



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 Fort Loudoun Medical Center to identify the most significant issues facing the health and well being of Loudon 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 Fort Loudoun Medical Center serves patients from multiple counties, more than 50% of its inpatient and outpatient business comes from Loudon County. Thus, the assessment and its findings are limited to Loudon 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 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 Loudon 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 Loudon County. These participating organizations provided representation at planning meetings:

- Loudon County Health Department
- Loudon County Emergency Medical Services
- Loudon County Senior Center
- Loudon County Health Council
- Salvation Army of Loudon County
- Boys and Girls Club
- Kindred Nursing and Rehabilitation
- UT Extension Office
- Fort Loudoun Medical Center
- Habitat for Humanity
- United Way of Loudon County
- Cherokee Health System
- Juvenile Justice Center
- Loudon Police Department
- Lenoir City Police Department
- Parks and Recreation Department
- Department of Children's Services
- Good Samaritan Center
- Mid-East Community Action Committee
- Pastor of local Hispanic Church
- Patient/Family Council members
- Mayor's Office

The Loudon County Public Health System

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

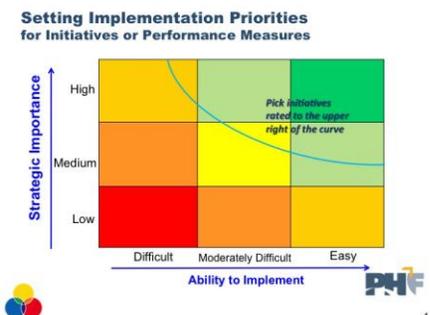
BUILDING UPON THE FIRST ASSESSMENT

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 doing a completely new assessment or building upon the findings from the first assessment. Fort Loudoun 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 summer of 2016, the data for each of the four priority areas were compiled for the most recent year available, county demographics were updated, and a community health forum was held with 28 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 is 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 four 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 four 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)
3. Nominal voting process giving each team member 10 dots to vote for the remaining priorities

PRIORITIES FOR 2017 – 2019

1. Obesity
2. Stroke
3. Pulmonary Disease / Smoking
4. Improving Access to Care

A REVIEW OF DATA

Loudon County Demographics

2013- 2016 Comparison*

Demographics	2013	2016	Tennessee 2016
Population	49,237	50,771	6,549,352
% Below 18 years of age	20.0%	19.8%	22.8%
% 65 and older	22.4%	24.5%	15.1%
% Non-Hispanic African American	1.3%	1.4%	16.8%
% Asian	0.6%	0.8%	1.7%
% Hispanic	7.1%	7.9%	5.0%
% Non-Hispanic White	89.8%	88.6%	74.6%
% Female	51.0%	51.1%	51.3%
% Rural	40.6%	40.6 %	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 Loudon 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 Loudon County:

- Aging population
- Transportation
- Substance abuse
- Political uncertainty
- Growing Hispanic population
- Working poor

