2016

Community Health Needs Assessment

NorthCrest Medical Center

100 Northcrest Drive
Springfield, TN 37172
(615) 384-2411
www.northcrest.com

Table of Contents

I. INTRODUCTION

Brief Overview of Community Health Needs Assessment

Community Benefit determines if hospitals promote the health of a broad class of individuals in the community, based on factors including:

- Emergency room open to all, regardless of ability to pay;
- Surplus funds used to improve patient care, expand facilities, train, etc.;
- Controlled by independent civic leaders; and
- All available and qualified physicians are privileged.

A CHNA is an important tool in identifying the health needs of a community. The results assist in prioritizing health needs that lead to the allocation of appropriate resources and the creation of new partnerships to improve the health of the population. In an era of aging baby boomers, increased chronic disease, an epidemic prevalence of obesity, an increasing number of uninsured citizens and disparate access to care, healthcare organizations are being challenged to maximize the use of their collective resources to respond to the needs of the communities they serve.

Approach

To complete a CHNA, the Hospital must:

- Describe the process and methods used to conduct the assessment;
    - Sources of data, and dates retrieved;
    - Analytical methods applied;
    - Information gaps impacting ability to assess the needs; and
    - Identify with whom the hospital collaborated.
- Describe how the hospital gained input from community representatives;
    - When and how the organization consulted with these individuals;
    - Names, titles, and organizations of these individuals; and
    - Any special knowledge or expertise in public health possessed by these individuals.
- Describe the process and criteria used in prioritizing health needs;

- Describe existing resources available to meet the community health needs;

- Identify the programs and resources the hospital facility plans to commit to meeting each identified need and the anticipated impact of those programs and resources on the health need.

II. EXECUTIVE SUMMARY

NorthCrest, which began operations in 1956 under the name of Jesse Holman Jones Hospital, is located in Springfield, Tennessee (30 miles north of Nashville), and serves Robertson and surrounding counties as well as southern Kentucky. December 1995 marked the hospital's move to a new medical complex located on 45 acres. The 109-bed facility represents multiple specialties supported by state-of-the-art equipment, including an in-house cardiovascular lab, a full range of outpatient services and 24-hour emergency services. The NorthCrest campus includes four medical office buildings.

More than 175 active and consulting physicians are on the NorthCrest Medical Staff. They provide a variety of services that allow patients the opportunity to receive specialized care locally. Some of the specialties of the NorthCrest physicians include cardiology, diagnostic and interventional radiology, emergency medicine, endocrinology, family practice, internal medicine, nephrology, neurology, obstetrics/gynecology, oncology, ophthalmology, orthopedics, otolaryngology (ear, nose and throat), pediatrics, podiatry, pulmonology, rheumatology, general and vascular surgery, and urology.

Community education programs are ongoing at NorthCrest. Classes, seminars and workshops on healthy eating, diabetes care, CPR and AED (automatic external defibrillator) are a few of the programs offered. NorthCrest also provides workshops, health fairs and health screenings. Grief support groups meet regularly for adults and children who have experienced the loss of a loved one.

The NorthCrest Executive Council was charged with the CHNA process. The Council determined a committee would be created to conduct the CHNA and the associated Implementation Strategy. In December 2015, NorthCrest identified key staff members to begin work on a comprehensive CHNA. The NorthCrest Executive Council identified key personnel to serve on the newly formed CHNA committee. Key community health and social service stakeholders were engaged to assist in the process to ensure input from the underserved, chronically ill, low income and minority populations in the NorthCrest service area was taken into account. Specifically, the following served on the CHNA Committee:

Name	Company/Department
Kim Pridgen	NorthCrest Accounting
Adele Watts	NorthCrest Foundation

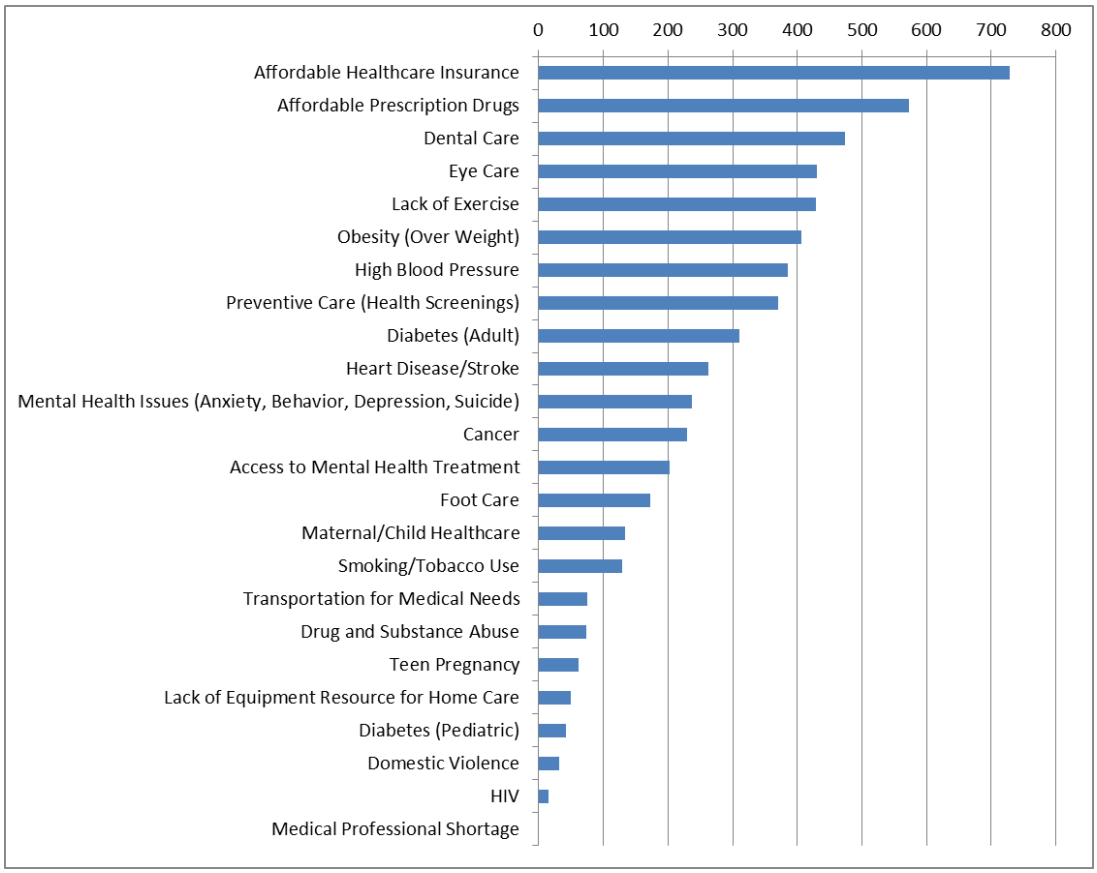
Chris Locke	NorthCrest Physician Services
Rob DeBerry	NorthCrest Community Development
Michael Lewis, MD	Community Physician
Howard Bradley	County Major & Former Educator
David Limpus	Robertson County YMCA
Dana Holt	Robertson County School Nurse
Vanessa Watkins	Director of Robertson County Health Department
James Bowens	Board Member/Robertson Commissioner
Frank Callis	Electrolux

