Eat Well Play More TENNESSEE

Tennessee Statewide Nutrition and Physical Activity Plan

A comprehensive plan to reduce obesity and chronic disease in Tennessee, 2010-2015

"We don't stop playing because we grow old; we grow old because we stop playing."

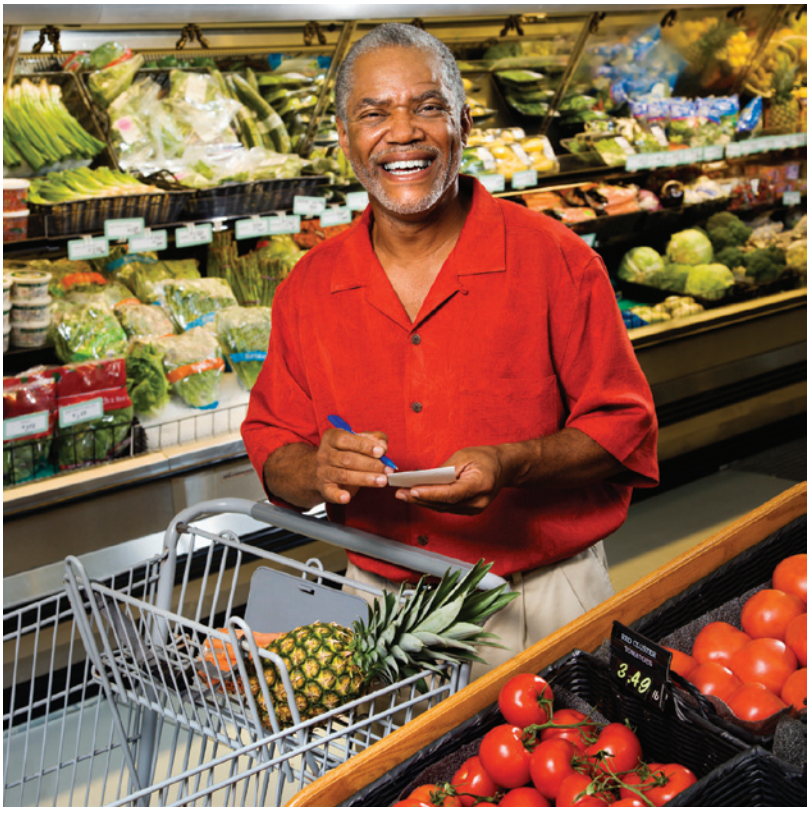
- George Bernard Shaw

"Many of the health issues that face Tennesseans today are things that a prescription or a doctor's appointment or health insurance can't fix. The state has spent the past several years investing in prevention strategies like Get Fit Tennessee to raise awareness and address behaviors that lead to chronic disease, including physical inactivity, nutrition and tobacco use. This statewide Nutrition and Physical Activity Plan is a valuable resource that outlines a path leading to a healthier Tennessee."

- Governor Phil Bredesen

"Picture a healthy Tennessee, where all Tennesseans find themselves surrounded by an environment of health… where health is considered in all policies and the healthy choice becomes the easy choice. Everyone can do something to begin their journey to better health by starting where they are and taking small steps to a healthier and more fit future."

- Health Commissioner Susan R. Cooper



ACKNOWLEDGMENT

TENNESSEE OBESITY TASKFORCE

Eat Well, Play More Tennessee was made possible by many passionate individuals who contributed long hours and numerous creative ideas. The Steering Committee is grateful to the following individuals/organizations:

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ORGANIZATION	NAME
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EXECUTIVE SUMMARY

Excess weight and obesity – often the result of physical inactivity and unhealthy eating – have tremendous consequences on Tennessee's health and economy. Both are linked to a number of chronic diseases, including heart disease, stroke, diabetes, certain cancers, hypertension, osteoarthritis and asthma.

In 2009, Tennessee adults had the third highest incidence of obesity in the United States (32.8%). Over two-thirds of adults (69%) in Tennessee were overweight or obese. The children of Tennessee were not immune to this devastating health challenge. 39% of our children aged 10 to 17 were overweight or obese, with the number approaching 52% in some counties.[1, 2]

> For the first time in two centuries, the current generation of children in America may have shorter life expectancies than their parents.

Multiple factors have produced today's record high rates of obesity. Like many Americans, Tennesseans are eating more calories and getting less physical activity than ever before. In the past two decades, the social, cultural and physical environments that affect food choices and physical activity opportunities have changed dramatically.

The right to health is fundamental. ***Eat Well, Play More Tennessee*** focuses on ways to make the environment more supportive of healthy eating and physical activity in all sectors.

With a clear focus on reducing health disparities in Tennessee's most vulnerable populations, ***Eat Well, Play More Tennessee*** includes actions and policy recommendations to be implemented in multiple settings:

- Where We Live (Food Access, Breastfeeding, Sugar Sweetened Beverages, Built Environment/Transportation);
- Where We Play (Park and Recreation, Screen Time);
- Where We Learn (Early Childcare, Schools);
- Where We Heal (Faith-Based Settings, Health Systems);
- Where We Work (Worksites);
- Vulnerable Populations.

The following State Plan is a call to action by the Tennessee Obesity Taskforce. With support from the Tennessee Department of Health, the Tennessee Obesity Taskforce represents a broad-based, statewide coalition which links state agencies, scientists, clinicians, city planners, school officials, policymakers, transportation experts, nutritionists, parents and representatives of our most vulnerable populations.

INTRODUCTION

WHY A STATE PLAN?

According to *Weighing the Costs of Obesity in Tennessee*[3] a consistent theme that emerged from interviews with state, higher education, local health department and nonprofit officials was that Tennessee needs a strategic plan and cohesive vision for addressing obesity. Confronted with the obesity epidemic and its health and fiscal toll, the public, private and nonprofit sectors have responded with a profusion of anti-obesity initiatives and wellness campaigns. However, the majority of these efforts are neither coordinated nor evaluated for impact.[3] Implementation of ***Eat Well, Play More Tennessee***, a long-term, comprehensive state plan, along with its evaluation components, will provide the tools necessary to address these concerns.

Eat Well, Play More Tennessee was created to serve as a roadmap for reducing obesity in Tennessee. However, it is resource-driven. Work groups and statewide partners are strongly encouraged to implement action plans which

integrate the goals and objectives contained in this ambitious plan. We clearly acknowledge that there will be detours and roadblocks along the paths toward accomplishing all of the recommendations contained in the plan. We also recognize that some of the objectives and strategies will evolve or be omitted as new evidence or resources become available.

WHO WILL USE THE STATEWIDE PLAN?

Eat Well, Play More Tennessee is for anyone who wants to help reduce the burden of obesity in Tennessee – policymakers, local and state planners, health care providers, educational systems, employers and communities. With a primary focus on policy and environmental change, all interested individuals and groups can implement strategies from this state plan to reduce the barriers to daily physical activity and access to healthy foods.

BUILDING THE MOMENTUM – PARTNERS AND POLICY

In Tennessee, many individuals and organizations have participated in the development of plans, reports and recommendations that affect chronic diseases, nutrition, physical activity and obesity. Elements of these resources are being used to drive programs and support policy and environmental change, and have been integrated into ***Eat Well, Play More Tennessee***. Examples of these include:

- Building Connections…2008 Tennessee Greenways and Trails Plan
- Eat Smart, Move More, Tune In – A Healthy Weight Initiative for Tennessee's Children and Youth
- Get Fit Tennessee
- Health Status Report, 2006, Office of Minority Health
- State of Tennessee Comprehensive Cancer Control Plan, 2009-2012
- Tennessee State Health Plan, 2009
- Tennessee State Plan for Physical Activity & Fitness, 2006
- Tennessee State Recreation Plan, 2009
- Weighing the Costs of Obesity in Tennessee, 2006

In addition, strong coalitions across the state are addressing healthy eating and active living. One of the major goals in creating this state plan is to support and maximize their efforts by creating synergy among stakeholders using a cohesive, comprehensive and sustainable platform. These coalitions have a strong presence on the Tennessee Obesity Taskforce. Examples include:

- Community Food Advocates
- Children's Hospital Alliance of Tennessee
- Coordinated School Health Action Committee
- Every Child Outdoors
- Healthy Eating Active Living Appalachia
- Healthy Memphis Common Table
- Knoxville Childhood Obesity Coalition
- Partnership for Healthy Living
- Safe Routes to School Network
- YMCA/Pioneering Healthier Communities Teams

The Tennessee Obesity Taskforce is also closely aligned with and supported by *national partners*, such as the Alliance for a Healthier Generation, American Diabetes Association, American Dietetic Association, American Heart

Association, Centers for Disease Control and Prevention, Centers for Science in the Public Interest, Food Trust, National Center for Bicycling and Walking, Robert Wood Johnson Foundation, Rudd Center for Food Policy and Obesity and Save the Children.

Objectives and strategies contained in ***Eat Well, Play More Tennessee*** were developed by experts both within Tennessee and nationally through resources such as the proposed objectives for Healthy People 2020, CDC's Recommended Community Strategies and Measurements to Prevent Obesity in the United States, the Institute of Medicine: Local Government Actions to Prevent Childhood Obesity, Let's Move and the 2010 United States National Physical Activity Plan.

Why Policy?
Public policy such as local, state or federal legislation can help the greatest number of people make positive changes. Rather than focusing on changing people's behavior one person at a time, effective public policy makes positive changes in the environments in which we live.

Tennessee has made great strides through *success at the policy level*. This plan will build on these successes through policy-based strategies and recommendations.

- Tennessee is the ONLY state in the nation with a legislative mandate to implement the CDC Coordinated School Health model in all local education agencies.
- In 2004, the General Assembly passed into law new nutritional guidelines for schools. Tennessee now ranks second in the United States in the number of schools which do not sell soft drinks or high-calorie fruit juices.[4]
- During the 2008 school year, 64.7% of Tennessee secondary schools did not sell unhealthy food items in vending machines, school stores or snack bars. Tennessee ranks sixth in the nation in this category.[4]
- During the 2010 legislative cycle, TOT worked with policymakers on the following initiatives: increased physical activity/physical education in schools, food access, and reallocation of tax on sugar-sweetened beverages. Dialogue will continue during upcoming sessions to further these issues. The Children's Outdoor Bill of Rights was passed during 2010.

OVERVIEW OF STATE PLAN

This plan is closely associated with the Nutrition, Physical Activity and Obesity Program of the Centers for Disease Control and Prevention, and is designed to help Tennessee achieve the following outcomes:

- Decrease prevalence of obesity;
- Increase physical activity; and
- Improve dietary behaviors related to population burden of obesity and chronic diseases.

Strategies are included to leverage resources and coordinate statewide efforts to address the following target areas:

- Increase fruit and vegetable consumption;
- Increase physical activity;
- Reduce consumption of sugar-sweetened beverages;
- Reduce consumption of high-energy-dense foods;
- Increase breastfeeding initiation and duration; and
- Reduce screen (TV/Video) time.

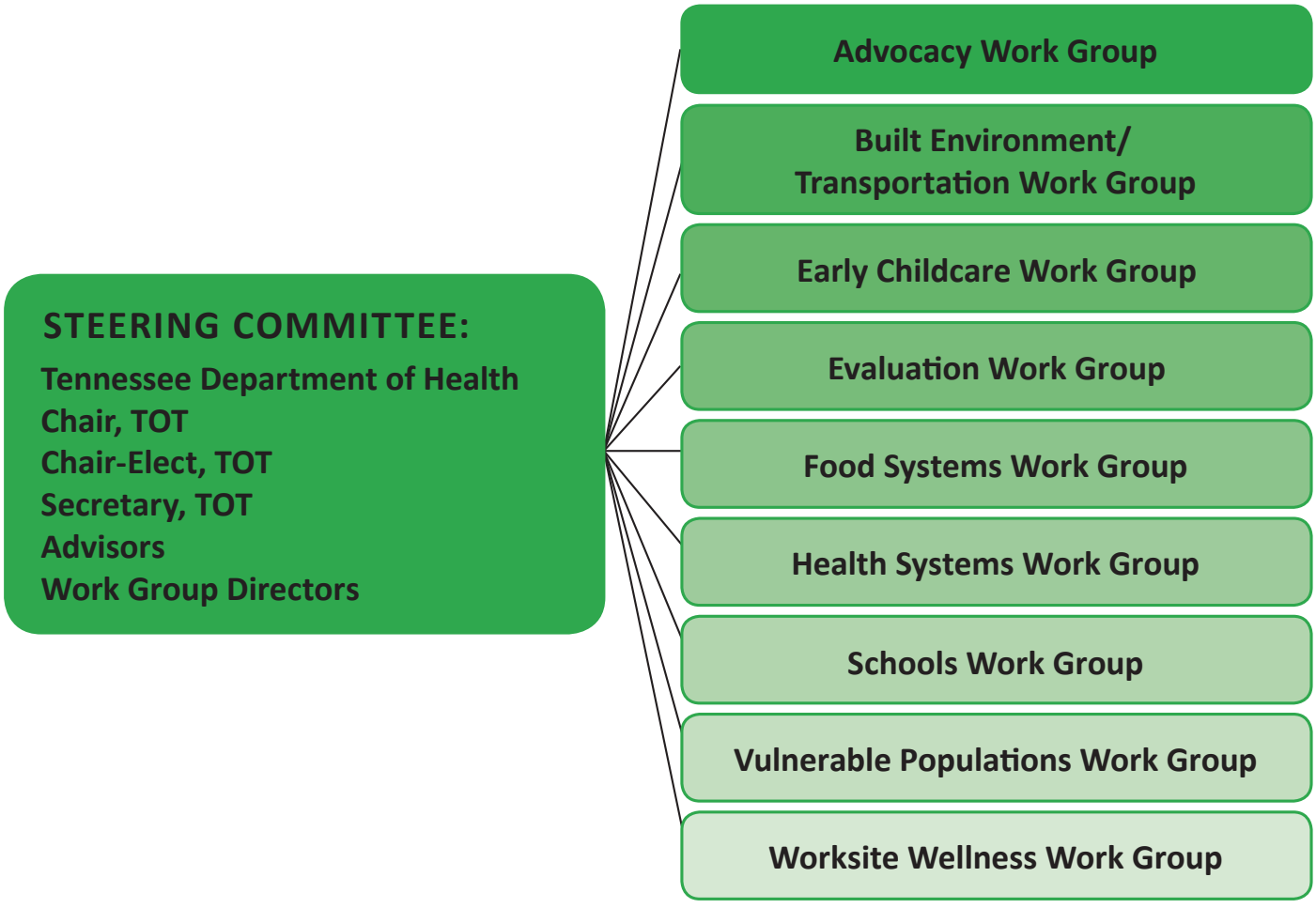
CREATING THE PLAN

Individuals and members of more than 100 organizations throughout Tennessee joined forces to create this plan. The process began with a comprehensive review of existing plans and resources within Tennessee and nationally. Phone interviews were conducted with plan coordinators from other states to solicit feedback on their successes and opportunities for improvement. In addition, focus groups were conducted in Bristol, Chattanooga, Knoxville, Memphis and Nashville to obtain input around the target areas and invite participation in the creation of the plan.

In order to develop focused strategies around each target area, the Tennessee Obesity Taskforce formed a Steering Committee and the following specific work groups:

STEERING COMMITTEE AND WORK GROUPS OF THE TENNESSEE OBESITY TASKFORCE

Multi-disciplinary stakeholders from throughout the state participated in these work groups and presented recommendations in their respective areas to the steering committee. As the TOT moves forward into implementation of the plan, each work group will work closely with statewide partners to drive the efforts toward formulating and implementing annual action plans.



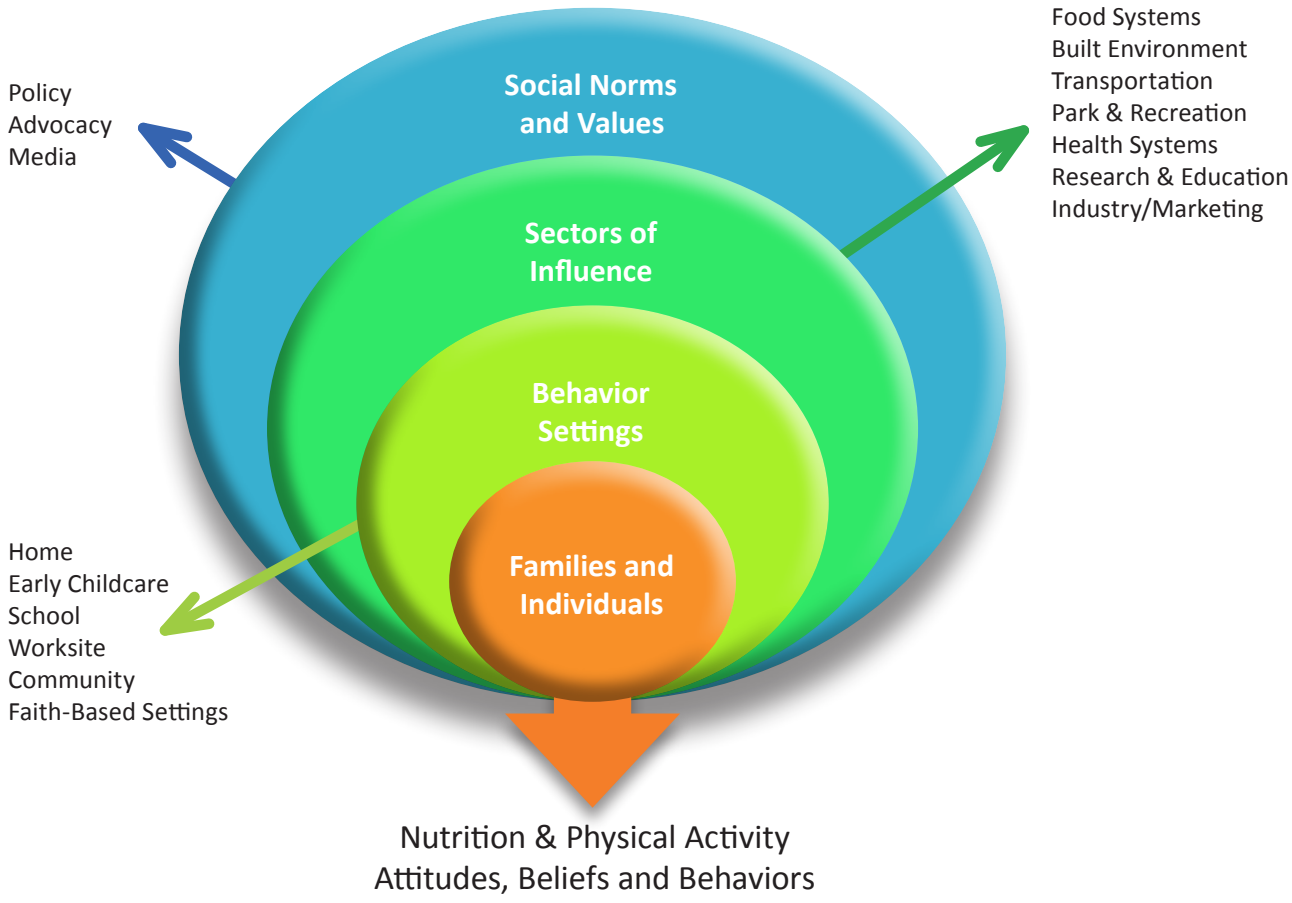
DISSEMINATION OF THE PLAN

Eat Well, Play More Tennessee will be formally launched at the Tennessee Public Health Association conference in September, 2010. It will be available in both printed and web-based formats. Printed copies of the plan will be disseminated to TOT members and other interested attendees during the TPHA meeting. Other potential users of the plan will be identified and notified via TOT and partnering organization list-serves. The plan will be housed on the Department of Health website, the ***Eat Well, Play More Tennessee*** website, and linked through partner organizations.

SOCIAL ECOLOGICAL MODEL

More than 30 years of intervening primarily at the individual level without sustainable results points to the need for a different model to address obesity.[5] The environment has enormous impact on people's choices. Because this plan strives to have a population-based impact, it is based on the Social Ecological Model. The Social Ecological Model stresses that society is composed of interconnected elements – individual, interpersonal, organizational, community and social – and these elements affect one another. This model considers how all these levels of influence can be addressed to support long-term, healthful lifestyle choices. The Tennessee Obesity Taskforce will maintain this model throughout – from partnership building and cooperation through goal writing, implementation and evaluation of progress.

Social Ecological Model – Influencers of Obesity



Adapted from Koplan JP, Liverman CT, Kraak VI, editors. Preventing childhood obesity: health in the balance. Washington, D.C.: Institute of Medicine, National Academies Press 2005.

MAPPS STRATEGIES

Whenever possible, the recommendations around nutrition and physical activity outlined in ***Eat Well, Play More Tennessee*** adhere to evidence-based or best/promising practices MAPPS strategies (media, access, point of decision information, price and social support services).

- Media plays an integral role in numerous strategies, such as breastfeeding, Coordinated School Health, healthy eating, built environment, transportation and worksite wellness.
- Access strategies are critical to both increased physical activity and healthy eating in all populations.
- Point of purchase and promotion strategies are integral to supporting healthy choices in all settings.
- Price differential and incentives drive efforts, such as a tax on sugar sweetened beverages and pricing strategies around healthy foods and access to physical activity.
- Social support is essential in breastfeeding initiation and duration, especially in our most vulnerable populations.

MILESTONES

Our first goal is to slow the rate of weight gain in Tennessee. Next, we hope to stabilize weight and prevent further weight gain. Finally, we would like to see the prevalence of overweight and obesity begin to decline in Tennessee.

- Healthy Eating: By 2015, increase the percentage of adults in Tennessee who have consumed five servings of fruits and vegetables daily. (Baseline consumption is 23.3% 2009 Behavioral Risk Factor Surveillance System)
- Physical Activity: By 2015, increase the percentage of adults in Tennessee who are getting the recommended amount of physical activity per day (30+ minutes of moderate physical activity five or more days per week, or vigorous physical activity for 20+ minutes three or more days.) (Baseline is 35.9% 2009 BRFSS)
- Healthy Weight: By 2015, increase the proportion of adults who are at a healthy weight. (Baseline is 36.1% overweight and 32.8% obese BRFSS 2009)

THE BURDEN OF OBESITY

Approximately two-thirds of American adults and one-fifth of American children are obese or overweight. Being either obese or overweight increases the risk for many chronic diseases, such as heart disease, Type 2 diabetes, certain cancers and stroke. Since 1980, obesity rates for adults have doubled and rates for children have tripled.[6] Obesity rates among all groups in society – irrespective of age, sex, race, ethnicity, socioeconomic status, education level or geographic region – have increased markedly.