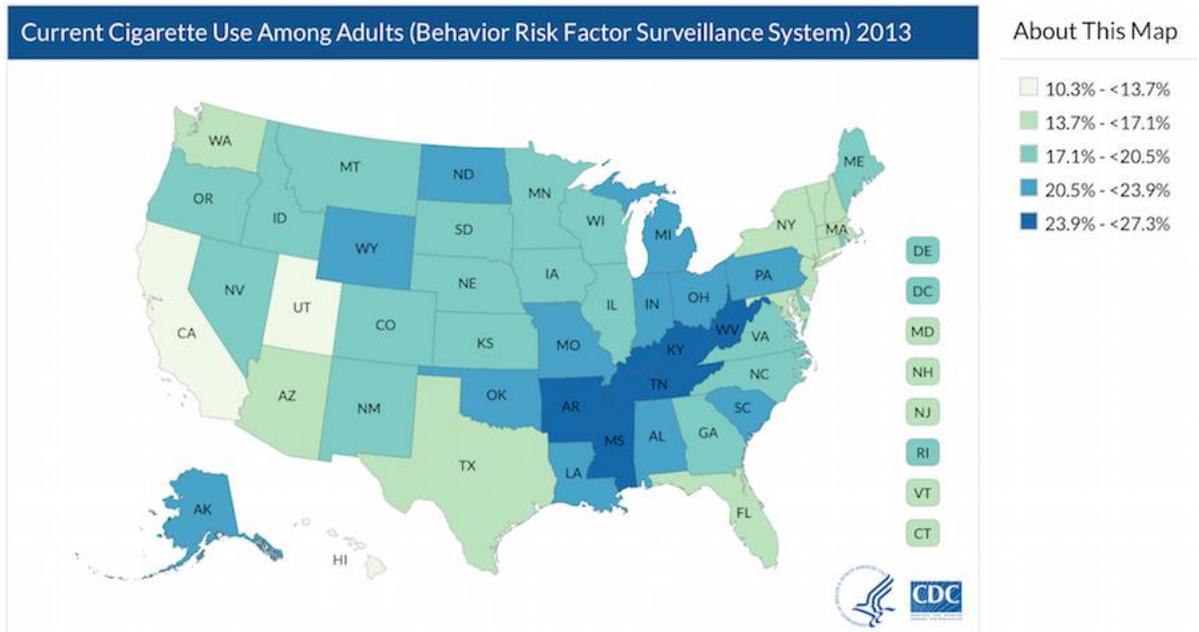
REVIEW OF DATA (CONTINUED)

Smoking in the United States, Tennessee and Loudon County

Tobacco use is the leading cause of preventable death in Tennessee and the United States overall. Smoking harms nearly every organ in the body and causes cancer, heart disease, stroke, respiratory illness and many other health problems.

1. How Significant is This Issue?

- If current smoking rates continue, 125,000 Tennessee children alive today who are younger than 18 years of age will die prematurely as a result of smoking.
- Half of all current smokers who continue smoking will die from a tobacco-related illness. More than 16 million Americans live with a smoking-related disease.
- In **2012**, **24%** of the adults in Loudon County were current smokers. In 2016, that percentage was reduced to **20%**. During that same time period the Tennessee percentage of adult smokers remained at 24%
- In Loudon County for **2016**, **5.8%** of eighth graders reported smoking. This compares to **12.8% in 2010**.
- Nationally, cigarette smoking percentages among age groups are adults 18-24 years - 16.7%, 25-44 years – 20%, 45-64 years – 18%, and 65 years and older – 8.5%.



- Current cigarette smoking is highest among those with a GED certificate (43%), with a high school diploma (21.7%), with associate's degree (17.1%), with an undergraduate degree (7.9%), and with a graduate degree (5.4%).
- Current cigarette smoking is higher among persons living below the poverty level (26.3%) than those living at or above the poverty level

2. How Serious is This Issue?

- Adult smoking rates in Tennessee have remained relatively stable over the past five years at 24%.
- In Tennessee, smoking costs \$2.17 billion in personal healthcare expenditures and \$2.97 billion in lost productivity annually.
- Smoking and exposure to secondhand smoke result in \$96 billion in medical expenditures and \$97 billion in lost productivity annually in the United States.
- In 2013, 12 children under age 5 were seen in the Fort Loudoun Emergency Department for diagnosis of asthma. That number nearly doubled to 23 for 2014. Tobacco claims at least 30 Tennessee lives each day.
- E-cigarette use nationwide among youth tripled in the last year; however, there was no decline in overall tobacco use between 2011-2014. Overall rates of any tobacco product use were 24.6% higher for high school students and 7.7% for middle school students in 2014 in the U.S.
- Nationally, the percentage of pregnant women that report smoking at some time during their pregnancy shows improvement from 2012 at 14.2% to 2013 at 11.9%. Smoking is a risk factor for premature and low birth weight births.
- In Loudon County the percent of women smoking during pregnancy has dropped from 19.2% in 2013 to 14.6% for 2015.
- It is estimated that if women were to stop tobacco use during pregnancy, over \$300 million in healthcare cost and 986 infant deaths would be avoided annually in the U.S.
- Diseases of the respiratory system are the number one reason for hospitalization of young children. Secondhand smoke has a huge impact on the occurrences of respiratory issues.

