



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 LeConte Medical Center to identify the most significant issues facing the health and well-being of Sevier 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 LeConte Medical Center serves patients from multiple counties, more than 50% of its inpatient and outpatient business comes from Sevier County. Thus, the assessment and its findings are limited to Sevier County.

The Goals of the 2016 Assessment

1. Update the data for each of the 2013 assessment health priorities.
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 comprising 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 becoming such 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 Sevier County Public Health System have guided the discussion and decision-making processes which have led to the identification of the five most significant health priorities for Sevier County. These participating organizations provided representation at planning meetings:

- Douglas Cherokee Adult Cooperative
- Sevier County Parks and Recreation Department
- LeConte Medical Center
- Sevier County Coordinated School Health
- Sevier County Food Ministry
- Sevier County Government
- Gatlinburg Ministerial Alliance
- Good Samaritan Clinic
- Sevier County Sheriff Department
- Cherokee Health System
- Salvation Army
- Leadership Sevier
- Hispanic Advocate-community member
- Sevier County Health Department
- The Tennessee Smokies
- Doctor Robert F. Thomas Foundation
- CASA
- East Tennessee Human Resource Agency

The Sevier County Public Health System

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

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 doing a completely new assessment or building upon the findings from the first assessment. LeConte Medical Center chose the latter.

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.

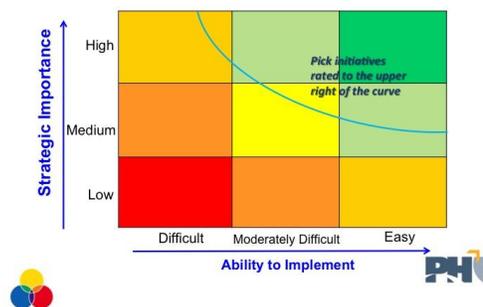
The decision-making process for the second assessment was similar to the first. An assessment data team was formed with participants representing the hospital, health department, social service agencies and funders. Each member was given a data notebook containing a summary report from the Forces of Change workshop, updated demographics and updated data for each of the previously determined five 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 being re-validated or modified.

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)

**Setting Implementation Priorities
for Initiatives or Performance Measures**



PRIORITIES FOR 2017 – 2019

1. Prescription Drug Abuse
2. Obesity
3. Teen Pregnancy
4. Dental Care
5. Mental Health

For the next three year period, the Data Team made modifications to the Priority areas from 2013. Rather than have childhood obesity and chronic conditions from obesity the Data Team chose to focus on obesity for youth and adults. Dental care for the Uninsured was changed to Dental care. With the significant improvements with Neonatal Abstinence Syndrome since 2103 the data team will more broadly focus on Prescription Drug Abuse. Mental Health was added as a new priority for 2017-2019.

A REVIEW OF DATA

Sevier County Demographics

2013- 2016 Comparison*

Demographics	2013	2016	Tennessee 2016
Population	91,466	95,110	6,549,352
% Below 18 years of age	21.9%	21.1%	22.8%
% 65 and older	15.9%	17.7%	15.1%
% Non-Hispanic African American	1.1%	1.0%	16.8%
% Asian	0.9%	1.2%	1.7%
% Hispanic	5.3%	5.6%	5.0%
% Non-Hispanic White	91.3%	90.8%	74.6%
% Female	50.8%	50.9%	51.3%
% Rural	56.6%	56.6%	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 Sevier 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 Sevier County:

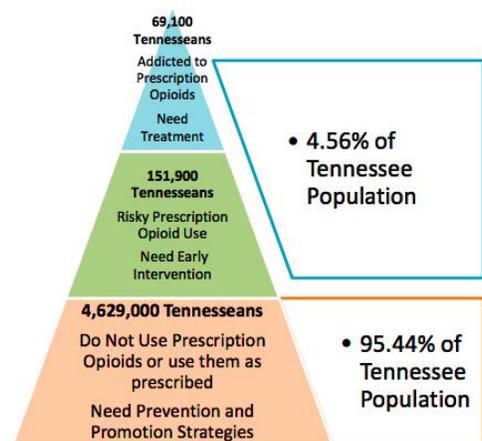
- Aging population
- Housing
- Substance abuse
- Mental health resources
- Growing Hispanic population – increased needs for schools, healthcare access, transportation, jobs and language programs.

REVIEW OF DATA (CONTINUED)

Drug Abuse in the United States, Tennessee and Sevier County

It wasn't that long ago that the discussion around drug abuse centered on alcohol, marijuana, LSD and cocaine. In the past decade a new epidemic has emerged and taken center stage: the use and abuse of prescription drugs, particularly opiates.

Prescription drug abuse is a global problem, and the U.S. is the world's biggest addict. The abuse of opiates from prescription drugs and heroin is an epidemic in Tennessee with disastrous and severe consequences to Tennesseans of every age, including overdose deaths, emergency department visits, hospital cost, newborns with Neonatal Abstinence Syndrome, children in state custody, and people incarcerated for drug-related crimes.



