

2011-2014

# CHRONIC DISEASE AND HEALTH PROMOTION PLAN

Chronic diseases are among the most prevalent, costly, and preventable health problems. A person's risk for developing chronic disease can be reduced by leading a healthy lifestyle. Prevention measures are necessary to reduce the burden of chronic disease on our public health system.

TENNESSEE DEPARTMENT OF HEALTH

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## **Introduction:**

### **Background**

According to America's Health Ranking 2010, Tennessee has an overall health ranking of 42 out of 50, with 50 being the worst. Americans are struggling in the battle to modify risk factors, such as smoking, poor eating habits and lack of exercise, which may contribute to chronic diseases in the first place. These chronic, preventable conditions all have a direct link to obesity and smoking, the nation's two largest national risk factors. Despite advances in other parts of the country around health and wellness, Tennesseans continue to engage in risky behaviors such as smoking and inactivity that enable these disturbing trends to continue.

Tennessee currently has existing state plans to target chronic diseases and their associated risk factors based on CDC categorical funding. In an effort to align resources and increase efficiency and effectiveness, Tennessee has developed a coordinated chronic disease workgroup to develop an integrated chronic disease and health promotion plan.

### **Program Integration Goals**

The Tennessee Chronic Disease and Health Promotion Plan aims to give chronic disease stakeholders direction and support in developing system, policy, and environmental changes to address prevention, early detection, and treatment of chronic diseases in Tennessee. This plan provides the framework for preparing annual action plans to set priorities for coordinating efforts among the chronic disease programs and partners. The four overarching goals included in this plan build a foundation for improving health outcomes related to chronic disease and strengthen infrastructure to maximize chronic disease prevention efforts. The goals are:

- Address health outcomes and behaviors as well as health disparities in plans for health improvement.
- Coordinate efforts for policy and environmental change to promote physical activity, healthy eating, and tobacco free living.
- Support engagement of individuals in their efforts to reach optimal health.
- Link people with chronic diseases to needed personal health services and assure the provision of health care when otherwise unavailable.

## **Burden of Chronic Diseases:**

Chronic diseases are among the most prevalent, costly, and preventable health problems. A person's risk for developing chronic disease can be reduced by leading a healthy lifestyle (eating well, avoiding tobacco products, being physically active). Prevention measures are necessary to reduce the burden of chronic disease on our public health system.

### **Heart Disease and Stroke**

Heart disease and stroke are the first and fourth leading causes of death in the United States, respectively. In Tennessee, heart disease and stroke are the first and fifth leading causes of death, respectively.

- In 2009, heart disease accounted for 24% of all deaths in Tennessee, while stroke accounted for 5%
- In 2010, 35% of adults in Tennessee reported having high blood pressure (hypertension) and high blood cholesterol (hyperlipidemia), which puts them at greater risk for developing heart disease and stroke

### **Cancer**

Cancer is the second leading cause of death in the United States, accounting for nearly one in every four deaths. In Tennessee, cancer is also the second leading cost of death.

- In 2009, 23% of all deaths in Tennessee were due to cancer. The American Cancer Society estimates that 34,500 new cases of cancer will be diagnosed in 2011, including 5,020 new cases of breast cancer in women and 3,170 new cases of colorectal cancer.

### **Diabetes**

Diabetes, an underreported cause of death, is the seventh leading cause of death in the United States. Mortality risk for those with diabetes is about twice that of those without diabetes. Diabetes is also the seventh leading cause of death in Tennessee.

- In 2009, 1,751 Tennesseans died from diabetes mellitus
- In 2010, 11% of adults in Tennessee reported being diagnosed with non-pregnancy related diabetes

## **Arthritis**

Arthritis is the most common cause of disability in the United States with 50 million Americans (approximately 22%) reporting doctor-diagnosed arthritis.

- In 2009, 26% of adults in Tennessee reported being diagnosed with arthritis.

## **Tobacco Use**

Cigarette smoking is the single most preventable cause of death in the United States, accounting for an estimated 443,000 deaths, about one in five deaths, annually. It is estimated that an additional 20 people suffer from tobacco-related illness for every one person who dies of smoking. It is estimated that 9,709 adults in Tennessee ages 35 and older die each year from smoking (not including secondhand smoke or burn deaths).

- In 2010, 20% of adults in Tennessee reported being current smokers
- In 2009, 21% of high school students in Tennessee reported being current smokers

