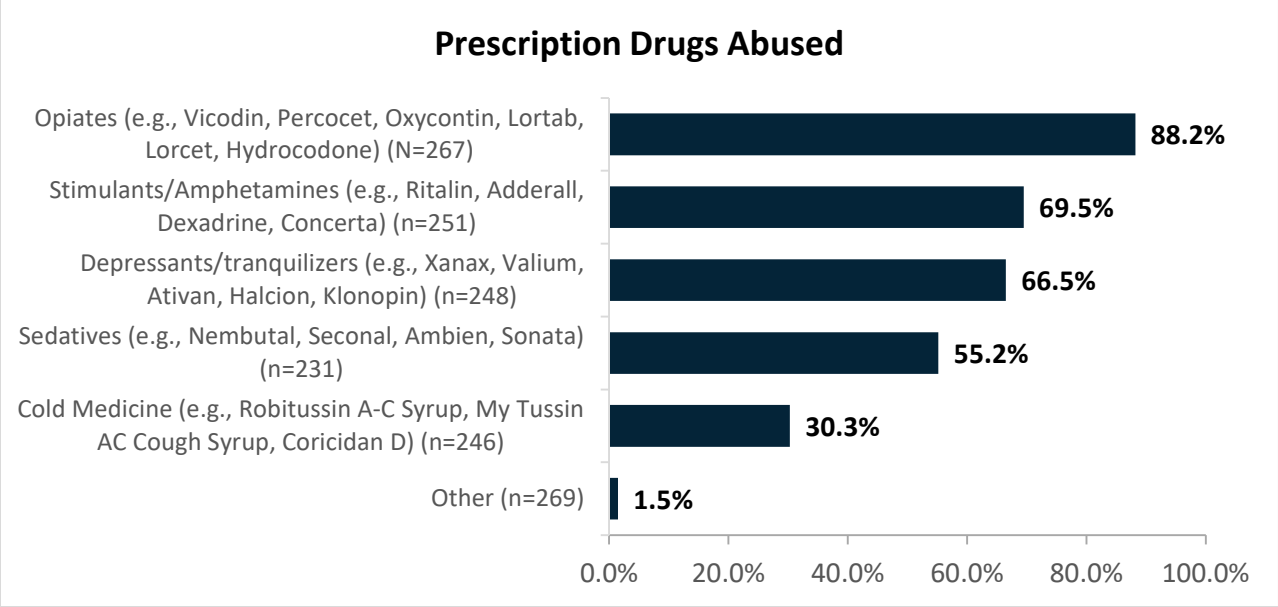
Source: SHL Key Stakeholder Interviews, 2017, Q1: What do you feel are the two or three most pressing or concerning health issues facing residents in the community, especially the underserved? (n=6); Key Informant Online Survey, 2017, Q1: To begin, what are one or two most pressing health issues or concerns in the community? (n=49); Q1a: Why do you think it's a problem in the community? Please be as detailed as possible. (n=25)

Substance Abuse (continued)

- Six in ten (60.2%) SHL area adults believe there is a prescription drug abuse problem in the community, and of those almost nine in ten (88.2%) believe prescription opiates are abused.
- Two-thirds also believe prescription stimulants and depressants are abused.



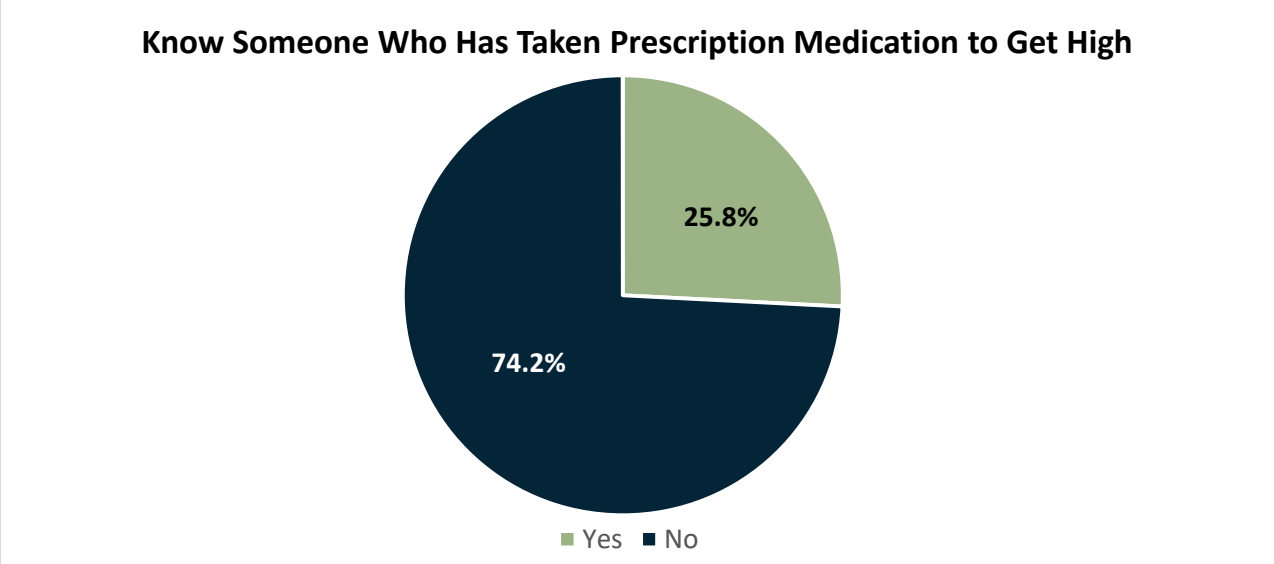
Source: SHL Behavioral Risk Factor Survey, 2017, Q11.1: Do you believe there is a problem in your community with the abuse of prescription medication (e.g., Oxycontin)? (n=469)



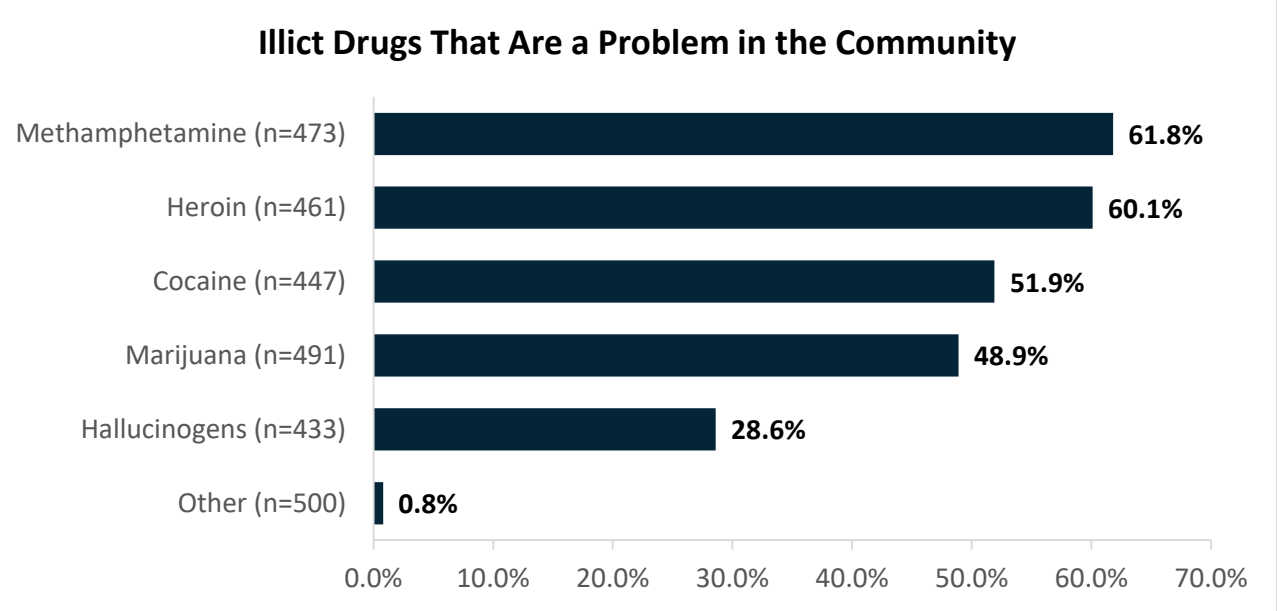
Source: SHL Behavioral Risk Factor Survey, 2017, Q11.2-q11.7: Which prescription drugs do you feel are abused in your community?

Substance Abuse (continued)

- One-fourth (25.8%) of SHL area adults report that they know someone who has taken prescription drugs to get high.
- Six in ten area adults believe the use of methamphetamines and heroin is a community problem and half believe the same about cocaine and marijuana use.



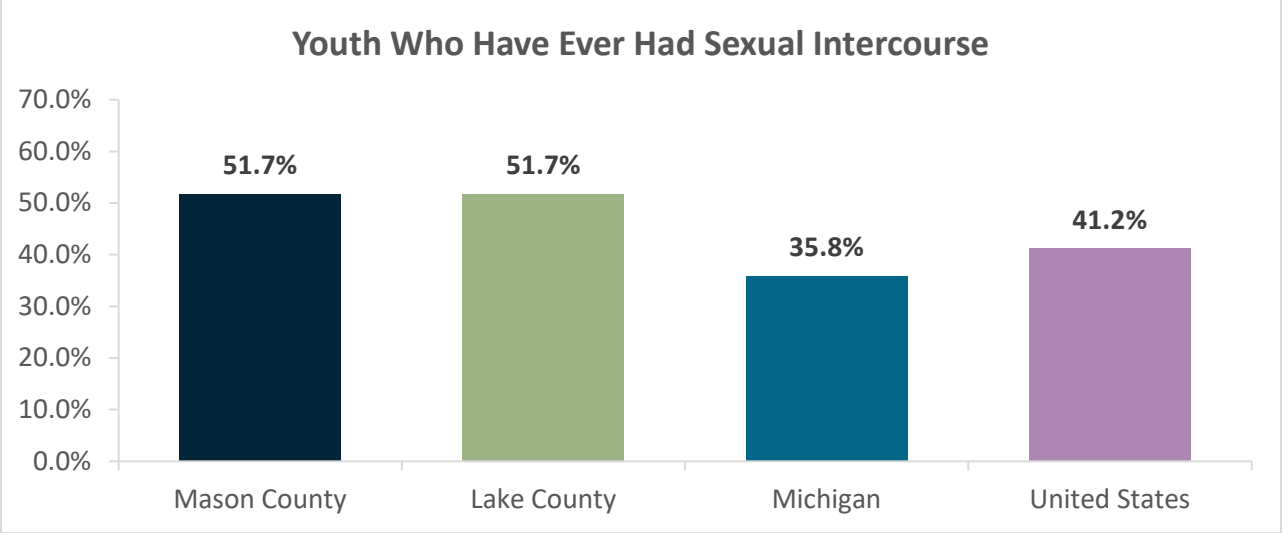
Source: SHL Behavioral Risk Factor Survey, 2017, Q11.8: Do you know someone who has taken prescription medication, such as Oxycontin, to get high? (n=504)



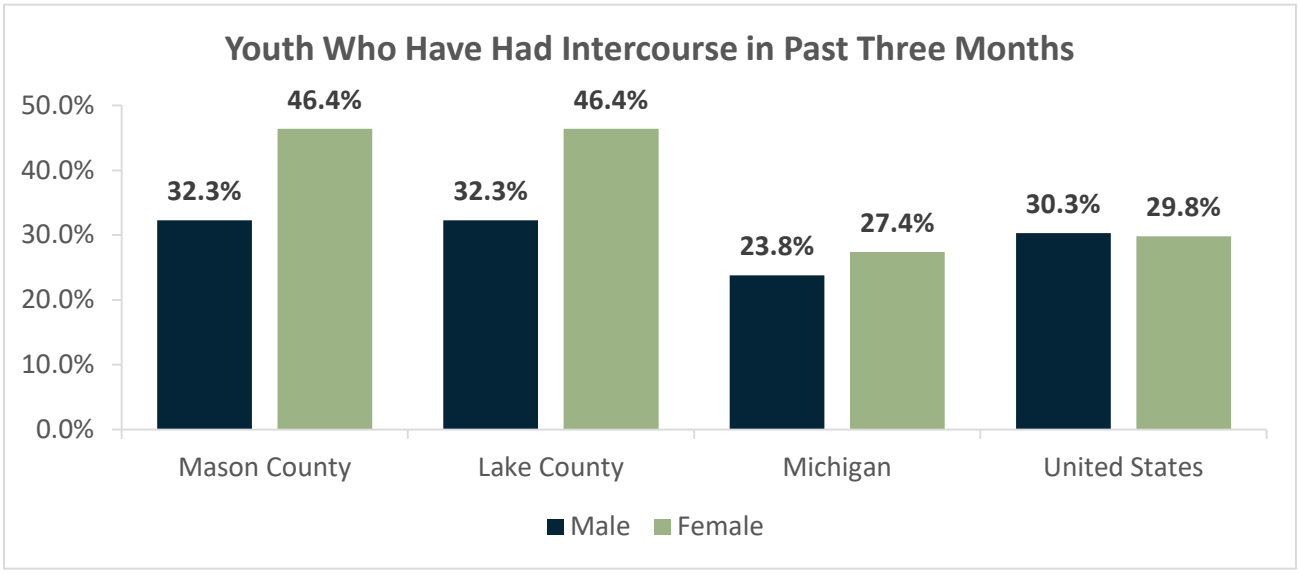
Source: SHL Key Behavioral Risk Factor Survey, 2017, Q11.9-Q11.14: With regard to the use of the following drugs, which do you think are a problem in your community today?

Teenage Sexual Activity

- Half (51.7%) of area teens have had sexual intercourse.
- Among teens who report having had sexual intercourse in the past three months, the proportion of females is higher than the proportion of males; almost half (46.4%) of area female teens have had sexual intercourse in the past three months.



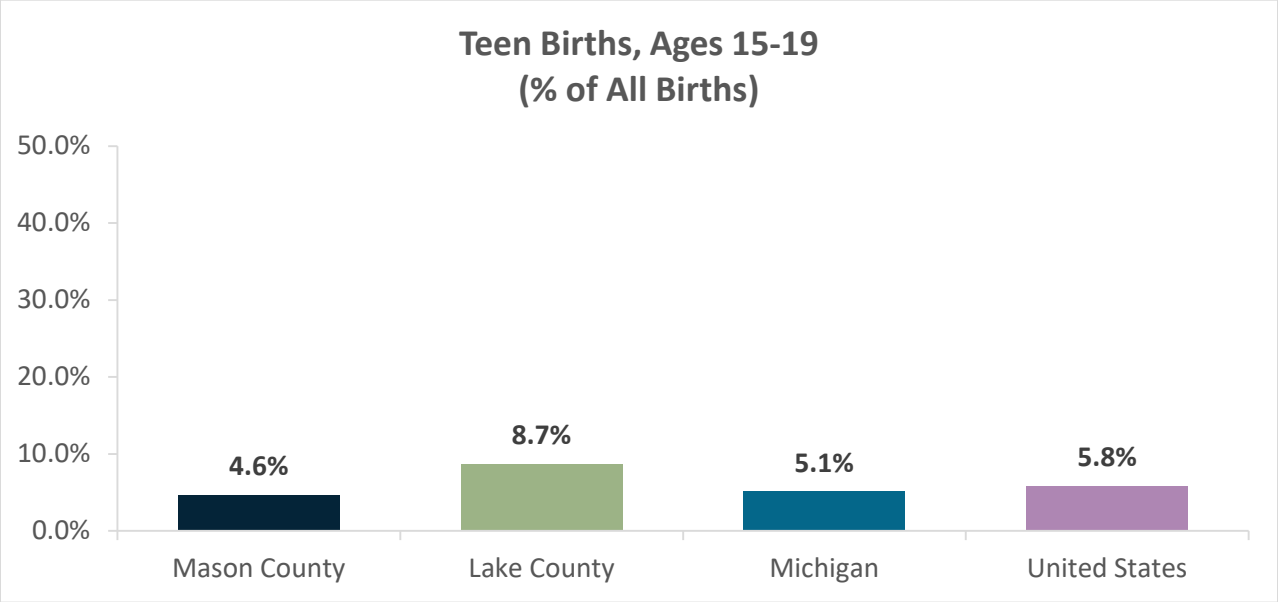
Source: Mason and Lake counties are combined in the Michigan Profile for Healthy Youth (MiPhy), 2013-2014; For MI and US: Youth Behavior Risk Survey (YRBS), 2015.



