PERSPECTIVE

"TO EFFECTIVELY RESPOND TO THE HEALTH NEEDS OF OUR COMMUNITY, WE MUST HAVE A DEEP UNDERSTANDING OF THE CHALLENGES WE FACE." – MARTHA BUCHANAN, MD, KNOX COUNTY HEALTH DEPARTMENT DIRECTOR

Much of what is responsible for an individual's health and that of the broader community takes place outside of healthcare settings. Therefore, for a hospital to conduct a community health needs assessment requires a lot of listening and convening leaders and organizations that work daily with the challenges facing our county. This most recent assessment is possible because of the willingness of dozens of stakeholders working with Methodist Medical Center and Ridgeview Behavioral Health Services to identify the most significant issues facing the health and well-being of Anderson County.

All tax exempt, not-for-profit hospitals are required to conduct a community health needs assessment on a three-year cycle and make the results publically available. Although Methodist Medical Center serves patients from multiple counties, more than 50% of its inpatient and outpatient business comes from Anderson County. Thus, the assessment and its findings are limited to Anderson County.

The Goals of the 2016 Assessment

1. Update the data for each of the 2013 assessment health priorities and determine if they need to remain priorities for the 2016 assessment.
2. Determine if the 2013 health priorities will remain, be replaced or modified for 2017-2019.
3. Build upon the first assessment by developing an Implementation Plan for 2017- 2019 of actionable tactics that address the most significant issues identified.

Participants

Traditionally, public health was the role of the local health department. Faced with growing complex social issues and with health being a multifaceted challenge, the players in public health have expanded. No single organization has the resources or expertise to meaningfully create sustained health improvement. The emergence of the new public health system is made up of traditional and non-traditional members who, by collaborating, have a greater capacity to see improved health outcomes.

The input from the following members of the Anderson County Public Health System have guided the discussion and decision making processes which have led to the identification of the four most significant health priorities for Anderson County. Participating organizations provided representation at planning meetings:

- Child Advocacy Center of Anderson County
- Anderson County Health Department
- Anderson County Sheriff Department
- Boys and Girls Club of Oak Ridge
- Contact Help Line
- Keystone Adult Day Program
- Anderson County Housing Program
- Upper Cumberland Human Resource Agency
- Methodist Medical Center
- ADFAC
- United Way of Anderson County
- Oak Ridge Tourism
- Anderson County Schools
- Anderson County Emergency Medical Services
- CASA
- Free Medical Clinic of Oak Ridge
- The ARC of Anderson County
- Anderson County Head Start
- Chamber of Commerce
- City of Crossville
- Ridgeview Behavioral Health Services
- Oak Ridge Police Department
- TORCH

The Anderson County Public Health System

Civic Groups
Community Centers
Corrections
Cumberland County Health Department
Doctors
Drug Treatment
Economic Development
Employers
EMS
Environmental Health
Faith Communities
Fire Departments
Home Health
Hospitals
Laboratory Facilities
Libraries
Local Government
Mental Health
Nursing Homes
Parks
Philanthropies
Police
Schools

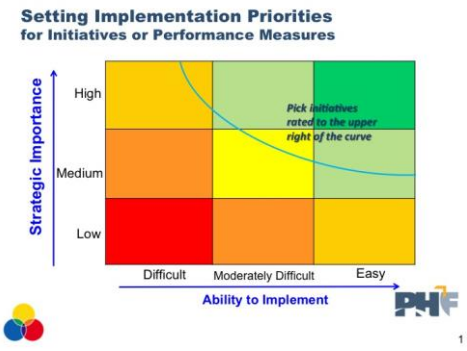
Building Upon the First Assessment

The federal government modified its assessment guidelines in 2015 after taking into consideration the concerns of hospitals and health systems. Significant issues identified by the assessments are complex and at the core of many of the health issues facing communities. Many hospitals preferred not to completely re-do the first global assessment, because not enough time had passed to see measurable progress on initial priorities. The federal government gave hospitals the option of completely doing a new assessment or building upon the findings from the first assessment. Methodist Medical Center and Ridgeview Behavioral Health Services chose the later.

Our Process

Working with the University of Tennessee-Knoxville School of Public Health, a process was devised to "build upon" the first assessment. In the spring of 2016, the data for each of the five priority areas were compiled for the most recent year available, county demographics were updated, and a community health forum was held with 34 community leaders participating. An assessment tool, "Forces of Change," was used from the Center for Disease Control's national Mobilizing for Action through Planning and Partnerships (MAPP) framework. This assessment tool provided an analysis of trends, events and factors that influence the ability of a community to improve its health status.

In the spring of 2016 an assessment data team was formed with participants representing the hospital, health department, social service agencies and funders. Each member was given a data notebook containing a summary report from the Forces of Change workshop, updated demographics and updated data for each of the previously determined 11 priority areas. Over a two-week period the team met to discuss the data and, using a modified Hanlon process, answered and scored the priority areas based upon 1) How significant is this issue? 2) How serious is this issue? 3) How effective are the interventions? and 4) How feasible are the interventions?



In validating the data and prioritizing the issues, three tools were used which ultimately resulted in the five most significant issues:

1. Methodology adapted from the Hanlon Method
2. Public Health Foundation – Setting Implementation Priorities (looking at an issue's strategic importance relative to its ability to implement)
3. Nominal voting process giving each team member 10 dots to vote for the remaining priorities

Priorities for 2017 – 2019

After extensive discussion, the data team selected the following five health opportunities to focus on during the 2017-2019 assessment cycle:

1. Obesity
2. Asthma and Other Pulmonary Diseases
3. Diabetes
4. Substance Abuse
5. Mental Health

After thoughtful discussion the Data Team decided to modify one of the original health priorities. Asthma was determined to be too narrow a focus, so the team decided to change the priority to Asthma and Other Pulmonary Diseases.

A Review of Data

Anderson County Demographics

2013- 2016 Comparison*

Demographics	2013	2016	Tennessee 2016
Population	**75,233**	**75,528**	**6,549,352**
% Below 18 years of age	**21.4%**	**21.0%**	**22.8%**
% 65 and older	**17.6%**	**18.9%**	**15.1%**
% Non-Hispanic African American	**4.0%**	**4.1%**	**16.8%**
% Asian	**1.1%**	**1.4%**	**1.7%**
% Hispanic	**2.3%**	**2.5%**	**5.0%**
% Non-Hispanic White	**90.6%**	**89.9%**	**74.6%**
% Female	**51.6%**	**51.5%**	**51.3%**
% Rural	**34.7%**	**34.7%**	**33.6%**

*Source – County Health Rankings

Forces of Change Summary Findings

Forum participants, through structured and timed discussions, gave voice to their perceptions of the forces impacting the health of Anderson County. The group identified the top "most critical forces" and then determined the threats and opportunities created by those forces.