1. How Significant is This Issue?

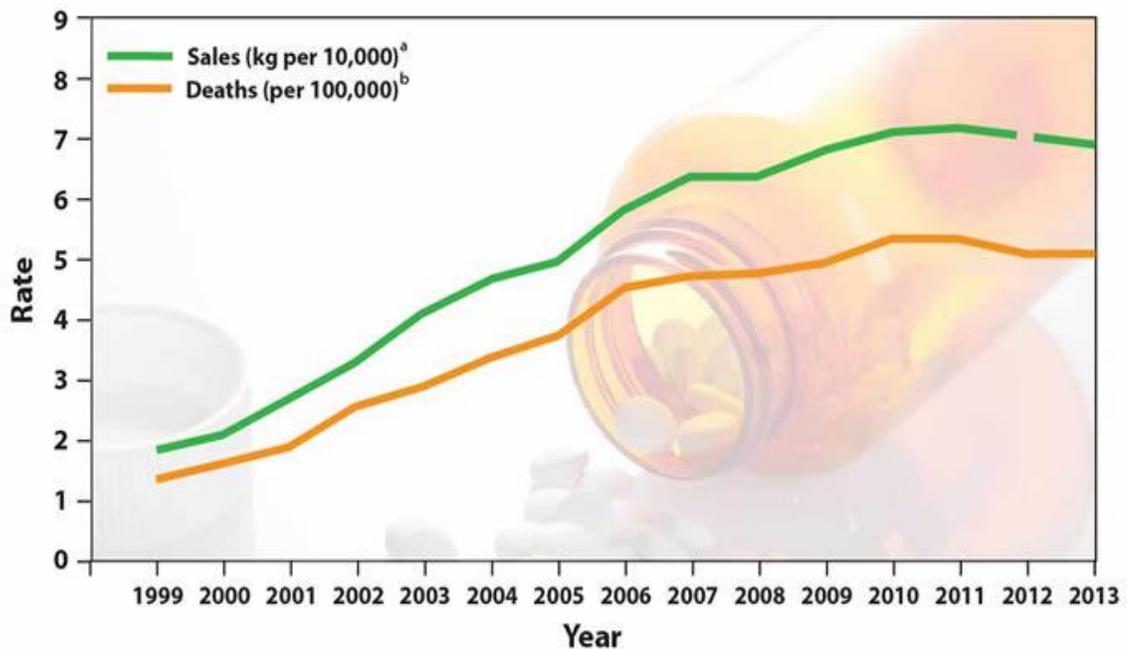
- Americans account for 99% of the world's hydrocodone (Vicodin) consumption, 80% of the world's oxycodone (Percocet and Oxycontin) and 65% of the world's hydromorphone (Dilaudid) consumption.
- An estimated 52 million Americans use prescription drugs for nonmedical reasons at least once in their lifetimes, 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 anti-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 received services funded through the Tennessee Department of Mental Health and Substance Abuse Services.
- Tennesseans were more than three times more likely than the national average to identify prescription opioids as their primary substance of abuse.
- Tennessee ranks second in the nation for prescription drug abuse.

- In 2015, the Tennessee overdose death rate was 22 per 100,000 people or 1,451 deaths. This compares with a rate of 14.7 per 100,000 people who died in motor vehicle accidents, or 970 deaths.
- In 2015, there were 28 deaths attributed to drug overdoses in Sevier County..
- In 2013, according to the Tennessee Bureau of Investigation, Tennessee led the nation in meth use. In the first nine 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 more than 12 years of education.

2. How Serious is This Issue?

- In Tennessee deaths attributed to prescription drug overdose have risen by 200 percent since 1999.
- Over the last 10 years, the number of newborn babies suffering from drug dependencies at birth (NAS) has soared by 1,000 percent.
- 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 to cover the cost of investigations, chemical clean-ups, incarcerating suspects, caring for children of meth adults and medical care for patients burned in meth labs.
- Another disturbing aspect of Tennessee's prescription drug problem has been the effect on the state's rate of heroin consumption. As an opioid, heroin is a cheap alternative for addicts who cannot afford oxycodone or hydrocodone.

Prescription Painkiller Sales and Deaths



Sources:

^aAutomation of Reports and Consolidated Orders System (ARCOS) of the Drug Enforcement Administration (DEA), 2012 data not available.

^bCenters for Disease Control and Prevention. National Vital Statistics System mortality data. (2015) Available from URL: <http://www.cdc.gov/nchs/deaths.htm>.

3. How Effective are the Interventions?

- a. 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. Since 2013, the database has compiled 33,000 individual's opioid and benzodiazepines prescriptions and has been accessed by prescribers and dispensers nearly 3 million times.
 - 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 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 of 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 have rapidly expanded during the past two decades 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.

4. How Feasible are the Interventions?

- Largely due to the local efforts of concerned leaders, legislators, community based agencies, law enforcement and the court system, Sevier County residents are aware of the drug problems in their community.
- English Mountain Recovery, Brookhaven Retreat and Pasadena Villa provide inpatient substance abuse treatment in Sevier County.
- At the start of 2016, Tennessee provided funding for 33 county anti-drug coalitions. The approach has been so successful that effective July 1st, an additional nine more counties were funded, including Sevier.
- Alcoholics Anonymous 12-step meetings for addiction to alcohol are held in Gatlinburg. (Many of those addicted to prescription drugs have a dual diagnosis of alcoholism.)
- Sevier County has a Drug Court to divert eligible offenders into rehabilitation instead of incarceration.