HEALTH CONSEQUENCES OF OBESITY

Obesity has physical, psychological and social consequences in adults and children. Children and adolescents are developing obesity-related diseases, such as Type 2 diabetes, that were once seen only in adults. Obese children are more likely to have risk factors for cardiovascular disease, including high cholesterol levels, high blood pressure and abnormal glucose tolerance. One study of 5-to 17-year-olds found that 70% of obese children had at least one risk factor for cardiovascular disease and 39% of obese children had at least two risk factors.[6]

Quick Facts:

Obesity rates – Adults	32.8%	Tennessee Rank: 3rd highest in U.S.
Obesity rates – Children ages 10-17	36.5%	Tennessee Rank: 4th highest in U.S.
Hypertension rates – Adults	32.1%	Tennessee Rank: 6th highest in U.S.
Diabetes rates – Adults	10.2%	Tennessee Rank: 8th highest in U.S.
Adult Physical Inactivity	48.2%	Tennessee Rank: highest in U.S.

At 32.8%, adult obesity rates in Tennessee are the third highest in the United States.[1] The rate of overweight and obesity is higher for adult males in Tennessee (73.7%) than adult females (64.2%).[1] The bottom line is that over three million Tennesseans are carrying too much weight, putting us at risk for some very serious diseases (heart disease, diabetes, high blood pressure, some cancers).[1]

CHILDHOOD OBESITY IN TENNESSEE

Unfortunately, the problem of overweight and obesity is not limited to adults. The percentage of obese and overweight children between the ages of 10 and 17 in Tennessee is 36.5% (4th highest in the nation).[7] 18% of 9th-12th graders in Tennessee are overweight, and another 17% are obese.[2] In Tennessee, disparities in overweight and obesity clearly emerge during childhood. The rates of overweight Hispanic (37.4%) and African-American (43.9%) children are significantly higher than white children (21.1%).[4]

The prevalence of obesity among our youngest children is also increasing. Obesity in children ages 2 to 4 in Tennessee increased from 10% in 1998 to 13.8% in 2008. Over 29% of low-income children ages 2 to 5 are overweight or obese.[7,8] Children who are obese in their preschool years are more likely to be obese in adolescence and adulthood, and to develop diabetes, hypertension, hyperlipidemia, asthma and sleep apnea.[9]

There is some good news. In this state, third in the nation for pediatric obesity, even a flat year-to-year rate could be considered progress. Researchers at East Tennessee State University found that school-age children who are overweight or obese dropped from 40.9% in 2007-08 to 39% in 2008-09.[4]

In addition, the percentage of state schools that did not sell soft drinks or high-calorie fruit juices increased from 27% in 2006 to 74% in 2008. According to Deborah Slawson, PhD, R.D., primary investigator of the Coordinated School Health Evaluation Team, Tennessee now ranks second nationally in that category and is used as a "best practice" for other states to follow, recognition that is largely due to Tennessee's Coordinated School Health initiative.[4]

ECONOMIC COST OF OBESITY

Just as obesity takes a devastating toll on health, it also places a huge financial burden on the health care delivery system. The rising costs of excess weight are the result of increased treatments specific to obesity-related illnesses.

Researchers have shown that an obese person has $1,429 per year more medical costs, or about 42% more costs, than someone of normal weight.[10] Costs for an obese Medicare recipient are even greater.

According to America's Health Rankings (United Health Foundation), if the rates of obesity in Tennessee could even be leveled out by the year 2013, health care expenditures could be reduced by $719 million per year.[11]

In addition to direct health care costs, obesity results in lower worker productivity, increased absenteeism and higher workers' compensation claims than for normal weight employees.

DISPARITIES

Many individuals and communities – especially racial and ethnic minorities, people with lower incomes, women and people of differing abilities and ages (vulnerable populations) – experience disproportionately higher rates of obesity and chronic diseases associated with physical inactivity and poor nutrition.

Several reasons account for the differences in prevalence among these populations:

1. Racial/ethnic populations differ in behaviors that contribute to weight gain. Differences exist in attitudes and cultural norms regarding body weight.[12]
2. Income and educational inequalities contribute to the disparities.[12]
3. Certain populations have less access to affordable, healthy foods and safe locations for physical activity. Evidence suggests that neighborhoods with large minority populations have fewer chain supermarkets and produce stores. Evidence also indicates that minority and low-income populations often have less access to safe physical activity facilities and resources.[13]

DISPARITIES IN YOUTH

Research has shown a higher prevalence of overweight among black, Hispanic and low socioeconomic status youth, which correlates with a lower proportion of youth from these groups who regularly eat breakfast or exercise, and a higher proportion who watch excessive television. In addition to nutrition and levels of physical exercise, family and environmental factors seem to play a significant role in obesity. Breastfeeding, lower among minority and low socioeconomic populations, is correlated with lower rates of obesity.

INCOME-RELATED DISPARITIES

Obesity affects everyone, but the highest rates of obesity occur among the hungriest (poorest) people.[14] This apparent paradox is driven in part by the economics of buying food. Low-income households often rely on cheaper, high calorie foods in an attempt to maximize caloric intake for each dollar spent, which can lead to over-consumption of calories and a less healthful diet.

Many poor neighborhoods lack large grocery stores that offer the lowest prices and greatest range of fresh produce, brands, package sizes and quality choices, or farmers markets that sell locally grown fresh fruits and vegetables. Transportation to these large grocery stores and farmers markets may be unavailable or expensive. Consequently, numerous people in low-income neighborhoods depend on their neighborhood convenience stores – stocked with expensive, processed, prepackaged foods – to feed their families. Their other alternative is fast food restaurants, where value meal pricing provides calorie-dense, low nutrition foods.

Recent studies have shown that people earning the lowest wages are more likely to have weights in the obese range. People living in the southern United States, where state minimum-wage levels are among the lowest, are more likely to be obese than people in other regions.[13, 14]

According to the 2008 United States Census Bureau American Community Surveys, an estimated 15.5% of Tennesseans had income below the poverty threshold in the past 12 months. Tennessee has the ninth highest poverty rate in the United States.[15]

The worst poverty in Tennessee is found in rural counties with a much lower population density than the state average. 22% of Tennessee's children live in poverty.[15] Children living in rural areas are more likely to be overweight or obese than their urban counterparts.

Poverty in Tennessee follows racial lines, with African-Americans more likely to be living in poverty. African-Americans are already at higher risk for cardiovascular disease, stroke, cancer and diabetes, and obesity further exacerbates their disease burden.

RACIAL AND ETHNIC DISPARITIES

Although the rates of obesity have risen in all categories of adults, the rates are disproportionately higher for African-Americans. Obesity is most prevalent among black females, followed by black males, white males and white females. According to the Behavioral Risk Factor Surveillance System data for Tennessee, African-Americans are more likely to be obese, more likely not to have exercised in the past month, less likely to consume five servings of fruits and/or vegetables per day, more like to suffer from hypertension and more likely to report insufficient exercise.

Because racial and ethnic minority groups are expected to comprise an increasingly larger portion of Tennessee's overall population, the future health of Tennessee will be greatly influenced by our success in improving the health of these groups.

Members of the Tennessee Obesity Taskforce recognize that it is critical to reduce health disparities related to race/ethnicity, socioeconomic status, disability, geography and age. Because of this, a specific section of the plan focuses on objectives and strategies unique to our most vulnerable populations.

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OBESITY WORK PLAN – GOALS, OBJECTIVES AND STRATEGIES

This Work Plan is color coded to easily identify the following focus areas:

- Where We Live (Food Access, Breastfeeding, Sugar Sweetened Beverages, Built Environment/Transportation);
- Where We Play (Park and Recreation, Screen Time);
- Where We Learn (Early Childcare, Schools);
- Where We Heal (Health Systems, Faith-Based Settings);
- Where We Work (Worksites);
- Vulnerable Populations.

PARTNERS

Potential partners have been identified for each objective, based on current energies and resources. These lists are intended to serve only as starting points for addressing the stated objectives and strategies.

TIMELINES

Given the evolving climate related to evidence-based recommendations and resources, the TOT elected not to place arbitrary time frames on the objectives and strategies contained in the work plan. Some are already in process and will be accomplished in the near future. Others will be ongoing and will require three to five years to accomplish.

WHERE WE LIVE

TARGET AREA: HEALTHY AND AFFORDABLE FOODS

RATIONALE: Research shows people in low-income areas have significantly less access to healthy foods than their middle class or affluent neighbors. Low-income communities frequently have an abundance of small convenience stores which have higher prices, fewer selections, minimal fresh food options and overwhelming amounts of processed and low-nutritional value foods. Middle- and higher-income neighborhoods have two to four times as many supermarkets as do low-income neighborhoods, which also have fewer fruit and vegetable markets, bakeries, specialty stores and natural food stores. *This limited access to nutritious and affordable food contributes significantly to rising obesity rates and related health problems. Low-income areas have the highest rates of diabetes, hypertension and heart disease.*

Tennessee State University has identified food deserts in both urban and rural areas of Tennessee. For example, three Nashville neighborhoods—Edgehill, North Nashville and East Nashville— are considered food deserts due to an absence of full service grocery stores and an abundance of convenience stores and fast food restaurants. These neighborhoods are also characterized by a higher than average number of persons living below the poverty rate and a higher than average number of residents relying on public transportation—two factors that compound the negative health impacts of living in an unhealthy food environment.

REFERENCES: The Need for More Supermarkets in Philadelphia. (2008) Retrieved from http://www.thefoodtrust.org/pdf/supermar.pdf

Giang, T. (2007). Closing the Grocery Gap in Underserved Communities: The Creation of the Pennsylvania Fresh Food Financing Initiative. *J Public Health Management Practice*, 2008, 14(3), 272–279.
Retrieved from http://www.thefoodtrust.org/catalog/download.php?product_id=149

Lee, M. (2008). The Neglected Link Between Food Marketing and Childhood Obesity in Poor Neighborhoods. Population Reference Bureau. Retrieved from http://www.prb.org/Articles/2006/TheNeglectedLinkFoodMarketingandChildhoodObesityinPoorNeighborhoods.aspx

OBJECTIVE 1: Promote local or statewide policies, which provide financial incentives and technical assistance for grocery stores locating in underserved neighborhoods, modeled on Pennsylvania's Fresh Food Financing Initiative.

STRATEGIES:

- Expand research efforts to provide evidence-based recommendations to community leaders and policymakers related to food access in Tennessee.
- Maintain and expand statewide education and advocacy around food access policies.
- Continue alignment with The Food Trust to explore avenues for policy in Tennessee.

PARTNERS: The Food Trust, Tennessee Grocers and Convenience Store Association, Community Food Advocates, the Ochs Center for Metropolitan Studies, Healthy Memphis Common Table, Food Systems Work Group, YMCA/ Pioneering Healthier Communities teams, Nashville-Davidson County Health Department, Partnership for Healthy Living, Tennessee State University, county health councils and housing authorities

OBJECTIVE 2: Advocate for neighborhood plans to incorporate an analysis and proposed solutions related to food security issues, especially in low-income areas.

STRATEGIES:

- Incorporate grocery stores into design of commercial redevelopment projects.
- Provide technical assistance to develop and sustain community gardens.
- Economic development authorities should provide incentives to grocery stores that locate in low-income areas under conditions that guarantee the community's access to healthy foods, including fruits and vegetables.
- Use zoning regulations, such as "conditional use permits," to enable healthy food providers to locate in underserved neighborhoods.

Partners: Metropolitan and Rural Planning Organizations, Community Food Advocates, Food Systems Work Group, Healthy Memphis Common Table, The Food Trust, Tennessee Recreation and Parks Association, senior/aging facilities, faith-based communities and community schools

Objective 3: Provide training and incentives to small store owners in underserved areas to carry healthier food items, such as fresh produce.

Strategies:

Characteristics of training and incentives offered to store owners include:

- Training in the selection, maintenance and storage of fresh produce and other perishables;
- Technical assistance in implementing and maintaining fresh produce sales systems;
- Financial and other aid to enable necessary store improvements and upkeep;
- Tax benefits to store owners stocking healthier foods/beverages;
- Small business loans to store owners looking to improve their offerings;
- Facilitations of bulk purchasing of healthier products;
- Zoning rules to promote stores with healthier products; and
- Collaboration between owners and other organizations.

Partners: Food Systems Work Group, Community Food Advocates, Healthy Memphis Common Table, Partnership for Healthy Living, Knoxville Food Policy Council, Nashville-Davidson County Health Department, Second Harvest, YMCA/Pioneering Healthier Communities teams and county health councils

Objective 4: Increase the production, distribution and procurement of food from Tennessee farms.

Rationale: Government institutions such as schools, parks and prisons can play a significant role in building a vibrant, healthy local food system. Through their purchasing power, government institutions have the capacity to create reliable demand for locally produced foods which, in turn, has the effect of creating a more affordable and consistent supply of these foods in the retail sector of the food system. By purchasing and serving local fruits, vegetables and whole grains these public entities are also fulfilling their obligation to protect the health and safety of their constituents, role modeling appropriate health behaviors and stimulating local economic growth.

In 2008, the Tennessee General Assembly enacted Public Chapter 963. This Public Chapter, which is certified at TCA 49-6-2303, went into effect July 1, 2008, requires schools to submit a plan outlining how they have met several requirements regarding food purchasing, including "the availability of local agriculture products, freshness and transportation cost be considered...", the plan "allow flexible bidding processes to assist farmers to bid competitively on portions of a given nutrition plan, rather than an entire nutrition plan..." and the plan "require that all food provided for public school use meet or exceed food safety standards for commercial food operations."

Strategies:

- Identify institutions and/or municipalities to target for partnership with Tennessee farms.
- Explore barriers and opportunities to expanding connections with local farms.
- Develop and disseminate educational materials and resources to help connect with local farms.
- Continue efforts to implement and enforce TCA 49-6-2303, which requires schools to submit a plan which includes the availability of local agriculture products and allows for a flexible bidding process to assist farmers to bid competitively on portions of the nutrition plan.
- Increase the total number of farmer days at farmers markets per 10,000 residents.

Partners: Food Systems Work Group, Community Food Advocates, Healthy Memphis Common Table, Partnership for Healthy Living, Knoxville Food Policy Council, Nashville-Davidson County Health Department, Second Harvest, YMCA/Pioneering Healthier Communities teams, Tennessee Department of Education, Tennessee Department of Agriculture, Tennessee Farm Bureau, National Farm to School Network and county health councils

Objective 5: Increase the use of Women, Infants and Children (WIC) cash value vouchers for the purchase of fresh fruits and vegetables.

Rationale: In October 2009, the WIC program's food package was expanded to offer fresh fruits and vegetables. Eligible WIC participants receive cash value vouchers each month, worth $6 for children ages 1 to 5 and $10 for women. Increasing the consumption of fruits and vegetables emphasizes nutrient-rich foods, increases fiber intake and limits added sugar. This is consistent with recommended food patterns and contributes to a healthy body weight.

Reference: Food and Nutrition Board, Institute of Medicine. WIC Food Packages: A Time for Change. The National Academies Press 2006; 87-123.

Strategies:

- Work with the WIC Program to identify barriers that influence the use of the cash value vouchers.
- Provide tools for use at WIC clinics and grocery stores to facilitate the use of cash value vouchers by WIC participants for the purchase of fresh fruits and vegetables.

Partners: Food Systems Work Group, Community Food Advocates, Tennessee Department of Health, Tennessee WIC Program, Tennessee Farm Bureau and Food Policy Council

Objective 6: Establish a Tennessee Food Policy Council to build support for healthy eating policy and environmental change.

Rationale: A Food Policy Council is an officially sanctioned body representing the many segments of the broad food system. The use of this type of structure allows varied concerns surrounding food issues to be discussed by citizens and government officials. Food issues are broad and include: anti-hunger, nutrition, sustainable agriculture and obesity. Knoxville, Tennessee is the site of the first United States Food Policy Council. This FPC was established in 1982 and still an active organization.

Reference: North American Food Policy Council http://www.foodsecurity.org/FPC/index.html

Strategies:

- Create more formalized connections across the state among local groups working on food policy through networking, capacity building and a yearly conference.
- Facilitate establishment of local/regional food policy councils to build support for healthy eating policy and environmental change.
- Engage partners throughout state to participate on statewide FPC.
- Facilitate development of a policy platform to guide the local and statewide FPCs.
- Facilitate training of community residents including youth for food systems advocacy and service.
- Coordinate grassroots support for a yearly Food Summit. Summit may be a regional initiative.

Partners: Food Systems Work Group, Knoxville Food Policy Council, Community Food Advocates, Tennessee Department of Health, Tennessee Department of Agriculture, Tennessee Farm Bureau, Healthy Memphis Common Table, Partnership for Healthy Living and YMCA/ Pioneering Healthier Communities teams

TARGET AREA: *BREASTFEEDING INITIATION AND DURATION*

RATIONALE: The American Academy of Pediatrics strongly recommends breastfeeding as the preferred feeding for all infants, including preterm infants. A mother's breast milk has the perfect combination of nutrients needed for her infant's growth and development. Scientists have shown that the initiation of breastfeeding is associated with a reduced risk of pediatric overweight. Research also shows that the longer an infant breastfeeds, the less likely he or she is to become overweight. Breastfeeding exclusively also plays a major role in the prevention of obestiy in infants. Therefore, all Tennessee mothers are strongly encouraged to breastfeed their infants.

REFERENCES: Division of Nutrition and Physical Activity: Research to practice series No.4: Does breastfeeding reduce the risk of pediatric overweight? Atlanta: Centers for Disease Control and Prevention, 2007
C. J. Kihlberg. Early Childhood Obesity among Participants in Tennessee's Special Supplemental Nutrition Program for Women, Infants, and Children. M.S.P.H. thesis, Meharry College School of Graduate Studies and Research, Nashville, TN (2010).

The long-term goals for breastfeeding in Tennessee are:

- By 2020, increase the proportion of Tennessee infants who are breastfed to 75%, the proportion of infants who are breastfed for at least six months to 50% and the proportion of infants who are breastfed for at least 12 months to 25%.
- By 2020, increase the proportion of Tennessee infants who are exclusively breastfed through 3 months to 40% and who are exclusively breastfed for 6 months to 17%

Baseline—Tennessee Department of Health Birth Certificate Records, 2007: 59.2% indicated intention to breastfeed (63.3% white, 42.3% black); PedNSS, 2007: 40.8% ever breastfed, 14.5% breastfed 6 months; CDC National Immunization Survey, 2006: 58.8% ever breastfeeding, 37.9% at 6 months, 20-29% exclusively breastfed through 3 months, 11 to 13% exclusively breastfed through 6 months.

OBJECTIVE 1: Promote new and existing laws, policies and regulations that support and protect breastfeeding.

STRATEGIES:

- Publicize and enforce existing law that protects breastfeeding in public.
- Publicize and enforce employer compliance with existing law to accommodate breastfeeding mothers at work.
- Build legislative support for the National Breastfeeding Promotion Act (HR 2819, SB 1244).
- Work with Attorney General's Office for notification of offenders to either law.

PARTNERS: Breastfeeding Coalitions, Society for Human Resource Managers, United States Breastfeeding Committee, Tennessee Legislature, Attorney General's Office, United States Congress – Tenneessee Senators and Representatives, Tennessee Obesity Taskforce Advocacy Work Group and Tennessee WIC Program

OBJECTIVE 2: Encourage the adoption of activities that create breastfeeding-friendly communities.

STRATEGIES:

- Reinforce the Loving Support Makes Breastfeeding Work™ campaign.
- Expand peer counseling – move toward having a breastfeeding peer counselor in every health department.
- Build breastfeeding support groups for prenatal and breastfeeding mothers and their families.
- Begin a faith-based breastfeeding promotion project that can be duplicated in many faith organizations.
- Revitalize and support Tennessee State Breastfeeding Coalition, involving all of the local and regional coalitions, with a website both for the state and for each region that includes sections for professionals and for families.
- Create a Breastfeeding Warmline for breastfeeding support.
- Develop culturally appropriate print materials for prenatal and postnatal mothers and families to be handed

out at health fairs and other venues throughout the state – which are written at a fifth grade reading level – to enhance population-wide understanding of information and regional support services.
- Investigate reasons why many areas of Tennessee have some of the lowest breastfeeding rates in the country, and then develop strategies to address specific barriers.
- Encourage and support formation of local and regional breastfeeding coalitions.
- Incorporate use of electronic communication (i.e., text messaging, Twitter, Facebook, email) to encourage breastfeeding among specific populations.

Partners: Breastfeeding Coalitions, Tennessee Department of Health, Tennessee WIC Program, University of Tennessee Extension, LaLeche League and churches (The "Right Start")

Objective 3: Involve media outlets and use social marketing resources and public education to promote breastfeeding.

Strategies:

- Utilize the Loving Support Makes Breastfeeding Work™ social marketing materials.
- Provide culturally sensitive information (ex: USDA "Easy Guide to Breastfeeding" for African-Americans, Hispanics, American Indians, Chinese, etc.).
- Develop and disseminate messages specific to identified populations.
- Disseminate the Shelby County Breastfeeding Coalition Campaign across the state and encourage use with digital billboards (explore working with ClearChannel to receive low nonprofit rate).
- Encourage Tennessee celebrities (i.e., NFL/NHL players, musicians) to help in the campaign.

Partners: Breastfeeding coalitions, Tennessee Department of Health, Tennessee WIC Program, University of Tennessee Extension, Tennessee Dietetic Association, local celebrities and media outlets – billboard companies, radio, newspaper and TV.

Objective 4: Encourage research and evaluation on breastfeeding outcomes, trends, quality of care and best practices.

Strategies:

- Maintain systems that collect breastfeeding data, i.e., PRAMS, PedNSS, National Immunization Survey, Birth Certificate Data Collection.
- Analyze impact of breastfeeding on the incidence of obesity.
- Analyze impact of breastfeeding on the incidence of infant mortality.
- Promote efficient communication of research results/evidence about the benefits of breastfeeding for infants and mothers to stakeholders.
- Monitor implementation of action steps and correlate with breastfeeding rates over time—disseminate report of progress periodically.