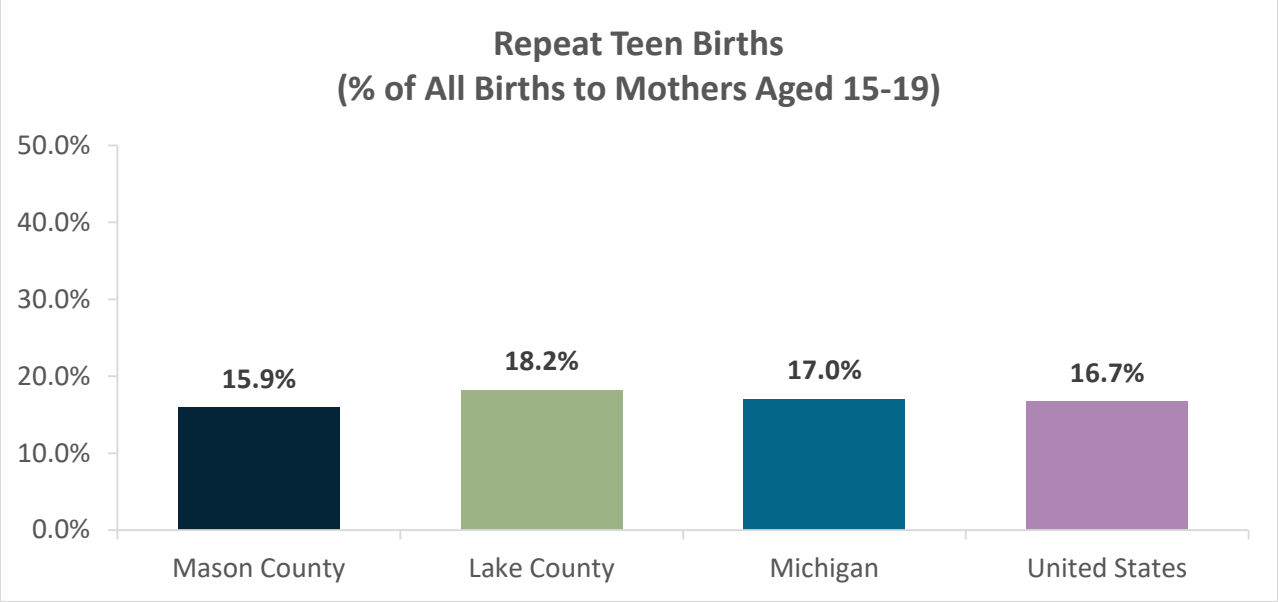
Source: Mason and Lake counties are combined in the Michigan Profile for Healthy Youth (MiPhy), 2013-2014; For MI and US: Youth Behavior Risk Survey (YRBS), 2015.

Teenage Sexual Activity (continued)

- As a percentage of all births, the rate of teen births is higher in Lake County than across Michigan or the U.S., while the percentage is lower in Mason County compared to the state or national percentage.
- Repeat teen births are lower in Mason County, but higher in Lake County, compared to the state or the nation.



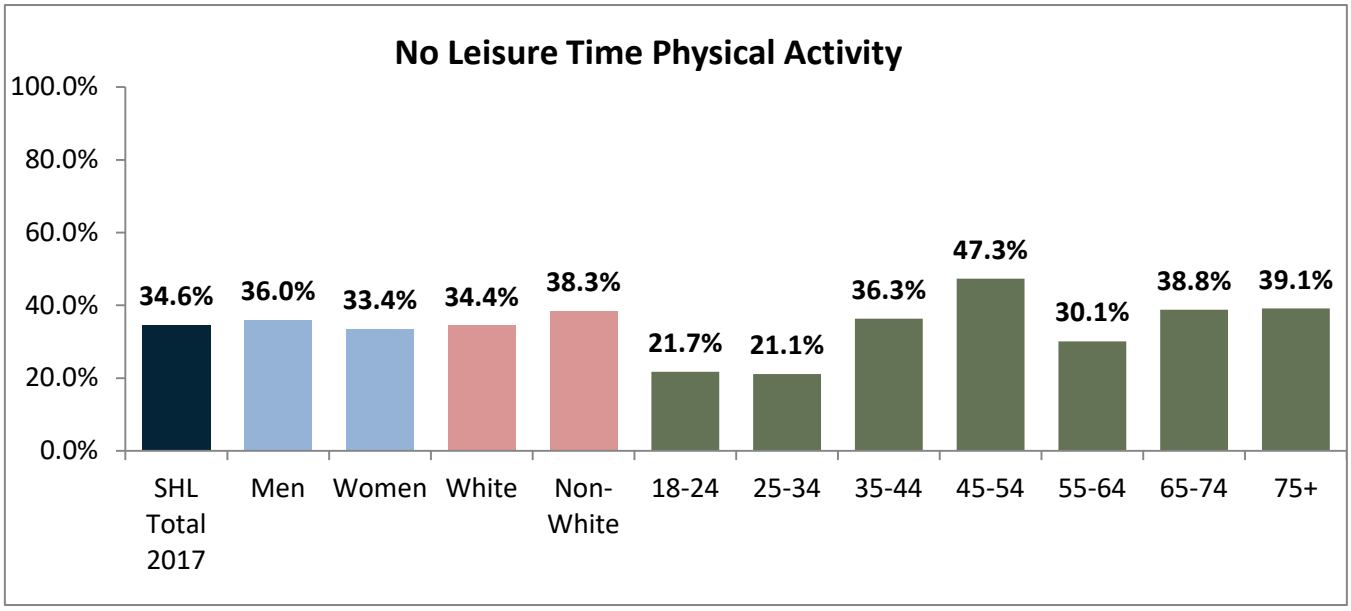
Source: MDCH Vital Records, counties and Michigan, 2016; US, Center for Disease Control, 2015.

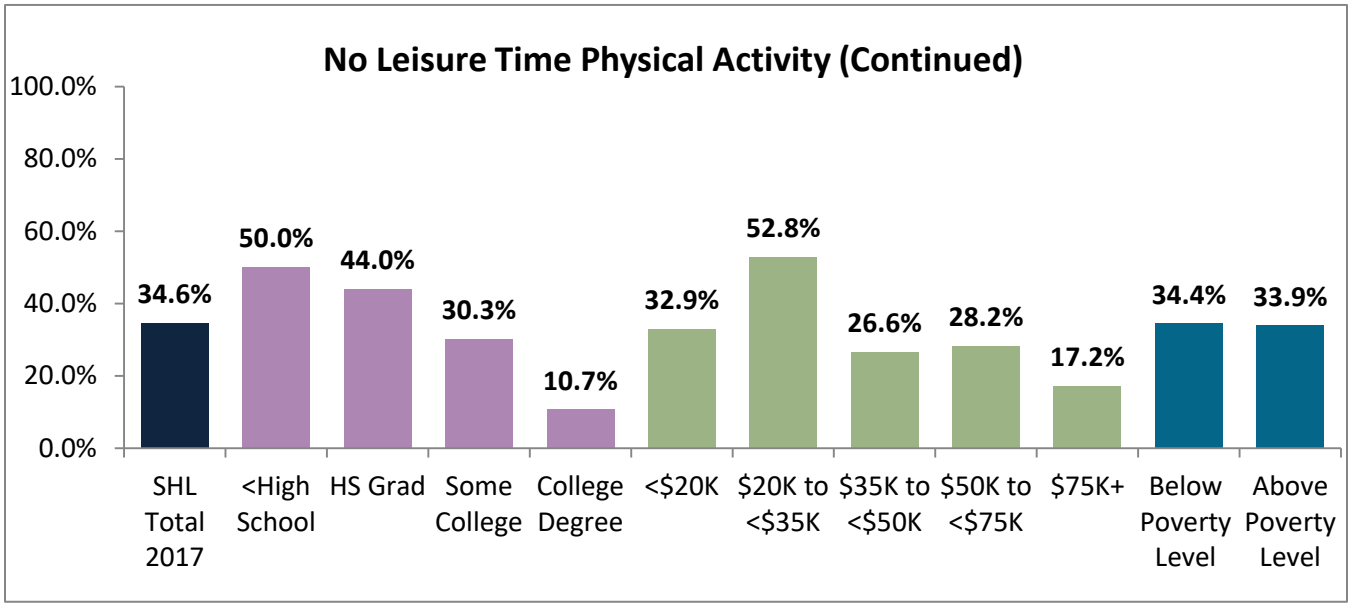


Source: Kids Count Data Book, 2015.

Physical Activity

- One-third (34.6%) of area adults do not participate in leisure time physical activity outside of their job.
- Lack of physical activity is inversely related to income and education; with regard to the latter, half (50.0%) of adults with less than a high school diploma do not participate in physical activity compared to 10.7% of adults with a college degree.

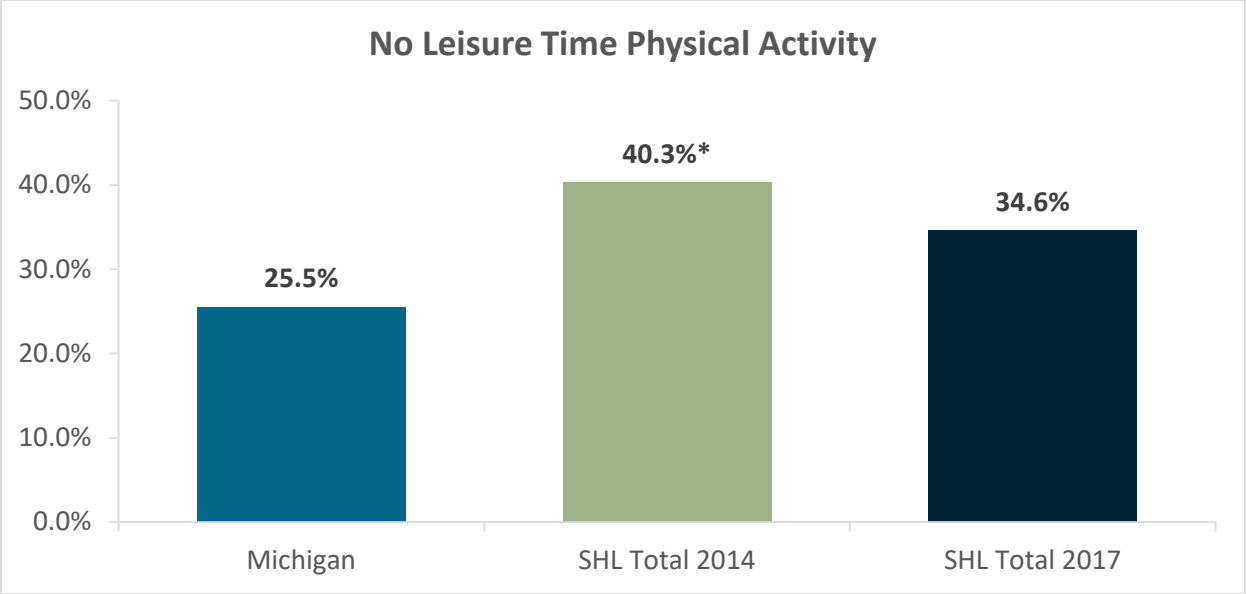




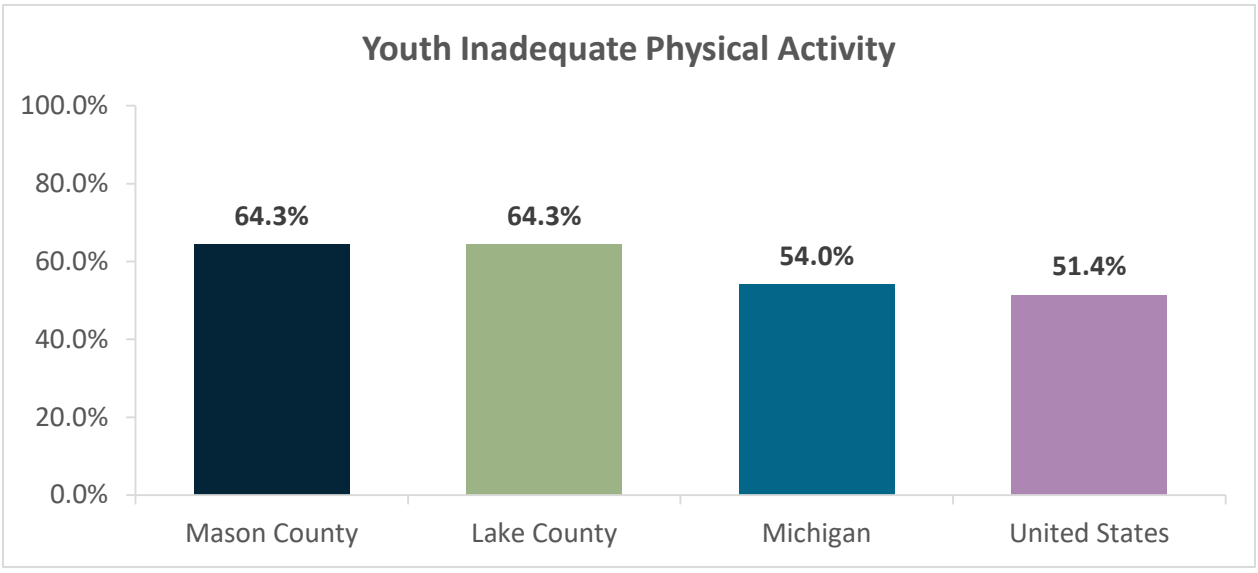
Source: SHL Behavioral Risk Factor Survey, 2017, Q16.1: During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise? (n=508)

Physical Activity (continued)

SHL area adults and youth are less active than adults or youth across Michigan.



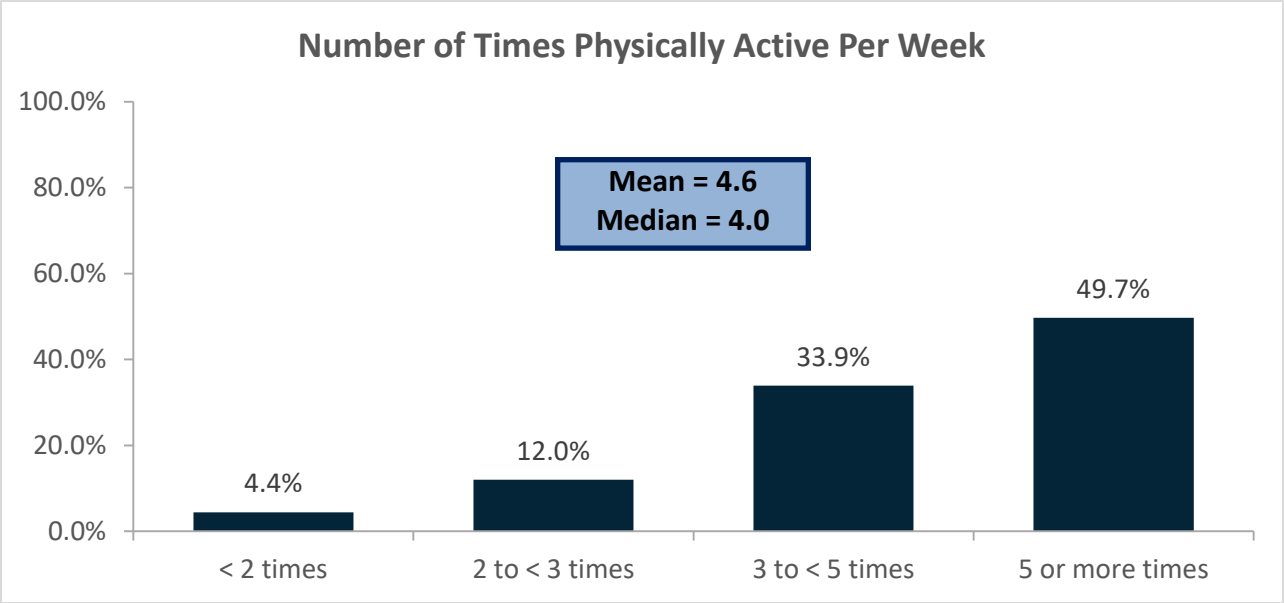
Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2016.; Preliminary Estimates for Risk Factor and Health Indicators, State of Michigan, Michigan BRFS, 2015; SHL Behavioral Risk Factor Survey, 2014, 2017. *Note: this measure is much higher than what is typical due to the 2014 BRFS being conducted in the winter months.