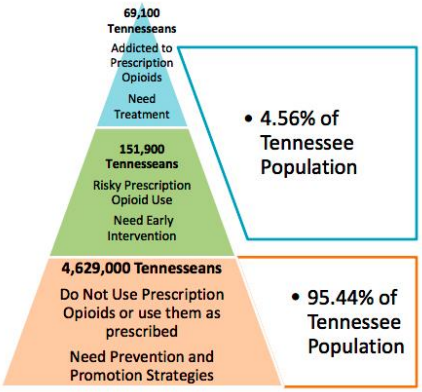
The most critical forces in Anderson County:

- Substance Abuse
- Physical Abuse
- Family Support (lack of)/ Shifting family structure
- Healthcare accessibility and affordability
- Cultural shifts/ Influences

REVIEW OF DATA (CONTINUED)

Drug Abuse in the United States, Tennessee and Anderson County

Substance abuse is a pervasive, multi-dimensional epidemic that is impacting Tennessee families and communities and requires a coordinated, collaborative response. The abuse of prescription drugs, specifically opioids, is an epidemic in Tennessee, with disastrous and severe consequences to Tennesseans of every age, including overdose deaths, emergency department visits, hospital costs, newborns with Neonatal Abstinence Syndrome, children in state custody, and people incarcerated for drug-related crimes.



1. How Significant is This Issue?

- Americans account for 99% of the world's hydrocodone (Vicodin) consumption, 80% of the world's oxycodone (Percocet and Oxycontin) and 65% of the world's hydromorphone (Dilaudid) consumption.
- An estimated 52 million Americans use prescription drugs for nonmedical reasons at least one in their lifetimes – with some using prescription drugs for recreational purposes.
- Doctors wrote 55 million opioid prescriptions for people 65 and older in 2013, a 20 percent increase from the last five years. The same year, doctors wrote more than 38.4 million prescriptions for depressants to people over the age of 65, a 12% increase over the last five years, according to USA Today.
- For many years, alcohol was the primary substance of abuse. However, in 2012, prescription opioids surpassed alcohol as the primary substance of abuse for people who were funded through the Tennessee Department of Mental Health and Substance Abuse Services.
- Tennesseans were more than three times more likely to identify prescription opioids as their primary substance of abuse than the national average.
- Tennessee ranks second in the nation for prescription drug abuse.
- In 2013, according to the Tennessee Bureau of Investigation, Tennessee led the nation in meth use. In the first 9 months of 2014 law enforcement agencies seized 813 meth labs in Tennessee, the second highest in the nation.
- In Tennessee people addicted to opioids are more likely to be married, employed, and have greater than 12 years of education.

- Tennessee's level of uninsured population, coupled with a high rate of prescribed painkillers, are contributing factors behind the state's rise in heroin addiction and overdoses, according to a new Centers for Disease Control and Prevention report.

- In the first eight weeks of 2015 there were 118 cases of Neonatal Abstinence Syndrome (NAS) or drug–dependent newborns in Tennessee. In 68% of the cases, at least one of the drugs causing NAS was prescribed by a healthcare provider.

2. How Serious is This Issue?

- Over the last 10 years, the number of newborn babies suffering from drug dependencies at birth (NAS) has soared by 1,000 percent.

- In 2014, 1,018 babies were born dependent on drugs in Tennessee. The average TennCare cost to deliver a baby dependent on drugs is $67,000, compared with $4,200 for a baby not born drug-dependent.

- Tennessee ranks 7th in the nation for prescription drug overdoses and 8th in the nation for drug overdose deaths.

- One-third of arrests made in Tennessee in 2012 were drug related.

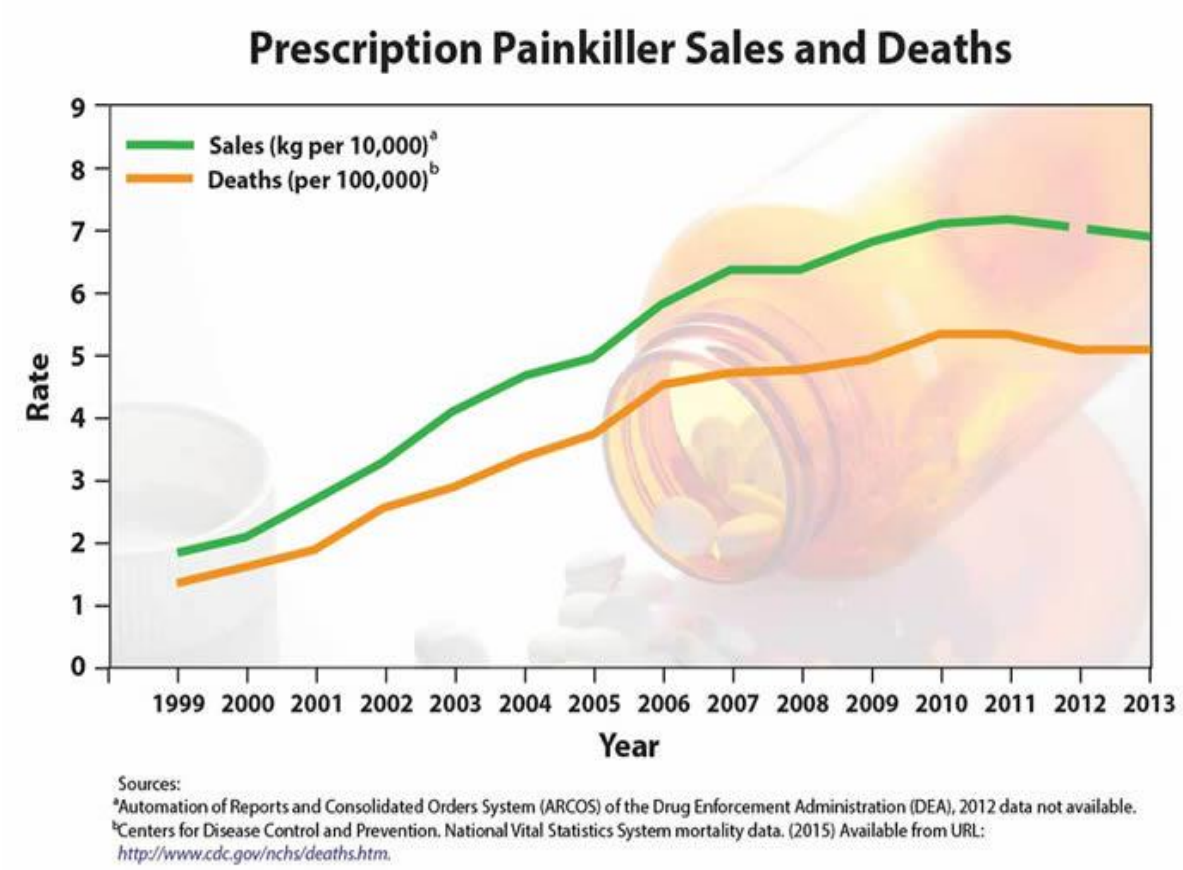
- More than 50% of the children removed from their parents by the Department of Children's Services were taken from parents experiencing drug problems.

- If the state were to provide treatment and rehabilitation for every prescription drug addict unable to pay for services, it would cost Tennessee taxpayers approximately $28 million.

