

Maury Regional Medical Center

COMMUNITY HEALTH NEEDS ASSESSMENT
MAURY 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)

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

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 Maury County: (primary data from 14 key informants)

Mental Health (6)	Exercise, Health & Nutrition (6)	Opioid Crisis (5)
Hypertension (4)	Diabetes (4)	Access to Health Services (3)
Obesity (2)	Education (2)	

These top concerns were identified based on the key informant interviews, where fourteen stakeholders were specifically asked to mention their opinion of the top 3 problems of Maury county. This list emerged based on the most frequently mentioned problems. This list resonates with the above mentioned big four for Tennessee.

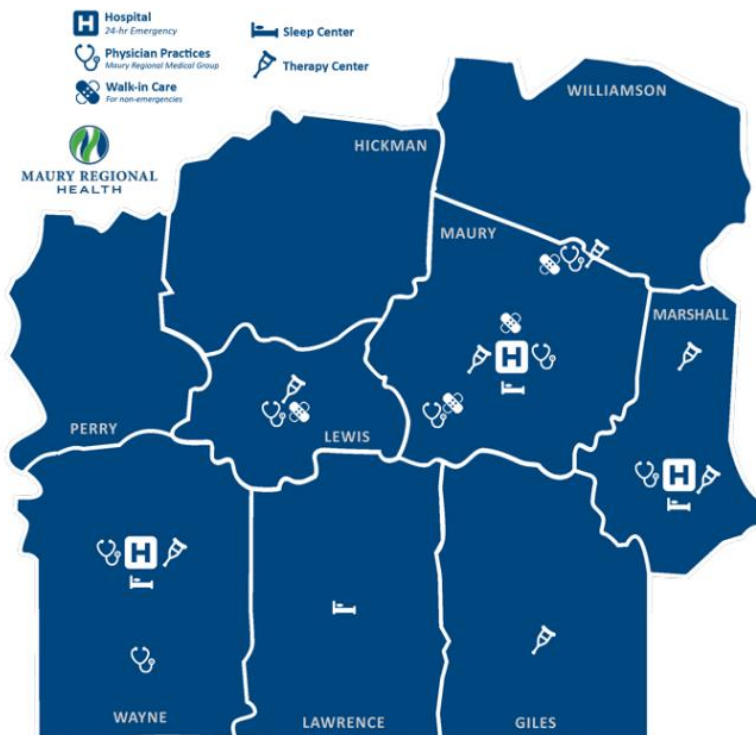
1. Background

About Maury Regional Health

Maury Regional Medical Center's (MRMC) 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. The counties served by MRMC are Giles, Marshall, Maury, Wayne, Lawrence and Lewis. In 2016, Healthy Communities Institute (HCI) was used as consulting group for conducting the CHNA.

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

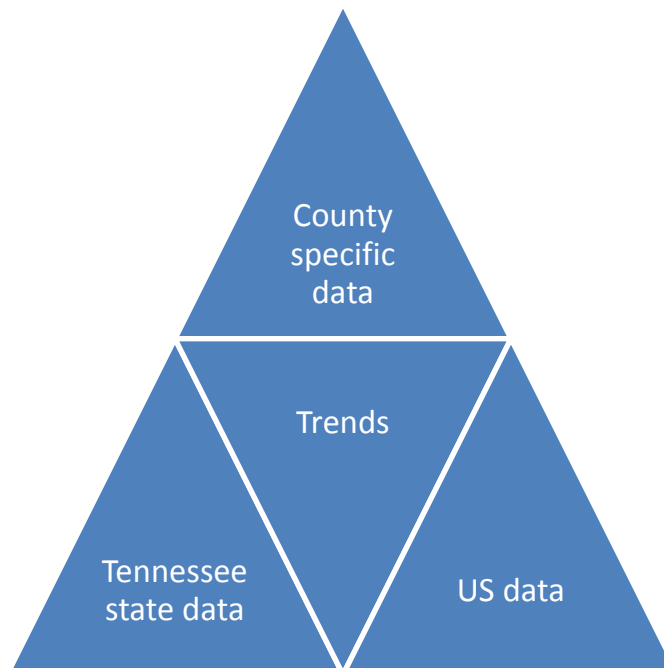
4. Access to Health Services

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

2. Methods: (Sources for 2019 CHNA)

Secondary data collection

The secondary data source was collected using 9 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 fourteen 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:

Table 1: Maury County Key Informants

KEY INFORMANTS- MAURY COUNTY
COLUMBIA STATE COMMUNITY COLLEGE
SOUTH CENTRAL TENNESSEE AREA AGENCY ON AGING & DISABILITY
COUNTY COMMISSIONER
CITY MAYOR
COUNTY MAYOR
DEPARTMENT OF PUBLIC HEALTH
UT EXTENSION
MOBILE HEALTH UNIT
COX MIDDLE SCHOOL
CHAMBER OF COMMERCE
THE FAMILY CENTER
THE KING'S DAUGHTERS' SCHOOL
COUNTY HEALTH DEPARTMENT

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- 14 KI)

1. Exercise and Nutrition & Mental Health (6)
2. Opioid crisis (5)
3. Hypertension & Diabetes (4)

The fourteen 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 (29) has been considered as top priority. This led to the following priority areas:

Uninsured rate
Educational attainment
Access to health services
Prevention and safety

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, fourteen of the informants took part.