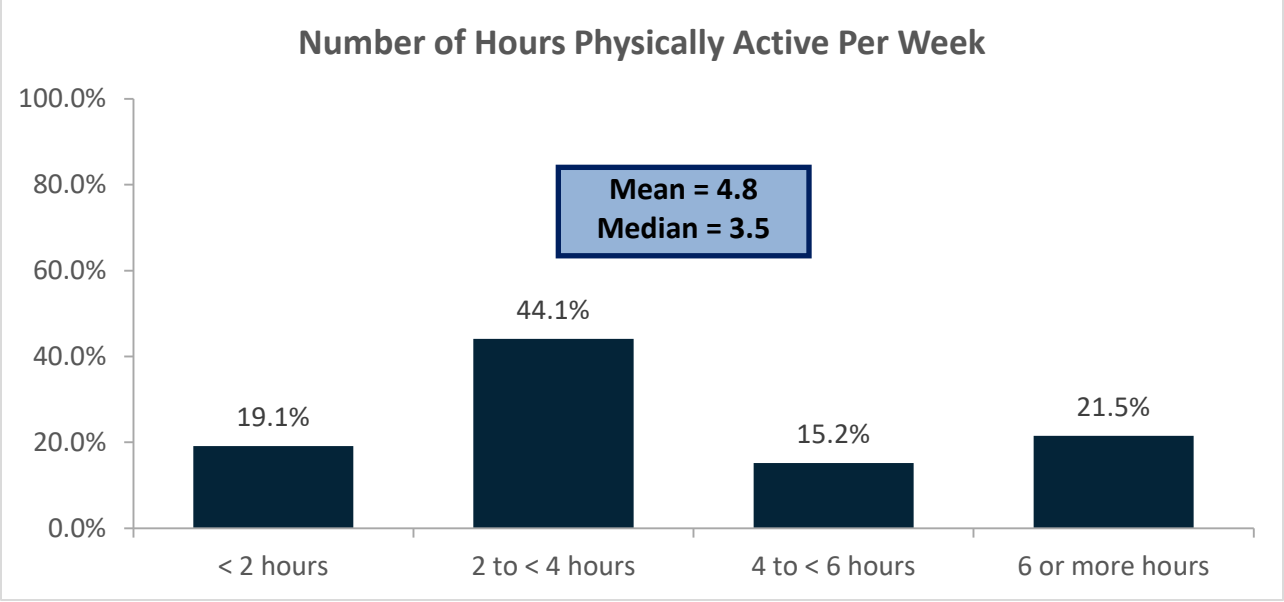
Source: Mason and Lake counties are combined in the Michigan Profile for Healthy Youth (MiPhy), 2013-2014; For MI and US: Youth Behavior Risk Survey (YRBS), 2015.

Physical Activity (continued)

- Among those who exercise, 83.6% participate at least three times per week.
- More than six in ten (63.2%) participate for less than four hours per week, while one in five (21.5%) participate for six hours or more.



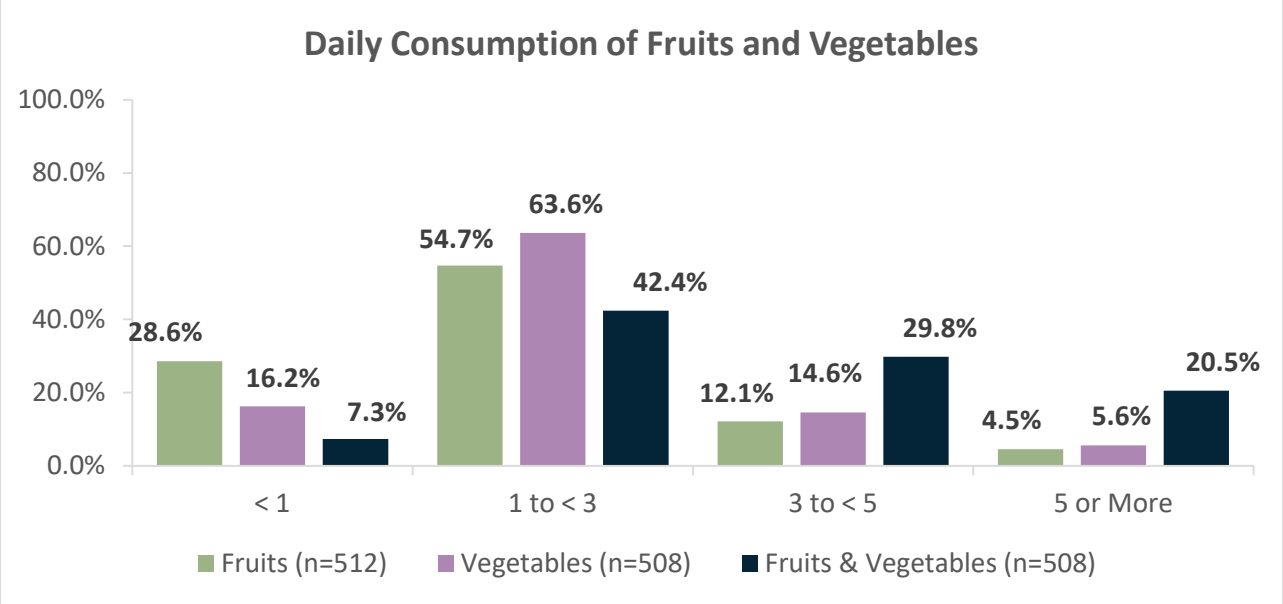
Source: SHL Behavioral Risk Factor Survey, 2017, Q16.2: How many times per week or per month did you take part in physical activity during the past month? (n=345)



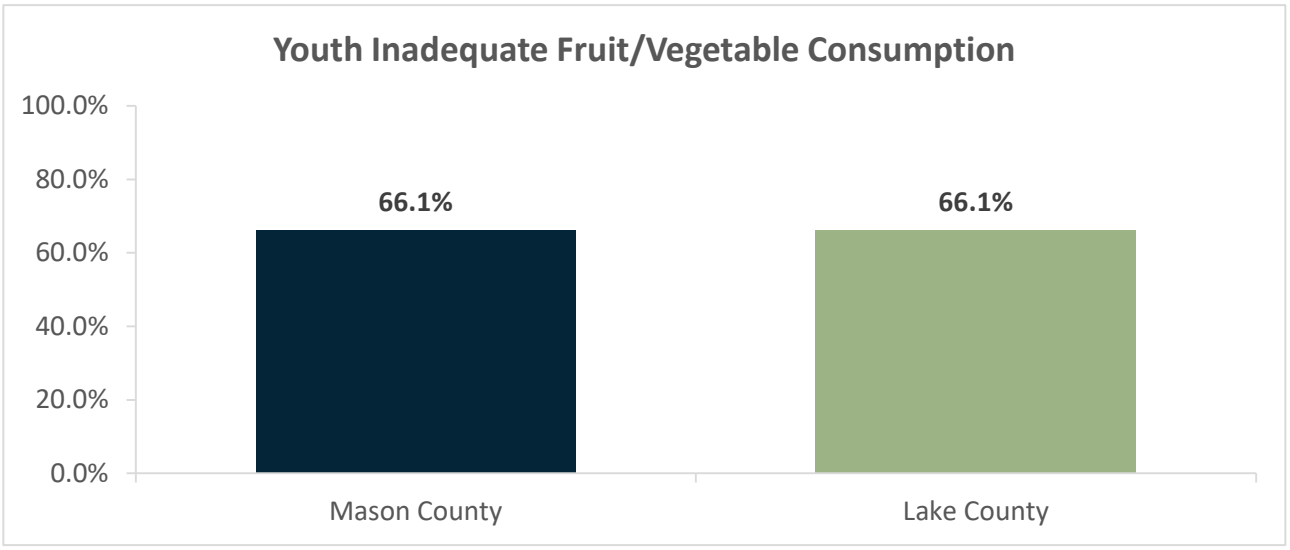
Source: SHL Behavioral Risk Factor Survey, 2017, Q16.3: And when you took part in physical activity, for how many minutes or hours did you usually keep at it? (n=3413)

Fruit and Vegetable Consumption

- One in five (20.5%) SHL area adults and one-third (33.9%) area youth consume adequate amounts of fruits and vegetables per day, which is defined as five or more times per day.
- Large majorities of area adults consume fruits and vegetables fewer than three times per day.



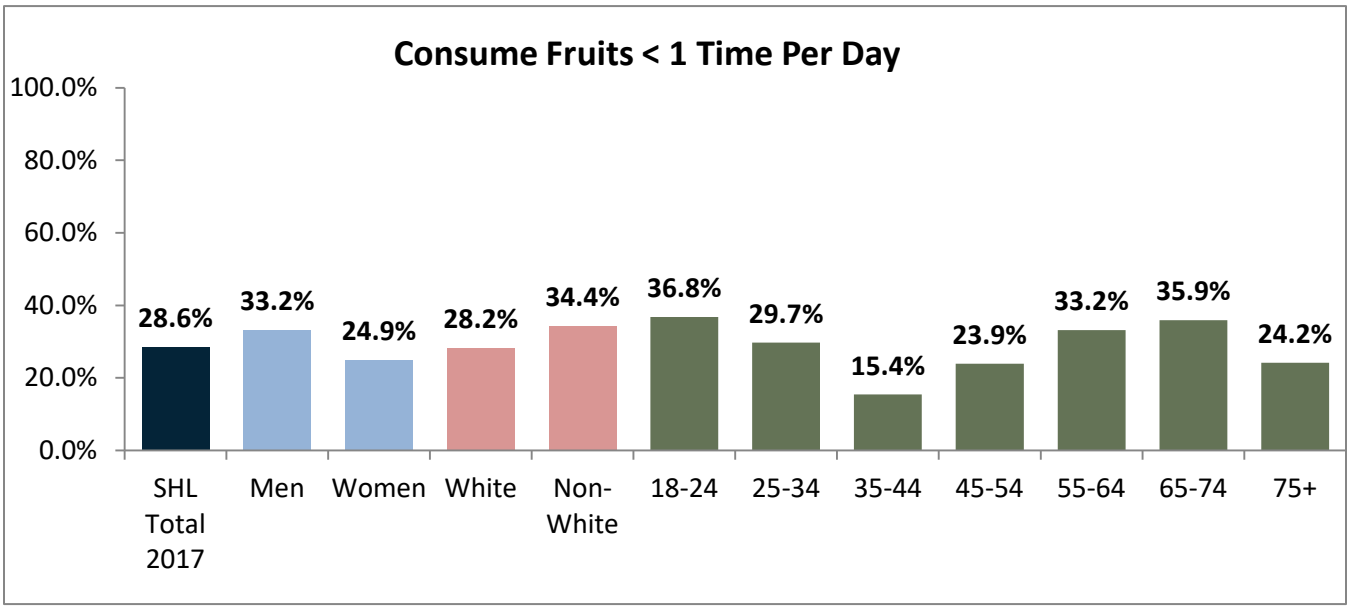
Source: SHL Behavioral Risk Factor Survey, 2017, Q14.1: During the past month, how many times per day, week or month did you eat fruit or drink 100% PURE fruit juices? Do not include fruit-flavored drinks with added sugar or fruit juice you made at home and added sugar to. Only include 100% juice.; Q14.2: During the past month, how many times per day, week, or month did you eat vegetables for example broccoli, sweet potatoes, carrots, tomatoes, V-8 juice, corn, cooked or fresh leafy greens including romaine, chard, collard greens or spinach?

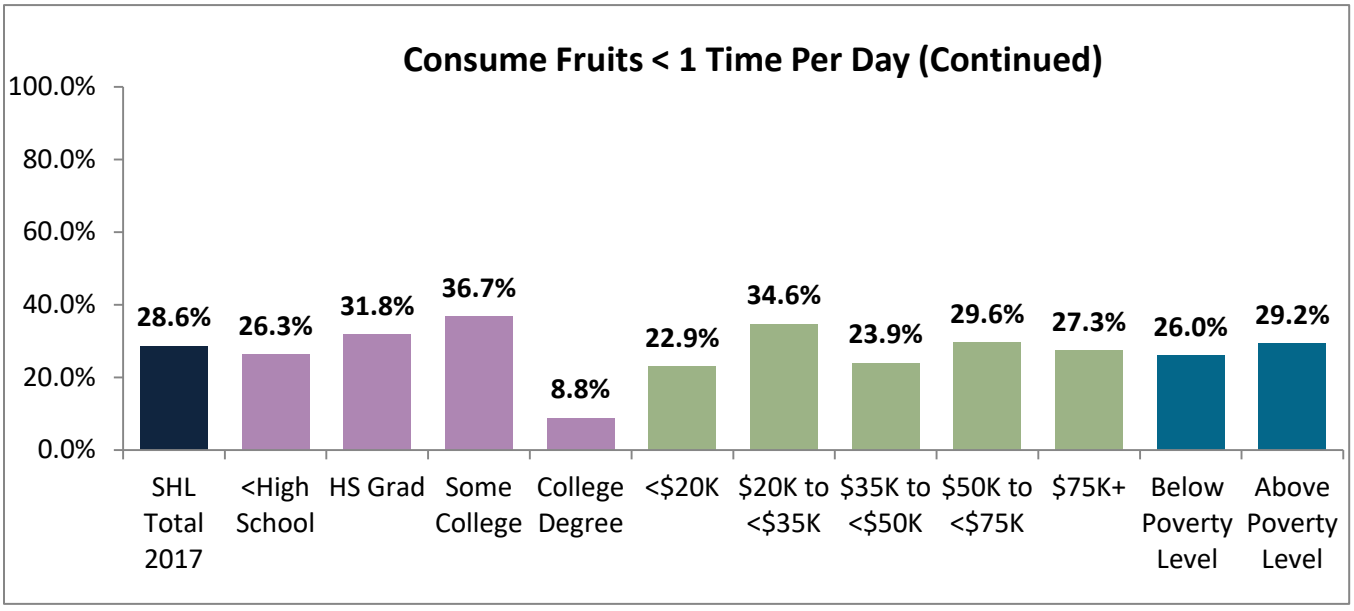


Source: Mason and Lake counties are combined in the Michigan Profile for Healthy Youth (MiPhy), 2013-2014; For MI and US: Youth Behavior Risk Survey (YRBS), 2015.

Fruit and Vegetable Consumption (continued)

- More than one-fourth (28.6%) of area adults consume fruit less than one time per day on average.
- Men and non-White adults are more likely to consume fruits less than one time per day compared to women and White adults, respectively.

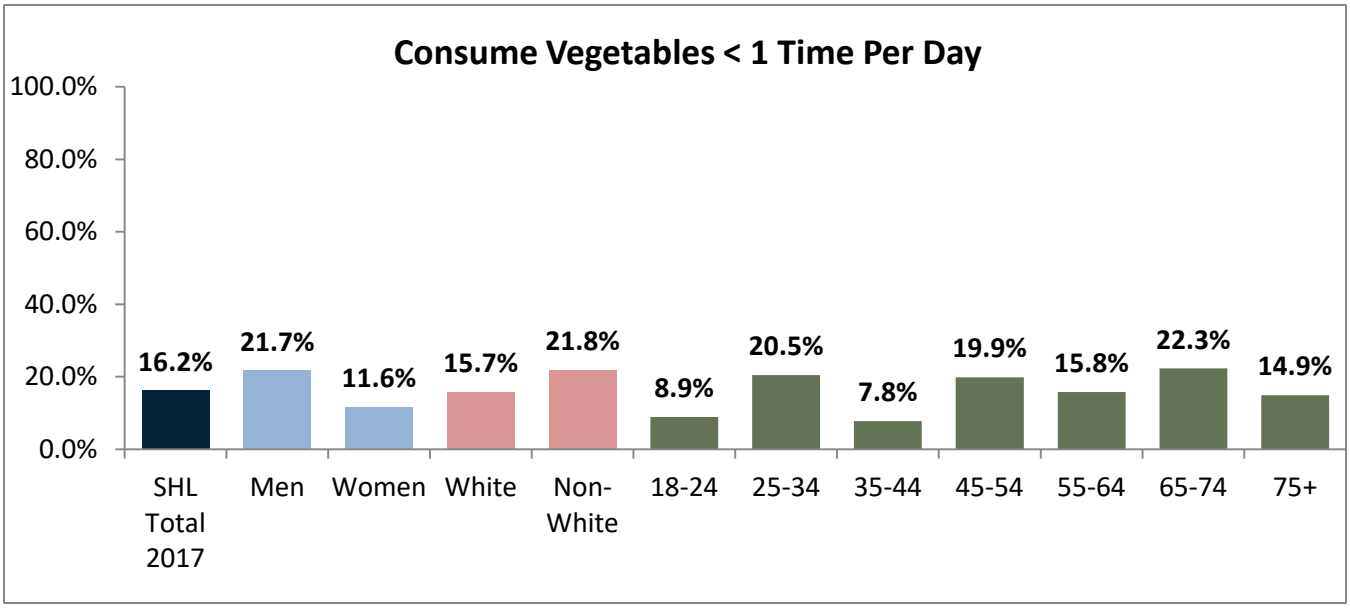


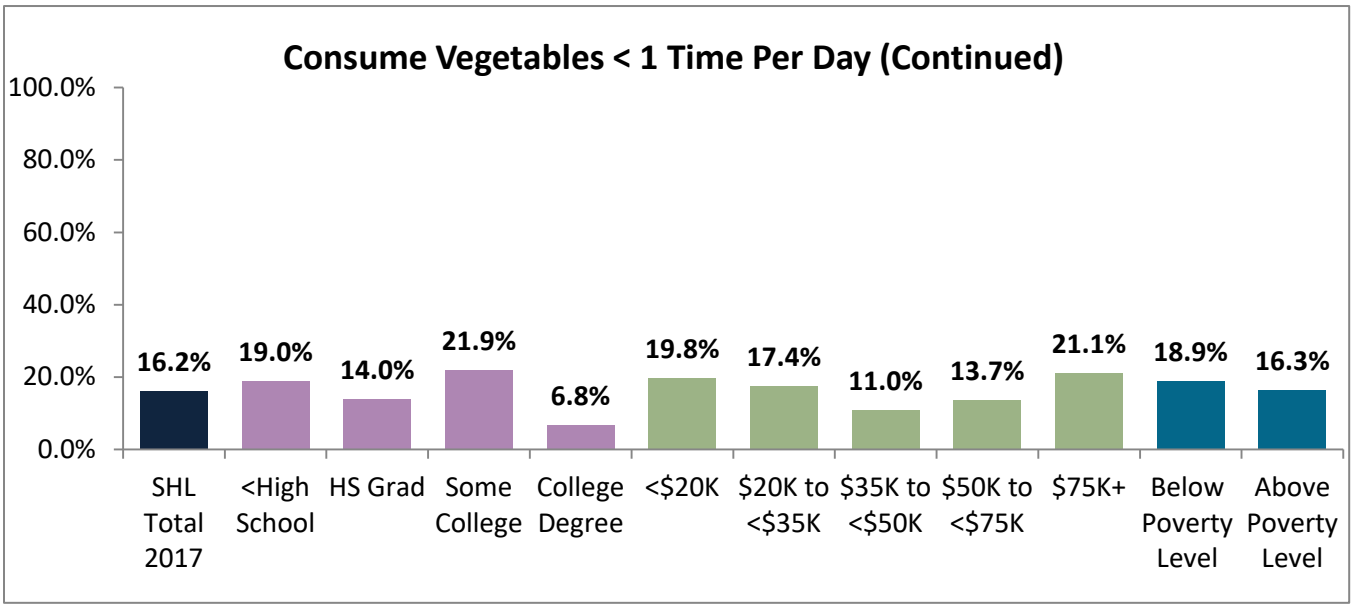


Source: SHL Behavioral Risk Factor Survey, 2017, Q14.1: During the past month, how many times per day, week or month did you eat fruit or drink 100% PURE fruit juices? Do not include fruit-flavored drinks with added sugar or fruit juice you made at home and added sugar to. Only include 100% juice.