3. How Effective are the Interventions?

- People who work with their healthcare professionals are ultimately more successful in attempts to quit tobacco use.
- Smokers who quit can add up to 10 years to their life expectancy.
- \$15 million was appropriated in the 2014 state budget for three years to support tobacco use prevention projects. Loudon County received funding of \$100,687 for 2014, 2015, and 2016.

- Through the Tennessee Tobacco Use, Prevention and Control Program, smokers have the option to call the **Tennessee Tobacco Quit Line** (1-800-Quit-Now), use a web-based program or attend in-person counseling services and may receive free FDA-approved nicotine replacement therapy. Data are not available to prove the effectiveness of this intervention.
- American Lung Association's **Freedom from Smoking** program has been proven effective in the U.S., with over 60% quitting with the program and participants being six times more likely to be smoke-free one year later.
- The **Non-Smokers Protection Act** prohibits smoking in most enclosed public places, including public and private workplaces, public and private educational institutions, stores, healthcare and mental health facilities, child care and adult day care facilities, stores and malls, theaters and sporting venues, public transportation vehicles and their related facilities, and restaurants, including bars within restaurants (*TN Code Sec. 39-17-1801 et seq.*).
- The research literature suggests that the most potent demand-reducing influences on tobacco use have been efforts to increase the financial cost of using tobacco products primarily through taxation, smoke-free policies, comprehensive advertising bans, and paid counter-advertising campaigns.

4. How Feasible are the Interventions?

- As a whole, the community is aware that tobacco use is an issue. It was identified as a top issue in the 2013 Community Health Needs Assessment. However, there needs to be more awareness regarding details, such as the occurrence and impact of third hand smoke and the prevalence of smoking among pregnant women.
- While Tennessee enjoys some of the lowest taxes on a pack cigarettes (\$0.62) and ranked 47th of having the lowest price for a pack of cigarettes (\$5.30), New York has the highest tax on a pack of cigarettes (**\$5.85**), making the cost of a pack of cigarettes (**\$12.85**), the most expensive in the nation. While Tennessee's smoking rate is **24%**, New York's is **13.9%**. The recommend tax on a pack of cigarettes should be \$2.00 or above.
- As far as laws in the state, Tennessee is a preemptive state, meaning no local government law can be passed that is stricter than the state law related to tobacco.
- The **Non-Smokers Protection Act** prohibits smoking in most enclosed public places, including public and private workplaces, public and private educational institutions, stores, healthcare and mental health facilities, child care and adult day care facilities, stores and malls, theaters and sporting venues, public transportation vehicles and their related facilities, and restaurants, including bars within restaurants (*TN Code Sec. 39-17-1801 et seq.*).
- Residents of Loudon County who have access to the internet can access the Covenant Health Smoking Cessation app for assistance with smoking cessation.
- The "Baby and Me Tobacco Free" (BAM) program of the Loudon County Health Department is in its third year. The last two years have shown a 4.5% reduction in the number of babies born to women who smoke.

- The Health Department has been collaborating with child care centers to make their facilities “Smoke Free” in an effort to reduce Emergency Room visits for young children.
- The Health Department has been working with Loudon County Juvenile Court to make a difference in youth using tobacco or choosing not to start smoking,