4. Secondary data findings

Summary of care offered at Maury Regional Health

MRMC offers vital access to emergency and acute care, diagnostic services and therapeutic outpatient services. MRMC's main service offerings are acute care, post-acute care, and wellness/prevention. Each of the health care service offerings is important to us and for our success. As a community medical center, MRMC has a responsibility of providing appropriate services in order to meet the community needs. The delivery of our services is through mechanisms like inpatient (IP) and outpatient (OP) care, emergent/urgent (ED) care, and community health.

Demographics

The demographics of a community have an impact on the overall health outcomes of the population. This data has been gathered from the U.S. Census Bureau 2017-2018.

Population: 94,340	<18 YOA: 23.4%	65+ YOA: 14.9%	% Rural: 41.60%
Unemployment: 6.2%	% Females: 51.80%	% Males: 48.20%	Graduation Rate: 89.40%
Households: 33,332		MHI: \$52,080	

Source: United States Census Bureau 2017-2018

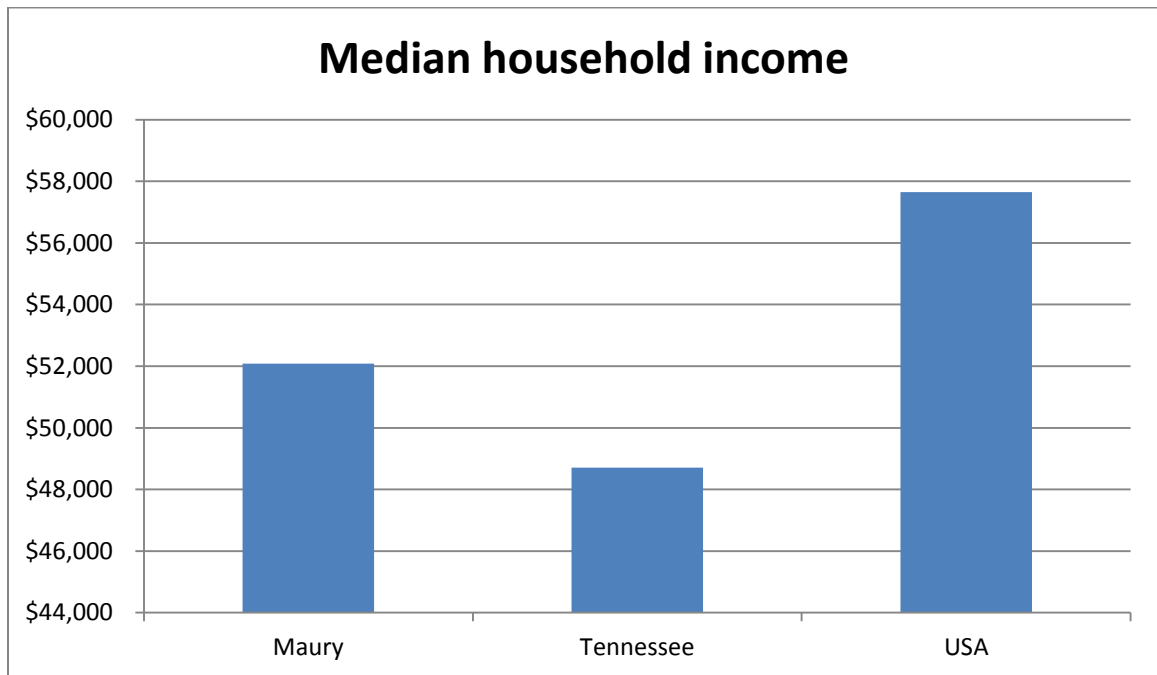
Socio-economic determinants of health (based on the United States Census Bureau 2017 data)

The social and economic determinants of health impact the overall health by improving the health outcomes significantly when compared to clinical care. Hence, it is important to focus on these factors as a part of the assessment.

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

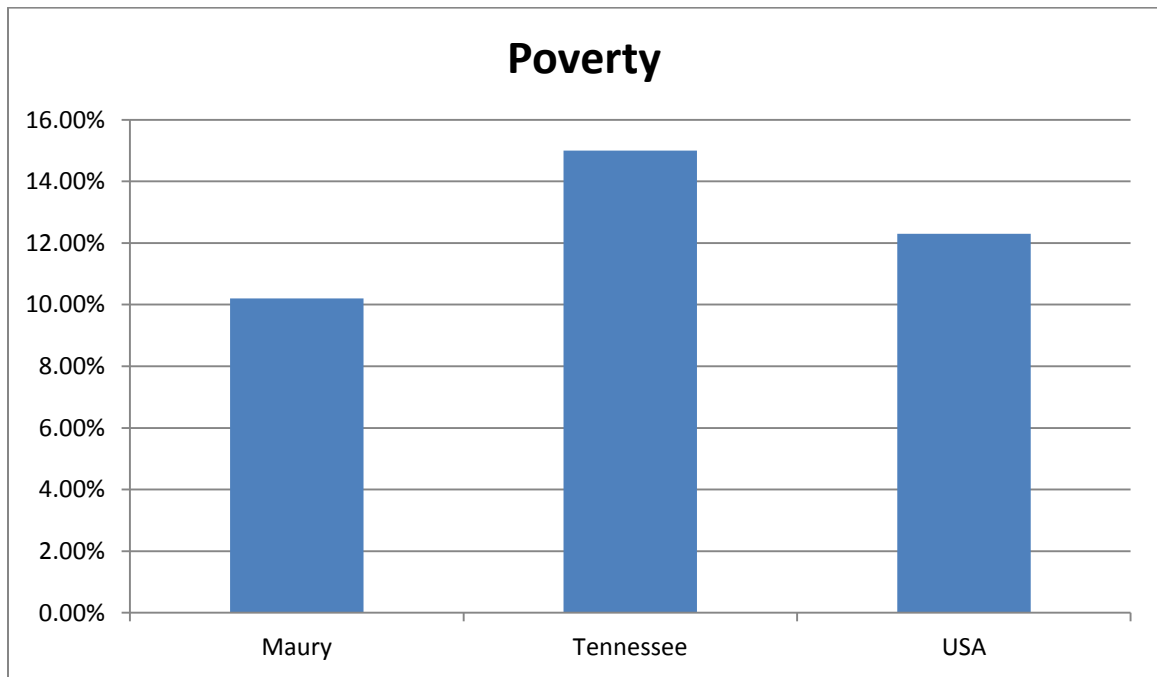


The median household income in MRMC’s service area was high when compared to the State (\$48,708), but significantly low when compared with the national average.