The Committee met three times over the six month time-frame and was requested to assist with and provide direction for the following responsibilities:

- Identifying primary and secondary data sources
- Identifying key community partners
- Developing the organization's CHNA instrument and methodology
- Developing targeted interview questions including identification of its community's population health experts
- Compiling and interpreting the data accumulated through the survey
- Achieving consensus, with its identified community partners, citizens and public health experts, in identifying the top health issues facing its community
- Developing the Hospital's implementation strategy to address the findings of the CHNA

NorthCrest's primary data collection vehicle for determining community perception about the various needs of the community was an online survey, seeking input regarding demographics and health status. In order to seek input from the medically underserved, chronically ill and low-income individuals and to ensure input from the overall population, the survey was advertised by several different community partners, with paper copies placed through the community. The survey was available to the public via a link on the hospital's main website and through paper copy for a three month period, from January 2016 to March 2016.

In order to better gauge the community's perception of the local health needs, they community was asked what they perceive to be the most important health issues affecting their family. A total of approximately 250 surveys were received in electronic and paper format. Responses for questions were weighted on a point-scale using 6 points for each respondent claiming a "Greater Need", 5 points for "Significant Need", etc. The statistically-weighted responses to the question: "What do you see as important health issues facing you and your family?" are as follows:



Other primary data sources included a review of the hospital's top diagnoses codes for inpatient and outpatient care. Secondary data reviewed included but are not limited to "County Health Rankings," compiled by the Roberts Woods Johnson Foundation, and The U.S. Department of Health and Human Services.

In selecting the health issues prioritized for inclusion in the Implementation Strategy, the Executive Council members considered the following: social determinants of health status in its community; each participating agency's mission, vision, and strategic plans; and current health programming offered by each partner. Opportunities for collaboration to further improve community health status were a key focus. The Hanlon Method, a mathematical algorithm developed by Felix, Burdine and Associates was then used to assign numerical values to rate the size, seriousness, and effectiveness of available interventions for each health issue. The "Pearl" test was then applied to the list of needs to help screen out health problems based on five feasibility factors.

After a thorough analysis of primary and secondary data, and applying the Hanlon Method and "Pearl" test, the members agreed that the following health issues should be prioritized for action:

1. Affordable Health Insurance
2. Dental Care
3. Affordable Prescription Drugs

4. Eye Care
5. Lack of Exercise

III. DEMOGRAPHICS

Definition of Area Served by the Hospital Facility

NorthCrest's primary service area (PSA) are the following ZIP codes:

37010 – Adams, TN
37032 – Cedar Hill, TN
37049 – Cross Plains, TN
37073 – Greenbrier, TN
37141 – Orlinda, TN
37152 – Ridgetop, TN
37172 - Springfield, TN
37188 - White House, TN

Demographics of the Community

The population of the PSA is 66,283[1], with a gender ratio close to state and national ratios of 49 percent male and 51 percent female. Springfield, the county seat of Robertson County, makes up

[1] All population information, unless otherwise cited, sourced from U.S. Census Bureau – American FactFinder

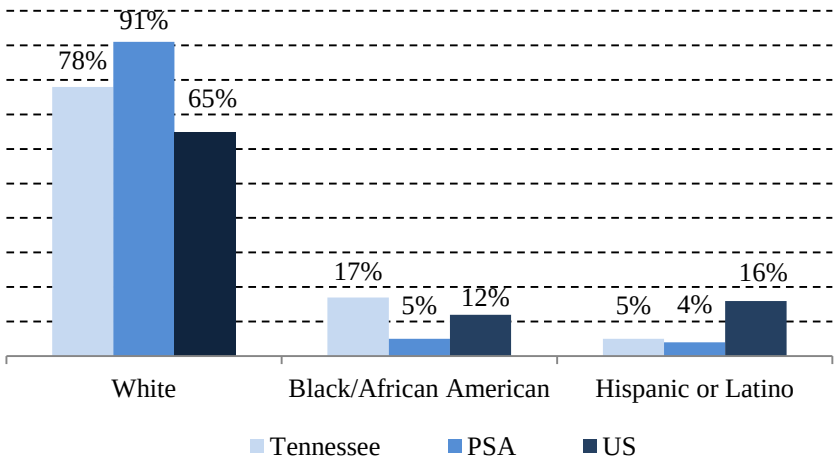
approximately 50 percent of the total discharges from NorthCrest. Robertson County has experienced nearly 22 percent population growth since 2000 (54,433), and is projected the grow an additional 19 percent to 78,938 in 2020.

Table 1. **Age Categories for PSA, Tennessee and the U.S.**

	PSA	TN	US
0 – 19 years	27%	26%	27%
20 – 44 years	32%	33%	34%
45 – 64 years	28%	27%	26%
65 and older	12%	13%	13%

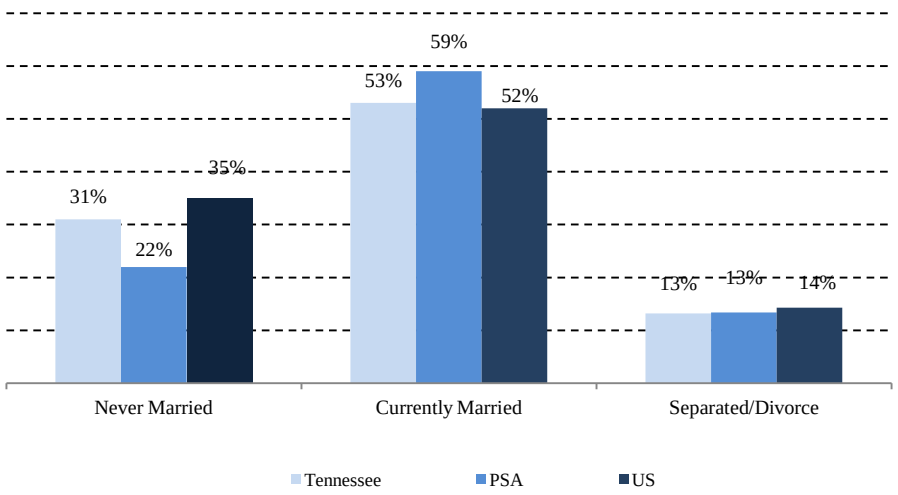
The ethnic composition of the PSA is mostly a mix between Hispanic/Latino, Black/African American, and White races. The PSA's white population is at a higher ratio than the U.S. and state while the proportion of Black and Hispanic/Latino residents is significantly lower. Ethnic variation in cultural norms, English comprehension, and beliefs about health impact the mode of health care delivery and how patients respond to health care services. This variation creates a need for increased awareness and sensitivity among service providers.