Fruit and Vegetable Consumption (continued)

Nearly one in six (16.2%) SHL area adults consume vegetables less than one time per day, on average, and those most likely to do this come from groups that are men and/or non-White.

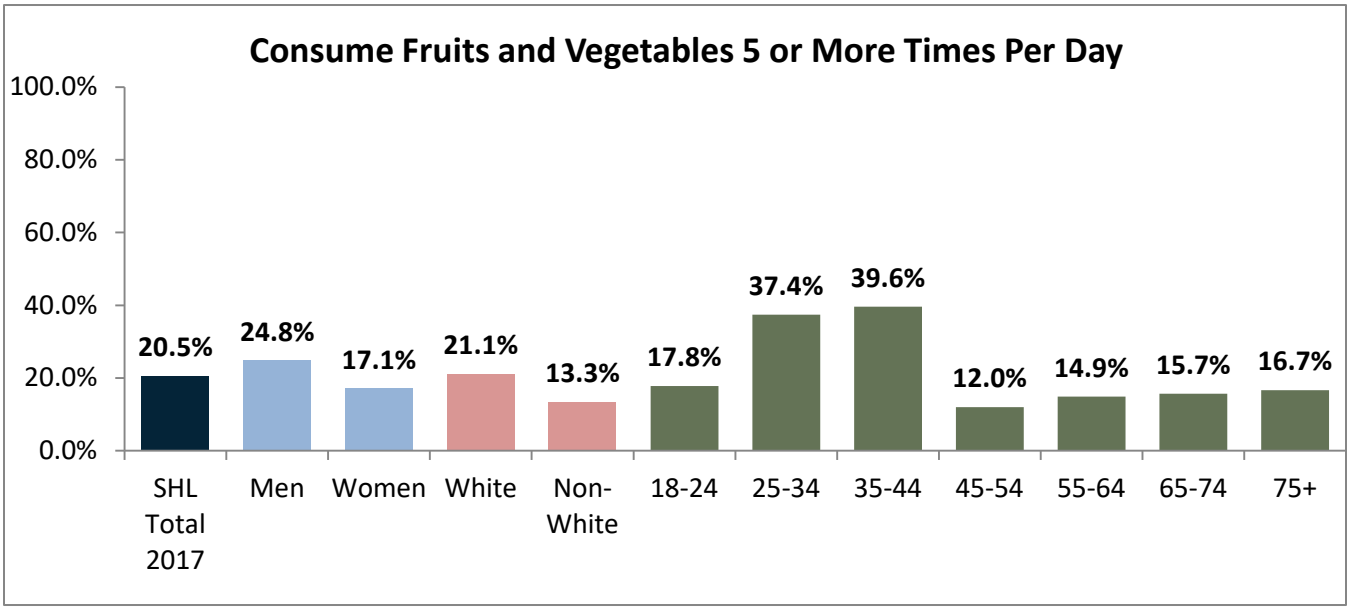


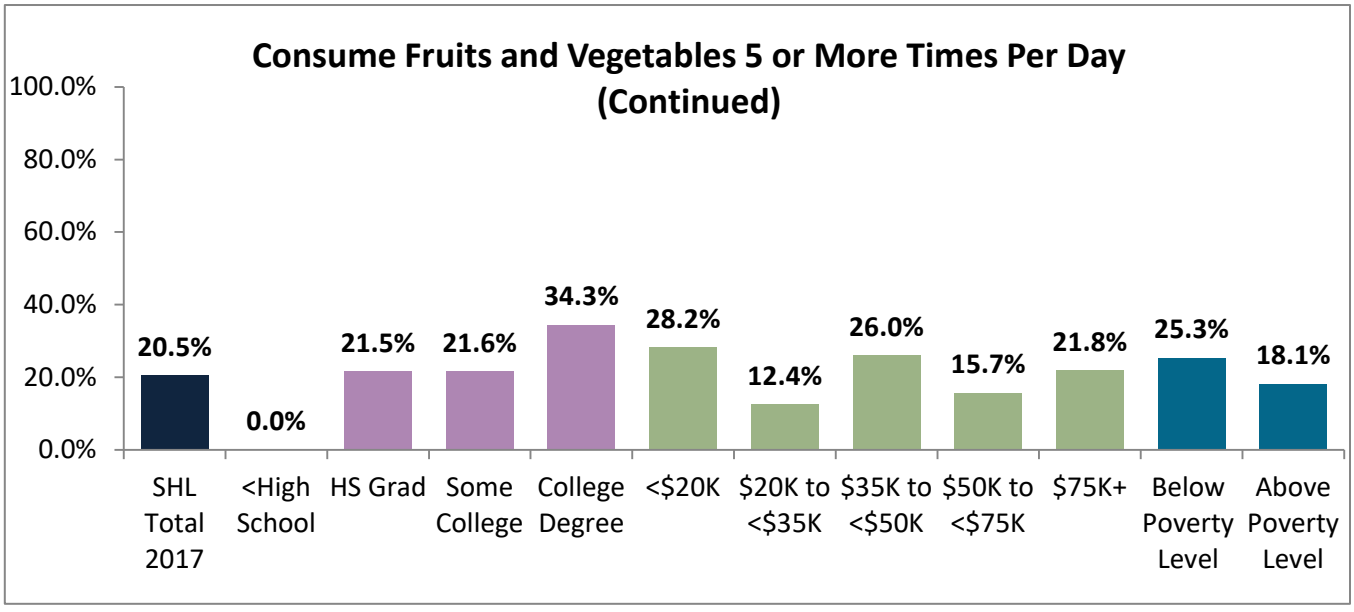


Source: SHL Behavioral Risk Factor Survey, 2017, Q14.2: During the past month, how many times per day, week, or month did you eat vegetables for example broccoli, sweet potatoes, carrots, tomatoes, V-8 juice, corn, cooked or fresh leafy greens including romaine, chard, collard greens or spinach?

Fruit and Vegetable Consumption (continued)

- Men and White adults are more likely to consume adequate amounts of fruits and vegetables daily, compared to women and non-White adults, respectively.
- Adults most likely to consume adequate amounts of fruits and vegetables are between the ages of 25-44 and/or have a college degree.

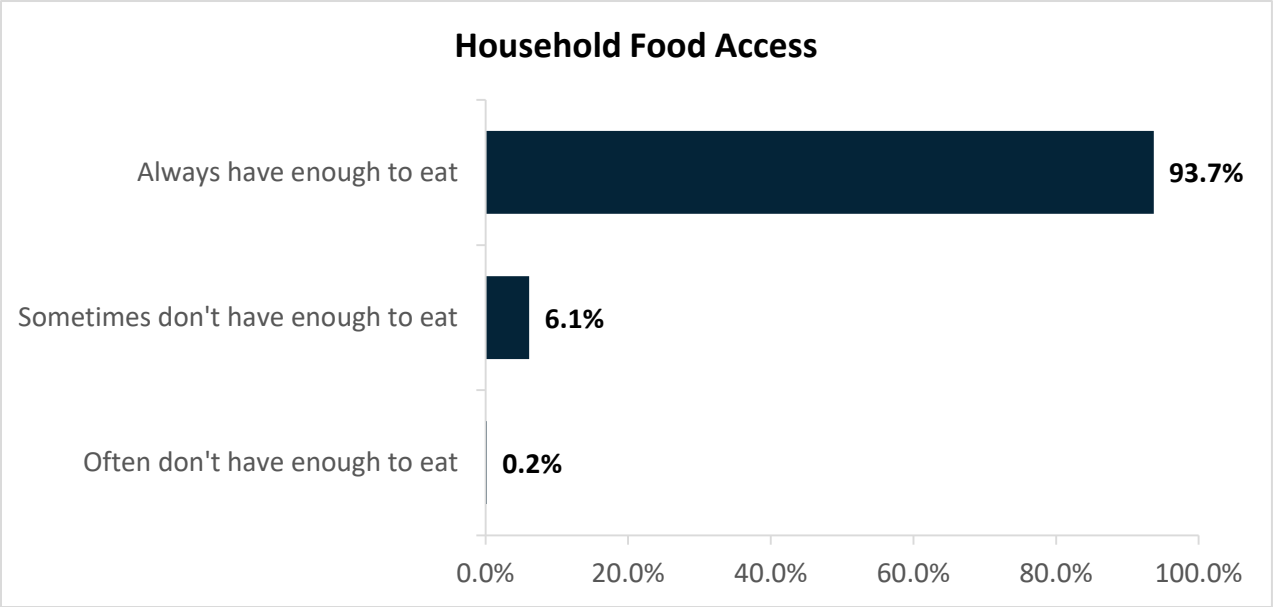




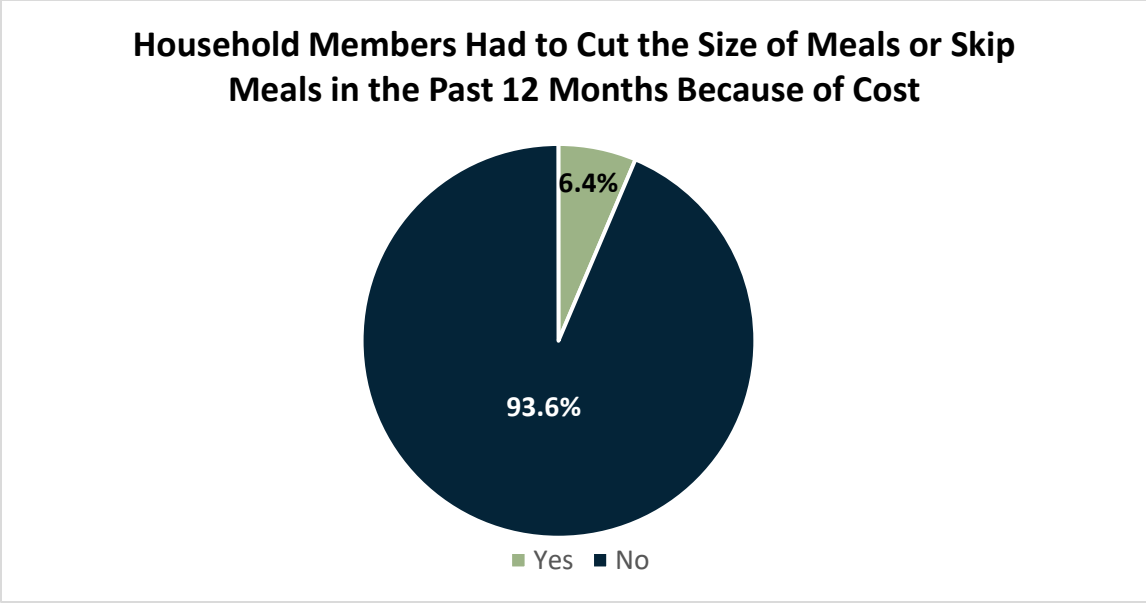
Source: SHL Behavioral Risk Factor Survey, 2017, Q14.1: During the past month, how many times per day, week or month did you eat fruit or drink 100% PURE fruit juices? Do not include fruit-flavored drinks with added sugar or fruit juice you made at home and added sugar to. Only include 100% juice.; Q14.2: During the past month, how many times per day, week, or month did you eat vegetables for example broccoli, sweet potatoes, carrots, tomatoes, V-8 juice, corn, cooked or fresh leafy greens including romaine, chard, collard greens or spinach?

Food Sufficiency

More than nine in ten (93.7%) area adults report they always have enough food to eat and a similar proportion say they have not had to cut the size of meals, or skip meals, because of cost.



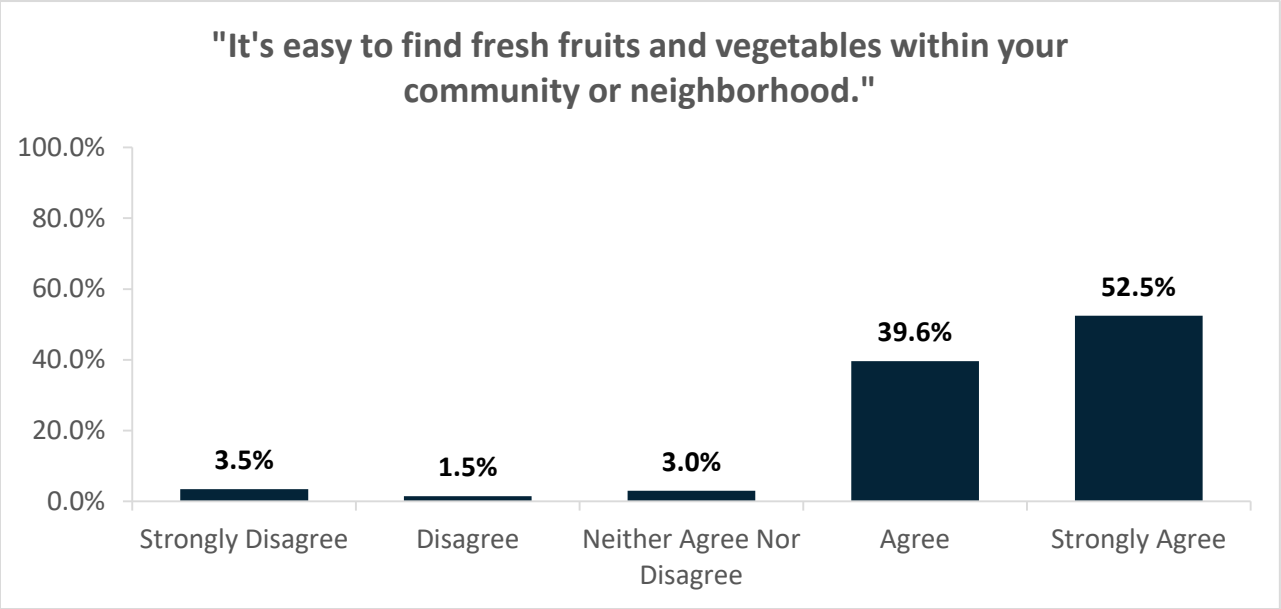
Source: SHL Behavioral Risk Factor Survey, 2017, Q15.1: Which of the following statements best describes the food eaten in your household within the last 12 months? Would you say that…? (n=514)



Source: SHL Behavioral Risk Factor Survey, 2017, Q15.2: In the past 12 months, did you or others in your household ever cut the size of your meals or skip meals because there wasn't enough money for food? (n=514)

Food Sufficiency (continued)