2. Poverty

Poverty by County-2017

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

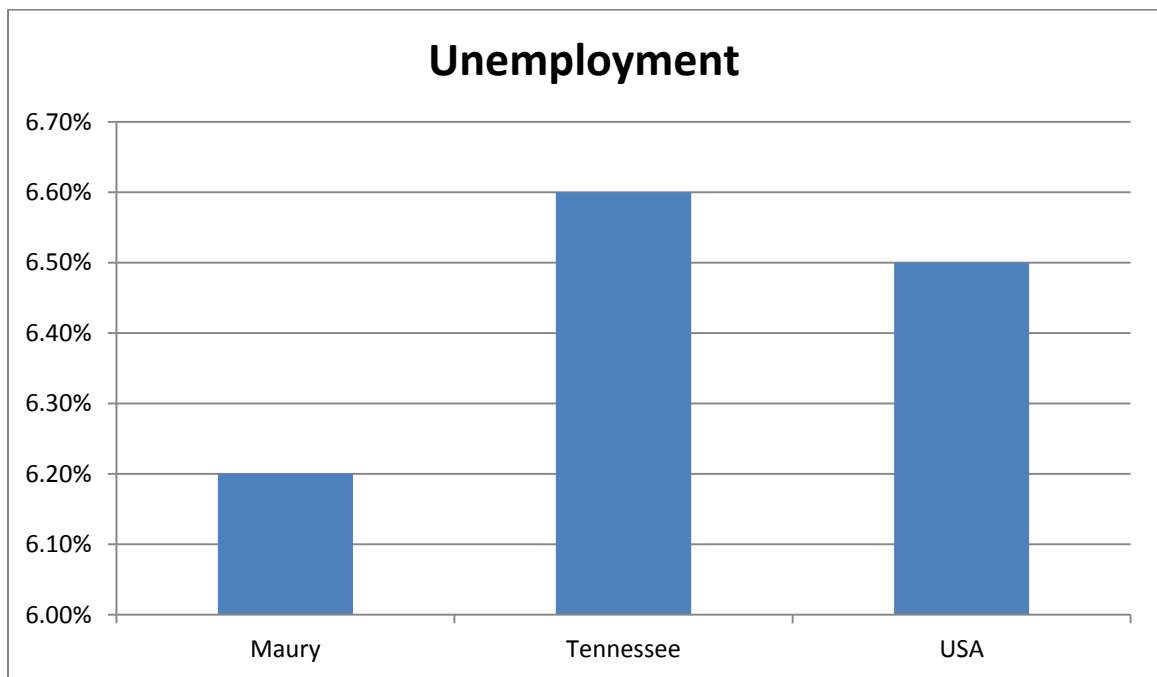


The persons in poverty are 10.2% which is less when compared to 15% in the state and 12.30% in the nation.