DATA SOURCES

<https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6444a2.htm>

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<https://tn.gov/health/news/37559>

https://en.wikipedia.org/wiki/Cigarette_taxes_in_the_United_States

<http://www.politico.com/states/new-york/city-hall/story/2015/09/nyc-smoking-rate-drops-to-lowest-on-record-025625>

countyhealthrankings.org/app/Tennessee/2016/overview

Loudon County Health Department

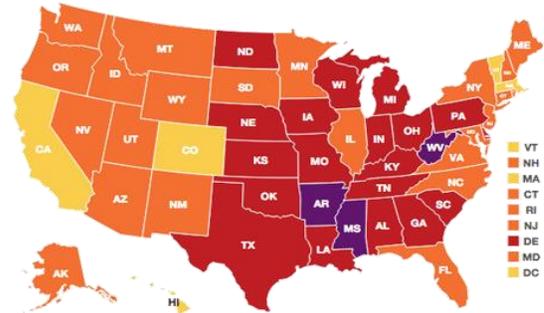
<https://www.cdc.gov/psr/2013/hai/2013/tn-hai.pdf>

<https://theawl.com/what-a-pack-of-cigarettes-costs-state-by-state-cbe0e4a20332#.orddw644b>

A REVIEW OF DATA (CONTINUED)

Obesity in the United States, Tennessee and Loudon County

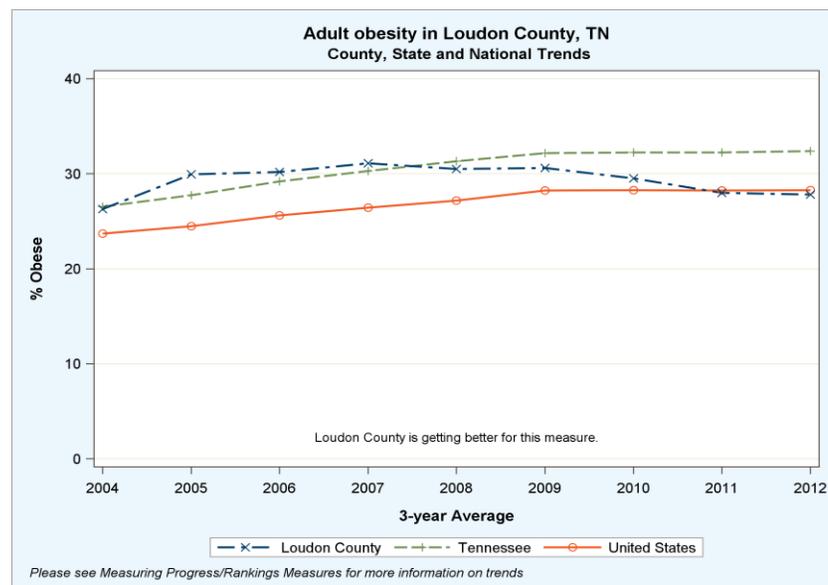
More people are overweight today than ever before. In fact, almost 70 percent of Americans ages 20 and older are overweight. Of those, about one third are considered obese. "Overweight" and "obese" are both terms for having more body fat than what is considered healthy. Both are used to identify people 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 differentiation 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.



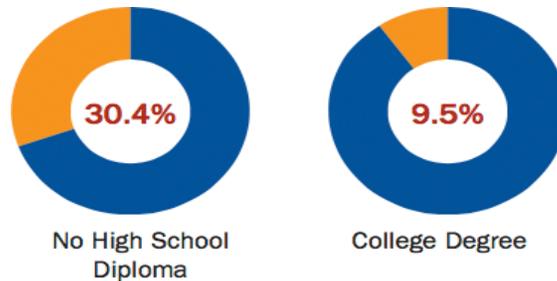
According to the most recent data, rates of obesity now exceed 35 percent in three states (Arkansas, West Virginia and Mississippi), 22 states have rates above 30 percent, 45 states are above 25 percent, and every state is above 20 percent. Arkansas has the highest adult obesity rate at 35.9 percent, 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.
- Loudon County in 2016 has a **28%** adult obesity rate. In recent years this percentage has fallen below the state and national rate.



- 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.