- Meth is costing Tennessee taxpayers more than $1 billion a year. In 2013, meth cost the state $1.6 billion in investigations, chemical clean-ups, incarcerating suspects, caring for children of meth adults and medical care for patients burned in meth labs.

- The Healthcare Cost and Utilization Project shows that the total Tennessee hospital charges for prescription opioid poisonings have risen exponentially over the past 10 years. In 2001, the cost was $4,118,187 and increased by 600% to $29,308,823 in 2011.

- In 2012 and 2013, more people died from drug overdoses in Tennessee than in either motor vehicle accidents or homicides or suicides.



3. How Effective are the Interventions?

- The Tennessee Prescription Safety Act of 2012 has several key provisions to assist in the effort to control the opioid epidemic, such as requiring all prescribers and dispensers of controlled substances to register in the Controlled Substance Monitoring Database. All prescribers must check this database prior to prescribing opioids or benzodiazepines for a patient. As of January 2013, dispensers are required to report to the database every seven days all controlled prescriptions dispensed, as well as the source of payment.

    a. Since 2013, the database has accumulated 33,000 individuals' opioid and benzodiazepines prescriptions and has been accessed by prescribers and dispensers nearly three million times.

    b. As utilization of the Controlled Substance Monitoring Database has increased, the number of people "doctor shopping" has decreased

- Restricting access to cold and sinus medications that contain pseudoephedrine, the choice ingredient for meth makers, has resulted in a dramatic decrease in meth labs, in some cases up to a 90% reduction.

- National Prescription Drug Take-Back Day is a program of the Drug Enforcement Agency which aims to provide a safe, convenient and responsible means of disposing or prescription drugs while also educating the public about the potential for abuse of medications. In 2012 Tennessee collected over 10,000 pounds of pills in its Take Back Days.

- Drug Courts in the past two decades have rapidly expanded, and have demonstrated a 50-75% effectiveness in reducing drug use and crime.

- The Safe Harbor Act of 2013 establishes pregnant women as priority users of available treatment from publicly funded drug addiction treatment providers. There is no data available yet on the effectiveness of this Act.

- Methadone treatment has been shown to increase participation in behavioral therapy and decrease both drug use and criminal behavior. However, individual treatment outcomes depend on the extent and nature of the patient's problems, the appropriateness of treatment and related services used to address those problems, and the quality of interaction between the patient and his or her treatment providers.

- Successful treatment for addiction typically requires continual evaluation and modification as appropriate, similar to the approach taken for other chronic diseases. For example, when a patient is receiving active treatment for hypertension and symptoms decrease, treatment is deemed successful, even though symptoms may recur when treatment is discontinued. For the addicted individual, lapses to drug abuse do not indicate failure—rather, they signify that treatment needs to be reinstated or adjusted, or that alternate treatment is needed.

- Research shows that every dollar spent on substance abuse treatment saves $4 in healthcare costs and $7 in law enforcement and other criminal justice costs. On average, substance abuse treatment costs $1,583 per person and is associated with a cost offset of $11,487, representing a greater than 7:1 ratio of benefits to costs.

4. How Feasible are the Interventions?

- Of the 69,100 adults who require treatment services, it is estimated 10,300 or (14.6%) live at or below the poverty level and would be in need of and desire state-funded treatment services.

- Average cost of care in 2012 for an individual receiving treatment services from the Tennessee Department of Mental Health and Substance Abuse Services is $2,848. Thus, it is estimated that the cost of providing treatment services to the individuals who need it would total $29,334,400.

    a. TDMHSAS expenditures for treating people with prescription opioid abuse in FY13: $16,280,429

    b. Unmet need amount for individuals with prescription opioid abuse below poverty level: $29,334,400

    c. Total cost for DMHSAS to meet the needs of people with opioid addiction in Tennessee: $45,614,829

- The Health Department provides Neonatal Abstinence Syndrome Education programs throughout the year to the public and to inmates.

- Drug Free Communities (DFC) organizations mobilize communities to prevent youth drug use by creating local data-driven strategies to reduce drug use in the community. Office of National Drug Control Policy works to foster the growth of new coalitions and support

existing coalitions through the DFC grants. In FY 2012, Anderson County's Allies for Substance Abuse Prevention received a grant from ONDCP.

- In 2014, only 4% of Tennessee adults in need of addiction treatment (including addiction to alcohol and/or illicit drugs) actually received services.
- Anderson County has a Drug Court to divert eligible offenders into rehabilitation instead of incarceration.
- Anderson County has an anti-drug coalition, Allies for Substance Abuse Prevention
- Treatment centers and programs for substance abuse include Ridgeview's STOP program (Substance abuse Treatment Outpatient Program) and Hope of East Tennessee (located in Oak Ridge). In neighboring Knox County there is Cornerstone of Recovery, Peninsula Substance Abuse Services, and Cherokee Health System.

DATA SOURCES

https://www.drugwatch.com/2015/07/29/drug-abuse-in-america/

https://www.drugabuse.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition/principles-effective-treatment

Prescription for Success – Statewide Strategies to Prevent and Treat the Prescription Drug Abuse Epidemic in Tennessee. A report produced by the Tennessee Department of Mental Health and Substance Abuse Services, Summer 2014.

http://wkrn.com/2013/04/25/tennessee-ranks-2nd-in-nation-for-prescription-drug-abuse/

https://www.tn.gov/news/36210

http://www.tennessean.com/story/opinion/contributors/2015/10/12/tennessees-meth-problem-war-wages/73824910/

http://www.tn.gov/mental/policy/tdmhsas.data_rpt.shtml

https://www.cdc.gov/drugoverdose/epidemic/

http://www.nadcp.org/learn/facts-and-figures

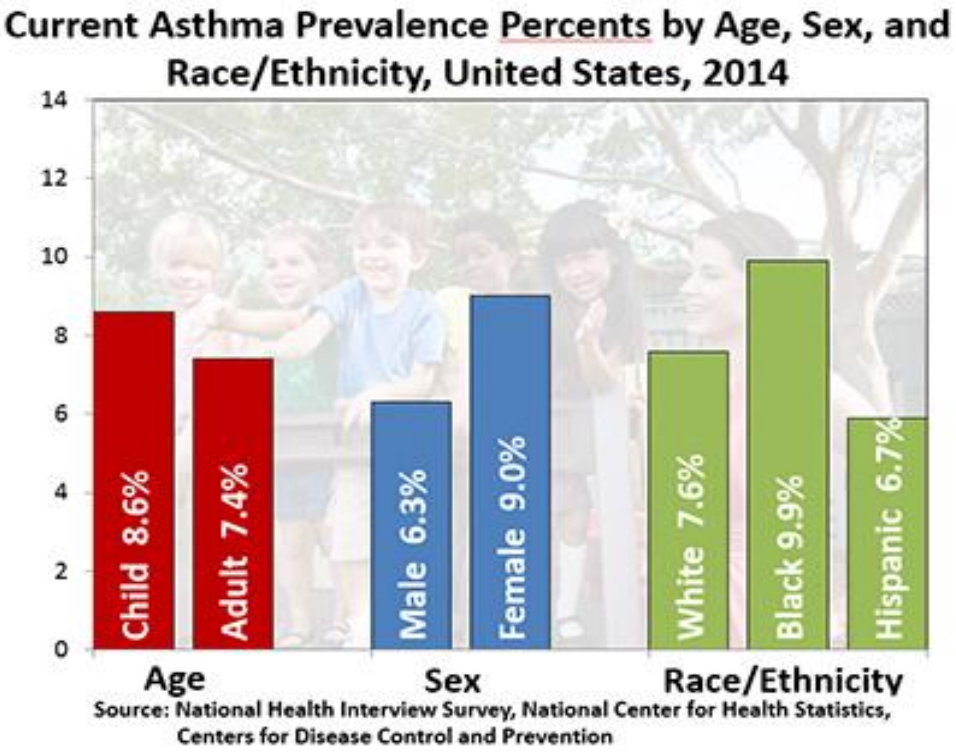
https://www.recoveryranch.com/articles/drug-addiction/health-officials-scramble-to-respond-as-prescription-drug-abuse-epidemic-sweeps-through-tennessee/