3. Unemployment

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%

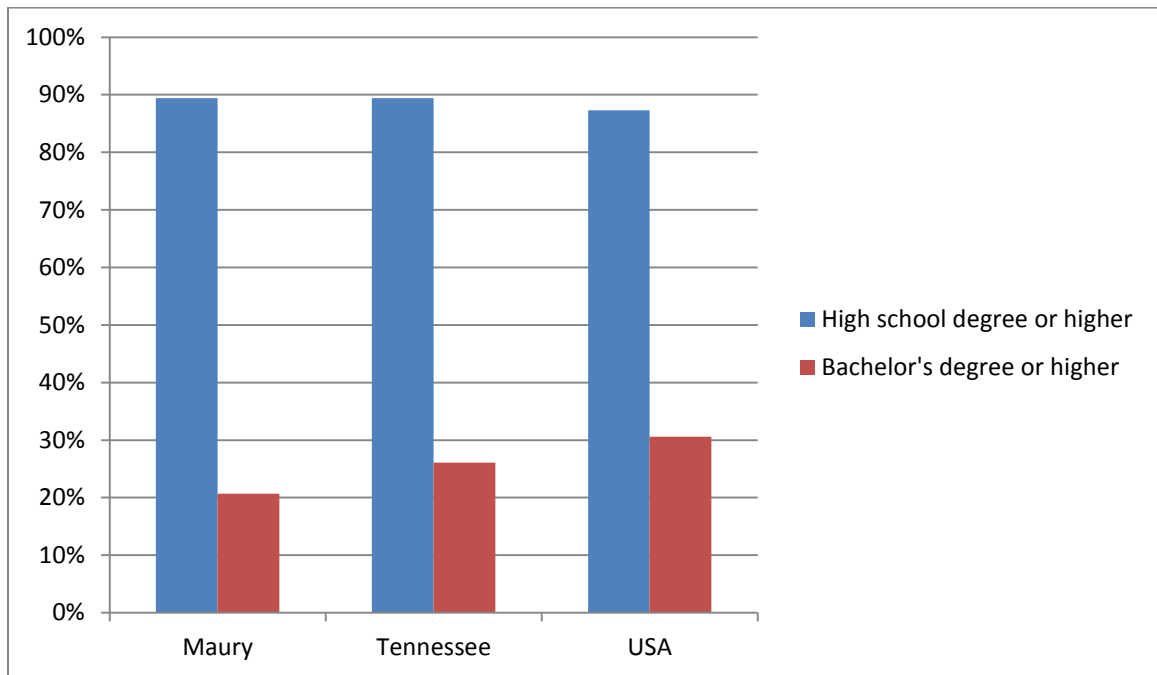


According to the 2017 U.S. Census Bureau data, the MRMC’s service area unemployment rate (6.2%) was lower than the state of Tennessee (6.6%) and the national average (6.5%).

4. Education

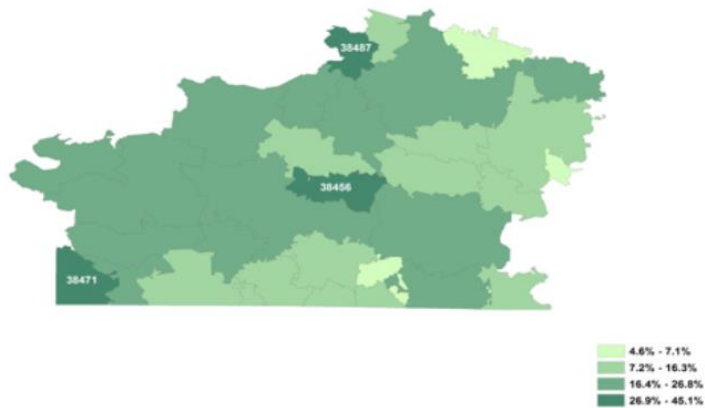
Educational Attainment by County-2017

	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%



The residents with a bachelor’s degree or higher are 20.7% which is low when compared to 26.1% in the state. Whereas the high school graduates are 89.4% which is higher than the state of Tennessee (86.5%).

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 codes with highest level of socioeconomic need are 38462, 38485, 38456, 38450, 38486, 38471, 38452, 38481, and 38473. Most of them are in Wayne County.

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

Social and economic factors:

	Popul	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
US Avg			82%			4.7			9
Wayne	16,913	30	93%		44	4.58		84	7.08
Marshall	31,269	67	88%		23	4.35		59	9.96
Hickman	24,384	38	92%		46	4.59		93	3.71
Lewis	11,906	30	92.5%		16	4.23		50	10.87
Giles	28,853	76	86%		41	4.53		41	11.48
Lincoln	33,637	46	91%		13	4.19		63	9.81
Maury	85,515	81	83%		25	4.36		43	11.34
Perry	7,822	30	92.5%		30	4.41		56	10.17
Lawrence	42,274	14	94%		27	4.37		36	11.67

High school graduation is worse in Marshall, Giles and Maury County. Income equity in Wayne, Hickman and Giles is poor compared to the other counties within the state. The social associations are poor within the state, and worse when compared to the US values.

Health outcomes:

	Popul	Premature Death		Poor / Fair Health		Poor Physical Health Days		Poor Mental 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)		Avg # mentally unhealthy days rept'd in past 30 days (age-adj'd)	
		Rank	Value	Rank	Value	Rank	Value	Rank	Value
US Avg			6,600.0		18%		3.8		2.8
Wayne	16,913	30	9,081.4	79	23.90%	54	4.9	41	4.7
Marshall	31,269	23	8,558.1	29	21.40%	21	4.6	26	4.6
Hickman	24,384	42	9,669.0	32	21.50%	30	4.7	26	4.6
Lewis	11,906	27	8,904.2	40	22.10%	40	4.8	41	4.7
Giles	28,853	43	9,683.7	50	22%	30	4.7	41	4.7
Lincoln	33,637	31	9,092.9	32	21.50%	40	4.8	41	4.7
Maury	85,515	8	7,729.2	19	20.60%	30	4.7	16	4.5
Perry	7,822	49	9,889.7	52	22.50%	54	4.9	60	4.8
Lawrence	42,274	44	9,704.0	43	22.20%	40	4.8	41	4.7

When compared to the state, most of the counties are doing average in terms of premature death, poor/fair health and poor physical health days, when compared to the other counties within the state.

	Popul	Uninsured		Primary Care Physicians		Mental Health Providers	
		% pop < age 65 w/o health insurance		Ratio population to PCPs		Ratio population to mental health providers	
		Rank	Value	Rank	Value	Rank	Value
US Avg			17%		1320:1		490:1
Wayne	16,913	81	18.48%	62	2328:1	85	16913:1
Marshall	31,269	64	17.63%	85	6226:1	42	2234:1
Hickman	24,384	65	17.72%	79	4835:1	50	2438:1
Lewis	11,906	88	19.35%	48	2392:1	49	2381:1
Giles	28,853	32	16%	35	2053:1	39	1924:1
Lincoln	33,637	29	15.84%	19	1602:1	51	2587:1
Maury	85,515	27	15.72%	16	1496:1	5	450:1
Perry	8,008	86	19.16	73	3935:1	24	1304:1
Lawrence	42,274	45	16.51%	41	2210:1	36	1838:1

The value of uninsured and primary care is worse within the state and nationally. Mental health and dentists' values are mostly average within the state and significantly poor nationally in terms of mental health providers. There is an increased need of mental health providers and dentists.