Partners: Breastfeeding coalitions, Centers for Disease Control & Prevention, Tennessee Department of Health's Office of Policy, Planning and Assessment, Division of Health Statistics, The Urban Child Institute, All Babies Count – Infant Mortality Initiative and university researchers across the state

TARGET AREA: SUGAR-SWEETENED BEVERAGES

RATIONALE: According to experts, consumption of sugar-sweetened beverages may be the single largest driver of the obesity epidemic. Studies show that the intake of sugared beverages (soda sweetened with sugar, corn syrup or other caloric sweeteners; and other drinks, such as sports and energy drinks) is associated with increased body weight, increased risk for diabetes, poor nutrition and displacement of more healthful beverages. According to the Tennessee Youth Risk Behavior Surveillance System, 46.4% of high school students reported drinking a can, bottle or glass of soda at least once daily.

Numerous studies show that changes in the relative prices of foods and beverages lead to changes in how much people consume them. A 10% increase in the price of SSBs could reduce consumption by 8 to 11%. Therefore, many states are pursuing a tax on SSBs to reduce the intake of soft drinks.

REFERENCE: Brownell KD, Farley T, Willett WC, Popkin BM, Chaloupka FJ, Thompson JW, Ludwig DS. The public health and economic benefits of taxing sugar-sweetened beverages. NEngl J Med 2009;361(16):1599-1605

OBJECTIVE 1: Replace sugar-sweetened beverages with water.

STRATEGIES:

- Install water fountains in public places and facilities to encourage water consumption.
- Adopt building codes to require access to and maintenance of fresh drinking water.

PARTNERS: Advocacy work group, YMCA/Pioneering Healthier Communities teams, Partnership for Healthy Living and city planners

OBJECTIVE 2: Advocate for all licensed child care facilities and schools K-12 to ban the sale or distribution of sugar-sweetened beverages, and limit portion size of 100% juice.

STRATEGIES:

- Ban the distribution of all sugar-sweetened beverages in child care facilities.
- Promote enforcement of Tennessee law (TCA §49-6-2307) which requires the State Board of Education to implement minimum nutritional standards for foods sold in Pre-K through grade 8, including ban on sales of soft drinks and high calorie fruit juices.
- Expand the above school vending policy to grade 12.

PARTNERS: Early childhood and schools work groups, Department of Education School Nutrition Program, Coordinated School Health and Child Care Referral and Resource Center

OBJECTIVE 3: Advocate for enactment of statewide policy to tax the sale of sugar-sweetened beverages.

STRATEGIES:

- Work closely with national and state partners to pursue policy platform which advocates for taxing sugar-sweetened beverages.
- Educate community leaders and policymakers regarding benefits of reallocating current taxes raised from soft drink sales to support obesity-related efforts.

PARTNERS: Save the Children Healthy Kids Campaign, Rudd Center for Food Policy and Obesity at Yale University, American Medical Student Association and advocacy work group

TARGET AREA: *BUILT ENVIRONMENT AND TRANSPORTATION*

Rationale: The built environment includes all aspects of the environment that are modified by humans, including homes, schools, workplaces, parks and industrial areas, as well as transportation facilities such as roadways, greenways and sidewalks. Research suggests that built environment characteristics affect rates of obesity by influencing physical activity patterns. Certain changes to the built environment can be made to enhance physical activity.

Changes to the built environment can encourage physical activity by providing opportunities for active transportation, such as bicycling to school or walking to a shop. The built environment affects the use of active transportation, which then affects the incidence of obesity. Increased car trips have contributed to the rise of obesity. By taking even a percentage of short distance trips in an active transportation mode, such as walking or bicycling, the increase in physical activity can greatly affect obesity rates. Because 50% of urban-area trips are three miles or less and 40% are two miles or less, great opportunity exists to transfer these trips to active modes of transportation.

In addition, using public transit often involves some active transport, such as walking or biking for at least a few blocks at both the beginning and end of the journey. Transit users in the United States average 19 minutes a day of walking as part of their journeys using transit, and one-third of transit users get all of their daily recommended physical activity just by walking or bicycling as part of transit trips.

References: Heath GW, Brownson RC, Kruger J, Miles R, Powell KE, Ramsey LT, and Task Force on Community Preventive Services. The effectiveness of urban design and land use and transport policies and practices to increase physical activity: a systematic review. J of Physical Activity & Health 2006; 1:S55-71.
Papas MA, Alberg AJ, Ewings R, Helzlsouer KJ, Gary TL and Klassen AC. The built environment and obesity. Epidemiol Rev 2007;29:129–43.
Gordon-Larsen P, Nelson MC, Beam K. Associations among active transportation, physical activity and weight status in young adults. Obesity Res 2005;13: 868–75.
Edwards RD. Public transit, obesity, and medical costs: Assessing the magnitudes. Prev Med 2008; 46:14–21.
Gotschi T, Mills, K. Active Transportation for America – the case for increased federal investment in bicycling and walking. Rails to Trails Conservancy 2008. http://www.railstotrails.org/resources/documents/whatwedo/atfa/ATFA_20081020.pdf

Objective 1: Encourage communities to conduct a community assessment of access to healthy food and opportunities for physical activity.

Strategies:

- Research available assessment tools, and adapt and disseminate to potential users.
- Develop community teams to perform community assessment.
- Assess where people access food and beverages: location of grocery stores and supermarkets, fast-food restaurants, corner stores, vending machines, farmers' markets, food carts, water fountains, community gardens.
- Assess statistics and perception of safety.
- Assess availability and connectivity of sidewalks, bike lanes, parks and greenways.
- Assess public transportation network in relation to food and physical activity access.
- Evaluate results and identify priorities to implement.

Partners: Metropolitan and rural planning organizations, city planners, YMCA, built environment and transportation work group, community food advocates and county health councils

Objective 2: Adopt Complete Streets policies at local, regional and state levels. *(Complete streets are streets that work for all existing and future users (motorists, pedestrians, bicyclists, transit riders – not just for a motor vehicle).*

Strategies:

- Encourage the Tennessee Department of Transportation to adopt a Complete Streets policy.

- Encourage TDOT to distribute the Complete Streets manual developed for Knoxville to communities throughout Tennessee.
- Encourage metropolitan planning organizations and rural planning organizations to adopt Complete Streets policies.
- Seek opportunities to provide training, plan development and implementation assistance to communities that are interested in adopting Complete Streets policies.
- Through capital improvements programs, encourage all city-wide repaving, striping, sidewalk, curb and signal coordination improvements to follow the Complete Streets-type policies.

Partners: Built environment and transportation work group, city planners, metropolitan and rural planning organizations, Tennessee Department of Transportation and Safe Routes to School Network

Objective 3: Amend statewide policies for School Siting. *School siting involves the placement of schools. Properly located schools are close to communities they serve and may be smaller sites and facilities than in current practice.*

Strategies:

- Promote new standards for school siting at the state level to ensure schools are built closer to the communities they serve and have active transportation facilities, such as sidewalks, bikeways, greenways and trails from neighborhoods to schools. Walking and bicycling to and from school can be a source of daily physical activity.
- Seek opportunities to provide training, plan development and implementation assistance to communities who are interested in adopting school siting policies.

Partners: Built environment and transportation work group, city planners, metropolitan and rural planning organizations and school administrators

Objective 4: Support and expand Safe Routes to School efforts. *Safe Routes to School programs provide infrastructure, such as sidewalks and crosswalks around schools and provide training and encouragement to students to walk and bicycle to school.*

Strategies:

- Continue to support Safe Routes to School efforts through the federal grants program at the Tennessee Department of Transportation and the Safe Routes to School Network in Tennessee.
- Seek opportunities to provide training, plan development and implementation assistance to communities that are interested in adopting Safe Routes to School policies.
- Encourage training for school districts to learn about transportation cost savings, improvements in student health and improvements in behavior and academic performance associated with walking and bicycling to school.

Partners: Built environment and transportation work group, TDOT, Safe Routes to School Network, Coordinated School Health and Tennessee Department of Health Injury Prevention Program

Objective 5: Support efforts to encourage mass transit in Tennessee.

Strategies:

- Encourage and advocate for all bus transit systems in Tennessee to provide bicycle racks on buses.
- Support newly adopted statewide legislation to allow for creation of dedicated funding sources for transit across Tennessee.
- Encourage departments of public works to provide bicycle and pedestrian facilities such as bicycle lanes, sidewalks and bicycle parking at transit stops.

Partners: Built environment and transportation work group, metropolitan and rural planning organizations, Highway Safety Commission and TDOT transit agencies

Objective 6: Promote amending state requirements for comprehensive plans to require coordinated land use and active transportation planning at the state, regional, local and neighborhood levels.

Strategies:

- Encourage traffic impact studies across the state to become transportation impact studies and include recommendations for transit, bicycle and pedestrian infrastructure improvements as well as motorized mode infrastructure improvements.
- Work with city planners to include provisions for active transportation in comprehensive city plans.
- Provide transportation options in both rural and urban areas such as transit, bicycle and pedestrian facilities to make the active choice the easy choice.
- Advocate for comprehensive plans to include funding for education and enforcement campaigns for Tennessee state laws related to non-motorized travel such as the Tennessee 3-Feet Law for bicyclists, pedestrian right-of-way laws and other campaigns that would promote traffic safety especially in areas where people are using active transportation or being physically active.
- Encourage comprehensive plans to increase incentives for mixed-use developers and increased density to promote more compact, walkable communities.
- Enhance personal safety in areas where people are or could be physically active.

Partners: Built environment and transportation work group, city planners, planning organizations, Tennessee Department of Transportation, bike/walk coalitions, Coordinated School Health, Safe Routes to School Network, Tennessee Advisory Commission on Intergovernmental Relations, Tennessee State Troopers, Highway Safety Commission, Tennessee Department of Safety, Governor's Highway Safety Office and the 3-Feet Team

WHERE WE PLAY

TARGET AREA: PARKS AND RECREATION

RATIONALE: Two ways to help address the epidemic of obesity in Tennessee are improved access to safe trails and greenways, and an ambitious parks and recreation program. Research shows a close correlation between public health and recreational opportunities, both close to home and in state parks. It has been found that active overweight and obese individuals have lower morbidity and mortality than normal weight individuals who are sedentary. Because disparities exist in physical activity among some at-risk populations, policies and environmental efforts need to be tailored to promote increased physical activity opportunities for these subgroups.

By providing an outdoor recreation infrastructure, such as trails and sports facilities, park and recreation providers play a significant role in the health and well being of Tennesseans.

In recent years, increasing access to recreational facilities that already exist at schools has emerged as one of the most promising strategies for building more opportunities for activity into neighborhoods. This promise is rooted in the realization that even the most poorly designed and underserved neighborhoods include schools. In an era of never-ending budget shortfalls, maximizing access to existing facilities – rather than trying to construct new ones – is the most efficient and economical use of public resources. Joint use agreements offer a way for school districts to open their facilities to community use. A joint use agreement refers to a written agreement between a school district and one or more public or private (nonprofit) entities setting forth the terms and conditions for sharing the use of the district's facilities. A joint use agreement can allow community access to school property by allowing the district to share with another agency the costs and risks associated with opening the property for after-hours use.

REFERENCES: Heath G. The role of the public health sector in promoting physical activity: national, state, and local applications. J Phys Activity and Health 2009;6(Suppl 2): S159-67.
Penn State (2008, August 4). Recreation and park agencies play a key role in promoting healthy lifestyles. Science Daily. Retrieved from http://www.sciencedaily.com/releases/2008/08/080804114300.htm
A toolkit for increasing physical activity through joint use agreements, Planning for Healthy Places, a project of Public Health Law & Policy (PHLP). http://www.phlpnet.org/healthy-planning/products/joint_use_toolkit

OBJECTIVE 1: Work to ensure access to places and spaces for physical activity to all Tennesseans and promote through informational outreach activities.

STRATEGIES:

- Advocate for dedicated (in perpetuity) public park/greenway/trail lands and a source to fund maintenance of them.
- Design and implement campaign to inform, educate and empower residents to access opportunities for physical activity.
- Work closely with partner organizations to implement strategies contained in Tennessee's Statewide Comprehensive Outdoor Recreation Plan, Tennessee Greenways and Trails Plan, Tennessee 2020 Vision for Parks, People & Landscapes.

PARTNERS: Tennessee Department of Environment and Conservation – Recreation Educational Services Division, Tennessee State Parks and Every Child Outdoors

OBJECTIVE 2: Support the goals of Every Child Outdoors Tennessee to promote and support opportunities that encourage children to engage with and experience the outdoors.

STRATEGIES:

- Promote the tenets of the Tennessee Children's Outdoor Bill of Rights: Every child, before entering high school, should have the opportunity to walk in the woods, play outside, explore nature, watch wildlife, grow a garden, splash in the water, camp under the stars, learn to swim, climb a tree, go fishing, fly a kite and visit a farm.
- Work closely with ECO to support and accomplish goals and objectives of initiative: "Connecting Children and Families with Nature." http://www.everychildoutdoorstn.org/index.html

Partners: Every Child Outdoors, Tennessee Department of Environment and Conservation, Knoxville Childhood Obesity Coalition, Partnership for Healthy Living, YMCA/Pioneering Healthier Communities teams, Tennessee Recreation and Parks Association, Tennessee Environmental Education Association and Tennessee Department of Health

Objective 3: Develop and maintain "one-stop" resource for all public places and spaces for movement available at no cost to all Tennesseans and visitors.

Strategy:

- Incorporate all public spaces and places into a one-stop website with links to agency which manages each site.

  Note: Greenways website is now available for over 700 greenways and trails in Tennessee www.connectwithtn.com.

Partners: Tennessee Department of Environment and Conservation – Recreation Educational Services Division, Tennessee State Parks, Tennessee Recreation and Parks Association, United States Corps of Engineers, National Park Service, United States Forest Service, United States Fish and Wildlife Service and Tennessee Division of Forestry

Objective 4: Facilitate opportunities for local providers of parks and recreation facilities to coordinate efforts, resources and service areas.

Strategy:

- Develop local *livable communities groups* to include all possible partners in the community in regular networking meetings and events.

Partners: Tennessee Department of Environment and Conservation – Recreation Educational Services Division, YMCA/Pioneering Healthier Communities teams, local developers, Tennessee Recreation and Parks Association, county health councils

Objective 5: Pursue joint use agreements to provide communities with access to school playgrounds, parkland, school classrooms, gyms, ball fields and community centers.

Strategy:

- Promote the development of joint use agreements between schools and local government (parks and recreation agencies) to allow school facilities (gym, track, baseball diamonds, soccer fields, etc.) to be used for recreation by neighborhood organizations and/or residents.

Partners: Healthy Memphis Common Table, Knoxville Childhood Obesity Coalition, Partnership for Healthy Living, YMCA/ Pioneering Healthier Communities teams, Tennessee Recreation and Parks Association and Tennessee Department of Education

Objective 6: Provide healthy and affordable foods at parks, sports venues and recreation facilities.

Strategies:

- Develop toolkit and implement policy requiring healthy concession foods in parks and recreation facilities. (see Healthy Foods in Recreation Facilities, Healthy Eating Physical Activity Coalition of New Brunswick http://www.gnb.ca/0131/wellness_sense-e.asp).
- Work with coaches/event coordinators and facilities to provide healthy foods and beverages at all events.

Partners: Healthy Memphis Common Table, Knoxville Childhood Obesity Coalition, Partnership for Healthy Living, YMCA/Pioneering Healthier Communities teams, TAHPERD and Tennessee Recreation and Parks Association

TARGET AREA: SCREEN TIME

Rationale: Screen time is time spent at the computer and surfing the Internet, watching TV, videotapes or DVDs, playing video or computer games. The American Academy of Pediatrics recommends that children 2 years old and under should not be exposed to television, and children over age 2 should limit daily media exposure to only one to two hours of quality programming. Studies show that over 40% of children under age 2 watch television daily, and 26% have a television in their room. 90% of children ages 4 to 6 use screen media for an average of two hours per day. Children from lower income families and children of color spend more time watching television and are more likely to live in a home where it is left on most of the time.

Research has shown that television viewing is associated with risk of being overweight in preschool children. Having a television in the bedroom has an even stronger association. Preschool children who watch television for more than two hours per day are more likely to be overweight than children who watch television two hours or less daily.

Television viewing is also linked to dietary intake. Television can be a distraction from how much people are eating. In addition, food and beverages are heavily advertised on television, and television viewing is associated with increased energy intake. This association can occur because of intake while watching television, and as a consequence of food marketing.

References: American Academy of Pediatrics. Children, adolescents, and television. Pediatrics 2001;107(2):423-26.
White House Task Force on Childhood Obesity Report: Solving the Problem of Childhood Obesity within a Generation, May, 2010, page 18.

Objective: Reduce screen time in all settings.

Strategies:

- Educate and encourage parents to serve as role models for their children to not spend large amounts of time on a home computer or watching television, and to *not place televisions or computers in bedrooms.*
- Place defined limits on screen time for children in all settings.
- Discourage television viewing for children younger than two years and encourage more interactive activities such as talking, playing, singing and reading together.
- Promote the *Gold Sneaker Initiative for Licensed Child Care Facilities* and increase the number of facilities that implement the Gold Sneaker Initiative.
- Implement school-based screen time reduction interventions.
- Develop and advocate for guidelines for advertising and marketing to children and youth.
- Encourage active playtime and recreation for the whole family as an alternative to sedentary leisure time.

Partners: Advocacy, early childcare and school work groups, American Heart Association, Every Child Outdoors, Coordinated School Health, YMCA and Tennessee Department of Education

WHERE WE LEARN

TARGET AREA: *EARLY CHILDCARE*

RATIONALE: Almost one third of American children over 2 years of age are already overweight or obese, according to the National Health and Nutrition Examination Survey. For low income children, the numbers approach 39%. Healthy child development depends on eating nutritious food and being physically active every day. This is especially important during the preschool years when children are rapidly building their brains and bodies. Millions of America's children spend hours in the care of someone other than a parent each day.

Obesity prevention must start early in life. Childcare practices and policies can have widespread and long-term impact. Policies for nutrition, physical activity, screen media and training for childcare providers are important tools for the development of healthy children.

Obesity prevention efforts must happen both in and out of the home. Guidelines that encourage healthy behaviors for children in childcare can also benefit their families. Providing information to parents can increase their understanding of children's nutritional needs and help improve home meals and sack lunches sent to child care. Increasing awareness and opportunities for physical activity helps families develop healthy habits very early in children's development.

REFERENCE: Story M, Kaphingst KM, French S. The role of child care settings in obesity prevention. The Future of Children 2006; 16(1):143-68.

OBJECTIVE 1: Increase the number of early childcare centers that implement breastfeeding, nutrition and physical activity programs.

STRATEGIES:

- Maintain existing assessment process of childcare facilities for healthy eating and physical activity interventions and programs; expand to include breastfeeding component.
- Furnish copies of physical activity and nutrition guidelines from Department of Human Services and Department of Education to each licensed and/or regulated early childhood program.
- Promote the Gold Sneaker Initiative for Licensed Childcare Facilities and increase the number of facilities that implement the Gold Sneaker Initiative.
- Promote garden/farm-to-table programs, integrating into coursework for early childcare providers.
- Promote the involvement of children in meal planning and age-appropriate food preparation.
- Provide education on the selection, preparation and storage of fresh fruits and vegetables.
- Encourage family gardens (community garden concept) at child care facilities.
- Increase the number of child care facilities receiving recognition for efforts toward physical fitness, such as the annual Governor's Council on Physical Fitness and Health Award.
- Assure the offering of fat free milk for children over the age of 2 in childcare facilities.
- Assist child care facilities with competitive pricing strategies, point-of-sale for healthy food.

PARTNERS: Department of Human Services Child Care Licensing, Tennessee Child Care Resource and Referral Network, Tennessee Department of Health, early childcare work group, TN Early Childhood Training Alliance, Governor's Council on Physical Fitness and Health, breastfeeding coalitions, University of Tennessee Extension, Tennessee WIC Program

Objective 2: Provide educational opportunities in healthy eating and healthy weight to childcare providers.

Strategies:

- Integrate a variety of curricula and coursework (such as Active Steps, Healthy Living) to early childhood professions through TN Child Care Provider Training, TN Early Childhood Training Alliance, TN Child Care On-Line Training System.
- Provide childcare facilities with samples of activities that can be used to encourage additional physical activity that involves the family, including education for parents.
- Provide technical assistance to child care providers to address healthy weight and healthy eating. Include assessment and tracking of BMI.
- Publicize resources from which childcare facilities can obtain information on healthy weight, including healthy eating and physical activity.
- Provide educational materials/resources and promote TV Turn-off Week, providing healthy alternatives to television watching.

Partners: Tennessee Child Care Resource and Referral Network, Tennessee Department of Health, early childcare work group, Tennessee Early Childhood Training Alliance (TECTA), University of Tennessee Extension and YMCA/ Pioneering Healthier Communities teams

Objective 3: Assist childcare facilities in promoting, protecting and supporting breastfeeding.

Strategies:

- Educate early childcare providers on how to support breastfeeding moms and babies.
- Add standards for breastfeeding in current assessment and licensing standards.
- Promote the development of policy that incorporates staff breastfeeding education into all childcare facilities and Head Start programs.
- Provide breastfeeding education with culturally appropriate messages for at-risk populations.
- Promote and increase the number of childcare facilities that have implemented the Gold Sneaker Initiative.

Partners: Breastfeeding coalitions, Tennessee Department of Health, Department of Human Services Child Care Licensing, Tennessee Child Care Resource and Referral Network, University of Tennessee Extension, Hispanic Coalition and African-American coalitions.

Objective 4: Develop/implement a multi-media social marketing campaign for families on preventive strategies in the home and community to prevent obesity and other chronic diseases.

Strategies:

- Promote and support breastfeeding as a strategy for overweight/obesity prevention.
- Promote and support healthy eating and physical activity as a strategy for overweight/obesity prevention.
- Include an awareness campaign to educate parents/caregivers about the adverse effects of inactivity due to screen time.
- Promote the initiation and implementation of policies prohibiting marketing of food and beverage products in schools or childcare settings.