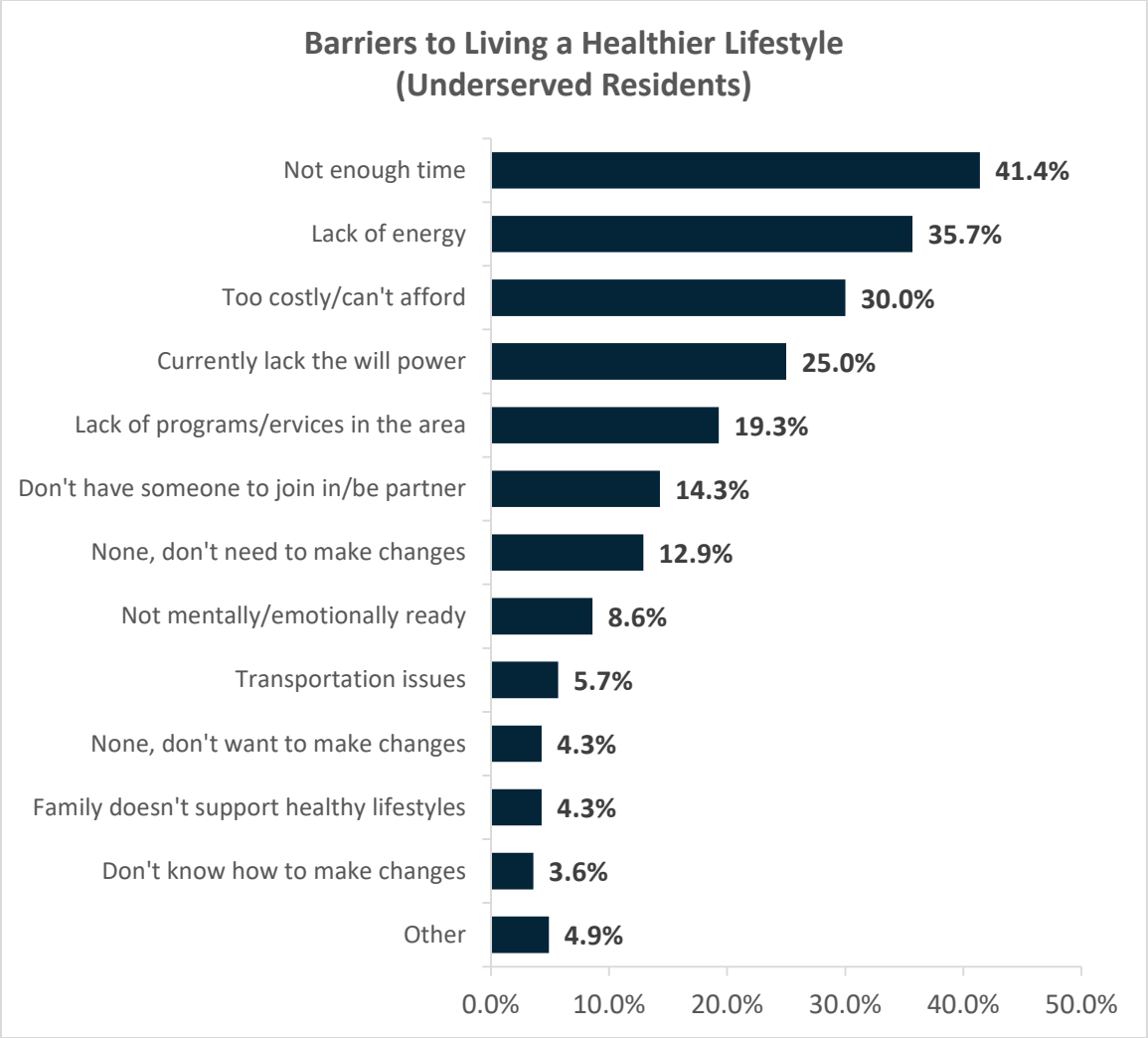
Additionally, more than nine in ten (92.1%) area adults say that it's easy to find fresh fruits and vegetables within their neighborhood or community.



Source: SHL Behavioral Risk Factor Survey, 2017, Q15.3: Please tell me how much you agree or disagree with the following statement. "It is easy to find fresh fruits and vegetables within your community or neighborhood." Would you say that you…? (n=507)

Barriers to Living a Healthier Lifestyle

- Underserved adults face many barriers when trying to live a healthier lifestyle, especially lack of time/energy/will power and cost.
- Lack of programs or services in the area and not having someone to join in or be a partner in living a healthier lifestyle are also substantial barriers.

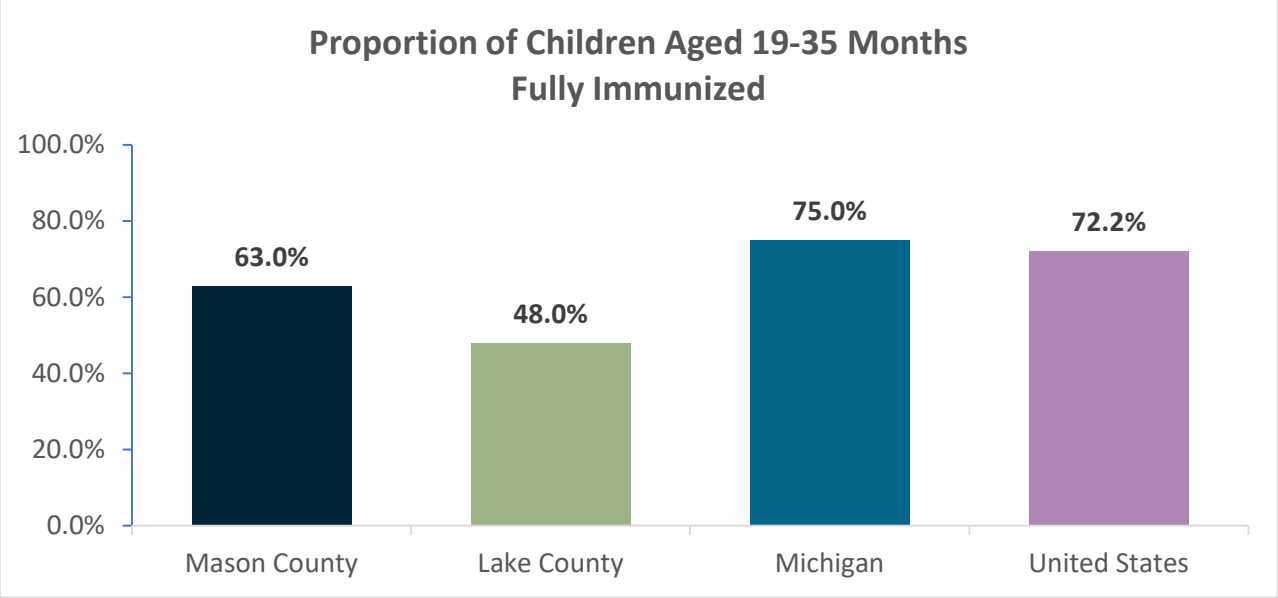


Source: SHL Underserved Resident Survey, 2017, Q17: What are some of the barriers you face personally when trying to live a healthier lifestyle? (n=140)

CLINICAL PREVENTATIVE PRACTICES

Immunizations

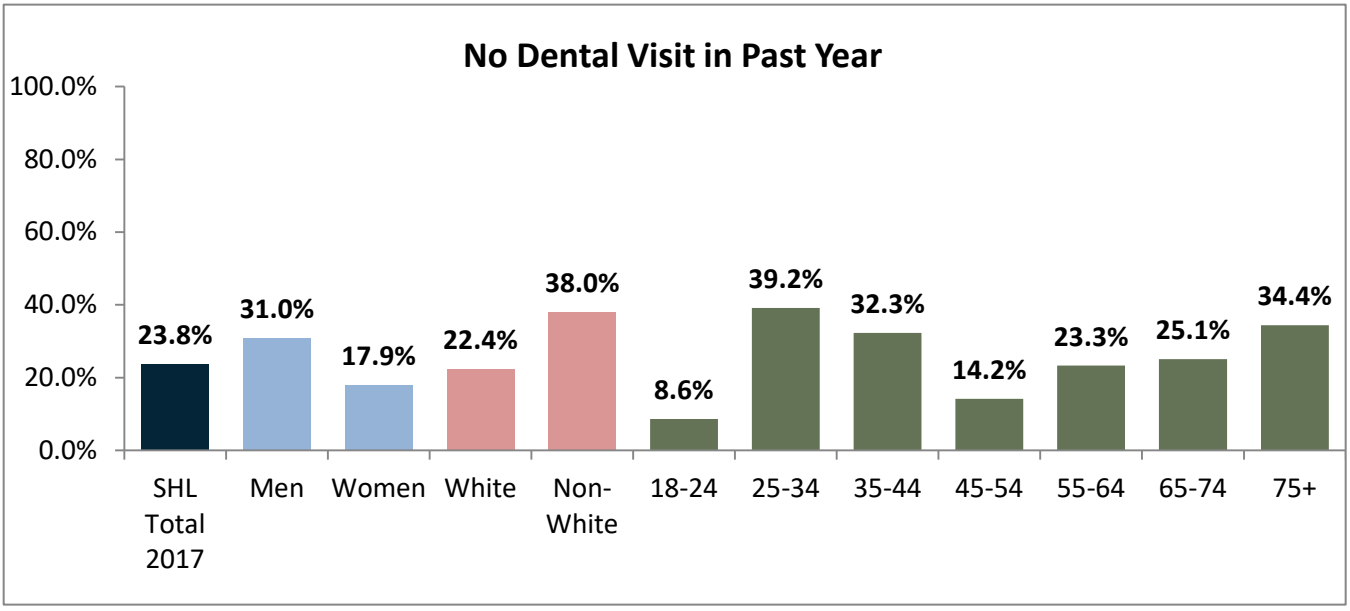
- Fewer than two-thirds of children aged 19-35 months in Mason County, and fewer than half in Lake County, are fully immunized, rates below the state or national rates.
- Although Key Informants do not consider lack of childhood immunizations as one of the most pressing or prevalent health issues in the community, some acknowledge that it is a problem.

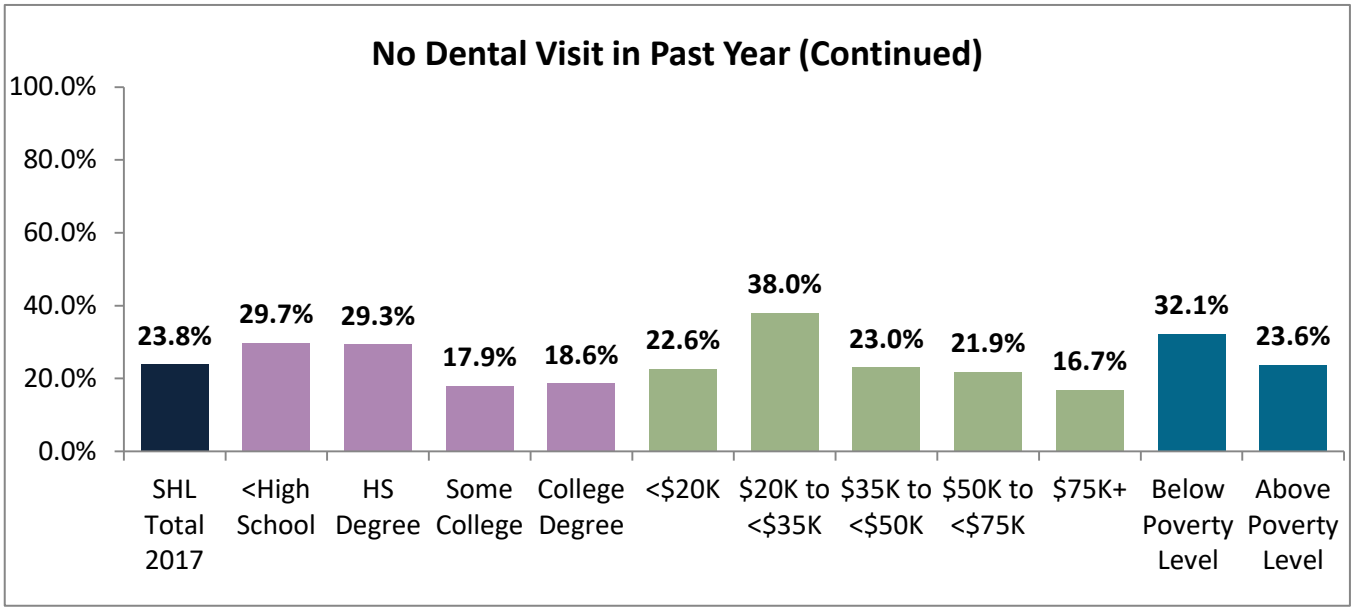


Source: Local and MI % from MICR June, 2017, National data at CDC National Immunization Survey, 2015.

Oral Health

- Nearly one-fourth (23.8%) of SHL area adults have not visited a dentist in the past year; this rate is better than the national rate (33.6%).
- Men, non-White adults, those without a college education, and those below the poverty level are more likely to have had no dental visit compared to women, White adults, those with at least some college, and those above the poverty level, respectively.

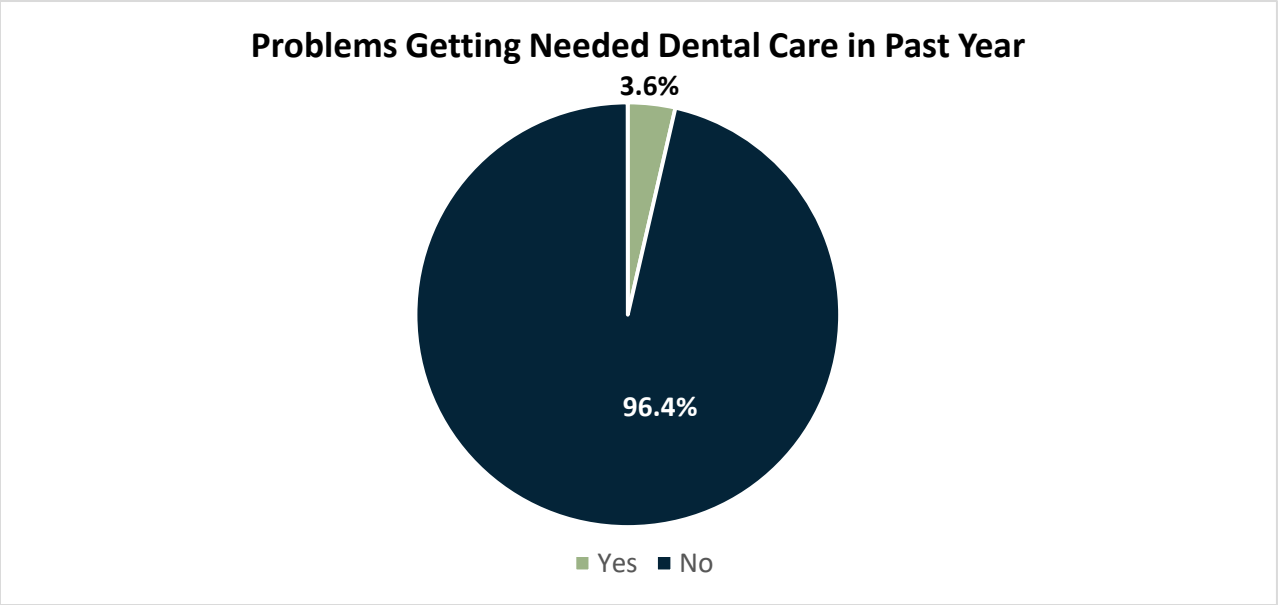




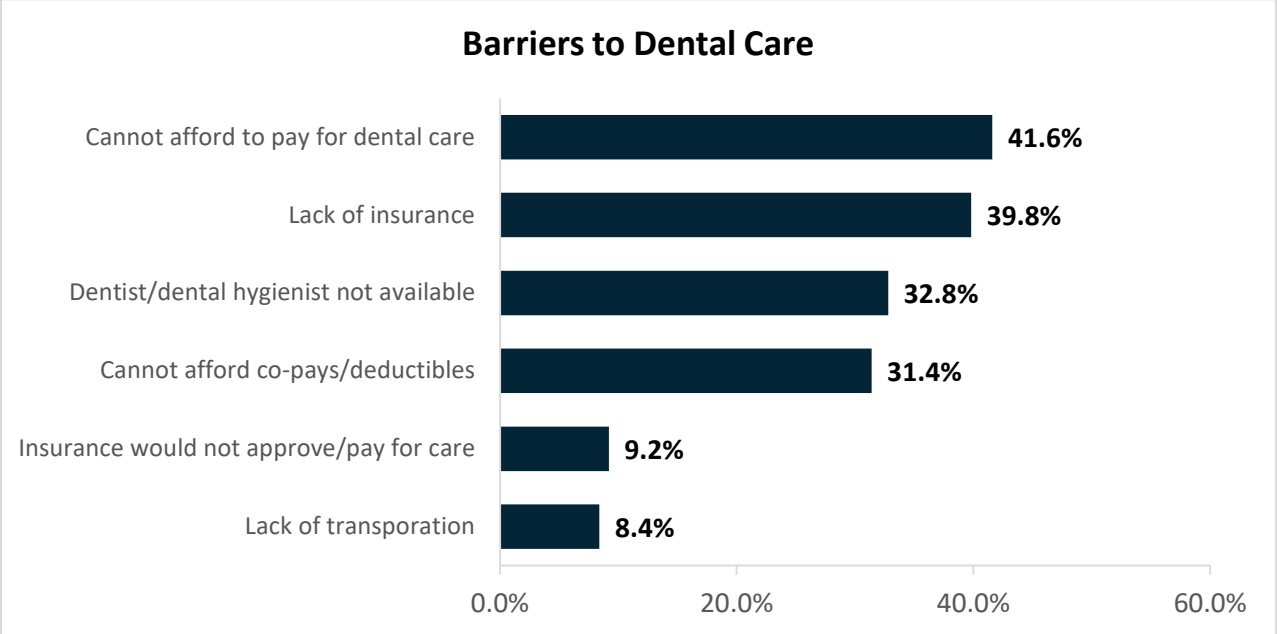
Source: SHL Behavioral Risk Factor Survey, 2017, Q19.1: How long has it been since you last visited a dentist or a dental clinic for any reason? Include visits to dental specialists, such as orthodontists. (n=512)

Oral Health (Continued)

- Very few (3.6%) area adults have had problems receiving needed dental care in the past year, but for those who have, inability to afford care, lack of insurance, lack of availability of a dentist/hygienist, and inability to afford copays/deductibles were the top barriers to dental care.