## **Nutrition, Physical Activity, and Overweight/Obesity**

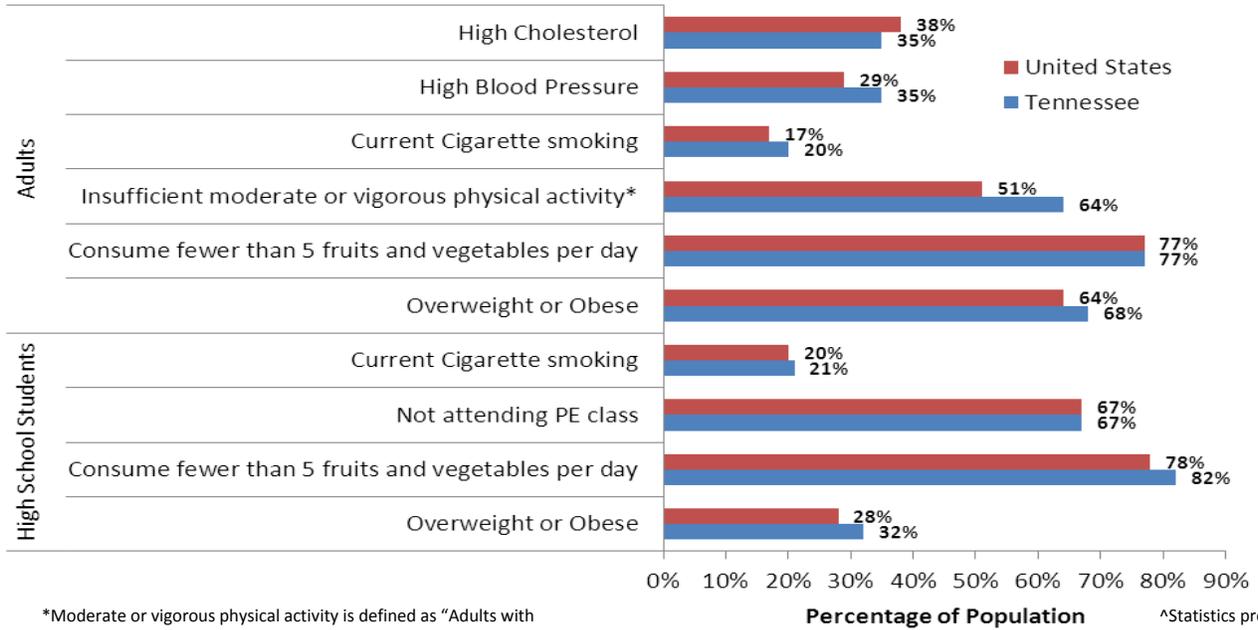
The prevalence of overweight and obesity has increased in adults and children for the past 30 years. Contributing risk factors include physical inactivity and unhealthy eating habits. Overweight and obesity contribute to a number of chronic diseases, including cardiovascular disease, high blood pressure, type-2 diabetes, and certain cancers.

- In 2010, 68% of adults in Tennessee were overweight or obese based on self-reported height and weight
- In 2009
  - 32% of high school students self-reported they were overweight or obese
  - 77% of adults in Tennessee consumed fewer than 5 fruits and vegetables per day
  - 82% of high school students in Tennessee consumed fewer than 5 fruits and vegetables per day
  - 64% of adults in Tennessee were not engaged in sufficient moderate or vigorous activity
  - 67% of Tennessee high school students did not attend physical education classes

## No Health Care Coverage

According to the U.S. Census Bureau, Current Population Survey, 2011 Annual Social and Economic Supplement, 15% of the Tennesseans reported having no current health coverage in 2010.

## Chronic Disease Risk Factors, Tennessee Compared with United States



\*Moderate or vigorous physical activity is defined as "Adults with 30+ minutes of moderate physical activity five or more days per week, or vigorous physical activity for 20+ minutes three or more days per week."

^Statistics presented are from the most recent year available

## **Tennessee Chronic Disease and Health Promotion Plan:**

The TDH has developed a Chronic Disease Prevention and Health Promotion Plan that will be updated and strengthened to ensure the implementation of a practical and achievable state chronic disease prevention and health promotion program focusing on the top five leading chronic disease causes of death and disability (e.g. heart disease, cancer, stroke, diabetes, and arthritis and their associated risk factors, including tobacco, nutrition, physical activity and obesity, and specific health impact measures). Strategies to improve policies, environments, programs and infrastructure at the state and community levels, including schools, worksites, child and adult care programs, transportation, agriculture and other sectors, and in the health care setting will be included.

The work of the categorical chronic disease programs has resulted in statewide endeavors that reflect the needs and efforts of multiple state partners in collaboration with the chronic disease programs. The plan goals are designed to reflect shared interests among categorical programs and provide a framework for linking program-specific objectives, state plans, and communicating integration efforts with stakeholders. The objectives under each goal represent shared interests among categorical programs rather than specific program concerns. The objectives are integration opportunities for possible ways for coordinating categorical program activities. Categorical programs alignment with each goal is not expected to be uniform; some programs will have stronger linkage with certain goals than others.

A Primary Prevention Initiative (PPI) was established by TDH Commissioner Dr. John J. Dreyzehner MD, MPH, in 2012. The goal of PPI is to focus the Department's energy on primary prevention, engaging all TDH employees' efforts eliminating risk factors for later health problems within their own communities. Employee Teams will come from a multidisciplinary approach including clerical, nursing, clinical, and administrative staff. Topics and activities will vary from county to county, depending upon the needs in the community. In August of 2012, PPI will begin with an Alpha Test in Bedford County focusing on Tobacco. In October a Beta Test will begin in the Department's South Central Region, and as of January 1, 2013, PPI will be rolled out on a Statewide basis. For the first year, there will be six topics from which to choose; Tobacco, Obesity, Teen Pregnancy, Infant Mortality, Substance Use and Abuse, and Immunizations. Additional topics may be added in the subsequent years.

Along with the Primary Prevention Initiative, the TDH has instituted a Community Health Assessment process that will continue over the next several years in different phases. Two-day workshops were held regionally in 2012 to explain the criteria and framework of the program. The process started with Phase 1 in which three county health assessments took place to assess secondary data related to community health issues. Out of the 95 Tennessee counties, 93 participated. From the results, intervention programs are to be created or existing interventions used to address the identified health problems within the community. Phase 2 is a more focused health assessment of multiple methods to gather a better understanding of the factors and outcomes of the assessments to create multi-county cohorts to participate in the community-based interventions. Topic areas have been identified and based on assessment outcomes are as follows; Obesity, Chronic Disease, Substance Abuse, Cancer, Dental and Oral, Pregnancy and Infant Health, Child and Health Disparities.

The overall goals and objectives of the TDH Chronic Disease Prevention and Health Promotion Plan are:

**Goal 1: Address health outcomes and behaviors as well as health disparities in plans for health improvement utilizing surveillance and epidemiology.**

*Rationale:*

*The fundamental causes of health status and health disparities include income and poverty, education, access to health services, housing, and transportation. Routine and systematic monitoring of health inequities and the contributing health disparities are critical to identifying opportunities for improving population health.*

*Objective:* By August 2013 maintain the number of surveillance system reports addressing health outcomes and behaviors utilizing chronic disease surveillance and epidemiology from 1 to 1.