Partners: Tennessee Child Care Resource and Referral Network, Tennessee Department of Health, early childcare work group, Tennessee Early Childhood Training Alliance, Governor's Council on Physical Fitness and Health, Get Fit Tennessee, breastfeeding coalitions, University of Tennessee Extension and YMCA/Pioneering Healthier Communities teams

Objective 5: Encourage parents/caregivers to be appropriate role models for healthy eating and physical activity.

Strategies:

- Offer affordable, ongoing healthy eating, breastfeeding and physical activity skill-building and behavior change programs for parents, older adults/grandparents, children and youth.
- Promote importance of family meals.
- Promote and expand Project TOPSTAR peer partnership mentoring program.
- Utilize Strengthening Families Community Cafes to bring parents together to discuss topic and issues. http://www.strengtheningfamilies.net/index.php/wiki/Alliance:Community_Cafe_Summary/
- Encourage families to engage in physical activity together as an alternative to television watching/screen time.
- Expand and promote Childcare Resource and Referral Lending Library(ies) for resources for parents and child care providers and Books from Birth.
- Incorporate skills-building/hands-on activities for healthy eating and physical activity into existing community health programs and events.
- Provide healthy eating/cooking classes for parents/caregivers in after school and community programs.
- Provide programs for parents on appropriate physical activity for pre-school children.

Partners: Tennessee Child Care Resource and Referral Network Parent Liaisons, Tennessee Family Care Alliance, Tennessee Department of Health, early childcare work group, Tennessee Early Childhood Training Alliance, Tennessee Recreation and Parks Association and YMCA/Pioneering Healthier Communities teams

TARGET AREA: SCHOOLS

Rationale: Over 95% of young people are enrolled in schools; therefore, schools are powerful environments to shape the health of our children. According to the National Association of State Boards of Education (NASBE), "Health and success in school are interrelated. Schools cannot achieve their primary mission of education if students and staff are not healthy and fit physically, mentally and socially."

Physical activity programs are linked to stronger academic achievement, increased concentration and improved math, reading and writing test scores. While childhood obesity rates increase, opportunities for students to be active have decreased. Kids are less active than ever. This not only affects their health, but also their performance in class.

Students often consume up to 50% of their daily calories at school. Most schools offer foods and beverages to students through a variety of channels outside of the federally regulated school meal program: vending machines, school stores, concession stands, after-school programs, fundraising campaigns, class parties and à la carte items in the cafeteria. Federal regulations on these foods and beverages are limited.

There are approximately 417 colleges and universities in Tennessee. The average college student is often pressed for time, under a lot of stress and eating on the go. As a result, poor eating habits are common, such as skipping meals or frequenting fast food restaurants. But eating a healthy diet can help students feel better, cope with stress and perform better in the classroom and on the athletic field.

References: Centers for Disease Control and Prevention. The association between school-based physical activity, including physical education, and academic performance. Atlanta, GA: U.S. Department of Health and Human Services; 2010.
University of New Hampshire: College students face obesity, high blood pressure, metabolic syndrome. Science Daily 2007, June 18.

Objective 1: Promote and support advocacy to maintain full funding for Coordinated School Health in Tennessee.

Rationale: Tennessee is the only state with a legislative mandate to implement the CDC Coordinated School Health model in all local education authorities. As a result of this financial commitment, by the 2008-09 academic year, 135 LEAs and four state special schools were participating in this groundbreaking initiative. Local LEA infrastructures are now in place that focus on the health and wellness of all students. CSH coordinators provide the leadership necessary to develop and implement health policy, partnerships and activities that advance student health.

Using the Coordinated School Health Model, improvements are already evident in the quality of nutrition and level of physical activity in Tennessee schools.

Reference: Tennessee Department of Education. Tennessee Coordinated School Health 2008-2009, Executive Summary. www.tennessee.gov/education/schoolhealth.

Strategies:

- Continue broad-based efforts to promote and educate community leaders and policymakers about the value of Coordinated School Health.
- Develop profiles of children and families that have been impacted by CSH – to be used with legislators, media and general public.
- Develop and implement advocacy and education campaign for CSH - social media, press conferences, public service announcements, letters-to-the-editor, regional trainings and earned media.
- Enlist local coordinators to help implement community based strategies to support CSH, such as media placement, local meetings with community leaders, community education.

Partners: Save the Children, Tennessee School Health Coalition, Advocacy and Schools Work Groups, American Heart Association, YMCA, Tennessee Department of Education, Tennessee Department of Health and Coordinated School Health

Objective 2: Increase the number of physical activity opportunities available to children at school.

Strategies:

- Work closely with community leaders and policymakers to develop and advocate for legislation which requires physical education in all grades. Increase frequency, duration and amount of time being physically active as part of physical education classes. The goal is to provide 150 minutes of instructional physical education for elementary school children, and 225 minutes for middle and high school students per week for the entire school year.
- Promote adherence to existing policy that requires schools to adopt and implement daily physical activity and exercise plans for students. Recommend that time spent meeting the physical activity requirement be spent outdoors wherever possible.
- Promote amending existing physical activity requirement to include all grades, K-12.
- Promote daily recess for elementary school students, outside whenever possible, featuring time for unstructured but supervised play.
- Institute strategies within communities/school districts to improve scores on The Mile Run, measure of cardiovascular and respiratory fitness.
- Work to ensure that all playgrounds in the state comply with the American Society of Testing and Measures safety and accessibility standards for playgrounds.
- Promote adoption of new standards for school siting at the state level to ensure schools are constructed closer to the communities they serve and have active transportation facilities such as sidewalks, bikeways, greenways and trails from neighborhoods to schools.
- Promote walking or bicycling to and from school using such programs as Safe Routes to School, Walking School Bus and Bike Train.

- Promote requirement that schools enter into joint use agreements with local government (parks and recreation agencies) to allow school facilities (gym, track, baseball diamonds, soccer fields, etc.) to be used outside school hours by neighborhood organizations or residents for various recreational activities.
- Work cooperatively with city parks and recreation programs to provide outdoor classroom activities. Work with parks and recreation agencies to teach lifetime skills.
- Support and encourage participation in school athletics, intramural programs and physical activity clubs for all levels and abilities.

Partners: Coordinated School Health, American Heart Association, Tennessee Association for Health, Physical Education, Recreation & Dance, Safe Routes to School Network, Tennessee Recreation and Parks Association, ECO, Tennessee Department of Education, Schools and Built Environment Work Groups, YMCA, Metropolitan and Rural Planning Organizations, MTSU, ETSU, Tennessee Department of Transportation, Blue Cross/Blue Shield of Tennessee, Tennessee Parent Teacher Association, Governor's Council on Physical Fitness and Health and Tennessee Environmental Education Association

Objective 3: Assure that all schools provide healthy foods and beverages.

Strategies:

- Promote increased USDA reimbursement for meals to enable schools to provide fresh fruit and vegetables on a regular basis.
- Continue to provide increased awareness of Tennessee policy requiring that the State Board of Education implement minimum nutritional standards for foods sold in Pre-K through grade 8. Advocate to expand through grade 12.
- Promote, encourage and support schools to participate in the "Healthier U.S. School Challenge," a voluntary initiative which recognizes schools participating in the National School Lunch Program that have created healthier school environments through promotion of nutrition and physical activity.
- Support provision of at least 20 minutes for students to eat after they arrive at the table with their food (National Food Service Institute recommendations).
- Support provision of standardized nutrition education in the classroom curriculum.
- Encourage flexible procurement practices for school food directors in order to buy local produce.
- Promote and support school garden projects.
- Promote policy for healthy fund raisers only, providing a list of healthy fund raising options to local PTOs for school fundraisers.
- Develop and implement guidelines to address the use of food as a discipline or reward for students.
- Offer family and consumer science courses in all Tennessee high schools in order to teach basic cooking skills to students.
- Provide health-promotion activities for students, parents and staff that encourage the consumption of fruits, vegetables and low-fat dairy products, such as cooking demonstrations, school gardens and nutrition guest speakers.
- Develop and implement "party" guidelines for healthy snacks and refreshments served at school parties, celebrations and meetings.
- Initiate and implement policies prohibiting marketing of food and beverage products in schools or child care settings.
- Promote healthy food policies in colleges and universities of Tennessee. Work with food service staff of Tennessee colleges and universities to provide healthy food options in all university food venues, with increased fruits and vegetables and appropriate portion sizes.
- Work with appropriate faculty and staff of Tennessee colleges and universities to educate students on healthy eating and portion sizes.

Partners: Coordinated School Health, schools work group, American Heart Association, Tennessee Department of Education, Tennessee Department of Health, Tennessee Department of Agriculture, University of Tennessee Extension, Tennessee Dietetic Association, Tennessee School Nutrition Association, YMCA/Pioneering Healthier Communities teams, Partnership for Healthy Living, American Heart Association, Tennessee Parent Teacher Association, Southeast United Dairy Industry Association and parent teacher organizations

WHERE WE HEAL

TARGET AREA: ***HEALTH SYSTEMS***

RATIONALE: By adopting healthy policies and practices, hospitals, health insurers and health care providers are well positioned to support and promote healthy eating and daily physical activity and prevent and manage chronic diseases.

Beyond patient screening, diagnosis and referrals for treatment, health care systems can help identify, remove barriers and increase access to care through policy change, educating health care providers, partnering with community-based efforts on local policy and environmental change around health promotion and creating healthy environments for staff and patients in their facilities.

REFERENCE: Guide to Community Preventive Services. Obesity prevention: provider-oriented interventions. www.thecommunityguide.org/obesity/provider.html. Last updated April 15, 2010.

OBJECTIVE 1: Provide technical assistance to health care providers to counsel all patients on nutrition, physical activity and behavioral strategies to prevent inappropriate weight gain and obesity.

STRATEGIES:

- Encourage health professionals to assess nutrition and physical activity as part of the routine primary care (using BMI) and provide physical activity and nutrition prescriptions for patients to follow.
- Encourage clinicians to screen children for obesity and refer them to programs to improve weight status whenever necessary (as recommended by United States Preventive Services Task Force).
- Increase the number and variety of locations of comprehensive referral centers/programs which include:
  - Counseling for weight loss or healthy diet.
  - Counseling for physical activity or a physical activity program.
  - Behavioral management techniques such as goal setting and self monitoring.
- Develop a website where health care professionals can access materials concerning nutrition, physical activity and obesity.
- Facilitate redesign of primary care delivery to improve care coordination and self-management support (Implementation of the Chronic Care Model).
- Improve health providers' understanding of nutrition-related social services such as WIC and SNAP in order to facilitate proper use by patients and integration of such services into an overall healthy lifestyle.
- Encourage health providers to offer counseling/education related to diet and nutrition to patients with a diagnosis of cardiovascular disease, diabetes, or hyperlipidemia.
- Educate providers how to be reimbursed for weight-related follow-up visits.
- Provide educational materials to physicians and clinics regarding nutrition, physical fitness and obesity that can be placed in waiting rooms.
- Assess and expand opportunities for obesity education and treatment via telemedicine.

PARTNERS: Health systems work group, Rural Health Association of Tennessee, Tennessee Primary Care Association, Children's Hospital Association of Tennessee, Tennessee Department of Health, Hospital Corporation of America and Tennessee Academy of Pediatrics

Objective 2: Increase training, education and resources for physicians and primary-care providers that enable providers to help patients achieve and maintain healthy weight through healthy eating and increased physical activity.

Strategies:

- Promote adoption and implementation of a standard curriculum in residency training, allied health and mental health programs in the state which includes core competencies in obesity prevention (breastfeeding promotion, healthy eating, increased physical activity and decreased sedentary activity), assessment of weight status and weight management.
- Offer a provider-based assessment and counseling tool for physical activity and healthy eating for physicians and clinics to use with patients. Have healthcare providers assess patients' physical activity levels at appointments and discuss ways they can meet the activity guidelines.
- Increase the number of trainings (including joint trainings) for licensed health care providers which offer continuing education in obesity prevention (breastfeeding promotion, healthy eating, increased physical activity and decreased sedentary activity), assessment of weight status and weight management.
- Develop a collaborative network across the state among medical, nursing, nutrition and other health professional schools and internship programs to build skills and enhance knowledge of breastfeeding, healthy eating and physical activity.

Partners: Health systems work group, Tennessee Hospital Association, Dietetic Internship Programs, Tennessee Primary Care Association, Tennessee Medical Association, American Medical Student Association and Tennessee Nurses Association

Objective 3: Create a breastfeeding friendly health care system.

Strategies:

- Provide technical assistance, training and support to heath care facilities to adopt the policies and practices defined in the Baby-Friendly Hospital Initiative and the Ten Steps to Successful Breastfeeding.
- Help birth hospitals in implementation of the JCAHO Perinatal Quality Measure of Exclusive Breastfeeding.
- Obtain CDC Crib Cards for use in all Tennessee birthing hospitals.
- Distribute AAP Sample Hospital Breastfeeding Policy to all Tennessee birthing hospitals.
- Distribute resources, such as Jane Morton's "Keys to Successful Breastfeeding" DVDs, to all area birthing hospitals.
- Distribute "Breastfeeding Bags" to breastfeeding moms rather than distributing the formula bags with free formula, which undermines breastfeeding.
- Institute physician office training – to include OBs, Peds, and FPs in prenatal breastfeeding education, perinatal education and postnatal education. (TIPQC Breastfeeding Promotion Project)
- Promote the use of the AAP Breastfeeding Residency Curriculum in training programs throughout the state.
- Encourage healthcare professionals to implement the Ten Steps to Successful Breastfeeding (www.babyfriendlyusa.org).
- Support Tennessee Initiative for Perinatal Quality Care Plan.
- Replicate the Shelby County Breastpump Initiative to increase the number of mothers who receive quality breast pumps.
- Promote access to and usage of a referral directory for nutrition counseling, nutrition and physical activity community programs and breastfeeding support services.
- Encourage hospitals and managed care organizations to offer and reimburse for breastfeeding education and support for all community members.
- Educate healthcare staff on motivational interviewing, assessing readiness to change and promoting healthy lifestyles through breastfeeding.

Partners: Birthing hospitals' administrative and nursing teams, along with QI departments, breastfeeding coalitions, United States Breastfeeding Committee, Tennessee Department of Health, Tennessee Hospital Association, American Academy of Pediatrics, Tennessee Chapter, and other professional organizations , Tennessee Initiative for Perinatal Quality Care, physician offices and practices, medical societies, hospital staffs, AAP and Jane Morton ("Milk Solutions")

Objective 4: Advocate for insurance coverage by all third-party payers for obesity services, nutrition counseling, breastfeeding care, services and equipment when necessary.

Strategies:

- Add insurance coverage for diagnosis of obesity and treatment (BMI above 30 for adults, above 95th percentile for children).
- Assess the extent to which public and private insurance companies provide coverage for lactation services.
- Work with major health care reimbursement systems, such as TennCare and other insurance companies, to develop model policies that promote adequate reimbursements for lactation services.
- Disseminate American Academy of Pediatrics' guide to reimbursement for providing breastfeeding care.
- Insure that breast pumps are made available to all mothers, regardless of ability to pay, for medically indicated reasons.

Partners: Breastfeeding coalitions, managed care organizations, American Academy of Pediatrics, durable medical equipment providers and YMCA/Pioneering Healthier Communities teams

Objective 5: Increase the number of active duty military and veterans who have access to preventive medicine clinic – Managing Overweight/Obesity for Veterans Everywhere (MOVE) program operated by the Department of Veterans Affairs.

Strategies:

- Work with Department of Veterans Affairs to include MOVE preventive medicine clinics in all existing hospitals and outpatient clinic settings operated by the Department of Veterans Affairs.
- Encourage and facilitate the increased utilization of MOVE clinics.

Partners: Department of Veterans Affairs, Health Systems Work Group, veterans support organization

TARGET AREA: ***FAITH-BASED SETTINGS***

Rationale: Faith-based leaders and institutions are in a powerful position to address healthier lifestyles. A large percentage of the population in Tennessee attends regular services at faith-based institutions, providing a forum for education, motivation and encouragement toward better health through faith-based avenues.

Faith-based coalitions have been at the forefront of local and state efforts on social issues such as homelessness, tobacco use, hunger and poverty. Today, there is growing energy among faith-based coalitions to advocate for improved food access, nutrition and environmental policies.

Rates of obesity among African-Americans, especially women, are higher than other population groups. Since churches are respected sources of guidance for the African-American community, as well as other populations with disproportionate burdens of obesity, they are uniquely poised to reduce health disparities.

Reference: Anshel MA. The Disconnected Values (Intervention) Model for Promoting Healthy Habits in Religious Institutions. J Relig Health (2010);49:32-49.

Objective: Work closely with faith-based communities to take leadership roles in advocating for healthy foods and increased physical activity.

Strategies:

- Encourage faith-based leaders to support advocacy to educate policymakers and leaders about the best solutions to increase active living and healthy eating (especially in rural settings).
- Encourage faith-based leaders to promote emphasis on reaching children at greatest risk of obesity: African-American, Hispanic, Native-American, Asian-American and Pacific Islander children and children living in low-income neighborhoods or neighborhoods that have limited access to affordable healthy foods and safe places to play.
- Institute Faith & Food — faith leaders advocating for healthy food access policies and solidifying a faith-based collaborative for healthy food access. Create a faith-based campaign to increase low-income residents' access to full-service grocery stores.
- Leverage the faith community to ensure sustainable access to fresh produce, merging faith- and community-based advocacy for urban agriculture and affordable, nutritious food.
- Encourage faith-based leaders to work with community partners to initiate and maintain community gardens.
- Implement a faith-based effort to advance community policies and environmental changes - Safe Parks & Edible Playgrounds. (Edible Playgrounds focus on gardening for children and by children of all ages – designed to stimulate outdoor activity while teaching the fundamentals of agriculture and nutrition).
- Involve faith-based youth groups in policies to create environmental changes to improve nutrition and fitness.
- Promote development and adoption of faith-based organization breastfeeding policy. Offer breastfeeding support groups for prenatal and breastfeeding women in faith-based organizations for members and nonmembers.
- Train faith-based and community leaders to assess the built environment and advocate activity-friendly improvements.
- Organize health events within faith-based communities with activities that spotlight nutrition and increased physical activity.

Partners: Vulnerable populations work group, People of God Organization, Office of Minority Health, National Coalition of Pastors/ State Coalition, Tennessee Baptist Convention, Metropolitan Inter-Faith Association, Consumer Health Resource Information Services/ Tennessee Statewide Faith-Based CHRIS Program, Stone River District Association, Centerstone of Tennessee, breastfeeding coalitions, Faith-Based Leadership Council and YMCA

WHERE WE WORK

TARGET AREA: WORKSITES

RATIONALE: Given the amount of time adults spend at work, the worksite is an important environment where healthy behaviors can be influenced. Employers benefit from reduced health care costs, increased productivity and decreased absenteeism. Employees can benefit from improved health and morale. The most successful healthy worksites are those where employees and management work together to develop wellness-related policies and sustainable educational programs.

Worksite wellness is multi-dimensional, influenced by individual awareness and values, co-worker support, organizational policies, social norms and implementation of state and federal laws that support wellness.

REFERENCE: Barkin SL, Heerman WJ, Warren MD, Rennhoff C. Millennials and the world of work: the impact of obesity on health and productivity. J Bus Psychol 2010; 25:239–45.

OBJECTIVE 1: Promote implementation of worksite wellness programs in all Tennessee work environments.

STRATEGIES:

- Develop and offer a model Worksite Wellness Toolkit to all employers following the Leading Employees to Activity and Nutrition guidelines (LEAN model from the CDC: http://www.cdc.gov/leanworks/index.html) or Get Fit Tennessee model (http://www.getfittn.com/wellnessatwork/wellness-at-work.htm).
- Advocate for incentives or rebates for companies that provide worksite wellness programs to maintain an employees' healthy weight.
- Encourage employers to contract with outside wellness professionals to provide wellness programs on site.
- Encourage employers to offer yearly fitness screenings and incentive-based programs to employees to encourage exercise, fitness, and healthy eating.

Partners: Worksite wellness work group, Tennessee Department of Health, YMCA/Pioneering Healthier Communities teams, Blue Cross/Blue Shield of Tennessee and United Healthcare

OBJECTIVE 2: Promote opportunities for physical activity for employees.

STRATEGIES:

- Encourage employers to offer flexible hours to allow for physical activity during the day and alternative/ active transportation for commuting.
- Work with employers to map out walking paths around worksite with mileages for employees to follow.
- Encourage employers to provide onsite wellness facility or coordinate with local fitness centers to offer discount memberships for employees.
- Encourage use of stairs as the default whenever possible.
- Promote provision of shower and changing facilities on site.
- Promote "healthy" give-away incentive programs (jump rope, pedometer, exercise ball, etc.).

PARTNERS: Worksite wellness work group, Tennessee Department of Health, YMCA/Pioneering Healthier Communities teams, Blue Cross/Blue Shield of Tennessee and Governor's Council on Physical Fitness and Health

OBJECTIVE 3: Provide a Healthy Food Environment for Employees

STRATEGIES:

- Promote development of policies for healthy food and beverage choices in cafeterias, vending machines and meetings to include fruits and vegetables.

- Promote nutrition labeling in all food venues.
- Encourage employers to adopt healthy meetings policy.
- Support community gardens and farmers markets by encouraging employers to host them at the worksite or encourage employees to be involved through flex time or incentives.

Partners: Worksite wellness work group, Tennessee Department of Health, YMCA/Pioneering Healthier Communities teams and Tennessee Farmers

Objective 4: Encourage the adoption of breastfeeding-friendly workplaces.

Strategies:

- Implement and support enforcement of employer compliance of existing worksite breastfeeding policy to accommodate breastfeeding at work, including designated comfortable space to breastfeed and store milk at work.
- Educate employers on the benefits and cost savings of worksite policies that encourage and support breastfeeding moms at work.
- Encourage human resource directors to include coverage for breastfeeding support programs in employee health plan benefits.
- Implement USDHHS Business Case for Breastfeeding: Steps for a Breastfeeding Friendly Worksite.
- Recognize businesses that accommodate breastfeeding women.
- Advocate for all health plans to cover lactation consultation and breastpump purchase/rental.
- Disseminate breastfeeding work site support kits.
- Provide technical assistance to help worksites implement policies that allow breastfeeding.

