
Delta
States
Stroke
Network

Alabama • Arkansas • Louisiana • Mississippi • Tennessee

# EXECUTIVE REPORT

## 2007- 2010

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# INTRODUCTION

In 2004, the Centers for Disease Control initiated funding for a regional stroke network program, including a partnership of the Delta states of Alabama, Arkansas, Louisiana, Mississippi, and Tennessee. The network, originally called the Delta States Stroke Consortium (DSSC), was coordinated by the Alabama Department of Health from 2004-2006. Some of the major accomplishments of the DSSC during this period included development and airing of public service announcements on the signs and symptoms of stroke, and other media campaigns; development of rehabilitation education resources for senior case managers and social workers; dissemination of literature and magnets on signs and symptoms of stroke; training of instructors (including neurologists, paramedics, RNs and flight medical personnel) and presenting courses on the Fundamentals of Acute Stroke Treatment (FAST) program, developed by the University of Alabama's Neurological Institute; development and/or dissemination of position statements on stroke awareness and care; development of ASA's stroke system plan for Alabama; publication of a regional stroke burden document; and development of a web-based CME course.

In 2007, the DSSC held a Regional Public Health Summit to evaluate the first three years of the DSSC and to plan for the future. The outcome of this summit was the consensus decision to develop a plan to revise the goals and directions of the DSSC. The Arkansas Department of Health agreed to take on the role of the coordinating agency for the next 3 years, to facilitate projects, coordinate interventions, and support the Consortium in achieving its goals; and the organization was renamed the Delta States Stroke Network. The DSSN brought together state agencies and their partners from over 30 organizations to identify and address factors associated with the high rate of strokes in the Delta region. DSSN members included medical doctors, professors, public health educators, nurses, colleges and universities, research agencies, rehabilitation specialists, directors of public health institutions, hospital staff, fire department staff, emergency medical services personnel, epidemiologists, and representatives from the American Heart/American Stroke Association, National Stroke Association, and CDC.

The CDC funding for the regional stroke network program, including the Delta States Stroke Network, ended as of June 30, 2010, and the DSSN organizational structure dissolved. The focus of this document is to summarize the activities and accomplishments of the DSSN (2007-2010) and to provide recommendations to guide future stroke prevention and treatment initiatives.

The Delta State Stroke Network's Executive Report is available for download on the DSSN's website at **www.deltastatesstroke.net**. A limited number of hard copies of the report are available through the State Health Departments' Heart Disease and Stroke Prevention Programs in Alabama, Arkansas, Louisiana, Mississippi, and Tennessee. Refer to the appendix for a list of contact information.

# ADMINISTRATION AND MANAGEMENT

## DSSN MISSION

The mission of the Delta States Stroke Network was to promote communication and collaboration within the five states of Alabama, Arkansas, Louisiana, Mississippi and Tennessee by crossing geopolitical lines within the region to achieve the goals of stroke system change and the reduction of stroke burden in the region.

## DSSN GUIDING PRINCIPLES

The focus and structure of the DSSN accommodated these principles:

- Assure joint leadership of the DSSN, with a true partnership and an active voice from each state health department.
- Get input and buy-in at the highest possible levels in each state Health Department.
- Ensure strategies are consistent with and supportive of strategic plans of each state health department as well as needs of the region as a whole.
- Focus work on a few, well chosen initiatives that have potential for greatest impact across the region, and build on successes.
- Undertake projects that are systems and policy based at the highest level.
- Function in an integrating role, bringing state agencies and their partners together to engage in projects and activities coordinated over time and across the region.
- Complement State HDSP programs without duplicating or supplanting each other's activities.