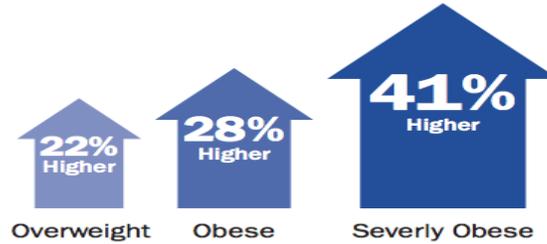


- Approximately 214,000 of 607,000 Tennessee children ages 10-17 years (35.3%) are considered overweight or obese according to BMI standards for age ranges.
- More than one in three (34.8%) white non- Hispanic children in Tennessee are overweight or obese, ranking the state 49th for this race subgroup, 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 costs 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, costing approximately \$4.3 billion annually and with lower productivity while at work, costing employers \$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.

Difference in Emergency Room Costs for Patients Presenting With Chest Pains Compared with a Normal-weight Patient



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. Anyone dealing with a weight problem is very aware of the limitations it carries and most would like to reduce weight to a healthy level.
- Although there are no bariatric providers offering weight loss services in Loudon County, the service is provided in the Covenant Health system, about a half-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 class, which includes 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 Loudon County.

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)

Access to Care in Loudon County

In the context of access to care one must look at access in terms of transportation, availability of physicians, the availability of clinics, particularly that serve low-income populations, and insurance eligibility and coverage.

1. How Significant is This Issue?

- The Affordable Care Act (ACA) is adding millions of previously uninsured citizens to the already swollen ranks of healthcare consumers. This will exacerbate the shortage of primary care physicians, particularly as we move from sick care to health care, which is mostly to be provided by primary care facilities.
- The portion of the population most disproportionately affected are those who, based on income, did not qualify for subsidized health insurance premiums and would have benefited if Medicaid expansion happened in Tennessee.
- Transportation access, particularly for medical needs, affects the low-income and senior populations disproportionately.
- Since the health insurance exchange market was set up, there are 122,242 more Tennesseans with health insurance. In 2016, 22% of Loudon County adults were uninsured, of which 8% were children.
- In Loudon County the ratio of population to number of primary care physicians in 2016 is 2,020:1 while the ratio for Tennessee overall is 1,380:1
- At the time of the last assessment it was common to hear that a person needed to travel out of county for primary care. In 2016 compared to 2013, there have been five additional primary care physicians added in Loudon County through Fort Loudoun's recruiting efforts
- Based upon the population size, Loudon County could still use an additional 7.5 primary care providers.

2. How Serious is This Issue?

- Demand for primary care services is projected to grow, mostly due to population aging and growth. Aging and population growth are projected to account for 81 percent of the change in demand between 2010 and 2020.
- In 2016, one in four residents was 65 years of age or older in Loudon County.
- People who cannot access care will often delay care, resulting in worsening their health and often going to the emergency room for care.

- Based upon the population size, Loudon could still use an additional 7.5 primary care providers.
- Access to primary healthcare is particularly important for conditions such as diabetes and for preventive care such as immunizations. For chronic conditions, continuity of care and proactive treatment of risk factors can improve health, prevent or delay complications and reduce costs such as hospitalization.

3. How Effective are Interventions?

- The use of physician extenders or mid-levels such as nurse practitioners or physician assistants can effectively improve access to primary care.
- Medicaid expansion would open up access to many uninsured in Loudon County. The challenge would then be to find primary care providers who could handle the increase in demand for services.

4. How Feasible are Interventions?

- Covenant Health and Fort Loudoun Medical Center are actively recruiting year-round to bring new physicians to the area.
- CVS and Walgreens Pharmacies have been expanding primary care access with in-store health clinics. The Walgreens Minute Clinic closed last May. There is a Minute Clinic at the CVS Lenoir City location.
- There is an initiative underway in Loudon County to establish a volunteer-based transportation program for seniors. This program would replicate what Blount and Roane Counties are doing to improve access to healthcare services for seniors.

