

# Maury Regional Medical Center

LEWIS COUNTY REPORT- SEPTEMBER 2019

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## 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 Lewis County: (primary data from 3 key informants)

Opioid crisis (3)	Patient engagement (2)	Physical health (2)
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These top concerns were identified based on the key informant interviews, where three 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.

Lewis County was not a part of the Community Health Needs Assessment done in 2016.

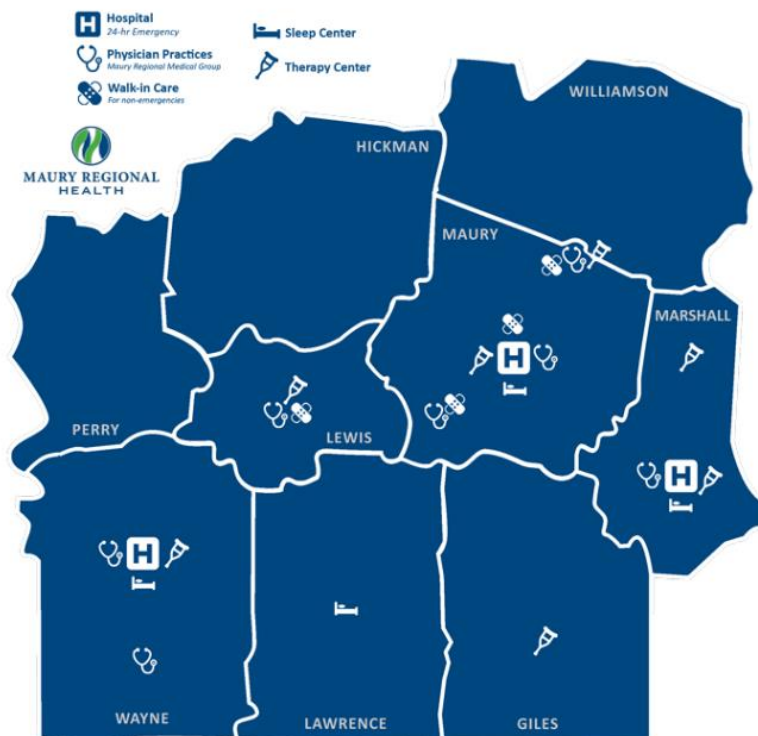
## 1. Background

### About Lewis Health Center

Lewis Health Center provides outpatient health care and wellness services, which include primary care for adults and children, laboratory, imaging and physical therapy. The staff comprises of physicians and nurse practitioners provided by Maury Regional Medical Group, along with well-trained clinical and support staff at Lewis Health Center.

### 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

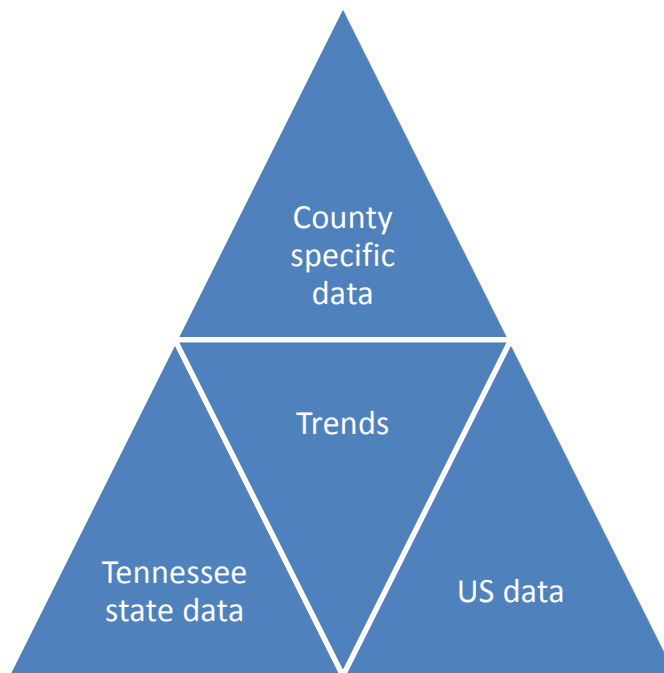
1. Exercise, Nutrition, & Weight
2. Mental Health
3. Substance Abuse
4. Access to Health Services

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 three 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>
LEWIS COUNTY PUBLIC SCHOOLS
CHAMBER OF COMMERCE

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- 3 KI)**

1. Opioid crisis (3)
2. Patient engagement (2)
3. Physical health (2)

The three 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>Opioid crisis</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, three of the informants took part.