Partners: Breastfeeding coalitions, Tennessee Department of Health, chambers of commerce and selected businesses (especially health care facilities and institutions of higher learning)

VULNERABLE POPULATIONS

RATIONALE: The Agency for Health Care Research and Quality defines vulnerable populations as those who are capable of being emotionally or physically wounded by nature of their economic/financial circumstances, place of residence, health, age, personal characteristics, functional or developmental status, ability to communicate effectively, and presence of chronic illness or disability. Defining vulnerable populations in terms of health disparity, the National Institutes of Health (NIH) state that they are populations where a significant difference has been identified in the overall rate of disease incidence, prevalence, morbidity, mortality, and survival rates among specific population groups as compared to health status of the general population.

Obesity is a problem for all races and ethnic groups in Tennessee, and affects people of all income levels. In Tennessee, the rate of obesity among adults is 27 % for white, 38% for black and 36.7% for Hispanic (2009 BRFSS data). Research shows that certain minorities, as well as lower income earners and those with lower educational attainment, tend to be at higher risk for obesity, and therefore chronic diseases, such as diabetes, hypertension, heart disease/stroke, and certain cancers.

The goals and objectives of each section of this plan apply to Tennessee's vulnerable populations; however, the following section contains culturally sensitive recommendations that will also be implemented by working closely with statewide partners.

REFERENCES: The theory of self-care management for vulnerable populations. J Theory Constr and Test. 22-SEP-03. Cited January 25, 2010 from http://goliath.ecnext.com/coms2/gi_0199-1277959/The-theory-of-self-care.html.
Differences in prevalence of obesity among Black, White and Hispanic adults – United States, 2006-2008, CDC Morbidity and Mortality Weekly Report July 17, 2009; 58(27):740-44.

VULNERABLE POPULATIONS *OVERARCHING* GOALS:

A. Increase awareness of healthy lifestyle opportunities among members of vulnerable populations (rural communities, minorities, mentally ill, elderly, etc.) through public service announcements and other means of public communication.
B. Increase vulnerable populations' access to healthy lifestyle opportunities (i.e. access to healthy foods, exercise and preventive care).
C. Educate professionals in public health and related fields regarding cultural competency to eliminate barriers in communication and cultural insensitivity when teaching vulnerable populations.
D. Educate members and family units of vulnerable populations to unite and support each other to sustain healthy lifestyle changes.
E. Motivate vulnerable populations to action and sustained change of unhealthy behaviors through implementation of strategic plans to decrease overweight and obesity in all vulnerable populations.
F. Educate families/members of vulnerable populations to choose healthier lifestyle resources within their socio-economic condition (means) and identify community organizations and resources that will promote these choices.

TARGET AREA: *AGING POPULATION*

OBJECTIVE: Increase physical activity and healthy eating in aging population.

STRATEGIES:

- Support nutrition and physical activity goals and objectives of Tennessee Commission on Aging and Disability, strategic plan and program plans.
- Advocate for better nutritional standards in senior housing facilities, i.e., seasoned vegetables not in casseroles or sauces, more "fresh" options, less fried food, less food that is greasy or in a cheesy or creamy sauce, etc.

- Publish and disseminate age-appropriate fitness exercises (instructions and diagrams) as well as recipes and recommended shopping lists for low budget seniors to appropriate venues, such as health care providers, YMCA, social workers, churches, community health clinics, AARP.
- Provide access to community shared agriculture by bringing veggie vans, small farm stands, fresh food vendors to senior living facilities or churches.
- Provide technical assistance to develop and sustain community gardens.
- Increase funding or incentives to senior facilities that provide fitness/nutrition education and exercise or "wellness classes" to members.
- Advocate for more affordable transportation to isolated seniors to improve access to grocery stores, greenways and farmers markets.
- Promote access to kitchens to allow seniors to cook (and particularly to cook together as a group) so that they can:
  a) receive benefits of companionship,
  b) prepare healthier meals,
  c) encourage each other toward healthier food choices, and
  d) divide the large meals among each of them so that they have meals appropriate for one to two people.
- Assist seniors in pooling their grocery money (or a portion of it) to allow them to buy fresh/healthy foods in bulk for lower cost and then divide the groceries.
- Recognize the relationship between poor nutrition among seniors and isolation issues and utilize that awareness to create more group meal opportunities. Seniors who eat together eat better.
- Partner with Angel Food Ministries and Meals on Wheels/Mobile Meals to provide seniors with more fresh fruit and vegetable options to their clients.

Partners: Vulnerable Populations Work Group, Tennessee Commission on Aging and Disability, Tennessee Area Agencies on Aging and Disability, Vanderbilt Center for Aging and YMCA

TARGET AREA: ***MENTAL HEALTH AND DISABLED POPULATIONS***

Objective: Increase opportunities and access to physical activity and healthy foods for the mentally and physically disabled populations.

Strategies:

- Advocate for provision of exercise equipment for group homes to support those residents who are unable to leave the facility for walks or other exercise.
- Provide technical assistance in writing grants for exercise equipment/facilities.
- Educate about nutrition and physical activity while in inpatient facility, group home or day treatment center.
- Increase awareness among providers and provide coverage of psychiatric medications with a better side-effect profile concerning weight gain.
- Advocate for standards for healthier nutritional offerings for snacks and other meals provided in day treatment centers and other group facilities.

Partners: Vulnerable Populations Work Group, National Association of Social Workers, Tennessee Department of Mental Health and Developmental Disabilities, Centerstone of Tennessee, Project Health, Tennessee Commission on Aging and Disability

TARGET AREA: ***AFRICAN-AMERICAN POPULATION***

In Tennessee, the rate of obesity among adults is 27% for white, 38% for black and 36.7% for Hispanic (2009 BRFSS data).

Objective: Develop and implement a strategic plan to address obesity in African-Americans in Tennessee.

Strategies:

- Develop a comprehensive list of organizations that have an interest in weight control and have access to significant numbers of adult African-Americans.
- Convene community discussion groups to engage in and implement specific methods to promote healthy lifestyle initiatives specific for the African-American community.
- Develop and promote culturally-appropriate education about the health values of breastfeeding in the African-American Community.

Partners: Vulnerable Populations Work Group, Meharry Medical College, 100 Black Women and 100 Black Men Organizations, The Links and YMCA

TARGET AREA: ***HISPANIC POPULATION***

In Tennessee, the rate of obesity among adults is 27% for white, 38% for black and 36.7% for Hispanic (2009 BRFSS data).

Objective: Increase physical activity and healthy eating in the Hispanic Population.

Strategies: (These targeted strategies will be implemented using the Spanish language.)

- Provide opportunities for community-based healthy lifestyles programs that encourage, recruit and include Hispanic families.
- Provide culturally appropriate information about childhood obesity prevention and programs for the Hispanic community.
- Connect Hispanic families with ongoing programs to prevent and treat childhood obesity.
- Use Spanish-speaking media, such as "Progress and Wellbeing" radio show to disseminate information about obesity prevention.
- Provide workshops for leadership and advocacy development on obesity prevention.
- Work closely with the Hispanic health coalitions to work in partnership with its member organizations.
- Educate about and improve access to opportunities for physical activity (community centers, parks and recreation areas).

Partners: Vulnerable populations work group, Hispanic health coalitions, Office of Minority Health, Tennessee Latino Network and YMCA

TARGET AREA: ***RURAL COMMUNITIES***

Objective: Increase opportunities for physical activity and consumption of healthy foods in rural communities.

Strategies:

- Increase access to healthy farm products (i.e. fruits and veggies) by setting up and promoting farmers markets.
- Work with local health councils to assess and maximize unique local resources and to give rural communities a sense of ownership.
- Work through Coordinated School Health in rural school districts to educate children and parents about nutrition and physical activity benefits.
- Assess and expand opportunities for obesity education and treatment via telemedicine.
- Work with local newspapers and county extension agents to educate the general public about healthy recipes and activities and alternatives to less healthy foods.
- Work with local churches to promote healthy lifestyles.
- Help establish greenways and parks that encourage exercise in rural communities.

Partners: Coordinated School Health, Rural Health Association of Tennessee, Tennessee Department of Transportation, Tennessee Department of Environment and Conservation, faith-based coalitions, TAPHERD, University of Tennessee Extension, and regional health councils

APPENDIX I: DATA TABLES

DOCUMENTING THE OBESITY EPIDEMIC IN TENNESSEE ADULTS

Obesity has increased every year in Tennessee for over a decade. Obesity is defined as a body mass index (kg/m2) greater than or equal to 30. Figure 1 shows the percent of Tennessee adults classified as obese for each year from 1997-2009. The national rate is also displayed on Figure 1. These data are from the annual Behavioral Risk Factor Surveillance System telephone surveys. The rate of obesity in Tennessee increased more rapidly than the national rate. By 2009, 1,500,000 or 33% of Tennessee adults were obese. Since people tend to under-report their weight and exaggerate their height on surveys, the actual prevalence of obesity is likely higher than these estimates.

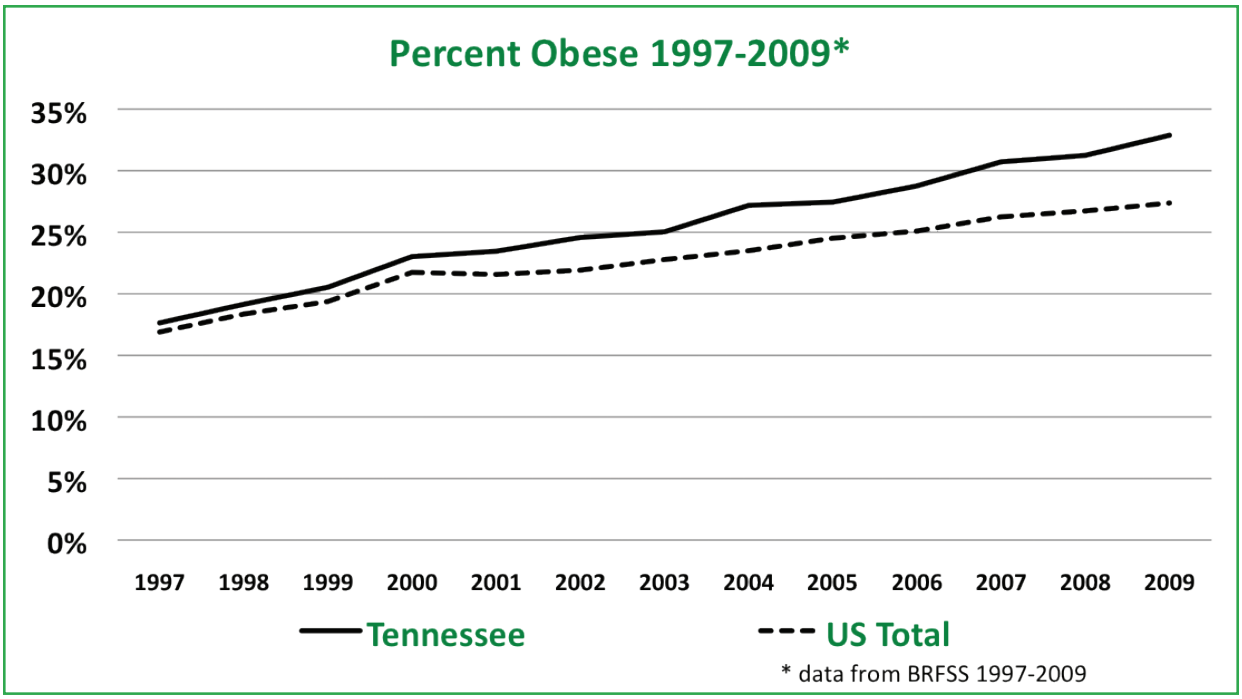


Figure 1: Change in adult obesity prevalence in Tennessee from 1997 to 2009

All data were downloaded from the CDC http://www.cdc.gov/brfss/technical_infodata/surveydata.htm). Data from each year was weighted with that year's final case weights. Cases were dropped for BMI<10 and BMI>100. The denominator is all cases with a valid BMI.

Overweight is defined as having a body mass index greater than or equal to 25 for adults. Figure 2 shows the increasing prevalence of overweight from 1997 to 2009. Like the prevalence of obesity, the prevalence of overweight has been increasing more rapidly in Tennessee than in the United States as a whole.

In 2009, 70% of the adults in Tennessee were classified as overweight, over 3,150,000 adults in Tennessee were overweight.

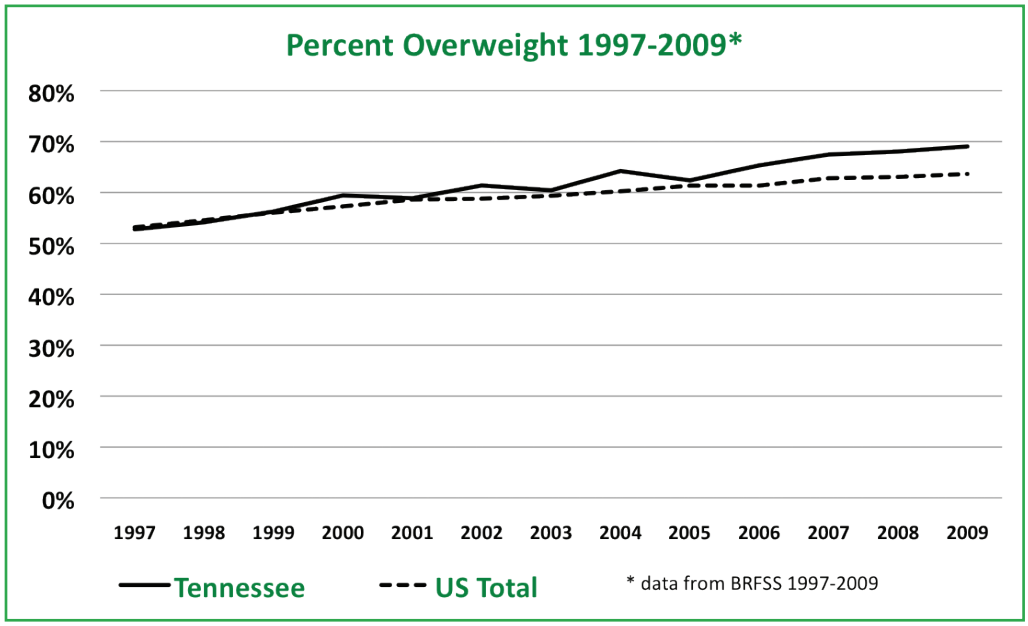


Figure 2: Change in overweight prevalence among adults in Tennessee from 1997 to 2009

The risk of health problems and premature death increases as people become more overweight. Extreme obesity, defined as a body mass index greater than or equal to 40, is associated with many health conditions such as hypertension, diabetes, arthritis and heart disease. Figure 3 compares the prevalence of extreme obesity in Tennessee to the national statistics. ***The prevalence of extreme obesity in Tennessee increased more than three-fold from 1997 through 2009, and since 2002 has been consistently higher than the national average. In 2009, over 240,000 adults in Tennessee had a BMI greater than 40.***

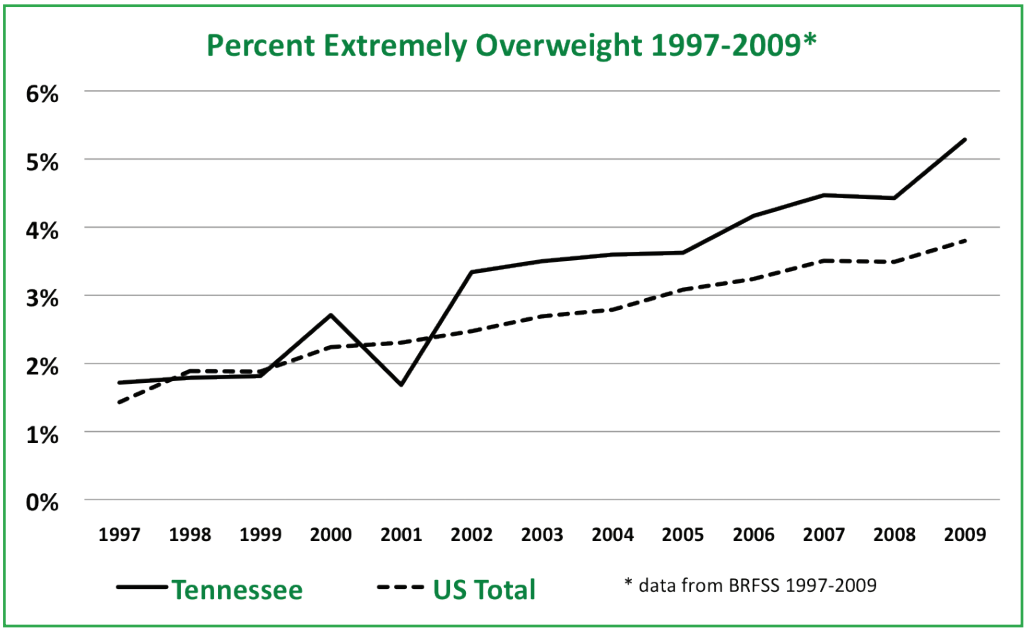


Figure 3: Change in adult extreme obesity prevalence in Tennessee from 1997 to 2009

STATE RANKINGS

The impact of weight gain on Tennesseans is better understood by looking at the national rankings. Figure 4 shows how Tennessee ranked each year compared to the 50 states and the District of Columbia (one is the highest prevalence, 51 is the lowest). Over this time, Tennessee has moved consistently towards being one of the most severely impacted states by the obesity epidemic. ***By 2009, Tennessee had the second highest prevalence of overweight, the third highest prevalence of obesity and the fourth highest prevalence of extreme obesity.***

The past 13 years can be used to make future projections. Figure 5 predicts an estimation of the growth in the prevalence of overweight, obesity, and extreme obesity from 2010 to 2025 based on mathematical modeling. In 2025, over 80% of adults in Tennessee will be overweight, 48% will be obese, and nearly 12% will be extremely obese if present trends continue. These projects show that it is critical that the people of Tennessee act, and act now to change these trends of steady weight gain year after year.

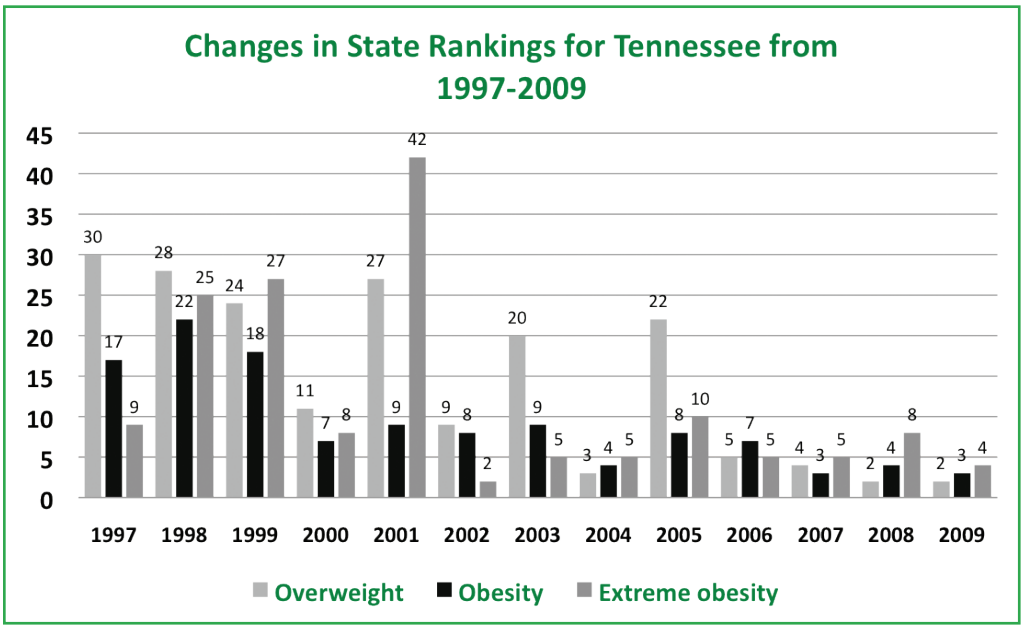


Figure 4: National Rankings of overweight, obesity, and extreme obesity for Tennessee 1997-2009

Second order polynomial equations were fit to yearly percentages using Trend Lines in Microsoft Excel. Equation for overweight accounts for 96% of year to year variance; equation for obesity accounts for 99% of year to year variance; and equation for extreme obesity accounts for 91% of year to year variance. Overweight and obesity had small negative second order polynomial terms (the rate of increase is slightly slower than linear). Extreme obesity has a small positive second order polynomial term (the rate of increase is slightly faster than linear).

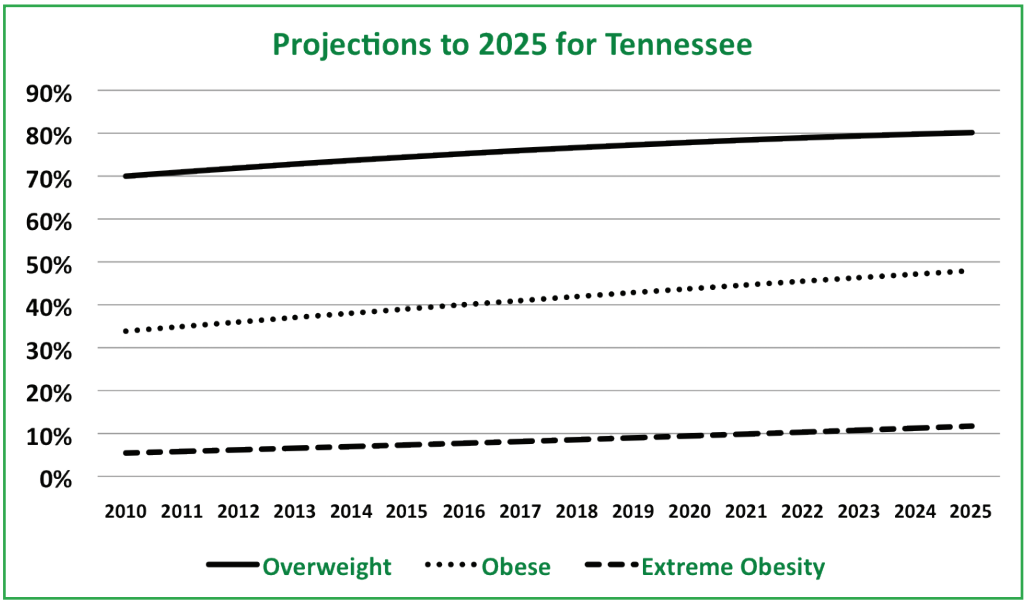


Figure 5: Projected changes in weight status for Tennessee adults from 2010 to 2025

WEIGHT TRENDS IN TENNESSEE'S CHILDREN

Every two years, the nation conducts the Youth Risk Behavior Survey (YRBS http://www.cdc.gov/HealthyYouth/yrbs/index.htm). It covers a national sample of high school aged children. Each state also conducts a state level YRBS during the same years. Data from the national YRBS was available from 1999 through 2007, and data from Tennessee was available from 2001 through 2009.