Table 2. **Ethnic Composition for PSA, Tennessee, and the U.S. (2010)**



With regard to marital status, The PSA's population has a notably smaller percentage of people who have never been married when compared to the state and the nation; Further, the PSA has a larger comparative percentage of people who are currently married and not separated. The data regarding separated/divorced residents are similar to state and national averages.

Table 3. **Marital Status for PSA, Tennessee, and the U.S. (2010)**



IV. SOCIAL DETERMINANTS OF HEALTH

Quality of life issues are indicators that include not only wealth and employment, but also the built environment, physical and mental health, education, recreation and leisure time, and social belonging. The following section addresses social determinants of health, and how the NorthCrest PSA rates relative to state and national figures.

Economic Security

Research indicates that people living on limited incomes are more likely to forego visits to the doctor in order to meet their more pressing financial responsibilities.[2] Low-income wage earners are also less likely to be covered by an employer's health insurance program, and if they are covered, they are often less able to pay their share of health expenses. Educational attainment and family or household income are two indicators commonly used to assess the influence of socioeconomic circumstances on health. Education is a strong determinant of future employment and income. In the majority of persons, educational attainment reflects material and other resources of family of origin and the knowledge and skills attained by young adulthood; therefore, it captures both the long-term influence of early life circumstances and the influence of adult circumstances on adult health. Income is the indicator that most directly measures material resources. Income can also influence health by its direct effect on living standards (e.g., access to better quality food and housing, leisure-time activities, and health-care services).

[2] DeNavas-Walt C, Proctor BD, Mills RJ. Income, Poverty, and Health Insurance Coverage in the United States: 2003. U.S. Census Bureau, Current Population Reports, P60-226. U.S. Government Printing Office, Washington, DC, 2004.

The PSA's median household income of $53,425 is substantially higher than the statewide median household income of $44,621, and is in-line with the United States of $53,482.

Research is clear that poverty is the single greatest threat to children's well-being.[3] While an adult may fall into poverty temporarily, falling into poverty in childhood can last a lifetime – rarely does a child get a second chance at an education or a healthy start in life. As such, child poverty threatens not only the individual child, but is likely to be passed on to future generations, entrenching and even exacerbating inequality in society. Table 4 reports the percentage of children aged 0-17 living under 100 percent of the Federal Poverty Level (FPL). This indicator is relevant because poverty creates barriers to access including health services, healthy food, and other necessities that contribute to poor health status.

Nearly three thousand children in the Robertson County – 19 percent of all children – live in families with incomes below the federal poverty level – $24,300 a year for a family of four.[4] Research shows that, on average, families need an income of about twice that level to cover basic expenses. Most of these children have parents who work, but low wages and unstable employment leave their families struggling to make ends meet. Poverty can impede children's ability to learn and contribute to social, emotional, and behavioral problems. Poverty also can contribute to poor health and mental health. Risks are greatest for children who experience poverty when they are young and/or experience deep and persistent poverty.

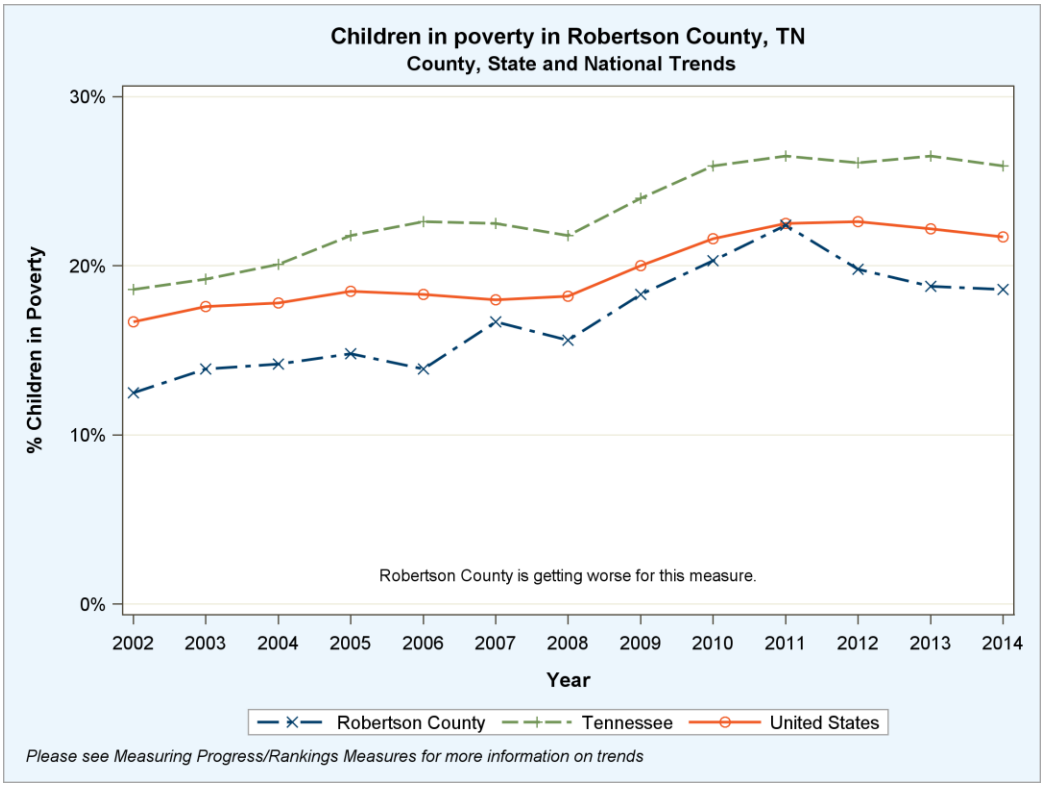
Table 4. **Child Poverty for Robertson County, Tennessee and the U.S.**

	RC	TN	US
Total Population (For Whom Poverty Status is Determined)	17,088	1,447,985	71,905,010
Children in Poverty	3,125	370,491	15,770,127
Children in Poverty (%)	19%	26%	22%

As shown below in Figure 1, the percentage of children living in poverty has only risen over the last decade, from nearly 13 percent in 2002, to over 19 percent in 2014.