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/tmhsas.data_rpt.shtml

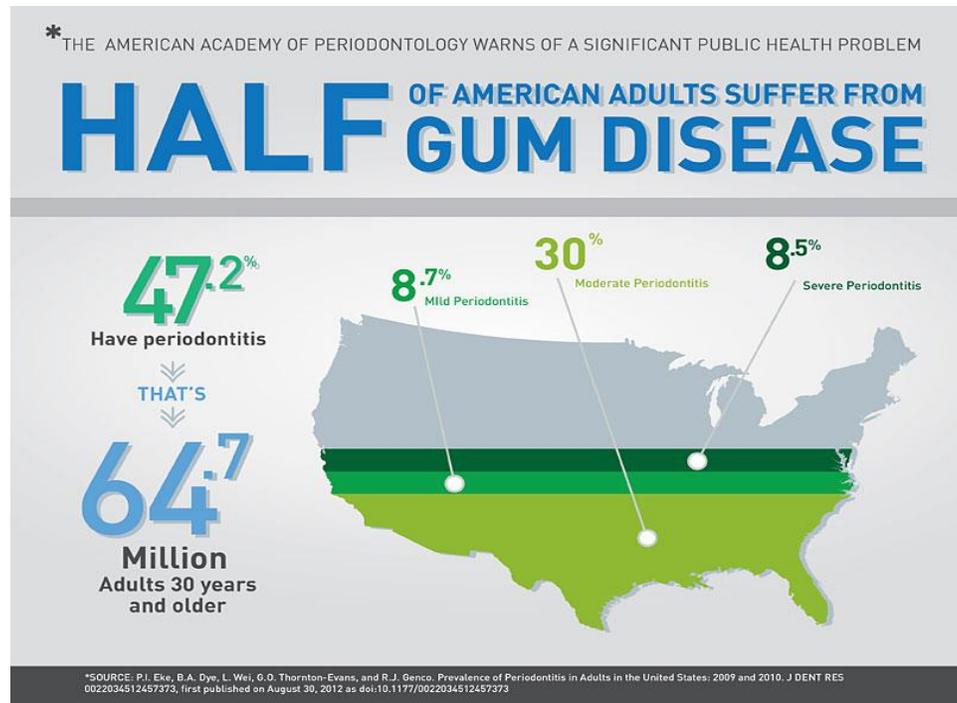
<https://www.cdc.gov/drugoverdose/epidemic/>

<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)

Dental Care in the United States, Tennessee and Sevier County



1. How Significant is This Issue?

- More than one-third of Americans face serious challenges in accessing dental care, including lack of insurance, prohibitive cost, too few providers, mobility issues and transportation problems.
- Barriers to care are fueled by the small number of dentists who accept Medicaid and the high number of people living in areas with dentist shortages.
- More than half of low-income children received no dental care in 2014, not even a routine exam.
- Although the Affordable Care Act requires state Medicaid programs and private insurers to include dental care for children, the federal law did little to expand dental coverage for adults. Tennessee never participated in the expanded Medicaid program.
- In 2013 only about 34 percent of general dentists accepted Medicaid or other public insurance.
- The 2016 national benchmark for ratio of population per dentist is 1,340:1. Tennessee overall is 1,960:1, while **Sevier County is 3,171:1.**
- The U.S. has about 141,800 working dentists and 174,100 dental hygienists, but 4,230 Dental Health Professional Shortage Areas with 49 million people living in them.

2. How Serious is This Issue?

- Americans are living longer and keeping more of their teeth in old age. As the elderly population increases, oral health needs and ability to access care are creating more challenges.
- One in five older Americans has untreated tooth decay and more than 40% have periodontal diseases.
- 70% of seniors lack or have limited dental insurance and fewer than half access dental care each year.
- In 2011 among adults living in poverty, 20% saw a dentist and 40% had untreated tooth decay.
- The U.S. spends about \$64 billion each year on oral health care. Just 4 percent is paid by government programs.
- Nearly one-third (31.5 percent) of Tennesseans over the age of 65 have lost all their teeth, and more than half (53 percent) have lost six or more teeth.
- The U.S. Department of Health and Human Services categorizes 94 percent of Tennessee counties (89 of 95) as having dental health professional shortage areas.
- Many graduating dentists are attracted to the wealthy major metropolitan centers on the coasts, leaving states like Tennessee with a shortage of dentists.

3. How Effective are Interventions?

- In addition to maintaining a good home care routine, the best thing individuals can do is to schedule regular dental checkups and professional cleanings.
- Growing evidence shows that expanding the dental team to include midlevel providers, often called dental therapists, helps dentist build their business while increasing access to high-quality effective care. More states are considering legislation to authorize such providers.
- The Commission on Dental Accreditation finalized new dental therapy training standards which will enable more students to enter the field of dental therapy, thus expanding the number of dental graduates.

4. How Feasible are Interventions?

- Remote Area Medical Clinics are scheduled in Sevier County every other year. RAM responds to this need by providing free dental, vision, and medical care to isolated, impoverished, or underserved communities.
- Mountain Hope Clinic has a dental program for the uninsured 18 and older. Patients are scheduled one week in advance of their appointments.

- The dental clinic at Sevier County Health Department provides general dentistry services for children covered by TennCare from birth to age 21, and dental services offered on a sliding-scale fee basis for children up to age 21. The clinic also will see adults on an emergency basis.
- There are a handful of dentist in the county accepting TennCare but the access situation would be greatly improved if more dentists would accept TennCare.