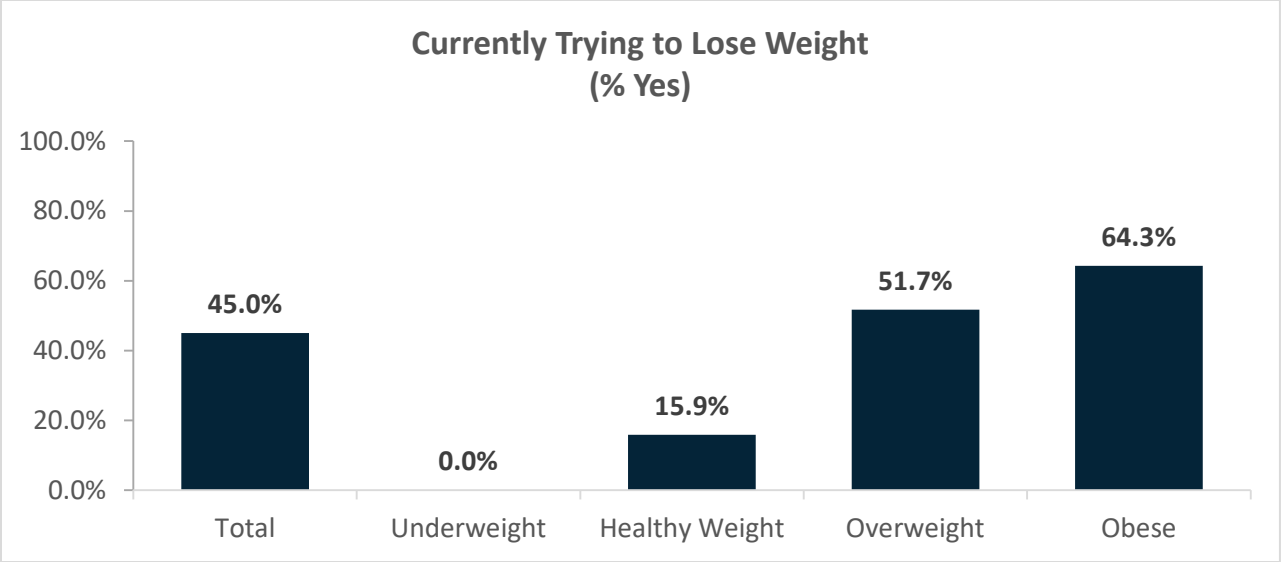
Source: SHL Behavioral Risk Factor Survey, 2017, Q19.2: In the past 12 months, have you had problems getting needed dental care? (n=513)



Source: SHL Behavioral Risk Factor Survey, 2017, Q19.3: Please provide the reason(s) for the difficulty in getting dental care. (Multiple response). (n=25)

Weight Control

- Among all area adults, 45.0% are currently trying to lose weight. Among adults who are overweight per their BMI, only half (51.7%) are currently trying to lose weight.
- Further, many of those who are overweight or obese see themselves more favorably; for example, 66.8% of those considered obese per their BMI see themselves as only slightly overweight, and 34.6% of those who are overweight view themselves as about the right weight.



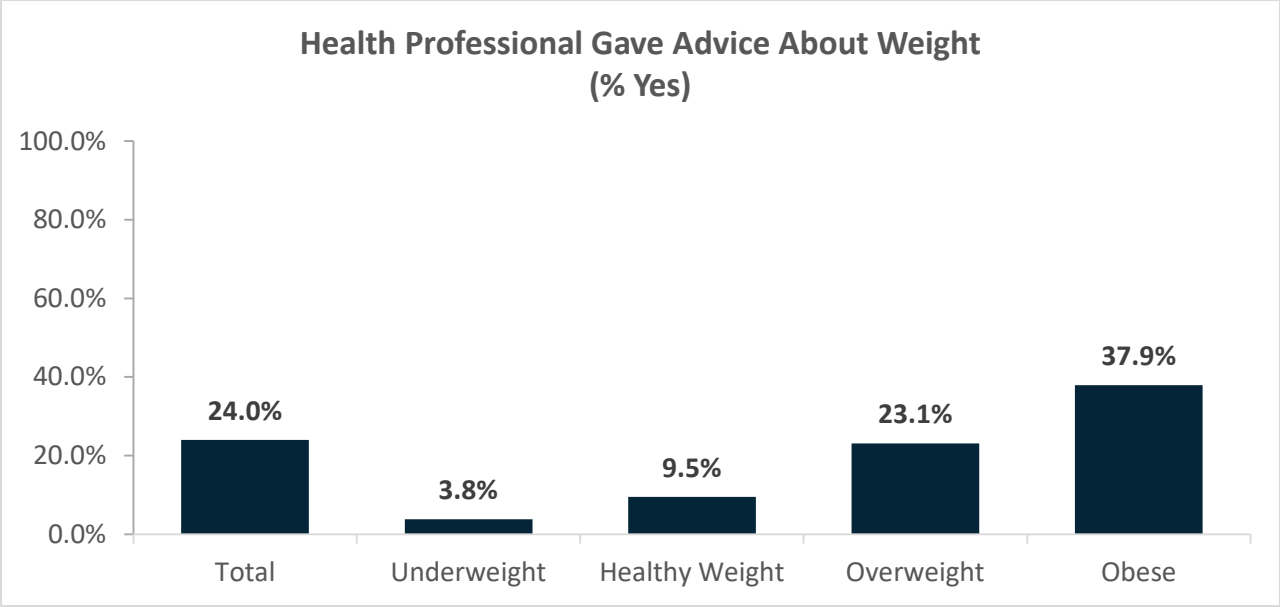
Source: SHL Behavioral Risk Factor Survey, 2017, Q13.1: Are you currently trying to lose weight? (n=511)

		BMI Category			
Self-Described Weight	TOTAL (n=509)	Obese (n=174)	Overweight (n=162)	Healthy Weight (n=152)	Underweight (n=6)
Underweight	2.0%	0.2%	0.0%	6.0%	28.3%
About the right weight	38.7%	7.4%	34.6%	77.2%	71.7%
Slightly Overweight	49.1%	66.8%	62.7%	15.1%	0.0%
Very Overweight	10.2%	25.6%	2.7%	1.7%	0.0%

Source: SHL Behavioral Risk Factor Survey, 2017, Q13.2: How would you describe your weight? Would you say…?

Weight Control (continued)

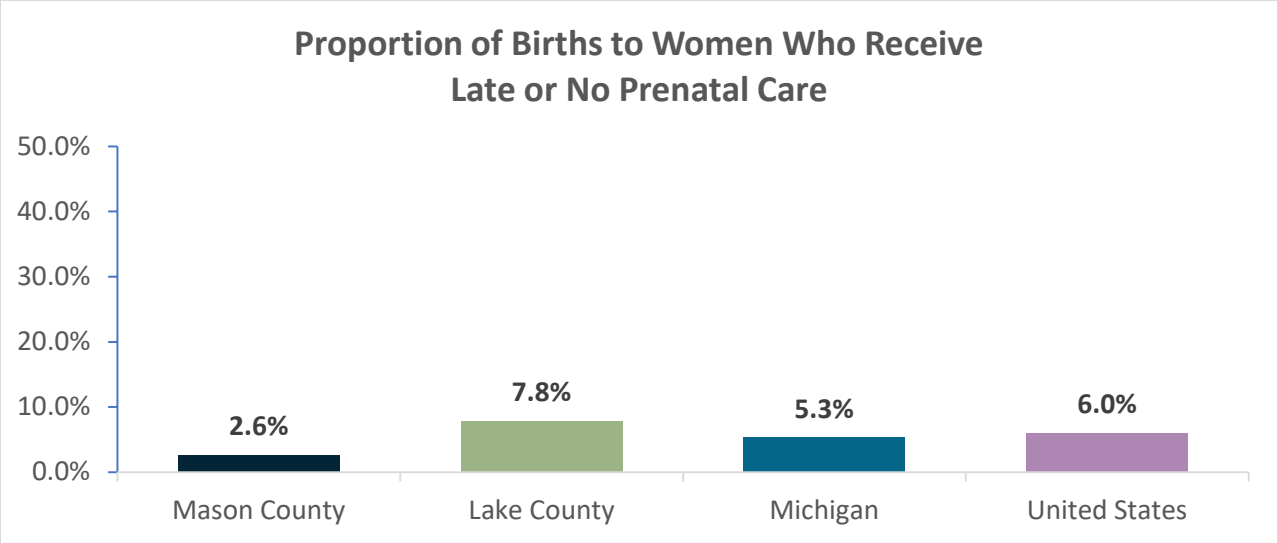
In light of the fact that seven in ten adults in the SHL area are either overweight or obese per this 2017 CHNA, it is surprising that many more adults are not receiving advice from health care professionals regarding their weight; only 23.1% of adults who are overweight, and 37.9% of those who are obese, per their BMI, are receiving advice about their weight from a health professional.



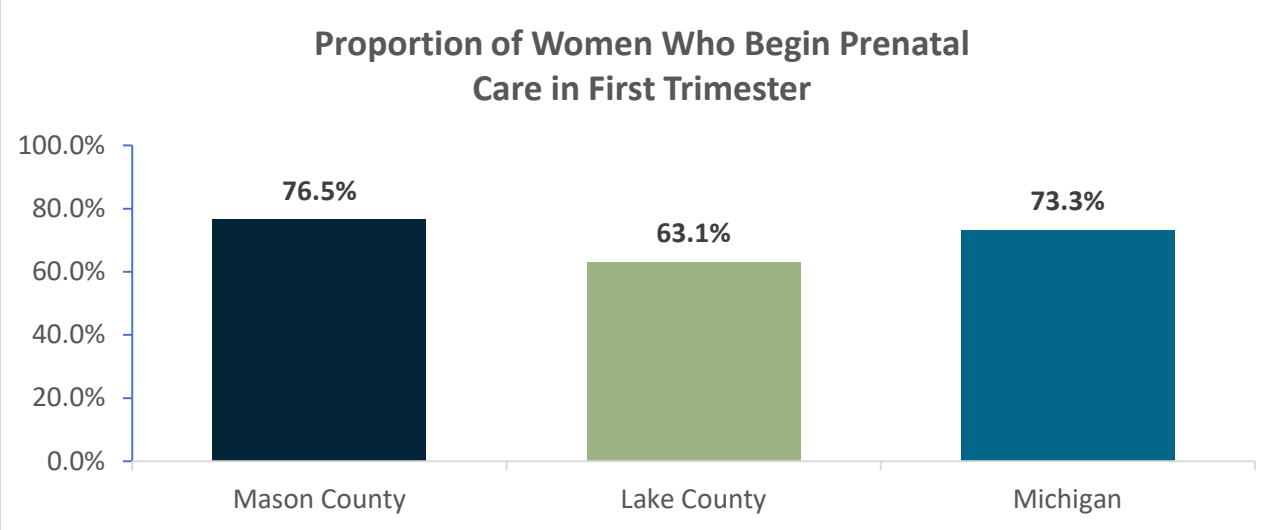
Source: SHL Behavioral Risk Factor Survey, 2017, Q13.3: Has a doctor, nurse, or other health professional given you advice about your weight? (n=512)

Prenatal Care

- The proportion of pregnant women in Mason and Lake counties that have late or no prenatal care is extremely low, although the latter rate is higher than the state and national rates.
- That said, there is room for improvement as nearly one-quarter (23.5%) of pregnant women in Mason County and more than one-third (36.9%) of pregnant women in Lake County do not receive prenatal care in the first trimester.



Source: Kids Count Data Book, 2015.



Source: MDHHS Vital Records, counties and MI, 2015.

SOLUTIONS & STRATEGIES

Partnerships That Could Be Developed

Key Stakeholders named several strong partnerships currently in place among area organizations and agencies but also believe that additional partnerships would be beneficial in meeting community health needs, particularly around the areas of mental health and substance abuse. In addition, increased community engagement on the part of the hospital is seen as an area for improvement.

Partnerships aimed at addressing mental health and substance abuse	**Primary care and behavioral health** would be awesome. [**Collaborating to get at the root cause among high utilizers of the ER**] would be amazing…I know that at least 90% of those people have a co-occurring mental health or substance abuse disorder, and if we were to work together on solutions for those folks, we could get down unnecessary EDUs pretty fast. I [also] think we **desperately need to work together as a community on the substance abuse issues**. I think our **Community Mental Health** organization **– I think we don't really have a good network with public health, Community Mental Health, Spectrum Health, Mercy Health**…I think that we could do more. **What comes to mind right now are huge issues with substance abuse and treatment**; there's very little resources for people once they're ready to move into a treatment and then to retain them in a treatment program. **I see that as a huge opportunity. And then, mental health services - there's just not enough.**
Partnerships with the hospital	I think **the hospital could be more engaged** than what they are **in the community**. They would say that they're engaged, but I'd say they're engaged for their own agenda versus the greater good of the community. I think sometimes personnel at Spectrum in Kent County think that's how all communities operate.
Successful partnerships currently in place	I think **we do a nice job with our fit club for kids** that's in most of the local school systems. I think we've done a good job of **partnering there with the agencies in the community and the school system and the hospital and medical professionals**… There have been a lot of different agencies under tent with us on that. I think, **for the most part, there's collaboration** between those entities - I mean, if you look at **MSUE**, if you look at **the Chambers**, if you look at **the hospitals**, if you look at **the health department**, **the schools**, educational opportunities - if you're talking the **high schools**, if you're talking **colleges** - **those groups have begun to work quite well together**…The hospital in Newaygo County - we've got an excellent relationship with them. Big Rapids - the same thing. Mason County - **we've got good relationships with the hospitals**. Even in Osceola County, we've always had a great relationship with the Spectrum hospital there, even before it was part of the Big Rapids hospital.

Source: SHL Key Stakeholder Interviews, 2017, Q6: Are there any specific partnerships that could be developed to better meet a need? (n=6)

Resources Available to Meet Issues/Needs

Area health professionals report very limited resources available to address the community's most pressing health concerns. Although some supports and services are in place, these resources are stretched and in many cases are available only to certain groups, based on income level, insurance type, location, age, or other factors. For example, limited resources exist to address what many area health professionals perceive to be the community's top pressing need – substance abuse. Similarly, resources to address mental health are limited.

Substance abuse	The hospital's kind of the safety net for that, as well as first responders and public safety officials, but no, **I would not say it's adequate**. – *Key Stakeholder* **CMH can help, but they are overburdened**. There are **no de-tox programs** nearby. – *Key Informant* **We have one physician prescriber who does medication-assisted treatment [MAT] in Mason County…so it's a problem**…The one provider who does **only takes private pay**…The **community could [also] use some more people who can do the supportive group treatment and the supportive therapy and case management** that goes along with MAT. – *Key Stakeholder* I think the **illicit obviously is a problem**. **The prescribed piece I think is starting to be addressed by our providers**. – *Key Stakeholder* Currently **working towards establishing a drug coalition** countywide. – *Key Informant* **Health department**; **CMH**; Dr. Kuster's **Rehab Program**; **AA**; **Alanon**; **Family Link Programs** in school districts. – *Key Informant* There is a **pain clinic** operated by Spectrum Health Ludington Hospital that provides some **limited access to pain management services**. – *Key Informant*
Mental health/Behavioral health	We really **don't have a strong behavioral health structure here in Ludington**. We had an inpatient unit that we closed…**We have a psychiatrist in our office that does telemed**; we call it MedNow. We'd like to expand those services. – *Key Stakeholder* **CMH for Medicaid and indigent**. **Some private counseling** entities. **People with insurance struggle with access**. – *Key Informant* Those with **mild and moderate issues have no treatment options** here. CMH can see them only if they have Medicaid or are in immediate danger of suicide. **We can't wait for people to get to that point before we offer them help.** – *Key Informant* The insured have a few counseling providers but **no local psychiatry** and **little to no transportation** options. – *Key Informant*

Source: SHL Key Stakeholder Interviews, 2017, Q1a: Are there adequate area resources available to address these issues? (n=6); SHL Key Informant Online Survey, 2017, Q1b: What are the resources available in the community to address/resolve this issue? Please be as detailed as possible. (n=46)

Resources Available to Meet Issues/Needs (Continued)

Area health professionals name several resources, such as a walk-in clinic and Tele-Med, that have been put in place to address the area's provider shortage; however, the issue of limited providers remains a top concern. Resources targeting obesity exist in the community, but cost can be a barrier to using them. Several resources are in place to address chronic conditions such as heart disease and cancer.