## MANAGEMENT STRUCTURE

- The Principal Investigator /Project Director provided overall direction.
- The Project Manager was responsible for managing the daily activities of the program, including coordinating program activities, monitoring program effectiveness, meeting federal grant reporting requirements, facilitating work group meetings, and supporting efforts to assist the Network in achieving its mission.
- The Administrative Assistant was responsible for the clerical support of the DSSN.
- The Steering Committee was responsible for laying the foundation and rules for the DSSN. Members included the five Heart Disease and Stroke Prevention Program Managers of each of the state health departments (voting members) and the chairs of the workgroups. The committee met monthly via teleconference call.
- The Advisory Committee provided technical assistance and guidance regarding scientific evidence for policies and procedures. Committee members included Health Department Chronic Disease Directors from each state, one stroke expert and one American Heart Association and American Stoke Association representative from each state, and one National/Regional Stroke representative. The Advisory Committee met annually and provided assistance as needed.

- The DSSN accomplished its mission through the diligent service of five Workgroups, consisting of expert representatives from all five states.
  - Access to Care Workgroup
  - Data Support and Epidemiology Workgroup
  - Integration and Media Workgroup
  - Policy and Advocacy Workgroup
  - Training and Education Workgroup

# STRATEGIC PLAN

DSSN hosted a Strategic Planning Meeting in October 2008 to develop a strategic plan to implement regional stroke prevention and treatment interventions where the greatest leverage could be achieved. The meeting brought over 60 partners together from 30 various organizations to brainstorm and identify the strengths, weaknesses, opportunities and threats for the region. The outcome of the meeting was the development of a list of priorities for the five different workgroups, and the model from which the Strategic Action Plan was built.

The DSSN Strategic Action Plan fit within the framework of the DSSN Logic Model (see Appendix) and charted a two-year regional, collaborative process to increase the prevention and treatment of stroke, ultimately reducing the burden of stroke in the Delta States. The goals and objectives were designed to meet the CDC Best Practice model for strategic action planning. The objectives were specific, measurable, achievable, realistic, and time-bound. The DSSN Strategic Action Plan was implemented during the fiscal years 2009 and 2010. Highlights of this plan, including progress reaching the goals and major outcome objectives are described in the proceeding sections.

## STRATEGIC PLAN HIGHLIGHTS – ADMINISTRATION AND MANAGEMENT

### Goals

- ☐ Provide the infrastructure needed to support the mission of the DSSN, consistent with the Network's Guiding Principles.
- ☐ Increase the number of DSSN members identified, recruited, and supported to champion the mission of the Network through DSSN workgroups and/or at regional or system levels to impact the Network's goals and objectives.

### Major Outcome Objectives

- ☑ Hosted two general meetings to promote DSSN membership and develop strategic priorities and plans for the Network.
- ☑ Negotiated Interstate Regional Consensus Statement on Stroke agreement, signed by all five State Health Officers, facilitating collaboration and cooperation among the Health Departments in each DSSN state to jointly work to increase stroke awareness and enhance the impact of public health in addressing stroke prevention and quality of care. (see Appendix)

# ACCESS TO CARE

## STRATEGIC PLAN HIGHLIGHTS – ACCESS TO CARE WORKGROUP

### Goal

- ☐ Increase regional access to stroke care by the establishment of a Delta Regional Tele-stroke Network.

### Major Outcome Objectives

- ☑ In 2008, the DSSN collaborated with the Tennessee Department of Health and the Tennessee Hospital Association to fund the first telestroke project in Tennessee. A key training partner for this project was Vanderbilt University.
- ☑ The DSSN provided funding to Memorial Hospital at Gulfport in 2009 for a new telestroke project targeting the lower six counties in Mississippi. This was the first telestroke project in Mississippi.
- ☑ In 2010, the DSSN provided funding to the Alabama Department of Public Health, Health Promotion and Chronic Disease Bureau, Cardiovascular Health Branch for the development of a the first telestroke project to address the lack of access to Stroke Neurologists and availability of stroke certified hospitals in rural Alabama, where significant delay in transporting stroke patients has been identified.