#### 4. Secondary data findings

##### Summary of care offered at Lewis Health center

Lewis Health Center provides outpatient health care and wellness services, which include primary care for adults and children, laboratory, imaging and physical therapy. The staff comprises of physicians and nurse practitioners provided by Maury Regional Medical Group, along with well-trained clinical and support staff at Lewis Health Center.

##### Demographics

<b>Population:</b>	12,086	<b>&lt;18</b>	12.5%	<b>65+</b>	20.9%	<b>% Rural:</b>	70.20%
		<b>YOA:</b>		<b>YOA:</b>			
<b>Unemployment:</b>	4.00%	<b>%</b>	51.20%	<b>%</b>	48.80%	<b>Graduation</b>	83.2%
		<b>Females:</b>		<b>Males:</b>		<b>Rate:</b>	
<b>Households:</b>	4,663			<b>MHI:</b>		\$37,092	

Source: Unites States Census Bureau 2017-2018

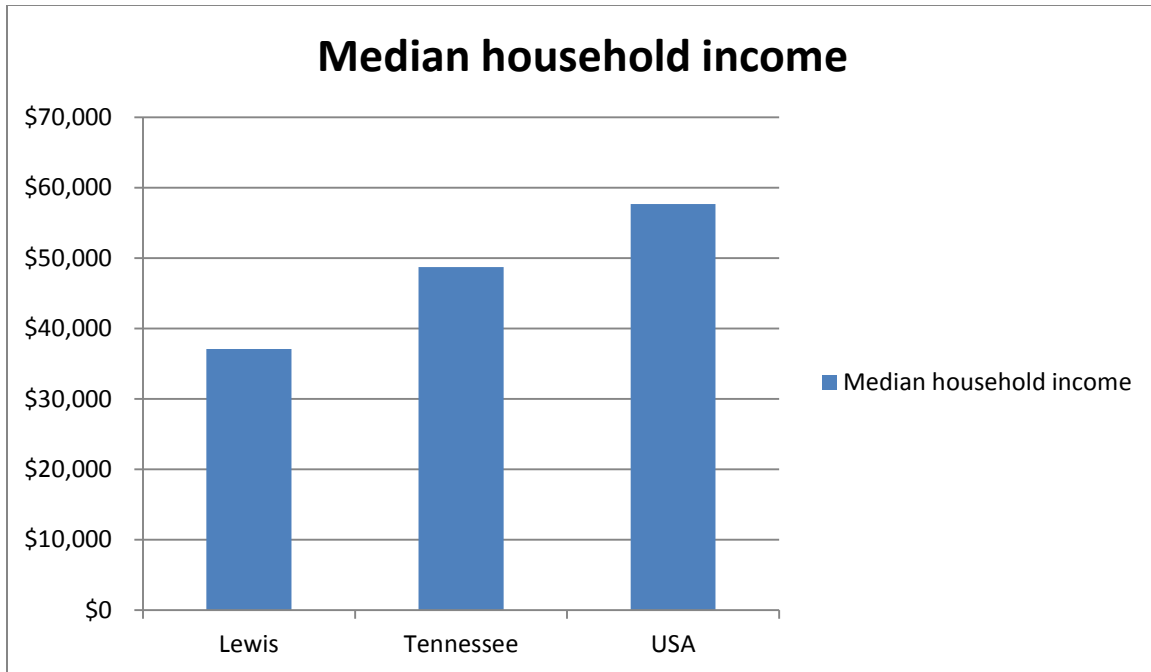
##### Socio-economic factors (based on the Unites States Census Bureau 2017 data)