DATA SOURCES

<http://www.tennessean.com/story/opinion/contributors/2014/04/28/dental-care-tennessees-forgotten-health-crisis/8309309/>

Mountain Hope Good Shepard Clinic, Sevierville, Tennessee

Dental Clinic, Sevier County Health Department

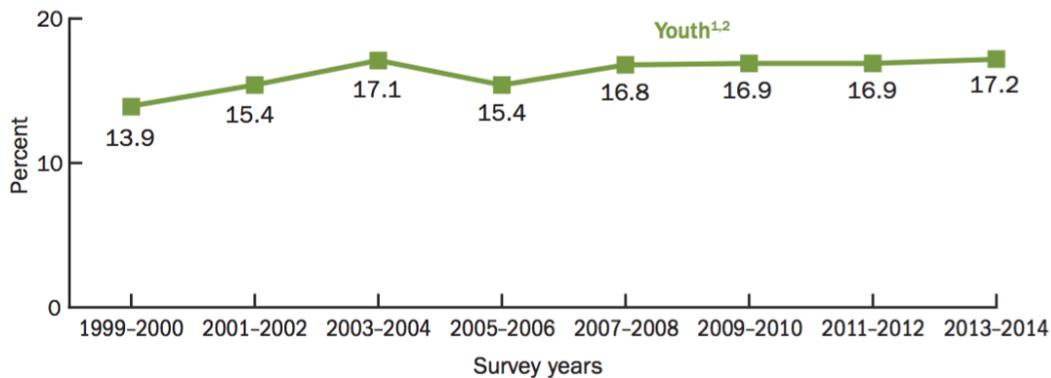
<http://www.pewtrusts.org/en/research-and-analysis/analysis/2016/01/28/issues-in-dental-health-care-to-watch-in-2016>

<http://www.timesfreepress.com/news/news/story/2012/may/21/tennessee-dental-health-among-nations/78384/>

A REVIEW OF DATA (CONTINUED)

Childhood Obesity in the United States, Tennessee and Sevier County

Trends in obesity prevalence among youth aged 2–19 years: United States, 1999–2000 through 2013–2014



¹ Significant increasing linear trend from 1999–2000 through 2013–2014.

² Test for linear trend for 2003–2004 through 2013–2014 not significant ($p > 0.05$).

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

1. How Significant is This Issue?

- Nationally childhood obesity rates have remained stable for the past decade at around **17 percent** (ages 2-19, NHANES 2011-2014 data).
- Rates are declining among 2-5 year olds, stable among 6-11 year olds, and increasing from 12-19 year olds.
- Among high school students, obesity rates exceeded 15% in 11 out of 37 states and no state had a rate of below 10 percent (Youth Risk Behavior Survey, 2015).
- Nationally, obesity rates are higher among Latino (21.9%) and black (19.5%) children than among white (14.6%) children (ages 2-19).
- One in three Tennessee children is overweight; one in five is obese.
- In 2015 the current rate of obesity for high school students in Tennessee was **18.6%**, the second highest state in the country.

2. How Serious is This Issue?

- Obesity remains one of the biggest threats to the health of our children, putting millions of Americans at increased risk for a range of chronic diseases.

- Obese children are more likely to experience discrimination and bullying, low self-esteem, eating disorders and depression.
- 60% of kids 5-17 who are obese have at least one risk factor for heart disease; 20% have two risk factors.
- Thirty years ago children had one snack per day. Today's children have three snacks per day.
- 14-18% of Tennessee children spend 4+ hours per day in front of a TV screen or computer monitor.
- 75% of children are physically active less than one hour per day.
- Obese children are twice as likely to have sleep apnea and 10 times as likely to develop Type 2 diabetes.
- The CDC reports that the rate of preschool-age obesity is improving nationwide. Tennessee is one of three states where the rate has worsened.
- The national costs for childhood-related obesity are estimated to be \$11 billion for private insurance and \$3 billion for Medicaid. Medical cost are three times higher for children treated for obesity than for children without the diagnosis.
- Tennessee's annual tab for obesity is running a hefty \$1.8 billion dollars a year.

3. How Effective are Interventions?

- Interventions to prevent obesity in children largely aim to modify diet, physical activity, or sedentary activity.
- The strength of evidence is high that physical activity interventions within school-based studies with a home component prevent obesity or overweight in children.

4. How Feasible are Interventions?

- In 2017 Sevier County will be initiating a 16-week micro-program focusing on nutrition and physical activity to address childhood obesity. In 2016 this approach was used with adults.
- The Boys and Girls Club of Sevierville has partnered with LeConte Medical Center's Food Service Director to provide monthly nutrition programs for its members.
- Community centers in Sevierville, Pigeon Forge and Gatlinburg are available for family exercise.
- Seymour community has offered a Get Fit program for its community for the past several years, encouraging residents to begin walking and to attend other fitness classes.