[3] National Center for Children in Poverty
[4] U.S. Centers for Medicare & Medicaid Services. Retrieved from: http://www.healthcare.gov

Figure 1. **Trend of Children Living in Poverty, 2002 - 2014**[5]



Not only is there a racial disparity in children living in poverty in Robertson County, but in Tennessee and the United States as well. Table 6 shows a breakdown of U.S. Census Bureau information from the American Community Survey, 2006 – 2010. Black children have the highest poverty rate among the race groups on the county, state, and national level.

[5] *County Health Rankings 2016.* Retrieved from: http://www.countyhealthrankings.org

Table 6. **Percentage of Children Living in Poverty by Race, 2006-2010**

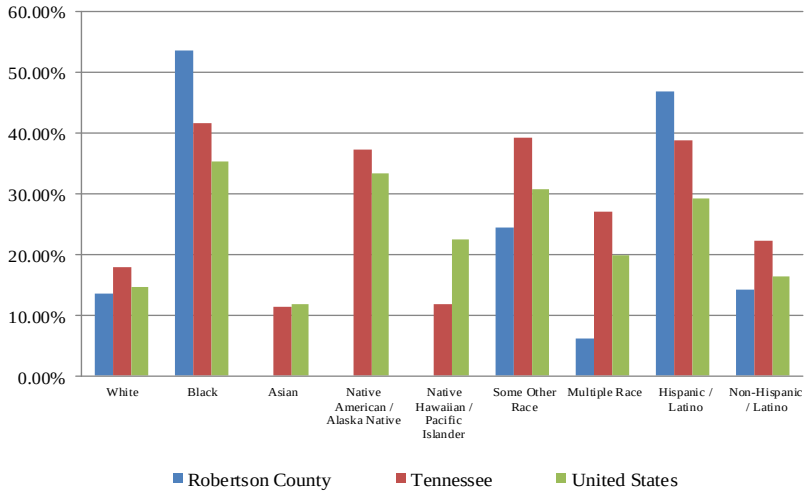
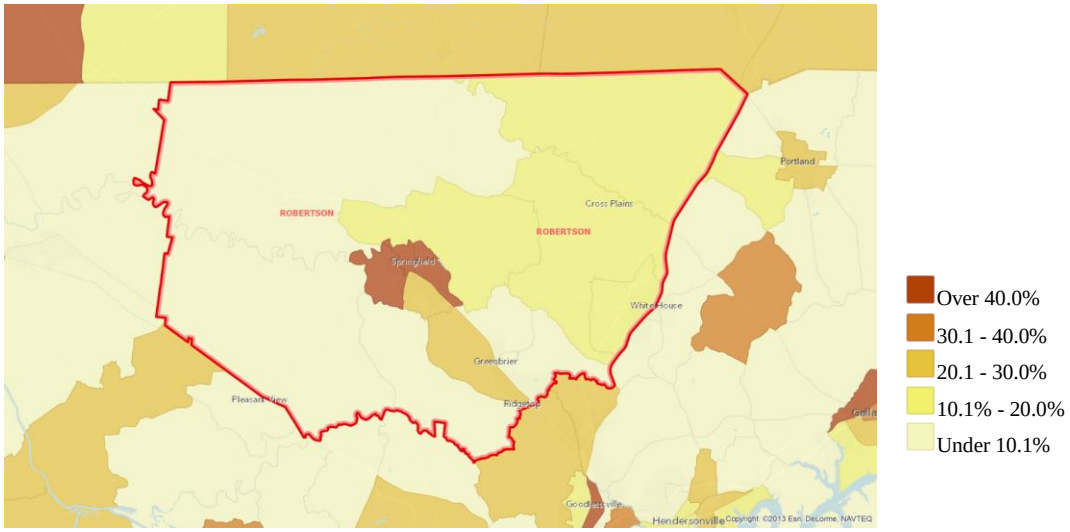


Figure 2 depicts the most vulnerable areas of children living in poverty by tract for Robertson County. Springfield appears to be the area of greatest need, in which more time and resources can be devoted to planning interventions that can help address this disparity.

Figure 2. **Percentage of Children Living in Poverty by Tract, 2006-2010**[6]



[6] U.S. Census Bureau, 2007 – 2011 American Community Survey 5-Year Estimates

Table 7 reports the percentage of the population that is enrolled in Medicaid. This indicator is relevant because it assesses vulnerable populations which are more likely to have multiple health access, health status, and social support needs; when combined with poverty data, providers can use this measure to identify gaps in eligibility and enrollment.

Table 7. **Medicaid Population for Robertson County, TN and the U.S.**[7]

	RC	TN	US
Total Population (For Whom Poverty Status is Determined)	65,680	6,201,012	301,501,760
Medicaid Population	10,293	1,134,209	48,541,096
Medicaid Population (%)	16%	18%	16%

Education

A lack of education has been cited as a major indicator of poor health in many studies.[8] Educational barriers often turn into impediments to employment, further increasing the likelihood of poverty and lack of insurance. Lack of adequate health education also impacts a person's ability to understand medical information or recognize early symptoms of disease.

The PSA's income level is adversely correlated with its level of education. While the PSA boasts a higher high school graduation rate compared to the state and nation; only 18 percent of the PSA's residents hold a bachelor's degree or higher compared to 24 percent statewide and 28 percent nationally, as shown in Table 8. The PSA compares favorably to the state and the nation in the other education levels shown below.

Table 8. **Education Level for PSA, Tennessee and the U.S.**

	PSA	TN	US
Less than High School	5.7%	6.1%	6.4%
Some High School	11.4%	9.7%	8.9%
High School Degree	37.2%	33.4%	29.0%
Some College/Assoc. Degree	27.6%	27.2%	28.2%
Bachelor's Degree or Greater	18.1%	23.6%	27.5%

[7] U.S. Census Bureau, 2008-2010 American Community Survey 3-Year Estimates
[8] Fisher Wilson J. The Crucial Link between Literacy and Health. Annals Internal Medicine. 11/18/2003, Vol. 139 Issue 10, p875, 4p.

