

# Maury Regional Medical Center

MARSHALL COUNTY REPORT- SEPTEMBER 2019

**Table of Contents**

<b>Executive summary.....</b>	<b>3-4</b>
Introduction.....	3
Summary of Findings.....	3-4
<b>1. Background.....</b>	<b>5-6</b>
About Maury Regional Health.....	5
Definition of Community.....	5
Priority areas for previous CHNA (2016).....	5-6
<b>2. Methods.....</b>	<b>6-8</b>
Secondary data.....	6
Primary data.....	6-7
Identified health issues.....	7-8
Data considerations.....	8
<b>3. Secondary data findings.....</b>	<b>9-17</b>
Summary of Care Offered at Marshall Medical Center.....	9
Demographics.....	9
Socio-economic determinants of health.....	9
• Median household income.....	9-10
• Poverty.....	10-11
• Unemployment.....	11-12
• Education.....	12-13
• Socio-needs index: CHNA 2016.....	13
Socio-economic factors.....	14
Health outcomes.....	14
Clinical care.....	14-15
Prescription drug abuse.....	16-17
<b>4. Primary data findings.....</b>	<b>18-20</b>
Top 3 issues.....	18
Unaddressed needs.....	18
Biggest concern.....	18

Common problems of the county.....19

Common pressing themes.....20

**5. Appendix: A & B.....21-30**

## Executive Summary

### Introduction

Maury Regional Medical Center (MRMC) is pleased to present the 2019 Community Health Needs Assessment. The counties selected for this assessment are: Maury, Marshall, Wayne and Lewis.

The goal of this assessment was to identify the health needs of the above-mentioned counties and work on partnering with the county health councils to develop an action plan to address the prioritized needs. Several health disparities, unmet needs of the community, gaps in addressing the health needs of vulnerable populations and in provision of services have been identified.

### Summary of Findings

Based on the primary data gathered from interviewing the stakeholders in the community and secondary data gathered from public domain, the following findings are drawn:

Leading indicators of health: (secondary data)

<b>Tennessee Vital Signs</b>
<b>Youth Obesity</b>
<b>Physical Activity</b>
<b>Youth Nicotine Use</b>
<b>Drug Overdose</b>
<b>Infant Mortality</b>
<b>Teen Pregnancy</b>
<b>Community Water Fluoridation</b>
<b>Frequent Mental Distress</b>
<b>3<sup>rd</sup> Grade Reading Level</b>
<b>Preventable Hospitalizations</b>
<b>Per Capita Personal Income</b>
<b>Access to Parks and Greenways</b>

Source: Tennessee Vital Signs, 2019

The Department selected these 12 metrics based on extensive public engagement. These metrics are a result of the data available and the projected meaningful outcomes, which taken together collectively assess the state’s health and prosperity. These are areas of opportunities and provide a basis for improving the health of the population.

The big four for Tennessee are a reason for at least six out of ten leading causes of death. These are:

1. Smoking
2. Obesity
3. Physical inactivity
4. Substance abuse

Source: Tennessee Department of Health: State Health Plan; 2018

Top concerns in Marshall County: (primary data from 5 key informants)

Opioid crisis (4)	Mental health (2)	Behavioral health (2)
-------------------	-------------------	-----------------------

These top concerns were identified based on the key informant interviews, where five stakeholders were specifically asked to mention their opinion of the top 3 problems of Marshall county. This list emerged based on the most frequently mentioned problems.

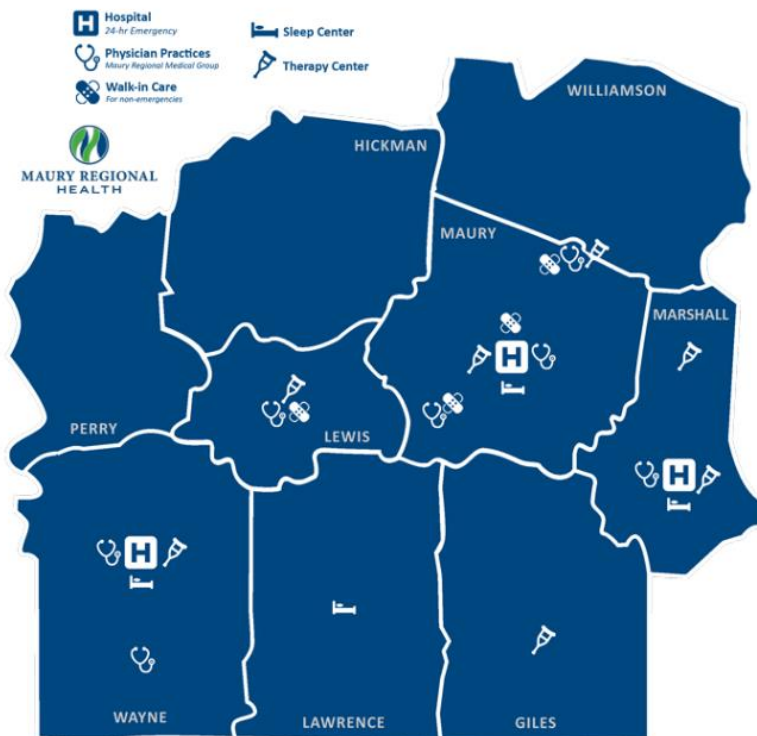
## 1. Background

### About Marshall Medical Center

Marshall Medical Center's (MMC) goal is to address health needs of Maury County by better understanding of the communities' needs and gaps and by implementing strategies that can benefit the community.

### Definition of Community

The counties selected from Maury's service area for the Community Needs Assessment 2019 are: Maury, Marshall, Wayne and Lewis.