*Strategy:*

- A. Update the Chronic Disease Surveillance Report on an annual basis.
  1. Update priorities and recommendations for enhancing chronic disease surveillance systems utilizing the chronic disease workgroup.
  2. Develop a framework for organizing how categorical program activities are guided by health outcomes, health-related behaviors and health disparities.

3. Calculate morbidity and mortality rates for multiple chronic diseases.
4. Develop and issue the Chronic Disease Surveillance report.

**Goal 2: Coordinate strategies that support and reinforce healthy behaviors for policy and environmental change to promote physical activity, healthy eating, and tobacco free living.**

*Rationale:*

*Traditional health promotion interventions focus on changing individual behavior one or two at a time. Changes in public and organizational policies as well as environmental factors can provide essential support to influence individual behavior and social norms. Since research indicates that improvements in daily physical activity, food choices, and exposure to tobacco and its by-products can produce substantial advances in community health, emphasis is placed on these three behaviors in settings where people live, work, and play. TDH Primary Care Initiative will address the Tobacco and Obesity strategies to support and reinforce health behaviors for policy and environmental change across the State.*

*Objective:* By August 2013, increase the number of strategies that support and reinforce healthy behaviors for policy and environmental change from 3 to 4.

*Strategies:*

A. Breastfeeding Initiative

Breastfeeding Initiative is being developed including multiple program partners that will address policy, system and environmental changes. This initiative will include a competitive bid process for a Breastfeeding Hotline, online training for health care workers, and a media campaign.

1. Establish 24/7 Breastfeeding Hotline that can be accessed by anyone.
2. Provide breastfeeding training to health care providers to include CME/CEU's.
3. Develop TDH breastfeeding website to include educational messaging and breastfeeding information.
4. Develop breastfeeding promotional media campaign to include billboards, bus wraps, radio and public service announcements.

5. Ensure that all county and regional health departments have an adequate breastfeeding/lactation room for visitors as well as staff.

#### B. Gold Sneaker

Gold Sneaker is a program targeting day care settings that provides enhanced nutrition, physical activity, and tobacco free day care campuses policies to day care providers. Day Cares will continue to be encouraged to become a Gold Sneaker facility with training and incentive packages.

1. Promote Gold Sneaker through local area associations for education of the young child, Child Care Resource and Referral, and the Tennessee Obesity Taskforce early childhood action team.
2. Provide in person training for the Gold Sneaker initiative to child care providers, and maintain online training opportunity.
3. Provide technical assistance for providers in implementing voluntary policy around nutrition, physical activity and tobacco free campuses.
4. Designate at least 25 additional Gold Sneaker facilities throughout the state.

#### C. Menu Labeling

Menu Labeling of all State Park Restaurants will be completed and calorie cards will be placed at the restaurant buffet bars to educate consumers on caloric content and serving sizes.

1. Complete nutrient analyses of recipes and lists of foods provided by state park restaurant managers.
2. Develop and provide laminated calorie cards (information from the nutrient analysis) that will be placed at the buffet bars.
3. Provide calorie information on restaurant menus for those state park restaurants that have menus in addition to or in place of a buffet.
4. Provide binder containing analyzed recipes for each state park restaurant. This will provide additional nutrient information for each recipe if a guest has a question regarding nutrients in the foods served other than calorie content. An example might be a guest with hypertension asking about the sodium content of foods provided in the restaurant. Other nutrients that might be asked about could be carbohydrates, sugars, cholesterol, etc.

These as well as many other nutrients are listed in each recipe analysis found in the binder.

5. Complete additional analyses as requested by the state park restaurants when menus are changed or items added. Provide nutrient analysis sheet for each recipe to be placed in the binder.
6. Develop and provide laminated calorie cards for these additional foods.
7. Answer any questions and/or respond to requests made by the restaurant managers regarding the calorie cards.

#### D. Smoke-Free Air Policies

Comprehensive smoke-free air policies will continue to be publicized and enhanced in workplaces and public places targeting multi-unit housing, colleges, workplaces, health care settings, and day care campuses. The Tennessee Tobacco Quitline will be promoted through an extensive media campaign targeting second-hand smoke and the cost of cigarettes.

1. Gather and collect tobacco and smoking data as a risk factor for chronic disease prevention.
2. Educate and provide Tennessee-specific data on smoking and tobacco use to health care settings.
3. Provide information about the harmful effects of smoking and promote the Tennessee Tobacco Quitline to patients in health care settings targeting disparate populations.
4. Provide patient education information on smoking and tobacco use in waiting areas.
5. Use evidence-based interventions and implement community-based tobacco prevention and control programs that engage in schools, youth, and parents to improve anti-tobacco attitudes.
6. Partner with tobacco advocates statewide to provide awareness and education about harmful effects of tobacco use.
7. Provide statewide efforts engaging multiple partners including communities, schools, worksites, child and adult care programs, health care settings, and others.

8. Provide awareness and education about harmful effects of smoking to health care providers, schools, youth, and parents.

**Goal 3: Support engagement of individuals in their efforts to reach optimal health through health systems interventions.**

*Rationale:*

*Individuals empowered with knowledge and skills are capable of making informed decisions about medical care and self-management behaviors. Their participation, however, depends on how they are engaged in the process of personal health improvement. It is imperative there are multiple, frequent and culturally-appropriate channels for engaging individuals in prevention strategies.*

*Objective:* By August 2013, increase the number of health system interventions that support engagement of individuals in their efforts to reach optimal health from 3 to 4.

*Strategies:*

A. Promotion of breast and cervical cancer screening and HPV vaccine

The Breast and Cervical Cancer (BCC) Screening Program provides clinical breast exams, mammograms and Pap tests for eligible Tennessee women free of charge. The program also encourages girls between the ages of 11 and 24 to receive the human papilloma virus or HPV vaccine before they become sexually active to protect them against this cancer. In collaboration with the BCC Screening program, the Tobacco Program is promoting tobacco cessation by informing Tennesseans that women who smoke are more likely to get cervical cancer if they become infected with the virus than are nonsmokers.