Clinical care:

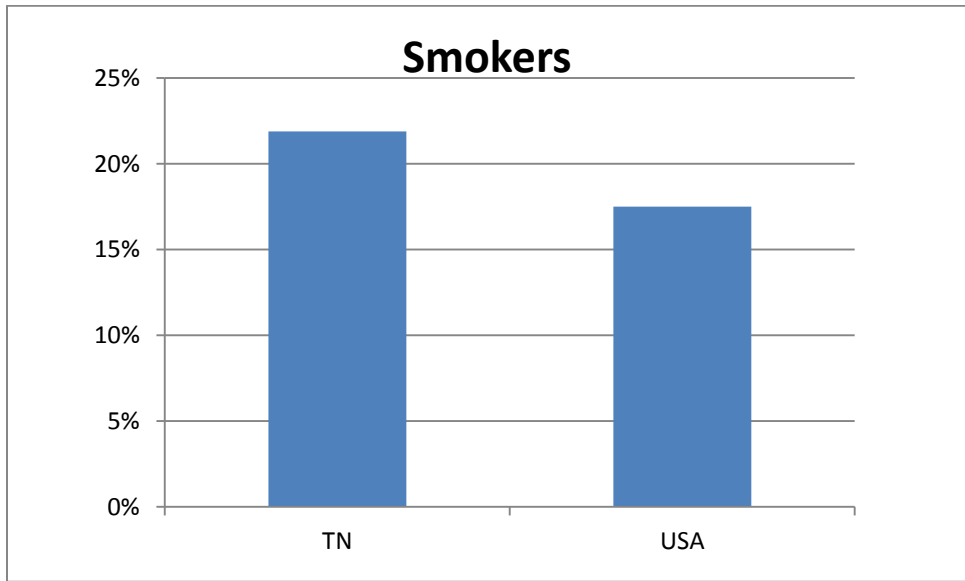
	Popul	Dentists		Preventable Hospital Stays		Diabetic Monitoring	
		Ratio of population to dentists		#hospital stays for ambu- sensitive cond's / 1,000 Medicare enrollees		% diabetic Medicare enrollees ages 65-75 that receive HbA1c monitoring	
		Rank	Value	Rank	Value	Rank	Value
US Avg			1540:1		54		82.99%
Wayne	16,913	91	16913:1	85	117.15	87	82.99%
Marshall	31,269	40	3127:1	18	62.13	44	86.78%
Hickman	24,384	74	4887:1	31	67.21	48	86.44%
Lewis	11,906	38	2977:1	38	69.24	94	78.65%
Giles	28,853	34	2885:1	39	69.7	10	89.20%
Lincoln	33,637	55	3737:1	35	68.58	31	87.60%
Maury	85,515	11	1745:1	8	48.84	25	87.91%
Perry	8,008	85	7822:1	94	162.14	95	74.32%
Lawrence	42,274	53	3523:1	59	79.96	4	90.36%

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

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

CANCER in Tennessee

- According to the TN Department of Health’s Cancer Registry, **Lung cancer** is the most common type of cancer diagnosis and is responsible for most of cancer deaths among Tennesseans.
- According to the TN Behavioral Risk Factor Surveillance Survey, in 2015, the smokers over the age of 18 years in TN vs USA are given as below:



EVERY DAY IN TENNESSEE...

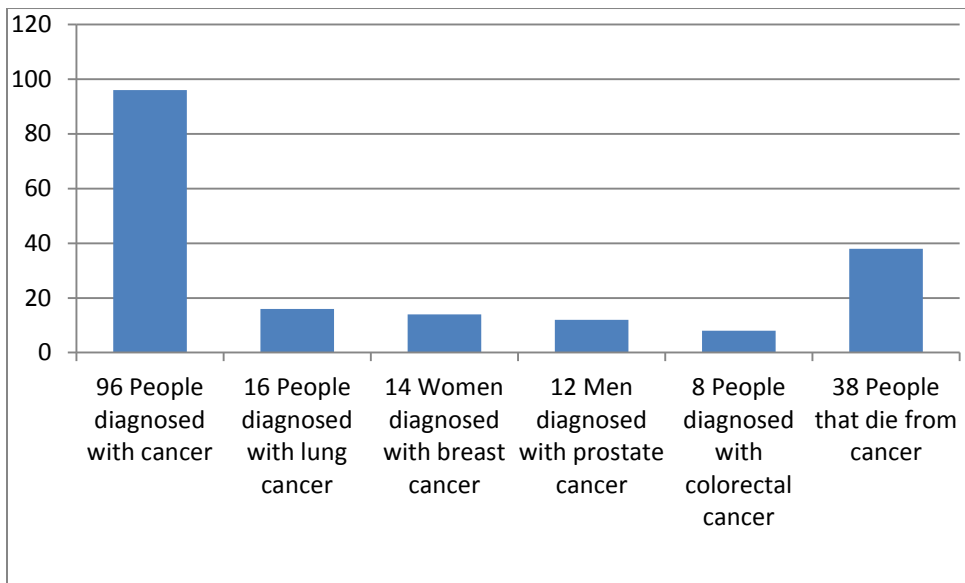
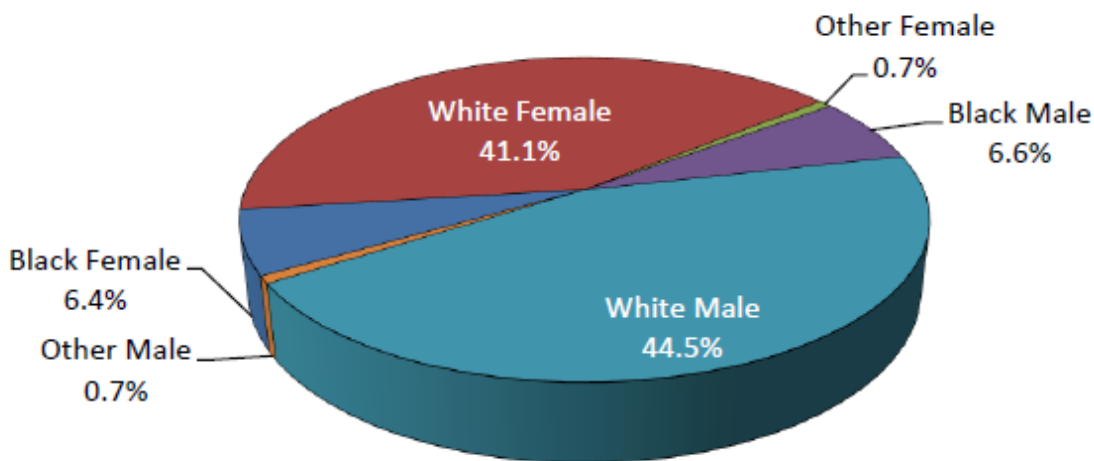