Housing

Healthy homes are essential to a healthy community and population. They contribute to meeting physical needs (e.g., air, water, food, and shelter) and to the occupants' psychological and social health. Housing is typically the greatest single expenditure for a family. Safe housing protects family members from exposure to environmental hazards, such as chemicals and allergens, and helps prevent unintentional injuries. Healthy housing can support occupants throughout their life stages, promote health and safety, and support mental and emotional health. In contrast, inadequate housing contributes to infectious and chronic diseases and injuries and can affect child development adversely.

Increased use of rental housing is associated with more transitory lifestyles, a less stable home and an environment that deters health prevention. For example, rental housing is more likely than owned housing to be sub-standard, in neighborhoods with higher crime rates, lower quality schools, limited healthy food choices and fewer recreational opportunities. This measure does not reflect whether there is a significant population of homeless individuals in an area, a factor that could influence demands on local health systems in addition to the inherent increase in overall health risk from lack of stable shelter.

As shown in Table 9, the PSA has a proportionately lower percentage of renter-occupied housing units compared to the state, as well as the nation. Total households for the PSA is approximately 38,500.

Table 9. **Housing Tenure for PSA, Tennessee and the U.S.**

	PSA	TN	US
Owner-occupied Housing Units	79.1%	69.0%	66.1%
Renter-occupied Housing Units	20.9%	31.0%	33.9%
Total Households	38,535	2,829,025	132,312,404

Employment

Lack of health insurance forces individuals to forgo primary care treatment options, leading to a markedly increased propensity to be hospitalized for chronic conditions. Employment status also has a substantial impact on the ability of individuals to obtain insurance. A person without health insurance who experiences an injury or a new chronic condition has greater difficulty accessing recommended medical care and takes longer to return to full health, if at all. And if health remains compromised, it could make it more difficult for an uninsured person to obtain health insurance in the future.

Table 10. **Employment Status for PSA, Tennessee and the U.S.**

	PSA(2010)	Robertson Co(2013)	TN(2013)	US(2013)
Labor Force	52,839	35,250	3,129,900	155,524,000
Unemployed	3,665	2,560	243,700	12,032,000
Unemployment Rate	**6.9%**	**7.3%**	**7.8%**	**7.7%**

With 3,665 people unemployed within the PSA in 2010, the unemployment rate for the PSA was 6.9 percent, which was below the state of Tennessee at 7.8 percent, as well as the national rate of 9.6 percent. As of February 2013, Robertson County reported an unemployment rate of 7.3 percent, comparing favorably to the state unemployment rate of 7.8 percent, and the national unemployment rate of 7.7 percent.

Health Insurance Coverage

The percentage of the Robertson County population without health insurance continues to be higher than the state and nation. According to the U.S. Census Bureau - Small Area Health Insurance Estimates, the percentage of residents in Robertson County without health insurance coverage was 16.9 percent in 2011, compared to the state at 16.6 percent and the nation at 16.2 percent.

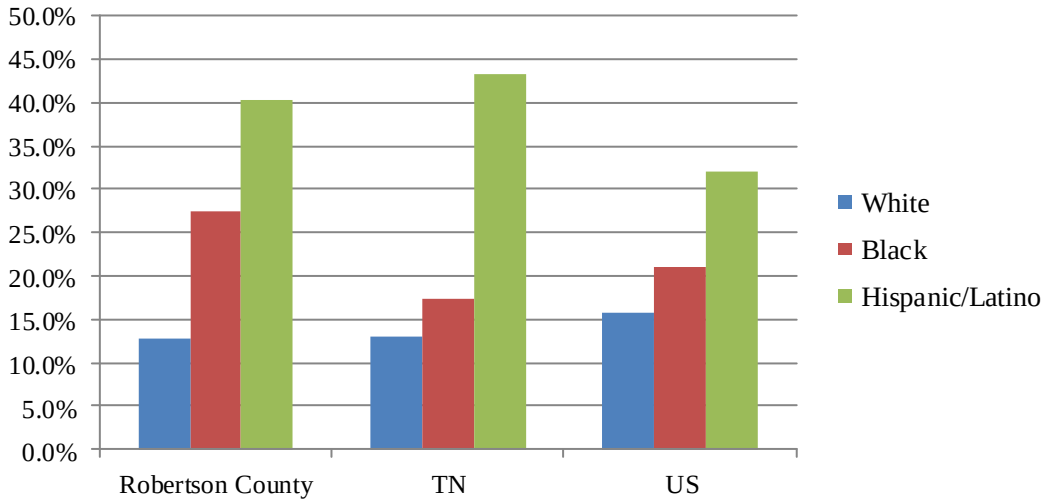
Table 11. **Uninsured Status for Robertson County, Tennessee and the U.S.**

	RC	TN	US
Total Population (For Whom Uninsured Status is Determined)	57,963	5,359,465	262,403,381
Uninsured Population	9,792	888,747	46,556,803
Percent Uninsured	**16.9%**	**16.6%**	**16.2%**

There is a racial and economic disparity among race in health insurance coverage. Among Hispanics in Robertson County, over 40 percent were without health insurance in 2011. This compares favorably to the state but is above the national level. Additionally, 27 percent of black residents were without health insurance in 2011, comparing unfavorably to both the state and national averages of 18 percent and 21 percent.[9]

[9] U.S. Census Bureau - Small Area Health Insurance Estimates

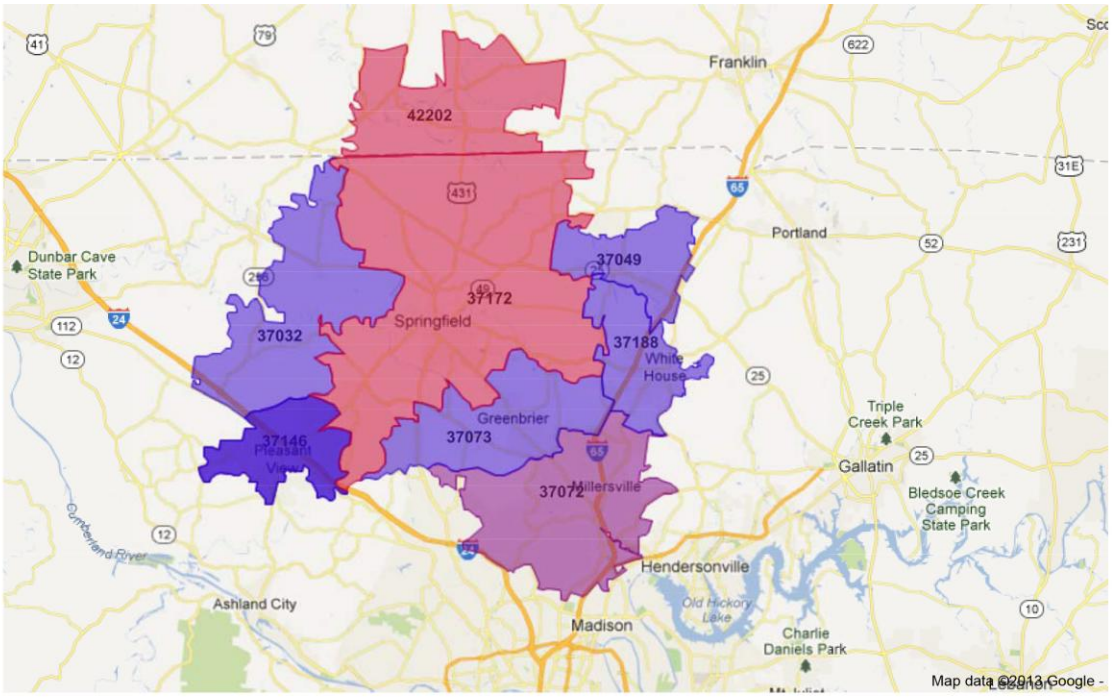
Table 12. **Uninsured Status by Race for Robertson County, Tennessee and the U.S.**