DATA SOURCES

Covenant Health Physician Services

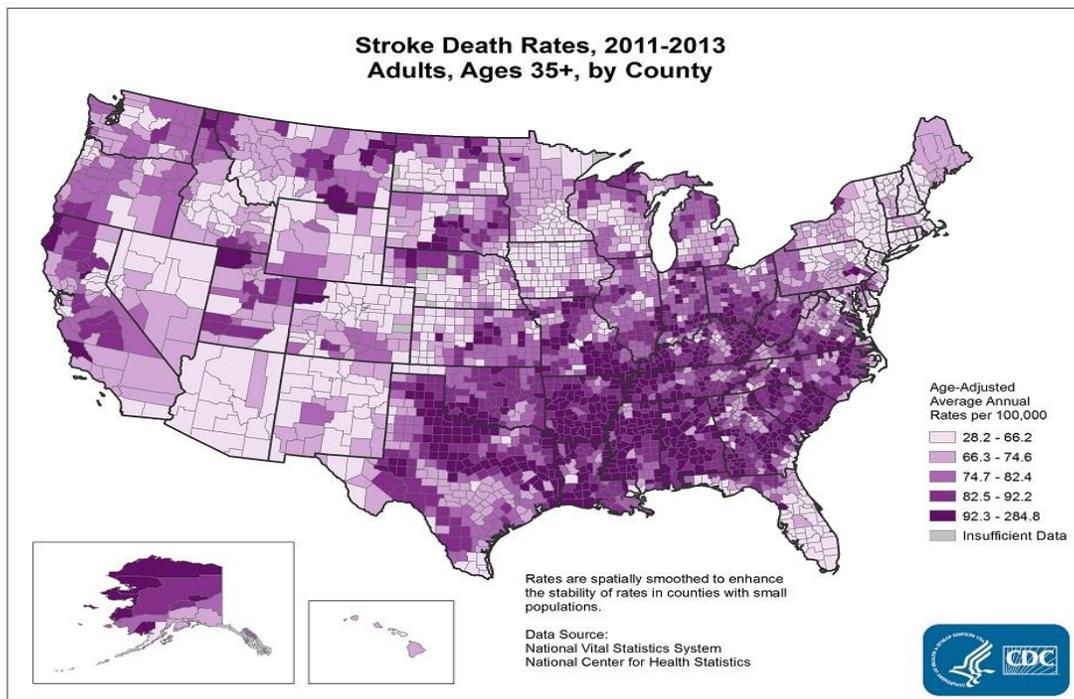
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A REVIEW OF DATA (CONTINUED)

Stroke in the United States, Tennessee and Loudon County

Stroke, also referred to as Cerebrovascular Accident (CVA), occurs when blood flow to an area of the brain is cut off, depriving brain cells of oxygen. The effects of such an event depend on where in the brain stroke occurs and how much damage has been caused. There are two types of stroke: ischemic, which occurs when a blood clot blocks the flow of blood to the brain, and hemorrhagic, when either a burst aneurysm or weakened blood vessel leaks blood around the brain, creating swelling and pressure. Recognizing the signs and symptoms of stroke are of the utmost importance, as treatment within 4 ½ hours of symptom onset can result in a greatly reduced risk of permanent disability. Identifying risk factors and modifying those lifestyle factors that are controllable are critical in reducing stroke occurrence.



1. How Significant is This Issue?

- Stroke is the fifth leading cause of death in the United States. In 2014, 133,103 people died from stroke, which equates to 1 out of every 20 deaths. According to the American Heart Association, someone in the U.S. has a stroke about once every 40 seconds.
- Stroke is not only a leading cause of disability, it is the leading preventable cause of disability.
- There is a higher incidence of stroke among white women greater than 85 years of age compared with men of the same age, and a higher overall incidence in blacks compared with whites.

- The stroke prevalence is greater in people with lower levels of income and educational attainment, and in people living in the Southeastern United States
- According to the *Tennessee Stroke Registry*, stroke is the 5th leading cause of death in the state, claiming more than 3000 lives in 2013. Tennessee's 2013 Stroke Mortality Rate (SMR) was 21.3% higher than the national average.
- Tennessee hospitals reported 7185 cases of stroke in 2015. The state is currently ranked 45 in overall health outcomes according to America's Health Rankings. It also ranks 45 in occurrences of stroke.
- Tennessee is part of what is known as "The Stroke Belt" of the U.S. The Stroke Belt is a geographical region so named because of the high prevalence of stroke and stroke risk factors.
- In 2015, Loudon County had a stroke mortality rate between 54-68.2 per 100,000 people.
- Though it is within a 50-mile radius of two certified stroke centers, Loudon County still has a high SMR in comparison to other Tennessee counties.