Figure 2. Cancer Incidence, By Race and Sex, Tennessee, 2011-2015



Cancer Incidence and Mortality, all sites combined, 2011-2015 data

	Incidence				Mortality				M:I Ratio
	Count*	Rate**	Lower CI	Upper CI	Count*	Rate**	Lower CI	Upper CI	
Tennessee	175,564	463.7	461.4	465.9	69,358	184.6	183.2	186	0.40
Maury County	2,313	466.1	446.8	486	887	180.7	168.8	193.3	0.39

Source: Cancer in Tennessee. 2011-2015, Tennessee Department of Health.

*Total counts exclude hermaphrodites and transsexuals. **Rates (cases per 100,000 population per year) are age-adjusted to the 2000 US standard population (19 age groups: <1, 1-4, 5-9, ..., 80-84, 85+). Rates are for invasive cancer only (except for bladder cancer which is invasive and in situ) or unless otherwise specified. †Mortality incidence ratio.

Tennessee Cancer Registry data; 5-year survival statistics (2009-2015)

Cancer Primary Site	Interval (months)	N	Observed	Expected	Relative
All Sites Combined	12	2,610	75.60%	98.00%	77.20%
	24	2,610	67.00%	96.10%	69.70%
	36	2,610	62.00%	94.20%	65.90%
	48	2,610	57.50%	92.30%	62.30%
	60	2,610	54.40%	90.30%	60.30%
Lung and Bronchus	12	405	41.50%	97.80%	42.50%
	24	405	24.90%	95.60%	26.00%
	36	405	18.70%	93.60%	20.0%#
	48	405	13.50%	91.70%	14.70%
	60	405	10.00%	89.40%	11.1%#
Colon and Rectum	12	227	80.30%	97.80%	82.10%
	24	227	74.10%	95.40%	77.60%
	36	227	66.00%	92.80%	71.0%#
	48	227	58.40%	90.20%	64.70%
	60	227	52.40%	87.50%	59.90%
Melanoma of the Skin	12	93	96.80%	97.50%	97.0%#
	24	93	88.70%	95.00%	93.40%
	36	93	80.40%	92.80%	86.70%
	48	93	74.00%	91.10%	81.0%#
	60	93	74.00%	89.90%	81.0%#
Prostate	12	362	94.20%	97.80%	96.30%
	24	362	93.20%	95.60%	96.2%#
	36	362	89.60%	93.20%	96.10%
	48	362	86.20%	90.70%	94.4%#
	60	362	80.70%	88.10%	91.70%
Female Breast	12	347	96.60%	98.50%	98.20%
	24	347	94.20%	97.00%	96.5%#
	36	347	89.70%	95.40%	94.10%
	48	347	84.00%	93.80%	89.3%#
	60	347	79.70%	92.30%	86.3%#

Refer Appendix C for Cancer Data information.

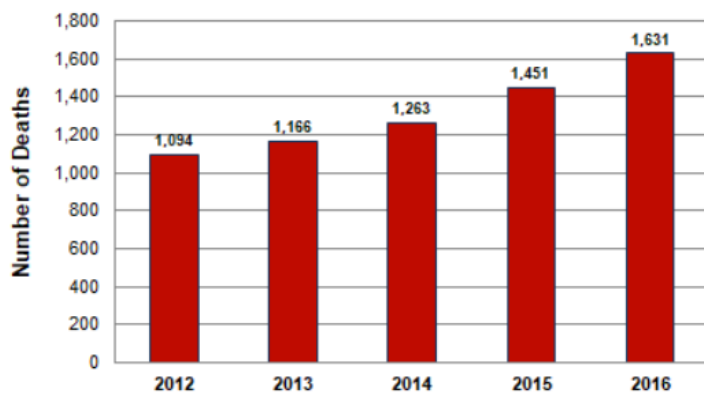
Prescription Drug Abuse

Despite:

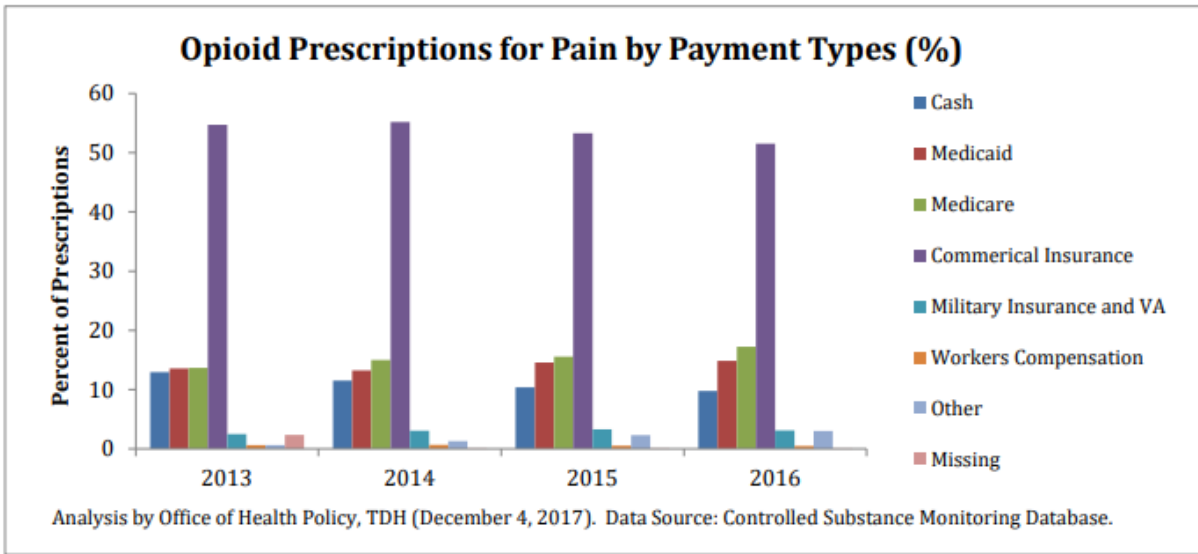
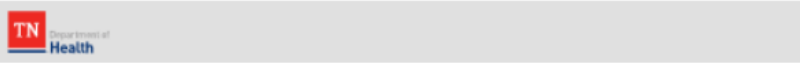
- good medical practice (reductions in the amount of opioids prescribed and dispensed)
- fewer doctor shoppers, and
- increased utilization of the CSMD

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

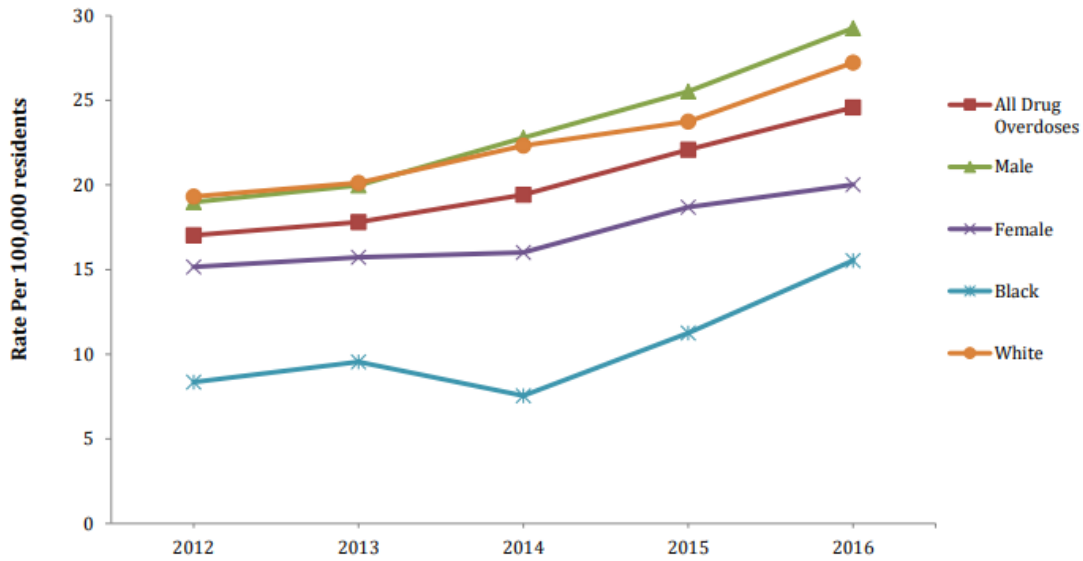
Drug Overdose Deaths in Tennessee, 2012-16



Source: Tennessee Department of Health, Office of Informatics and Analytics



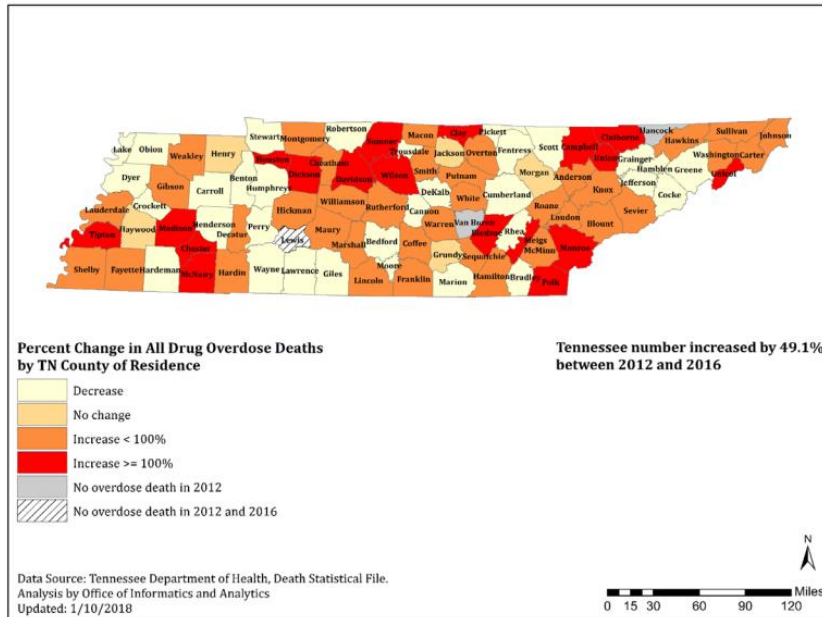
Age-Adjusted Rates for All Drug Overdose Deaths and by Sex and Race in TN by Year