Community Needs Index

The Community Needs Index ("CNI") identifies the severity of health disparities for every ZIP code in the United States and demonstrates the link between community need, access to care, and preventable hospitalizations. For each ZIP code in the United States, the CNI aggregates five socio-economic indicators /barriers to health care access that are known to contribute to health disparities related to income, education, culture/language, insurance, and housing. LBMC uses the CNI to identify communities of high need and direct a range of community health and faith-based community outreach efforts to these areas.

To determine the severity of barriers to health care access in the primary service area of NorthCrest, the CNI gathers data about that community's socio-economy. For example, what percentage of the population is elderly and living in poverty; what percentage of the population is uninsured; what percentage of the population is unemployed, etc. Using this data, the CNI assigns a score to each barrier condition. A score of 1.0 indicates a zip code with the lowest socio-economic barriers (low need), while a score of 5.0 represents a zip code with the most socio-economic barriers (high need). The scores are then aggregated and averaged for a final CNI score (each barrier receives equal weight in the average). The following map provides the CNI scores for the 8 zip codes that represent approximately 78 percent of total discharges for NorthCrest.



Lowest Need — Highest Need

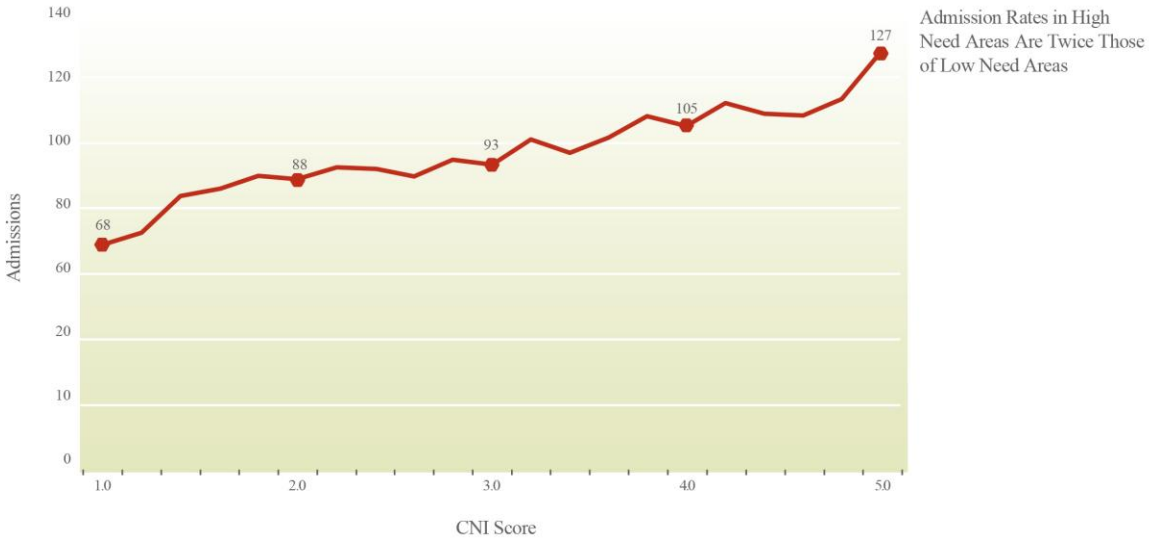
1 - 1.7 Lowest | 1.8 - 2.5 2nd Lowest | 2.6 - 3.3 Mid | 3.4 - 4.1 2nd Highest | 4.2 - 5 Highest

Mean(zipcode): 2.6 / Mean(person): 2.9 CNI Score Median: 2.4 CNI Score Mode: 1.8,2.4

Zip Code	CNI Score	Population	City	County	State
37032	2.4	4016	Cedar Hill	Robertson	Tennessee
37049	2.4	3409	Cross Plains	Robertson	Tennessee
37072	3.2	32531	Nashville-Davidson (balance)	Davidson	Tennessee
37073	2.2	14238	Greenbrier	Robertson	Tennessee
37146	1.8	6876	Coopertown	Cheatham	Tennessee
37172	3.8	31204	Springfield	Robertson	Tennessee
37188	2	14253	White House	Sumner	Tennessee
42202	3.6	2373	Adairville	Logan	Kentucky

A comparison of CNI scores to hospital utilization shows a strong correlation between high need and high use. Research using admission rates per 1,000 population shows a high correlation (95.5 percent) between hospitalization rates and CNI scores. In fact, admission rates for the most highly needy communities (CNI=5.0) are more than 60 percent higher than communities with the lowest need (CNI=1.0), as illustrated in Figure 3.