###### 1. Income

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

##### 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

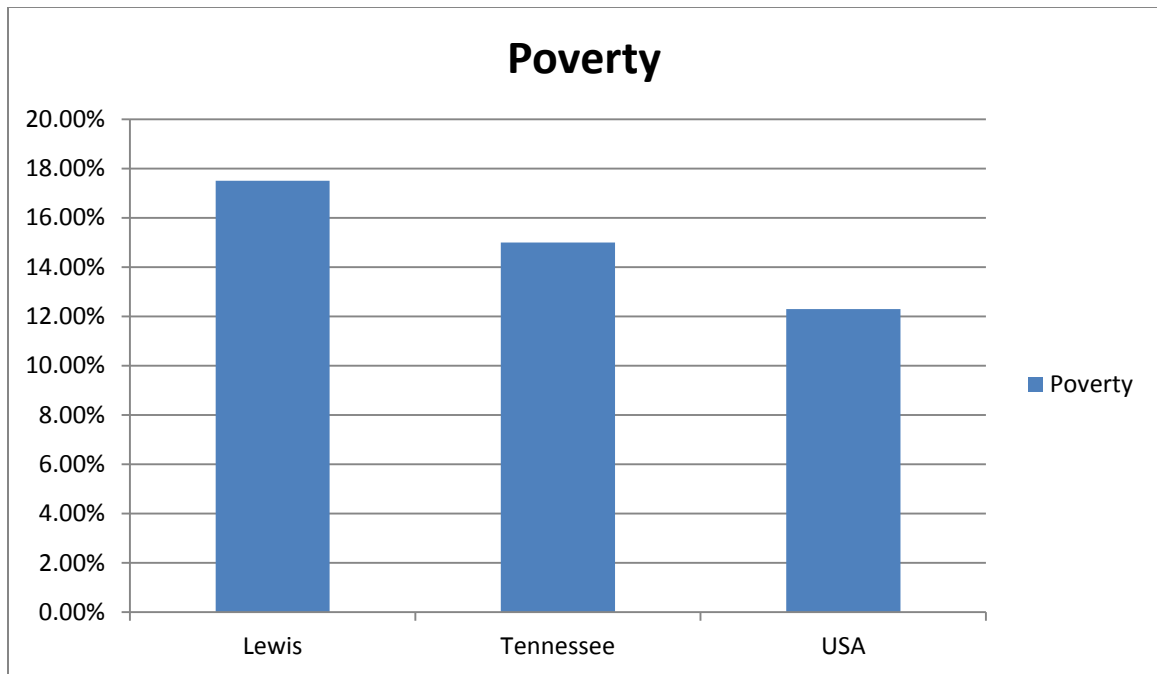


2. Poverty

The poverty in Lewis County is 17.5%, which is way more 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%