## BARRIERS IMPEDING ACUTE STROKE ACCESS TO CARE ACROSS THE REGION

**Cross County/Parish and State Border Challenges**

- ➢ Inability to cross out of local county/parish localities and/or states to transport patients to appropriate acute stroke treatment facilities.
  - ◆ Legal issues often prevent EMS transportation providers from leaving the region(s) they serve.
- ➢ Limitation in health insurance coverage and medical treatment reimbursement for patients transported to an out-of-state medical facility.
  - ◆ Patients living in a rural area on the border between two states are often transported to the closest emergency medical facility, which may be outside their home state.
    - — If patients are covered by Medicaid/Medicare in their home state, the out-of-state medical facility may have difficulty receiving reimbursement for services rendered.
    - — Patients with private medical insurance are often limited to healthcare providers/facilities within a specific network in their home state. Medical treatment provided outside the patient's "health provider network" is often cost prohibitive – especially for emergency care requiring hospitalization.

## EMS Competency Disparities

- There is a lack of uniformity of EMS personnel scopes of practice and education.
  - In 1996, there were at least 44 different levels of EMS personnel certification in the United States (National Highway Traffic Safety Administration [NHTSA], 1996).
  - In a 2005 national survey, 39 different licensure levels were identified between the EMT and Paramedic levels. (NHTSA, "EMS Scope of Practice Model." 2005).
- This wide assortment of EMS roles, responsibilities, and training has created considerable problems, including but not limited to:
  - Inadequate stroke awareness, diagnosis, and treatment competencies across the EMS provider spectrum, from dispatcher to paramedic.
  - Decreased ability to initiate appropriate pre-arrival instructions to 911 callers.
  - Failure to dispatch emergency resources at the appropriate high level of priority, impeding optimal acute stroke care.

## Insufficient EMS Resources

- There are a limited number of EMS vehicles to respond to potential emergencies, especially in rural communities.
- There are only 25 certified stroke treatment centers in the 5-state DSSN region, and they are primarily located in urban areas (See appendix for map).
  - Alabama has two (located in Decatur and Huntsville).
  - Arkansas has three (one located in Fort Smith and two in Little Rock).
  - Louisiana has five (located in Alexandria, Lafayette, Marrero, and two in New Orleans).
  - Mississippi has three (located in Gulfport, Hattiesburg, and Tupelo).
  - Tennessee has twelve (located in Bristol, Chattanooga, Johnson City, Knoxville, Memphis, Murfreesburo, and four in Nashville).
- The lack of adequate EMS resources, coupled with the scarcity of certified stroke treatment centers, decreases the likelihood that stroke patients will have access to the most appropriate EMS response unit.

## Inadequate 911 Coverage

- 911 landline coverage does not encompass the entire DSSN region.
  - Some communities, especially those located in rural areas, do not have access to 911 emergency telephone services through their landline telephones.
- Many people have replaced their landline telephones with cellular phones.
  - Not all cellular phones have enhanced services to locate wireless 911 callers.

## Lack of Comprehensive Stroke Registry Data

- Tennessee is the only state in the DSSN region with a stroke registry.
- Stroke registries seldom collect outcomes data for pre-hospital stroke care.

### RECOMMENDED SYSTEMS CHANGES TO REDUCE REGIONAL BARRIERS:

- Legislation/rules enabling EMS providers to cross county/parish/state lines to transport patients to the most appropriate acute stroke care facility, including reimbursement for services rendered.
- Agreements with Medicare, Medicaid, and private insurers to equitably reimburse acute stroke treatment provided by appropriate out-of-state emergency facilities.
- Expand telestroke capabilities in rural hospitals to extend access to certified stroke treatment centers and decrease the need to transport patients out of their county/parish and/or state.
- Adopting and implementing uniform EMS scopes of practice and minimum core competencies in stroke diagnosis and treatment consistent with the National Association of State EMS Directors' "Education Agenda." For more information, including a toolkit and implementation guide, go to the National Association of State EMS Directors' website at: **http://www.nasemsd.org/EMSEducationImplementationPlanning/**
- Sufficient EMS transportation resources to provide statewide coverage.
- Statewide access to certified stroke treatment center services.
  - Increase number of certified stroke treatment centers, whenever feasible.
  - Expand telestroke capabilities in rural hospitals to extend access to certified stroke treatment centers.
- Statewide 911 landline coverage and enhanced services to locate wireless 911 callers.
- Comprehensive mandatory stroke registry, including outcome data for pre-hospital stroke care.