A Review of Data (continued)

Asthma in the United States, Tennessee and Anderson County

Asthma is a chronic lung condition that causes inflammation of the airways (breathing tubes). Inflammation means the airways are swollen and produce mucus. During an asthma flare-up, inflammation increases and the muscles around the airways tighten, making them narrower. The swelling, mucus and tightness of the airways makes it difficult to breathe and causes symptoms such as coughing, wheezing, and shortness of breath. Attacks can be mild, moderate, or even life-threatening.
http://health.state.tn.us/mch/asthma.shtml

Risk factors for developing asthma include allergies, family history of allergies and/or asthma, frequent respiratory infections, second-hand smoke before and after birth, low birth weight, and growing up in a low-income and/or urban environment.



1. How Significant is This Issue?

- Asthma is more common in males than females and is two times more common in children than adults.
- In 2012, approximately 45% of children in the state were recipients of TennCare. Between 2010-2012, 13.7% of children in Tennessee with TennCare had a diagnosis of asthma. Anderson County compares with the state at 12.6 % of children with TennCare having a diagnosis of asthma.

- The ethnic distribution for cases of asthma among TennCare recipients in 2012 were as follows: 56.7% white, 30.0 % black, 8.4% Hispanic, and 4.9% other.

- Instances of asthma are higher in homes where individuals smoke. The percentage of children who lived in homes where someone used tobacco in Tennessee was 8.6 % higher than the national average of 24.1%.

- In 2012, 16.3% of Tennessee mothers smoked during pregnancy. Among children with TennCare, 47.3% were reported to live with a smoker versus 21% of children with private insurance.

- In 2015 the Asthma and Allergy Foundation of America identified the most challenging places to live with asthma. Memphis Tennessee ranked (1) worst and Knoxville ranked number 7 out of 100 metro areas in the United States.

2. How Serious is This Issue?

- In the last decade, the instance of asthma has increased by **15%.**

- Tennessee is ranked **3rd** in the nation for instances of asthma.

- Americans spend approximately $5 billion annually on prescription medications related to asthma.

- The instance of asthma among Tennessee children ages 0-17 years increased 21% between 2007 and 2012. Currently, the percentage of Tennessee children with asthma is 15.8%.

- Asthma is estimated to be responsible for 479,300 hospitalizations, 1.9 million emergency department visits, and 9 million doctor's office visits yearly. Asthma is also estimated to be responsible for 10 million missed days of school and 14 million missed days of work.

- Individuals suffering from asthma have anxiety and emotional disturbance related to the quality of life experienced when asthma symptoms are poorly managed.

- Anderson County is in the top third in the state for the hospitalization rate for asthma in (116 per 100,000). Emergency Department visits are ranked 819 per 100,000. The high rate of emergency department visits indicates individuals have poorly controlled conditions.

- The 2014 state health care assessment related to asthma estimates health care costs related to asthma in Anderson County as follows: Inpatient Charges $10,159 per visit; Outpatient Charges $1,036 per visit. Per visit charges for both inpatient and outpatient hospitalization increased over 100% between 2009 and 2012.

- Emergency Department visits per 100,000 were 573 female patients, 1,054 male patients, 2,293 black patients and 735 white patients.

3. How Effective are Interventions?

- The instance of asthma has increased to 11.5% as of the 2014 state report on asthma.
- Prevention of the disease through an elimination of secondhand smoking and pollution is progressing.

4. How Feasible are Interventions?

- Tennessee Department of Education updates its yearly Asthma Action Plan for students in public schools.
- State and local governments have strictly enforced the Tennessee Non-Smokers Protection Act which protects the rights of non-smokers in public establishments.
- Local health departments, hospitals, and insurance companies have smoking cessation classes available to the public.
- Anderson County Health Department received additional funding ($64,600) in 2014 from the Tennessee Tobacco Settlement Program to combat increases in tobacco use.
- Websites for The Centers for Disease Control (CDC) as well as Tennessee Department of Health offer a wealth of educational information (video and written) for the public and professionals related to asthma as well as the health risk of tobacco use.

DATA SOURCES

http://www.cdc.gov

http://health.state.tn.us

https://health.state.tn.us/statistics/PdfFiles/Childhood%20Asthma%20in%20Tennessee%202003-2012.pdf

http://health.state.tn.us/mch/asthma.shtml#3

http://www.healthdata.org/sites/default/files/files/county_profiles/US/County_Report_Anderson_County_Tennessee.pdf

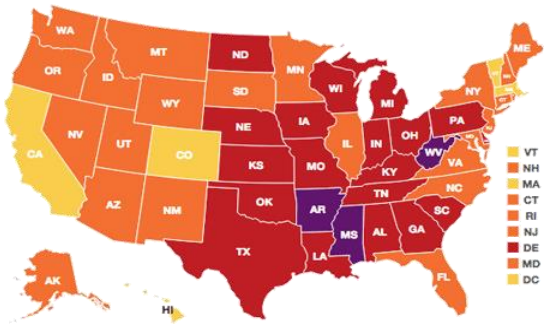
http://oakridgetoday.com/tag/tennessee-department-of-health/

A Review of Data (continued)

Obesity in the United States, Tennessee and Anderson County

More people are overweight today than ever before. In fact, almost 70 percent of Americans age 20 and older are overweight. Of those, about one third are considered obese. "Overweight" and "obese" are both terms for having more body fat than what is considered healthy. Both are used to identify people who are at risk for health problems from having too much body fat. However, the term "obese" generally means a much higher amount of body fat than "overweight." The difference between overweight and obesity is based upon one's Body Mass Index (BMI). BMI is calculated from height and weight measurements. A BMI between 25 and 29.9 is considered overweight while a BMI of 30 or more is considered obese.

According to the most recent data, rates of obesity now exceed 35 percent in three states (Arkansas, West Virginia and Mississippi), 22 states have rates above 30 percent, 45 states are above 25 percent, and every state is above 20 percent. Arkansas has the highest adult obesity rate at 35.9 percent, while Colorado has the lowest at 21.3 percent. The data show that 23 of 25 states with the highest rates of obesity are in the South and Midwest.