DATA SOURCES

<http://www.nptinternal.org/productions/chcv2/obesity/rates.html>

<http://www.childhealthdata.org/docs/nsch-docs/tennessee-pdf.pdf>

<http://www.americashealthrankings.org/explore/2015-annual-report/measure/youthobesity/state/TN>

<http://nashvillecitypaper.com/content/city-news/tennessee-one-three-states-see-increase-childhood-obesity>

https://www.google.com/webhp?sourceid=chrome-instant&rlz=1C1NHXL_enUS690US690&ion=1&espv=2&ie=UTF-8#q=obesity%20rates%20%26%20trends.%20the%20state%20of%20obesity

<http://stateofobesity.org/high-school-obesity/>

countyhealthrankings.org/app/tennessee/2016/overview

A REVIEW OF DATA (CONTINUED)

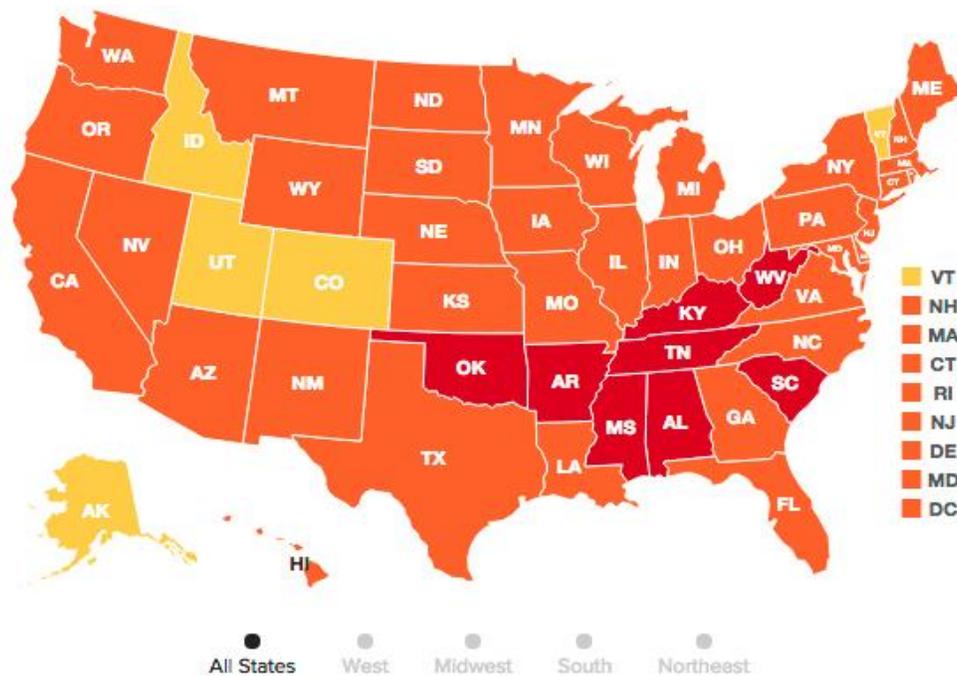
Diabetes in the United States, Tennessee and Sevier County

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.

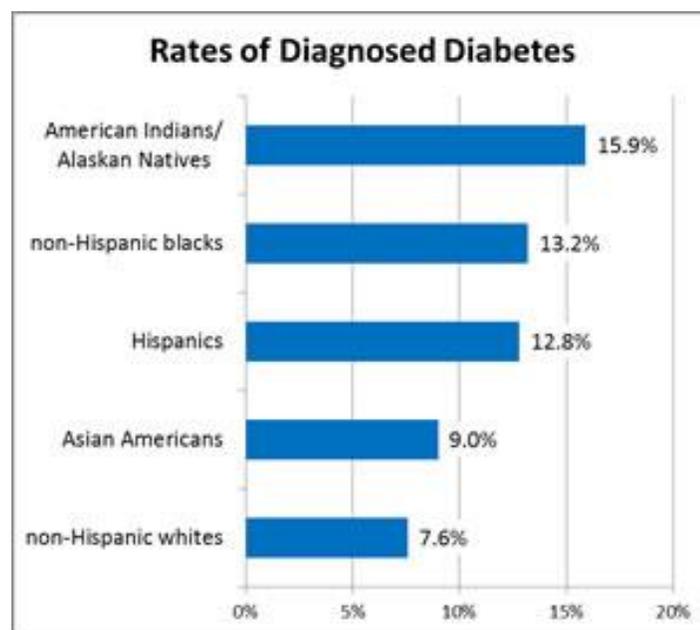
Diabetes Rate by State, 2014

Percent of adults with diabetes

0 - 3.9% 4 - 7.9% 8 - 11.9% 12 - 15.9% 16%+



- In Sevier County the percent of adults with diabetes for 2013 was **12.2%** (most recent data available on a county level). This is up from **11.2%** at the time of the last Community Needs Assessment.
- 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 seventh 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, 8 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 2011, 89% of Medicare enrollees in Sevier 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?

- There are efforts to support individuals with chronic health care conditions such as diabetes to have greater access to insurance and preventive 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 Health Department and UT Extension services have been providing programs on diabetes in 2016. Presently these seem to be the only community classes available in Sevier County for Diabetics.
- There is not an endocrinologist practicing in Sevier County, so patients must look outside the county for a diabetes specialist.