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, 2012-2016¹³



¹³ 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 14 key informants within Maury Regional's service area.

i. The identified top 3 issues are as follows:

1. Exercise and Nutrition & Mental Health (6)
2. Opioid crisis (5)
3. Hypertension & Diabetes (4)

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:

Access to health care (3)	Diabetes (3)	Food & Nutrition (2)	Mental Health Services (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:

Homelessness (2)	Mental health (2)	Opioid crisis (2)	Smoking/Vaping (2)	Cancer (2)
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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.

iv. The key informants stated these five as the most common problems in Maury County:

Mental health (5)	Opioid crisis (5)	Diabetes (5)	Obesity (3)	Hypertension (3)
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Two of these problems resonate with the big four of Tennessee: Smoking, Obesity, Substance Abuse and Physical Inactivity; as stated by the Tennessee vital signs.

- 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:

Forced ranking: (1- highest priority; 5-lowest priority)

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

Number 1 priority: (based on forced ranking)

Uninsured rate	Educational attainment
Access to health services	Prevention and safety

Please refer to Appendix B for the scoring criteria of the forced ranking.

Common pressing themes across regions: (CHNA 2019)

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 (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 C: Cancer data

Appendix A: Secondary Data

A total of 9 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 Maury 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.

CANCER IN TENNESSEE

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:

Denomination	Rank
0	5
10	4
15	3
25	2
50	1

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.

Categories	Forced ranking	Score
Per capita income	4	53
Uninsured rate	1	29
Transportation	2	38
Economy	3	46
Educational attainment	1	29
Diabetes	4	49
Substance abuse	3	33
Teen births	5	63
Mental health and mental disorders	2	31
Access to health services	1	29
Prevention and safety	1	29
Cancer	3	43
Maternal, fetal and infant health	4	46
Heart disease and stroke	3	43
Exercise, nutrition and weight	2	37

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 fourteen 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
Diabetes	4
Hypertension	4
Mental Health	6
Homelessness	1
Physical Health	1
Undervaluing the importance of physicians	1
Affordable housing	1
Exercise, Food & Nutrition	6
Needs of children	1
Transportation	1
Access to care	3
Illegal immigration	1
Lack of finances	1
Lack of trust	1
Opioid crisis	5
Unhealthy lifestyles	1
Smoking/Vaping	1
Obesity	2
COPD	1
Education	2
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.

Mental Health (6)	Exercise, Health & Nutrition (6)	Opioid Crisis (5)
Hypertension (4)	Diabetes (4)	Access to Health Services (3)
Obesity (2)	Education (2)	

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
Cost of living	1
Healthcare affordability	1
Nutrition	2
Access to healthcare	3
Dental needs	1
Lack of funding	1
Opioid crisis	1
Childhood & Adult trauma	1
Diabetes	3
Tobacco use	1
Family structure	1
Education	1
Mental health services	2

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

Access to health care (3)	Diabetes (3)	Food & Nutrition (2)	Mental Health Services (2)
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iii. The biggest concern

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

Biggest Concern	Frequency
Undiagnosed/unaddressed needs	1
Housing	1
Elderly population	1
Outreach	1
Exercise, food & nutrition	1
Opioid crisis	2
Mental health	2
Affordability	1
Uninsured population	1
Smoking/vaping	2
Homelessness	2
Cancer	2
Developmental disability	1
Autism	1

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

Homelessness (2)	Mental health (2)	Opioid crisis (2)	Smoking/Vaping (2)	Cancer (2)
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iv. The common problems of the county:

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

County common problems	Frequency
Diabetes	5
Hypertension	3
Mental health	5
Education	2
Prevention & safety	1
Affordable housing	1
Access to care	2
Transportation	1
Lack of trust	1
Opioid crisis	5
Uninsured population	1
Unhealthy lifestyle	1
Smoking/vaping	2
Obesity	3
Exercise, food & nutrition	2
Cancer	2
Homelessness	1
Physical activity	1

The top 5 problems were considered as the common problems of the county. These are as follows:

Mental health (5)	Opioid crisis (5)	Diabetes (5)	Obesity (3)	Hypertension (3)
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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

Organization represented	Name
Maury county health department	Andrew Kenney (Director)
Columbia State Community College	Kae Fleming
The Family Center	Dawn Taylor
Aging & Disability	Joe Evans
Maury County Commissioner	Eric Previti
Mayor of the City	Chaz Molder
Department of Public Health	Lindsey Wayland
UT Extension Maury County	Starla Hardin
MRMC- Mobile Unit	Patrick Harlan
MRMC- Mobile Unit	Lori Bergland
Cox Middle School	Laurie Stanton
Maury county Chamber of Commerce	Kara Williams
The King's Daughters' School	David Craig
Maury County Mayor	Andy Ogles

Appendix C: Cancer data

The Tennessee department of Health Cancer Data Registry was used to pull the cancer statistics, images and 5-year survival rates (2009-2015). The Tennessee Behavioral Risk Factor Surveillance Survey 2015 data was also used.

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

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