1. Work with the BCC program and the Cancer Registry to analyze the relationship between smoking and cervical cancer in those women verified as having a cervical cancer diagnosis.
2. Partner with organizations statewide that advocate pap tests as a screening tool for the prevention of cervical cancer and provide patient awareness about the harmful effects that smoking plays in relation to cervical cancer.

3. Provide awareness and education to the public about smoking being a risk factor in the development of cervical cancer.
4. Participate in the interdepartmental planning group to develop and implement a systems intervention approach to reducing cervical cancer by increasing HPV vaccines in women and girls under age 24 and Pap test screening of never or rarely screened women.

#### B. Chronic Disease Self-Management

The Chronic Disease Self-Management Program will continue to be facilitated at Health Departments across the state for primary care patient and community members. The program is assisting individuals in being able to reach optimal health.

1. Promote chronic disease self-management to health care settings.
2. Develop partnerships to implement Chronic Disease Self-Management (CDSMP) and Diabetes Self-Management (DSM) programs.
3. Train professionals on CDSM and the DSM Programs
4. Implement CDSM and DSM in health department primary care clinic settings that target disparate populations.
5. Collect pre and post surveys including behavioral and clinical measures in the Health Department Primary Care sites.
6. Promote and implement CDSM and DSM within health care and community settings.
7. Promote CDSM and DSM in collaboration with health care settings such as hospitals, primary care, and Community Health Centers targeting disparate populations.
8. Educate public on the features and benefits of self-management education services as a means to increase demand for services.
9. Develop online education modules that explain the fundamentals of leading chronic diseases with tips for providing constructive social and emotional support.

#### C. Diabetes Self-Management

The Diabetes Self-Management Program is being facilitated at Health Departments across the state for primary care patient and community members. The program is assisting individuals in being able to reach optimal health. A pilot program in Fentress County is being offered in

partnership with TennCare, the State's Medicaid system, to refer TennCare patients to the DSM workshops and explore sustainability efforts.

1. Provide a minimum of six (6) workshops over a twelve (12) month period. Workshops will be two and a half (2 ½ ) hours, one day a week, for six (6) weeks in community centers, churches, libraries and hospitals.
2. Explore efficient and sustainable ways to refer TennCare patients to the CDSMP and DSMP.
3. Collect pre- and post-surveys of the CDSM and DSM workshop participants.
4. Collect pre- and post-clinical measures of workshops participants: A1C, Blood Pressure and Cholesterol data from the Federally Qualified Health Center (FQHC) Patient Electronic Care System (PECS) will be assessed.

#### D. Patient Reminder System

An auto-dialer system has been installed in Health Departments across the State to enable reminders and messaging to improve no show rates, promote more timely patient arrivals, and deliver messages to groups of people. To date, auto-dialers are being utilized in 9 of the 13 health regions across the State. The use of the auto-dialers has shown as much as a 38% increase in the overall show rates.

1. Increase the number of Health Departments utilizing auto-dialers from 9 to 13 health regions.

**Goal 4: Link people with chronic diseases to needed personal health services and assure the provision of health care when otherwise unavailable through community-clinical linkages.**

*Rationale:*

*Access and utilization of quality health care across the continuum of care must be improved to realize the full potential of prevention and disease management. Chronic disease prevention and disease management must be enhanced across within health disparate populations to support quality of life.*

*Objective:* By August 2013, increase the number of sites in the state offering accessible diabetes and chronic disease self-management education programs in the health department primary care sites to assure provision of community-clinical linkages from 0 to 25.

Strategies:

A. Stanford Chronic Disease and Diabetes Self-Management Master and Leader Training

Health Department uninsured and underserved patients within primary care sites will have access to chronic disease self-management and diabetes self-management workshops.

1. Identify barriers to chronic disease care and work towards the elimination or lessening of these barriers.
2. Identify and promote awareness of options for chronic disease prevention for uninsured and underinsured Tennesseans.
3. Partner with primary care settings that serve uninsured and underinsured to implement the practice of chronic disease self-management services for patients with chronic diseases.
4. Distribute the resource directory to the Tennessee Pharmacist Association, American Diabetes Association, American Heart Association, Arthritis Foundation, UT Extension Services, AARP groups, faith based groups, community organizations, and general health educators.

## **Chronic Disease Surveillance Plan**

### **CDC definition of public health surveillance:**

The ongoing systematic collection, analysis, and interpretation of health data essential to the planning, implementation and evaluation of public health practice, closely integrated with the timely dissemination of these data to those who need to know.

### **Goal:**

Based upon the definition of public health surveillance, the objectives of the Tennessee Department of Health's chronic disease programs' surveillance are:

- To continually monitor and systematically collect data on the burden of chronic diseases and their corresponding risk and protective factors among all Tennessee residents (infants, youth, adolescents, and adults);
- To analyze and interpret data and describe temporal trends estimating the magnitude of chronic disease prevalence among disparate populations;
- To disseminate chronic disease data for health planning, control, promotion, and research; and,
- To monitor data indicators related to progress towards goals and objectives set forth in the chronic disease plans.

The information will be used to guide program decision making, evaluate program outcomes, and assess progress toward reducing chronic diseases.

## **Surveillance System Data Resources**

### **Data Sources:**

Chronic Disease Surveillance includes data from multiple sources (Table 1), including the Behavioral Risk Factor Surveillance System (BRFSS) and Youth Risk Behavior Survey (YRBS). Data sources were chosen based on relevance to chronic disease program surveillance questions, data quality, and availability for state and occasionally regional or county level data (based on sample size). More details on the plans for analyzing the data based on particular indicators are included below.

