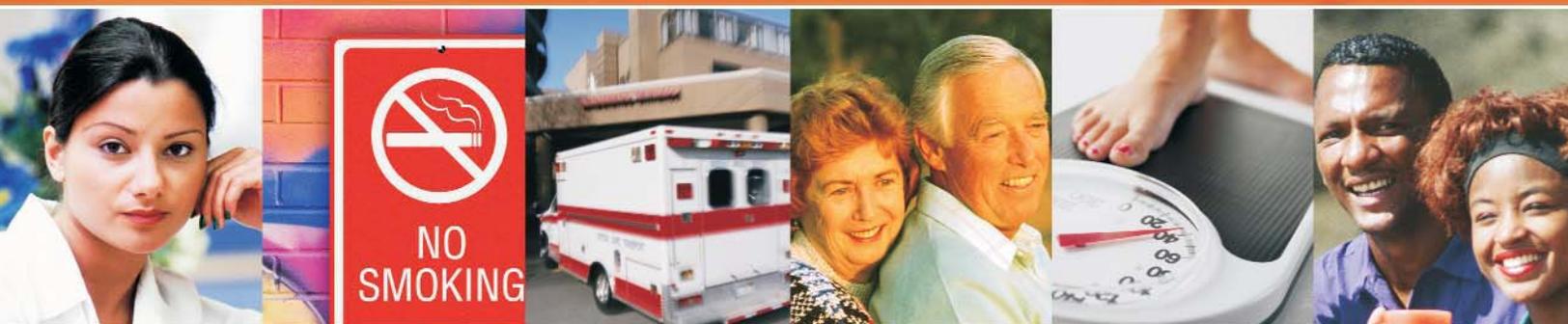
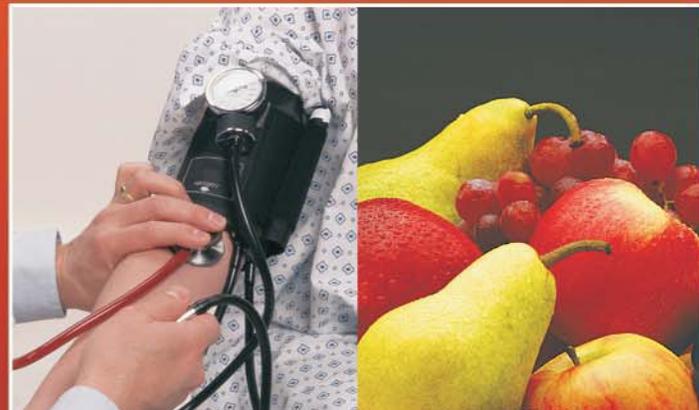
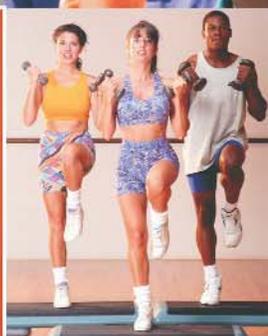


TENNESSEE HEART DISEASE AND STROKE PREVENTION AND CARE PLAN

Volume 2



2008



**TENNESSEE
HEART DISEASE AND STROKE
PREVENTION AND CARE
PLAN**

Tennessee Department of Health
in Collaboration with
Tennessee State University
2008 - 2012

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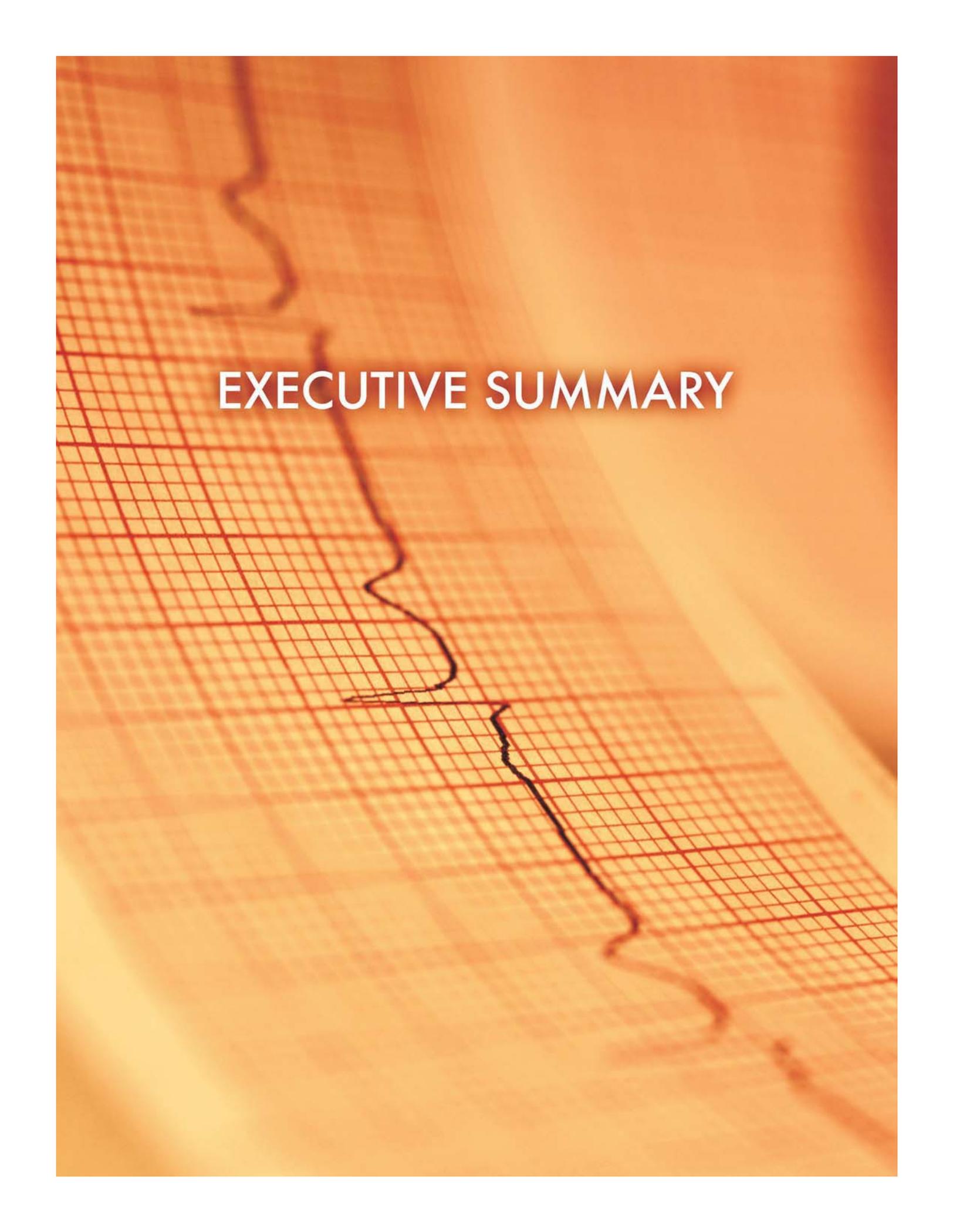
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EXECUTIVE SUMMARY

Executive Summary

Purpose

The purpose of the Tennessee Heart Disease and Stroke Prevention and Care Plan is to provide health care personnel, community leaders, business organizations, school officials and individuals an accessible guide for action in order to reduce the prevalence of and mortality from heart disease and stroke among Tennesseans. The *mission* of this plan is to form partnerships with communities and with partner agencies in order to reduce the burden of heart disease and stroke in Tennessee by building infrastructure, prevention and treatment of risk factors, treatment of disease and prevention of complications, and finally eliminating disparities in heart disease and stroke care in Tennessee.

Relevance

Heart disease is the leading cause of death for Tennesseans, with stroke closely following as the third leading cause of mortality. Tennessee ranks 6th highest among states in mortality due to heart disease and ranks 3rd highest in stroke mortality. These statistics call for decisive and immediate action to curb the prevalence and negative outcomes from these two costly and destructive conditions. Additionally, black Tennesseans have higher age-adjusted mortality rates from heart disease and stroke than white Tennesseans and this disparity in outcomes needs urgent attention.

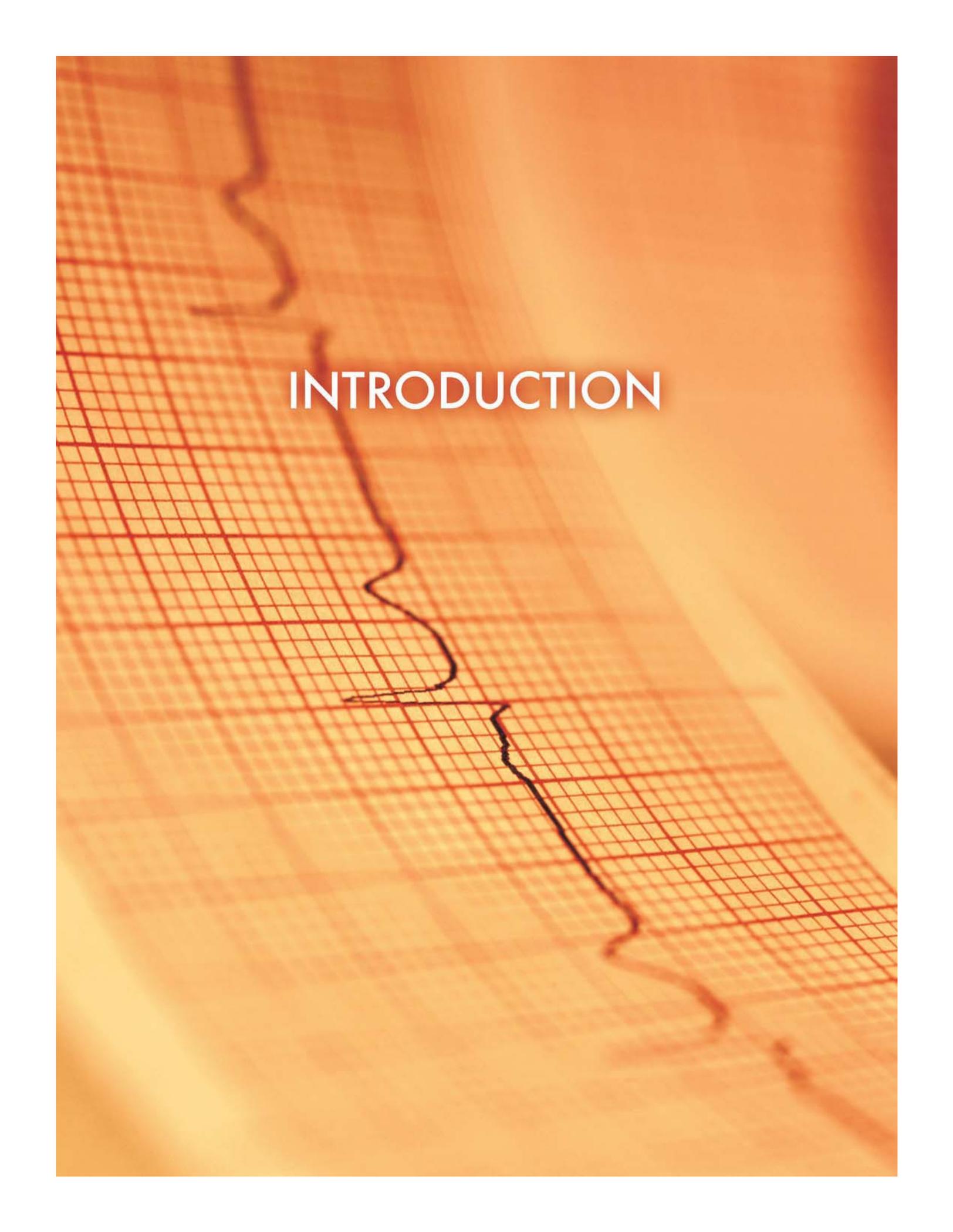
Development

The Heart Disease and Stroke Prevention (HDSP) Program was created in 2002 through a capacity-building grant from the CDC. The HDSP Program first formed a close collaboration with the Tennessee American Heart/Stroke Association, which contributed greatly to the completion of the plan. In 2003, a statewide search brought together representatives from various state agencies, academia, professional associations, health care insurance providers, pharmaceutical companies, quality control professionals, media outlets, priority population groups and community members to formally establish the Heart Disease and Stroke Prevention Advisory Council. This Council outlined the roadmap for the plan and met several times to establish the specific goals and objectives to be implemented across the state in four different settings, which include health care, communities, work sites, and schools.

Goals

The Plan is comprised of the following goals:

- Goal 1:** Develop new resources and enhance the existing infrastructure by bringing groups together and by utilizing policy and environmental change factors.
- Goal 2:** Prevent the development of heart disease and stroke risk factors (i.e., diabetes, hypertension, high cholesterol, obesity, poor diet, lack of physical activity and smoking/tobacco use).
- Goal 3:** Promote early and aggressive treatment of heart disease and stroke risk factors.
- Goal 4:** Ensure that all Tennesseans diagnosed with heart disease and stroke receive aggressive treatment to prevent the exacerbation of heart disease, subsequent events, associated complications, disabilities and mortality.
- Goal 5:** Work toward the reduction and ultimate elimination of disparities in heart disease and stroke prevention, treatment, rehabilitation and access to care.

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INTRODUCTION

Introduction

Heart disease and stroke present a major public health challenge in Tennessee and in the U.S. as a whole. The number of persons living with and/or dying from these conditions is sobering. In 2004, both in Tennessee and nationally, Diseases of the Heart (DOH) and Stroke (STK) ranked as the first and third leading causes of death, respectively. According to Death Statistical Summary System (DSSS) data for Tennessee in 2004 (see Figure 1 below), the age-adjusted death rate from DOH was 254.0 per 100,000 for the total population, compared to a death rate of 217.5 per 100,000 nationally*. Moreover, substantial race and gender disparities exist in DOH mortality in Tennessee, with age-adjusted rates much higher for blacks compared to whites (322.1 vs. 245.5) and men compared to women (320.4 vs. 204.8). Although death rates attributable to stroke are much lower than those associated with DOH, the same general pattern of mortality is associated with both conditions. The age-adjusted death rate from stroke was 63.1 in 2002 for the entire Tennessee population, (compared to a rate of 50.0 per 100,000 nationally*), with blacks dying at a higher rate compared to whites (86.0 vs. 60.1) and men dying at a higher rate than women (66.3 vs. 60.7).

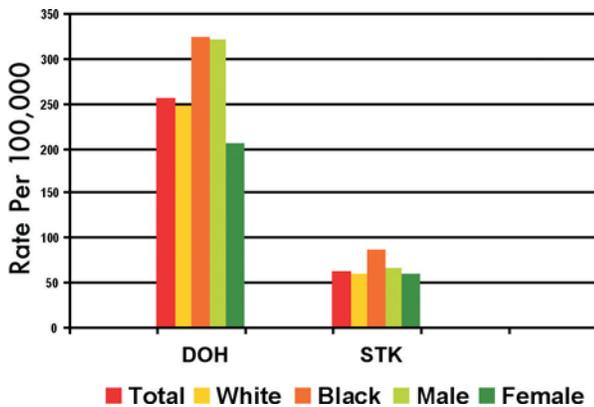


Figure 1. Age-Adjusted Diseases of the Heart and Stroke Mortality Rates Per 100,000, Tennessee, DSSS, 2004

When compared to national mortality data in 2002 (i.e., the most recent year available for comparison), age-adjusted mortality rates for DOH and STK in Tennessee were consistently higher among the total population and across all race and gender groups (see figures 2 and 3).

*Source: National Center for Health Statistics (NCHS), Preliminary Mortality Data, 2004

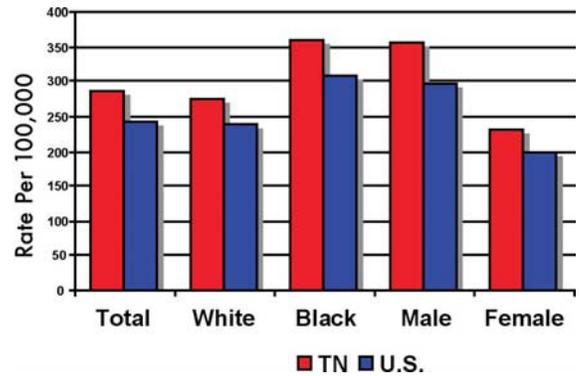


Figure 2. Age-Adjusted Mortality Rate from Diseases of the Heart (DOH), Tennessee and United States, 2002

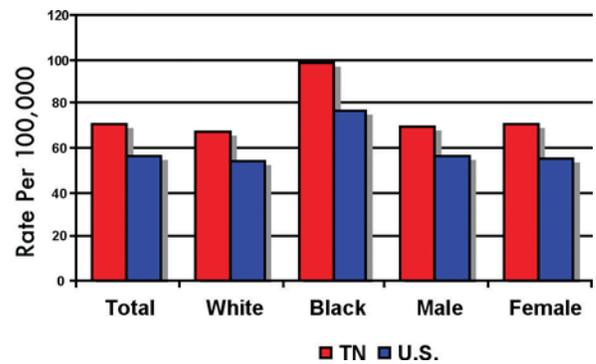
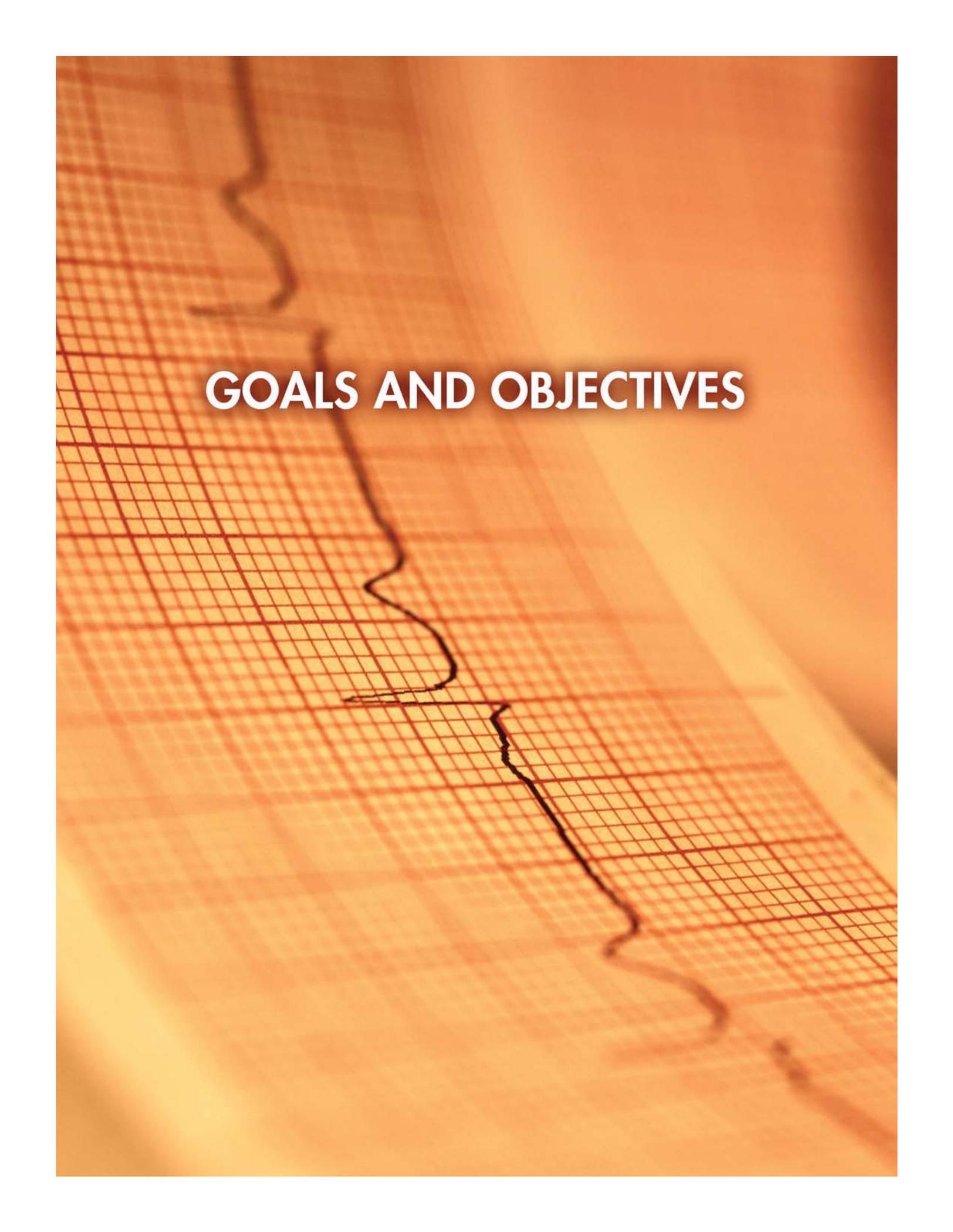


Figure 3. Age-Adjusted Mortality Rate from Stroke (STK), Tennessee and United States, 2002

The data presented above underscore the necessity of public health interventions in Tennessee that target heart disease and stroke. Therefore, the purpose of this document is to outline the state of Tennessee's strategy to reduce the burden of heart disease and stroke among its residents through the combined efforts of the Tennessee Department of Health, communities, businesses, and other public and private organizations. The document begins by presenting a brief overview of the burden of Diseases of the Heart (DOH), Stroke (STK), and High Blood Pressure (HBP) with the aid of hospitalization, physician encounter, mortality, health service utilization and cost data. Next, the risk factors for heart disease and stroke are addressed and their prevalence among Tennessee adults is discussed. Finally, a set of goals and objectives to decrease the burden of heart disease and stroke in Tennessee is outlined, along with strategies for monitoring and evaluating their progress and ultimate implementation.

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GOALS AND OBJECTIVES

Goals and Objectives for Heart Disease and Stroke State Plan

Background

The Heart Disease and Stroke Prevention (HDSP) Program was created in 2002 within the Tennessee Department of Health through a capacity-building grant from CDC. The focus of the program included capacity building, interventions and surveillance. The short-term goal of the HDSP program is to achieve capacity-building measures (as outlined by CDC). The long-term goal of the program is to reduce the burden of heart disease and stroke in Tennessee.