Overweight in children is defined as a BMI greater than the 85th percentile for age and gender. The percent of males and females who are overweight in Tennessee and the United States is compared in Figure 6. ***In 2009, 33% for age and gender of high school aged males and 31% of high school aged females in Tennessee were overweight, both down from 2007.*** For every year, youth in Tennessee are more likely to be overweight than the national comparison group.

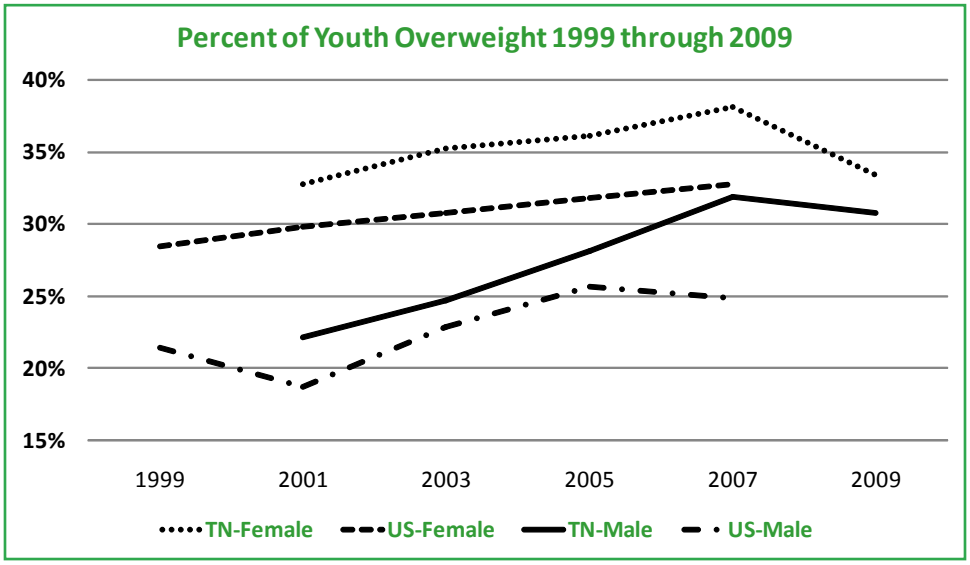


Figure 6: More youth in Tennessee are overweight

Unlike adults, a single value of body mass index cannot be used to understand overweight and obesity in children. As children get older, the BMI norms change until they stabilize around age 20. Data from the Centers for Disease Control and Prevention was obtained to standardize BMI values by age and gender (http://www.cdc.gov/growthcharts/zscore.htm). The resulting value shows how far above or below the norm a child is for its age and gender. These were then changed to percentile scores for better interpretation. The percentile values are used to classify children as overweight and obese. For children, obesity is defined as a BMI greater than the 95th percentile for age and gender.

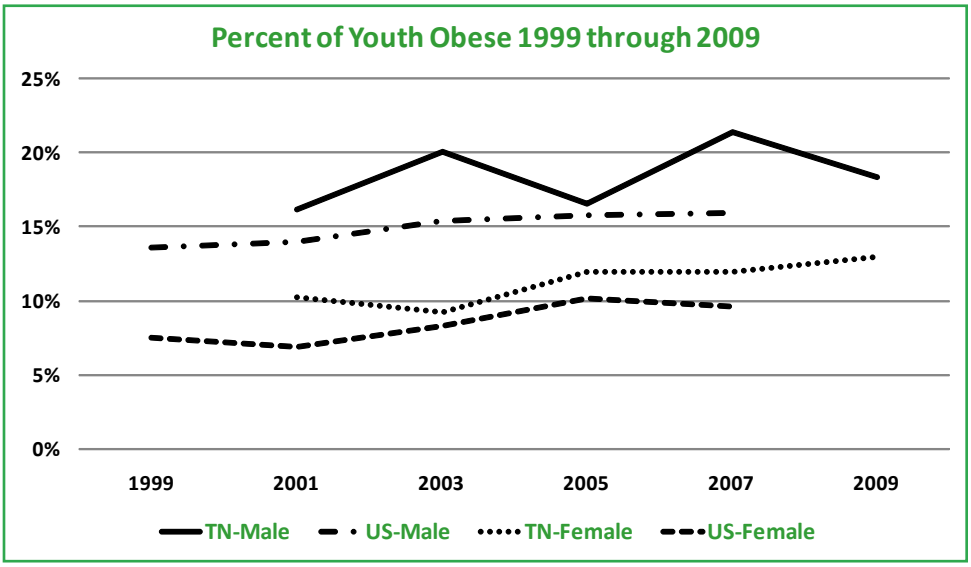


Figure 7: More Youth in Tennessee are Obese

Figure 7 compares obesity rates among Tennessee youth to the national average. More males and females are obese in Tennessee than the national average for all comparison years. The prevalence of obesity in youth is generally increasing, with some year to year fluctuations. ***In 2009, 18% of boys and 13% of girls were obese in Tennessee.***

CONSEQUENCES OF OBESITY

Obesity is a risk factor for many chronic diseases, such as diabetes and hypertension. We examined the prevalence of two important risk factors for cardiovascular disease and stroke: diabetes, and hypertension. These risk factors are assessed by questions on the BRFSS that ask people to report if they have ever been told by a doctor that they have any one of these conditions. Each condition often goes undiagnosed for many years, so the prevalence estimates are conservative.

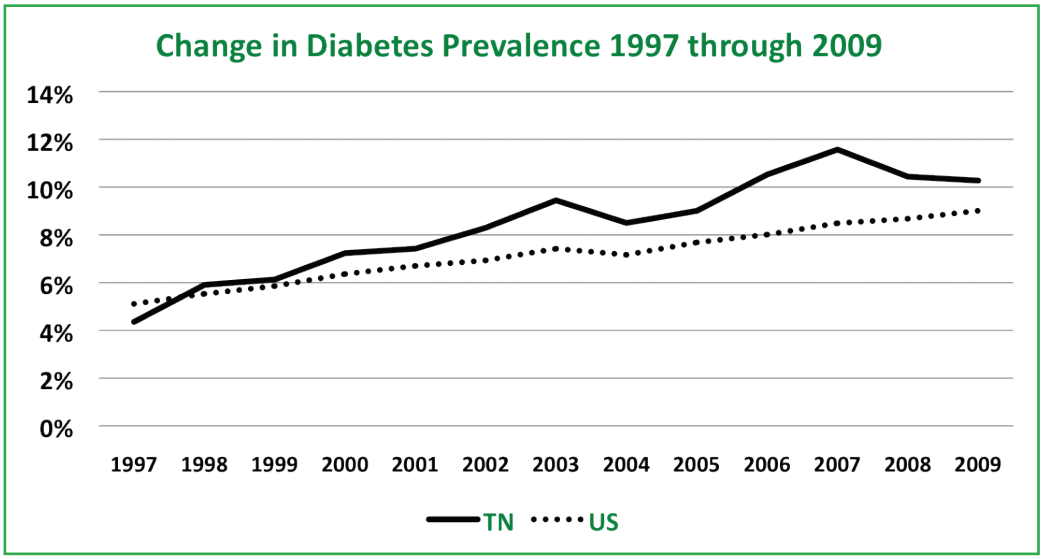


Figure 8: Comparison of diabetes prevalence between Tennessee and the United States from 1997 to 2009

Figure 8 shows the prevalence of diabetes over time for Tennessee and the United States. The rate of diabetes increased faster in Tennessee than it did in the nation as a whole.

By 2009, 490,000 or about one in 10 adults in Tennessee had been diagnosed with diabetes.

Figure 9 presents the prevalence of high blood pressure from 1997 to 2009. The rate has been increasing steadily since 1997. Each year, the prevalence in Tennessee is higher than the national average, with the gap widening in recent years. By 2009, 1,560,000 or 39% of Tennessee adults had been diagnosed with high blood pressure.

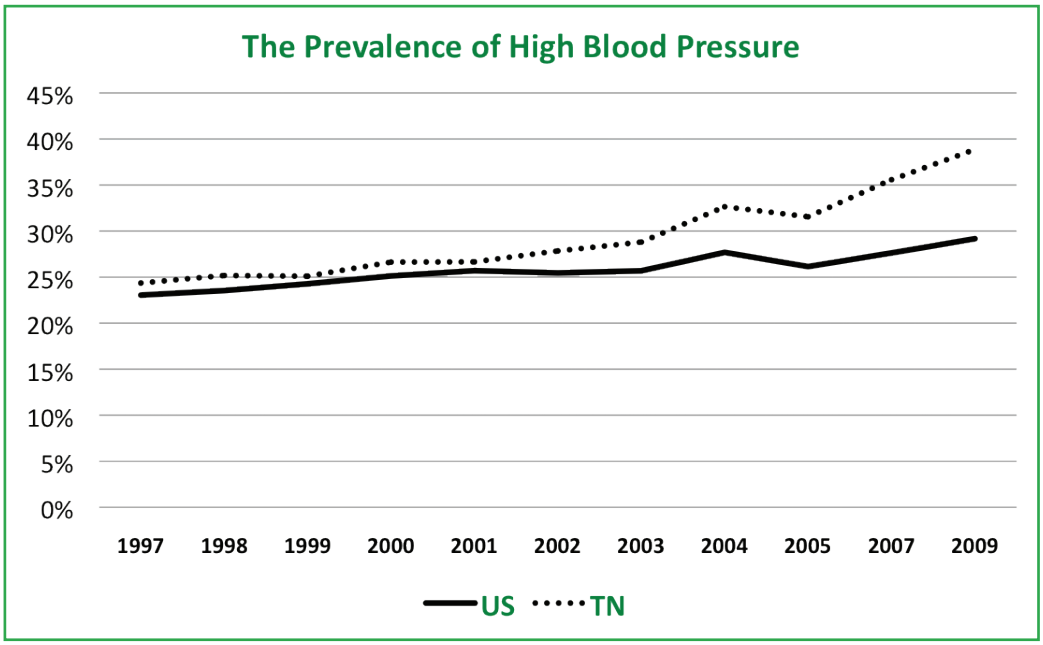


Figure 9: Comparison of hypertension prevalence between Tennessee and the United States from 1997 to 2009

HIGH RISK POPULATIONS

In 2007, the estimated population of Tennessee was 6,149,000 (http://www.census.gov/popest/states/asrh/SC-EST2008-03.html). People who identified themselves as white represent 80.4% of the population. African-Americans were the largest minority group in Tennessee making up 16.8% of the population. A total of 3.6% of the Tennessee population self-identified as Hispanic. American Indians and Pacific Islanders were less than 1% of the population, while 1.3% of the population was Asian.

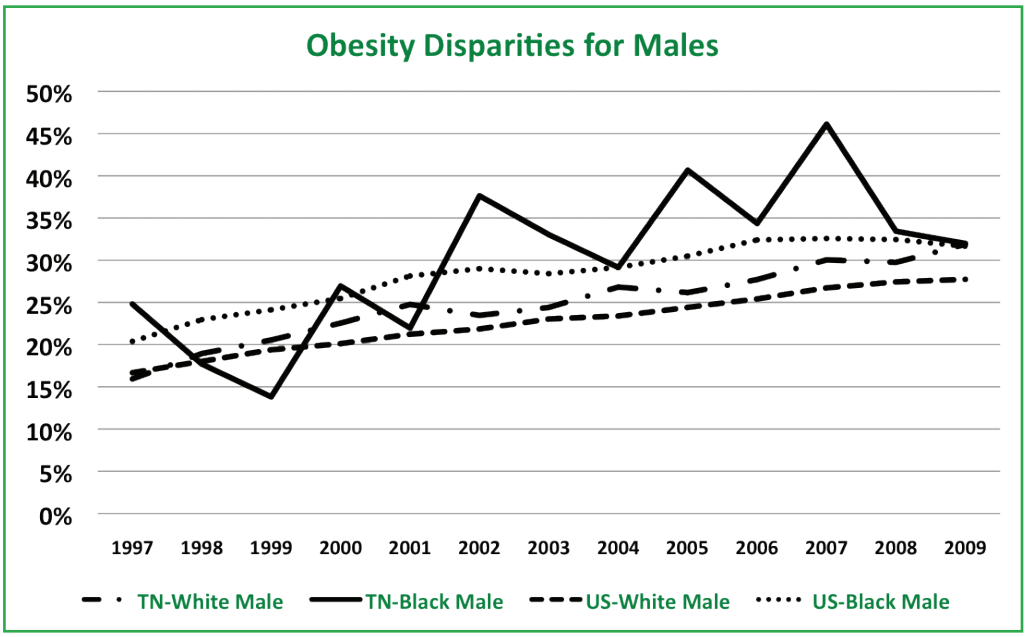


Figure 10: Obesity prevalence is higher for African-American men in Tennessee

Figure 10 shows disparities in obesity between African-American and white males from 1997 through 2009. The prevalence of obesity has been consistently higher for African-American men than for white men in Tennessee in 12 of the 13 years since 1997. This is similar to the national data, which shows a more consistent disparity. In 2009, 117,000 or 32% of African-American men in Tennessee were obese.

Figure 11 presents obesity disparities for women. There is a large gap in the prevalence of obesity between white and African-American woman. The rates for African-American woman in Tennessee are similar to the national rates for African-American women. The rates for white women in Tennessee are consistently above the national average. In 2009, 205,000 or 53% of African-American women in Tennessee were obese. This is well above the 31% prevalence rate for white women.

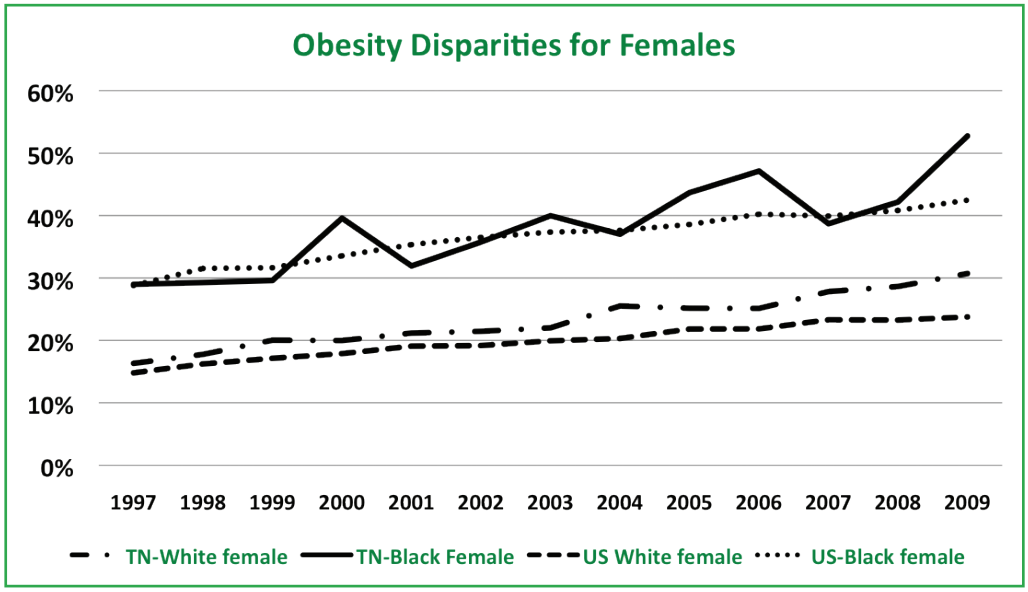
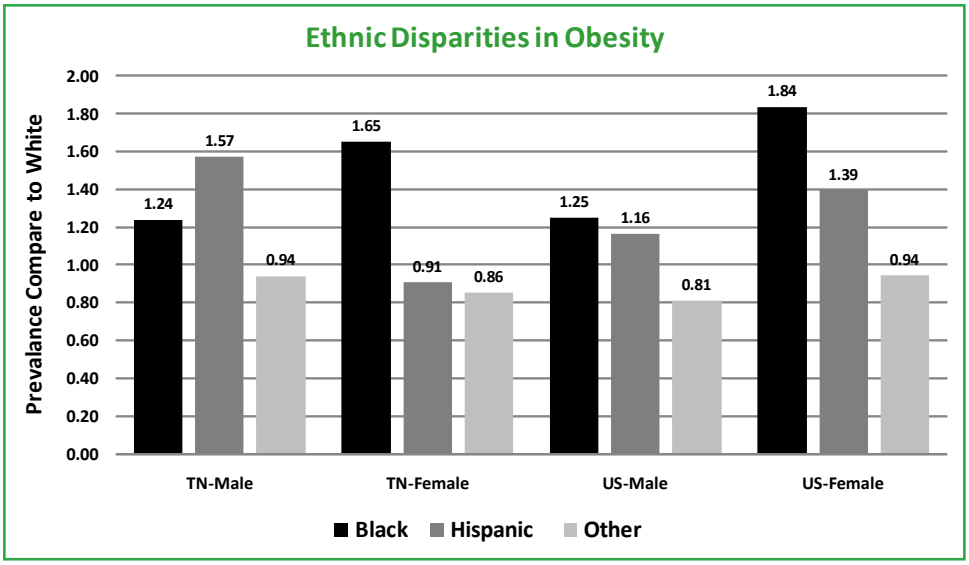


Figure 11: Obesity Prevalence is higher for African-American Women in Tennessee

Figure 12 shows disparities for African-American, Hispanic and other ethnic groups in Tennessee and the United States over the entire time period from 1997 to 2009. For males, black and Hispanic men have a higher prevalence of obesity in both Tennessee and nationally. The disparity for African-American men is the same in Tennessee as it is for the nation as a whole. For Hispanic men, the disparity is higher in Tennessee than nationally. For women, the disparity between African-American and white women is smaller in Tennessee than it is nationally. In Tennessee, the rate of obesity is slightly lower for Hispanic women compared to white women, while the opposite is true nationally. ***It is clear that the Tennessee state plan must address ethnic disparities in obesity prevalence, with African-Americans being an especially vulnerable population.***

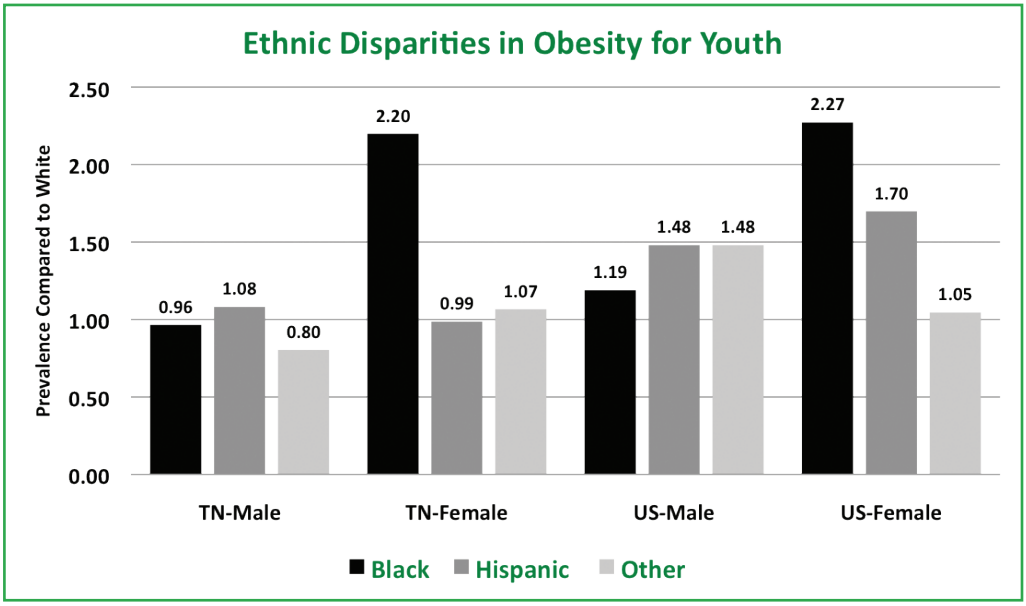


To understand disparities in Tennessee, race and ethnicity variables were used to create four categories: 1) Non-Hispanic white (white), 2) Non-Hispanic black (African-American), 3) Hispanic, and 4) other. However, the number of BRFSS interviews conducted with Hispanic and other individuals in Tennessee is too low to provide stable estimates of temporal trends. Change over time will only be presented for whites and African-Americans.

Figure 12: Obesity disparities by ethnicity for adults

Figure 13 summarizes disparities in obesity for youth based on the YRBS data for Tennessee and the United States. The rate of obesity in African-American girls is more than 2.2 times higher than the rate in white girls, both in Tennessee and in the United States. There are no other major disparities for Tennessee youth, while there are disparities for Hispanic boys and girls nationally. ***The rate of obesity for African-American girls is 2.2 times higher than the rate for white girls in Tennessee.***

Figure 13: Obesity disparities by ethnicity for youth



TARGET BEHAVIORS FOR INTERVENTION – FRUIT AND VEGETABLE CONSUMPTION/PHYSICAL ACTIVITY

The national surveys measure consumption of fruits and vegetables and physical activity as target behaviors for obesity treatment and prevention. Surveys also ask about weight management behaviors.