DATA SOURCES

www.tn.gov/health/topic/specialreports/roane

<https://www.cdc.gov/diabetes/data/statistics/2014statisticsreport.html>

<http://stateofobesity.org/diabetes/>

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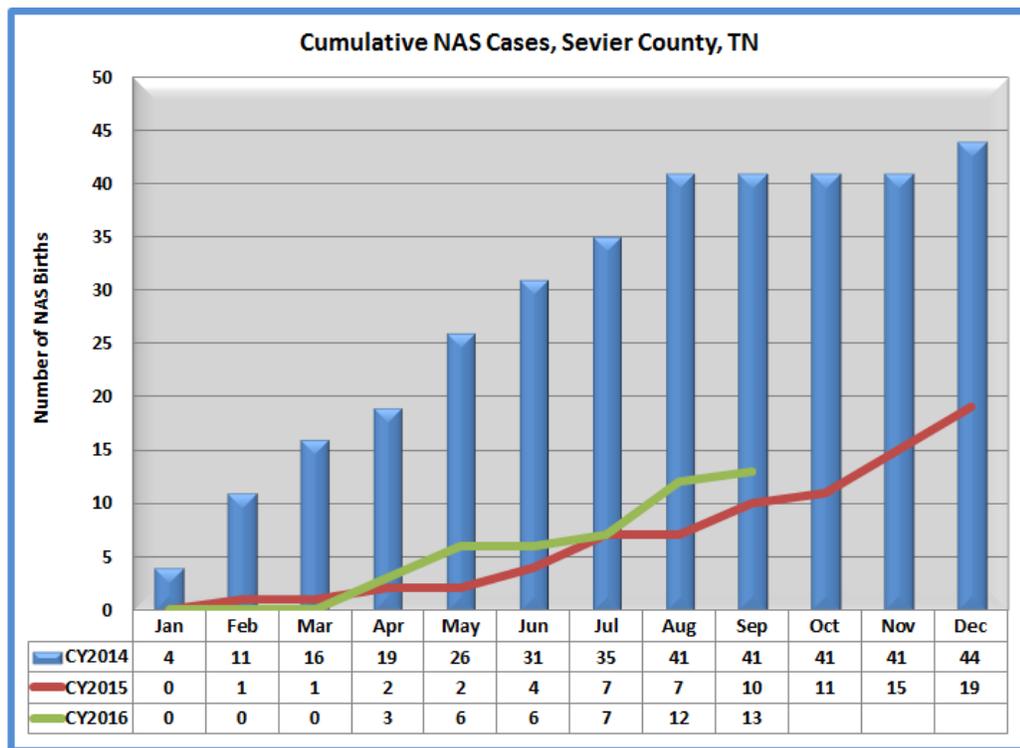
A REVIEW OF DATA (CONTINUED)

Neonatal Abstinence in the United States, Tennessee and Sevier County

Neonatal abstinence syndrome (also called NAS) happens when a baby is exposed to drugs in the womb before birth. Withdrawal symptoms commonly occur in the infant 24-48 hours after delivery. NAS is most often caused when a woman takes opioids during pregnancy. The more common opioids are codeine and hydrocodone, morphine and oxycodone. Other drugs like antidepressants or sleeping pills can also be the cause of NAS.

1. How Significant is This Issue?

- Babies with NAS are more likely than other babies to be born with low birthweight, or to have breathing difficulties, feeding problems and seizures. They usually have prolonged hospital stays.
- Taking opioids and other drugs during pregnancy can also increase the possibility of birth defects that can change the shape or function of one or more parts of the body.
- From January 1, 2016 through the end of November 2016 there have been 884 cases of NAS in Tennessee.
- Compared to calendar year 2014, the incidence of NAS has maintained a significant reduction in Sevier County for 2015 and 2016.



2. How Serious is This Issue?

- The rate of NAS nationally was 1.2 babies per 1000 births in 2000, 1.5 in 2003, 1.96 in 2006, 3.39 in 2009, and 5.8 in 2012.
- The average length of stay for a newborn with NAS is **17** days compared to **2** days for those without NAS
- The hospital costs for newborns with NAS were **\$66,700** on average compared to **\$3,500** for those without NAS.
- The cost to hospitals in 2012 was estimated to be **\$1.5 billion**. The majority of these charges (**81%**) were paid by state Medicaid programs, reflecting the greater tendency of opiate-abusing mothers to be from lower-income communities.
- In the majority of Tennessee NAS cases (79.1%), at least one of the substances causing NAS was prescribed to the mother by a health care provider.

3. How Effective are Interventions?

- Most babies with NAS who get treatment get better in 5-30 days. Longer term effects of NAS on growth and development are yet to be determined.
- Not many rehab clinics will detox a pregnant woman and the few that do have long waiting list.
- Most physicians recommend a gradual tapering of less harmful medications like methadone, paired with a comprehensive addiction treatment program. However, these programs are scarce.
- Tennessee was the first state to pass a “fetal assault” law punishing pregnant women who tested positive for opioids. The law was meant to help women get treatment and hold them accountable for child abuse. But doctors who treat addicts say Tennessee's experiment backfired, encouraging women to avoid prenatal care and exposing their babies to more risks while failing to reduce the astronomical costs of treating newborns who suffer from drug withdrawal. The law expired recently due to lack of support to continue it.

4. How Feasible are Interventions?

- HEAL Coalition was formed in response to the growing problem of neonatal abstinence syndrome in Sevier County. Members include judiciary, law enforcement, mental health, health department and hospital organizations. Support groups are offered weekly as well as other community based activities to build awareness.
- A Women’s Recovery Support Group is offered at LeConte Medical Center each Monday.
- The Health Department provides Neonatal Abstinence Syndrome Education programs.