In 2004, an exhaustive statewide search was conducted to bring different stakeholders together and form a Heart Disease and Stroke Prevention Advisory Council. Representatives from various state agencies, local and federal governments, health care agencies, quality control and other professional associations, academia, health care insurance carriers, pharmaceutical companies, media outlets, priority population groups and community members were invited to participate; and within a few months the Heart Disease and Stroke Prevention Advisory Council was formally established. This body of professionals and community members not only helped to develop the state plan for heart disease and stroke prevention, but also helped to bring to fruition the HDSP Program's objective of achieving capacity-building measures in order to address the burden of heart disease and stroke in Tennessee.

The Heart Disease and Stroke Prevention Advisory Council convened for the first time in August of 2005 and outlined the roadmap to developing the state plan by the middle of 2006. Members of the HDSP Advisory Council worked diligently to develop objectives and strategies emphasizing interventions that address the population as a whole, with special attention given to priority populations where disparities are known to exist. As suggested by the CDC, the state plan is designed to focus prevention efforts in four settings: health care, community, work site, and school.

The Mission

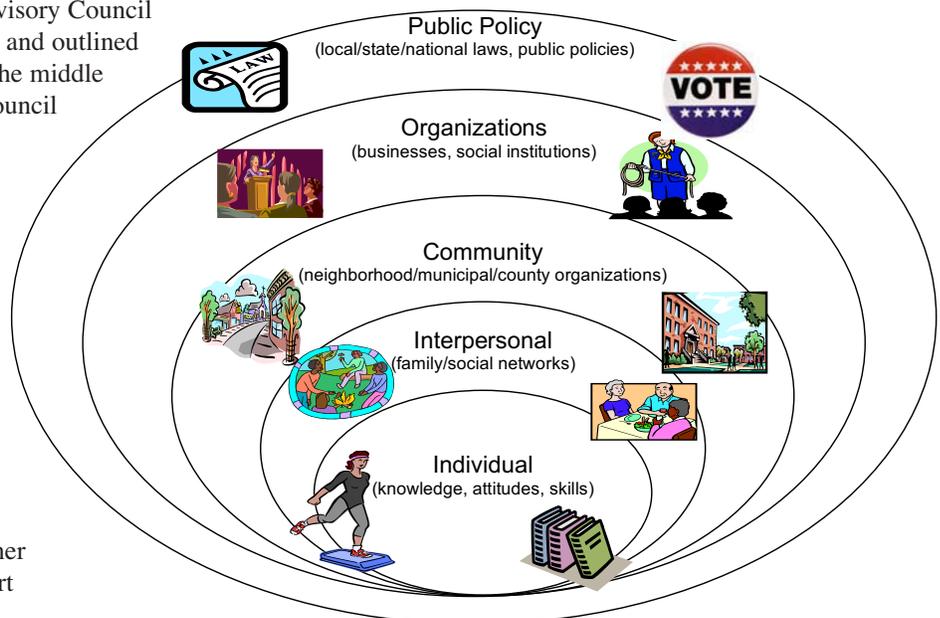
The mission of the Heart Disease and Stroke Prevention and Care Plan is to form partnerships with communities and with partner agencies in order to reduce the burden of heart disease and stroke in Tennessee by building infrastructure, addressing prevention and treatment of risk factors, addressing treatment of disease and prevention of complications, and eliminating disparities in heart disease and

stroke care in Tennessee.

The plan will assist policymakers, public health personnel, health care providers, schools, communities and voluntary organizations to develop coordinated approaches for cardiovascular disease prevention.

The Model for Action

Traditional efforts to improve heart disease and stroke-related morbidity and mortality have focused intervention efforts at either the individual-level or the community-level. However, the socio-ecological model for action endeavors to include all levels of one's environment including: 1) Individual; 2) Interpersonal; 3) Community; 4) Organizational; and 5) Public Policy. For example, the socio-ecological analyses of health problems encountered by individuals and groups are carried out in relation to the predecessors present in their day-to-day physical and social environments (e.g., exposure to secondary tobacco smoke, interpersonal strains at the workplace).^{80,81} Also, socio-ecological analyses consider factors in the physical environment that affect health status and how public policy efforts could change these (e.g., environmental design features of neighborhoods that promote or constrain opportunities for engaging in physical activity). Finally, the cultural values and norms at the community level and the macro-level of the entire society are considered before



The Socio-Ecological Model

Goals and Objectives for Heart Disease and Stroke State Plan

implementing interventions to improve health. Interventions that involve all levels of a person's environment will lead to a *sustainable* impact on health outcomes.

Using the socio-ecological model as a framework for action, Tennessee will attempt to reduce the burden of heart disease and stroke by:

- Encouraging collaborations and partnerships among organizations at all levels.
- Implementing public health program services that encourage healthy communities.
- Using media, school, business and community organizations to increase awareness of heart disease and stroke risk factors, treatment options, and early recognition and response to acute events.
- Impacting state policies pertaining to urban development, etc., that encourage healthy lifestyles.

The following goals and objectives strive to reduce the burden of heart disease and stroke in Tennessee between 2008 and 2012.

Goal 1

Develop new resources and enhance the existing infrastructure by bringing groups together and by utilizing policy and environmental change factors.

Goals and Objectives for Heart Disease and Stroke State Plan

Develop and enhance the existing capacity and resources of health care providers in order to build leadership and improve health care infrastructure conducive to heart disease and stroke.

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
American Heart Association American Stroke Association Tennessee Hospital Association Tennessee Public Health Association Association of Black Cardiologists Hospital Alliance of Tennessee Rural Health Association of Tennessee Tennessee Association of Healthcare Access Management Tennessee Medical Association Tennessee Health Care Association Tennessee Nurses Association	American Heart Association American Stroke Association American Lung Association American Diabetes Association American Red Cross American Dietetic Association Tennessee Emergency Nurses Association Tennessee Ambulance Service Association Tennessee Board of Nursing Tennessee Health Information Network Tennessee Neurosurgical Society Tennessee Pharmacists Association Community members Community and government agencies Chambers of commerce Agencies representing minority and disparity populations	Local site program administrators/managers HDSP Advisory Council as recommending body	Private health care providers Community health care organizations Government health care agencies

Objective 1: Health Care Setting

STRATEGIES

- 1.0 Identify key leaders to spearhead the steering committee who will:
 - a) Develop a strategic plan to assess infrastructure at major health care settings
 - b) Gather information on best-practice models on assessment and identification of health care capacity/resources
 - c) Form a committee to design an assessment tool and conduct the actual assessment
 - d) Continue to work on modifying and enhancing the assessment tool on an annual basis
 - e) Ensure the assessment tool is geographically sensitive to all 3 grand divisions
 - f) Develop a report and/or database on health care capacity findings and disseminate it to partners and other agencies, and also make it available online
- g) Compile and disseminate best practices available in heart disease and stroke care
- 1.1 Analyze the extent of the application of the available evidence-based guidelines (EBG) in health care settings
 - a) Develop a consensus on the best possible application of the best possible evidence-based guidelines
 - b) Find and recruit a champion of evidence-based guidelines and market the successes to other potential users of evidence-based guidelines
- 1.2 Work toward JCAHO certification of at least two certified centers (one for stroke/one for heart) in each grand division
- 1.3 Develop and implement a training module to enhance the knowledge base of heart disease and stroke care practitioners to promptly and effectively treat heart disease and stroke

Goals and Objectives for Heart Disease and Stroke State Plan

- 1.4** Work with and assist health care settings to bring heart disease and stroke treatment centers together in order to provide prompt and efficient treatment to both heart disease and stroke patients under one umbrella
- 1.5** Research and promote gold standard guidelines on reducing the timeline of treating heart disease and stroke patients
- 1.6** Develop and recommend stroke and heart disease recognition training for Emergency Medical Services personnel in order to promptly stabilize and transport stroke patients to emergency departments
- 1.7** Work toward achieving 9-1-1 capability in all counties of Tennessee
- 1.8** Work toward reducing financial barriers attached to Emergency Medical Services
- 1.9** Increase the community awareness on the use of cell phone Global Positioning System (GPS) tracking capability in case of heart attack and stroke emergencies
- 1.10** Promote availability of culturally appropriate heart disease and stroke care assistance at all major heart disease and stroke care facilities
- 1.11** Promote community awareness on regional readiness of all major heart disease and stroke health care providers

Goals and Objectives for Heart Disease and Stroke State Plan

Develop and enhance existing community resources in order to build leadership and improve infrastructure conducive to heart disease and stroke prevention.

Objective 2: Community Setting

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
American Heart Association American Stroke Association Tennessee Hospital Association Tennessee Public Health Association American Black Cardiologists Hospital Alliance of Tennessee Rural Health Association of Tennessee Tennessee Association of Healthcare Access Management Tennessee Medical Association Tennessee Health Care Association Tennessee Nurses Association	American Heart Association American Stroke Association American Lung Association American Diabetes Association American Red Cross American Dietetic Association Tennessee Emergency Nurses Association Tennessee Ambulance Service Association Tennessee Board of Nursing Tennessee Health Information Network Tennessee Neurosurgical Society American Association of Neurological Surgeons Tennessee Pharmacists Association Community members Community and government agencies Chambers of commerce Agencies representing minority and disparity populations	Local site program administrators/managers HDSP Advisory Council as recommending body	Private health care providers Community health care organizations Government health care agencies

STRATEGIES

- | | |
|---|---|
| <p>2.0 Recruit and engage community-level gatekeepers in order to motivate and involve communities to initiate local heart disease and stroke prevention measures</p> <p>2.1 Support public agencies promoting heart disease and stroke prevention and care legislative efforts</p> <p>2.2 Work with local governments to designate greenways, trails and sidewalks conducive to physical activity</p> <p>2.3 Work with elected officials to promote increased funding and support resources for improving the heart health of Tennesseans</p> <p>2.4 Work with state agencies to engage TennCare enrollees in heart disease and stroke prevention programs and activities</p> <p>2.5 Partner with media outlets to secure heart disease and stroke prevention media opportunities</p> <p>2.6 Work with restaurant associations on providing heart healthy food menu items/choices</p> | <p>2.7 Develop collaborations with faith-based agencies to develop and implement heart disease and stroke prevention programs</p> <p>2.8 Develop collaborations with businesses like barber shops and beauty salons to serve as outlets for heart disease and stroke prevention information and activities</p> <p>2.9 Develop culturally appropriate heart disease and stroke prevention programs for specific minorities in each region</p> <p>2.10 Develop a Web site to provide detailed information available to Tennesseans about heart disease and stroke services in Tennessee</p> <p>2.11 Work with partners to identify funding resources for community wellness programs and to support public heart disease and stroke prevention initiatives</p> |
|---|---|

Goals and Objectives for Heart Disease and Stroke State Plan

Identify the existing HDSP infrastructure at work sites and bring those programs together to form new partnerships.

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
American Heart Association Tennessee Hospital Association Tennessee Public Health Association Tennessee Department of Health Local governments Chambers of commerce Tennessee Medical Association	Tennessee Department of Health American Heart Association Chambers of commerce Occupational health associations Physical therapy associations Small business associations Work site wellness and human resource administrators Labor unions and other work site employee groups Workers Compensation insurance representatives Occupation insurance providers	HDSP Advisory Council as recommending body Local site program administrators/managers	Employers Employees Employees' families Occupational health providers

STRATEGIES

- 3.0 Collect information and gather data on the existing top 10 work site wellness programs
- 3.1 Conduct an inventory of existing statewide wellness work site programs and their findings
- 3.2 Collect information on other work site wellness programs from other states and compile best-practice models in work site heart disease and stroke prevention wellness programs
- 3.3 Partner with and support community agencies advocating heart disease and stroke prevention activities at work sites
- 3.4 Identify key leaders to spearhead the formation of a work site wellness steering committee
- 3.5 Develop a strategic plan to develop and implement work site heart disease and stroke prevention programs
- 3.6 Form sub-committees and sub-groups for the implementation of the work site heart disease and stroke prevention strategic plan
- 3.7 Develop a comprehensive work site program with special emphases on disparities and minority needs, and present it to the steering committee
- 3.8 Pilot test the work site program and market it to interested work sites, and provide technical support for implementation
- 3.9 Invite work site health agencies like occupational health associations and employee health groups to develop a business case presentation for the industry on cost vs. benefits of work site heart disease and stroke prevention activities
- 3.10 Work with occupational health insurance providers to include heart disease and stroke preventive services
- 3.11 Explore avenues for funding work site heart disease and stroke prevention programs, and provide assistance to partners
- 3.12 Promote the development of work site wellness (intranet) Web sites for employees

Goals and Objectives for Heart Disease and Stroke State Plan

Identify the existing HDSP infrastructure in schools and bring those programs together to form new partnerships.

Objective 4: School Setting

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
American Heart Association Tennessee Department of Health Tennessee Primary Care Association Tennessee Public Health Association School board members School physical education administrators Tennessee Nurses Association	School board members Parent-Teacher Association School health coalitions Tennessee Department of Education Tennessee Dietetic Association Tennessee Diabetes Association School nurses Local health departments of Tennessee Department of Health American Heart Association Campaign for a Healthy and Responsible Tennessee (CHART) Tennessee Nurses Association	School board members Principals School physical education staff Local education agencies	School boards School principals K-12 students

STRATEGIES

- 4.0 Form a heart disease and stroke prevention steering committee to develop and promote physical activity programs at schools
- 4.1 Conduct an assessment of existing physical education and other physical activity programs at schools in Tennessee
- 4.2 Gather information on successful heart disease and stroke prevention-related programs currently active in other states' educational systems
- 4.3 Develop a strategic plan to develop and implement school physical activity programs
- 4.4 Form sub-committees and sub-groups for the implementation of school physical activity (heart disease and stroke prevention) strategic plans
- 4.5 Develop a comprehensive school physical activity program and present it to the steering committee
- 4.6 Work with agencies supporting and promoting physical activity in school curricula
- 4.7 Support community agencies that encourage schools toward Body Mass Index (BMI) legislation/assessments
- 4.8 Support and promote the use of K-8 nutritional recommendations to grades 9-12 in order to promote healthy dietary habits in this age group
- 4.9 Engage school physical education and nursing staff in efforts to support and promote physical activity programs.
- 4.10 Develop educational programs for school nursing and physical education staff to promote activities related to heart disease and stroke prevention
- 4.11 Develop and support a technical assistance service for school staff on conducting heart disease and stroke educational programs and activities
- 4.12 Promote the development of work site wellness (intranet) Web sites for school employees

Goals and Objectives for Heart Disease and Stroke State Plan

Goal 2

Prevent the development of heart disease and stroke risk factors (i.e., diabetes, hypertension, high cholesterol, obesity, poor diet, lack of physical activity, and smoking/tobacco use).

Goals and Objectives for Heart Disease and Stroke State Plan

Enhance and increase the capacity of and develop partnerships with health care agencies to promote the prevention of heart disease and stroke risk factors.

Objective 1: Health Care Setting

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
Tennessee Hospital Association American Heart Association American Stroke Association Tennessee Department of Health Tennessee Dietetic Association Professional health associations	Hospitals Clinics Health education agencies Tennessee Hospital Association American Lung Association Tennessee Primary Care Association Tennessee Dietetic Association Local health departments	Local governments Community agencies Public advocacy groups	Health care providers Insurance agencies Community advocacy groups Legislators

STRATEGIES

- | | |
|--|--|
| <p>1.0 Gather information on best practices related to heart disease and stroke risk factors prevention, and heart disease and stroke gold standard prevention models</p> <p>1.1 Assess the existing capacity of programs conducive to heart disease and stroke risk factors prevention in major health care settings</p> <p><i>Diabetes, Hypertension & High Cholesterol:</i></p> <p>1.2 Research and collect guidelines based on national standards for screening, monitoring and prevention of diabetes, hypertension and high cholesterol levels</p> <p>1.3 Provide health care providers with regular updates on diabetes, hypertension and cholesterol measurement guidelines</p> <p>1.4 Provide health care providers with easy to use heart disease and stroke prevention resources for use by their patients/clients</p> <p>1.5 Promote the development of a train-the-trainer network within each health care organization</p> <p>1.6 Provide health care providers with evidence-based guidelines, and support their implementation</p> <p>1.7 Support agencies advocating for policies requiring the use of evidence-based guidelines for diabetes, hypertension and cholesterol screening, care and rehab</p> <p><i>Obesity, Poor Diet & Lack of Physical Activity:</i></p> <p>1.8 Promote the policy change that all provider visits should result in culturally appropriate smoking cessation counseling, dietary counseling, and recommendations for increasing physical activity</p> | <p>1.9 Develop waiting room media messages demonstrating non-traditional physical activity, such as gardening, vacuuming, etc.</p> <p>1.10 Develop and market culturally appropriate educational material on weight management and obesity for patient use in waiting rooms</p> <p>1.11 Work with health care providers to provide information about cultural and ethnic healthy food choices for their patients</p> <p>1.12 Promote the availability of healthy food choices in cafeterias and vending machines available in health care settings</p> <p><i>Smoking/Tobacco:</i></p> <p>1.13 Gather and collect tobacco and smoking data as a risk factor for heart disease and stroke</p> <p>1.14 Educate and provide Tennessee-specific data on smoking and tobacco use to health care agencies</p> <p>1.15 Promote the use of on-site tobacco control and smoking cessation services for patients at major health care facilities</p> <p>1.16 Promote referrals of patients to other agencies for tobacco control and smoking cessation therapies</p> <p>1.17 Provide training to health care employees on tobacco screening and its role in heart disease and stroke prevention</p> <p>1.18 Provide patient education information on smoking and tobacco use in waiting areas</p> |
|--|--|

Goals and Objectives for Heart Disease and Stroke State Plan

- 1.19** Provide health-related videos marketing the effects of tobacco use to patients in doctor office waiting rooms
- 1.20** Provide heart disease and stroke-related health videos in patient waiting rooms and public places
- 1.21** Develop wellness programs for health care agencies with emphasis on employee tobacco use and smoking risk factor screening
- 1.22** Support and promote smoking cessation counseling by nurses for both inpatient and outpatient settings
- 1.23** Promote the policy change that all provider visits should result in smoking cessation counseling, dietary counseling, and recommendations for increasing physical activity

Goals and Objectives for Heart Disease and Stroke State Plan

Develop new collaborations and enhance existing partnerships between community groups and agencies to work toward the prevention of heart disease and stroke risk factors.

Objective 2: Community Setting

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
Tennessee Department of Health Tennessee Primary Care Association American Heart Association American Stroke Association American Diabetes Association Tennessee Dietetic Association Local health councils Parks and recreation districts Local governments Public health schools	University of Tennessee Extension Tennessee Department of Health Tennessee Primary Care Association Tennessee Dietetic Association American Lung Association Planning and zoning boards Non-profit health organizations Community agencies promoting healthy lifestyles Tennessee Restaurant Association Food manufacturers	HDSP Advisory Council as recommending body Community agencies Local health departments	Community organizations Government agencies Community members/consumers Priority populations

STRATEGIES

- 2.0 Gather information on best practices and risk factor prevention programs for communities
- 2.1 Develop a database listing community heart disease and stroke prevention resources, and make it available on the Web site and in print
- 2.2 Develop partnerships with community agencies, food manufacturers, civic organizations and other agencies to tailor outreach efforts to the specific needs of the community
- 2.3 Develop and conduct a community survey assessing the community’s willingness to change shopping habits in favor of healthy food choices
- 2.4 Develop faith-based heart health awareness initiatives (screenings, health fairs, summits, community forums) for priority populations
- Diabetes, Hypertension & High Cholesterol:**
- 2.5 Develop collaborations between community groups and agencies that promote hypertension, cholesterol and diabetes control activities
- 2.6 Support public agencies advocating diabetes, hypertension and cholesterol control
- 2.7 Collect all the available resources on diabetes, hypertension and cholesterol control, and make it available for community use
- 2.8 Promote public awareness on diabetes, hypertension and cholesterol self-assessments
- 2.9 Work with community centers, youth groups, churches and other faith-based organizations to promote hypertension and cholesterol self-assessments and control
- 2.10 Develop and conduct media campaigns on diabetes, hypertension and cholesterol management
- 2.11 Encourage restaurants to include heart-healthy menu items, and offer discounts on such food items
- 2.12 Develop and market diabetes, hypertension and cholesterol control educational material for the community
- 2.13 Promote diabetes, hypertension and cholesterol screenings at publicly convenient locations, such as local grocery stores, malls, sports complexes, and shopping centers, such as Wal-Mart, Kroger, Food Lion, etc.
- Obesity, Poor Diet & Lack of Physical Activity:**
- 2.14 Identify and market best-practice models supporting healthy food choices and weight self-management
- 2.15 Develop collaborations between community groups and agencies that promote obesity/BMI screening and weight management education

Goals and Objectives for Heart Disease and Stroke State Plan

- 2.16** Work with community centers, youth groups, churches and other faith-based organizations to offer weight management screenings and programs
- 2.17** Promote indoor and outdoor physical activities
- 2.18** Promote community walking programs, such as walk to work, walk to school, mall walking, heart walk, etc.
- 2.19** Develop and market educational material on caloric contents of common foods and on the equivalent amount of exercise needed to burn those calories
- 2.20** Collaborate with neighborhood associations for healthy weight activities
- 2.21** Increase consumers’ knowledge regarding portion size of foods by using available community resources and educational materials on healthy food choices
- 2.22** Partner with food outlets to offer food content/calorie guides (informed choices)
- 2.23** Promote weight/obesity screenings at grocery stores and shopping centers, such as Wal-Mart, Kroger, Food Lion, etc.
- 2.24** Develop and conduct culturally appropriate heart-healthy cooking programs in the community
- 2.25** Promote community educational programs targeting youth and young adults on shopping for healthy foods, reading nutritional labels, and preparing healthy meals
- Smoking/Tobacco:**
- 2.26** Support public agencies advocating tobacco control and smoking cessation, especially targeting onset of smoking by youth
- 2.27** Collect all the available resources on tobacco control and smoking cessation and make it available for community use
- 2.28** Develop and promote programs like the “quit line” to increase the community’s educational capacity on smoking cessation initiatives
- 2.29** Work with community centers, youth groups, churches and other faith-based organizations to sponsor smoking cessation activities
- 2.30** Work with public businesses to enforce and advocate for stringent no smoking polices
- 2.31** Encourage bar owners to ban smoking altogether
- 2.32** Target businesses like daycares to promote smoking cessation ideas with parents and other relatives
- 2.33** Promote the availability of stand-alone smoking cessation educational resources and activities at all community health fairs
- 2.34** Promote collaboration between community groups and agencies that promote tobacco control and smoking cessation educational activities
- 2.35** Approach neighborhood associations to assist with tobacco control and smoking cessation activities

Goals and Objectives for Heart Disease and Stroke State Plan

Educate employees and encourage work site outreach activities that promote heart disease and stroke risk factors prevention.