Figure 3. **Annual Admission Rate per 1000 Population by CNI Score**[10]

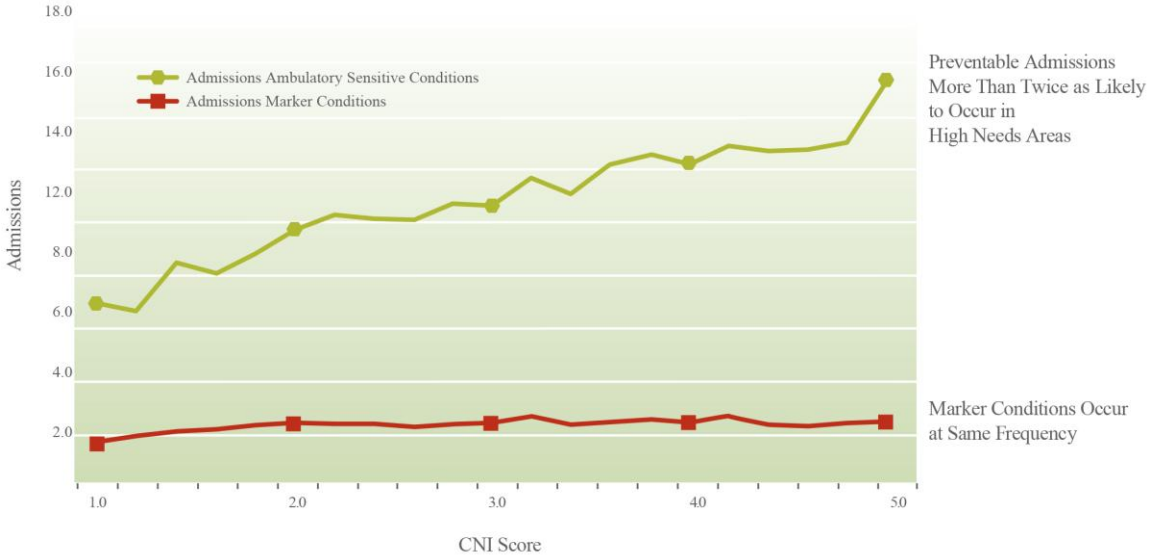


Admission rates for ambulatory sensitive conditions ("ASCs") have also been examined. An ASC is defined as a condition whereby appropriate ambulatory care services could prevent or reduce the need for hospital admission (i.e. pneumonia, congestive heart failure and cellulitis). Hospitalization for some conditions may be reduced if persons had access to effective and timely care in the community. Prior care could prevent the onset of certain illnesses, help control an acute episodic illness or condition, or manage a chronic disease or condition. With proper outpatient care these conditions do not generally require an acute care admission.

When admission rates for ASC conditions were compared to CNI scores, research found that the highest need communities were experiencing admission rates almost twice as often (97 percent) as the lowest need communities, as shown in Figure 4. Importantly, there was no relationship observed between CNI scores and "marker conditions" — such as appendicitis and heart attack, which require inpatient treatment regardless of socio-economic status. This proves a strong causal relationship between CNI scores and preventable hospitalization for manageable conditions (i.e., ASCs)

[10] Dignity Health & Thomson Reuters

Figure 4. **Annual Admission Rate per 1000 Population by CNI Score**
Ambulatory vs. Marker Conditions



V. HEALTH INDICATORS

As part of the assessment process, the Executive Council at NorthCrest was requested to rank the five most significant health issues facing the PSA. The Council was provided with primary and secondary data sources to assist them on determining the highest priority health care needs in the community. The Council compared the raw secondary and primary data and took inventory of existing services and programming which address identified health needs. Consideration of community resources, budgetary constraints, available personnel and hospital "mission and vision" were all considerations in selecting which health needs to prioritize and address through the CHNA implementation plan strategy. The Hanlon Method, a mathematical algorithm developed by Felix, Burdine and Associates was used to assign numerical values to rate the size, seriousness, and effectiveness of available interventions for each health issue.

As a result of reviewing secondary data on the size, seriousness, available community resources, utilizing the Hanlon Method algorithm, the Council determined the following health needs which will be targeted for interventions by the CHNA committee in the implementation plan:

1. Affordable Health Insurance
2. Dental Care
3. Affordable Prescription Drugs
4. Eye Care
5. Lack of Exercise

Priority Issue 1: Affordable Healthcare Insurance

NorthCrest Medical Center understands the importance of having affordable healthcare insurance in its community. Currently 16%, or roughly 11,000, of Robertson County's residents are uninsured.
NorthCrest works diligently with patients to help access health insurance. NorthCrest provides services for patients that are eligible for Medicare and Medicaid and assists with enrollment. For those not eligible for Medicare and Medicaid, NorthCrest has trained navigators to help patients look for health insurance coverage options through the Insurance Marketplace set up by the Affordable Care Act. NorthCrest also has relationships with Healthcare Enrollment Centers located in the community that allows community members to seek help without coming to the medical center. Educational information is provided at provider offices associated with NorthCrest and at community events.

NorthCrest is also working closely with the Tennessee Hospital Association and the efforts to legislate for Medicaid expansion in Tennessee. NorthCrest has represented itself and other members of the hospital association to the state legislature explaining what expansion would do for the uninsured population of Tennessee and the quality of life benefits for the communities. Expansion in Robertson County would affect 4,062 residents, nearly 6% of the county.

Priority Issue 2: Dental Care

NorthCrest Medical Center has developed partnerships with local dentist and the local health department's dental clinic for helping the county residents with dental care. Due affordability and access issues, NorthCrest's Emergency Department sees many patients seeking care for dental problems and pain. NorthCrest does not have a dentist on its medical staff leaving a less than ideal situation when patients present with the need for dental care. NorthCrest works to address the dental pain issue and then works with the patient to get them to a local dentist in the community to address the dental problem.

NorthCrest refers a large amount of dental patients to the dental clinic at the Robertson County Health Department. This clinic is a relatively new clinic that has quickly grown into a five day a week clinic. NorthCrest has partnered with the dental clinic for programs like Soda Free Summer to promote dental health with the community.

NorthCrest will also be looking into the state's regional dental program to increase the dentist access in the community. Current ratio of 3,400:1 in Robertson County is well above the state's average of 1,960:1. Access to a regional program could increase the availability of dental care for early check-up and preventative care would decrease the problems and pain that occur because of the lack of affordable dental care.

Priority Issue 3: Affordable Prescription Drugs

It is vital that when NorthCrest Medical Center's patient leaves the hospital or one of its provider's offices, they fill their prescription as prescribed by their provider. If the prescription is not filled, then the continuum of care is broken and the patient's condition does not improve. NorthCrest and its provider offices have developed programs to make sure patient are filling and taking their prescribed medication.

NorthCrest's Pharmacy Management Program helps make sure that providers are prescribing generic drugs that are more affordable for the patients. The program also includes a fill management component to help the patients with compliance on getting their prescribed medication and taking it correctly.

A partnership with local pharmacies in the community is a big part of the continuum of care as the pharmacists help communicate the importance of the medication along with the directions for taking the medication. The pharmacists also provide great feedback on what might be deterring the patients from filling their prescriptions.