DATA SOURCES

[http://www.marchofdimes.org/complications /neonatal-abstinence-syndrome-\(nas\).aspx](http://www.marchofdimes.org/complications/neonatal-abstinence-syndrome-(nas).aspx)

<https://www.drugabuse.gov/related-topics/trends-statistics/infographics-increases-in-maternal-opioid-use-neonatal-abstinence-syndrome>

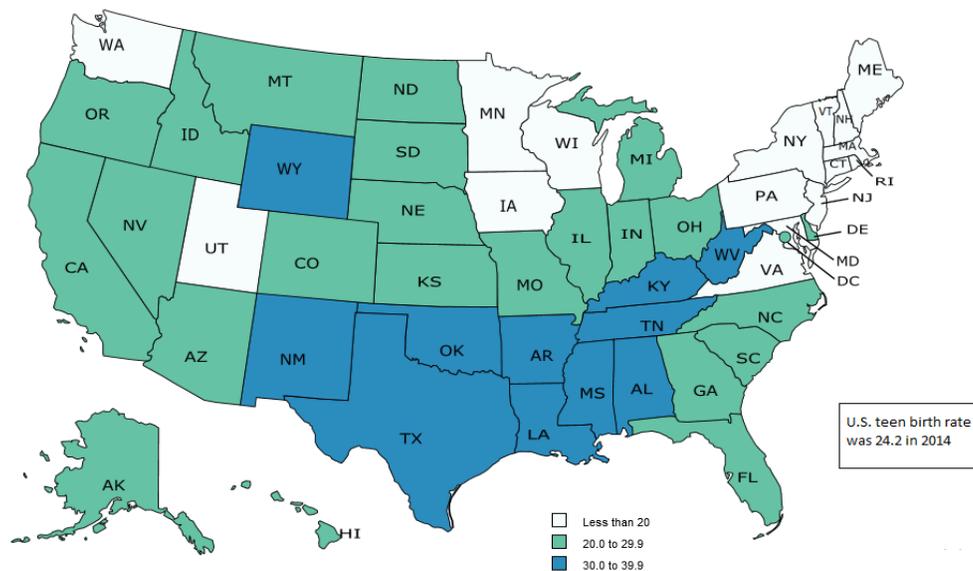
<https://tn.gov/health/article/nas-update-archive>

A REVIEW OF DATA (CONTINUED)

Teen Pregnancy in the United States, Tennessee and Sevier County

Unintended pregnancy can have significant, negative consequences for individual women, their families and society as a whole. An extensive body of research links births resulting from unintended or closely spaced pregnancies to adverse maternal and child health outcomes and myriad social and economic challenges.

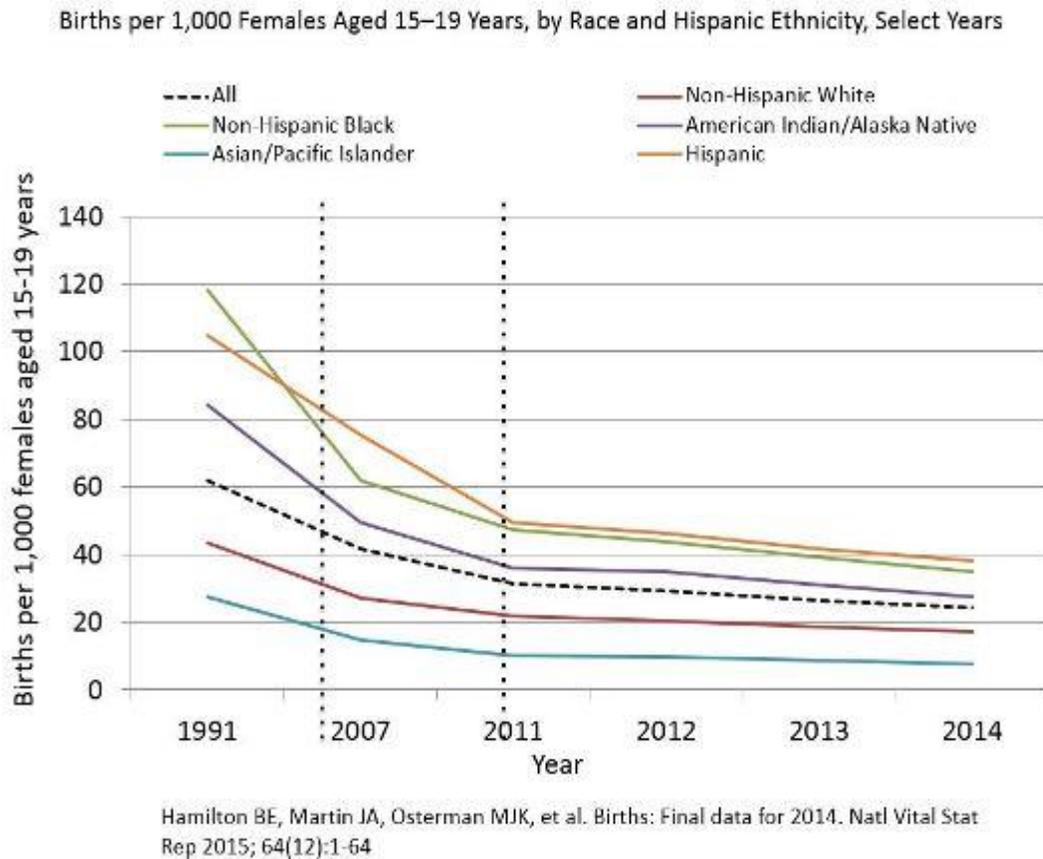
Figure 2: Teenage birth rates for 15 – 19 year olds by state, 2014