Objective 3: Work Site Setting

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
American Heart Association American Red Cross American Stroke Association Tennessee Public Health Association Chambers of commerce Local business associations	Employers Occupational and health insurance providers Business leaders Employee associations/ groups Work site wellness administrators	Business owners Work site wellness administrators Health insurance providers	Business owners Employees Employees' families

STRATEGIES

- 3.0** Form an HDSP Steering Committee to develop and promote heart disease and stroke risk factors prevention activities at the work site
 - 3.1** Identify the 30 largest employers in Tennessee and employers with high priority populations to promote work site HDSP activities
 - 3.2** Design a tool to gather data on HDSP services available at work sites in Tennessee
 - 3.3** Gather information on work site heart disease and stroke risk factors prevention activities and programs from other states
 - 3.4** Develop a list of successful and exemplary work site heart disease and stroke risk factor prevention programs from other states
 - 3.5** Develop and market a business case for work sites on cost versus benefits of work site heart disease and stroke risk factor prevention
- Diabetes, Cholesterol & Hypertension:***
- 3.6** Work with businesses to provide regular on-site diabetes, cholesterol and blood pressure screenings
 - 3.7** Promote availability of self-assessment monitors for blood pressure, glucose and cholesterol screening at the work site
- Obesity, Poor Diet & Lack of Physical Activity:***
- 3.8** Work with businesses to promote availability of healthy food choices in vending machines
 - 3.9** Work with businesses to provide healthy food choices in the cafeteria and other employee food places
- 3.10** Promote employer offered nutrition education activities as part of the regular health and fitness trainings
 - 3.11** Promote culturally appropriate work site screenings like Body Mass Index assessments or body fat analyses at work sites
 - 3.12** Search and collect data on work site wellness programs using best practices to be used as examples
 - 3.13** Work with work site administrators to develop and promote work site employee wellness programs
 - 3.14** Work with businesses to provide incentives like an extra leave day, free pedometers or blood pressure monitors for complying with wellness programs at work sites
 - 3.15** Work with businesses to offer or extend fitness/health club membership benefits as a part of health insurance or employee benefits
 - 3.16** Provide fitness instructor training resources to work site fitness leaders
 - 3.17** Collaborate with the Better Business Bureau (BBB) to market work site fitness programs to their members and a possible BBB work site wellness award/achievement certificate
- Smoking/Tobacco:***
- 3.18** Research and develop a work site smoking cessation tool kit for businesses
 - 3.19** Work with employers to enforce and promote no smoking policies at work sites
 - 3.20** Encourage employers to include smoking cessation therapy in employee health benefits

Goals and Objectives for Heart Disease and Stroke State Plan

- 3.21 Encourage employers to extend smoking cessation services and follow-up referrals to employees' family members
- 3.22 Promote no smoking policy competitions/awards among employers
- 3.23 Identify and promote champion work sites with highest no smoking success rates
- 3.24 Provide train-the-trainer smoking cessation training programs and other resources for businesses to use in their regular staff meetings/trainings

Goals and Objectives for Heart Disease and Stroke State Plan

Promote healthy lifestyles in school-age children to prevent the early development of heart disease and stroke risk factors.

Objective 4: School Setting

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
American Heart Association Tennessee Department of Health Tennessee Nurses Association Tennessee Education Association Parent-Teacher Associations Local health departments Schools School health staff Children’s health and activities clubs	American Heart Association American Stroke Association American Lung Association Tennessee Department of Health School health boards Boys/girls scout clubs Non-profits	Local governments School health staff School boards Principals	School children School staff Priority population school-age children

STRATEGIES

- 4.0 Conduct a survey of school health and physical education programs and activities conducive to heart disease and stroke risk factors reduction in school-age children
- 4.1 Develop a list of activities that would support healthy lifestyles among school-age children and market it to school Physical Education policy makers in DOE
- 4.2 Educate school food services staff about providing healthy food choices to grades 9-12 students
- 4.3 Promote removal of unhealthy food items in school vending machines
- 4.4 Develop programs that will teach children individual (life long) sports as well as team sports, including walking, jogging, biking, hiking, tennis, and swimming
- 4.5 Advocate and partner with schools to provide individualized sports training for free or at a nominal fee for school-age children
- 4.6 Educate school nurses regarding proper detection and referral of diabetes, hypertension, obesity and smoking habits in children
- 4.7 Work with community advocacy agencies to mandate 150 minutes (30 min/day) of physical activity for grades K-8 and 225 minutes (45 min/day) for grades 9-12 of physical activity each week
- 4.8 Work with community advocacy agencies to mandate that school health curricula include information on heart disease and stroke warning signs and symptoms
- 4.9 Provide healthy vending machine options, including water, for grades 9-12
- 4.10 Partner with community and civic organizations to implement youth-focused health education and wellness programs and activities
- 4.11 Provide Web-based tools and educational materials, i.e., dispelling diet myths, 5-a-day fruits and vegetables, 3-a-day dairy, MyPyramid, etc., targeting youth-oriented school Web sites

Goals and Objectives for Heart Disease and Stroke State Plan

Goal 3

Promote early and aggressive treatment of heart disease and stroke risk factors.

Goals and Objectives for Heart Disease and Stroke State Plan

Promote and expand partnerships with health care providers to promote early and aggressive treatment of heart disease and stroke risk factors.

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
Tennessee Primary Care Association Tennessee Hospital Association Tennessee Medical Association Other professional groups	Tennessee Primary Care Association Tennessee Hospital Association Tennessee Department of Health American Lung Association American Diabetes Association American Dietetic Association Health businesses School health clinics	Health care setting administrators and department chiefs Health care insurance providers	Hospitals Outreach clinics Health departments Faith-based clinics Physicians' offices Professional health care associations Health care insurance providers

Objective 1: Health Care Setting

STRATEGIES

- 1.0 Partner with other community agencies working toward early and prompt treatment of heart disease and stroke risk factors
- 1.1 Research the available guidelines on heart disease and stroke risk factors
- 1.2 Select the best possible standards/guidelines for treatment of heart disease and stroke risk factors
- 1.3 Develop a plan to market and disseminate the recommended guidelines to health care providers
- 1.4 Develop a training program for health care providers on acquiring the skills necessary for implementing the recommended guidelines
- 1.5 Develop technical assistance capacity to support the training and implementation of the guidelines
- 1.6 Recommend to healthcare providers that they conduct a treatment compliance survey and develop an incentive program to increase patient compliance with treatment and follow up care for risk factors
- 1.7 Promote partnerships among local health care providers in sharing, promoting and marketing their heart disease and stroke care services
- 1.8 Develop and market a provider patient reminder tool kit in order to increase the compliance and to promote follow-up care for heart disease and stroke risk factors
- 1.9 Advocate and develop Continuing Education Unit (CEU) training programs for professionals on early and aggressive treatment of heart disease and stroke risk factors
- 1.10 Promote institutional trainings on standardized protocols for managing heart disease and stroke within their setting
- 1.11 Partner with pharmaceutical companies to develop and market community educational workshops emphasizing importance of treatment compliance and information regarding related medications

Goals and Objectives for Heart Disease and Stroke State Plan

Promote the awareness of the importance of early detection, treatment and management of heart disease and stroke risk factors among Tennesseans.

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
Tennessee Primary Care Association Tennessee Public Health Association Tennessee Medical Association Tennessee Nurses Association Tennessee Department of Health Health insurance providers American Black Cardiologists American College of Cardiology	All cardiology groups Professional and civic organizations American Heart Association American Stroke Association Primary care providers Community agencies Businesses Parks and recreation districts Volunteer and faith-based agencies American Dietetic Association American Lung Association President’s Council on Physical Fitness and Sports Governor’s Council on Physical Fitness and Health Health insurance carriers	HDSP Advisory Council as recommending body Local health departments Non-profit health centers Community groups Local health program coordinators/managers	All Tennesseans, especially women and priority populations

STRATEGIES

- 2.0 Partner with and support other agencies promoting early and proper treatment of heart disease and stroke risk factors
- 2.1 Develop a Web site providing information about local resources available to the community
- 2.2 Promote and market the Web site with other partners
- 2.3 Develop a directory of heart disease and stroke risk factors screening and treatment options available in the community
- 2.4 Conduct media campaigns on the importance of early detection, treatment and management of heart disease and stroke risk factors
- 2.5 Use faith-based avenues to communicate the importance of early detection, treatment and management of heart disease and stroke risk factors
- 2.6 Educate health care providers on providing self-management techniques and options to their patients
- 2.7 Develop self-management tool kits on heart disease and stroke risk factors and resulting complications for the community
- 2.8 Promote the availability of self-monitoring tools at local/public sites like weighing scales, blood pressure monitors and glucometers at grocery stores
- 2.9 Support public advocacy groups promoting legislation friendly to early and prompt treatment of heart disease and stroke risk factors
- 2.10 Promote 9-1-1 staff and emergency department staff training on understanding and recognizing multi-lingual heart disease and stroke emergency key words

Goals and Objectives for Heart Disease and Stroke State Plan

Partner with employers to promote and sponsor heart disease and stroke risk factors treatment for their employees.

Objective 3: Work Site Setting

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
American Heart Association American Stroke Association American Lung Association Tennessee Department of Health Tennessee Primary Care Association Tennessee Hospital Association Local health departments Chambers of commerce Employee groups	American Heart Association American Stroke Association American Lung Association Tennessee Department of Health Chambers of commerce Occupational health associations Physical therapy associations Small business associations Work site wellness and human resources administrators Work site employee groups	Employers Local site program administrators/managers	Employers Employees Employees' families Occupational health providers

STRATEGIES

- 3.0 Partner and support other agencies promoting early and proper treatment of heart disease and stroke risk factors
- 3.1 Work with employers to provide incentives to employees with heart disease and stroke risk factors to maintain compliance with treatment and follow-up care
- 3.2 Do a cost analysis on the benefit of extending employee care to include coverage for heart disease and stroke risk factors versus expenses associated with the complications of heart disease and stroke
- 3.3 Work with employers to extend health care benefits for risk factors treatment not only for the employee, but also for family members
- 3.4 Promote the development of Rapid Response teams at work sites to deal with heart attack and stroke emergencies
- 3.5 Promote the development and implementation of work site protocols on managing heart attack and stroke emergencies
- 3.6 Promote the development and implementation of work site CPR and First Aid programs in order to address heart attack and stroke emergencies
- 3.7 Promote work site emergency response team training on understanding and recognizing multi-lingual heart disease and stroke emergency key words
- 3.8 Partner with hospitals to take the lead in initiating work site wellness programs for their employees, and use their experience to help other businesses to start similar programs

Goals and Objectives for Heart Disease and Stroke State Plan

Promote the development and inclusion of curricula in professional health schools on early and aggressive treatment of heart disease and stroke risk factors.

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
Schools University of Tennessee-Knoxville University of Tennessee-Memphis East Tennessee State University Middle Tennessee State University Vanderbilt University Health vocational schools Tennessee Department of Health	American Heart Association American Stroke Association Tennessee Department of Health American Medical Association Tennessee Medical Association Tennessee Academy of Family Physicians Tennessee Nurses Association Health-related associations and groups Academic institutions Delta States Stroke Consortium Rural health associations	School administration Board of Examiners HDSP Advisory Council as recommending body Local site program administrators/managers Board of Regents	Health-related professional and vocational institutions

Objective 4: School Setting

STRATEGIES

- 4.0 Partner with and support other agencies promoting early and proper treatment of heart disease and stroke risk factors
- 4.1 Identify and assess existing health-related curricula conducive to training for heart disease and stroke risk factors
- 4.2 Advocate to a credentialing body to include proper heart disease and stroke signs and symptoms recognition as a part of the curricula
- 4.3 Work with professional and vocational health care schools to include heart disease and stroke as a component of clinical training
- 4.4 Recommend to health care training and educational institutions to include evidence-based approaches for treating heart disease and stroke risk factors
- 4.5 Promote and advocate to professional and vocational health care educational institutions the importance of early referral and treatment of dietary risk factors in school-age children
- 4.6 Promote availability of Continuing Education Credits for heart disease and stroke-related professional trainings and conferences
- 4.7 Promote the inclusion of understanding and recognizing multi-lingual heart disease and stroke emergency key words in heart disease and stroke-related trainings and conferences

Goals and Objectives for Heart Disease and Stroke State Plan

Goal 4

Ensure that all Tennesseans diagnosed with heart disease and stroke receive aggressive treatment to prevent the exacerbation of heart disease, subsequent events, associated complications, disabilities and mortality.

Goals and Objectives for Heart Disease and Stroke State Plan

Improve the awareness of early recognition of signs and symptoms of heart disease and stroke among Tennesseans.

Objective 1: Various Settings

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
American Heart Association Tennessee Primary Care Association Tennessee Medical Association Academy of Family Physicians Local and regional volunteer health associations Pharmaceutical companies	American Heart Association American Stroke Association Consortium-hospitals Tennessee Medical Association Health disparities collaboratives Association of Black Cardiologists Advocacy groups Health insurance providers Emergency Medical Service providers Rehabilitation centers Long-term care facilities Patients Disparity population groups	Health care setting administrators Department chiefs Local governments Agency administrators	Provider consortium-hospitals Emergency Medical Service providers Rehabilitation centers Long-term care facilities Community agencies Legislators General population and priority populations

STRATEGIES

- | | |
|---|--|
| <p>1.0 Develop and promote early signs and symptoms recognition training programs for medical professionals and provide regular updates</p> <p>1.1 Develop and promote early signs and symptoms recognition trainings for Emergency Medical Services (EMS) staff in order to improve standards of care for heart attack and stroke patients in transit to the emergency room (ER)</p> <p>1.2 Develop and provide trainings to 9-1-1 dispatch staff on early recognition and to reduce the response time</p> <p>1.3 Work with health care providers to develop and promote customized early signs and symptoms recognition campaigns for their client base</p> <p>1.4 Work with health care providers to include early signs and symptoms recognition instructions in all patient briefings/visits</p> <p>1.5 Collaborate with health care professional associations to emphasize early signs and symptoms recognition to their members</p> <p>1.6 Provide patient/public education videos and posters on early recognition of signs and symptoms of heart disease and stroke in physicians' waiting rooms</p> <p>1.7 Conduct educational media messages in ER waiting rooms on early signs and symptoms recognition</p> | <p>1.8 Develop and disseminate tool kits on early signs and symptoms recognition for community and local use</p> <p>1.9 Support other public agencies working to build early signs and symptoms recognition legislative components for public benefit</p> <p>1.10 Develop and promote early signs and symptoms recognition messages for community events</p> <p>1.11 Develop a media campaign for the community to use on early signs and symptoms recognition</p> <p>1.12 Target senior citizens centers to place strong emphasis on early signs and symptoms recognition</p> <p>1.13 Conduct early signs and symptoms recognition activities with chambers of commerce</p> <p>1.14 Strongly emphasize recognition of the early signs and symptoms of heart disease and stroke in all Search Your Heart (SYH) faith-based programs</p> |
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Goals and Objectives for Heart Disease and Stroke State Plan

Promote the early use of 9-1-1 to access prompt emergency care for heart attacks and strokes in Tennessee.

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
American Heart Association Tennessee Primary Care Association Tennessee Medical Association Academy of Family Physicians Local and regional volunteer health associations Pharmaceutical companies Local emergency medical service providers Local governments Tennessee Ambulance Service Association	American Heart Association American Stroke Association Consortium-hospitals Tennessee Primary Care Association Health disparity collaboratives Association of Black Cardiologists Advocacy groups Health insurance providers Emergency Medical Service providers Rehabilitation centers Long-term care facilities Patients Disparity population groups	Health care setting administrators Department chiefs Local governments Agency administrators	Provider consortium-hospitals Emergency Medical Service providers Rehabilitation centers Long-term care facilities Community agencies Legislators General population Priority populations

Objective 2: Various Settings

STRATEGIES

- 2.0 Conduct an assessment of the availability and quality of 9-1-1 services in all counties of Tennessee
- 2.1 Market the availability of services like LifeLine to community members unable to afford full-service telephone connection
- 2.2 Work with health care providers to routinely provide information to their patients/clients on the importance of early use of 9-1-1 for heart and stroke emergencies
- 2.3 Develop and distribute material for use by health care providers on the early use of 9-1-1 for heart and stroke emergencies
- 2.4 Support public agencies working to promote legislations on the early use of 9-1-1 for heart and stroke emergencies
- 2.5 Develop and disseminate educational material in different languages on the early use of 9-1-1 for heart and stroke emergencies
- 2.6 Develop and promote public service announcements (PSAs) on the early use of 9-1-1 for heart and stroke emergencies
- 2.7 Work with work sites to include early use of 9-1-1 for heart and stroke emergencies in all of their employee trainings

Goals and Objectives for Heart Disease and Stroke State Plan

Promote the early use of Cardiopulmonary Resuscitation (CPR) and Automatic External Defibrillators (AEDs) by professionals and the public.

Objective 3: Various Settings

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
American Heart Association Tennessee Primary Care Association Tennessee Medical Association Local and regional volunteer health associations Pharmaceutical companies Emergency Medical Service providers Local governments Law enforcement agencies Local disaster preparedness agencies/programs	American Heart Association American Stroke Association Association of Black Cardiologists Advocacy groups Health insurance providers Consortium-hospitals Emergency Medical Service providers Rehabilitation centers Long-term care facilities Patients Disparity population groups	Health care setting administrators Department chiefs Local governments Agency administrators	Hospitals Emergency Medical Service providers Rehabilitation centers Long-term care facilities Community agencies Legislators Businesses Schools General population Priority populations

STRATEGIES

- 3.0 Work with employers to develop and implement CPR and Automated External Defibrillator (AED) training programs for their employees
- 3.1 Work with work sites on installing AEDs and including CPR training in their regular employee trainings
- 3.2 Work with work sites and businesses to develop an AED and emergency response plan for heart attack and stroke emergencies
- 3.3 Develop a cost-effective and affordable training curriculum on AEDs and CPR training for work sites, especially for small businesses
- 3.4 Work with community agencies promoting the use of AEDs in business and public places
- 3.5 Develop low cost CPR training programs for the community
- 3.6 Work with AED manufacturers to provide low cost and low maintenance AEDs for public use
- 3.7 Work with educational institutions to include CPR and AED trainings as a part of the curricula
- 3.8 Identify funding to provide AEDs to heart attack and stroke disparity patients

Goals and Objectives for Heart Disease and Stroke State Plan

Promote proper and early access to heart disease and stroke treatment in Tennessee.

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
American Heart Association Tennessee Primary Care Association Tennessee Medical Association Local governments	American Heart Association American Stroke Association Consortium-hospitals Tennessee Primary Care Association Health disparity collaboratives Public advocacy groups Health insurance providers Provider consortium-hospitals Emergency Medical Service providers Rehabilitation centers Long-term care facilities Patients Disparity populations Tennessee Ambulance Service Association	Local governments Legislators Health-care setting administrators	Hospitals Emergency Medical Service providers Rehabilitation centers Long-term care facilities Community agencies Legislators General population and priority populations

STRATEGIES

- 4.0 Assess the 9-1-1 coverage in Tennessee and develop a map representing emergency care coverage
- 4.1 Work with 9-1-1 centers to assist the staff with proper training on early recognition of multi-lingual heart disease and stroke emergency key words
- 4.2 Work with 9-1-1 centers to promote staff training on cultural and ethnic heart disease and stroke key words that are commonly used by that ethnic/cultural group
- 4.3 Work with community agencies promoting 9-1-1 coverage for all counties in Tennessee
- 4.4 Work with community agencies promoting enhanced 9-1-1 in Tennessee
- 4.5 Increase community awareness on the importance of early access to heart disease and stroke care
- 4.6 Analyze each Emergency Medical Service (EMS) region/area served and make suggestions to EMS for prompt heart disease and stroke care and transport to ER
- 4.7 Work with different EMS regions/carriers to bring the services together for a prompt and coordinated response
- 4.8 Work with EMS on possible reduction of response time, especially for heart disease and stroke emergencies
- 4.9 Work with EMS to provide educational opportunities on early heart disease and stroke recognition by the staff
- 4.10 Promote the use of evidence-based guidelines for heart disease and stroke treatment
- 4.11 Work toward establishing a Certified Stroke Center in each of the three grand divisions
- 4.12 Provide technical support assistance to Tennessee hospitals in achieving Certified Stroke Center status
- 4.13 Work with emergency care centers to provide priority care to heart attack and stroke patients by prompt activation of both cardiovascular and neurology staff in a timely manner
- 4.14 Work with hospital emergency departments on enhancing policies and protocols to provide priority attention to heart disease and stroke patients, irrespective of mode of arrival

Goals and Objectives for Heart Disease and Stroke State Plan

Goal 5

Work toward the reduction and ultimate elimination of disparities in heart disease and stroke prevention, treatment, rehabilitation and access to care.

Goals and Objectives for Heart Disease and Stroke State Plan

Address health disparities in the manner that care is provided.