Access to care	We just **don't have providers to see our patients**. – *Key Stakeholder* We have **very limited specialty services** in the area…Luckily, we have Spectrum Health in Reed City and in Ludington that does bring us specialists from the Grand Rapids area; some of them are making rotations up here…but it's very limited…**It's difficult to recruit physicians into a community that is very isolated**. – *Key Stakeholder* **Convenient Care walk-in clinic** and **MedNow** development are two areas that SHLH have developed to try to meet this need of primary care. – *Key Informant* In theory, [Tele-Med] saves a patient from driving to see a doctor. However, I know there have been **some back-ups with Tele-Med doctors being busy**. Also, in rural area, **not all patients have access to broadband**. – *Key Informant* **Senior center provides rides to dr.** appointments. **DHS provides vouchers** for re-imbursement **for gas**. – *Key Informant*
Obesity	Hospital has **nutrition counseling, but insurance does not usually pay** for it. Community programs like **Weight Watchers and similar also cost money**, and this problem hits the lower income segment hard. – *Key Informant* There are **several gyms but no money in the job market to afford the membership**. – *Key Informant* **Schools**. **Hospital and community education** programs. – *Key Informant* Spectrum **wellness programs**; **fitness centers**; **biking & walking trails**. – *Key Informant*
Chronic disease	There is a **[diabetes] support group** at the Ludington Senior Center. **Doctors are not recommending any educational classes or programs**. – *Key Informant* A strong health system with **excellent cardiac care**. – *Key Informant* We have a **great cancer center** at Spectrum Health Ludington Hospital and transportation to Muskegon and Big Rapids for treatment. – *Key Informant* We have **started giving away congestive heart failure teaching folders…There should be more information like this** for them at health fairs and such but **I don't see much of this anywhere** in our community. – *Key Informant*

Source: SHL Key Stakeholder Interviews, 2017, Q1a: Are there adequate area resources available to address these issues? (n=6); SHL Key Informant Online Survey, 2017, Q1b: What are the resources available in the community to address/resolve this issue? Please be as detailed as possible. (n=46)

Resources Available to Meet Issues/Needs (Continued)

A summary of area resources available to address health and health care needs are as follows:

- American Red Cross
- Baldwin Family Health Clinic
- C.O.V.E shelter
- Council on Aging
- Convenient Care (walk-in clinic)
- Department of Health and Human Services (DHHS)
- District Health Department #10
- Family link programs in schools
- Farmer's market
- Fit Kids program
- Five Cap, Inc.
- Food pantries
- Healthy Communities Coalition
- Mason County Health Department
- MedNow, telemed, and other technology to increased health care access
- MSU extension
- Mercy Health
- Oakview Medical Care Facility
- Spectrum Health Cancer Center
- Spectrum Health Ludington Hospital
- Spectrum Health Pain Clinic
- Staircase Youth Services
- Support groups (e.g., AA, Alanon, diabetes,)
- United Way of Mason County
- Weight loss programs
- West Michigan Community Mental Health
- Win With Wellness program

Strategies Implemented Since Last CHNA

Some Key Stakeholders and Key Informants cited initiatives that have grown out of prior CHNA research and the corresponding implementation plans, particularly programs targeting children's wellness and increased access to health care providers.

Children's wellness	Yes, the **Win With Wellness** program has shown great impact for the youth in our area, in the line of **schools working with the hospital to promote healthy eating and exercise**. – *Key Informant* Win With Wellness **Fit Club is a targeted program for ages 5-12** that involves health education and exercise. – *Key Informant* **Expanded the Fit Kids program** to all schools within Mason and Oceana counties to address childhood obesity. – *Key Informant*
Increasing access to providers	We have **increased the number of primary care providers** to include additional APPs. A **more coordinated approach** has occurred because independent providers integrating into a larger health system. – *Key Informant* **They continue to try to recruit more physicians** in the area. – *Key Informant* Yes, **MedNow is really beneficial** to a rural community. – *Key Informant* **Created over 7 Rural Health Clinics** within Mason and Oceana county to address access issues for Medicare and Medicaid. **Urgent Care and Convenient Care clinics were also opened** to provide immediate access outside of ER services. – *Key Informant*
Other initiatives	We have **community-focused groups** that are focused on the finding from the Needs Assessment on chronic care, so we've had **initiatives towards diabetes**, for example. Also, our high rate of **tobacco use, both chewing and smoking - there's been an initiative that focused on that. Obesity - we brought in Michigan State Extension to help us with cooking classes**. – *Key Stakeholder* **Win With Wellness Biometric Screenings** offers free health screenings for the adult population. – *Key Informant* **Win With Wellness Senior Life** is an initiative that helps address issues for our senior population. – *Key Informant*

Source: SHL Key Stakeholder Interviews, 2017, Q10 (n=6); SHL Key Informant Online Survey, 2017, Q16 (n=46): There was a Community Health Needs Assessments conducted in your community back in 2014. What, if anything, has been done locally to address any issues relating to the health or health care of area residents?

Strategies Implemented Since Last CHNA (Continued)

- Increased collaboration as a result of prior CHNAs was also reported and is considered an important first step in addressing challenging issues. Some area health professionals question whether steps undertaken to address issues are having the desired effect.

More collaboration	We do have some coalitions that are working on those issues…**I kind of question if three years is long enough to really see significant change**. I think the change you can see may be more on the part of partners getting involved, but in terms of saying, "Okay, we're going to see an X percent decrease in obesity or diabetes" or some of those things, I think that's kind of unrealistic that that's going to happen in that period of time. **I think there definitely have been efforts to increase engagement in the existing collaboratives**. – *Key Stakeholder* Yes, **creation of focus groups and sharing of the assessment with community** to educate on areas of need. – *Key Informant*
Questions about effectiveness	**I see a lot of programmatic little things, but I don't see a lot of systemic dialogue.** Part of the reason I don't participate in those meetings is because I don't believe it's about plopping a program in a school; **I believe it requires a group of people to sit down and generate solutions that are specific to the community and that look at some of the higher-level issues**, so I personally don't see a ton of things that have resulted in long-term change. – *Key Stakeholder* They **established that Healthy Communities Coalition**…I haven't been in a long time because **I felt like it was too hospital-driven, and I felt that it consisted of the wrong people at the table**. If we want change to happen, **we have to have decision-makers at the table**. There's a place for line staff, and they play a very, very important role, but if you have a line staff person, if you want to move on something, you can't because then you've got to go back and go through your program director, and then the program director's got to go to the executive director, and it's lost in translation. – *Key Stakeholder* There are **community groups that meet to address the findings;** however, I can't think of anything that has actually changed. **We need to take action, not just keep talking about it.** – *Key Informant*

Source: SHL Key Stakeholder Interviews, 2017, Q10 (n=6); SHL Key Informant Online Survey, 2017, Q16 (n=46): There was a Community Health Needs Assessments conducted in your community back in 2014. What, if anything, has been done locally to address any issues relating to the health or health care of area residents?

Suggested Strategies to Improve Overall Health Climate

Key Informants offer myriad suggestions for improving the overall health climate of the community. A key theme in many of the suggestions was the need for increased mental health services. Providing education about health, health insurance, and other related topics was another common theme, as was the idea of emphasizing wellness and prevention.

Mental health services	We absolutely **need a mental health center** locally. More **mental health services for children and adults who** need help but **do not have a chronic condition**. Mental Health! There are so many people that need to be treated with either medication or counseling. Sometimes they need an overnight or extended stay. **Once on their medications, they can function somewhat normally. However, they are unable to get to where they can be treated, so many end up in the emergency room.** More **mental health and substance abuse treatment** options! It's **a growing and serious problem** that needs [to be] addressed immediately.
Patient education	Doctor **referrals to educational programs** and support groups. **Forums to talk about health and healthcare** needs. **Teach/educate youth** on the importance of having good health. Improved **education of Medicare coverage** and benefits. Perhaps an **annual health fair** where people could **enroll in health insurance, get biometric screenings, meet with a dietician, learn about a health topic, find a primary care physician**, or voice their own ideas to help improve the health climate in the community…There are many health educational topics that the community could benefit to learn about. Provide greater **awareness [about] health care services that are offered** and clearly explain to those in our population **about the availability or assistance [if they] can't afford health care** because [of] financial resource constraints.
Wellness and prevention	Some **focused programming that involves or incentivizes people to make a change in their health journey** would be key. More **screenings for cancers** and other health issues would be ideal as well. **Encourage everyone to be** more engaged and **active**. A **sustained campaign** for many years **emphasizing wellness**.

Source: SHL Key Informant Online Survey, 2017, Q12: What one or two things could be done in your community that would improve the overall health climate in the community? Please be as detailed as possible. (n=46)

Suggested Strategies to Improve Overall Health Climate (Continued)

Several Key Informants also noted that increasing the number of providers and transportation options would improve the community's overall health climate. Finally, providing care coordination for patients was another widely-shared idea.

Access to care	Better **access to health care** options and **not having to leave area** to get them. **More general physicians** so more people can be seen. Proper **transportation to appointment** and specialist.
Care coordination	If the hospital had a **liaison to [direct] patients to the proper agency or group** that deals with their specific need. **Care coordinators in physician offices**, **the ED and other targeted areas** around the community (schools, council on aging, etc.). Getting **information about services** out to as many service providers as possible. Doctors for low income families with **facilitators to support their appointments and follow up** – **parents often don't understand the process** or outcome with appointments. They often give up due to frustration before their child receives appropriate help.

Source: SHL Key Informant Online Survey, 2017, Q12: What one or two things could be done in your community that would improve the overall health climate in the community? Please be as detailed as possible. (n=46)

Suggested Strategies to Address Specific Needs/Issues

With regard to **substance abuse**, Key Stakeholders and Key Informants believe that effecting change begins with education and increased awareness, especially for youth, as well as a coordinated effort among community partners. Providing guidance to prescribing physicians and enforcing prescription limits is another critical piece. Finally, expanding treatment options is essential.

Education/Awareness	Utilize evidence-based practices to target the younger population to **break the belief that it's 'normal' or that everyone uses marijuana**. – *Key Informant* **Implement education in the middle schools and high schools about the dangers** and devastating effects of drug abuse. – *Key Informant* **Education for the community and health care providers**. – *Key Informant*
Multi-disciplinary approach	Development of a **multi-disciplinary drug treatment program**. – *Key Informant* The best thing we can do is **put together all the agencies, all the organizations, all the non-profits, local government, state officials - it's trying to put everybody in the room together and figure out exactly how we need to go about approaching this problem**…It's a problem that's bigger than any one entity or organization anywhere in the area. – *Key Stakeholder* A **multidisciplinary approach** may help that includes collaboration of health care providers, community educators, and law enforcement. – *Key Informant* There needs to be **inter-agency communication and cooperation**, but **practicing physicians** also **need to be part of this conversation**. – *Key Informant*
Prescription limits	**Make ordering physicians aware when their ordering patterns diverge** from norms. – *Key Informant* **Better prescribing habits** for physicians, PAs, and NPs should also be promoted. – *Key Informant*
Treatment	I need a reliable **place to refer patients who want to stop drugs**. – *Key Informant* We need prescribers who are willing to do **medication-assisted treatment…** and then we need **coordination between those providers and people who are doing outpatient and care support**. – *Key Stakeholder* Local **rehab services are needed**. – *Key Informant*

Source: SHL Key Stakeholder Interviews, 2017, Q1b: What are your recommendations to resolve this issue? (n=6); SHL Key Informant Online Survey, 2017, Q1c: What ideas do you have, if any, to resolve this issue? Please be as detailed as possible. (n=46)

Suggested Strategies to Address Specific Needs/Issues (continued)

Although research has shown that people know what they need to do to **lose weight** or stay in shape, changing long-established habits is difficult; emphasizing the importance of exercise and healthy eating early in life can set the tone for a lifetime of health-conscious choices. With availability and promotion of affordable and appealing fitness programs, and access to affordable healthy foods, people may be more inspired to participate and, in turn, lose weight. Policy changes that make unhealthy choices more expensive may also help.

Education	**Education** needs to **start in the elementary schools**. – *Key Informant* Need **more RD** and **education to all populations in regards to long term effects of obesity**, cycle of repeating in families. – *Key Informant*
Fitness programs/Healthy lifestyles programs	Maybe expand **fitness opportunities at reduced rates** so families can afford to access them. – *Key Informant* **Healthy lifestyles program**, encouraging healthy eating, food preparation, weight loss, exercise, **focused on children in schools and on young adults, but available to anyone**. The greatest success for lifetime health starts with the already healthy young, who will then teach their children to be healthy. – *Key Informant* We are making headway in the schools with our Win with Wellness program, but there are lots of adults who need help. **Diet and weight loss programs and fitness should be available at minimal cost** for adults. – *Key Informant* More **locally grown fruits and veggies served in the schools**. More ways to **make good food and exercise fun and accessible** to everyone. – *Key Informant*
Policy changes	More education about the negative impacts and **a sugar tax**. – *Key Informant*

Source: SHL Key Stakeholder Interviews, 2017, Q1b: What are your recommendations to resolve this issue? (n=6); SHL Key Informant Online Survey, 2017, Q1c: What ideas do you have, if any, to resolve this issue? Please be as detailed as possible. (n=46)

Suggested Strategies to Address Specific Needs/Issues (continued)

Area professionals suggest that **mental health issues** are best addressed with a collaborative and holistic approach to patient care, such as integrating behavioral health services into primary care offices and vice versa. In addition, the area needs more treatment options. Training and education are also suggested to increase awareness and the potential for timely intervention.

Holistic approach/ Collaboration	Community Mental Health has been working on trying to embed a primary care provider within their clinic, so the idea is – **let's say you have heart failure and diabetes and high blood pressure and all those things, and then you have depression. What's your primary problem? Where should your medical home be?**...Should they be seen in their doctor's office or…should we embed a primary care provider in Community Mental Health so that they can get all their health care needs in one place?...**Our dream [is] that we would have psychiatry in our [medical] office** for the people who had those less severe psych needs, **and then we would have a doc in their [CMH] office** that would attend to their medical problems [if] their main problem is psychiatry. **That would be a dream to service those people in that way.** – *Key Stakeholder* The **formation of a collaborative body**, which would include [WMCMH, Spectrum Health Ludington, local therapists], law enforcement and the courts, to identify and address ways to improve access to mental health services and other related issues. – *Key Informant* Greater collaboration with CMH. **Increasing the integration of behavioral health into primary care** could foster greater collaboration. – *Key Informant*
More treatment options	No resources since Hadley Mental Health Center closed. Spectrum needs to **bring back a local office/structure to help the local patients**. – *Key Informant* **Increase hours of availability and number of staff** available to see patients. – *Key Informant* **Expand tele-psychiatry** to serve all populations that cannot be provided services through WMCMH. – *Key Informant*
Training/Education	**Training for all hospital staff** to recognize and learn how to best support individuals with behavioral health issues. – *Key Informant* Mental health first aid **training for youth**. – *Key Informant*

Source: SHL Key Stakeholder Interviews, 2017, Q1b: What are your recommendations to resolve this issue? (n=6); SHL Key Informant Online Survey, 2017, Q1c: What ideas do you have, if any, to resolve this issue? Please be as detailed as possible. (n=46)

Suggested Strategies to Address Specific Needs/Issues (continued)

Access to health care can be improved by expanding service through means such as the use of advanced practice providers, expanded office hours, or an urgent care clinic. Additional transportation services would also facilitate access, as would improved communication regarding the resources that are available in the community.

More providers	Have **advanced practice providers** in every medical office including specialty clinics. – *Key Informant* **Offer great contracts with incentives** and renewals if you meet the goals set out by the contract. – *Key Informant* Spectrum could **dedicate more cardiology hours to the SHLH primary service area** offering both outpatient and inpatient care (at least inpatient consults to avoid unnecessary transfers). – *Key Informant* 24-hour **urgent care clinic**; **expanding hours** at provider offices. – *Key Informant* Need to look a positioning a **Rural Health Clinic** in Scottville. – *Key Informant*
Transportation	**Medical Uber** or some **discounted transportation** service. – *Key Informant* **Non-emergent** care **transportation** services. – *Key Informant*
Awareness	I think there needs to be **better communication of resources.** – *Key Informant*

Source: SHL Key Stakeholder Interviews, 2017, Q1b: What are your recommendations to resolve this issue? (n=6); SHL Key Informant Online Survey, 2017, Q1c: What ideas do you have, if any, to resolve this issue? Please be as detailed as possible. (n=46)

Suggested Strategies to Address Specific Needs/Issues (continued)

Key Stakeholders and Key Informants offer numerous suggestions to address other issues such as chronic conditions, smoking, and the lack of adequate childcare options.