### Priority areas from previous CHNA: CHNA 2016

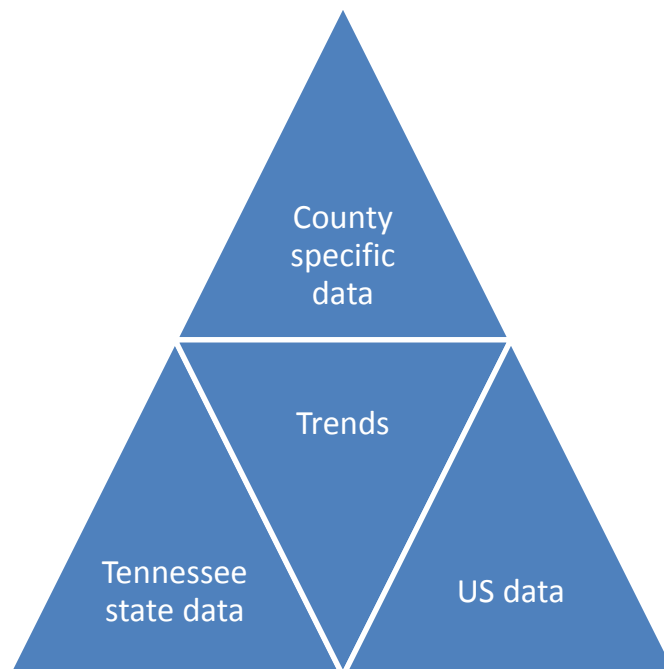
1. Exercise, Nutrition, & Weight
2. Mental Health
3. Substance Abuse
4. Access to Health Services

These issues were prioritized based on voting by the population health department and key staff in the hospital at Maury Regional Medical Center.

### 1. Methods: (Sources for 2019 CHNA)

#### Secondary data collection

The secondary data source was collected using 8 publicly available sources. This data comprised of the following:



The secondary data was used to draw comparisons between the performance of Tennessee counties and then compared with the state level and national level data.

Refer Appendix A for the list of secondary data sources used.

#### Primary data collection

The primary data was gathered by interviewing five key informants from the community. An interview questionnaire comprising of twelve questions as a template and a mandatory activity was used to gather the data. These key partners are:

<b>KEY INFORMANTS</b>
COUNTY MAYOR
CHAMBER OF COMMERCE
ECONOMIC DEVELOPMENT
JOINT ECONOMIC & COMMUNITY DEVELOPMENT BOARD
CENTERSTONE

The key informants belong to various government sectors, health departments, and are members of medically underserved, low-income or at-risk population. The frequency of the issues in the interview transcripts was the basis for prioritizing the needs.

Refer Appendix B for the detailed list of primary data sources and scoring methodology for the questionnaire and activity.

### **Identified Health Issues**

#### **Top 3 issues: (according to primary data- 5 KI)**

1. Opioid crisis (4)
2. Mental health (2)
3. Behavioral health (2)

The five key informants during their interviews were asked to cite the top three issues of the county and above mentioned were the answers that were most frequent.

Forced ranking:

The forced ranking was done as an activity-based exercise during the key informant interviews. The sum of the ranking scores was used as a metric to determine the number one priority and the least value has been considered as top priority. This led to the following priority areas:



<b>Economy</b>
<b>Educational attainment</b>
<b>Substance Abuse</b>
<b>Exercise, nutrition &amp; weight</b>

**Data considerations**

The primary data that was gathered had certain limitations. Efforts were made to select the key informants from all possible relevant sectors of the community. Based on their availability during the assessment period, five of the informants took part.

4. Secondary data findings

**Summary of care offered at Marshall Medical center**

Marshall Medical is a critical access hospital and has more than 150 employees and 25 beds. It is accredited by The Joint Commission and offers a wide range of health care services, such as: 24-hour Emergency Care, Inpatient Care, Diagnostic Testing, Rehabilitation Services, Swing Beds for Inpatient Rehabilitation, Outpatient IV Services, Physical Therapy, Athletic Training Services, Physician Specialist Clinic, Respiratory Care Services, Senior Life Solutions (geriatric behavioral health), Sleep Center, Surgery Services and wellness screenings.

**Demographics**

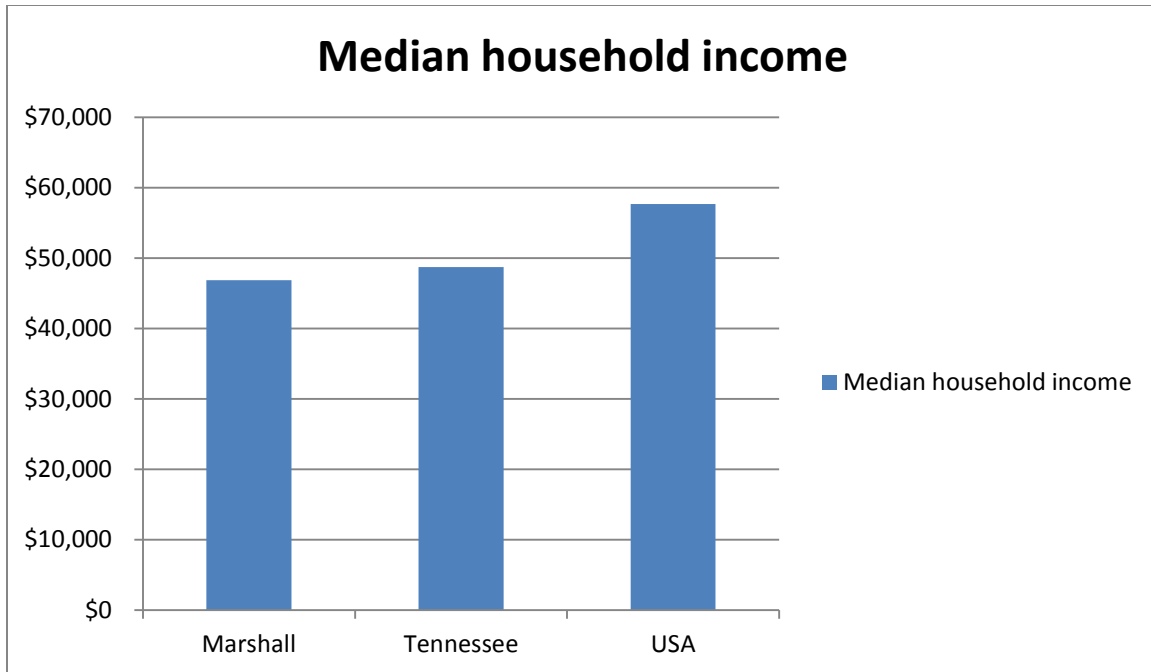
<b>Population:</b>	33,683	<b>&lt;18</b>	23.50%	<b>65+</b>	16.10%	<b>% Rural:</b>	65.80%
		<b>YOA:</b>		<b>YOA:</b>			
<b>Unemployment:</b>	6.5%	<b>%</b>	51%	<b>%</b>	49%	<b>Graduation</b>	85.30%
		<b>Females:</b>		<b>Males:</b>		<b>Rate:</b>	
<b>Households:</b>	12,008		30.64%	<b>MHI:</b>			\$46,837
Source: Unites States Census Bureau 2017-2018							