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
Minority health coalitions and agencies Tennessee Hospital Association Tennessee Office of Minority Health and Disparity Elimination American Heart Association American Stroke Association	Hospitals Physicians Nurses Emergency Medical Service providers Local health departments Managed care organizations Health insurance providers Health training schools of all types Local and regional minority health associations/groups Health-related professional organizations	Health care providers Health insurance providers	Disparity and priority populations

STRATEGIES

- | | |
|---|--|
| <p>1.0 Conduct specific heart disease and stroke cost studies for disparity and priority populations within all three grand divisions</p> <p>1.1 Work toward the development of public policies for heart disease and stroke-specific access to treatment for disparity and priority populations</p> <p>1.2 Work on data system enhancements for regional transport of patients in disparity areas of Tennessee</p> <p>1.3 Work to gather and disseminate ready access to heart disease and stroke data sources to monitor disparity trends</p> <p>1.4 Work toward developing a model project for heart disease and stroke disparity data-sharing between regions</p> <p>1.5 Work with partners and other community agencies to reduce adverse outcomes among disparity populations from heart disease and stroke (length of inpatient hospital stay, disability, mortality)</p> <p>1.6 Work toward developing and marketing stroke and heart disease management programs in all three grand divisions for disparity populations</p> <p>1.7 Work with health care providers to address disparities for rates of hospitalization (from ER only), cost, length of inpatient hospital stay, outcomes</p> <p>1.8 Work with emergency department triage stations and educate them about eliminating disparities associated with suspected heart and stroke emergencies among priority populations</p> | <p>1.9 Work with hospitals to reduce disparities associated with methods of arrival at hospitals for priority populations</p> <p>1.10 Work toward developing and marketing stroke-specific management programs in all three grand divisions of the state, with specificity for cultural variation, e.g., literacy, language</p> <p>1.11 Work toward developing and marketing disease-specific (e.g., for CHD, CHF, MI, etc.) management programs in all three grand divisions of the state, with specificity for cultural variation with disparity populations, e.g., literacy, language, poverty</p> <p>1.12 Conduct satisfaction surveys in disparity populations to improve satisfaction with their clinical experiences, e.g., ER triage, communities with and without stroke centers, etc.</p> <p>1.13 Work with partners to develop programs for disparity and low socioeconomic populations to cover the cost of EMS runs if an ambulance was called through 9-1-1 suspecting heart attack, but the incident didn't result in heart attack or stroke</p> |
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Goals and Objectives for Heart Disease and Stroke State Plan

Work toward collaborations and partnerships between community groups and agencies for heart disease and stroke prevention, awareness, and modification of risk behaviors.

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
Businesses Restaurants Faith-based organizations Non-profit agencies Health councils Local health departments Parish nurses Ministerial associations Tennessee Office of Minority Health and Disparity Elimination Senior organizations Minority health coalitions	Businesses Restaurants Faith-based organizations Non-profit organizations Health councils Local health departments Parish nurses Ministerial associations Tennessee Office of Minority Health and Disparity Elimination Senior organizations Minority health coalitions	Community agencies Health care providers Patient advocacy groups	Restaurants Faith-based organizations Non-profit organizations Health councils Local health departments

STRATEGIES

- 2.0** Collect data on the distribution and availability of intervention programs for risk factors and make this available for use by partner organizations
- 2.1** Work toward increasing the knowledge, attitudes, and behaviors (physical activity, diet, smoking) among disparity sub-groups, e.g., rural, African-American females in Upper East Tennessee
- 2.2** Strategically represent (over sample, if necessary) priority populations, e.g., Hispanic, rural, Appalachian, and African-American, to permit stable monitoring of heart disease and stroke risk factors
- 2.3** Recruit and train community-based organizations to participate in train-the-trainer for educational intervention programs, e.g., Search Your Heart
- 2.4** Work with other agencies to modify or promote existing heart disease and stroke prevention educational material for disparity populations

Goals and Objectives for Heart Disease and Stroke State Plan

Address disparities in heart disease and stroke risks and outcomes through work sites.

Objective 3: Work Site Setting

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
Tennessee Office of Minority Health and Disparity Elimination Work site wellness representatives Chambers of commerce	Local governments Faith-based organizations, Health insurance providers Tennessee Occupational Safety and Health Administration Occupational and safety agencies/associations	Work site administrators Work site participants/employees Patient advocacy groups	Employees Small businesses Unemployed Tennesseans Chambers of commerce

STRATEGIES

- 3.0 Work toward increasing the knowledge, attitudes and behaviors about exercise, diet and smoking in high-risk disparity sub-groups, i.e., rural, African-American females in Upper East Tennessee
- 3.1 Address health disparities in stroke and heart disease risks and outcomes through work site promotion of wellness programs
- 3.2 Target high-risk individuals, sub-groups and the unemployed concerning lifestyles, risk factors, healthy behaviors, disease management options, symptom recognition, and service options

Goals and Objectives for Heart Disease and Stroke State Plan

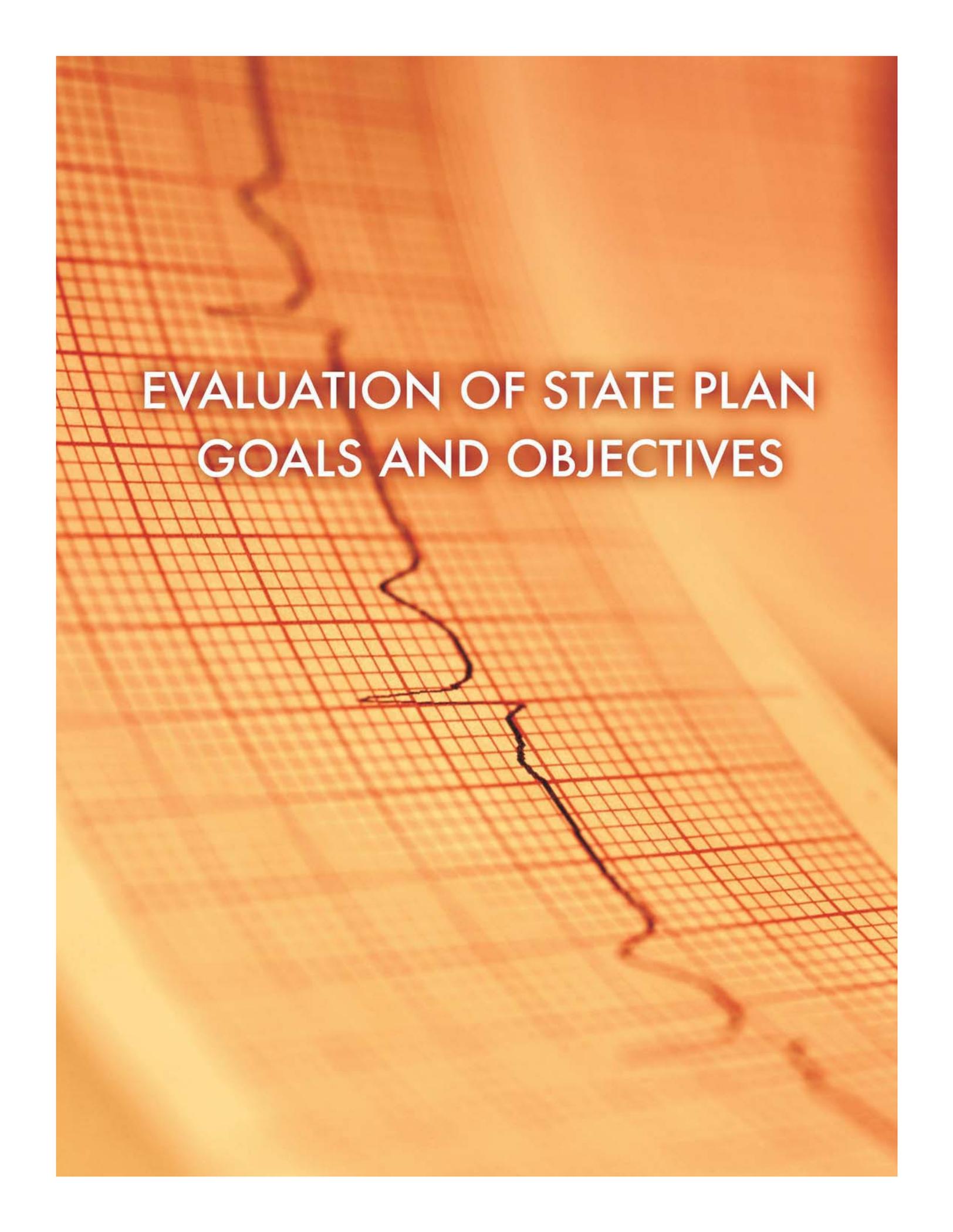
Work toward the elimination of disparities for heart disease and stroke through school education.

PROPOSED CONVENERS	KEY PARTNERS	DECISION MAKERS	TARGET GROUP/POPULATION
University of Tennessee Health Disparities Center-Memphis Tennessee Office of Minority Health and Disparity Elimination Tennessee Primary Care Association American Heart Association	Community and civic agencies Agencies representing minority and ethnic populations Tennessee Department of Education Local governments	School Boards School Administrators School health and wellness staff Parent-Teacher Associations Legislators	School-age children

Objective 4: School Setting

STRATEGIES

- 4.0** Strive to reach all Tennessee children with educational messages regarding heart disease and stroke risks, and high rates for the state in comparison to national rates
- 4.1** Educate school-age children about the signs and symptoms of stroke and heart disease, e.g., for their parents and grandparents, emphasizing the variations in risk by age, race, gender, and the merits of rapid medical action
- 4.2** Educate school-age children about physical fitness and the benefits of physical activity, as well as risky behaviors, e.g., poor diet and smoking, for stroke and heart disease, including information about race, gender, age variations, and population groups, e.g., poverty and rural
- 4.3** Promote nutritional policies in schools to reduce unhealthy factors, e.g., smoking pits, vending machines on campus, etc.
- 4.4** Promote mandatory physical education programs for K-12, specifically 150 minutes/week for K-8 and 225 minutes/week for grades 9-12
- 4.5** Monitor school systems modifying their curricula for the above cited curricula content
- 4.6** Monitor county-level prevalence of stroke and heart disease risk factors for school-age children via the Youth Risk Behavior Survey and the Youth Tobacco Survey

The background of the slide is a close-up, slightly blurred image of an electrocardiogram (ECG) strip. The grid is a fine, reddish-orange color, and the ECG trace is a dark, jagged line. The overall color palette is warm, with shades of orange and yellow.

EVALUATION OF STATE PLAN GOALS AND OBJECTIVES

Evaluation of State Plan Goals and Objectives

The implementation of the goals and objectives outlined in the *Tennessee State Plan for Heart Disease and Stroke Prevention, 2008-2012* will be evaluated periodically. In order to obtain a complete picture of the successful implementation of the goals and objectives outlined in the *Tennessee State Plan for Heart Disease and Stroke Prevention*, program evaluators will assess the impact of the goals and objectives in all settings, i.e., health care, work site, community and school, as time and resources allow.

Evaluation Indicators

Goal 1: Develop new resources and enhance the existing infrastructure by bringing groups together and by utilizing policy and environmental change factors.

- Compile the minutes of meetings, assembled by the conveners and key partners in each setting, that discuss the implementation of policy and organizational changes that seek to promote heart disease and stroke prevention.
- Document the number of heart disease and stroke prevention programs underway each year in all settings.
- Document the number of training programs related to heart disease and stroke prevention offered to health care workers, i.e., EMTs, physicians, nurses, etc., each year.
- Document the number and location of health care organizations, i.e., hospitals, community health clinics, etc., that obtain special accreditation/certification relating to heart disease and stroke care/services, i.e., JCAHO certification, etc.
- Document the number of pre-existing and newly established collaborative programs between organizations involved in heart disease and stroke prevention/education, i.e., the HDSP Program, AHA, THA, TPHA, etc., and the broader community, i.e., churches, businesses, etc.
- Conduct an inventory of the available resources/materials, i.e., Web sites, brochures, other media, etc., that attempt to educate the community on issues pertaining to heart disease and stroke.
- Document the number of policy measures proposed and implemented that develop and enhance the state's public health infrastructure for heart disease and stroke prevention.
- Document the number of pre-existing and newly established

inter-agency collaborations striving to improve heart disease and stroke treatment outcomes, and compile the minutes of strategic/planning meetings between organizations engaged in inter-agency collaborative arrangements.

- Document the number and characteristics of heart disease and stroke prevention training programs offered, and available educational materials that promote cultural sensitivity.
- Document policy changes implemented in hospital emergency rooms that modify triage protocols in an attempt to improve heart attack and stroke outcomes.
- Document development of a comprehensive plan to promote and include physical activity and good nutritional options in schools.
- Document the programs and activities generated as a result of this goal.

Goal 2: Prevent the development of heart disease and stroke risk factors, e.g., diabetes, hypertension, high cholesterol, obesity, poor diet, lack of physical activity and smoking/tobacco use.

- Compile the minutes of meetings, assembled by the conveners and key partners in each setting, that discuss the implementation of policy and organizational changes that seek to prevent the development of heart disease and stroke risk factors.
- Document the number of smoking cessation programs made available to current smokers and the setting in which the program took place.
- Conduct an inventory of available heart disease and stroke risk factor educational materials, i.e., pamphlets, videos, etc., intended for a public audience, and document the following:
 - name of the agency, i.e., AHA, TDH, etc., providing the educational materials
 - setting(s) in which the provider intends the educational materials to be utilized/displayed.
- Document the number of pre-existing and newly created databases containing state and sub-state level heart disease and stroke risk factors data, and monitor their development/progress on a yearly basis.
- Collect evidence that guidelines based on nationally

Evaluation of State Plan Goals and Objectives

recognized standards for screening, monitoring, and preventing modifiable risk factors for heart disease and stroke are disseminated to the appropriate persons/organizations/agencies in a timely and readily accessible manner.

- Collect evidence to demonstrate that heart disease and stroke prevention educational materials and training programs are designed in a manner that is culturally appropriate.
- Document the number of inter-agency collaborations or collaboratives, established with the goal of preventing the development of heart disease and stroke risk factors, and compile the minutes of strategic/planning meetings between organizations engaged in interagency collaborative arrangements.
- Document the number of pre-existing and newly established collaborative programs between organizations promoting heart disease and stroke risk factors prevention, i.e., the HDSP Program, AHA, THA, TPHA, etc., and the broader community, i.e., churches, businesses, etc.
- Document the number of work sites that have and enforce a no smoking policy.
- Document the number of policy measures proposed and implemented that aim to reduce and prevent the development of heart disease and stroke risk factors.
- Document the development and implementation of healthy lifestyle programs and trainings conducted for school staff to implement such programs.

Goal 3: Promote early and aggressive treatment of heart disease and stroke risk factors.

- Document the number and monitor the effectiveness of pre-existing and newly devised training programs designed to enhance health care worker's clinical competency in the identification, treatment and management of heart disease and stroke risk factors.
- Document the number of health care workers participating in training programs, including those offered for Continuing Education Units (CEUs), designed to enhance their clinical competency in the identification, treatment and management of heart disease and stroke risk factors.
- Document the development of Web sites and other media resources/campaigns designed to enhance the community's

awareness of the importance of early detection, treatment and management of heart disease and stroke risk factors.

- Document the development and monitor the effectiveness of faith-based community intervention/educational programs designed to promote heart disease and stroke risk factors education and screening.
- Document the number of policy measures proposed and implemented that facilitate the early and prompt diagnosis and treatment of heart disease and stroke risk factors.
- Document the number of employer-based initiatives undertaken to improve heart disease and stroke risk factors recognition, screening and adherence to treatment regimens among employees.
- Document the number of employer-based initiatives to improve employee access to medical screening and appropriate treatment of heart disease and stroke risk factors.
- Document any curriculum recommendations, development and changes made to promote treatment of heart disease and stroke risk factors in educational settings.

Goal 4: Ensure that all Tennesseans diagnosed with heart disease and stroke receive aggressive treatment to prevent the exacerbation of heart disease, subsequent events, associated complications, disabilities and mortality.

- Document and monitor the effectiveness of training programs designed to improve the capability of health care workers, i.e., physicians, nurses, EMS staff, etc., to detect and treat the early signs and symptoms of heart disease and stroke in a manner that takes into account variations in disease etiology and presentation by age, race and gender.
- Document the development of programs, educational materials, and media campaigns striving to increase the public's awareness and ability to readily recognize the signs and symptoms of heart disease and stroke.
- Document the development of age/culturally appropriate programs, educational materials, and media campaigns targeting sub-populations at an increased risk of developing heart disease, i.e., the elderly, racial/ethnic minorities, etc., that attempt to increase their ability to recognize the signs and symptoms of heart disease and stroke.
- Document policy measures proposed and implemented that

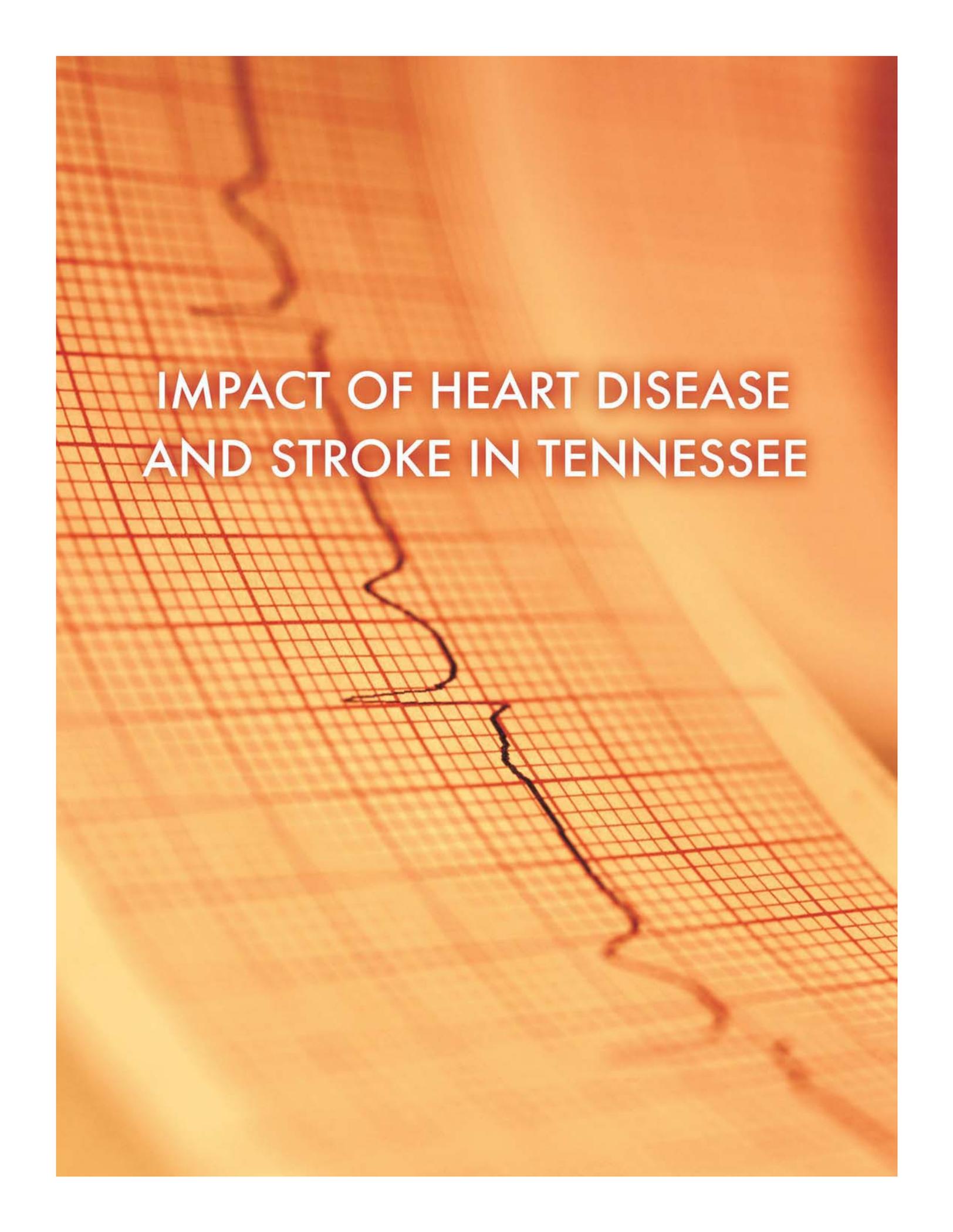
Evaluation of State Plan Goals and Objectives

provide material and infrastructural support to improve the effectiveness of the 9-1-1 system in coordinating and delivering emergency services related to heart disease and stroke throughout the state.

- Document efforts by 9-1-1 call centers to improve service coordination and emergency response times.
- Document the institution of affordable CPR and Automatic External Defibrillator (AED) training programs offered by employers, advocacy groups, and community/faith-based organizations.
- Document the availability of AEDs in publicly accessible places, i.e., shopping malls, work sites, etc.
- Document the existence and monitor the establishment of inter-agency collaborations attempting to assist hospitals in efforts to acquire accreditation as a Certified Stroke Center.
- Document the number and monitor the effectiveness of pre-existing and newly devised training programs designed to enhance cultural sensitivity in health care facilities and among health care providers.
- Document the number and monitor the effectiveness of pre-existing and newly devised initiatives designed to target priority/disparity populations in an effort to reduce the increased burden of heart disease and stroke that exists among these populations in all regions of the state.
- Document efforts to reach minority and low-socioeconomic school-age children and any programs developed and implemented to reduce heart disease and stroke among priority populations

Goal 5: Work toward the reduction and ultimate elimination of disparities in heart disease and stroke prevention, treatment and access to care.

- Document policy initiatives, designed to improve access to heart disease and stroke screening and treatment, for priority and disparity populations.
- Document and monitor the development of inter-agency and community-based initiatives that aim to reduce adverse outcomes, i.e., length of hospital stay, disability, deaths, etc., due to heart disease and stroke and related risk factors among priority and disparity populations.
- Compile the minutes of meetings assembled by the conveners and key partners aimed at developing inter-agency collaborations to improve heart disease and stroke service delivery and access to care among priority populations.
- Document efforts to establish and improve the quality of and inter-agency access to data systems/sources established to monitor trends in incidence, prevalence, utilization patterns, deaths, and costs associated with heart disease and stroke among priority and disparity populations in all regions of the state.
- Document the development and marketing of programs, educational materials, and media campaigns that strive to improve heart disease and stroke disease management among priority and disparity populations in all regions of the state.