Chronic conditions	I think [for] the chronic disease piece of it, **there are resources**; I think **they need to be better coordinated**...If you've got resources to do something, and someone else is interested in getting staff trying to do that thing, **why not use your resources for something that no one else is able to address?** – *Key Stakeholder* [For heart disease:] **Weight loss assistance**, **smoking cessation** programs, **diabetes management**. – *Key Informant* We need a **larger space for the cancer center** and we need to add services and treatment, such as radiation. – *Key Informant* [For respiratory issues:] **Education**. – *Key Informant* [For congestive heart failure:] More **health fairs, commercials, diet teaching** like they do for diabetic classes to reach our patients that want to be involved. – *Key Informant*
Smoking	I'm concerned about the number of **pregnant women** I have worked with **that smoke throughout pregnancy**. I would like to **target those individuals – maybe something within MIHP**. – *Key Informant*
Childcare availability	The one thing that we're exploring right now is **the idea of shared services**. We're **trying to either work with childcare providers to stay in business or as a way to recruit new childcare providers** - **sharing services, whether that's helping to create a substitute pool, being willing to do the billings for DHHS subsidies, whatever that may be…**I do think that could be one potential solution. – *Key Stakeholder*

Source: SHL Key Stakeholder Interviews, 2017, Q1b: What are your recommendations to resolve this issue? (n=6); SHL Key Informant Online Survey, 2017, Q1c: What ideas do you have, if any, to resolve this issue? Please be as detailed as possible. (n=46)

APPENDIX

Participant Profiles

Key Stakeholder In-Depth Interviews

CEO & President, Family Health Care

Executive Director, United Way of Mason County

Executive Director, West Michigan Community Mental Health

Health Officer, MALPH District Health Department #10

Internist, Spectrum Health Medical Group, Ludington

President, Spectrum Ludington Hospital

Key Informant Online Survey		
Nurse (5)	Director of a Senior Center	Manager of Market Development
Physician (3)	Director of Operations for SH Medical Group	Managing Director
Area educator	Director of Surgical Services	Principal
CEO of a non-profit service organization	Education	Probate/Family Court Judge
Certified Professional Life Coach and Certified Grief Recovery Specialist	Executive Director, Oaktree Academy	Public Health
Chief Nursing Officer	Housing Resource Specialist (work with homeless)	Registered Dietitian/Certified Diabetes Educator
Controller - Finance Lead at SHLH	Physician Assistant and Community Programs Specialist	Sheriff/Patrol Deputy
Coordinator, Volunteer Services	Local government	Social Worker Coordinator
Director	Manager	Workforce Development, Sales and Marketing

Participant Profiles (Continued)

Behavioral Risk Factor Survey (Telephone)					
	TOTAL		TOTAL		TOTAL
Gender	(n=514)	Marital Status	(n=512)	Own or Rent	(n=509)
Male	45.1%	Married	54.9%	Own	81.1%
Female	54.9%	Divorced	11.0%	Rent	16.0%
Age	(n=514)	Widowed	5.3%	Other	2.9%
18 to 24	11.3%	Separated	0.4%	County	(n=514)
25 to 34	9.9%	Never married	26.3%	Lake	17.7%
35 to 44	13.6%	Member of an unmarried couple	2.2%	Mason	73.9%
45 to 54	19.8%	Employment Status	(n=513)	Oceana	6.2%
55 to 64	22.0%	Employed for wages	43.4%	Manistee	2.2%
65 to 74	15.0%	Self-employed	5.7%	Zip Code	(n=514)
75 or Older	8.4%	Out of work 1 year+	1.6%	49304	17.7%
Race/Ethnicity	(n=512)	Out of work <1 year	0.3%	49402	0.7%
White/Caucasian	91.6%	Homemaker	5.5%	49405	1.2%
Black/African American	4.5%	Student	3.1%	49410	1.9%
Hispanic/Latino	1.8%	Retired	29.5%	49411	2.4%
Native American	1.7%	Unable to work	10.8%	49420	3.5%
Asian	0.3%	Education	(n=514)	49431	48.4%
Adults in Household	(n=514)	Less than 9th grade	8.4%	49449	4.0%
One	16.2%	Grades 9 through 11	6.4%	49454	13.8%
Two	51.4%	High school grad/GED	35.2%	49458	1.9%
Three	18.4%	College, 1 to 3 years	32.9%	49660	4.7%
Four	5.2%	College 4+ years (grad)	17.2%		
Five or more	8.9%	Income	(n=384)		
Children in Household	(n=513)	Less than $10K	11.1%		
None	69.4%	$10K to less than $15K	10.5%		
One	10.8%	$15K to less than $20K	6.3%		
Two	10.3%	$20K to less than $25K	9.4%		
Three	3.5%	$25K to less than $35K	14.3%		
Four or more	6.0%	$35K to less than $50K	16.0%		
		$50K to less than $75K	13.8%		
		$75K or more	18.6%		

Participant Profiles (Continued)

Underserved Resident Survey (Self-Administered)					
	TOTAL		TOTAL		TOTAL
Gender	(n=148)	Marital Status	(n=149)	Own or Rent	(n=143)
Male	28.4%	Married	64.4%	Own	79.7%
Female	71.6%	Divorced	16.1%	Rent	16.1%
Age	(n=149)	Widowed	3.4%	Other	4.2%
18 to 24	4.0%	Separated	4.0%	County	(n=149)
25 to 34	20.1%	Never married	10.7%	Lake	28.9%
35 to 44	12.8%	Member of an unmarried couple	1.3%	Mason	66.4%
45 to 54	16.8%	Employment Status	(n=148)	Oceana	4.7%
55 to 64	23.5%	Employed for wages	59.5%	Zip Code	(n=142)
65 to 74	18.1%	Self-employed	5.4%	49304	16.2%
75 or Older	4.7%	Out of work 1 year+	0.7%	49402	1.4%
Race/Ethnicity	(n=149)	Out of work <1 year	2.0%	49405	1.4%
White/Caucasian	85.9%	Homemaker	4.7%	49410	4.9%
Black/African American	5.4%	Student	0.0%	49420	3.5%
Hispanic/Latino	4.7%	Retired	23.0%	49431	47.2%
Other	4.0%	Unable to work	4.7%	49449	4.9%
Adults in Household	(n=147)	Education	(n=149)	49454	6.3%
One	19.0%	Less than 9th grade	1.3%	49455	1.4%
Two	67.3%	Grades 9 through 11	7.4%	49565	0.7%
Three	9.5%	High school grad/GED	17.4%	49623	2.8%
Four	4.1%	College, 1 to 3 years	31.5%	49642	2.8%
Children in Household (6-17)	(n=142)	College 4+ years (grad)	42.3%	49644	3.5%
None	71.1%	Income	(n=144)	49656	0.7%
One	12.7%	Less than $10K	13.2%	49660	2.1%
Two or more	16.2%	$10K to less than $15K	4.9%		
Children in Household (<6)	(n=137)	$15K to less than $20K	6.3%		
None	83.2%	$20K to less than $25K	3.5%		
One	9.5%	$25K to less than $35K	8.3%		
Two or more	7.3%	$35K to less than $50K	9.7%		
		$50K to less than $75K	20.1%		
		$75K or more	34.0%		

Previous Implementation Plan Impact Exhibit B

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Specific Health Need Goal	Metric	Impact of Implementation Plan Strategy
Access		
1. Add 1 Primary Care Provider/Advanced Practice Provider in each covered year. 2. Add convenience care clinic to expand weekday and Saturday availability for primary care.	1. Increase patient contact hours by 1,600 each year and patient encounters by 3,200 each year. 2. Operationalize convenience care clinic by expanding office hours until 6:00 p.m. during the week and offering Saturday hours on a schedule to be determined.	As the goal has been fully achieved, two full time providers have been added to increase additional contact hours. Evaluation completed to ensure all providers have at least 36 contact hours with continued oversight of productivity. In some provider schedules this change was significant. For FY17 a total of 22,024.8 provider contact hours occurred. In FY18 to 3/26/18 a total of 23,680.8 provider contact hours of occurred. SHLH added a Convenient Care Walk in Clinic to open up access for primary care. Starting on 5/1/17 SHLH added an APP to extend hours and access. Convenient Care hours are 8 a.m.-8 p.m. M-F and 8 a.m.-2 p.m. Saturday to expand both weekday and Saturday availability for primary care and clinic hours. In FY17 there were a total of 3,801 visits and FY18 through February we have had 2,802 visits. The walk in clinic has opened access for primary care and low acuity needs on evenings and weekends.
According to the U.S. Census Bureau, 16.2% of the population in Mason County lives in poverty. In Oceana County, that number is 19.9%. In Lake County, the most impoverished county in Michigan, it is 27.9%. (The Michigan average is 16.8%.) Over 45% of the population – almost 30,000	Expand the number of Medicaid and Medicare patients seen SHLH primary care physicians by 5% in each plan year. Until June2014 the majority of primary care physicians on staff at SHLH were independent practitioners. Now many have decided to join the Spectrum Health Medical Group. As these physicians	Partially achieved, SHLH has successfully implemented seven RHCs to support Medicare/Medicaid access to the service area. Our metrics indicate that our current Medicaid population is 2.8% and Medicaid and Medicaid HMO 20.2%. As we progress with our clinics additional providers are taking new patients to include Medicaid and Medicare to open up access and provide coverage and care.

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people - in Mason, Oceana and Lake Counties are either Medicare or Medicaid recipients, a historically underserved population. For this reason, the number of providers who accept new Medicaid and Medicare patients will be increased to expand access for these patients.	are on-boarded, we are in the process of developing baseline numbers to determine Medicare and Medicaid patients served. This will be completed in the first half of the 2016 calendar year and establish firm numerical targets at that time.	
Coordination & Collaboration		
1. Develop and execute a plan with Northwest Michigan Health Services, Inc. (a Federally Qualified Health Center (FQHC)) to allow NMHSI patients to see Spectrum Health Obstetrics and Gynecology (SHLH OB/GYN) providers at NMHSI to create a seamless relationship for obstetrics patients. 2. Work with NMHSI to evaluate and develop a plan for deployment of the mobile dental clinic.	1. Place a SHLH OB/Gyn provider at NMHSI to establish early relationships with NMHSI patients and improve prenatal care and education. 2. Increase number of unique NMHSI obstetrical patients seen by SH by 10% each year beginning in 2016.	OB providers have integrated into one practice joining SHMG. As a consequence, the NMHSI has been delayed. Given delays it is unlikely that volume increase will occur. Since integration, one OB provider has left the practice and recruiting for a replacement is priority. Discussion among community stakeholders of the mobile dental clinic occurred but no work or progress on deployment. Mobile dental clinic work is being taken on by another organization in the area.
1. Fit Club program: In school year 2015-2016, expand	1. Increase 100-mile challenge participation from 750 children to	Year to date we have increased total kids participating in the 100 mile challenge to 2, 134 exceeding our projected and targeted goal.

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elementary school health education and Fit Club programming to Mason County Central, Mason County Eastern, Pentwater and Hart school district elementary schools. 2. In school year 2016-2017, expand elementary school health education and Fit Club programming to Shelby, Walkerville and Baldwin school district elementary schools.	2,000 children from 2015 to 2018. Seventy-five percent of children enrolled in Fit Club will demonstrate improvement in school fitness measures, e.g., one-mile run, by the end of the school year. 2. As scale of the program grows, e.g., adding school districts, the number of children who receive health education will increase from 1200 children to 3900 from 2015 to 2018.	While 100 mile challenge participation numbers are up, the objective measure of 75% of children improving fitness measures is unlikely. The measure for success with the Win With Wellness Fit Club program is student enrollment and engagement. Fit Club programming has expanded to tri-county service area (Mason, Oceana, Lake) with a total of 3,664 student receiving programming. Adding preschools in the 2018-2019 academic year we reached the 3,900 total student goal. Despite enrollment in the 100 mile challenge, all students in all schools receive Win with Wellness education series which covers a broad array of health topics including nutrition, behavioral health, physical activity, anatomy structures, water, bike, and physical activity safety, and more.
Prevention & Wellness		
Provide Win With Wellness biometric screenings and health education three times annually for residents of Mason, Oceana and Lake Counties to improve understanding of chronic health issues and ways to manage them.	Increase participant level in biometric screenings by five percent, or 20 people, for each year of the plan, making certain that all participants have primary care physicians and are prepared to develop a plan with their physician to improve their numbers. We will establish a baseline of data so that progress can be tracked and create interventions where appropriate.	When this goal was established Win With Wellness was targeted to offer free community biometric screenings in three counties. This model was not yielding high levels of participation. Moving forward Win With Wellness will offer community based biometric screens 2x annually in spring and fall on site at SHLH. First biometric held in Nov 2017 had 89 participants receiving full biometric screen and consultation with PA, RN, and dieticians. Participants received their individualized results day of and if results were abnormal consulted with an on site PA. IF a participant indicated they did no have a PCP they were given a list of available providers accepting patients in order to provide additional support in improving their health. Next free biometric screen will be held on May 5, 2018 on site at SHLH. This gives participants a 6 month window to work on improving

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		their health. or validating that they are keeping their health metric numbers within normal range, and returning to review their numbers with our team of nurses, dieticians, and PA.
Implement Senior Life Committee in Mason County during 2016 and expand to Oceana County and Lake County in years 2017 and 2018. This scope of this new program must be defined by the committee by further detailing challenges facing older adults as called out in the CHNA.	Provide funding in 2016 and 2017 for fitness in Ludington to create an exercise option tailored for older adults. ▪ Will develop additional metrics as committee gets underway and objectives are determined. Possible metrics being considered are: • Engagement as measured by participation; • Enrollment in WWW biometric screening; • Number of seniors transported to medical appointments using Ludington Area Transit Authority buses. • Increases in Medicaid enrollment for seniors using DHS data and, potentially, SHLH Financial Resource Advisors.	The Senior Life Committee is a volunteer sub-committee that is part of the SHLH Health and Wellness council. This committee has focused efforts on senior health insurance education, access to care, and transportation issues. The previously set goals and objectives are broad in scope and the Senior Life Committee focused efforts on senior insurance enrollment. SHLH held an insurance seminar with Senior Life Committee having nearly 200 participants attend the seminar. THe Senior Life Committee focus moving forward will be on senior transportation barriers to receive medical care.
Access to Specialty & Primary Care		
1. Increase access to specialty care, specifically telehealth cardiovascular and thoracic (CVT)	1. Add one day per month to the telehealth CVT clinic in 2016 and expand thereafter as dictated by	On 7/2015 SHLH went live with general Cardiology and since then has added preventative cardiology, sleep medicine, vascular surgery, behavioral medicine services, and lung mass consult all via

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clinic. 2. Add other specialties using telehealth out of the "hoteling" space at SHLH. 3. Evaluate community-facing telehealth access point for primary care to increase access and convenience for community members.	volume. 2. Add one new specialty, e.g., oncology, to the telehealth portfolio in each of the next three years. 3. Complete evaluation in 2016 and deploy in 2017.	MedNow telehealth. Cardiology also has an in-person Cardiologist presence 6 days a month at SHLH to directly consult and follow up with patients. All globally-billed Specialty Services (MedNow or in-person) are offered at SHLH's Specialty Clinic, which went live 11/1/2016 and is a permanent office space on campus to provide these services locally. This space is the first of its kind at SHLH, and will allow access to multiple specialty services that otherwise would not be offered at our regional location and provide improved access. Community-facing telehealth access includes a MedNow telehealth kiosk at the Lake Resource Center, a community facing nonprofit organization that houses several of the area nonprofit agencies. This offsite kiosk at the Lakeshore Resource Center building provides access to primary care services for low acuity needs to people who might not have access to a smart device, internet, or actively following up with a PCP. MedNow telehealth was launched in Ludington, Scottville, and Custer schools to provide school based nursing services utilizing the telehealth platform. These schools would otherwise not be able to afford a school based nurse but using telehealth is a economically advantageous option to open up services to area schools. MedNow telehealth launched a consumer-facing smart app that allows access for low acuity primary care needs 24/7 365 days a year.
Behavioral Health Access		
1. Evaluate and, if feasible, begin implementing Spectrum Health screening protocol for depression and anxiety for patients in SHMG primary care practices.	1. Complete evaluation in 2016. Begin deployment in 2017 with a goal of implementation in 50% of SHLH primary practice locations by 2018.	SHLH primary care practices now conduct a depression and anxiety screen on every patient during each visit. This is now the standard of care for every primary care visit and completes the goal of implementing a "Spectrum Health screening protocol for depression and anxiety". In the 2016 academic year a behavior health education series titled "Happy", which is based on Harvard research

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2. Develop and deploy behavioral health educational series using Win With Wellness for community education.	2. Create a behavioral health educational series in early 2016 and begin offering programming as part of Win With Wellness education later in 2016.	studies in positive psychology, was introduced through Win With Wellness Fit Club, our in school health education program. The learning module includes educational content on positive psychology, hands on activities to retrain the brain towards positive thinking, and engaging curriculum tailored to be developmentally appropriate. Research shows that people who implement these behaviors are healthier, live longer and more fulfilled lives. The "Happy" education module is now a standard part of our Win With Wellness Fit Club educational series and deployed to all students in the tri-county service area.