**Socio-economic factors (based on the Unites States Census Bureau 2017 data)**

1. Income

**Median Household Income by County-2017**

Giles	\$43,925
Lawrence	\$41,522
Lewis	\$37,092
Marshall	\$46,837
Maury	\$52,080
Wayne	\$34,299
USA	\$57,652



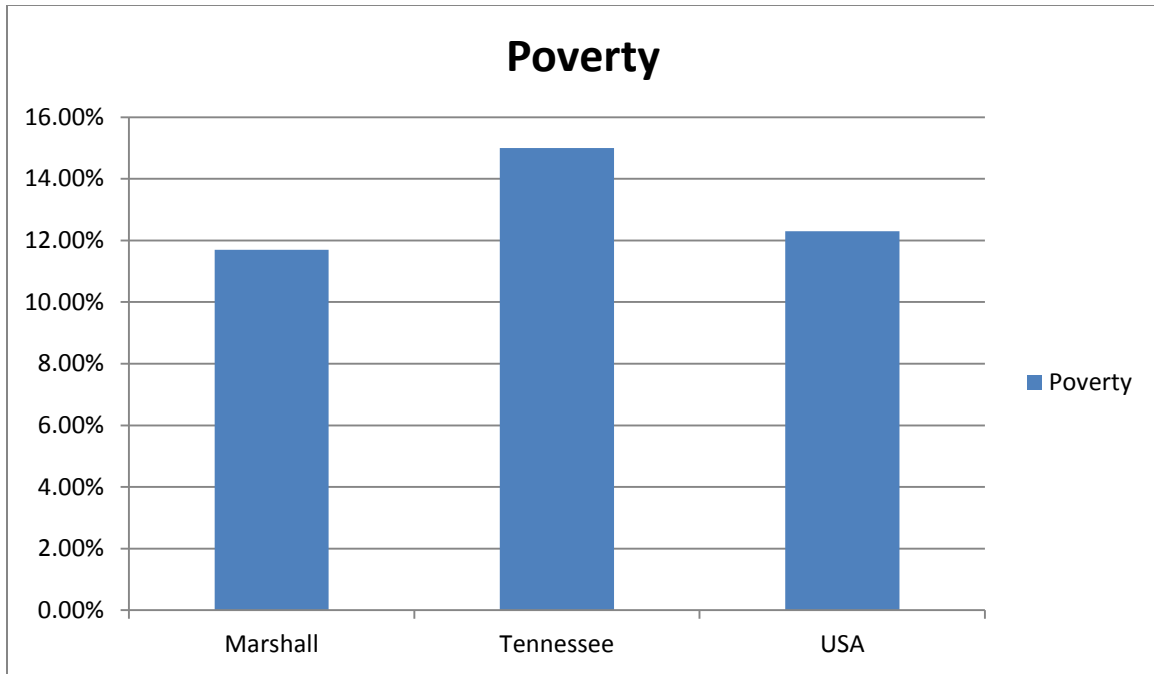
The median household income in MMC’s service area was relatively low when compared to the State (\$48,708).

2. Poverty

11.7% of the population suffers from poverty which is less than the state value of 15%.

**Poverty by County-2017**

Giles	15.2%
Lawrence	15.6%
Lewis	17.5%
Marshall	11.7%
Maury	10.2%
Wayne	21%
USA	12.3%