Table 1: Data Sources for Chronic Disease Surveillance

<b>Data Source</b>	<b>Construct</b>	<b>Population</b>	<b>Availability</b>	<b>Contact</b>
Behavioral Risk Factor Surveillance System (BRFSS)	Overweight, obesity, smoking, diabetes, stroke, heart disease, and associated risk factors	Adults (18 and older)	Annually, some indicators biennially (based on state added questions and modules used)	David Ridings, BRFSS Coordinator; Office of Planning, Policy and Assessment (PPA); Division of Health Statistics
Youth Risk Behavior Surveillance System (YRBS)	Overweight, obesity, physical activity, fruit and vegetable intake, television time, smoking, and risk factors	Adolescents (6-8 <sup>th</sup> , 9-12 <sup>th</sup> grades)	Biennially (odd years)	Tennessee Department of Education (DOE)
Pregnancy Risk Assessment Management System (PRAMS)	Breastfeeding status, smoking during pregnancy, infant exposure to smoking, and risk factors	Mothers, pregnant women, newborns	Annually	Audrey Bauer (Epidemiologist), Office of PPA
Vital Records (Birth and Death)	Deaths attributed to disease, breast feeding (birth), smoking (birth), and risk factors	Newborns, youth, pregnant women, adults	Annually	Office of PPA, Vital records
Hospital Discharge Data System (HDDS) – Inpatient and Outpatient	Inpatient admits, average length of stay, average charges; outpatient admits	Hospital patients	Annually	Office of PPA, Division of Health Statistics
Quitline Data	Client outcomes, call volume, quit history, quitline demographics	Quitline Callers (Ages 12 and older)	Quarterly	Sandy Edwards, Ceridian
Synar Report	Youth access laws, activities, and enforcement compliance	Tobacco Retailers	Annually	Division of Alcohol and Drug Abuse Services

**Behavioral Risk Factor Surveillance System (Annual) –**

**<http://health.state.tn.us/statistics/brfss.htm>**

**<http://apps.nccd.cdc.gov/BRFSS/>**

**Location/Owner of Data Set:** Tennessee Department of Health, Office of Planning, Policy, and Assessment

The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based computer-assisted telephone interviewing effort conducted in cooperation with the Centers for Disease Control and Prevention. Questions are constructed to determine the behaviors of individuals that will affect their risk of developing chronic diseases that may lead to premature mortality and morbidity. The data collected helps to identify high risk populations that can be targeted for intervention programs. The data can also be used to track changes over time of prevalence of risk factor behaviors and related diseases, and can assess the impact of health promotion and prevention intervention programs. Currently, every state in the country, the District of Columbia, and three U.S. territories are members of this surveillance system. The Tennessee Department of Health has been participating in this system on a continuing basis since 1984, surveying adults from randomly selected households throughout the state every month.

These surveys were developed and conducted to monitor state-level prevalence of the major behavioral risks among adults associated with premature morbidity and mortality. Many of the behavioral risk factors surveyed in this system cannot be obtained from any other health statistics sources and this system serves as an important, timely, accurate, and often sole, resource in measuring and monitoring the personal health behaviors and lifestyle conditions that are related to good or poor health outcomes or situations.

Although the BRFSS system was originally designed to collect state-level data and make state-level inference, a number of states from the outset stratified their samples to allow them to estimate prevalence of behavioral risk factors for sub-regions within their respective states. Tennessee began this process of stratifying their samples for Health Department regional data beginning with the 2005 BRFSS data.

**Physical Activity and Nutrition Indicators:**

Prevalence of no physical activity

Prevalence of overweight/obesity

Prevalence of 5 or more servings of fruits and vegetables a day

**Tobacco Indicators:**

Prevalence of current smoking

**Diabetes Indicators:**

Prevalence of diabetes

Prevalence of gestational diabetes

**Heart Disease and Stroke Indicators:**

Prevalence of heart attack

Prevalence of angina or coronary heart disease

Prevalence of stroke

Prevalence of high blood pressure

**Youth Risk Behavior Surveillance System (Odd Years)–**

**<http://tn.gov/education/yrbs/index.shtml>**

**<http://apps.nccd.cdc.gov/youthonline/App/Default.aspx>**

**Location/Owner of Data Set:** Tennessee Department of Education

The Youth Risk Behavior Survey is one component of the Youth Risk Behavior Surveillance System developed by the Centers for Disease Control and Prevention (CDC) to monitor priority health risk behaviors that contribute to the leading causes of death, disability, and social problems among youth and adults in the United States.

Health risk behaviors are often established during childhood and early adolescence. These behaviors are identified by the CDC as unintentional and intentional injuries, tobacco use, unhealthy dietary behaviors, physical inactivity, alcohol and other drug use, sexual behaviors/STDs/HIV/AIDS/unintended pregnancies and violence/injury.

Tennessee began participating in the YRBS survey in 1991. The state receives both technical assistance and financial support from the CDC to conduct the YRBS. Students in grades 9-12 are surveyed in the spring of odd numbered years. The survey is voluntary and

completely anonymous. When participation rates are high among selected schools, the results of the YRBS may be generalized to all students in the state in grades 9-12. The Office of Coordinated School Health administers the 87 question survey to approximately 1500 students. In addition, a middle school YRBS is administered in ten coordinated school health pilot systems throughout the state.