The background of the slide is a close-up, slightly blurred image of an electrocardiogram (ECG) strip. The grid is a fine, light orange color, and the ECG trace is a dark orange line. The overall color palette is warm, ranging from light orange to a deeper, darker orange. The text is centered and reads:

**IMPACT OF HEART DISEASE
AND STROKE IN TENNESSEE**

Impact of Heart Disease and Stroke in Tennessee

The figures in this section display rates, age-adjusted to the 2000 standard population, for Diseases of the Heart (DOH), Stroke (STK) and High Blood Pressure (hypertension, HTN), as an underlying cause of death or as a primary diagnosis from several data sources: Death Statistical Summary System (DSSS, all ages and ages 65 and over), Hospital Discharge Data System (HDDS) inpatient and outpatient (all ages) data, Centers for Medicare and Medicaid Services (CMS) inpatient, outpatient, and provider, i.e., physician billing, ages 65 and over, data. The figures display data for the state of Tennessee for the total sample by race, gender, and race-gender groups, covering the period of 1997-2002 for HDDS and 1996-2002 for DSSS and CMS data. Tables detailing the frequency and age-adjusted rates by year are included in the Data Tables section of this report. For additional information pertaining to the data used in this report, see the Glossary of Terms.

Burden of DOH, Stroke, and High Blood Pressure

- According to the Hospital Discharge Data System (HDDS), the number of inpatients in Tennessee with a primary diagnosis of DOH increased by 13% from 61,803 in 1997 to 69,628 in 2002.
- However, the age-adjusted rates among inpatients only increased by 4% from 1,140.7 to 1,189.5 per 100,000 population during this time period (Figure 4).
- Black male inpatients had the highest rate of DOH in 2002 even though it decreased by 11%, while white female inpatients consistently had the lowest rate even though it increased by 7%.

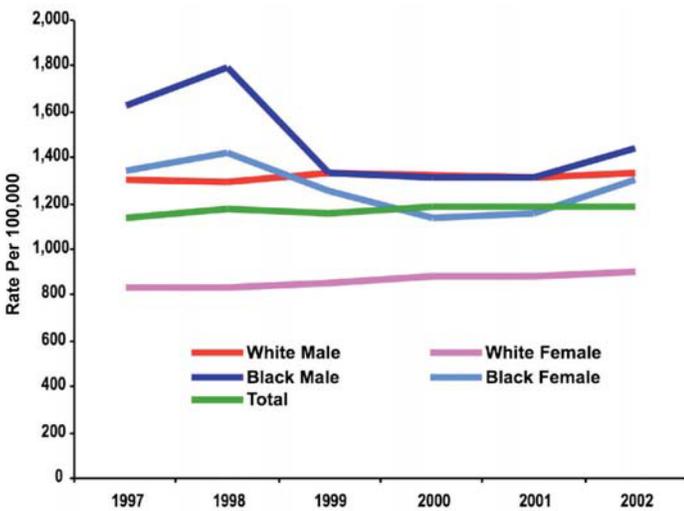


Figure 4. Trends in Age-Adjusted Rate of Diseases of the Heart, 1997-2002, Tennessee, HDDS Inpatient File

Rates of DOH among elderly inpatients were nearly 5 times higher than those found in the general population, with the highest rate among white males, followed by black females, black males, and the lowest being white females (*graph not shown*).

CMS physician data offer a good estimate of 12-month prevalence among the age 65 and over population, who saw a physician in any setting, such as a physician office, inpatient hospital, nursing home, outpatient, etc.

- According to CMS physician data, the number of elderly patients who were seen by a physician with a primary diagnosis of DOH increased by 8% from 221,384 in 1996 to 239,169 in 2002.
- However, the age-adjusted rates of physician-diagnosed DOH among elderly patients increased by 2% from 31,296.3 to 31,978.1 per 100,000 population during this time period (Figure 5).
- Elderly white males had by far the highest age-adjusted rate of physician-diagnosed DOH, followed by black females, then white females, and was the lowest for elderly black males.

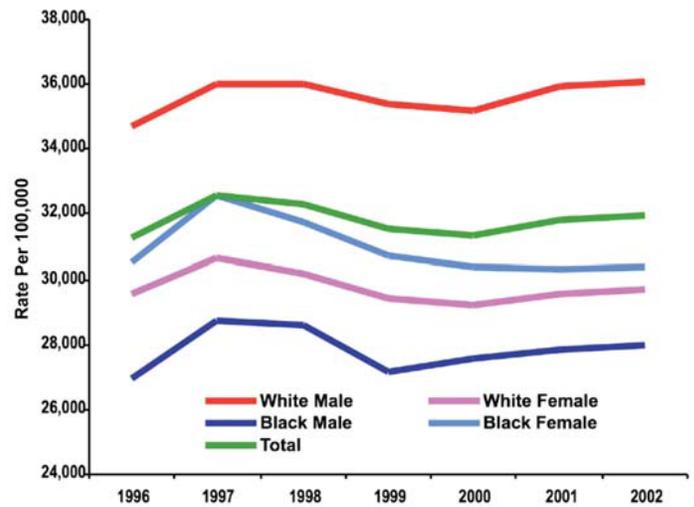


Figure 5. Trends in Age-Adjusted Rate of Diseases of the Heart, 1996-2002, Tennessee, CMS Physician File

Impact of Heart Disease and Stroke in Tennessee

Approximately 16,000 people (13,000 elderly) died from DOH in Tennessee annually from 1996 to 2002, with only a 0.2% decrease in the annual number of DOH deaths.

- However, the age-adjusted mortality rate from DOH decreased by 9% from 313.6 to 284.7 per 100,000 deaths during this time period (Figure 6).
- Black males had the highest DOH mortality rates by far, followed by white males, then black females and white females with the lowest rates.
- Average age-adjusted rates of DOH among inpatients from 1998-2002 varied across counties, ranging from 496.4 per 100,000 in Moore County to 2,162.3 per 100,000 in Fentress County (see Figure 7).

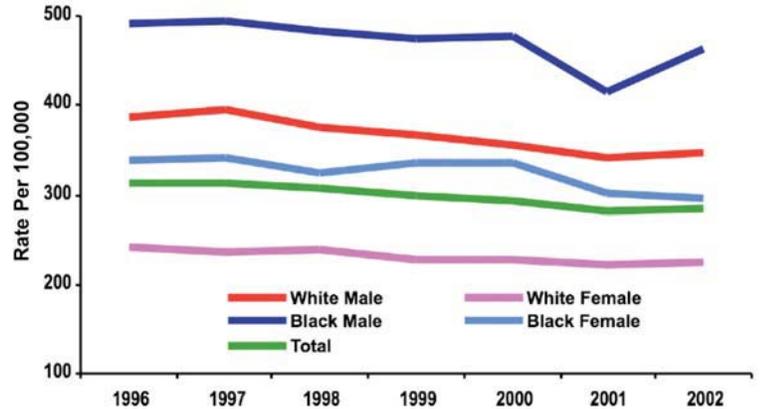


Figure 6. Trends in Age-Adjusted Mortality Rate from Diseases of the Heart, Total Population, 1996-2002, Tennessee, DSSS

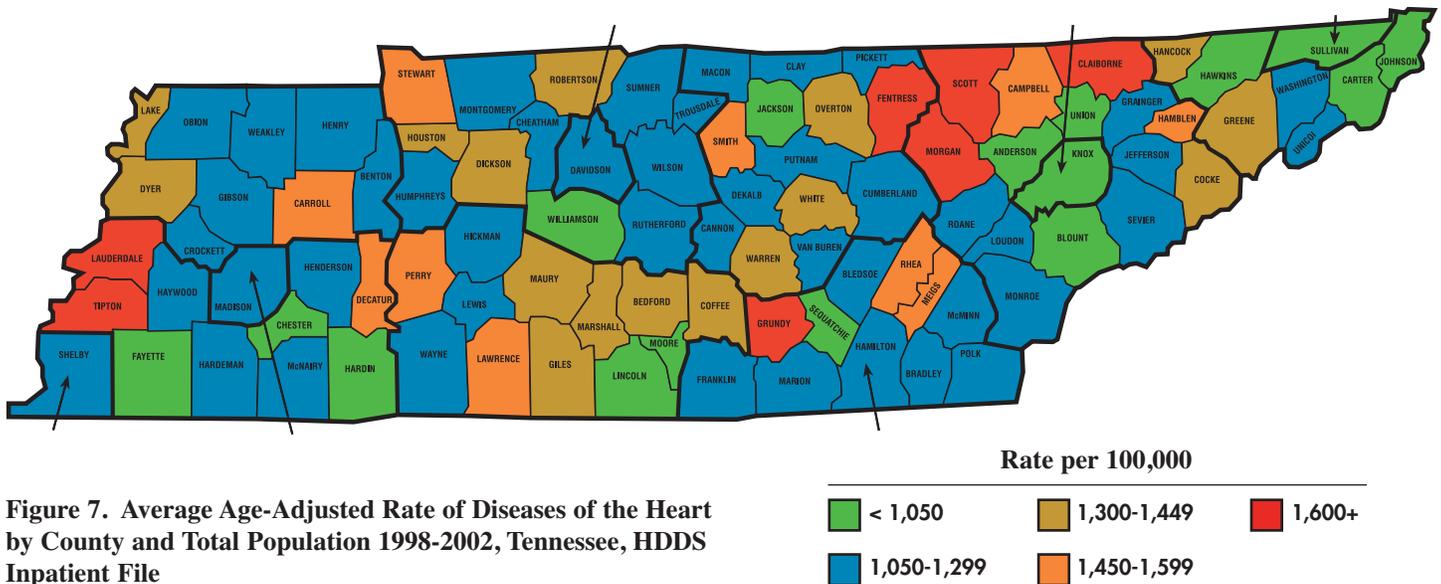


Figure 7. Average Age-Adjusted Rate of Diseases of the Heart by County and Total Population 1998-2002, Tennessee, HDDS Inpatient File

Impact of Heart Disease and Stroke in Tennessee

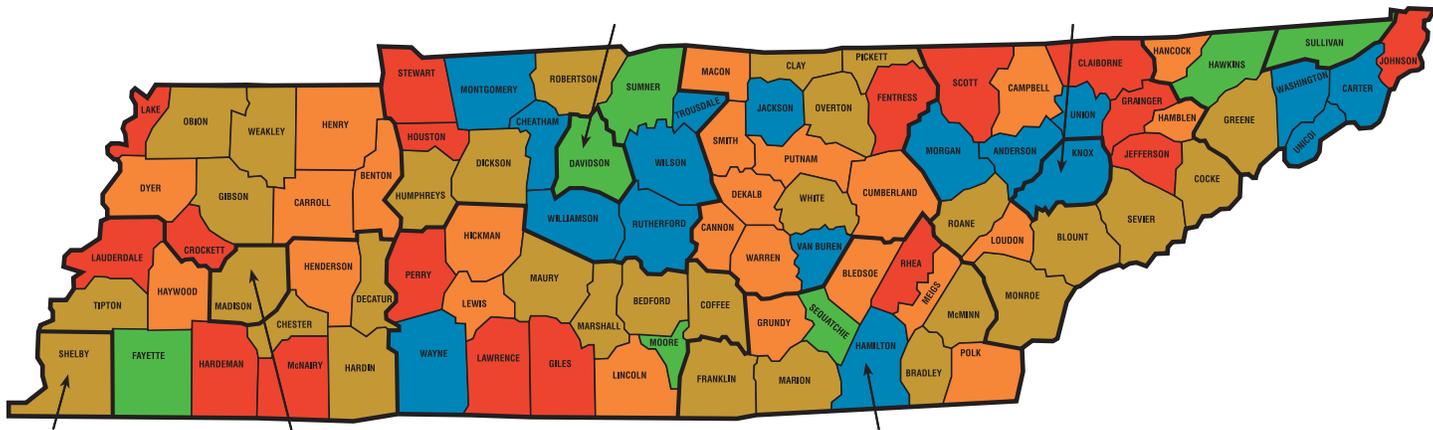
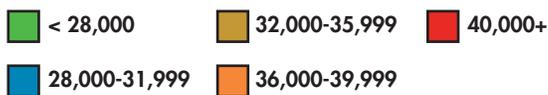


Figure 8. Average Age-Adjusted Rate of Diseases of the Heart by County and Total Population 1998-2002, Tennessee, CMS Inpatient File



- Average age-adjusted mortality rates from DOH from 1998-2002 varied across counties, ranging from 200.2 per 100,000 in Moore County to 423.0 per 100,000 in Lauderdale County (see Figure 9).

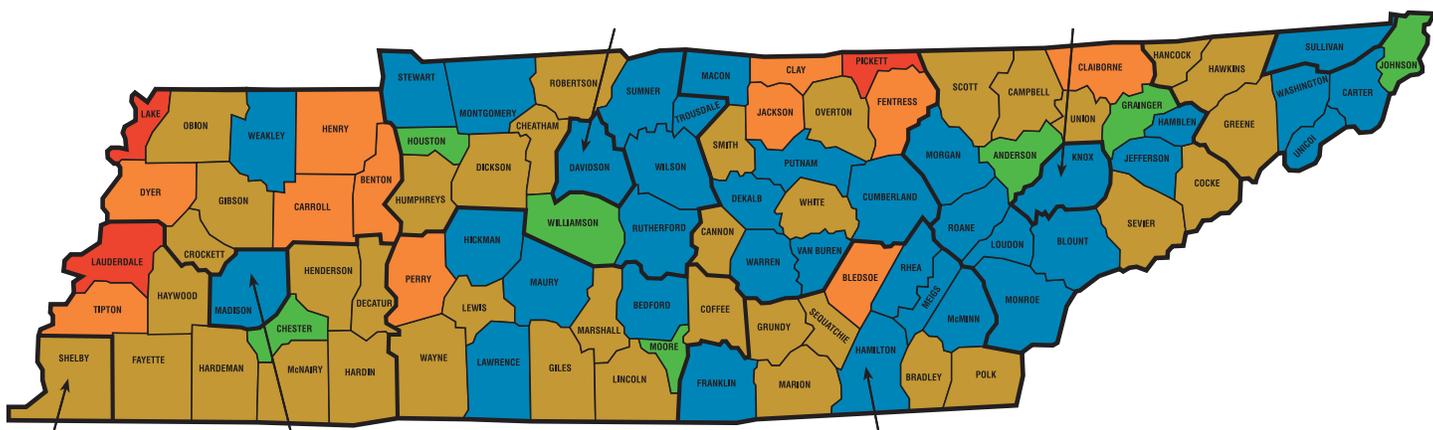


Figure 9. Average Age-Adjusted Mortality Rate from Diseases of the Heart by County and Total Population, 1998-2002, Tennessee, DSSS



Impact of Heart Disease and Stroke in Tennessee

- Years of Potential Life Lost (YPLL) measures the impact of premature mortality, and is the sum of the number of years that people died before age 75, the average life expectancy.
- The annual YPLL due to mortality from DOH increased by 8.5% from 86,218 in 1996 to 93,529 in 2002 (graph not shown).
- But the YPLL rate per 100,000 population under age 75 stayed very stable during this time period.
- The YPLL rate due to DOH was highest for black males (2,861.8) and lowest for white females (938.1) (Figure 10).
- According to HDDS data, the number of inpatients in Tennessee with a primary diagnosis of stroke increased by 6% from 18,943 in 1997 to 20,067 in 2002.

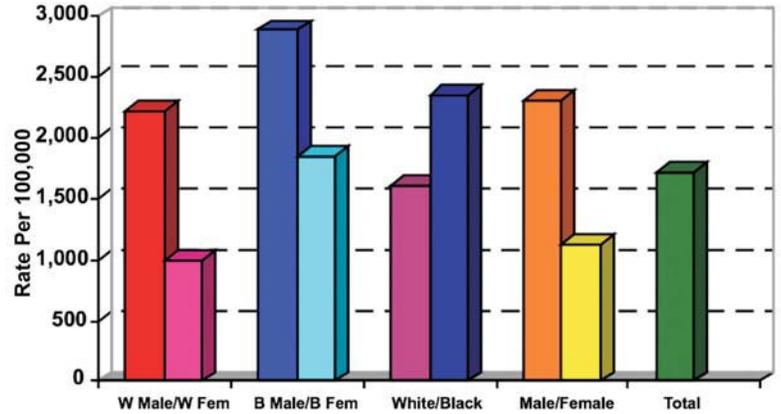


Figure 10. Average Years of Potential Life Lost (YPLL) Rate from Diseases of the Heart, 1996-2002, Tennessee, DSSS

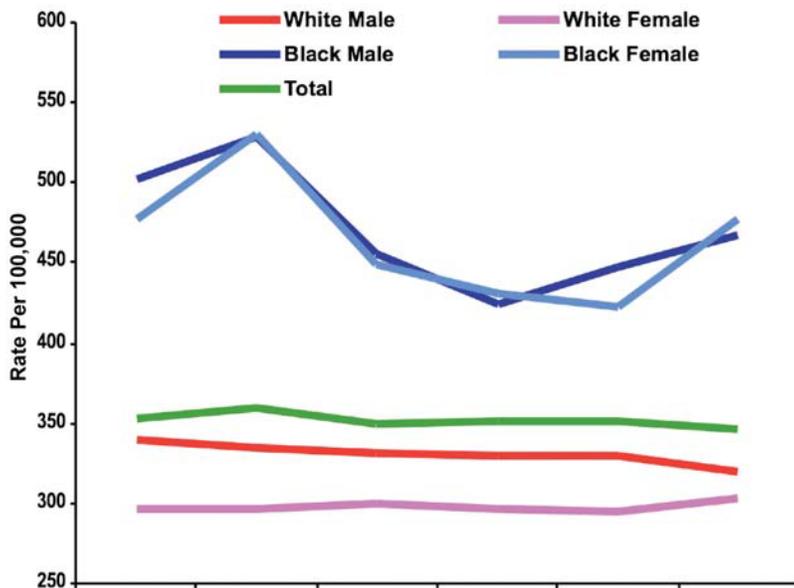


Figure 11. Trends in Age-Adjusted Rate of Stroke, 1997-2002, Tennessee, HDDS Inpatient File

- However, the age-adjusted rates actually decreased slightly (by 2%) from 352.5 to 346.7 per 100,000 population during this period (Figure 11).
- Black males and females had the highest age-adjusted rates of stroke among inpatients (53% higher than whites), varying across the years in whether males or females were higher.
- White male inpatients had slightly higher rates of stroke than white female inpatients.
- Patterns were similar among elderly inpatients but the racial gap in stroke rates was not quite as wide (20% higher for blacks).
- According to CMS physician data, the number of elderly patients who were seen by a physician with a primary diagnosis of stroke increased by 9% from 67,149 in 1996 to 73,305 in 2002.

Impact of Heart Disease and Stroke in Tennessee

- However, the age-adjusted rates of physician-diagnosed stroke among elderly patients only increased by 3% from 9,603.4 to 9,872.0 per 100,000 population during this time period (Figure 12).
- Elderly white males had the highest age-adjusted rate of physician-diagnosed stroke in most years, followed by elderly white females (although they were about the same in 2002), third highest for elderly black females, and the rate was lowest for elderly black males.
- Around 4,000 people (3,500 elderly) die from stroke in Tennessee annually, which is a 2% decrease in the number of stroke deaths during 1996-2002.

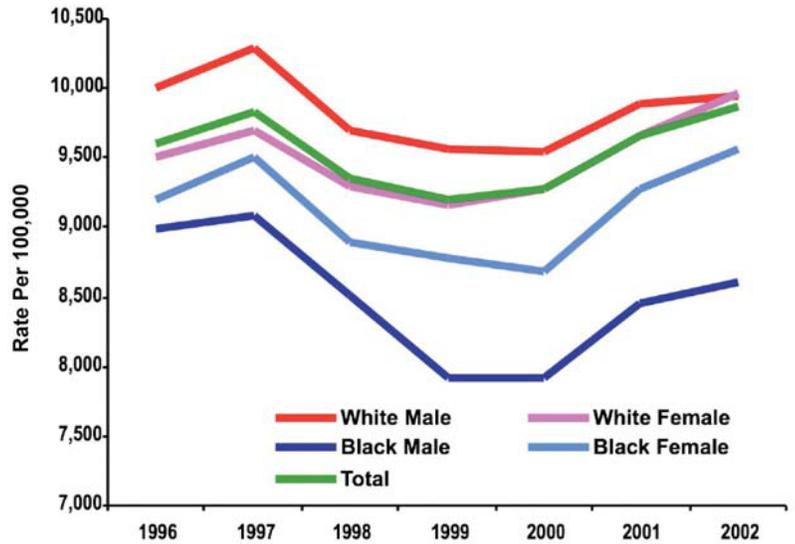


Figure 12. Trends in Age-Adjusted Rate of Stroke, 1996-2002, Tennessee, CMS Physician File

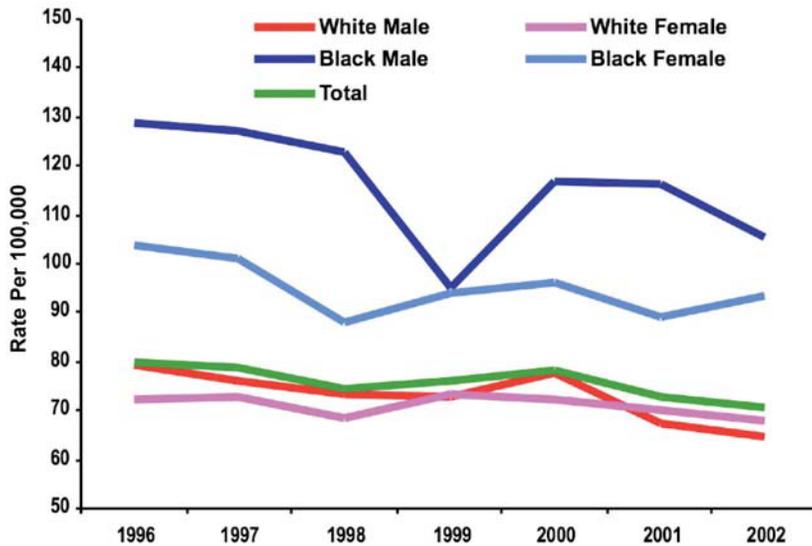


Figure 13. Trends in Age-Adjusted Mortality Rate from Stroke, Total Population, 1996-2002, Tennessee, DSSS

- The age-adjusted mortality rate from stroke decreased by 11% from 79.7 to 70.8 per 100,000 deaths from 1996-2002 (Figure 13).
- Blacks (black males then black females) had higher mortality rates from stroke compared to whites, although black males had a greater decline.
- White males and white females had similar stroke mortality rates.
- Patterns of stroke mortality were very similar among the age 65 and over population (not shown).