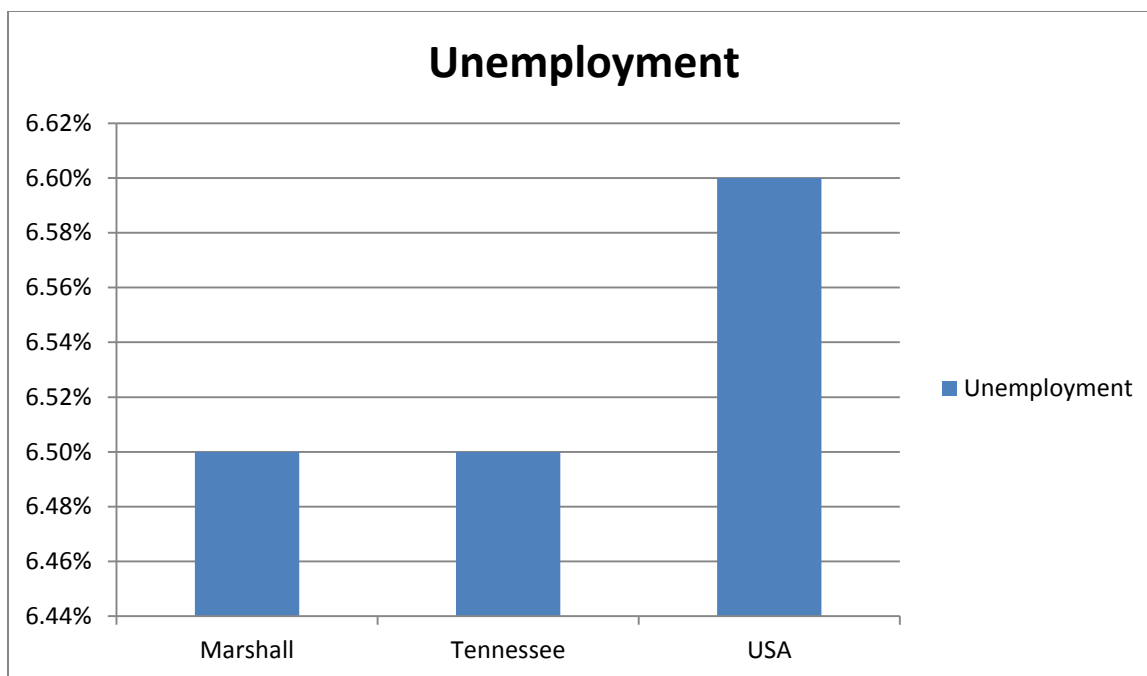


3. Unemployment

According to the 2017 U.S. Census Bureau data, the MMC’s service area unemployment rate (6.5%) was comparable to state of Tennessee (6.5%).

**Unemployment Rate by County-2017**

Giles	5.9%
Lawrence	8.8%
Lewis	4%
Marshall	6.5%
Maury	6.2%
Wayne	8.4%
USA	6.6%

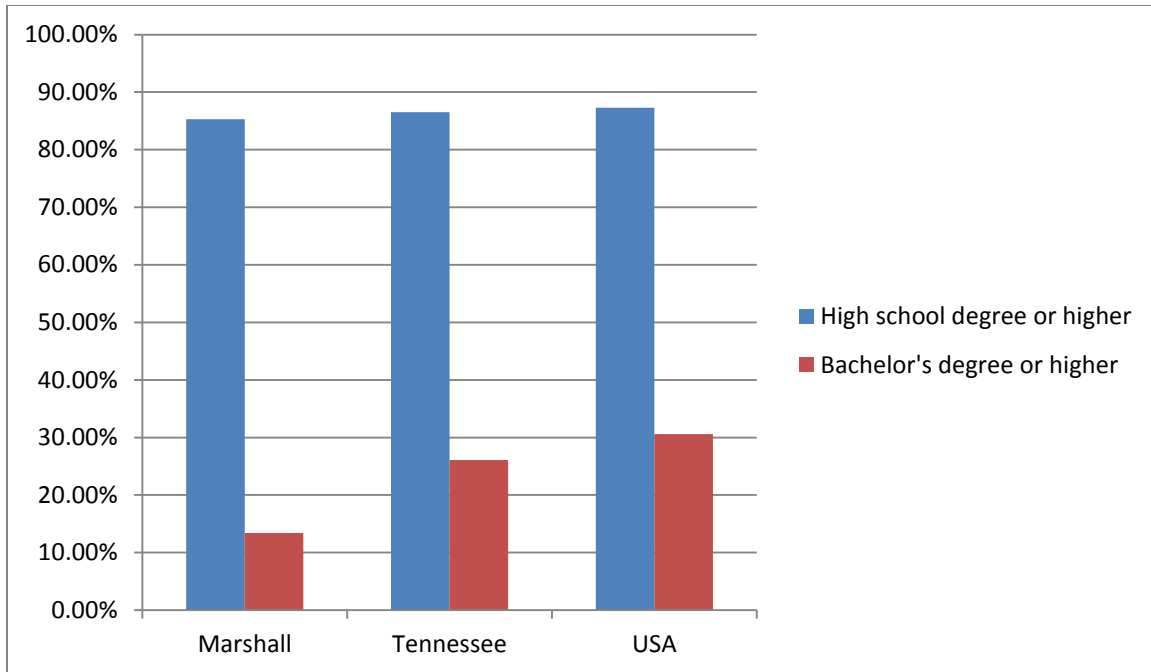


4. Education

The residents with a bachelor’s degree or higher are 13.4% % which is very low when compared to 26.1% in the state. Whereas the high school graduates are 85.3% which is slightly lower than the state of Tennessee (86.5%).

**Educational Attainment by County-2017**

	High School Degree or Higher*	Bachelor’s Degree or Higher*
Giles	84.6%	14.8%
Lawrence	80.8%	12.2%
Lewis	83.2%	12.0%
Marshall	85.3%	13.4%
Maury	89.4%	20.7%
Wayne	79.0%	11.11%
USA	87.3%	30.6%



5. Socio-needs index (Source: Community Health Needs Assessment 2016)

The SocioNeeds Index® developed by the Healthy Communities Institute, incorporates estimates for six social and economic determinants of health — income, poverty, occupation, unemployment, educational attainment, and linguistic barriers. These are associated with poor health outcomes that include preventable hospitalizations and premature death.

Zip code with the highest level of socioeconomic need is 37091.