Priority Issue 4: Eye Care

NorthCrest Medical Center works with the Robertson County Board of Education to offer yearly sports physical to middle school and high school students. The sports physical includes a vision screening. Students with vision issues during the screening are asked to follow up by getting an eye exam.

The Robertson County Board of Education has also works with Well-Child to offer students annual school physical exams, screening tests and immunizations. Screenings are available to assure normal development and to detect and treat any medical conditions, this includes eye exams. The Well-Child eye screening program will provide two sets of glasses to those children needing glasses but unable to afford them.

NorthCrest utilizes the Lion's Club of Springfield for eye care assistance for adults and seniors. The Lion's Club will provide assistance for eye glasses. NorthCrest helps distribute the application forms required by the Lion's Club to provide the glasses. NorthCrest also assist the Lion's Club with their fundraising to provide the glasses to those who qualify for assistance through the application process.

Priority Issue 5: Lack of Exercise

Physical inactively, no leisure-time physical activity, for adults aged 20 and over in Robertson County is listed at 34% according the County Health Rankings, a Robert Wood Johnson

Foundation Program. Decreased physical activity has been related to several disease conditions such as type 2 diabetes, cancer, stroke, hypertension, cardiovascular disease, and premature mortality, independent of obesity While Robertson County is improving in this area, it is still above the state and national average.

NorthCrest Medical Center has several exercise rehabilitation programs for its patients recovering from procedures like cardiac rehab and pulmonary rehab. Both programs use exercise as a method for building strength back in their heart and lungs so normal activities can be enjoyed once again.

NorthCrest's is involved in community activities to promote physical activity. Events, like NorthCrest's sponsorship and organization of Robertson County's National Walking Day, bring the community together to get active and learn about the benefits of being active. The increase in inactivity has led to an increase in obesity which then leads to diabetes, cardiovascular disease and cancer.

NorthCrest's affiliation with the Robertson County YMCA is another avenue to promote exercise. The NorthCrest Foundation is assisting the YMCA as they seek grants for a youth wellness initiative. The youth wellness program would be designed to help the most at risk youth with high body mass index levels and provide them with a free program to learn how to exercise and how to eat nutritiously.

VI. CONCLUSIONS

This Community Health Needs Assessment was assembled to give readers an overview of the community's public health trends and to provide a platform to increase the communication across non-governmental as well as governmental agencies to improve the lives of residents. The findings from this process demonstrate that residents include high concentrations of people at an increased risk for unhealthy living. After examining all the data sources used to create this report – the survey results, the input from the CHNA Committee, and various secondary data that were analyzed – it is clear the need for establishing and expanding effective partnerships among city agencies is critical.

Collaboration holds the promise of allowing progress on issues where multiple parties are involved. Sustaining collaborations in Robertson County are possible not only because of established partnerships but also because of efforts such as this needs assessment, which will further strengthen existing relationships by highlighting where the major needs are.

In order to have improved collaborations throughout the service area, there needs to be better data exchange among health organizations. Both health and societal data are not consistently collected, are difficult to compare longitudinally, and frequently may not tell the whole story. To improve the health of Robertson County residents, NorthCrest and its partners must have access

to accurate local data. There are opportunities to make significant improvements in gathering and tracking such data on all of these issues, particularly on the issues of chronic diseases and risk factors that contribute to health disparities. It is imperative that those working in public health and providers of direct clinical services collaborate to develop a strategic plan for delivery of health care (including preventive care and mental health services) in a manner best suited to the community being served.

This report has presented a case that trends in health outcomes are determined not just by individual-level factors such as genetic make-up or access to medical services, but also by socio-economic factors. Robertson County stakeholders can no longer afford to ignore evidence linking social determinants of health with health outcomes. By building on the analysis in this report and partnerships throughout the city, Robertson County will take significant steps to build the capacity to understand and address the conditions contributing to the compromised health of its most vulnerable neighborhoods.

VII. WORKS CITED

American Hospital Directory. *Quality Report*. Retrieved from: www.ahd.com

Centers for Disease Control and Prevention. *BRFSS Questionnaire*. Retrieved from: http://www.cdc.gov/brfss/questionnaires/english.htm.

Centers for Disease Control and Prevention. *Obesity and Overweight for Professionals: Economic Consequences.* Retrieved from: http:/www.cdc.gov/obesity/causes/economics.html.

Centers for Disease Control and Prevention. *Division for Heart Disease and Stroke Prevention: Interactive Atlas.* http://apps.nccd.cdc.gov/DHDSPAtlas/

Centers for Disease Control and Prevention. *Community Health and Health Equity Program.* Retrieved April19, 2013, from: http://www.cdc.gov/nccdphp/dach/chhep/pdf/SDOHworkbook.pdf.

Centers for Disease Control and Prevention. *Chronic Disease Prevention and Health Promotion.* Retrieved April19, 2013, from: http://www.cdc.gov/chronicdisease/overview/index.htm.

Centers for Disease Control and Prevention. *Diabetes Public Health Resource: Interactive Atlas* Retrieved April19, 2013, from: http://www.cdc.gov/diabetes/atlas/countydata/atlas.html

Centers for Disease Control and Prevention. Smoking Attributable Mortality, Years of Potential Life Lost, and Productivity Losses — United States, 2000-2004.*Morbidity and Mortality Weekly Report, 57.*

County Health Rankings 2011. Retrieved from: http://www.countyhealthrankings.org

Dignity Health. *Community Need Index.* Retrieved from: http://cni.chw-interactive.org/

Tennessee Department of Health. Office of Policy, Planning and Assessment, Division of Health Statistics. Retrieved from: http://health.state.tn.us/statistics/data.htm

U.S.Census Bureau. State and County Quick Facts. Retrieved from: http://quickfacts.census.gov/qfd/states/47000.html

U.S.Census Bureau. *American Community Survey.*

U.S. Department of Health and Human Services. *National Women's Health Indicators Database (NWHID)* Retrieved from: http://www.healthstatus2020.com/owhexplore/select_fips.aspx

U.S. Department of Health & Human Services. *Health Resources and Services Administration* Retrieved from: http://arf.hrsa.gov/index.htm

U.S. Department of Health & Human Services. *General Health Status.* Retrieved from: http://www.healthypeople.gov/2020/default.aspx

U.S. Department of Health & Human Services. *Healthy People 2020*. Washington D.C: U.S. Government Printing Office.

U.S. Department of Health & Human Services. *Community Health Status Indicators.* Retrieved March 8, 2013 from: http://wwwn.cdc.gov/CommunityHealth/Demographics.aspx?GeogCD=47147&PeerStrat=45&state=Tennessee&county=Robertson