2. How Serious is This Issue?

- In 2015, estimated direct medical costs and indirect medical costs (lost productivity) of stroke are \$67.7 billion.
- By 2030, stroke occurrence is estimated to increase 22% to 4 million people.
- According to a study published in the American Heart Association's *Stroke*, 64-68% of excess stroke risk in the Southeast can be explained by race/ethnicity, socioeconomic status, risk factors, and chronic disease.
- The AHA recognizes the following as risk factors for stroke: high blood pressure, tobacco use, diabetes, high blood cholesterol, physical inactivity and obesity, previous strokes, sickle-cell anemia, age, gender, heredity, and race. Other risk factors that require further research to determine the extent of association include excessive alcohol intake, geographic location, socioeconomic factors, as well as drug abuse.
- The AHA estimates that 80% of strokes are preventable.
- Common complications of stroke include: brain swelling, pneumonia, urinary tract infections, seizures, depression, bedsores, limb contractures, pain, and deep-vein thromboses.
- Physical changes caused by stroke can be common and are based on which side of the brain stroke occurs. Rehabilitation can be lengthy as well as costly.

3. How Effective are Interventions?

- Education about risk factors that can be changed, treated, and/or controlled is crucial. These include blood pressure, smoking, diabetes, arterial diseases, atrial fibrillation, other heart diseases, sickle-cell anemia, blood cholesterol, diet, and exercise.
- Recognizing signs and symptoms of stroke is critical. In order to minimize the long-term effects of stroke and prevent death, immediate medical treatment is necessary. The AHA recommends the acronym FAST technique to help people remember which signs to look for: **F**ace drooping, **A**rm weakness, **S**peech difficulty, **T**ime to call 911.
- tPA administration is the FDA-approved treatment for ischemic stroke. tPA is administered through an intravenous line and works by breaking up the clot and restoring blood flow to the brain. It must be administered within 3 hours (up to 4 ½ for some patients) of the onset of symptoms to greatly improve the chances of recovery.
- Surgical intervention for hemorrhagic stroke involves repairing the damaged blood vessels and stopping the source of bleeding.
- Local EMS Services have the ability to administer tPA en route to the hospital, which can improve the chance of recovery.

4. How Feasible are Interventions?

- Covenant Health is the only stroke hospital network in East Tennessee. When patients need a higher level of stroke care, they are transported to Fort Sanders Regional Medical Center, the hub of the stroke hospital network and the region's first comprehensive stroke center.
- Each hospital in the Covenant Health network has the advanced diagnostics needed to diagnose stroke and the ability to administer tPA, a medicine that breaks down stroke-causing blood clots.
- Fort Sanders Regional Medical Center and University of Tennessee Medical Center have Comprehensive Stroke Center designations from The Joint Commission.
- Rehabilitation is an important component of stroke care. Fort Sanders Regional is home to the Patricia Neal Rehabilitation Center, a rehabilitation center for stroke, spinal cord, and brain injury patients.
- Kindred Nursing and Rehabilitation is located within Loudon County and offers stroke rehabilitation services.

Tennessee Stroke Registry, maintains a statewide stroke database and report statistics on stroke prevalence, mortality, and performance metrics. A component of ETSU's College of Public Health.

The American Heart Association. *Heart Disease, Stroke, and Research Statistics At-a-glance.*

Strokeassociation.org

<https://www.covenanthealth.com/strokenetwork/>

www.cdc.gov

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

United Way of Loudon County

Fort Loudoun Medical Center

Loudon County Health Department

UT Extension Service

Loudon County Health Council

Coordinated School Health