**Physical Activity and Nutrition Indicators:**

- Prevalence of students who are overweight
- Prevalence of students who are obese
- Prevalence of students who describes themselves as slightly or very overweight
- Prevalence of 5 or more servings of fruits and vegetables per day
- Prevalence of soda consumption
- Prevalence of milk consumption
- Prevalence of students who were physically active for a total of at least 60 minutes per day on five or more of the past seven days
- Prevalence of students who watched three or more hours per day of TV on an average school day
- Prevalence of students who attended physical education (PE) classes on one or more days in an average week when they were in school

**Tobacco Indicators:**

- Prevalence of students who ever tried cigarette smoking, even one or two puffs (lifetime cigarette use)
- Prevalence of students who smoked a whole cigarette for the first time before age 13 years
- Prevalence of students who smoked cigarettes on one or more of the past 30 days (current cigarette use)
- Prevalence of students who smoked cigarettes on 20 or more of the past 30 days
- Among students who reported current cigarette use, the prevalence who smoked more than 10 cigarettes per day on the days they smoked during the past 30 days

- Among students who were less than 18 years of age and who reported current cigarette use, the prevalence who usually got their own cigarettes by buying them in a store or gas station during the past 30 days
- Prevalence of students who smoked cigarettes on school property on one or more of the past 30 days
- Prevalence of students who ever smoked cigarettes daily, that is, at least one cigarette every day for 30 days
- Prevalence of students who ever smoked cigarettes daily, that is, at least one cigarette every day for 30 days
- Among students who reported current cigarette use, the prevalence who ever tried to quit smoking cigarettes during the past 12 months
- Prevalence of students who used chewing tobacco, snuff, or dip on one or more of the past 30 days
- Prevalence of students who used chewing tobacco, snuff, or dip on school property on one or more of the past 30 days (Current smokeless tobacco use)
- Prevalence of students who smoked cigarettes or cigars or used chewing tobacco, snuff, or dip on one or more of the past 30 days

**Pregnancy Risk Assessment Monitoring System (Annual) –**

**Tennessee Pregnancy Risk Assessment Monitoring System Summary Report 2008**

**Location/Owner of Data Set:** Tennessee Department of Health, Office of Planning, Policy, and Assessment

Tennessee PRAMS is conducted by the Research Division in the Office of Policy, Planning and Assessment. The project was established in 2006 through a collaborative agreement between the Centers for Disease Control and Prevention (CDC) and TDH. Tennessee PRAMS was designed to collect, analyze, and disseminate information on a variety of maternal behaviors and experiences that may be associated with various birth outcomes.

Tennessee PRAMS is a statewide population-based survey of new mothers. Approximately 1,200 new mothers participate in the annual survey. They were selected using stratified random sampling from the Tennessee Vital Statistics birth file. Mothers were first separated into two different groups (or strata) based on infant birthweight. Subsequently, mothers

in the low birthweight (LBW) group, under 2,500 grams or 5.5 pounds, were sampled at a higher rate than those in the normal birthweight (NBW) group. That is, women giving birth to LBW infants were oversampled. Oversampling makes it possible to better estimate risks for high-risk groups, which are often relatively small compared to the general population. In order to be eligible for selection, mothers had to be Tennessee residents and have delivered a live-born infant within the timeframe of two to six months prior to the sampling date. Each mother was eligible to participate in the sampling process only once.

Selected mothers were then notified in a pre-letter that they had been selected to participate in the PRAMS survey. Shortly thereafter they were sent the PRAMS questionnaire via mail. If the mother did not respond after three mail survey attempts, she was contacted by telephone and given the opportunity to complete the questionnaire via phone interview.

After data collection was concluded, mothers' responses were linked to their corresponding birth certificate data. This linked PRAMS response/birth certificate dataset was then sent to the CDC for weighting. Weighting allows for the estimation of statistics for the entire population of women who delivered a live-born infant in Tennessee in 2008. Tennessee PRAMS data is weighted based on sample design, non-response and non-coverage. In 2008, 796 out of 1,170 sampled mothers completed the questionnaire and the overall, weighted response rate was 70%. The weighted response rates among mothers of LBW and NBW infants were 67% and 70%, respectively.

**Physical Activity and Nutrition Indicators:**

- Prevalence who ever breastfed or fed pumped milk to feed new baby
- Prevalence who are still breastfeeding or feeding pumped milk to new baby
- Number of weeks or months breastfed or fed pumped milk to feed baby

**Tobacco Indicators:**

- Prevalence of cigarette smoking during pregnancy
- Prevalence of average number of cigarettes smoked during pregnancy
- Prevalence of infant exposure to secondhand smoke

**Diabetes Indicators:**

- Prevalence of Maternal health problems – diabetes before pregnancy
- Prevalence of Maternal health problems – diabetes during pregnancy

### **Heart Disease and Stroke Indicators:**

- Prevalence of Maternal health problems – high blood pressure, hypertension (including pregnancy-induced preeclampsia or toxemia) during pregnancy

### **Coordinated School Health (Annual)–**

**<http://www.tn.gov/education/schoolhealth/aboutcsh.shtml>**

**Location/Owner of Data Set:** Tennessee Department of Education, Office of Coordinated School Health

Tennessee is the only state in the nation with a legislative mandate to implement the CDC's Coordinated School Health (CSH) model in all local education agencies. The Office of Coordinated School Health (OCSH) was established by the Tennessee Department of Education in February 2001. The primary mission of the office is to improve student health outcomes as well as support the connection between good health practices, academic achievement, and lifetime wellness. The OCSH partners with the Tennessee Department of Health, Office of School Health. With the passage of T.C.A. Section 49-1-1002 in 2000, authorization and funding for CSH was established. Additional funding has been provided by a grant from the CDC

Education reforms have not succeeded in improving the performance of all students, particularly those who do not arrive at school ready to learn. Coordinated School Health encourages healthy lifestyles, provides needed supports to at-risk students, and helps to reduce the prevalence of health problems that impair academic success.

CSH is an effective system designed to connect health (physical, emotional and social) with education. This coordinated approach improves students' health and their capacity to learn through the support of families, communities and schools working together. The CSH approach consists of eight major components. By definition, all Coordinated School Health components work together to improve the lives of students and their families. Although these components are listed separately, it is their composite that allows CSH to have significant impact. The eight components include: health education, physical education/physical activity, health services, nutrition services, health promotion for staff, counseling and psychological services, healthy school environment and student/parent/community involvement.