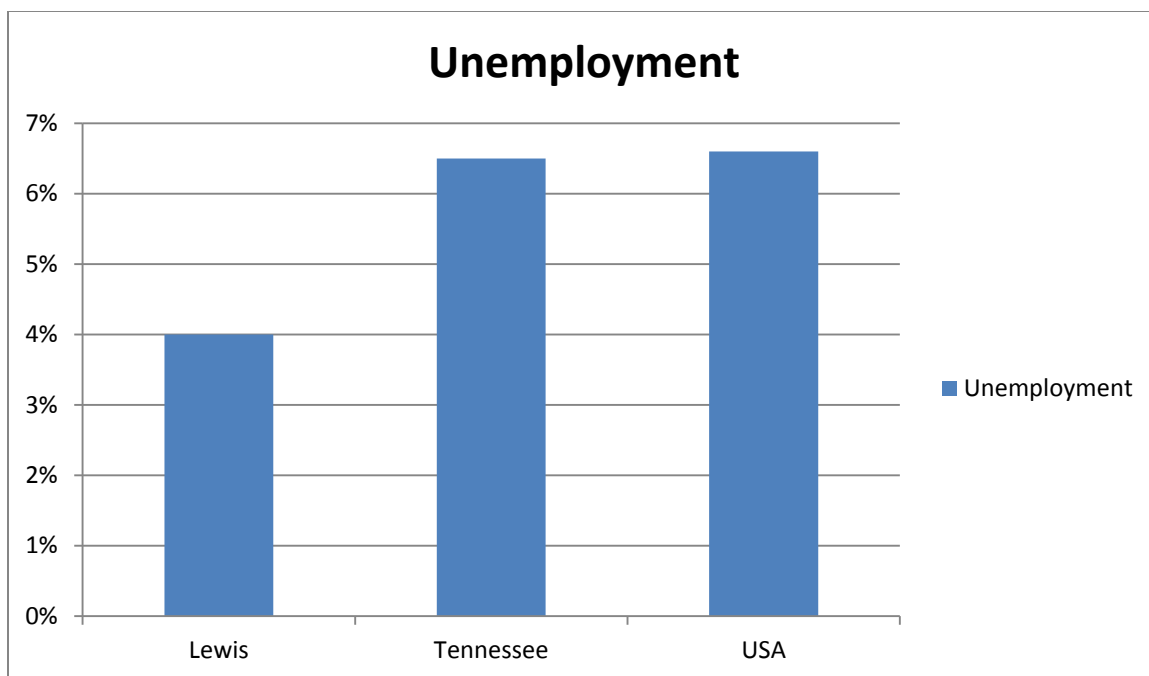


3. Unemployment

According to the 2017 U.S. Census Bureau data, the Lewis Medical Center’s service area unemployment rate (4%) was lower than the 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%

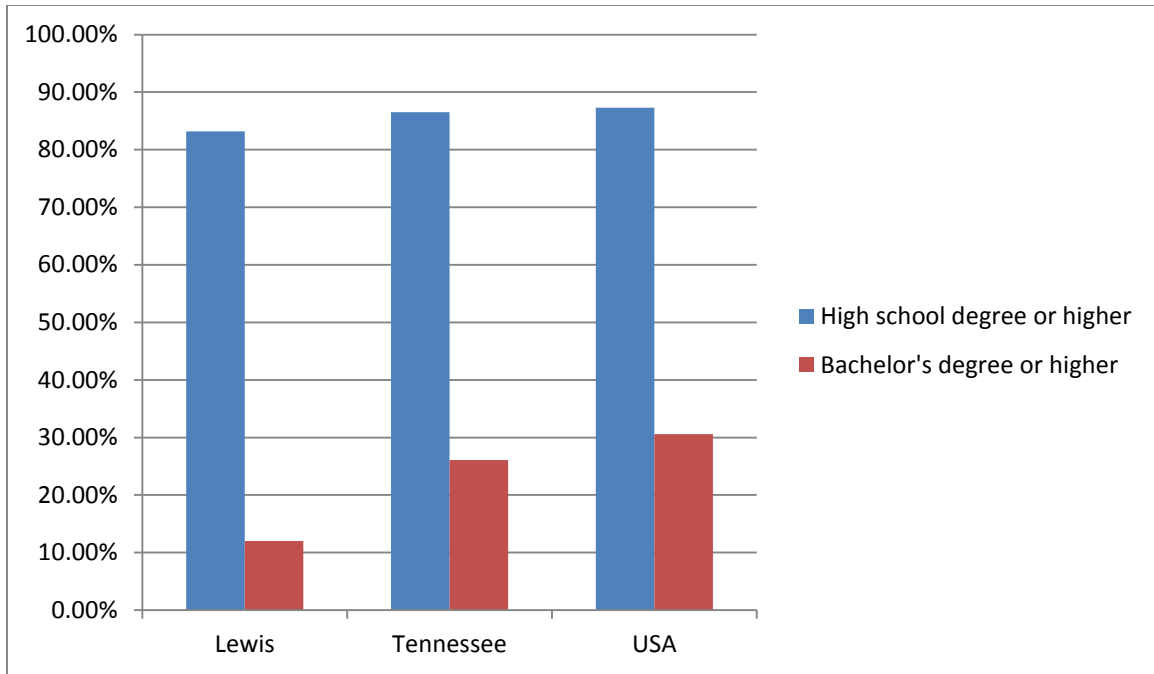


#### 4. Education

The residents with a Bachelor's degree or higher is 12% which is significantly low when compared to 26.1% in the state. Whereas the high school graduates are 83.2% which is 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%



According to “Drive your county to top 10, 2016” data; the top 3 issues in Tennessee are smoking, obesity and physical inactivity. These influence six out of ten causes for death in the state of Tennessee.