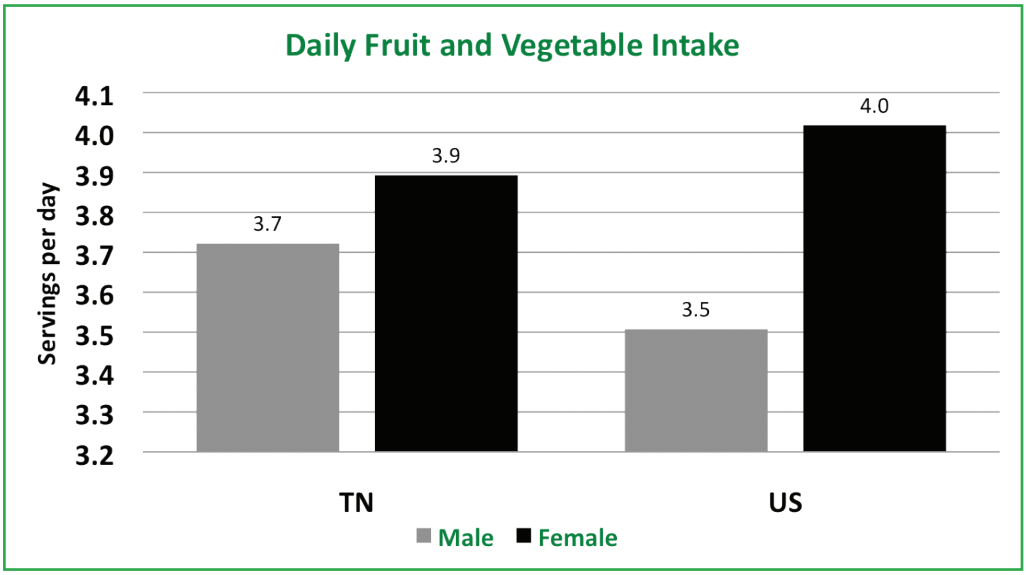


Figure 14: Adult fruit and vegetable intake 2009

Figure 14 shows fruit and vegetable intake for adults in the year 2009. Males in Tennessee consume more fruits and vegetables than the national average (3.7 per day compared to 3.5 per day) while females in Tennessee consume slightly less than the national average (3.9 per day compared to 4.0 per day).

Tennesseans are doing well with eating fruits and vegetables, but would benefit from increased intake.

(Estimates of fruit and vegetable intake are computed from multiple BRFSS questions. We used the computed variable provided on the BRFSS data files).

Figure 15 compares the percentage of adults in Tennessee who met goals for moderate and vigorous physical activity in 2009. These data are compared to the national percentages for men and women. Adults in Tennessee are less likely than their national counterparts to meet national goals for vigorous physical activity, and are much more likely than adults in the United States to have no physical activity. ***Of adults in Tennessee, 585,000 men (28%) and 676,000 women (30%) have no regular physical activity.***

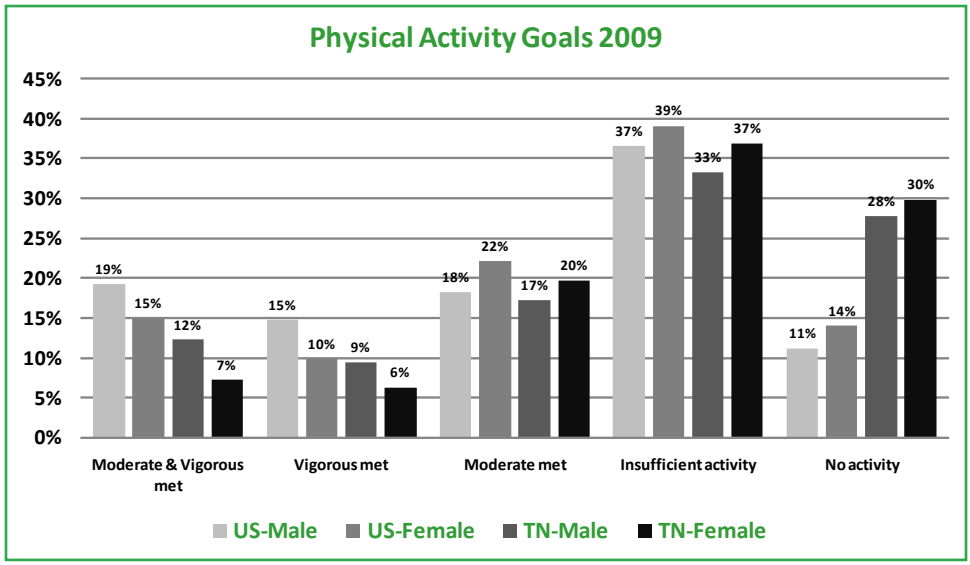


Figure 15: Levels of physical activity in Tennessee and American adults, 2009

Moderate and vigorous physical activity is measured using the computed variables in the BRFSS files.

Figure 16 shows the trends in fruit and vegetable consumption for youth in Tennessee and the United States. No subgroup gets the recommended five servings per day. Boys consumed more fruits and vegetables than girls. The rate of fruit and vegetable intake was consistently lower in Tennessee than it was nationally. Youth in Tennessee would benefit from increasing fruit and vegetable consumption above the 2009 level of three servings a day for females, and 3.4 servings per day for males.

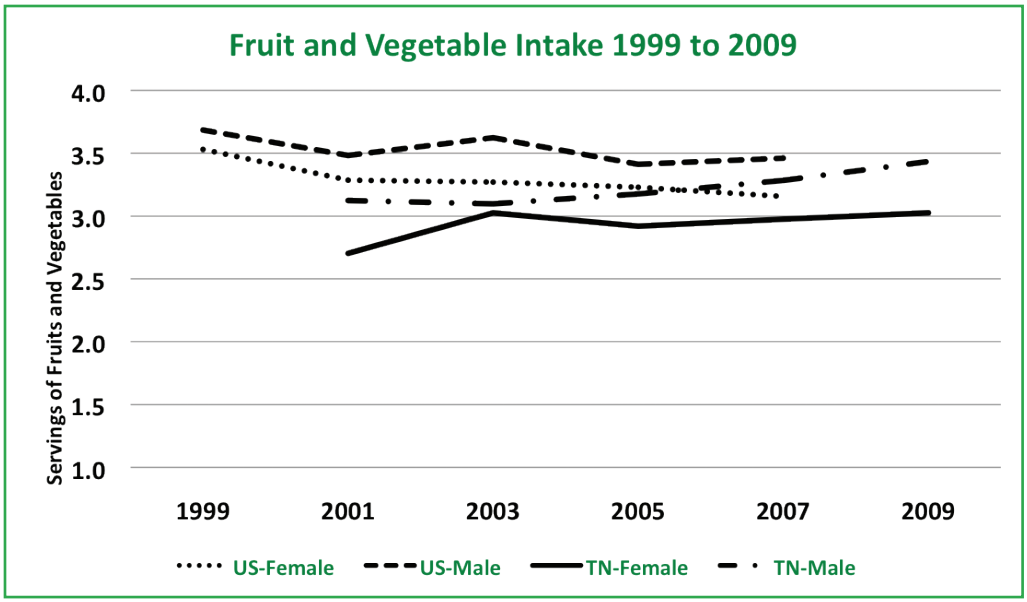


Figure 16: Servings of fruits and vegetables for youth

(Participants reported how many days a week they consumed fruit juice, fruits, salads, potatoes, carrots and other vegetables. These were converted into servings per day and summed to get a measure of total fruit and vegetable consumption.)

Figure 17 shows activity levels for youth in Tennessee and the United States from 2005 through 2009. Boys were more active than girls. Tennessee girls report very similar activity levels compared to the national sample. Tennessee boys report slightly higher activity levels. Girls could benefit from increasing physical activity, and boys need to maintain or increase their activity levels.

(Participants were asked the number of days in the past week they exercised for at least 60 minutes, and the number of days of physical education during the past week. These were summed to get an overall measure of physical activity in youth. For the national sample, these questions were only asked in 2005 and 2007. Activity comparisons are based on 2005 and 2007 for the national sample, and 2005 through 2009 for the Tennessee sample.)

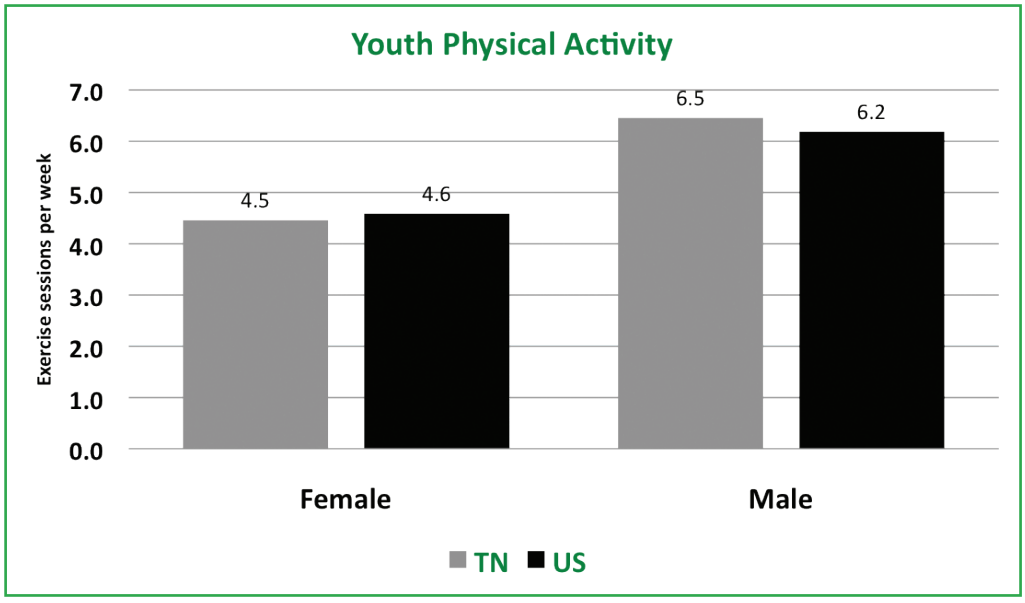


Figure 17: Youth activity levels in Tennessee and the United States

Figure 18 looks at self-reported attempts to lose weight among adults in Tennessee and the United States. Those who are obese are compared to those who are not obese. More obese people were trying to lose weight than non-obese people. The percent of people trying to lose weight was lower in Tennessee than national average for both the obese (55% vs. 66%) and the non-obese (26% vs. 32%).

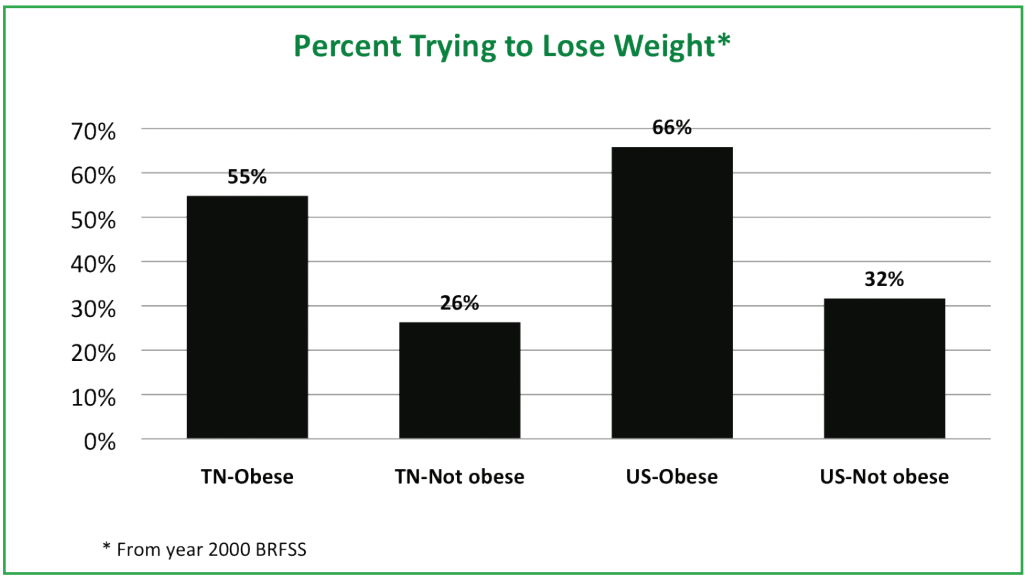
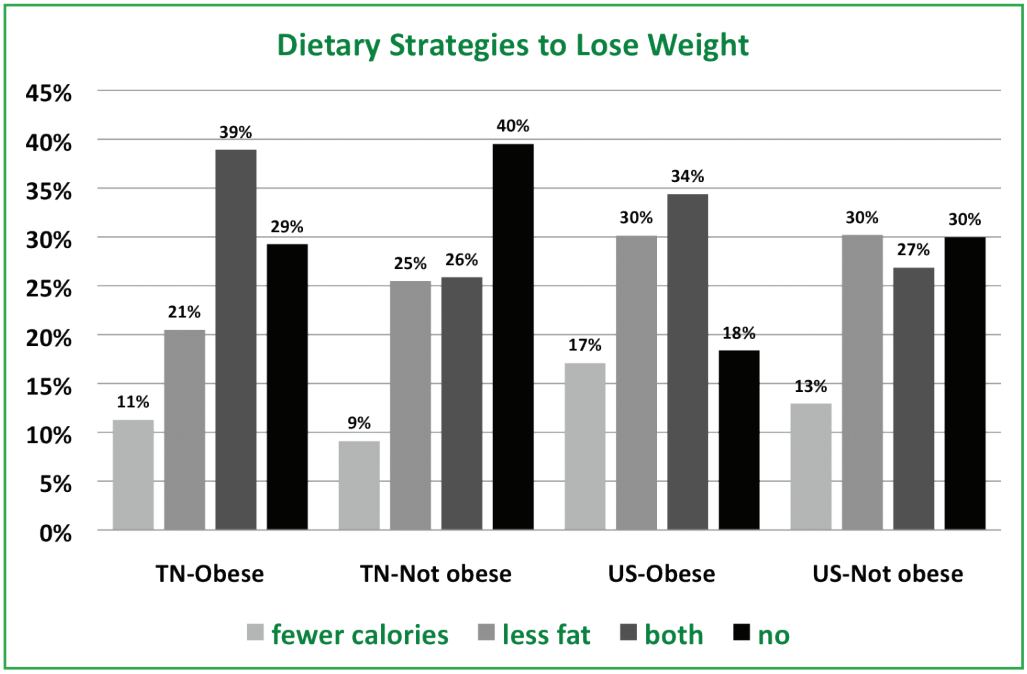


Figure 18: Fewer people in Tennessee were trying to lose weight

(Questions about weight control practices were asked in the 2000 BRFSS. The rates and differences may be different today.)

Figure 19 shows the dietary strategies people report using to try to lose weight or keep from gaining weight. Obese people in Tennessee are more likely to use both calorie and fat restriction than the national comparison, but less likely to use either strategy alone. More obese people in Tennessee report using no dietary strategies to lose weight than the national sample. Figure 20 shows the percent of people who report using exercise as a weight management strategy. The rate is identical between the non-obese in Tennessee and the national sample. Obese individuals in Tennessee are less likely to use exercise as a weight control strategy (56%) compared to obese individuals nationally (61%).

Figure 19: Dietary strategies used to manage weight



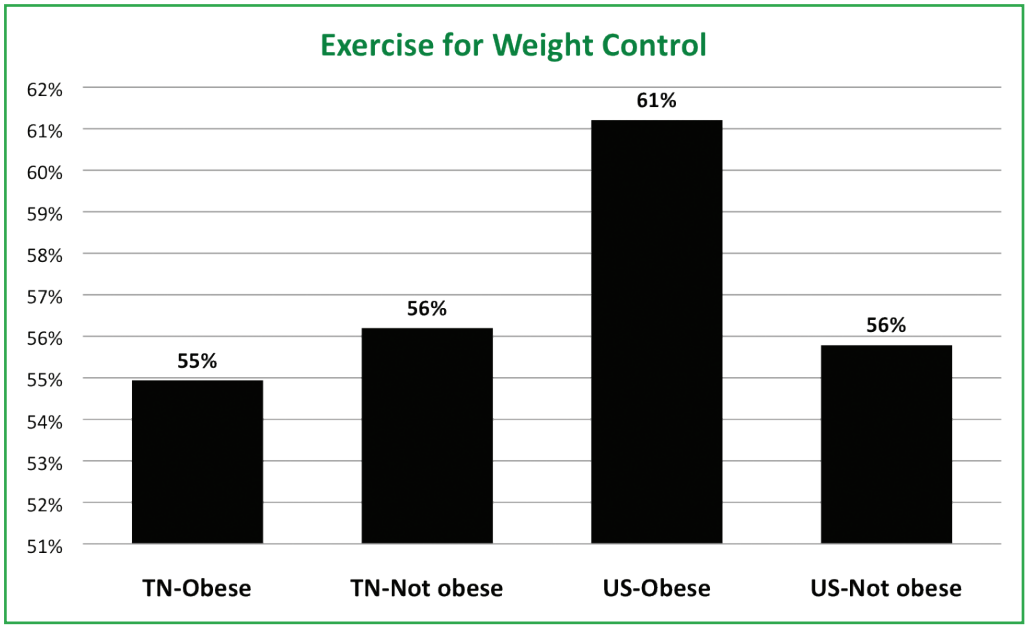


Figure 20: Use of exercise as a weight control strategy

The YRBS asks a series of questions about weight control strategies used by young people. Figure 21 shows the differences between obese and non-obese youth. Obese males and females in Tennessee are more likely to be doing nothing about weight and less likely to be attempting weight loss than youth in the national comparison sample. Non-obese girls tend to be trying to lose weight, while a significant percentage of non-obese boys report trying to gain weight. Males are less likely to be attempting weight loss than females. Most youth in Tennessee who are obese are taking steps to lose weight or stay the same.

Figure 21: Youth weight control practices

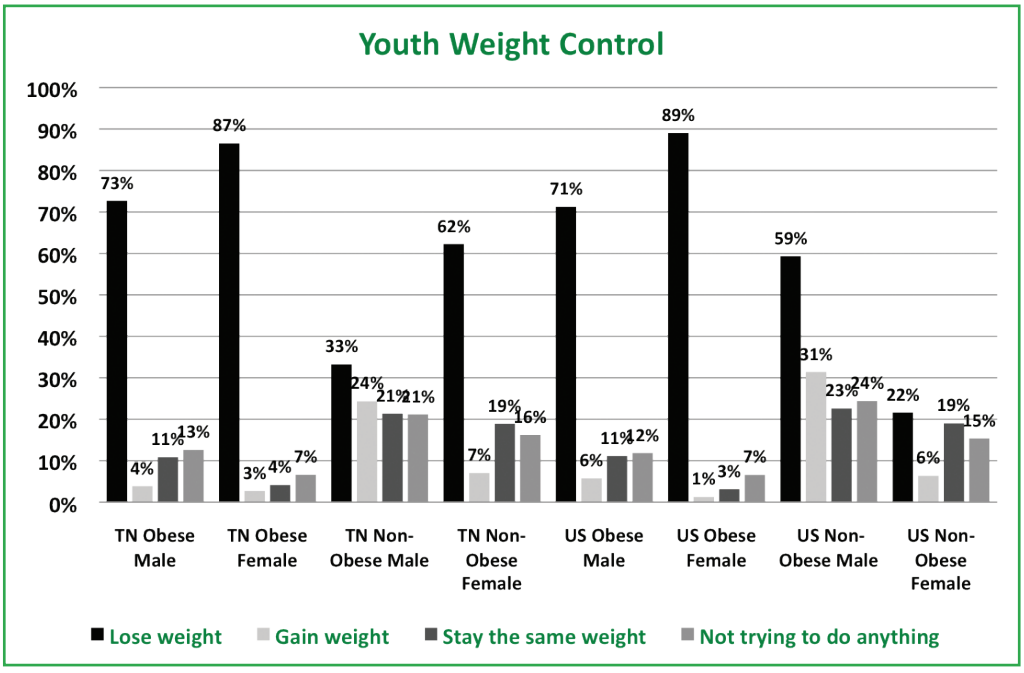


Figure 22 shows different behaviors used by youth to control weight. Diet and exercise are the most common for obese youth and for non-obese females. Rates of exercise are higher in the national sample for obese females than in the Tennessee sample, while the rates for males are comparable. Fasting, diet pills, vomiting and laxatives are used by females more than males. The rates are comparable in Tennessee and the United States as a whole. ***Females in Tennessee would benefit from increasing their use of exercise and decreasing their use of more dangerous weight loss behaviors.***

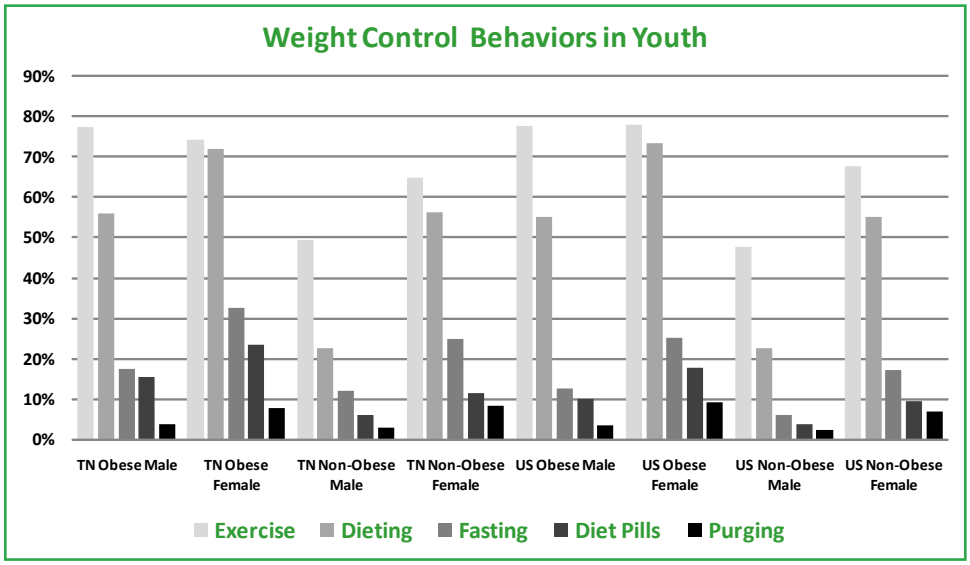
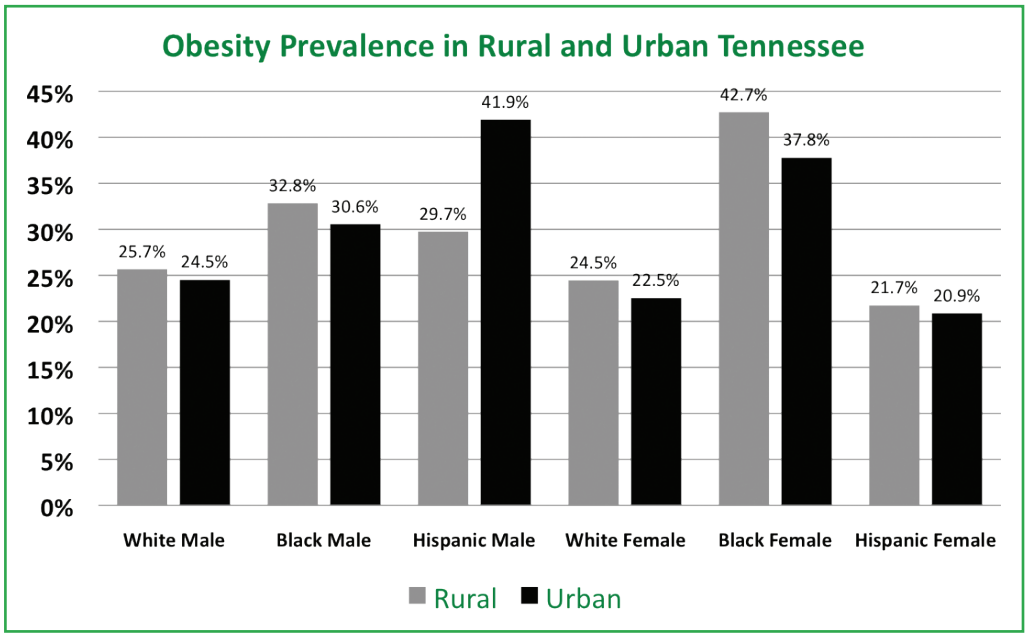


Figure 22: Diet, exercise and dangerous weight loss behaviors in youth

GEOGRAPHY AND OBESITY IN TENNESSEE

Each year, some of the larger counties in Tennessee are identified in the BRFSS data. These distinctions were used to group Tennessee respondents into rural and urban areas each year from 1997 through 2009. Figure 23 shows the prevalence of obesity for white, black, and Hispanic males and females in rural and urban areas of Tennessee averaged over the 13 years. Obesity prevalence is higher in rural areas for every subgroup except Hispanic males. Most Tennesseans living in rural areas are at higher risk for obesity.