**Where does Marshall stand when compared to the TN counties and the nation?**

**Social and economic factors:**

High School Graduation		Income Inequality		Social Associations	
% 9th-grade cohort that graduates in 4 yrs		Ratio household income @ 80th %ile to income at 20th %ile		# membership assoc's / 10,000 pop.	
Rank	Value	Rank	Value	Rank	Value
	82%		4.7		9
<b>67</b>	<b>88%</b>	<b>23</b>	<b>4.35</b>	<b>59</b>	<b>9.96</b>

High school graduation exceeds both the state and national average, social associations are slightly more than the other counties in TN and the national average, whereas, Marshall county has been doing well in terms of poor mental health days and income equality with the state and nationally.

**Health outcomes:**

	Popul	Premature Death		Poor / Fair Health		Poor Physical Health Days	
		Yrs potential life lost before 75yrs / 100,000 pop. (age-adj'd)		% adults reporting fair or poor health (age-adj'd)		Avg # physically unhealthy days rept'd in past 30 days (age-adj'd)	
		Rank	Value	Rank	Value	Rank	Value
US Avg			6,600.0		18%		3.8
Marshall	31,269	<b>23</b>	<b>8,558.1</b>	<b>29</b>	<b>21.40%</b>	<b>21</b>	<b>4.6</b>

When compared to the state, Marshall County is doing well but in comparison to the national average, the value is above the US average in terms of premature death, poor/fair health and poor physical health days.

**Clinical care:**

	Popul	Uninsured		Primary Care		Mental Health		Dentists		Preventable		Diabetic Monitoring	
		% pop < age 65 w/o health		Ratio population to PCPs		Ratio population to		Ratio of population to		# hospital stays for ambul-		% diabetic Medicare	
		Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
US Avg			17%		1320:1		490:1		1540:1		54		82.99%
Marshall	31,269	<b>64</b>	<b>17.63%</b>	<b>85</b>	<b>6226:1</b>	<b>42</b>	<b>2234:1</b>	<b>40</b>	<b>3127:1</b>	<b>18</b>	<b>62.13</b>	<b>44</b>	<b>86.78%</b>

The value of uninsured and primary care is worse within the state and nationally. Mental health, diabetic monitoring and dentists' value is slightly higher both within the state and nationally.

There is an increased need of mental health providers and dentists.

The number of preventable hospital stays in fairly good within the state of Tennessee but poor when compared to the US average.

Top Third									
Middle Third									
Bottom Third									
Source: 2016 Tennessee Dept of Health Drive Your County to the Top Ten									

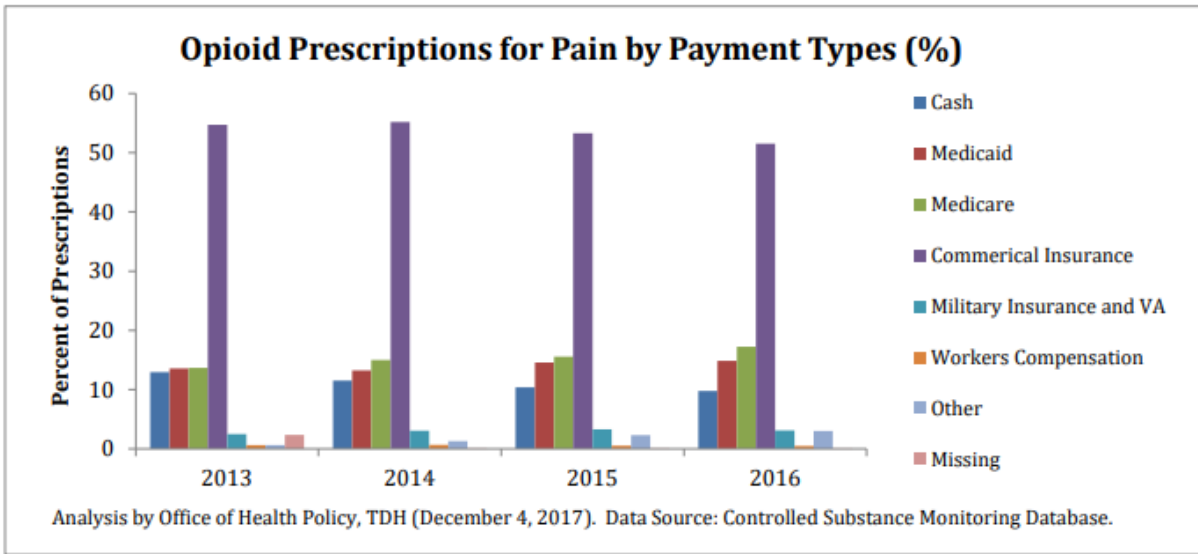
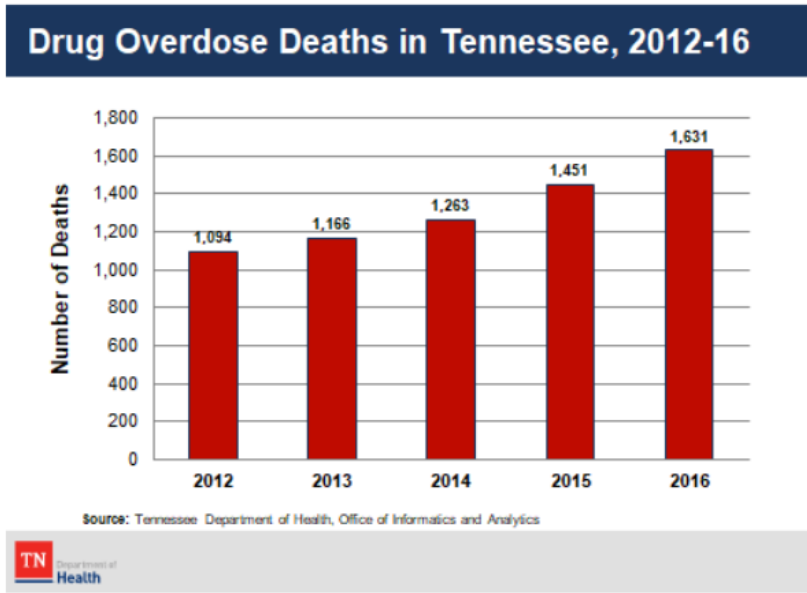