Top Third	
Measure	Value
Driving Alone to Work	76.98%
Low Birthweight	7.10%
Mammography Screening	66.00%
Children in Single-Parent Households	27.04%
Income Inequality	4.23
Sexually Transmitted Infections	210.15
Premature Death	8904.20
High School Graduation	92.50%

Middle Third	
Measure	Value
Adult Obesity	31.80%
Food Environment Index	7.20
Excessive Drinking	11.20%
Dentists	2977:1
Preventable Hospital Stays	69.24
Severe Housing Problems	13.44%
Poor or Fair Health	22.10%
Poor Physical Health Days	4.80
Poor Mental Health Days	4.70
Physical Inactivity	35.80%

Bottom Third	
Measure	Value
Diabetic Monitoring	78.65%
Uninsured	19.35%
Air Pollution - Particulate Matter	14.19
Unemployment	9.00%
Children in Poverty	31.80%
Alcohol-Impaired Driving Deaths	37.50%
Access to Exercise Opportunities	33.10%
Some College	39.71%
Teen Births	54.08

Source: Drive Your County To The Top Ten, 2016.



## Where does Lewis County stand when compared to the TN counties and the nation?

### Social and economic factors:

	Popul	High School		Income		Social	
		% 9th-grade cohort		Ratio household		# membership assoc's	
		Rank	Value	Rank	Value	Rank	Value
US Avg			82%		4.7		9
Lewis	11,906	30	93%	44	4.58	84	7.08

The high school % is good both state-wide and nationally. The income value is fairly average within the state and less than the US value. The social value is worse and far below the national value.

### Health outcomes:

	Popul	Premature		Poor / Fair		Poor Physical		Poor Mental	
		Yrs potential life lost		% adults reporting		Avg # physically		Avg # mentally	
		Rank	Value	Rank	Value	Rank	Value	Rank	Value
US Avg			6,600.0		18%		3.8		2.8
Lewis	11,906	27	8,904.2	40	22.10%	40	4.8	41	4.7

Though the premature deaths are good within the state for Lewis County, they are far from the national average. The values for poor/fair health, poor physical and mental health days are poor within the state and on comparison with the US values.

### Clinical care:

	Popul	Uninsured		Primary Care		Mental Health	
		% pop < age 65 w/o		Ratio population to		Ratio population to	
		Rank	Value	Rank	Value	Rank	Value
US Avg			17%		1320:1		490:1
Lewis	11,906	88	19.35%	48	2392:1	49	2381:1

	Popul	Dentists		Preventable		Diabetic Monitoring	
		Ratio of population to		# hospital stays for		% diabetic Medicare	
		Rank	Value	Rank	Value	Rank	Value
US Avg			1540:1		54		82.99%
Lewis	11,906	38	2977:1	38	69.24	94	78.65%

The values for the diabetic monitoring and the uninsured are worse within the state and nationally. The availability of primary care providers, mental health providers and dentists is low when compared to the other counties of Tennessee and also in the US.