Impact of Heart Disease and Stroke in Tennessee

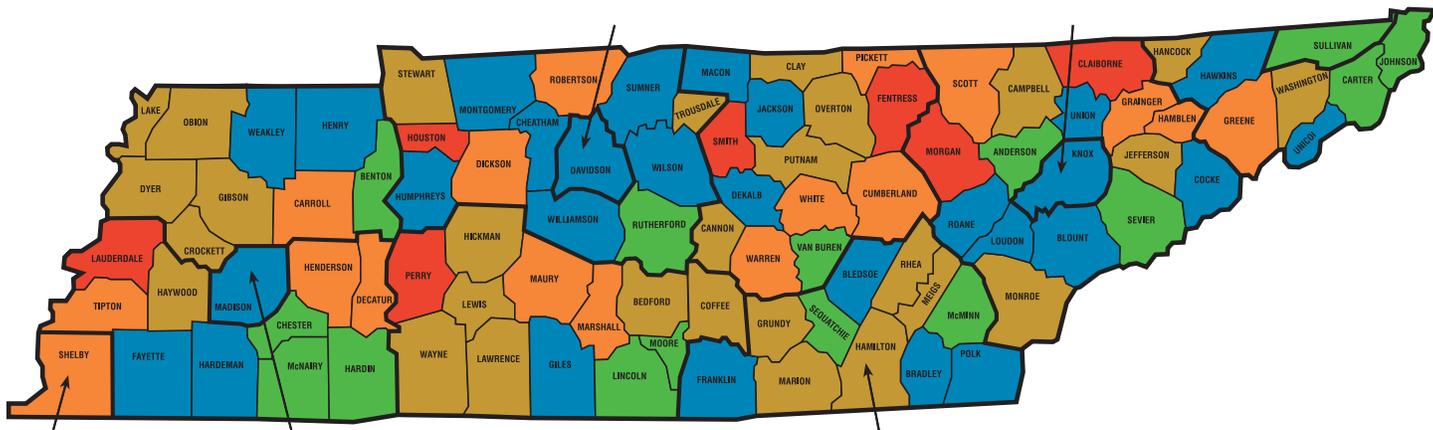


Figure 14. Average Age-Adjusted Rate of Stroke by County 1998-2002, Tennessee, HDDS Inpatient File



- Average age-adjusted rates of stroke among inpatients from 1998-2002 varied across counties, ranging from 186.5 per 100,000 in Moore County to 599.9 per 100,000 in Fentress County (Figure 14).
- Average age-adjusted mortality rates from stroke from 1998-2002 varied across counties, ranging from 37.3 per 100,000 in Lewis County to 184.7 per 100,000 in Henderson County (Figure 15).

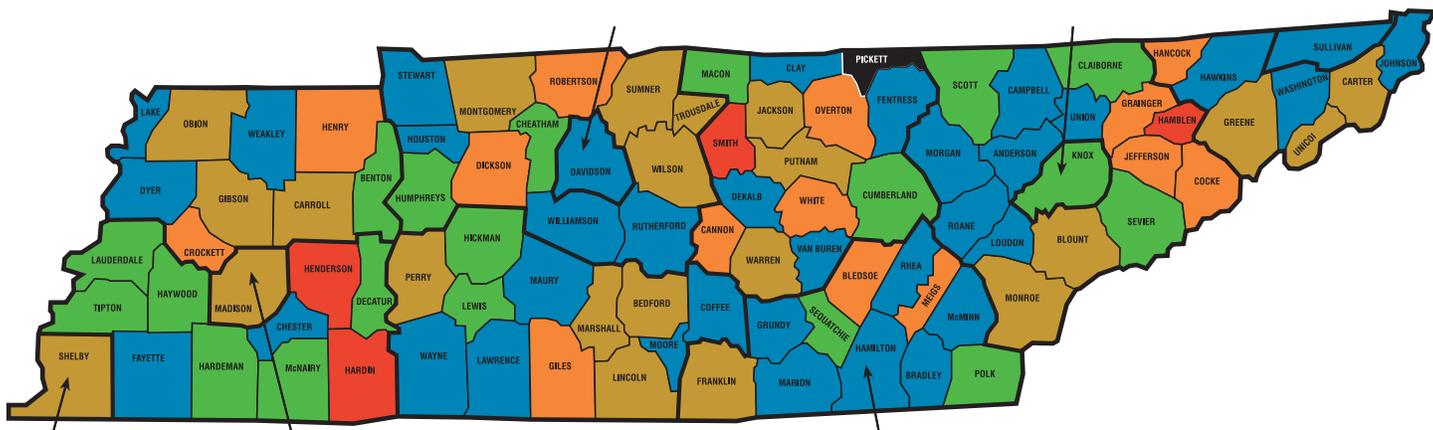
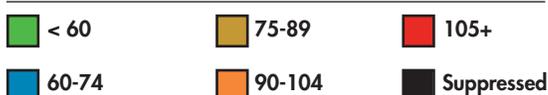


Figure 15. Average Age-Adjusted Mortality Rate from Stroke by County and Total Population, 1998-2002, Tennessee, DSSS



Impact of Heart Disease and Stroke in Tennessee

- The total prevalence of physician-diagnosed high blood pressure (hypertension) reported among Tennessee adults stayed fairly constant from 1996 to 2002 at around 27-30% (Figure 16).
- Tennessee was above the national prevalence (25.8%) for Hypertension (HTN) in 2002.
- Black females consistently had the highest prevalence of HTN for all years (up to 38.5%) except for 2002, when they were surpassed by black males, who showed a notable increase in HTN during this period.
- The prevalence for white males and white females fluctuated somewhat but stayed fairly stable around the prevalence for the total sample.

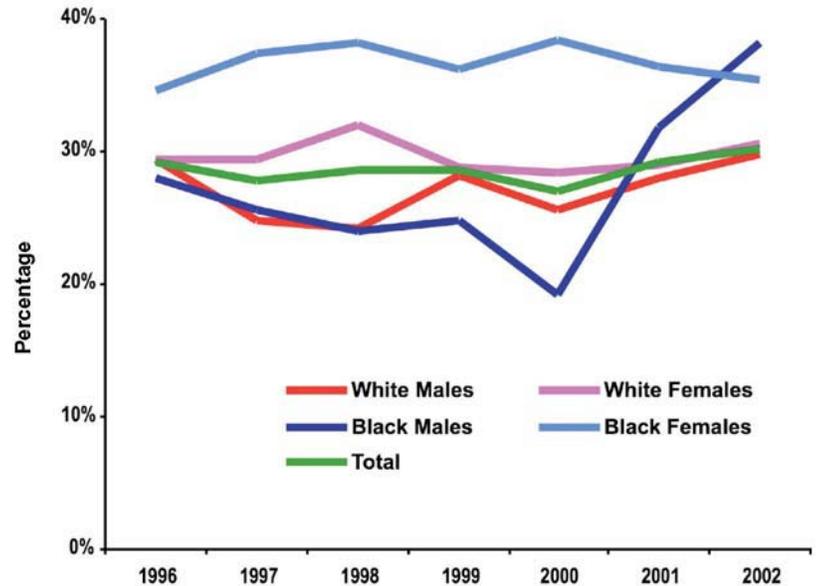


Figure 16. Trends in Prevalence of Physician-Diagnosed Hypertension, 1996-2002, Tennessee, BRFSS

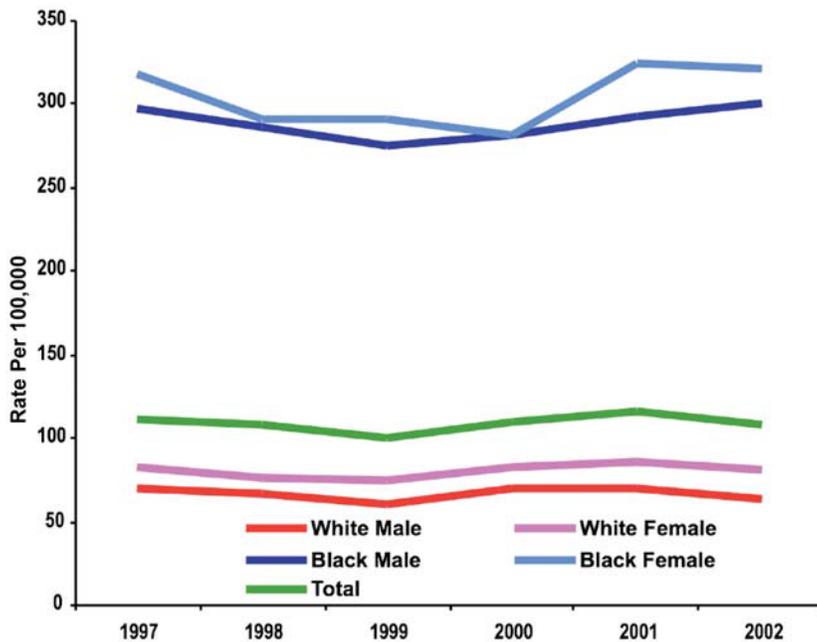


Figure 17. Trends in Age-Adjusted Rate of Hypertension, 1997-2002, Tennessee, HDDS Inpatient File

- According to the HDDS data, the number of inpatients in Tennessee with a primary diagnosis of HTN increased by 5% from 6,009 in 1997 to 6,320 in 2002 (Figure 17).
- However, the age-adjusted rates decreased by 3% from 111.0 to 108.5 per 100,000 population during this time period.
- The rate of HTN among black inpatients was about 4 times higher than the rate for white inpatients.
- Black females had the highest rate of HTN in most years, followed by black males. White females had higher age-adjusted rates of HTN than white males.
- The number of Tennessee elderly patients who were seen by a physician with a primary diagnosis of HTN increased by 31% from 228,599 in 1996 to 298,394 in 2002.

Impact of Heart Disease and Stroke in Tennessee

- The age-adjusted rates of physician-diagnosed HTN among elderly patients increased by 25% from 31,617.7 to 39,410.7 per 100,000 population during this time period (Figure 18).
- Elderly black females consistently had the highest age-adjusted rate of physician-diagnosed HTN, followed by elderly white females, then elderly black males, and the rate was lowest for elderly white males.
- Average age-adjusted rates of physician-diagnosed HTN among elderly patients from 1998-2002 varied across counties, ranging from 27,769 per 100,000 population in Morgan County to 67,116 per 100,000 population in Crockett County (Figure 19).

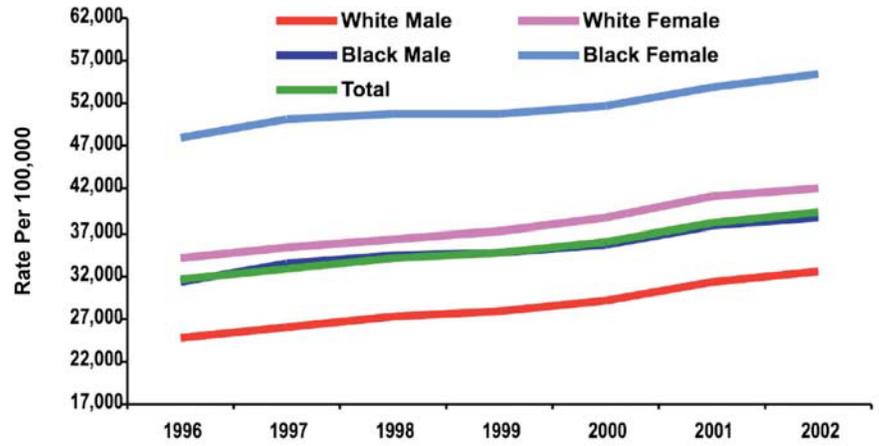


Figure 18. Trends in Age-Adjusted Rate of Hypertension, 1996-2002, Tennessee, CMS Physician File

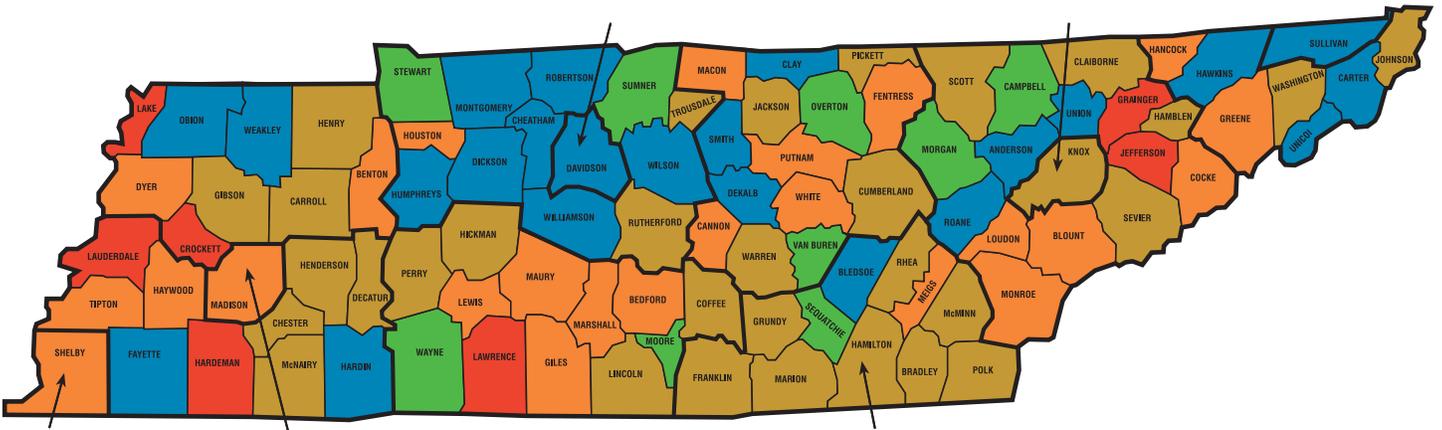
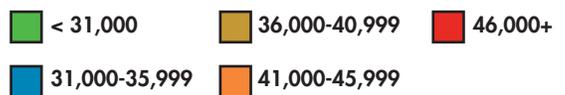


Figure 19. Average Age-Adjusted Rate of Hypertension by County 1998-2002, Tennessee, CMS Physician File



Impact of Heart Disease and Stroke in Tennessee

Health Service Utilization for DOH, Stroke, and Hypertension

- According to HDDS data, the annual number of inpatient visits for DOH increased by 11% from 81,220 to 90,458 from 1997 to 2002 (Figure 20).
- Among the elderly (CMS data), the number of inpatient visits for DOH increased by 5% from 62,459 to 64,474 from 1996 to 2002 (Figure 20).
- Overall, the number increased by 11% for whites compared to 3% for blacks, but among elderly it increased by 25% for blacks and 3% for whites.

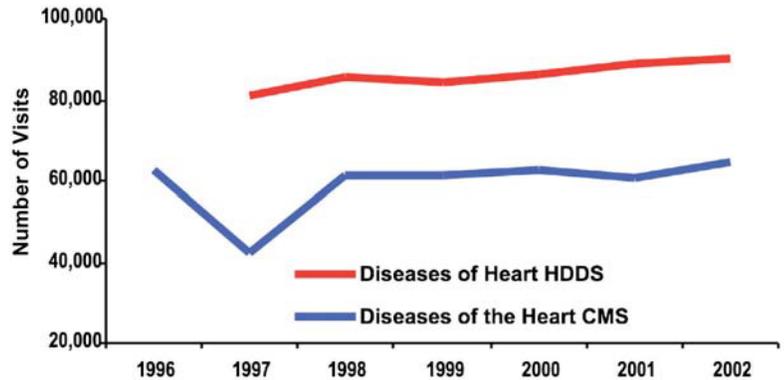


Figure 20. Trends in Inpatient Hospitalization for Diseases of the Heart, 1996/7-2002, Tennessee, HDDS & CMS Files

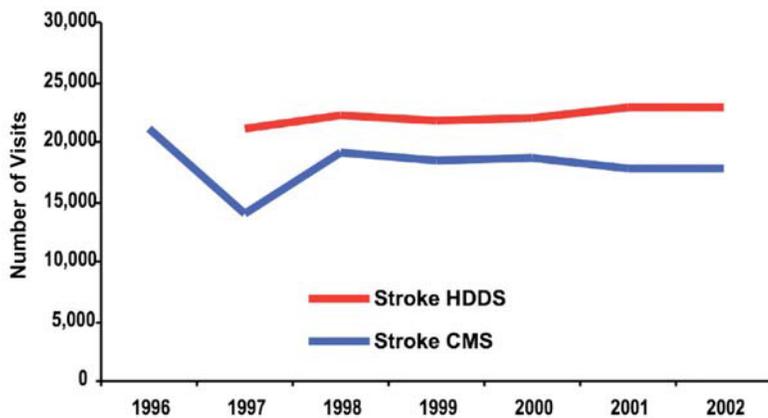


Figure 21. Trends in Inpatient Hospitalization for Stroke, 1996/7-2002, Tennessee, HDDS & CMS Files

- DOH accounted for around 12% of all inpatient visits (18-19% among the elderly).
- According to HDDS data, the annual number of inpatient visits for stroke increased by 8% from 21,120 to 22,844 from 1997 to 2002 (Figure 21).
- Among the elderly (CMS data), the number of inpatient visits for stroke decreased by 23% from 21,047 to 17,789 from 1996 to 2002 (Figure 21).
- Overall, the number increased by 12% for whites compared to 7% for blacks, but among the elderly it decreased by 24% for whites compared to 12% for blacks.
- Stroke accounted for around 3% of all inpatient visits (5-6% among the elderly).
- According to HDDS data, the average length of stay (LOS) for DOH hospitalizations decreased by 3% from 5.3 to 5.1 days during 1997-2002.
- LOS for DOH was slightly longer for the elderly and for females compared to males, and about a day longer for blacks compared to whites.
- In 2002, LOS for DOH was longest for black females, second highest for black males followed by white females, and was lowest for white males.
- According to HDDS data, the average LOS for stroke hospitalizations only increased by 7% from 5.7 to 6.0 days during 1997-2002.

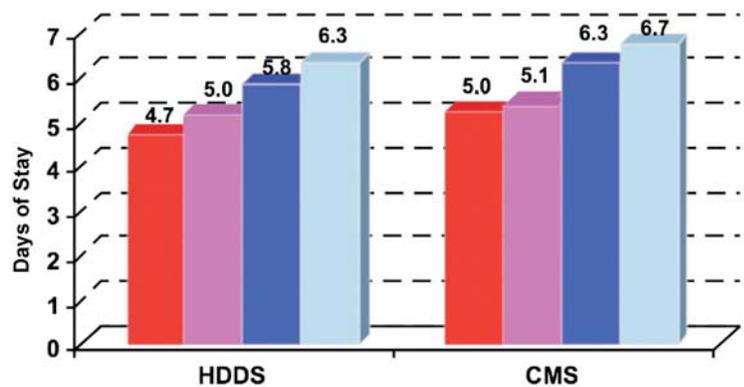


Figure 22. Average Inpatient Length of Stay for Diseases of the Heart, 2002, Tennessee, HDDS & CMS Inpatient Files

Impact of Heart Disease and Stroke in Tennessee

- LOS for stroke was slightly longer for the elderly and for females compared to males, and 2-3 days longer for blacks compared to whites.
- Notably, the average LOS for stroke for blacks increased by 20% compared to 5% for whites during 1997-2002.

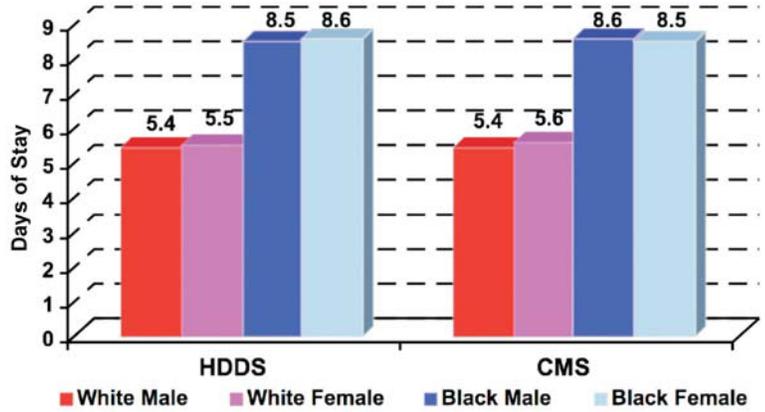


Figure 23. Average Inpatient Length of Stay for Stroke, 2002, Tennessee, HDDS & CMS Inpatient Files

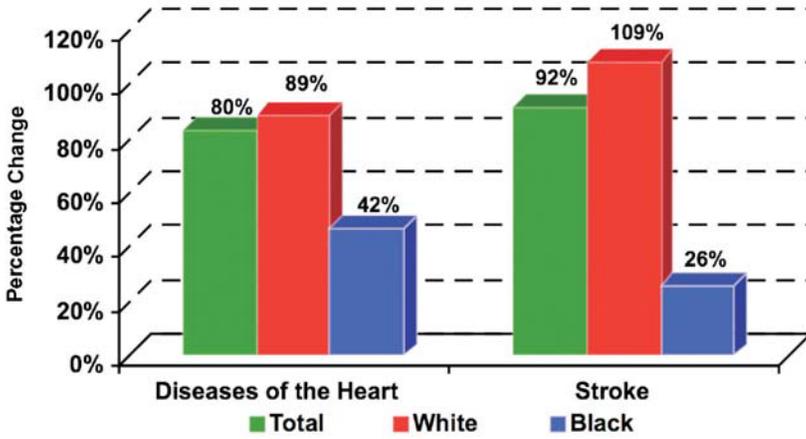


Figure 24. Percentage Change in Number of Outpatient Visits for Diseases of the Heart & Stroke 1997-2002, Tennessee, HDDS Outpatient File

- According to HDDS data, the total annual number of outpatient visits for DOH increased by 80% from 28,718 to 51,765 during 1997-2002 (Figure 24).
- The above number of DOH outpatient visits increased by twice as much for whites compared to blacks.
- The number of outpatient visits for stroke increased by 92% from 3,377 to 6,487 from 1997 to 2002.
- The increase was four times greater for whites compared to blacks.