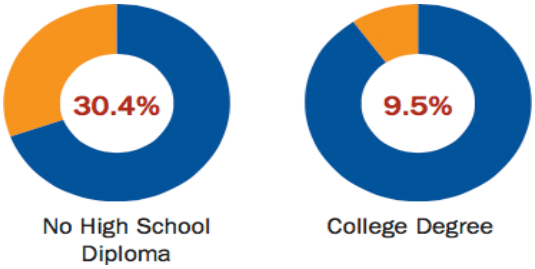


1. How Significant is This Issue?

- According to *The State of Obesity: Better Policies for a Healthier America 2015,* Tennessee has the **14th highest** adult obesity rate in the nation. Tennessee's adult obesity rate is currently at **31.2%,** up from **20.9%** in 2000 and from **11%** in 1990.

Adults	**31.2%**
High Schoolers	16.9%
0-17 yr olds	20.5%
Low Income 2-4s	14.2%

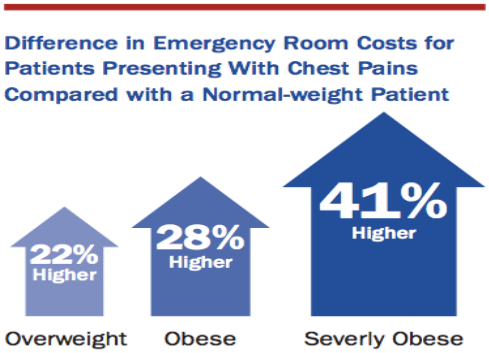
- Anderson County in 2016 has a 33% adult obesity rate. The obesity rate at the time of the 2013 community health assessment was 31%.
- Individuals with lower income and/or education levels are disproportionately more likely to be obese. More than 33 percent of adults who earn less than $15,000 per year are obese, compared with 24.6 percent of those who earned at least $50,000 per year.



- Approximately 214,000 of 607,000 Tennessee children ages 10-17 years (35.3%) are considered overweight or obese according to BMI recommendations for specific ages.
- More than one in three (34.8%) white non-Hispanic children in Tennessee are overweight or obese, ranking the state 49th for this race subgroup, ahead of only West Virginia and Kentucky.

2. How Serious is This Issue?

- Obesity is one of the biggest drivers of preventable chronic diseases and healthcare cost in the United States. Currently, estimates for these costs range from $147 billion to nearly $210 billion per year. Additionally, obesity is associated with job absenteeism, lower productivity while at work, and costing approximately $4.3 billion annually ($506 per obese worker per year. As a person's BMI increases, so do the number of sick days, medical claims and healthcare cost. For instance:
- Obese adults spend 42% more on direct healthcare cost than adults who are a healthy weight.
- Per capita healthcare cost for severely or morbidly obese adults (BMI>40) are 81% higher than for healthy weight adults.
- Weight-loss programs were a $2.5 billion-per-year business in 2014, and the industry is expected to grow.
- Moderately obese (BMI between 30 and 35) individuals are more than twice as likely as health weight individuals to be prescribed prescription pharmaceuticals to manage medical conditions.
- Individuals who are obese are more likely to have comorbid/chronic disease such as heart disease, hypertension, cancer and diabetes, which lead to decreased quality of life and early mortality.
- Cost for patients presenting at the emergency rooms with chest pain are 41% higher for severely obese patients, 28% higher for obese patients and 22% higher for overweight patients than for healthy weight patients.



3. How Effective are Interventions?

- Of thousands of weight-loss studies reviewed, Johns Hopkins researchers found only a few dozen are scientifically rigorous and reliable enough to be used in decision-making.
- In the few commercial programs tested in gold-standard trials lasting 12 months or longer, participants achieved modest, sustained weight loss.
- Based on their analysis of the studies, the researchers found Jenny Craig and Weight Watchers were backed by clinical trials that lasted 12 months or longer and showed program participants had a greater weight loss than nonparticipants.
- Nutri-System also produced more weight loss at three months than counseling or education alone, but the authors were unable to find any long-term trials of that program.
- Participants in the very-low-calorie meal replacement programs lost more weight than nonparticipants in trials lasting from four to six months. But the authors found only one long-term study, which showed no benefit from such a program at 12 months. The authors noted that very-low-calorie programs also carry higher risks of complications, such as gallstones.

4. How Feasible are Interventions?

- Of all the chronic conditions affecting a community, obesity is hard to miss. Those dealing with a weight problem are very aware of their limitations and most would like to reduce their weight to a healthy level.
- Although there are no bariatric providers offering weight loss services in Anderson County, the service is provided in the Covenant Health system, about an hour away.
- Federal matching funds provided by the Affordable Care Act make obesity screening and counseling available to people covered by federal health insurance exchanges and some Medicaid recipients.
- The Health Department offers a Healthy Eating/Be Active course that features six bi-weekly classes taught year round promoting physical activity, healthy cooking and food choices, and other healthy lifestyle behaviors.
- There are two Weight Watcher locations in Anderson County and a dozen other weight loss clinics using a variety of weight loss methods and products.

DATA SOURCES

The State of Obesity: Better Policies for a Healthier America, a report from the Trust for America's Health (TFAH) and the Robert Wood Johnson Foundation (RWJF). http://tfah.org/reports/stateofobesity2015/release.php?stateid=TN

The Healthcare Costs of Obesity, A project of the Trust for America's Health and the Robert Wood Johnson Foundation. http://stateofobesity.org/healthcare-costs-obesity/

Tennessee State Obesity Data, Rates and Trends, http://stateofobesity.org/states/tn/