### **Monitor School Policies and Programs**

**Physical Activity and Nutrition Indicators:**

- Assessments of students' BMI across the State (Grades K, 2, 4, 6, 8, HS)
- Physical Activity/Physical Education
- Vending/Competitive Foods

**Diabetes Indicators:**

- Prevalence of students diagnosed with diabetes (by grade level)
- Prevalence of students self-administering insulin
- Prevalence of students receiving insulin from a licensed health care professional
- Prevalence of students receiving insulin pump assistance from a licensed health care professional
- Prevalence of students receiving blood glucose monitoring administered by licensed health care professional
- Prevalence of students receiving emergency glucagon from a licensed

**Heart Disease and Stroke Indicators:**

- Prevalence of students screened for blood pressure
- Prevalence of students referred to health care professional due to blood pressure screening

**Vital Statistics (Annual) –**

**Location/Owner of Data Set:** Tennessee Department of Health, Division of Health Statistics

**Death**

Vital records contain a wealth of information on mortality statistics that can be broken down by age, gender, race/ethnicity, geographic region, or other subcategories and still maintain reliability. These data are used to identify factors associated with increased mortality related to chronic diseases.

**Physical Activity and Nutrition Indicators:**

- Prevalence of deaths attributed to overweight and obesity (the underlying cause)
- Prevalence of deaths that list overweight and obesity as a contributing condition (any cause)

**Tobacco Indicators:**

- Prevalence of deaths attributing smoking or tobacco use as a significant condition contributing to death

**Diabetes Indicators:**

- Prevalence of deaths attributed to diabetes (the underlying cause)
- Prevalence of deaths that list diabetes as a contributing condition (any cause)

**Heart Disease and Stroke Indicators:**

- Prevalence of deaths attributed to heart disease (hypertension and HBP included) and stroke (the underlying cause)
- Prevalence of deaths that list heart disease (hypertension and HBP included) and stroke as a contributing condition (any cause)
- Prevalence breakdown of deaths attributed to cardiovascular disease (underlying of any cause)

**Birth**

These data contain information on birth statistics that can be used to assess factors associated with pregnancy outcomes.

**Physical Activity and Nutrition Indicators:**

Prevalence who ever breastfed or fed pumped milk to feed new baby

**Tobacco Indicators:**

- Prevalence of cigarette smoking three months before pregnancy
- Prevalence of cigarette smoking first three months of pregnancy
- Prevalence of cigarette smoking second three months of pregnancy
- Prevalence of cigarette smoking last three months of pregnancy

**Diabetes Indicators:**

- Prevalence of mothers with pre-pregnancy (diagnosis prior to this pregnancy) diabetes
- Prevalence of mothers gestational (diagnosis in this pregnancy) diabetes

**Heart Disease and Stroke Indicators:**

- Prevalence of mothers with pre-pregnancy (chronic) hypertension
- Prevalence of mothers with gestational (PIH, preeclampsia, eclampsia) hypertension

**Hospital Discharge Data System (Annual) –**

**<http://health.state.tn.us/statistics/PdfFiles/HDDSMannual07.pdf>**

**Location/Owner of Data Set:** Tennessee Department of Health, Division of Health Statistics

Hospital Discharge Data System (HDDS) is to collect and summarize hospital claims data so charges for similar types of services may be analyzed and compared in order to help promote a more price competitive environment in the medical marketplace. This data may also be used as a tool to gauge the delivery of health care services to patients and has broad policy implications for shaping the future of our health delivery system.

As required by Tennessee law, all hospitals licensed by the Tennessee Department of Health (TDH) report patient-level discharge information to the Department. Discharges from rehabilitation hospitals, from rehabilitation and psychiatric units within acute care hospitals, and from free-standing ambulatory surgical treatment centers that are part of a hospital, should all be reported if they are from a TDH licensed hospital and meet the requirements for “Reportable Records”. Discharges for charity or free care are included in the reporting requirement and they are handled similarly.

**Physical Activity and Nutrition Indicators:**

- Inpatient admits for conditions associated with overweight and obesity including morbid obesity (any diagnosis and principal diagnosis)
- Average length of stay for conditions associated with overweight and obesity (incl. morbid obesity)
- Average charges for conditions associated with overweight and obesity (incl. morbid obesity)
- Outpatient procedures for conditions associated with overweight and obesity
- Average charges for conditions associated with overweight and obesity

**Tobacco Indicators:**

- Inpatient admits for tobacco and conditions associated with tobacco (any diagnosis and principal diagnosis)
- Average length of stay for tobacco and conditions associated with tobacco (any diagnosis and principal diagnosis)
- Average charges for tobacco and conditions associated with tobacco (any diagnosis and principal diagnosis)

- Outpatient admits for tobacco and conditions associated with tobacco (any diagnosis and principal diagnosis)
- Average charges for tobacco and conditions associated with tobacco (any diagnosis and principal diagnosis)

**Diabetes Indicators:**

- Inpatient admits for diabetes (any diagnosis and principal diagnosis diabetes)
- Inpatients admits for conditions associated with diabetes (coronary heart disease, stroke, diabetic ketoacidosis, and lower extremity amputation)
- Average length of stay for diabetes and conditions associated with diabetes (coronary heart disease, stroke, diabetic ketoacidosis, and lower extremity amputation)
- Average charges for diabetes and conditions associated with diabetes (coronary heart disease, stroke, diabetic ketoacidosis, and lower extremity amputation)
- Outpatient admits for diabetes (any diagnosis and principal diagnosis diabetes)
- Outpatients admits for conditions associated with diabetes (coronary heart disease, stroke, diabetic ketoacidosis, and lower extremity amputation)
- Average charges for diabetes and conditions associated with diabetes (coronary heart disease, stroke, diabetic ketoacidosis, and lower extremity amputation)