1. How Significant is This Issue?

- Teen pregnancy rates in the United States have fallen dramatically from a rate of **61.8** pregnancies for 1000 girls age 15-19 in 1990 to a rate of **24.2** in 2014. Still the U.S. teen pregnancy rate is substantially higher than other western industrialized nations.
- Fewer teens than ever are giving birth in the United States, according to the CDC. The finding is part of a larger trend of women having babies later in life. Birth rates continue to increase among women in their 30s and 40s.
- In 2015 Tennessee ranked 42 out of 50 states for having a higher teen pregnancy rate. At the time of the 2013 Community Health Needs Assessment the rate of teen pregnancy was **55.6** (pregnancies for 1000 girls age 15-19). The rate improved to **34.7** for 2015.

- For Tennessee, the rate of teen pregnancy has been reduced by more than half over the past 28 years, from **16,607 cases or a rate of 46.8** per 100 females in 1985 to **8,455 cases (20.5** per 1,000 females) in 2013.
- In 2014, there were 133 births to teens 15-19 years of age in Sevier County, yielding a rate of **49.6**. The rate at the last assessment was **63** in 2012
- Teen pregnancy rates for all ethnic groups have been falling, however, for Hispanics and African-Americans, the rates are still higher than whites.



2. How Serious is This Issue?

- Pregnancy and birth are significant contributors to high school dropout rates among girls. Only about 50% of teen mothers receive a high school diploma by 22 years of age, compared to 90% of women who do not give birth during adolescence.
- The children of teenage mothers are more likely to have lower school achievement and to drop out of high school, have more health problems, be incarcerated at some time during adolescence, give birth as a teenager, and face unemployment as a young adult.

- Teen childbearing costs U.S. taxpayers billions of dollars due to lost tax revenue, increased public assistance payments, and greater expenditures for public health care, foster care, and criminal justice services.
- 89% of teenage parents are unmarried.
- About 77% of teenage pregnancies are unplanned.
- 15% of teen pregnancies end in miscarriage and 30% end in abortion.
- Complications of pregnancy is the second highest cause of death among 15-19 year old girls.
- 80% of teen mothers go on welfare within the first year after giving birth.

3. How Effective are Interventions?

- Research suggests that implementing evidence-based teen pregnancy prevention programs, expanding access to Medicaid family planning services, and utilizing mass media campaigns to promote safe sex may reduce teen pregnancy and lighten the burden on taxpayers.
- **The 10 Best Practices**
 1. **Youth Development** focuses on providing young people with skills that will help them succeed as adults. One of the most promising approaches to reducing teenage pregnancy is to improve educational and career opportunities for teens and to instill a belief in a successful future.
 2. **Involvement of Family and Other Caring Adults** matters when it comes to affecting a teenager's sexual behavior and the risk of early pregnancy. Family involvement maximizes the effectiveness of pregnancy prevention programs.
 3. **Male Involvement** acknowledges the critical role males play in unintended and early pregnancies among teenagers, and involves them in pregnancy prevention efforts.
 4. **Culturally Relevant** interventions will increase the effectiveness of efforts to reduce teenage pregnancy because culture plays a major role in influencing values and attitudes about sex, child bearing, and parenting.
 5. **Community-Wide Campaigns** to discourage adolescent pregnancy and childbearing are needed because practitioners work with complex social issues such as teenage pregnancy, violence, alcohol, and substance abuse. Single solutions are inadequate.
 6. **Service Learning** connects meaningful community service with academic learning, civic responsibility, and personal growth. It enables young people to study community issues in-depth, plan and initiate community action, and make a difference in their community.
 7. Increasing **Employment Opportunities** for adolescents is necessary to assure economic self-sufficiency, generate self-esteem, and create the motivation to delay early childbearing.
 8. **Sexuality and AIDS Education** plays an important role in providing youth with the knowledge and skills necessary to make healthy decisions about their intimate relationships.
 9. **Outreach in Teen Pregnancy Prevention Programs** that focus on sexual health is critical. The risks of pregnancy and sexually transmitted infections are high in the early months of sexual activity, and teens have the tendency to not seek help before a crisis occurs.

10. **Access to Reproductive Health Services** is important for sexually active teenagers since they need support and encouragement to use contraception effectively and consistently.

4. How Feasible are Interventions?

- The Sevier County Health Department is in the process of determining what approaches and programs may be needed for teen pregnancy. It appears that at this time there is not a coordinated effort addressing teen pregnancy prevention.

DATA SOURCES

<http://www.tn.gov/tccy/adv150501.pdf>

https://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_12.pdf

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**A SPECIAL THANK YOU TO OUR COMMUNITY
ASSESSMENT DATA TEAM MEMBERS:**

LeConte Medical Center

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Hispanic Advocate

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