### Prescription Drug Abuse

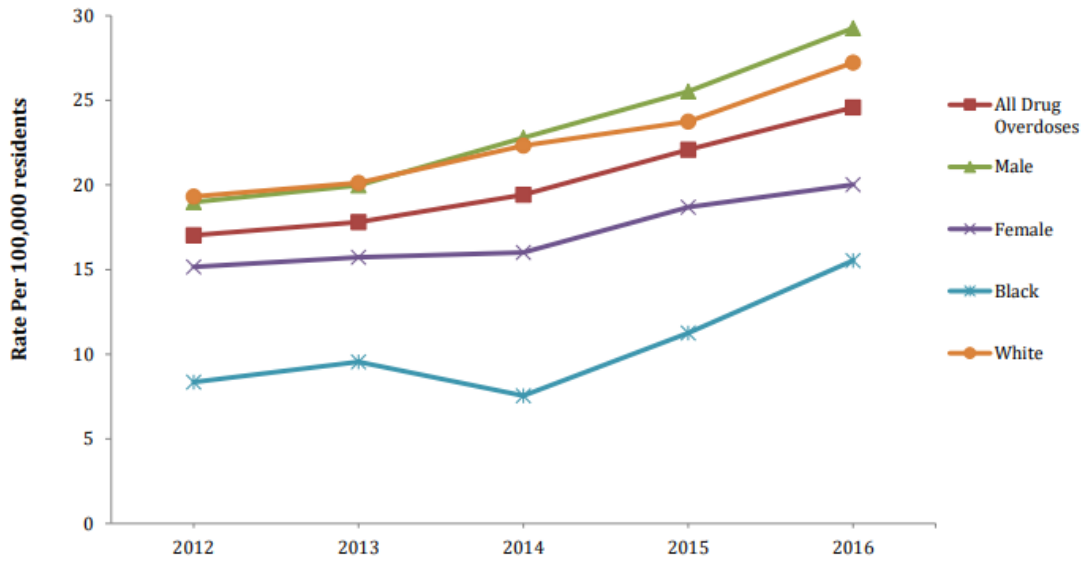
Despite:

- good medical practice (reductions in the amount of opioids prescribed and dispensed)
- fewer doctor shoppers, and
- increased utilization of the CSMD

**Drug overdose deaths increased by 12% from 2015-2016.**



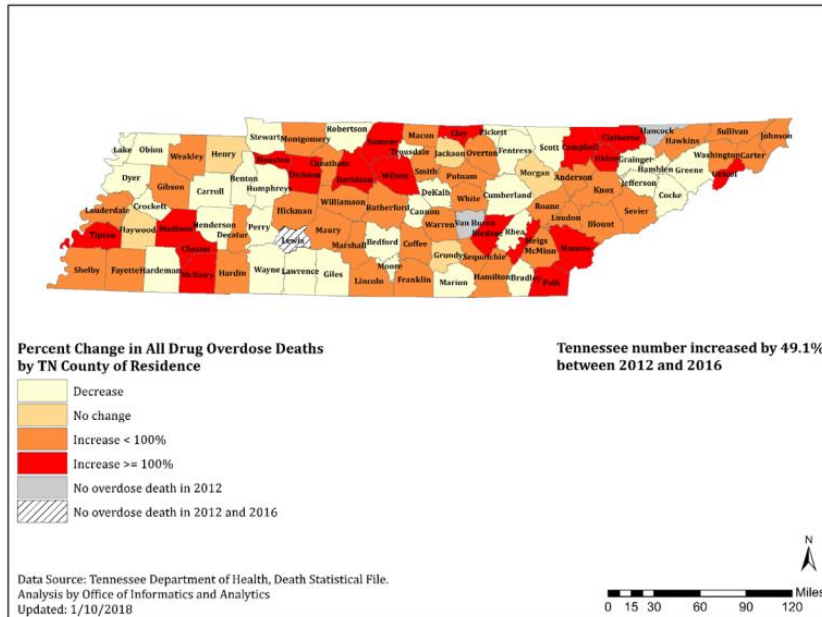
### Age-Adjusted Rates for All Drug Overdose Deaths and by Sex and Race in TN by Year



Analysis by the Office of Informatics and Analytics, TDH (last updated December 15, 2017). Limited to TN residents. Data Source: TN Death Statistical File.

#### Drug Overdose Death Data

Percent Change in Number of All Drug Overdose Deaths by TN County of Residence, 2012-2016<sup>13</sup>



<sup>13</sup> Rates by county were not calculated due to small sample sizes, which would result in unreliable rates. Percent change values should be interpreted with the caveat that the absolute change may be small, but the percent change value may be large. For example, a change from 1 death to 2 deaths is an absolute change of 1 overdose death, but a percent change of 100%. Alternatively, a change from 130 overdose deaths to 197 is an absolute change of 67 overdose deaths, but only a percent change of 51.5%.

Refer Appendix A for Secondary data sources.