**Heart Disease and Stroke Indicators:**

Inpatient admits for diseases of the heart and stroke (any diagnosis and principal diagnosis) and conditions associated with heart disease and stroke (coronary heart disease, stroke, hypertensive disease)

- Average length of stay for diseases of the heart and stroke (any diagnosis and principal diagnosis) and conditions associated with heart disease and stroke (coronary heart disease, stroke, hypertensive disease)
- Average charges for diseases of the heart and stroke (any diagnosis and principal diagnosis) and conditions associated with heart disease and stroke (coronary heart disease, stroke, hypertensive disease)
- Medicare admissions for stroke

- Outpatient admits for diseases of the heart and stroke (any diagnosis and principal diagnosis) and conditions associated with heart disease and stroke (coronary heart disease, stroke, hypertensive disease)
- Average charges for diseases of the heart and stroke (any diagnosis and principal diagnosis) and conditions associated with heart disease and stroke (coronary heart disease, stroke, hypertensive disease)

**Quitline (Quarterly) –**

**<http://health.state.tn.us/tobaccoquitline.htm>**

The Tennessee Tobacco QuitLine is a telephonic tobacco cessation coaching program that is free to all residents of Tennessee tobacco users. Participants who call the QuitLine and enroll in the *iCanQuit* tobacco cessation program receive a telephone call from a Quit Coach who asks and collects the participant's individual tobacco history as well as other health information. Quit Coaches offer strategies to increase self-efficacy, identify barriers to change, and provide techniques to cope with and overcome barriers to quitting. Each enrolled participant receives 8 calls from their dedicated Quit Coach during the quitting process over 12 months. Participants may call their Quit Coach any time and can also communicate with them via email. Special program options are also offered to pregnant smokers. Enrolled participants receive a Quit Kit to help them with the quitting process.

**Tobacco Indicators:**

- Quitline Call Volume
- Prevalence enrolled in the *iCanQuit* program
- Caller Demographics
- Caller Referral Source
- Types of Materials Provided
- Other Tobacco Users in the Household
- Quit History
- Client Outcomes

**SYNAR –**

**[http://www.state.tn.us/mental/A&D/RecentUpdates/DRAFT\\_FFY\\_2010\\_ASR.doc](http://www.state.tn.us/mental/A&D/RecentUpdates/DRAFT_FFY_2010_ASR.doc)**

The information gathered for the Synar report can help States describe and analyze sub-State needs for program enhancements. These data can also be used to report to the State legislature and other State and local organizations on progress made to date in enforcing youth tobacco access laws when aggregated statistical data from State Synar reports can demonstrate to the Secretary the national progress in reducing youth tobacco access problems. This information will also provide Congress with a better understanding of State progress in implementing Synar, including State difficulties and successes in enforcing retailer compliance with youth tobacco access laws.

**Tobacco Indicators:**

Youth access laws, activities, and enforcement compliance

**Data Analysis and Dissemination**

Data will be analyzed according to the chronic disease program evaluation analysis plan. Data will be collectively analyzed using appropriate statistical software. All data will be made available electronically and reports will be made available on a state level and, when possible, region and county level. The data will be compiled into surveillance reports to be reviewed by the respective chronic disease program directors and advisory groups. These reports will be distributed to public health professionals throughout the state. The epidemiologist, along with input from program staff, will review and update this surveillance plan to reflect any changes in data sources and availability, surveillance questions, and overall program objectives. They will also be responsible for evaluating the data quality, representativeness, usefulness, and timeliness of the surveillance system.

## Tennessee Chronic Disease Prevention and Health Promotion Logic Model

Inputs	Activities		Outcomes -- Impact		
	Activities	Outputs	<i>Short-term</i>	<i>Intermediate</i>	<i>Long-term</i>
<p>Chronic Disease Workgroup</p> <p>Funding</p> <p>State and local partners</p> <p>Evidence-based and best practices</p> <p>Tennessee Department of Health infrastructure</p>	<p>Identify and participate in strategic partnerships to promote chronic disease preventions and management</p> <p>Enhancing and utilizing Tennessee's surveillance systems for chronic disease and risk factors</p> <p>Link healthcare system and public health to address chronic disease prevention and management</p> <p>Implement health communications plan targeting healthcare providers and consumers to improve screening for chronic disease risk factors</p>	<p>Promote chronic disease self-management to health care settings</p> <p>Staff trained on protocols of chronic disease self-management</p> <p>Clear roles and structures for partners</p> <p>Collaboration around data sources at state and local level</p> <p>Increased availability to self-management resources</p> <p>Media and marketing campaign to address chronic diseases and risk factors</p>	<p>By August 31, 2012 surveillance system outcomes will be assessed related to health outcomes and behaviors across all chronic diseases</p> <p>By August 31, 2012 enhance and increase the capacity of partnerships to promote physical activity and healthy eating</p> <p>By August 31, 2012 reduce tobacco use prevalence in Tennessee among adults and youth</p> <p>By August 31, 2012 individuals with chronic disease have access to and receive regular self-management education services</p> <p>By August 31, 2012 develop partnerships with primary care providers to implement a referral process into the practice for chronic disease self-management services for uninsured and underserved patients with chronic diseases</p>	<p>Increased participation in Stanford Chronic Disease Self-Management Program</p> <p>Increased participation in recommended screening and early detection practices</p> <p>Use of data in major reports and planning documents</p>	<p>Improved quality of life</p> <p>Early detection and control of chronic disease risk factors</p> <p>Decreased chronic disease morbidity and mortality</p> <p>Improved chronic disease primary clinical care</p> <p>Eliminate chronic disease related disparities</p> <p>Reduced prevalence of smoking</p> <p>Increased healthy weight</p> <p>Increased physical activity</p> <p>Enhanced surveillance system to improve planning, implementation, and evaluation</p>