- According to CMS data, the total annual number of outpatient visits for DOH among the age 65 and over population increased by 15% from 169,622 to 202,572 from 1996 to 2002 (Figure 25).
- The above number of DOH outpatient visits increased slightly more for elderly whites compared to elderly blacks.
- The number of outpatient visits for stroke among the elderly decreased by 3% from 54,801 to 52,838 from 1996 to 2002.
- However, the number of DOH outpatient visits actually increased by 4% for elderly blacks.

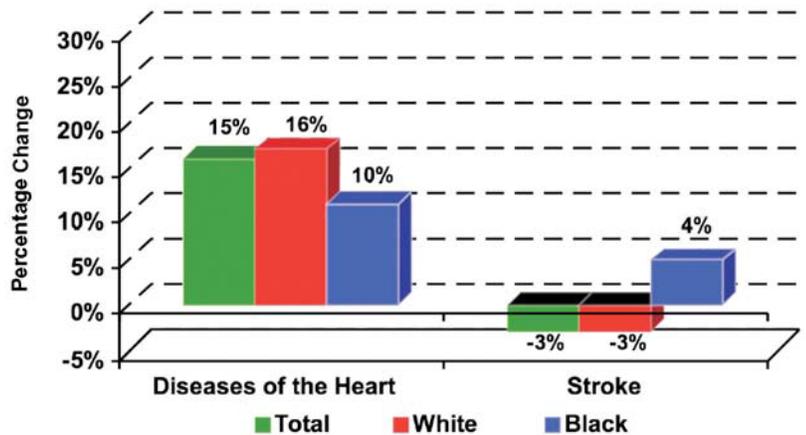


Figure 25. Percentage Change in Number of Outpatient Visits for Diseases of the Heart & Stroke, 1996-2002, Tennessee, CMS Outpatient File

Impact of Heart Disease and Stroke in Tennessee

- The average number of physician visits for DOH among the elderly increased by 11% from 6.1 visits in 1996 to 6.8 visits in 2002, according to CMS physician data (Figure 26).
- Elderly males had about one more physician visit for DOH than females, with the most for black males and the least for white females.
- The total number of physician visits for DOH among the elderly increased by 20% from 1,356,860 in 1996 to 1,627,981 in 2002 (graph not shown).
- DOH as a primary diagnosis accounted for around 9% of all physician visits for the elderly, which was higher for males compared to females, and higher for whites compared to blacks (graph not shown).

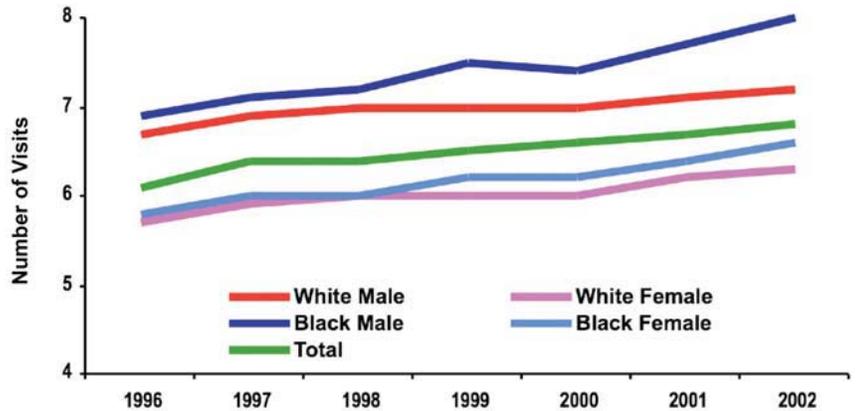


Figure 26. Average Number of Physician Visits for Diseases of the Heart among Age 65 and Over, 1996-2002, Tennessee, CMS Physician File

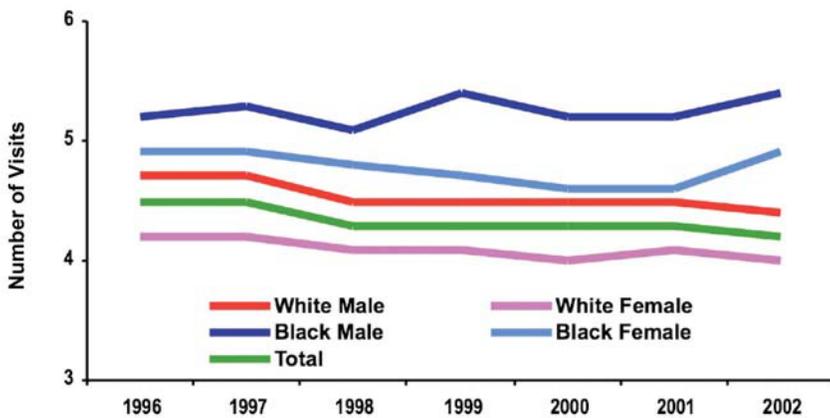


Figure 27. Average Number of Physician Visits for Stroke among Age 65 and Over, 1996-2002, Tennessee, CMS Physician File

- The average number of physician visits for HTN for the elderly increased by 6% from 3.2 visits in 1996 to 3.4 visits in 2002, according to CMS physician data (Figure 28).

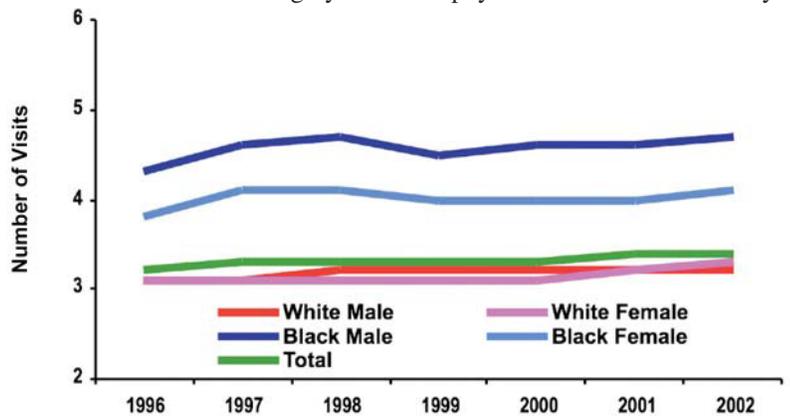


Figure 28. Average Number of Physician Visits for Hypertension Among Age 65 and Over, 1996-2002, Tennessee, CMS Physician File

Impact of Heart Disease and Stroke in Tennessee

- The total number of physician visits for HTN among the elderly increased by 38% from 740,047 in 1996 to 1,017,405 in 2002 (graph not shown).
- HTN as a primary diagnosis accounted for roughly 2% of all physician visits for the elderly, with little variation by race or gender (graph not shown).

Charges and Costs of DOH, Stroke, and High Blood Pressure

Total Costs

- Based on HDDS data, the total charges of inpatient hospitalizations for Tennessee’s general population (all ages) increased 61% from \$6.9 billion in 1997 (in 2002 dollars) to \$11.1 billion in 2002. The cost for physician visits among the elderly (65+), based on CMS physician data, increased 35% from \$1.05 billion in 1996 (in 2002 dollars) to \$1.4 billion in 2002.
- Inpatient charges associated with DOH (primary diagnosis) among the general population increased from 1.4 billion in 1997 (in 2002 dollars) to 2.1 billion in 2002, a 50% increase. Despite the increase in the dollar amount of charges, inpatient DOH charges accounted for about 20% of total inpatient charges for all years from 1997 to 2002, i.e. the increase in DOH charges was similar to that of the total charges for all diseases.
- The charges for physician services associated with DOH among the elderly increased from \$130 million in 1996 (in 2002 dollars) to \$143 million in 2002 which was a 10% increase. DOH costs accounted for 12% of physician services in 1996 and 10% in 2002, indicating that the charges associated with DOH physician services charges increased to a smaller extent than the physician services charges for all diseases.
- Stroke inpatient charges among the general population (HDDS data) increased by 56% from \$255 million in 1997 (in 2002 dollars) to \$395 million in 2002. Physician services charges for stroke among the elderly increased 2% from \$41 million in 1996 (in 2002 dollars) to \$42 million in 2002.
- Despite the dollar increases in charges, stroke consistently accounted for about 4% of inpatient charges for all diseases among the general population and 3-4% of physician services charges among the elderly for all years from 1996/1997 to 2002.

- Inpatient charges for hypertension among the general population were \$115 million in 2002, which was a 53% increase from 1997 (\$75 million in 2002 dollars).
- The charges for physician services for hypertension among the elderly also increased by 31% from \$35 million in 1996 (in 2002 dollars) to \$46 million in 2002. Hypertension charges accounted for about 5-6% of DOH physician services charges in all years from 1996 to 2002.

Age-Adjusted Per Capita Charges

- Age-adjusted per capita charges reflect the average cost per person in the population accounting for differences in the distribution of the population by age (age-adjusted to 2000 U.S. standard population).
- Among the general population, age-adjusted per capita charges for inpatient services resulting from DOH in constant 2002 dollars increased by 43% from \$253 in 1997 to \$362 in 2002. Compared to the 4% increase in the age-adjusted inpatient hospitalization rate in the same time period (Figure 2, page 5), DOH charges increased to a greater extent than the increase in the number of DOH patients receiving inpatient services. This suggests that the increase in DOH inpatient charges were not just due to the increase in services received.
- For inpatient services, white males and black males had the highest age-adjusted per capita charges for all years from 1997 to 2002, followed by black females, with white females having the lowest (Figure 29).

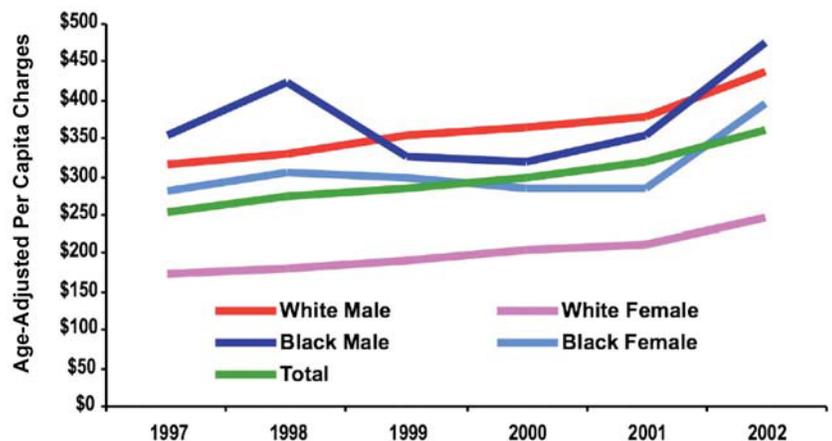


Figure 29. Trends in Age-adjusted Per Capita Charges for Diseases of the Heart, 1997-2002, Tennessee, HDDS Inpatient File (2002 dollars)

Impact of Heart Disease and Stroke in Tennessee

- Age-adjusted per capita charges for DOH physician services among the elderly increased by 4.8% from \$186 in 1996 (in 2002 dollars) to \$195 in 2002 (Figure 30). Although this increase was not as dramatic as for DOH inpatient costs, it was 2.4 times the increase in the age-adjusted physician visit rate of 2%.
- For DOH physician services among the elderly, white males had the highest age-adjusted per capita charges in all years and black males, white females, and black females were similar to each other.

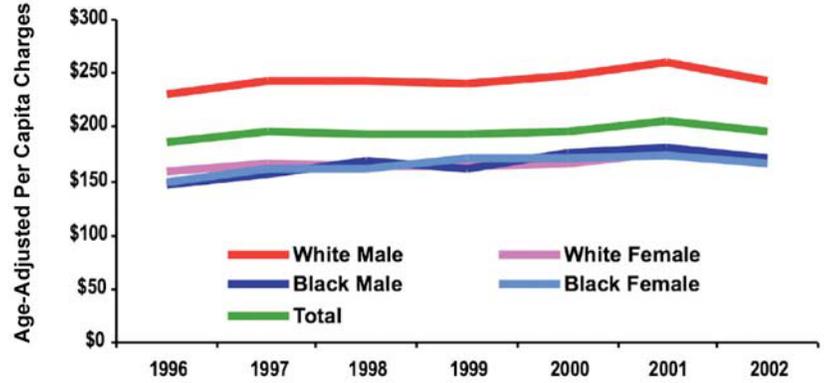


Figure 30. Trends in Age-adjusted Per Capita Charges for Diseases of the Heart, 1996-2002, Tennessee, CMS Physician File (2002 dollars)

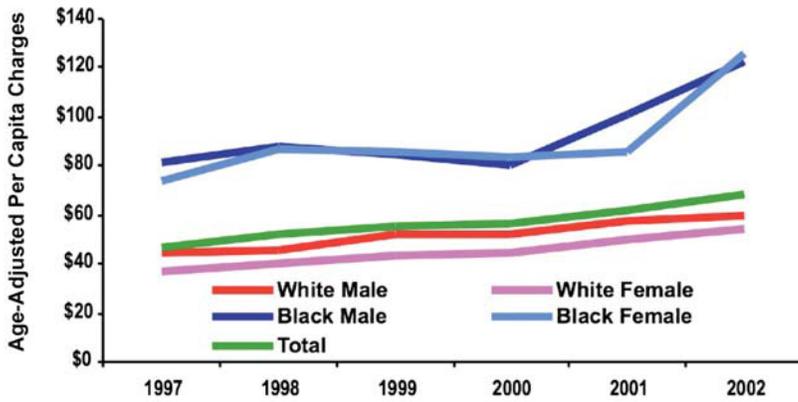


Figure 31. Trends in Age-adjusted Per Capita Charges for Stroke, 1997-2002, Tennessee, HDDS Inpatient File (2002 dollars)

- Age-adjusted per capita physician charges for stroke services among the elderly decreased slightly (5%) from \$60 in 1996 (in 2002 dollars) to \$57 in 2002, with white females being slightly lower than other race-gender groups (Figure 32).

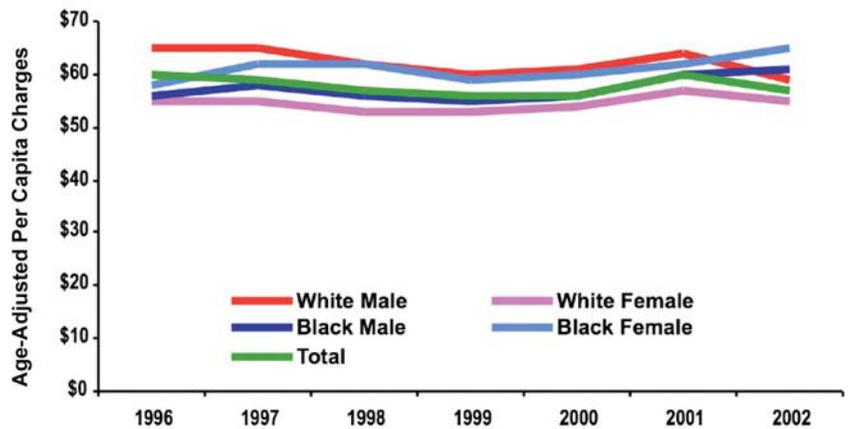


Figure 32. Trends in Age-adjusted Per Capita Charges for Stroke, 1996-2002, Tennessee, CMS Physician File (2002 dollars)

Impact of Heart Disease and Stroke in Tennessee

- Age-adjusted per capita charges for inpatient services due to hypertension for the general population increased from \$13 per capita in 1997 (in 2002 dollars) to \$20 per capita in 2002 which was a 54% increase (Figure 33).
- Blacks had much higher age-adjusted per capita charges for hypertension than whites, and the gaps widened over time. In 2002, the age-adjusted per capita charges for hypertension were more than 5 times higher among blacks (\$65) compared to whites (\$12) (Figure 33).

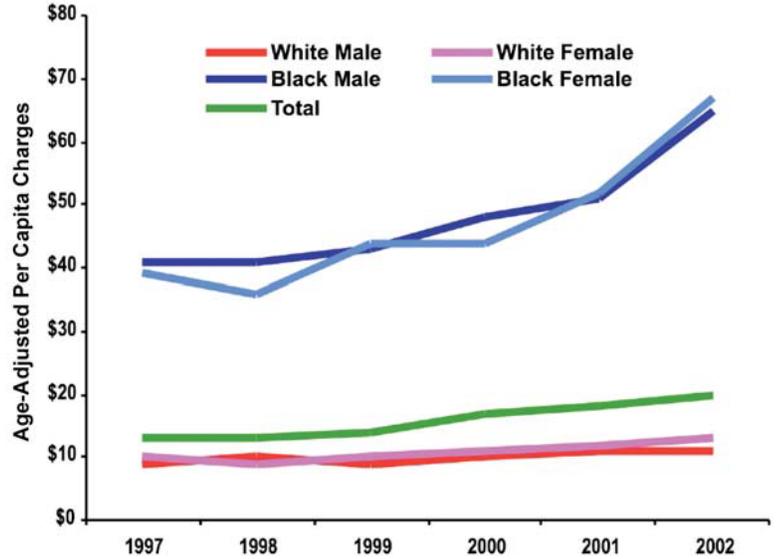


Figure 33. Trends in Age-adjusted Per Capita Charges for Hypertension, 1997-2002, Tennessee, HDDS Inpatient File (2002 dollars)

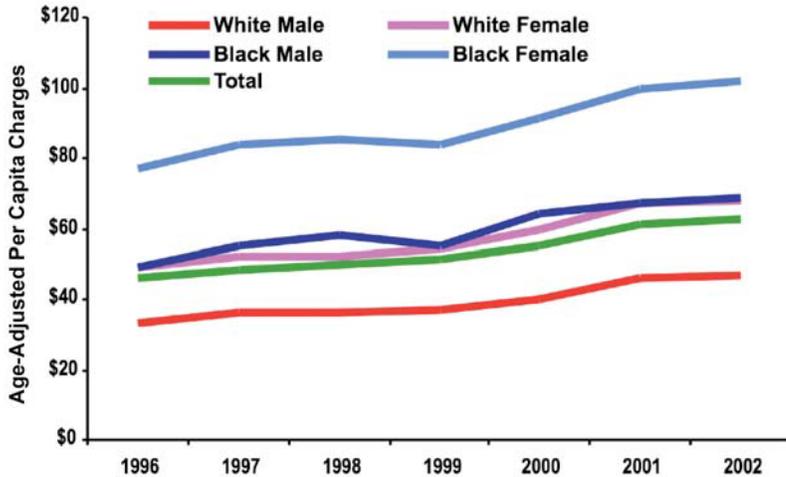
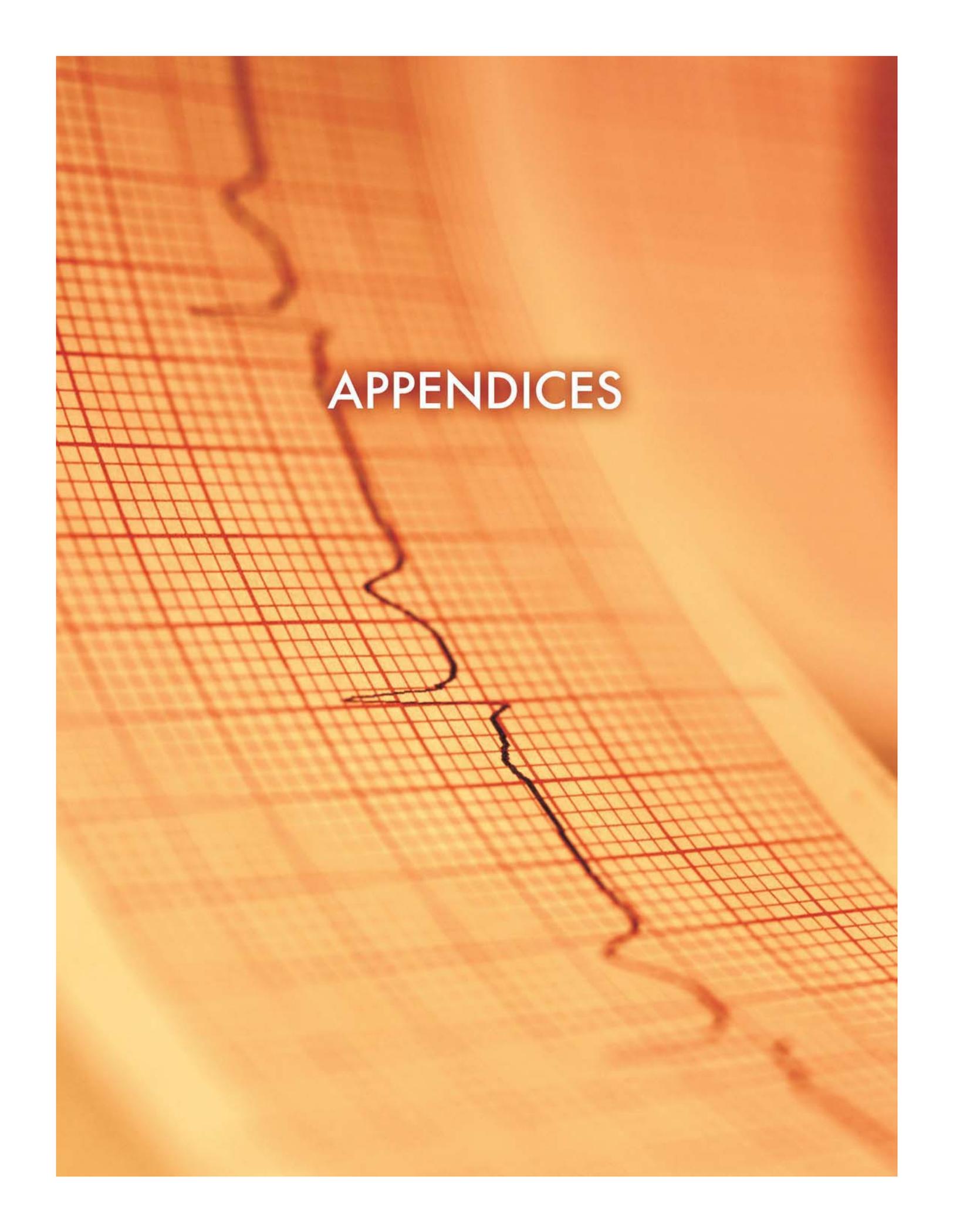


Figure 34. Trends in Age-adjusted Per Capita Charges for Hypertension, 1996-2002, Tennessee, CMS Physician File (2002 dollars)

- Age-adjusted per capita charges for physician services due to hypertension among the elderly also increased 37% from \$46 in 1996 (in 2002 dollars) to \$63 in 2002. Black females had the highest age-adjusted per capita charges, white males had the lowest, and black males and white females were in the middle from 1996 to 2002 (Figure 34).