## 5. Primary Data Findings:

Different themes that emerged from interviewing the 5 key informants within Marshall County.

i. The identified top 3 issues are as follows:

1. Opioid crisis (4)
2. Mental health (2)
3. Behavioral health (2)

These issues are the most concerning problems for the key informants based on their area of expertise and/or experience.

ii. The issues that are unaddressed according to the key informants are:

Mental health (2)	Heart disease (2)
-------------------	-------------------

Most of the key informants stated a lack of availability of resources required to address these concerns.

iii. The biggest concern or issue for the key informants are identified as below:

Education (1)	Workforce development (1)	Opioid crisis (1)	Medical intervention (1)	Patient attitude (1)	Patient engagement (1)
------------------	---------------------------------	----------------------	--------------------------------	----------------------------	------------------------------

The key informants lose sleep over these issues. Homelessness is a growing concern for Maury County. Vaping has been identified as a common practice among the school children. And the state of Tennessee has been dealing with the opioid crisis, cancer and mental health for quite some time now. As there were no common answers to this question, six issues were identified.

- iv. The key informants stated these three as the most common problems in Marshall County:

Opioid crisis (4)	Mental health (2)	Education (2)
-------------------	-------------------	---------------

- v. As a part of the last segment of the interview process, the key informants were given an activity-based task, which would compel them to rank the selected issues. As a result of this, the following ranking emerged:

(1- highest priority; 5-lowest priority)

Quality of Life		Health Topic		Health Topic	
Educational attainment	1	Substance abuse	1	Exercise, nutrition and weight	1
Economy	1	Mental health and mental disorders	2	Heart disease and stroke	2
Uninsured rate	2	Diabetes	2	Cancer	3
Per capita income	3	Access to health services	3	Maternal, fetal and infant health	4
Transportation	4	Teen births	4	Prevention and safety	5

Number 1 priority: (based on Forced ranking)

<b>Economy</b>	<b>Educational attainment</b>
<b>Substance Abuse</b>	<b>Exercise, nutrition &amp; weight</b>

Common pressing themes across regions: (CHNA 2019)

<b>Maury</b>	<b>Marshall</b>	<b>Wayne</b>	<b>Lewis</b>
Mental health (15)	Opioid crisis (9)	Education (4)	Opioid crisis (9)
Opioid crisis (13)	Mental health (6)	Opioid crisis (5)	Patient engagement (2)
Diabetes (9)	Education (3)	Obesity (2)	Exercise, food & nutrition (2)
Obesity (5)	Behavioral health (2)	Exercise, food & nutrition (2)	Internet safety (2)
Hypertension (8)	Heart disease (3)	Transportation (3)	Vaping (2)
Exercise, food & nutrition (10)	Lack of economic opportunities (4)	Access to health care (2)	Family disruptions (2)
Access to health care (8)	Access to health care (3)	Heart disease (2)	

Refer Appendix B for the common pressing themes under the primary data collection methods.

**6. Table of contents**

Appendix A: Secondary data

Appendix B: Primary data

**Appendix A: Secondary Data**

A total of 8 data sources were used to gather the secondary data.

The determinants of health data were taken from the U.S. Census Bureau 2017-2018. The values for six counties; Maury, Marshall, Lewis, Wayne, Lawrence and Giles were used for a county level comparison. The Marshall County performance was then compared to the state and national average.

The social and economic factors, health outcomes and clinical care data of the following counties: Wayne, Marshall, Hickman, Lewis, Giles, Lincoln, Maury, Perry and Lawrence; along with the U.S. average was taken from the 2016 Tennessee Department of Health Drive Your County to the Top Ten.

The Tennessee Department of Health, Office of informatics and Analytics; Controlled Substance Monitoring Database and the Death Statistical File were used for the prescription drug abuse data.

Secondary data sources:

Community Health Needs Assessment Chittenden and Grand Isle Counties, Vermont.

Drug Investigation Division

National Institute on Drug Abuse (NIDA).

State Health Plan

Drive Your County to the Top Ten

Maury Regional Medical Center Community Health Needs Assessment.

Prescription Drug Abuse and Pain Management Clinics

U.S. Census Bureau QuickFacts: United States.

## Appendix B: Primary data

To gather the required information from the key informants, an interview guide consisting of twelve questions was used as a template. The following questions were asked:

### Interview questions

1. Which organization are you representing?
2. What category does this organization belong to:

Education	Government
Health	Private
Advocacy	Not for profit
Faith-based	For profit
Social service	

3. Do you work for one or more of the below mentioned counties?

Maury	Lewis
Marshall	Lawrence
Wayne	Giles

4. What are the most common health problems in this county?
5. What are some challenges encountered while addressing the health needs?
6. What inhibits the patients from adopting some behaviors?
7. What are some challenges that you face while helping the patients/community that you serve?
8. What are the top 3 health issues faced by this community/county?
9. How can hospitals improve health services and quality of life of people here?
10. What do you consider are the unaddressed needs of the community?
11. In your opinion, why are these needs not being addressed?
12. What are the current resources available to address the health concerns and how can we do better?



At the end of the interview, an activity-based task was given to the key informants, which was aimed at deriving a forced ranking. Three buckets were created aiming at economic issues, health issues and access.

**If you had \$100, how would you spend on each category? (Options: 0, 10, 15, 25 & 50)**

Per capita income	
Uninsured rate	
Transportation	
Economy	
Educational attainment	

Diabetes	
Substance Abuse	
Teen births	
Mental Health & Mental Disorders	
Access to Health Services	

Prevention & Safety	
Cancer	
Maternal, Fetal & Infant Health	
Heart Disease & Stroke	
Exercise, Nutrition, & Weight	

The limitation of this activity was that not all key informants used the five denominations mentioned and repeated the denominations in the same bucket. To come at a conclusion, we ranked the denominations as follows:

<b>Denomination</b>	<b>Rank</b>
<b>0</b>	<b>5</b>
<b>10</b>	<b>4</b>
<b>15</b>	<b>3</b>
<b>25</b>	<b>2</b>
<b>50</b>	<b>1</b>

A sum of the ranks for each category gave us a score, which was then used to determine the final rank. Lowest score implies the highest ranking, or the number one priority and highest score implies the lowest ranking or the least priority.