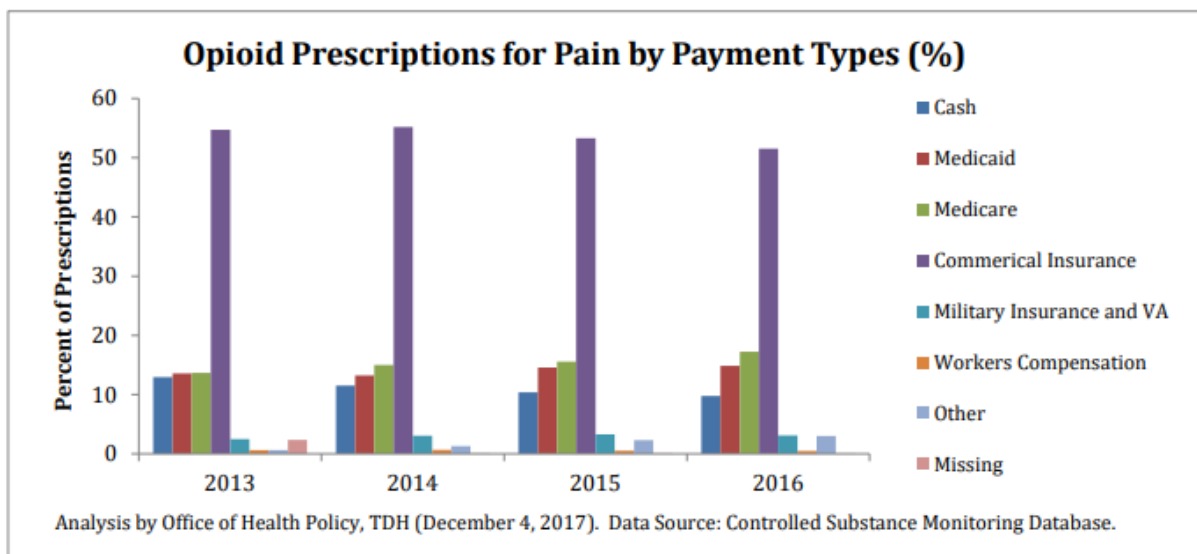
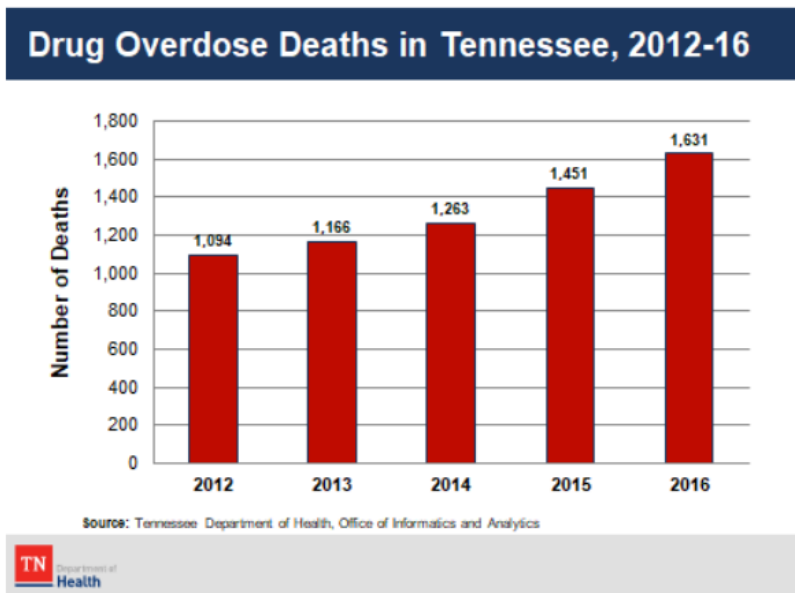
Top Third										
Middle Third										
Bottom Third										
Source: 2016 Tennessee Dept of Health Drive Your County to the Top Ten										

## Prescription Drug Abuse

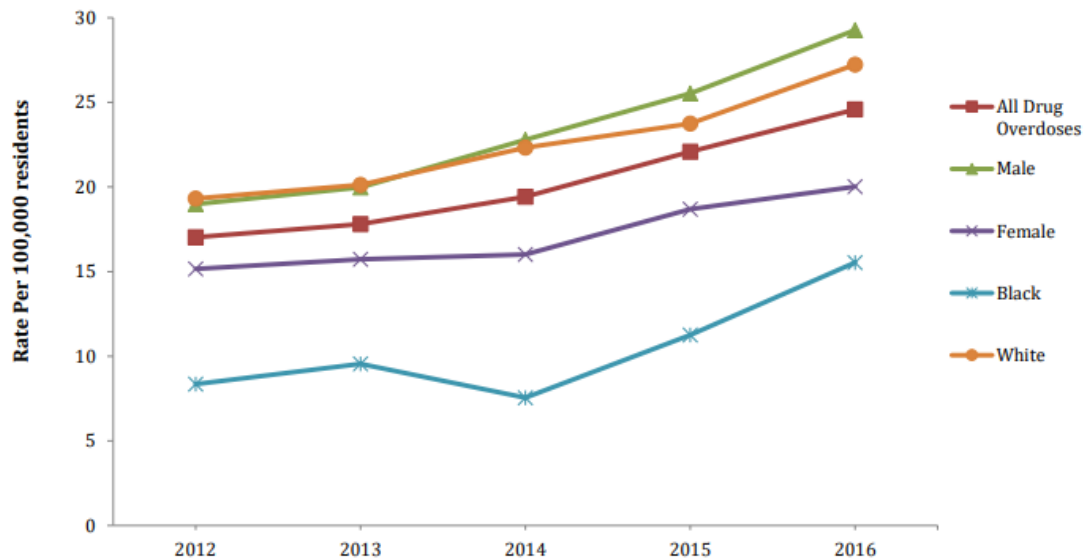
Despite:

- 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.**



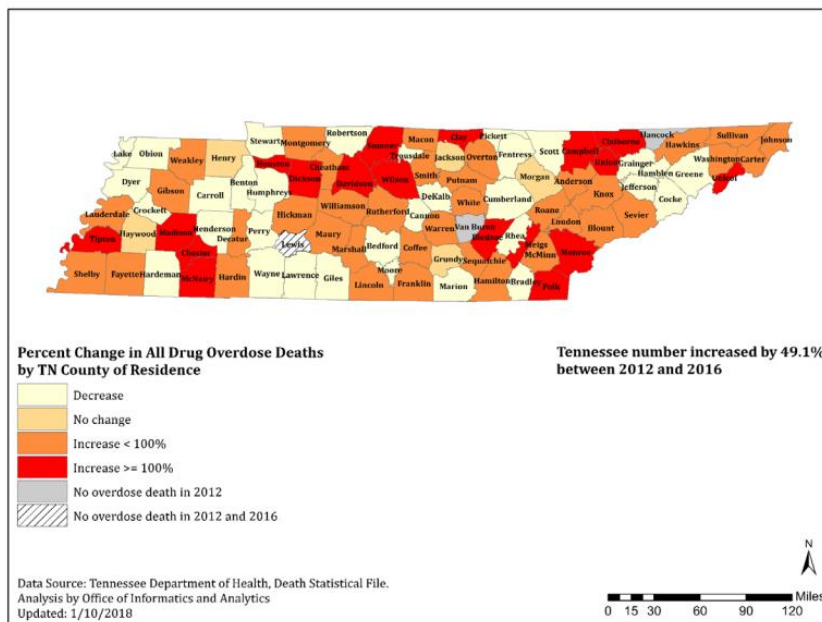
### Age-Adjusted Rates for All Drug Overdose Deaths and by Sex and Race in TN by Year



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 3 key informants within Lewis County.

i. The identified top 3 issues are as follows:

- 1. Opioid crisis (3)
- 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:

Internet safety/cyber bullying (2)	Vaping (2)
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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:

Family disruptions (2)	Opioid crisis (2)
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The key informants lose sleep over these issues. Opioid crisis is a growing concern for Lewis County. Family disruptions have been identified as a common concern for the stakeholders.

iv. The key informants stated opioid crisis as the most common problem in Lewis County:

Opioid crisis (3)
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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	
Economy	1	Substance abuse	1	Exercise, nutrition and weight	1
Per capita income	2	Mental health and mental disorders	2	Heart disease and stroke	2
Uninsured rate	3	Access to health services	3	Cancer	2
Transportation	4	Diabetes	3	Maternal, fetal and infant health	3
Educational attainment	4	Teen births	4	Prevention and safety	4

Number 1 priority: (based on forced ranking)

<b>Economy</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

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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 Lewis 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  
Health  
Advocacy  
Faith-based  
Social service

Government  
Private  
Not for profit  
For profit

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

Maury  
Marshall  
Wayne

Lewis  
Lawrence  
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	2	9
Uninsured rate	3	10
Transportation	4	11
Economy	1	4
Educational attainment	4	11
Diabetes	3	3
Substance abuse	1	1
Teen births	4	4
Mental health and mental diso	2	2
Access to health services	3	3
Prevention and safety	4	4
Cancer	2	2
Maternal, fetal and infant health	3	3
Heart disease and stroke	2	2
Exercise, nutrition and weight	1	1

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 three 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
Hypertension	1
Obesity	1
Physical Health	2
Patient engagement	1
Opioid crisis	3

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.

Opioid crisis (3)	Patient engagement (2)	Physical health (2)
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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
Internet safety/Cyber bullying	2
Vaping	2

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

Internet safety/ Cyber bullying (2)	Vaping (2)
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## 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>
Mental health	1
Family disruptions	2
Opioid crisis	2

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

Family disruptions (2)	Opioid crisis (2)
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## iv. The common problems of the county:

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

<b>Common problems</b>	<b>Frequency</b>
Opioid crisis	3
Exercise, food & nutrition	4
Health insurance	1
Diabetes	1
Cancer	1

The top 2 problems were considered as the common problems of the county. These are as follows:

Opioid crisis (3)	Exercise, nutrition and weight (4)
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## 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>
Lewis County Public Schools	Sasha Powers
Lewis County Public Schools	Pat Couch
Chamber of Commerce	Debbie Landers

Maury Regional Medical Center

Attention: Mark Kirschbaum

CHNA Feedback

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