The background of the page is a close-up, slightly blurred image of an electrocardiogram (ECG) strip. The grid is a fine red mesh, and the ECG trace is a dark line. The overall color palette is warm, with shades of orange and yellow. The word "APPENDICES" is centered in white, bold, uppercase letters.

APPENDICES

Appendix A: Glossary of Terms

Age-Adjusted Per Capita Charges (AAPCC): Age-adjusted per capita charges reflect the average cost per person in the (entire) population adjusted for the effects of age (age-adjusted to 2000 U.S. standard population).

Age-Adjusted Rate: Age-adjusted rates per 100,000 the Tennessee population were calculated for the HDDS, CMS, and DSSS data files. The data in this report are adjusted to the 2000 U.S. standard population using the direct method of standardization.^{82,83} Age-adjustment allows more meaningful comparisons between two or more demographic groups by eliminating the effect of differential age-distributions. This is accomplished by weighting the data to reflect the age-distribution of a standardized population, which in this instance is the estimated 2000 U.S. population.

Automated External Defibrillator (AED): An Automated External Defibrillator (AED) is a device used to detect and treat cardiac arrest due to cardiac arrhythmias. The AED uniformly clears the heart's electrical system by applying shock to the entire heart muscle, hopefully allowing it to resynchronize.

Behavioral change: An intervention approach that uses public information and education to promote behavioral patterns favorable to health for the population as a whole and/or counseling at the group or individual level for the same purpose.

Behavioral Risk Factor Survey (BRFS): A representative statewide telephone survey of Tennessee household residents, aged 18 and older. The Tennessee BRFS is part of the national Behavioral Risk Factor Surveillance System (BRFSS), which gathers information on risk factors such as cigarette smoking, alcohol consumption, overweight, sedentary activity patterns, and poor diet.

Behavioral Risk Factor Surveillance System (BRFSS): The BRFSS is an annual state-based, random-digit-dialed telephone survey of the U.S. non-institutionalized population, 18 years of age and older, which gathers self-reported data on prevalence of certain conditions and behavioral risk factors. The survey gathers data from approximately 3,000 Tennesseans each year. The definitions for the BRFSS variables are outlined below.

Tennessee BRFSS Trend Data (all available years, 1996-2002):

High Blood Pressure (1996-2002): Participants who answered 'yes' to "Have you been told by a doctor that you have high blood pressure?"

Poor Dietary Habits (1996, 1998, 2000-2002): Participants who consumed less than five servings of fruits and vegetables per day.

High Blood Cholesterol (1996-2002): Participants who answered 'yes' to "Have you been told by a doctor that you have high blood cholesterol?"

Obesity (1996-2002): Body Mass Index (BMI) greater than or equal to 30.

Inactive Lifestyle (1996-2001): Individuals who are "physically inactive" (no leisure time activity reported during the last month).

Current Cigarette Smoking (1996-2002): Smoked at least 100 cigarettes in one's lifetime and currently smoke every day or some days a week.

Diabetes Mellitus (1996-2002): Participants who answered 'yes' to "Have you been told by a doctor that you have diabetes mellitus?"

Tennessee and U.S. BRFSS comparisons (most recent year available, 2003 or 2004):

High Blood Pressure (2003): Participants who answered 'yes' to "Have you been told by a doctor that you have high blood pressure?"

Poor Dietary Habits (2003): Participants who consumed fruits and vegetables less than five times per day.

High Blood Cholesterol (2003): Participants who answered 'yes' to "Have you been told by a doctor that you have high blood cholesterol?"

Obesity (2004): Body Mass Index (BMI) greater than or equal to 30.

Inactive Lifestyle (2003): Individuals who are "physically inactive" (did not participate in any recreational or occupational physical activity in the past month).

Current Cigarette Smoking (2004): Smoked at least 100 cigarettes in one's lifetime and currently smoke every day or some days a week.

Diabetes Mellitus (2004): Participants who answered 'yes' to "Have you been told by a doctor that you have diabetes mellitus?"

Blood cholesterol: The blood concentration of a family of lipid or "fatty" molecular compounds, obtained directly from the diet or produced in the body from fatty dietary components. Total

Appendix A: Glossary of Terms

concentration of cholesterol is classified as high if it is >200 mg/dl. However, it is the ratio of high-density lipoprotein (HDL) cholesterol (considered “good”) to low-density (LDL) cholesterol considered “bad” that is most critical in determining cardiac risk.

Body Mass Index (BMI): A number calculated from height and weight data used to indicate whether or not a person’s body mass, or weight, falls within a healthy or unhealthy range. Based on their BMI, people are categorized as either underweight, normal weight, overweight, or obese. BMI numbers are interpreted differently in adults (i.e., ages 20+) and children/adolescents (i.e., ages 0-19). In children, BMI-related weight categories take into account age and sex, whereas BMI-related weight categories in adults are not age and sex dependent.

Cardiopulmonary Resuscitation (CPR): An emergency first aid for an unconscious person whose breathing and pulse have stopped. CPR is commonly taught to ordinary people who may be the only ones present in the crucial few minutes before emergency personnel are available.

Centers for Medicaid and Medicare Services (CMS) Billing Data: Medicare billing data (1996-2002) were obtained from the Centers for Medicare and Medicaid Services (CMS). The CMS data contain all Medicare beneficiaries in Tennessee who utilized services under Part A or Part B coverage. Almost all Tennessee residents age 65 and older are enrolled in Part A, and Part B (optional coverage) enrollees comprise 97.5% of the age 65 and over population in Tennessee. The Enrollment Data Base (EDB) file contains date of birth, date of death, gender, and race for all enrolled beneficiaries. The number of beneficiaries aged 65 and over in each year ranges from N=688,369 to N=728,560 (note: these figures refer to the individual-level files).

Capacity: The ability of a community (e.g., organizations, businesses, schools, etc.) to utilize its maximum number of assets and resources.

Capacity building: The process of improving or increasing the ability of communities, organizations, and groups to identify, mobilize and address heart disease and stroke through the cultivation and use of transferable knowledge, skills, systems, and resources that affect community and individual-level changes.

Champion: An advocate for legislation, policy changes, resources or state funding to support the Heart Disease and Stroke State Program (internal or external to the Tennessee Department of Health).

Community: A social unit that usually encompasses a geographic region in which residents live and interact socially,

such as a political subunit (e.g., city or town) or smaller area (e.g., neighborhood or housing complex). A community may also be a social organization (a formal or informal group of people who share common interests, such as a faith-based organization).

Coronary Artery Disease (CAD): See the definition for coronary heart disease.

Coronary Heart Disease (CHD): CHD, alternatively known as coronary artery disease or ischemic heart disease, refers to a hardening and narrowing in one or more of the coronary arteries due to a build-up of plaque (i.e., *atherosclerosis*), potentially leading to chest-pain (i.e., *angina pectoris*) and/or a heart attack (i.e., *myocardial infarction*). Over time, CHD causes the heart muscle to weaken, which may result in heart failure, and/or an irregular heart beat (i.e., *arrhythmia*). CHD is the single most common cause of death among men and women in the United States, resulting in 1 in 5 of all deaths and 53% of CVD deaths in 2003.⁶

Culturally competent intervention strategies: Interventions that have been designed by and with guidance from relevant cultural or population groups, and that demonstrate sensitivity to cultural dimensions of risk and behaviors important to heart health.

Death Statistical Summary System (DSSS): The DSSS (1996-2002) is an annual state-based compilation of mortality data. The dataset contains basic demographic data (i.e., sex, race, county of residence, zip code of residence, etc.). For 1996-1998, the dataset has the cause of death coded in ICD-9 format. From 1999-present, the cause of death coded in ICD-10 format, which lists secondary causes of death. However, in this report only the underlying cause of death is analyzed. Caution must be exercised when comparing death data between the ICD-9 system and the ICD-10 systems.⁸⁵ The analyses are limited to the records of Tennessee resident decedents. The number of deaths ranges from 51,367 in 1996 to 56,513 in 2002 and 55,645 in 2004.

Diabetes Mellitus: Diabetes is a disorder affecting the ability of the pancreas to produce and process insulin, a hormone essential to the body's ability to process the glucose (i.e., “sugar”) contained in food. There are two types of diabetes. *Type 1 diabetes*, commonly referred to as juvenile onset diabetes, typically begins in childhood. People with type 1 diabetes have to monitor their glucose closely and must receive insulin injections everyday. *Type 2 diabetes* is more common than type 1 diabetes, progressively worsens with age, and usually begins in adulthood. People with type 2 diabetes are unable to properly produce or use insulin.

Appendix A: Glossary of Terms

Diagnosis Codes: The diagnosis codes used in this report are in accordance with the ICD-9-CM (HDDS, DSSS (1996-1998), and CMS), ICD-10 (DSSS, 1999-2002) coding systems.

The diagnosis codes used in this report are as follows:

Diseases of the Heart: 390-398, 402, 404-429 (ICD-9-CM); I00-I09, I11, I13, I20-I51 (ICD-10)

Coronary Heart Disease: 410-414, 429.2 (ICD-9-CM); I20-125 (ICD-10)

Myocardial Infarction: 410 (ICD-9-CM); I21-I22 (ICD-10)

Congestive Heart Failure: 428.0 (ICD-9-CM); I50.0 (ICD-10)

Stroke: 430-438 (ICD-9-CM); I60-I69 (ICD-10)

Transient Ischemic Attack: 435 (ICD-9-CM); I65 (ICD-10)

Hypertension: 401-404 (ICD-9-CM); I10-I13 (ICD-10)

Diabetes Mellitus: 250 (ICD-9-CM)

High Cholesterol: 272.0 (ICD-9-CM)

Diseases of the Heart (DOH): Diseases of the Heart (DOH) includes coronary heart disease, myocardial infarction, congestive heart failure, and other conditions. This classification scheme, which is typically narrower in scope than “Total Cardiovascular Disease” (see pg. 75), is preferred by the National Center for Health Statistics (NCHS).

Environment: A community environment encompasses all settings for which policies, social environments and physical space can be manipulated at some level. *Environmental changes* would, therefore, be those changes necessary to foster and maintain individual-level behavior change to decrease heart disease and stroke risk factors (e.g., tobacco cessation, controlling hypertension, etc.).

Evaluation: A system to measure the critical components of the HDSP, including surveillance, program monitoring, and formative evaluation.

Evidence-Based Medicine: The use of established standards of evidence in making clinical decisions for treating individual patients or categories of patients.

Focus: The areas identified for attention by Tennessee’s HDSP

including tobacco use, high blood cholesterol, high blood pressure, obesity, physical inactivity, poor nutrition, and control of diabetes.

Health Care Systems: Community health centers, health care clinics, hospitals, and health insurance plans that deliver or pay for health services.

Health Disparities: Differences in the prevalence and impact of disease among different populations, defined by sex, race or ethnicity, education or income, disability, place of residence, sexual orientation or other possible characteristics.

Healthy People 2010: A national document outlining the most important health-related goals and objectives to be fulfilled in the U.S. by the year 2010.

Heart Attack: An acute event in which the heart muscle is damaged because of a lack of blood flow from the coronary arteries, typically accompanied by chest pain and other warning signs but sometimes occurring without recognized symptoms.

Heart Disease: Any affliction that impairs the structure or function of the heart (e.g., atherosclerotic and hypertensive diseases, congenital heart disease, rheumatic heart disease, and cardiomyopathies).

Heart Disease and Stroke Prevention Program: A CDC program begun in 1998 to support states in their efforts to prevent heart disease and stroke. For more information see www.cdc.gov/cvh/stateprogram.htm.

Hospital Discharge Data System (HDDS): The HDDS (1997-2002) is an annual state-based compilation of data on patients discharged from all hospitals licensed by the Tennessee Department of Health. The HDDS does not include federal facilities (i.e., VA hospitals, etc.) and facilities licensed by the Tennessee Department of Mental Health and Developmental Disabilities. The database comes in two parts, the inpatient and outpatient files. The number of patients in the inpatient service files ranges yearly from N=453,958 to 521,032, while outpatient service files range from N=1,048,887 to 1,669,347 (note: these figures refer to the individual-level files).

Hyperlipidemia (High Blood Cholesterol): Having a high level of blood cholesterol is a significant risk factor for developing CVD. Cholesterol is a waxy, fat-like substance found in all blood. There are two types of cholesterol. High levels (i.e., ≥ 130 mg/dl) of low density lipoprotein cholesterol (LDL-C, the “bad” cholesterol) and/or low levels (i.e., < 40 mg/dl) of high density lipoprotein cholesterol (HDL-C, the

Appendix A: Glossary of Terms

“good” cholesterol) increase the risk of CVD, and higher levels of HDL-C protect against CVD.

Hypertension (High Blood Pressure): This is a form of cardiovascular disease in which blood circulates through the arteries at a higher than normal pressure. Clinical guidelines define high blood pressure as systolic blood pressure ≥ 140 mm Hg or diastolic blood pressure ≥ 90 mm Hg.⁶ Many are unaware that they have high blood pressure, earning it the designation as a “silent killer”.⁸²

Incidence: This refers to the number or, when calculated, rate of “new” occurrences of a particular event (i.e., deaths, diagnoses, hospital discharges, etc.) within a specified period of time in the population at risk.

Infrastructure: The supports, foundations, or frameworks needed to sustain the HDSP interventions proposed in Tennessee’s statewide work plan.

Inventory: A written assessment of existing state policy and environmental supports intended to decrease heart disease and stroke. The inventory is a planning tool, identifying possible need for policy interventions and information for program planning and priority setting, regarding key policy and environmental interventions and activities to be addressed by Tennessee’s Heart Disease and Stroke Program.

Ischemic Heart Disease: See the definition for coronary heart disease.

Myocardial Infarction (MI): A myocardial infarction, or “heart attack,” occurs when the heart muscle dies due to an arterial blockage, interrupting the flow of blood to the heart.

Obesity: Defined, in adults, as having a Body Mass Index (BMI, see above) ≥ 30 , or a large waist-hip ratio. In children and adolescents, the designation of obese is reached by comparing one’s BMI number against a growth chart, which takes into account age and sex.

Overweight: Defined, in adults, as having a Body Mass Index (BMI, see above) between 25 and 29.9. In children and adolescents, the designation of overweight is reached by comparing one’s BMI number against a growth chart, which takes into account age and sex.

Policy and Environmental Change: An attempt to reduce the burden of chronic disease by focusing on enacting effective policies (e.g., laws, regulations, formal and informal rules) or promoting environmental change (e.g., changes in the economic,

social, or physical environment).

Prevalence: This refers to the number or, when calculated, rate of all (i.e., “new” and “old”) occurrences of a particular event (i.e., deaths, diagnoses, hospital discharges, etc.) within the population at risk.

Primary Prevention: Primary prevention strategies attempt to prevent the development of a particular disease/condition (in this case heart disease and/or stroke) among those who do not currently have the disease/condition.

Priority Population: This refers to population groups who have disproportionately high rates of cardiovascular disease and stroke morbidity, mortality, related risk factors, and/or decreased access to medical care when compared to the general population.

Rehabilitation: An intervention approach intended to limit disability among survivors of cardiac events or strokes and to reduce the risk for future events.

Risk Factors: Risk factors refer to behaviors or medical conditions that increase the probability a person will elicit certain behaviors or develop a particular medical condition.

Risk Factors Detection and Control: An intervention approach targeting persons with identifiable risk factors, including both screening or other methods of detection and long-term disease management, through modifications in lifestyle, behavior, and medication when necessary.

Secondary Prevention: Secondary prevention strategies strive to detect a particular condition among those who have the condition and provide a prompt intervention to control the condition (in this instance heart disease and/or stroke).

Stroke: A stroke, or a “brain attack,” occurs when the blood supply to the brain is interrupted due to an obstructed vessel, i.e., ischemic stroke, or ruptured vessel, i.e., hemorrhagic stroke.

Support: In the context of Tennessee’s statewide plan, “support” is defined as information sharing and dedication of resources or contributions to the implementation of strategies deemed necessary to achieve the success of the five delineated goals.

Technical Assistance: Advice or consultation given on specific issues related to decreasing heart disease and stroke and the State Program activities.

Tertiary Prevention: Tertiary prevention strategies assist persons with a particular condition (in this instance heart disease

Appendix A: Glossary of Terms

and/or stroke) to effectively manage it in order to slow or completely stop its progression. Thus, tertiary prevention efforts strive to improve the length and quality of life among those with a condition in a more advanced stage. Examples could include managing a condition with the aid of prescription drugs, physical therapy, and or other rehabilitative measures.

Total Cardiovascular Disease (CVD): In general, total cardiovascular disease (CVD) refers to any of the diseases that affect the circulatory system, including heart disease, stroke, and other related conditions.²¹ This is the classification scheme, which is typically broader in scope than “Diseases of the Heart” (see above), and is preferred by the American Heart Association (AHA).

Training: The transmission of information in a structured circumstance that increases the skill level of public health professionals and Heart Disease and Stroke Prevention Program partners, and increases the ability of the program to achieve its goals.

Transient Ischemic Attack (TIA): A TIA is commonly referred to as “mini-stroke” or a “minor-stroke” and occurs when a blood vessel in the brain is obstructed, similar to an ischemic stroke, but the body removes the obstruction quickly. TIAs are a significant warning sign that a person is at risk of having a major stroke.

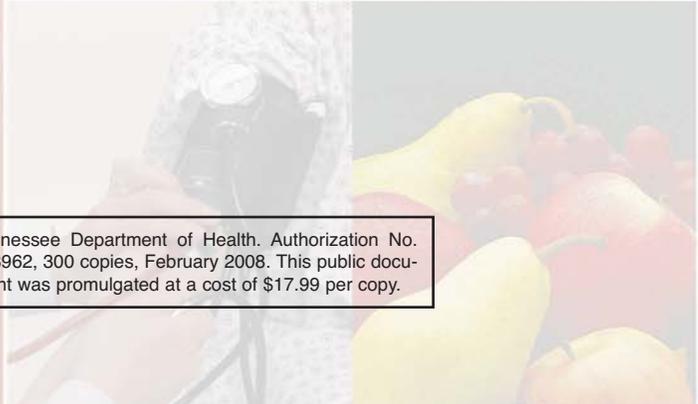
Years of Potential Life Lost (YPLL): YPLL is a measure of premature mortality (i.e., deaths before average life expectancy, age 75). YPLL rates (per 100,000 Tennessee population) were calculated using the DSSS files. YPLL was calculated by summing the difference between age at death (if before age 75) and 75 for decedents whose underlying cause of death was DOH or stroke. These numbers were then divided by the respective population estimate in a given year and multiplied by 100,000 to obtain a rate.

Appendix B: Acronym Guide

AAPCC	Age-Adjusted Per Capita Charges	THA	Tennessee Hospital Association
ACC	American College of Cardiologists	TIA	Transient Ischemic Attack
ADA	American Dietetic Association	TPCA	Tennessee Primary Care Association
AED	Automated External Defibrillator	TPHA	Tennessee Public Health Association
AHA	American Heart Association	YPLL	Years of Potential Life Lost
ALA	American Lung Association		
ASA	American Stroke Association		
BBB	Better Business Bureau		
BMI	Body Mass Index		
BP	Blood Pressure		
BRFSS	Behavioral Risk Factor Surveillance System		
CAD	Coronary Artery Disease		
CDC	Centers for Disease Control and Prevention		
CEU	Continuing Education Units		
CHART	Campaign for a Healthy and Responsible Tennessee		
CHD	Coronary Heart Disease		
CHF	Congestive Heart Failure		
CME	Continuing Medical Education		
CMS	Centers for Medicare and Medicaid Studies		
CPR	Cardiopulmonary Resuscitation		
CVD	Cardiovascular Disease		
CVH	Cardiovascular Health		
DOE	Department of Education		
DOH	Diseases of the Heart		
DSSS	Death Statistical Summary System		
EBG	Evidence-Based Guidelines		
ED	Emergency Department		
EMS	Emergency Medical Services		
EMT	Emergency Medical Technician		
ER	Emergency Room		
GPS	Global Positioning System		
HBP	High Blood Pressure		
HDDS	Hospital Discharge Data System		
HDL-C	High Density Lipoprotein Cholesterol		
HDSP	Heart Disease and Stroke Prevention		
HR	Human Resources		
HTN	Hypertension		
JAMA	Journal of the American Medical Association		
JCAHO	Joint Commission on Accreditation of Health Care Organizations		
LDL-C	Low Density Lipoprotein Cholesterol		
LOS	Length of Stay		
MI	Myocardial Infarction		
MMWR	Morbidity and Mortality Weekly Report		
OSHA	Occupational Safety and Health Administration		
PSA	Public Service Announcement		
PTA	Parent-Teacher Association		
STK	Stroke		
SYH	Search Your Heart		
TDOH	Tennessee Department of Health		

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