<b>Categories</b>	<b>Forced ranking</b>	<b>Score</b>
Per capita income	3	15
Uninsured rate	2	13
Transportation	4	23
Economy	1	12
Educational attainment	1	12
Diabetes	2	15
Substance abuse	1	5
Teen births	4	23
Mental health and mental diso	2	15
Access to health services	3	17
Prevention and safety	5	22
Cancer	3	14
Maternal, fetal and infant health	4	19
Heart disease and stroke	2	13
Exercise, nutrition and weight	1	7

For the interview questions, the challenge was that not all twelve questions were asked during the interview, as they were only an interview guide. The five key informants did not always give answers to all the questions that were asked. Based on the availability of answers provided, the burning questions that were answered and were most frequent, were considered for the assessment. The number mentioned next to each category represents the number of times it was mentioned during that question.

i. Top 3 concerns

Concerns	Frequency
Lack of providers	1
Lack of diagnostic services	1
Mental Health	2
Lack of facilities	1
Workforce development	1
Community development	1
Opioid crisis	4
Lack of resources	1
Economic opportunities	1

Summary of top 3 concerns:

This list emerged based on the most frequently mentioned problems. The categories with only one vote/answer were eliminated and the rest were considered.

<b>Mental Health</b> (2)	<b>Opioid Crisis</b> (4)
-----------------------------	-----------------------------

ii. The unaddressed needs of the county:

The following responses were listed when the unaddressed needs of the county were mentioned by the key informants. These were the needs that were not getting enough attention.

Unaddressed needs	Frequency
Affordability	1
Heart disease	2
Obesity	1

Access to healthcare	1
Economic opportunities	1
Patient attitude	1
Diabetes	1
Mental health	2

The issues that were considered were the once with more than one frequency in responses. These are mentioned below:

Heart disease (2)	Mental Health (2)
-------------------	-------------------

iii. The biggest concern

The following issues were considered as the biggest concerns according to the key informants.

<b>Biggest Concern</b>	<b>Frequency</b>
Patient engagement	1
Patient attitude	1
Medical intervention	1
Education	1
Workforce development	1
Opioid crisis	1

The concerns with more than one frequency were considered, which are mentioned below:

Education (1)	Workforce development (1)	Opioid crisis (1)	Medical intervention (1)	Patient attitude (1)	Patient engagement (1)
------------------	---------------------------------	----------------------	--------------------------------	----------------------------	------------------------------

iv. The common problems of the county:

The following were mentioned as the common problems of the county:

<b>County common problems</b>	<b>Frequency</b>
Diabetes	1
Hypertension	1
Mental health	2
Education	2
Lack of providers	1
Heart disease	1
Access to care	1
Poverty	1
Lack of economic opportunities	1
Opioid crisis	4
Family dysfunction	1
Obesity	1
Cancer	1

The top 3 problems were considered as the common problems of the county. These are as follows:

Opioid crisis (4)	Mental health (2)	Education (2)
-------------------	-------------------	---------------

- v. The common pressing themes of the 4 counties were derived based on the frequency of occurrence of issues under the 4 categories: top 3 issues, unaddressed needs, biggest concern and common problems of the county. The overall top 7 issues for each county was taken into consideration.

The common pressing themes:

Maury	Marshall	Wayne	Lewis
Mental health (15)	Opioid crisis (9)	Education (4)	Opioid crisis (9)
Opioid crisis (13)	Mental health (6)	Opioid crisis (5)	Patient engagement (2)
Diabetes (9)	Education (3)	Obesity (2)	Exercise, food & nutrition (4)
Obesity (5)	Behavioral health (2)	Exercise, food & nutrition (2)	Internet safety (2)
Hypertension (8)	Heart disease (3)	Transportation (3)	Vaping (2)
Exercise, food & nutrition (10)	Lack of economic opportunities (4)	Access to health care (2)	Family disruptions (2)
Access to health care (8)	Access to health care (3)	Heart disease (2)	

## Primary data participants

<b>Organization represented</b>	<b>Name</b>
Marshall County Chamber of Commerce	Sue Hill
Economic development	Greg Lowe
Marshall County Mayor	Mayor Keny
Joint Economic & Community Development Board	Emily Darnell
Centerstone	Todd Fehrman

Maury Regional Medical Center  
Attention: Mark Kirschbaum  
CHNA Feedback  
1224 Trotwood Avenue  
Columbia, Tennessee 38401

### References

- (2016). Community Health Needs Assessment Chittenden and Grand Isle Counties, Vermont. Retrieved from <https://www.uvmhealth.org/medcenter/Documents/About-Us/CHNA.pdf>
- (n.d.). Drug Investigation Division. Retrieved from <https://www.tn.gov/tbi/divisions/drug-investigation-division.html>
- (n.d.). National Institute on Drug Abuse (NIDA). Retrieved from <https://www.drugabuse.gov/>
- (n.d.). State Health Plan. Retrieved from <https://www.tn.gov/content/dam/tn/hsda/documents/State Health Plan-2017 2018.pdf>
- 2016 Drive Your County to the Top Ten. Nashville: Tennessee Department of Health. Prepared by the Division of Administrative Services. May 2016.
- (2016, November). Marshall Medical Center Community Health Needs Assessment. Retrieved from <https://www.mauryregional.com/media/file/MRMC CHNA 2016.pdf>
- (2018, January 31). Prescription Drug Abuse and Pain Management Clinics - tn.gov. Retrieved from <https://www.tn.gov/content/dam/tn/health/documents/Prescription-Drug-Abuse-Report-2018.pdf>
- (2018, July 1). U.S. Census Bureau QuickFacts: United States. Retrieved from <https://www.census.gov/quickfacts/fact/table/US/PST045218>