Figure 23: Rural/urban differences in obesity prevalence



People living in rural areas have less access to resources that might help with the treatment and prevention of obesity. Residents of rural areas have to drive farther to find a grocery store, a gym, a drug store and a weight loss program. The Tennessee White Pages online were searched during June and July of 2009 for food stores, restaurants, fitness centers, drugs stores and other food and activity resources. Each location identified was geocoded (converted into a latitude and longitude by geographic information system software) and plotted on a map. These maps can be used to visualize the resource discrepancies between urban and rural areas of Tennessee.

Figure 24 shows the location of physical activity resources in Tennessee. These include fitness centers, dance studios, martial arts studios, gyms, parks, golf courses and other types of locations that support physical activity. The map shows that these resources are clearly clustered around the urban areas of Tennessee.

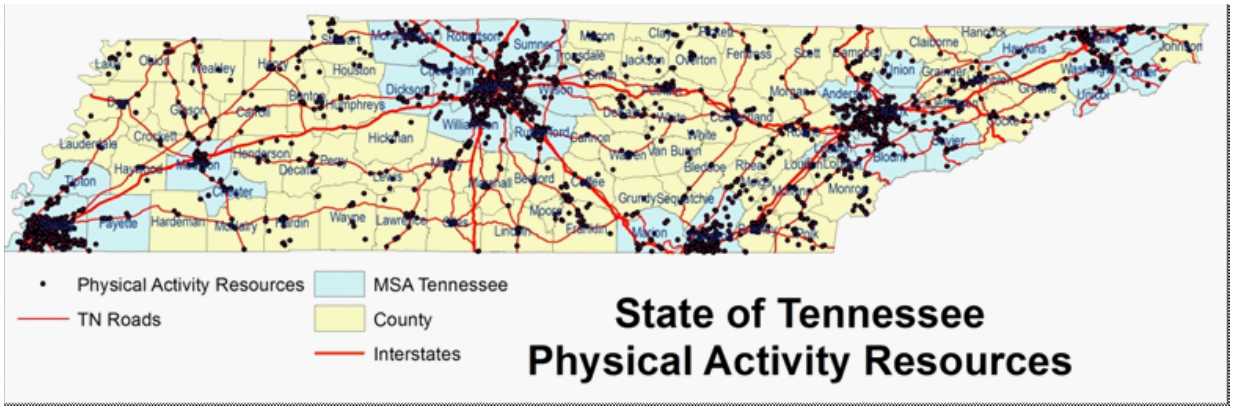


Figure 24: Location of fitness resources

Figure 25 shows the location of fast food restaurants listed in the Tennessee White Pages in 2009. Fast food restaurants are located in urban areas and along interstates and major highways.

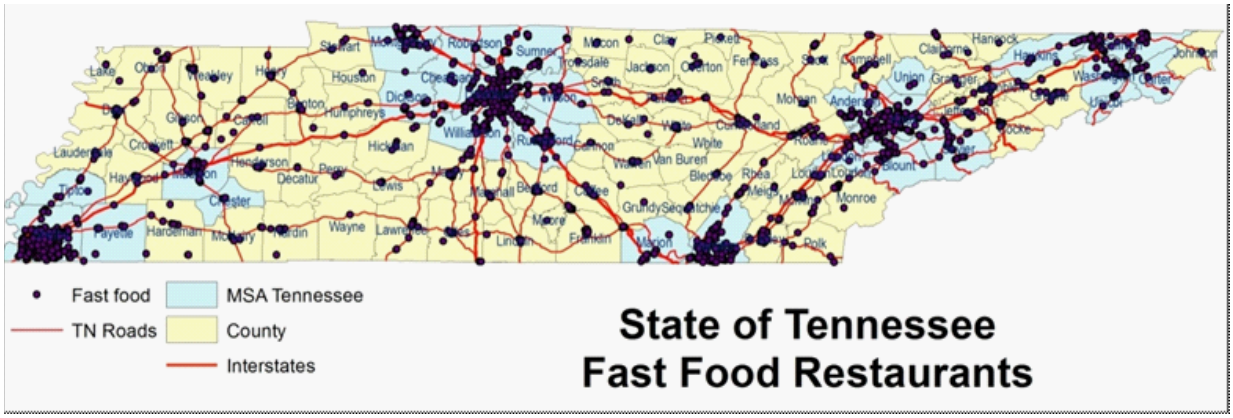


Figure 25: Fast food resources in Tennessee

Weight loss resources include spas, commercial weight loss centers, bariatric surgery, doctor's clinics and other businesses that advertise weight loss services. Figure 26 shows the location of these resources in Tennessee. Like other resources, they are clustered in the urban areas and relatively scarce in the more rural counties.

Figure 26: Tennessee weight loss resources

APPENDIX II: EVALUATION PLAN

No plan is complete without stating exactly how one will know whether the plan succeeds or fails. The Tennessee state plan for treating and preventing obesity is complex and multifaceted. First, the overall architecture of the evaluation plan will be described. Then, some of the tools that will be used to learn about the impact of the plan will be presented. Finally, on the evaluation website for the Tennessee Obesity Taskforce, a detailed catalog of each objective and strategy will be given along with a description of the kind of data that will be used to assess its implementation and impact. http://healthpsych.psy.vanderbilt.edu/tot/index.asp

Figure 1 presents the logic model that will be used to guide the evaluation

Resources →	Activities →	Outputs →	Outcomes →	Impact
• Existing data sources (BRFSS, YRBS, Census) • Existing coalitions, networks and organizations in the state • Published and unpublished literature • Coordinated school health program • Networks of contacts through WIC, county health departments, school systems, businesses, healthcare and membership organizations • Online communication and data collection tools • Academic expertise and resources at the state universities • CDC technical assistance	• Organize evaluation around working groups • Create group-specific online resources • Create web-based process evaluation tool kit to track advocacy, outreach and technical support • Create collaborative resources online to collect and share documents and resources • Creation of networking databases for each target area • Create consumer panel and consumer surveys • Develop listserve for each working group/ network	• Data repository of existing data • Resource inventory expanded and updated • Task force membership databases • Completed state plan with evaluation clearly specified • Tracking coalition growth by working group • Track knowledge, attitudes and behaviors of Tennessee residents regarding obesity plan • Measurement tool kit developed to assess people, places and policies	• State plan implementation begins • Each element of the plan is reviewed • Plan is complete and covers all the CDC criteria • Organizations and coalitions to be involved in implementation are engaged • Strategies to assess impact are implemented • Plan represents broad input from many stakeholders	• Changes in laws, policies and procedures in government, private sector, health care and faith community • Increased awareness of the problem of obesity in Tennessee • Changes in eating and activity behaviors across many segments of the population • Weight gain slows, levels off, then begins to decline as plan is implemented
Problem – Tennessee is the second highest state for overweight, the third highest for obesity and the fourth highest for extreme obesity creating excess morbidity, premature mortality and health care costs				

Figure 1: Tennessee Obesity Plan Evaluation Logic Model

A logic model connects resources to activities, and activities to outputs, outcomes and impacts. Over the past three years, the Tennessee Obesity Task Force has been developing contacts and relationships with citizens, public officials, advocates and scientists throughout the state. These networks allow us to gain access to resources that will prove extremely useful in implementing and evaluating the state plan. We will draw heavily upon existing surveillance data such as the Behavioral Risk Factor Surveillance Survey and the Youth Risk Behavior Survey. Other existing data sources will be identified and utilized as needed or as they become available (e.g., Tennessee Coordinated School Health). The state has many high quality institutions of higher learning including four medical schools. Faculty from

these institutions will be used as a pool of expertise for the implementation and evaluation of the plan. The CDC has made available a large body of evidence-based recommendations for addressing the obesity epidemic and for evaluating community and statewide intervention efforts. We will also draw upon scientific literature, use it to guide our efforts and work to make the findings more widely available to interested communities.

The evaluation effort will be organized around working groups that form to implement the different sections of the plan (e.g., health systems, built environment, breastfeeding). Electronic tools, including an evaluation website (http://healthpsych.psy.vanderbilt.edu/TOT/index.asp), listserves and electronic databases, will be created to facilitate the interaction and work of each group. Each group will have a separate section of the evaluation website to collect materials, document activities and share results.

The BRFSS is administered in Tennessee every year, while the YRBS is administered once every two years. The coverage of these surveillance systems is limited, and very little data is available about many geographic locations in Tennessee. It is very important to monitor the public's perceptions of the state plan, their awareness of its activities, and its impact on attitudes, beliefs and behaviors. The evaluation team will create and monitor online *consumer panels* to gather data on a monthly basis. A core set of questions will be taken from the BRFSS to monitor weight, eating behavior and physical activity. These items will be administered monthly in a short online questionnaire. Each month, a small number of additional items will be added to cover topics of interest such as community gardens, access to healthy food, neighborhood safety, awareness of social marketing efforts and more specific questions about eating and physical activity. We will use several ways to bring people to a simple website that will allow them to voluntarily enroll in a consumer panel. Basic demographic information will be obtained at enrollment along with an email address that can be used for communication. We will use existing networks of professionals and advocates, publicity in the press and social networking sites to spread the word about the state plan and the opportunity to take part in its evaluation. Enrollment will be open during the entire evaluation period. We anticipate that many people will enroll and take part for a period of time, and then be replaced by new people on the consumer panels.

The evaluation website makes it easy for members of the working groups to record their activities and upload documents and other resources. For example, if the breastfeeding work group creates a brochure describing the benefits to businesses that come from adopting breastfeeding-friendly policies, they would upload the brochure to the website and it would become part of that group's online resource database. The material will be exposed to the public, and can be downloaded or viewed by anyone. The website will automatically count the number of page hits and downloads as part of the evaluation effort. Databases will be created to track membership in the working groups, document outreach and technical assistance activities, and make measurement tools available relevant to each group's objectives (e.g., a tool to assess the degree to which a road segment meets the criteria for a complete street).

As an ongoing process, the plan will be reviewed using a committee of evaluation experts from the state. The evaluation committee will examine the elements of the plan and evaluate them in relationship to the CDC criteria. This feedback will be used to refine objectives and strategies as needed and make parts of the plan more specific, reasonable and measureable.

We will track the impact of the plan on several levels. Much of the plan involves efforts to change laws and policies at the city, county, regional and state level. We will use the website to track these efforts and document which ones are successful. The surveillance systems (BRFSS and YRBS) along with the consumer panels will be used to assess the impact on weight status and health behaviors of Tennessee's citizens. Our first goal is to slow the rate of weight gain. Next, we hope to stabilize weight and prevent further weight gain. Finally, we would like to see the prevalence of overweight and obesity begin to decline in Tennessee.

EVALUATION TOOL KIT

EVALUATION WEBSITE

The evaluation website (http://healthpsych.psy.vanderbilt.edu/TOT/index.asp) has been up and running since the fall of 2009. Figure 2 shows a screen shot of the main page.

Figure 2: Opening page of the TOT evaluation website

Certain sections and functions of the website are password protected. The top line of buttons (Home, Print, Questions, Contacts, etc.) includes a button that can be used to log on, and boxes that display the log on status. The buttons along the side of the web page expose different areas of the website. These will be organized around the different working groups. Each button will lead to a page that will expose a variety of functions. Figure 3, for example, shows a screen shot of a page that exposes a resource data base that was created during the planning process.

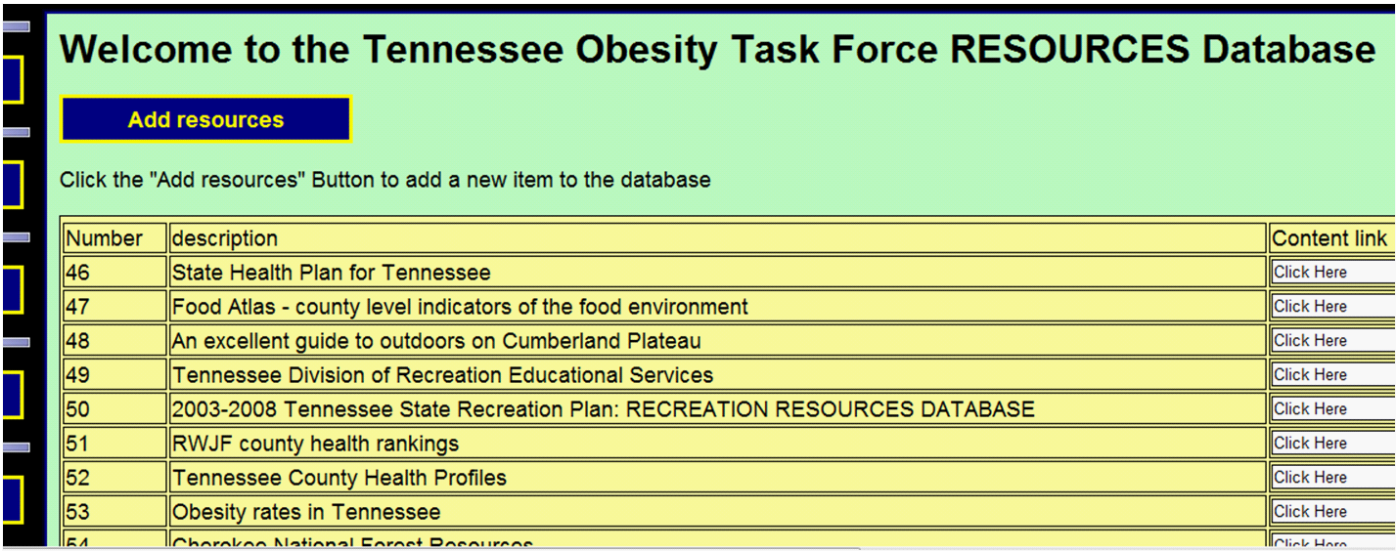


Figure 3: Resource data base on the TOT Evaluation Website

Figure 3 illustrates two features of the website. Each row has a button that can be clicked to access the resource by either navigating to the website, or downloading a stored document. The “Add resources” button at the top allows any user who is logged on to add another resource to the table. At the bottom of the page is a button that allows

users with administrative privileges to edit items in the database. The "Add resources" page allows the user to either paste in a URL, or upload a document from his/her local computer. This collaborative feature will allow teams to add documents, materials, and links to their section of the evaluation website from any location.

The website allows the creation of forms that can be used to collect process evaluation data. Figure 4 shows a screen shot of the form used to document task force meetings. The buttons on the left are used to move through the items on the form, and the user clicks "Submit" to save the data when done. The data can be immediately viewed on the website creating a high degree of accountability and transparency.

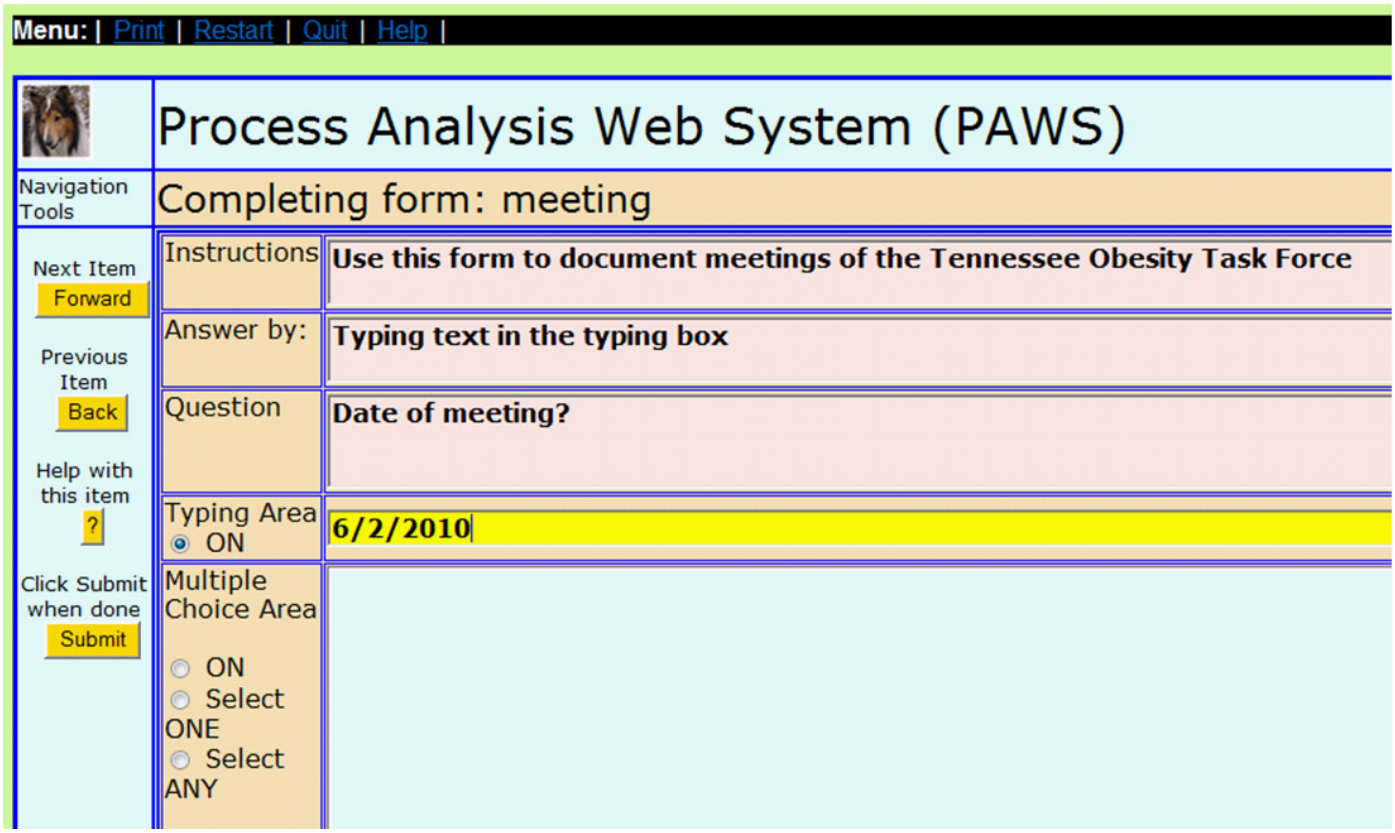


Figure 4: Process evaluation form for documenting task force meetings

Additional features will be added to the website in the coming months including ability to email items to users, ability to display more complex data sets and report generating capabilities that can capture and graph progress across forms, databases and working groups.

EXISTING DATA SETS

Three large data sets were created to facilitate analysis of the problem of obesity in Tennessee:

1. The National BRFSS data set from 1997 through 2009. This database includes over 3.4 million interviews – over 47,000 from Tennessee. The data can be weighted to represent state populations each year.
2. The National YRBS data set includes data from 1999 through 2007. There are over 66,000 questionnaires and the data can be weighted to represent a national picture of youth in grades 9 through12.
3. The Tennessee YRBS data is available from 2001 through 2009. It consists of 8,514 surveys and can be weighted to represent the state population of high school students.

The BRFSS data set will be updated each year. The YRBS will be updated in odd numbered years.

REDCAP SURVEY

The biomedical informatics group at Vanderbilt University has created an online tool called RedCap survey. It will be used to create, manage and implement online data collection. This tool has been used repeatedly during the planning process for rapid feedback from the coalition. Most recently, it was used to vote on the name that will be use to promote the state plan. Using this tool, online data collection can be quickly set up and deployed. It will be available to each working group, and will be used as part of the consumer panels.

CONSUMER PANELS

We will create online consumer panels to gather data on a monthly basis. A core set of questions will be taken from the BRFSS to monitor weight, eating behavior and physical activity. These items will be asked monthly in a short online questionnaire. Each month, a small number of additional items will be added to cover topics of interest such as community gardens, access to healthy food, neighborhood safety, awareness of social marketing efforts and more specific questions about eating and physical activity. We will use many ways to bring people to a simple website that will allow them to voluntarily enroll in a consumer panel. Basic demographic information will be obtained at enrollment along with an email address that can be used for communication. We will use existing networks of professionals and advocates, publicity in the press and social networking sites to spread the word about the state plan and the opportunity to take part in its evaluation.

EVALUATION TABLE

The Evaluation Table is located online at: http://healthpsych.psy.vanderbilt.edu/tot/index.asp This table includes each Target Area, Objective and Strategy outlined in Eat Well, Play More Tennessee, and methods for measuring the status and progress of each initiative.

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