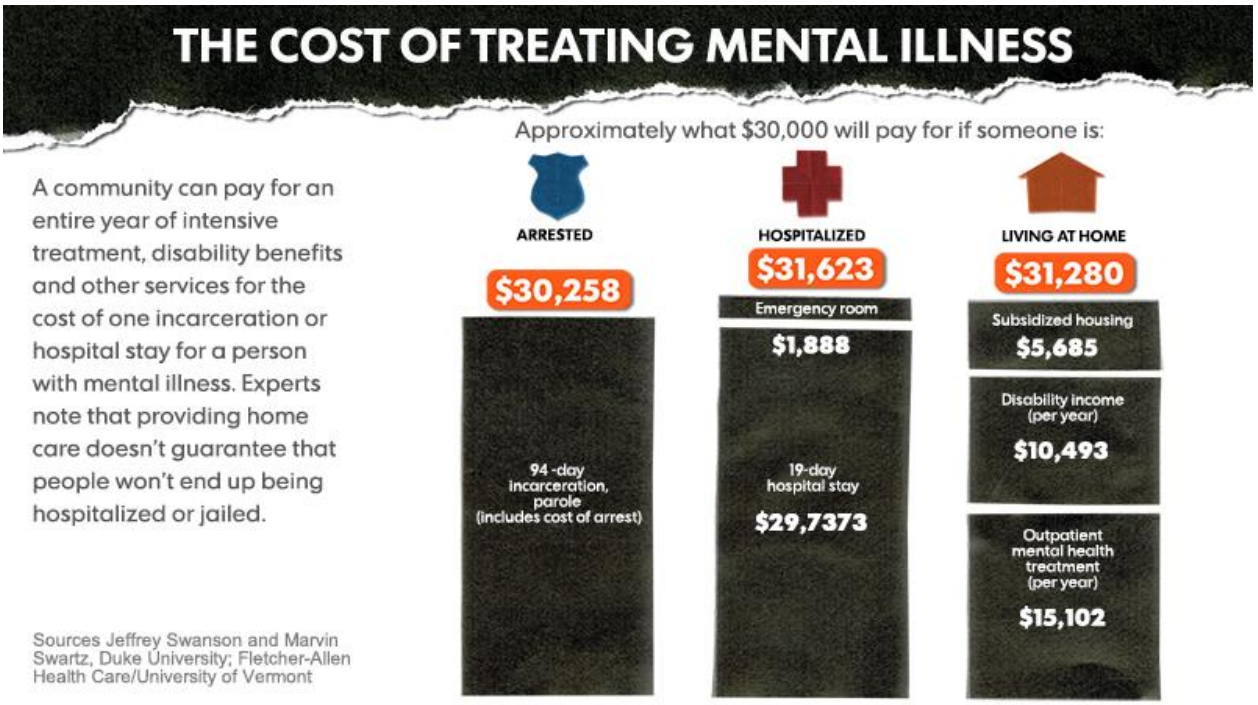
John Hopkins Medicine, http://www.hopkinsmedicine.org/news/media/releases/few_commercial_weight_loss_programs_show_reliable_evidence_of_effectiveness_johns_hopkins_reports

Childhood Obesity Action Network, www.nichg.org/obesityaction network
County Health Rankings and Roadmaps, http://www.countyhealthrankings.org/

A Review of Data (continued)

Mental Health in the United States, Tennessee and in Anderson County

Mental illnesses are common in the United States. Adult mental illness can range in impact from no or mild impairment to significantly disabling impairment. Serious mental illness (SMI) is defined as a mental disorder with serious functional impairment which substantially interferes with or limits one or more major life activities. In 2014, there were an estimated 43.6 million adults aged 18 or older in the United States with mental illness in the past year. This number represented 18.1% of all U.S. adults. Mental disorders are also common among children in the United States, and can be particularly difficult for the children themselves and their caregivers. While mental disorders are widespread, the main burden of illness is concentrated among those suffering from a seriously debilitating mental illness. Just over 20 percent (or 1 in 5) children, either currently or at some point during their life, have had a seriously debilitating mental disorder.



1. How Significant is This Issue?

- Of Tennessee's approximately 6.2 million residents, close to 246,000 adults live with serious mental illness and about 66,000 children live with serious mental health conditions.
- Nationally, we lose one life to suicide every 15.8 minutes. Suicide is the 11th leading cause of death overall and is the third leading cause of death among youth and young adults aged 15-24.

- In 2016 the ratio of residents per mental health provider in Anderson County is 1,061:1. For the state of Tennessee in 2016 the ratio of residents per mental health provider is 750:1.

- During the 2006-07 school year, approximately 27 percent of Tennessee students aged 14 and older living with serious mental health conditions that receive special education services dropped out of high school.

- Studies over the last 20 years indicate a close interaction between factors associated with poverty and mental health disorders. Common mental health disorders are about twice as frequent among the poor.

- Best evidence indicates that the relationship between mental ill-health and poverty is cyclical. Poverty increases the risk of mental disorders and having a mental disorder increases the likelihood of descending into poverty.

- Mental health is also co-morbid with other health problems, including both infectious and chronic diseases, and must therefore be addressed in order to achieve optimal health outcomes and to meet developmental goals.

- Criminal justice issues among individuals with mental health and substance use conditions are a growing problem. After the wide deinstitutionalization of state hospitals, jails and prisons have seen an increase in the number and percentage of individuals with mental health and substance use conditions who come through their doors.

- Mental health conditions are the No. 1 health-related reason for lost productivity at work and No. 2 for absenteeism, according to a recent survey of large companies by the nonprofit Institute of Health and Productivity Management (IHPM).

2. How Serious is This Issue?

- Tennessee ranked among the bottom 10 states for children who have been diagnosed by a doctor with autism, developmental delays, depression, anxiety, ADD/ADHD, or behavioral / conduct problems during 2011-2012.

- In 2013, Tennessee ranked among the states with a high prevalence of adults (18+) who are limited in any activities because of physical, mental or emotional problems (bottom 10 states).

- Tennessee has a high prevalence of adults (26+) with any mental illness in the last year, scoring on the bottom 10 states during the past five years.

- Tennessee decreased its rank for young adults (18-25) with a major depressive disorder and thoughts of suicide during the past year. In the previous year (2011-2012) Tennessee ranked among the top ten states with lower prevalence; in 2012-2013 it ranked in the middle 30 states.

- Region 2 had the highest percentage of adults 18+ and 26+ who had serious thoughts of suicide in the past year. (Anderson County is located in Region 2).

- The percentage of adults (18+) in Region 2 who had any mental illness in the past year was 20.9%. The percentage of adults in Region 2 with a serious mental illness in the past year 4.4%.

- From July 1, 2013, to June 30, 2014, adult mobile crisis service providers received and answered over 105,000 calls by telephone statewide. During the same period, Mobile Crisis conducted nearly 70,000 face-to-face assessments. Of the face-to-face assessments, 25% were conducted in a crisis walk-in triage center, 37% in an emergency room, 14% in a medical facility other than an emergency department and 4% were seen at their place of residence. Many other assessments were conducted in various locations that include but are not limited to jails or detention facilities, schools and universities and nursing homes.

- Over 31% of assessments conducted by adult mobile crisis services consisted of Tennessee's uninsured population, with 11% of the total uninsured population being individuals enrolled in the Behavioral Health Safety Net (BHSN of TN) program. Approximately 60% of individuals assessed by mobile crisis services were referred for community-based mental health and/or alcohol and drug services as an appropriate alternative to hospitalization.

- In 2013, over 1000 Tennesseans died by suicide. Suicide is almost always the result of untreated or under-treated mental illness.

- In 2013, death by suicide exceeded death by motor vehicle accident.

- In 2013, Anderson County had 19 deaths recorded by suicide.

- Recent (Cerel, 2015) research-based estimates suggest that for each death by suicide 147 people are exposed (6.3 million annually), and among those, 18 experience a major life disruption as loss survivors. (Earlier, non-research based estimates were 6 survivors). If each suicide has devastating effects and intimately affects 18 other people, there are over 750,000 loss survivors a year. Based on the 838,373 suicides from 1990 through 2014, therefore, the number of survivors of suicide loss in the U.S. is 15.09 million (1 of every 21 Americans in 2014); the number grew by 769,914 in 2014.

- If there is a suicide every 12.3 minutes, then there are 18 new loss survivors every 12.3 minutes as well.

3. How Effective are Interventions?

- Supportive community networks help to protect against the adverse effects of illness and poverty but for people with mental health needs, support systems often disintegrate as the stigma and discrimination leads to marginalization and social exclusion, and human rights violations.

- The Tennessee Suicide Prevention Network (TSPN) is the statewide public-private organization responsible for implementing the Tennessee Strategy for Suicide Prevention as defined by the 2001 National Strategy for Suicide Prevention.

- The Tennessee Association of Mental Health Organizations (TAMHO) is a statewide trade association representing Community Mental Health Centers (CMHCs) and other nonprofit corporations that provide behavioral health services. These organizations have historically met the needs of mentally ill and chemically dependent citizens of Tennessee from all age groups and socioeconomic levels. The TAMHO member organizations have been the virtual cornerstone of the community-based behavioral health system throughout the state since the

1950s and today serve as the primary provider network for the TennCare Program, Tennessee's Medicaid waiver program.

- The Tennessee Association of Mental Health Organizations (TAMHO) is a statewide trade association representing Community Mental Health Centers and other non-profit corporations that provide behavioral health services. These organizations meet the needs of Tennessee citizens of all ages who have mental illness and/or an addiction disorder. The TAMHO member organizations have been the virtual cornerstone of the Tennessee community-based behavioral health system since the 1950s and continue today as the primary provider network for community-based care in Tennessee (composed of 20 member organizations).

- A needs assessment is conducted annually by the TDMHSAS Regional Councils to assist the Department with planning for resource allocation. Data are provided to the Regional Councils to assist members with identifying and prioritizing needs. Prioritized needs are shared with staff to inform the development of strategies for the Three-Year Plan. Current goals are:

- Tennesseans understand that behavioral health is essential to overall health.

- Services are service recipient, family-driven, and youth-guided.

- Disparities in services are eliminated.

- Early screening, assessment, and referral to services are common practice.

- Excellent services are delivered.

- Technology is used to access services and information.

- Better Attitudes and Skills in Children (B.A.S.I.C.) program serves 43 elementary schools across Tennessee. The focus of this program is to promote mental health in children in Kindergarten through 3rd Grade, and to identify and refer to mental health services children at-risk of serious emotional disturbance (SED). The B.A.S.I.C. staff provides mental health education through direct classroom work with children, teacher consultation, and work to enhance the school climate in ways which address risk factors for children. Funding limitations limit the feasibility of this intervention.

- During FY2014, TDMHSAS implemented a new statewide laptop telehealth system allowing Regional Mental Health Institute (RMHI) admission evaluations to occur prior to the long-distance transport of an individual to a psychiatric hospital.

4. How Feasible are Interventions?

- The Department's customer-focused government goals included: actively work with regional mental health institute leadership continuing efforts to improve outcomes for patient care while containing costs, maintain and improve community mental health and substance abuse services and provide effective education and prevention services.

- Anderson County has several organizations providing mental health services including Peninsula Behavioral Health, Ridgeview Behavioral Health Services, Helen Ross McNabb and Cherokee Health Systems.

- The 2017 TDMHSAS priorities are to ensure that the regional mental health institute (RMHI) are cost-effective and efficient while providing quality care to patients, to support and strengthen the community network of providers and ensure that Tennesseans have access to quality mental health and substance abuse services that are cost-effective and efficient,; and to educate the public about addiction and mental health issues and reduce the stigma associated with these conditions.

- The Behavioral Health Safety Net will provide mental health services for uninsured Tennesseans, including those services that are essential for maintaining mental health and those services not covered by insurance. Number of persons served in FY 2014 (35,501).

- During FY15, the BHSN of TN partnered with 15 Community Mental Health Agencies that provided vital behavioral health services to approximately 32, 410 individuals across the state of Tennessee. The top services utilized were case management, psychosocial rehabilitation, individual therapy, and office visits for evaluation and management.

- The ongoing challenge for TDMHSAS is attempting to provide a high-quality continuum of services while facing increased demands and persistent financial limitations. As a response to the challenge, TDMHSAS leverages federal and other non-state resources (totaling $62M during Commissioner Doug Varney's tenure and fully doubling previous administrations' alternative funding to meet unmet needs. Additionally in the past year, the Office of Housing and Homeless Services, through the Creating Homes Initiative, raised and leveraged $43,328,681 to create 2,224 housing opportunities. Even so, services for the homeless and substance abuse services continue to present statewide needs that are not met. Services for children and youth face constricted revenue streams that, if expanded, may better meet the needs of Tennesseans.

- Due to persistent funding limitations, challenges continue in the effort to provide expansive and early intervention and mental health services to children and youth, their families and schools.

- The primary challenge for TDMHSAS is to provide a high-quality array of services while managing both increased demands and persistent financial limitations. TDMHSAS measures need annually through a statewide needs assessment process. The identified feasibility challenges from TDMHSAS Annual Report 2014 include:

- Available resources to address the critical needs of Tennesseans accessing public mental health and substance abuse services.

- Availability of public funding for those without third party payor sources.

- Ability to implement the Electronic Medical Records (EMR) system in our hospitals.

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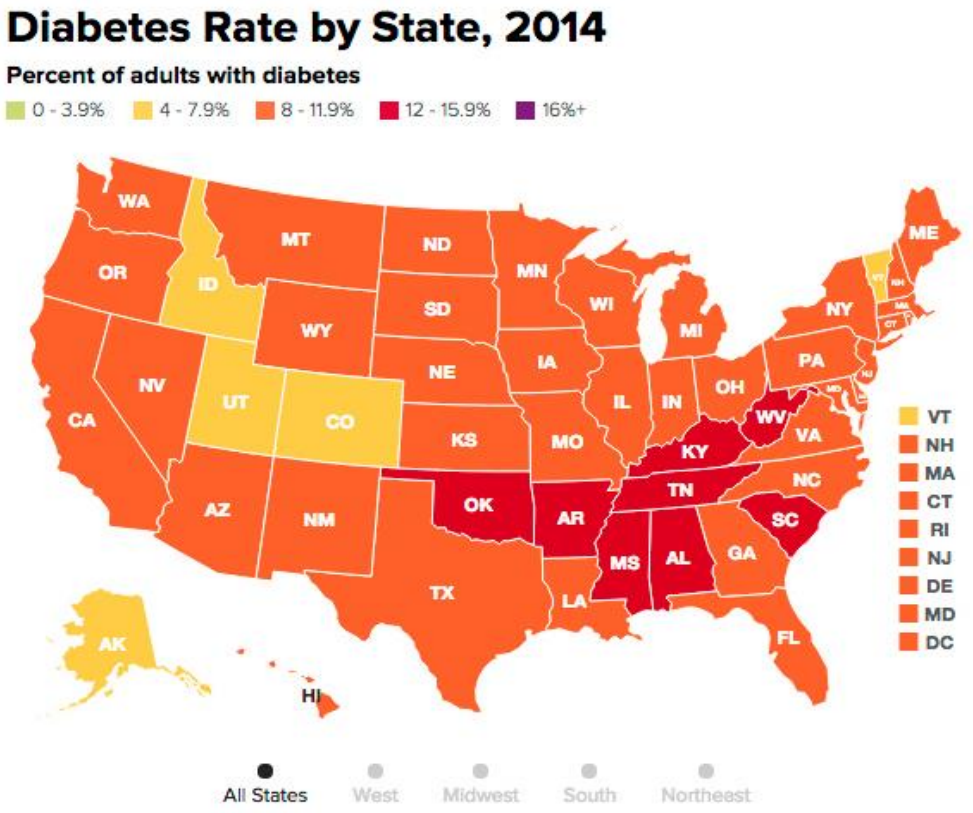
A Review of Data (continued)

Diabetes in the United States, Tennessee and Anderson County

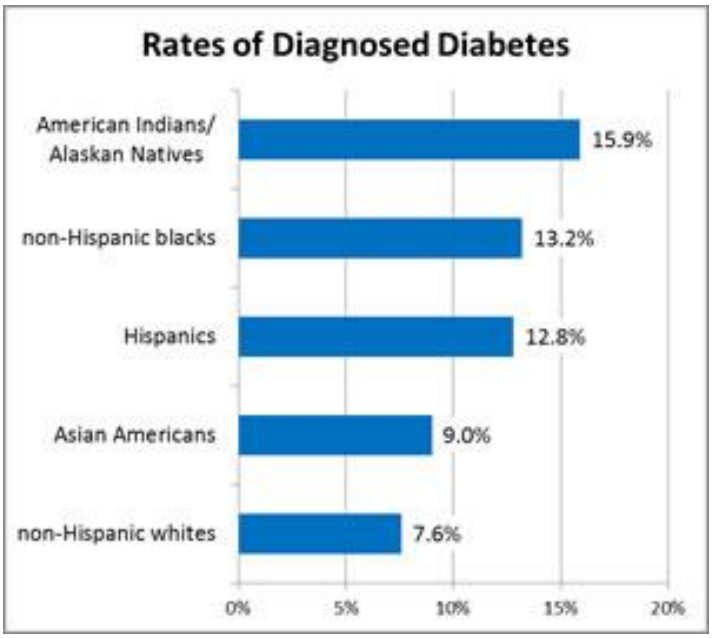
Diabetes can affect many parts of the body and is associated with serious complications such as heart disease and stroke, blindness, kidney failure, and lower-limb amputation. Some complications, especially microvascular (e.g., eye, kidney, and nerve) disease, can be reduced with good glucose control. Also, early detection and treatment of complications can prevent progression, so monitoring with dilated eye exams, urine tests, and foot exams is essential. Because the risk of cardiovascular disease is increased in diabetes and prediabetes, blood pressure and lipid management, along with smoking cessation, are especially important. By working together, people with diagnosed diabetes, their support network, and their health care providers can reduce the occurrence of these and other complications.



1. How Significant is This Issue?

- With each passing year since 1990 there has been a slow but consistent increase in the rate of diabetes in Tennessee. In 2014, Tennessee's incidence of diabetes ranked second in the nation, only slightly behind number one, West Virginia.
- In 2014, **13%** of Tennessee adults had diabetes. In 2015 this number dropped slightly to **12%**.

- In Anderson County the percent of adults with diabetes for 2016 is **11%**. This is slightly down from **12%** at the time of the last Community Needs Assessment in 2013.
- According to a study published online in JAMA September 2015, nearly **50%** of adults living in the U.S. have diabetes or pre-diabetes, a condition where a person already has elevated blood sugar and is at risk to develop diabetes.
- According to WebMD, two problems in the U.S. – overweight or obesity and a sedentary lifestyle – are also two of the most common causes for diabetes.
- A new study finds that diabetes cases among Medicaid-enrolled patients increased 23 percent in states that expanded the program under the Affordable Care Act.
- Diabetes affects minority populations more often than white Americans.



2. How Serious is This Issue?

- The CDC projects that one-in-three adults could have diabetes by 2050.
- 1.4 million Americans are diagnosed with diabetes every year.
- Diabetes remains the **7th** leading cause of death in the United States.
- 29.1 million people, or 9.3% of the population, have diabetes in the U.S. Of this number eight million are undiagnosed.
- After adjusting for population age differences, **cardiovascular disease death rates** were about 1.7 times higher among adults aged 18 years or older with diagnosed diabetes than among adults without diagnosed diabetes.

- After adjusting for population age differences, hospitalization rates for **heart attack** were 1.8 times higher among adults aged 20 years or older with diagnosed diabetes than among adults without diagnosed diabetes.
- After adjusting for population age differences, hospitalization rates for **stroke** were 1.5 times higher among adults with diagnosed diabetes aged 20 years or older compared to those without diagnosed diabetes.
- Diabetes was listed as the primary cause of kidney failure in **44**% of all new cases in 2011.
- About **60%** of non-traumatic lower-limb amputations among people aged 20 years or older occur in people with diagnosed diabetes.
- Diabetes may be underreported as a cause of death. Studies have found that only about 35% to 40% of people with diabetes who died had diabetes listed anywhere on the death certificate and about 10% to 15% had it listed as the underlying cause of death.
- People with diagnosed diabetes incur average medical expenditures of about $13,700 per year, of which about $7,900 is attributed to diabetes. People with diagnosed diabetes, on average, have medical expenditures approximately 2.3 times higher than what expenditures would be in the absence of diabetes.
- The total estimated cost of diagnosed diabetes in 2012 is $245 billion, including $176 billion in direct medical costs and $69 billion in reduced productivity.
- In 2012, the cost of diabetes in Tennessee for direct medical costs was $3.62 billion and indirect costs such as lost work productivity were $1.48 billion (Diabetes by the Numbers: Tennessee)
- In 2016, 86% of Medicare enrollees in Anderson County were receiving diabetes monitoring by receiving HbA1C testing (County Health Rankings & Roadmaps: Tennessee)

3. How Effective are Interventions?

- According to the American Diabetes Association, nutritional choices and increasing physical activity has proven to delay and prevent the onset of type 2 diabetes.
- For people with diabetes, being physically active helps insulin work more efficiently and generally lowers blood glucose levels.

4. How Feasible are Interventions?

- Diabetes awareness should have some moderate level of awareness in the community. It was identified as a top priority in the 2013 assessment.
- There are efforts to support individuals with chronic health care conditions such as diabetes to have greater access to insurance and preventative care to address health concerns and manage illness through the Affordable Care Act and TennCare. Having insurance provides access to services, tools, and education to help manage diabetes and turn around pre-diabetic states.

- The Medicare Diabetes Prevention Act provides the National DPP as a covered benefit for eligible Medicare beneficiaries who are at risk for developing Type 2 diabetes (American Diabetes Association).
- Those individuals who do not have access to registered dietitians may access government websites for assistance in meal and activity planning. An example of such a website is myplate.gov/supertracker.
- Get Fit Tennessee offers resources online for healthy lifestyle choices.
- The Anderson County Health Department offers diabetes education classes during the year. Methodist Medical Center features diabetes education topics each year in their community education programming.

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Anderson County Health Department

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Aid to Distressed Families of Appalachian Counties