## RECOMMENDATIONS TO INCREASE ACUTE STROKE ACCESS TO CARE

- **Statewide Pre-Hospital Stroke Protocol for Treatment**
  - Each state should adopt and implement as a minimum standard, a statewide pre-hospital stroke protocol for treatment which adheres to current nationally recognized science and evidence based guidelines for stroke care.
    - One example is the Alabama State Protocol available at **http://www.adph.org/ems/**
- **Regional Pre-Hospital Stroke Protocol for Treatment**
  - Each state in the Delta States Stroke Network region should collaborate, adopt and implement as a minimum standard, a regional pre-hospital stroke protocol for treatment which adheres to current nationally recognized science and evidence based guidelines for stroke care.
    - Include provisions to address state Emergency Medical Services (EMS) border challenges and out-of-state medical reimbursement issues.
- **Uniform EMS Scopes of Practice and Minimum Core Competencies in Stroke Diagnosis and Treatment**
  - Each state in the Delta States Stroke Network region should adopt and implement uniform EMS scopes of practice and minimum core competencies in stroke diagnosis and treatment consistent with the National Association of State EMS Directors' "Education Agenda."

# DATA SUPPORT AND EPIDEMIOLOGY

## STRATEGIC PLAN HIGHLIGHTS – DATA SUPPORT AND EPIDEMIOLOGY WORKGROUP

### Goal

- ☐ Generate information resources based on current data that could be used to reduce the burden of stroke within the major portion of the Stroke Belt that comprises the DSSN.

### Major Outcome Objectives

- ☑ The DSSN is publishing an updated report on the burden of stroke in the 5-state region. Highlights from the initial findings are shared below. The five states collaborated in the data collection and creation of graphs for stroke mortality and morbidity, hospitalization and cost data, and risk factor data for both the five DSSN states and the region overall. The report will be ready for distribution by December 2010.
- ☑ As one of its final projects, DSSN is conducting a telephone survey among acute care hospitals in the five states to assess the capability of hospitals to provide stroke care. The results from this survey will provide insight into gaps in stroke care which states can use to develop future policies and program interventions. A summary report is expected to be completed and ready for distribution in December 2010.

## THE STROKE BURDEN

The five Delta states of Alabama, Arkansas, Louisiana, Mississippi, and Tennessee are included among the eight southeastern states comprising the "stroke belt," where the stroke death rate is 1.3 times the national average. The costs to the region, one of the most impoverished parts of the country, is a staggering $1.2 billion in medical expenses and $938 million in lost productivity (Milken Institute, 2007). The annual estimated Medicaid cost for stroke treatment for the 5-state region totals $937.9 million (CDC, 2007).

According to 2006 data from the Centers for Disease Control and Prevention, National Center for Health Statistics, CDC WONDER Online Database, the states of Arkansas, Alabama, Tennessee, Mississippi, and Louisiana rank 1, 2, 3, 4, and 7, respectively, in the stroke death rate in the United States.

Stroke devastates the Delta. The 2006 data from CDC (cited above) paints a disturbing picture:

- Alabama – 46,000 cases, 2,700 deaths
- Arkansas – 32,000 cases, 1,900 deaths
- Louisiana – 39,000 cases, 2,200 deaths
- Mississippi – 27,000 cases, 1,600 deaths
- Tennessee – 59,000 cases, 3,400 deaths

Although the age-adjusted stroke mortality rates for these five Delta states have declined substantially from 1979 to 2006 (as it has for the nation overall, see Appendix), significant disparities exist between stroke mortality rates for white and black people in this region of the country.

## Stroke Mortality Rates by Race and Healthy People 2010 Target [3]

| State | Race | Age-Adjusted Mortality Rate |
|---|---|---|
| Alabama | White | 49.4 |
| Alabama | Black | 80.3 |
| Arkansas | White | 54.2 |
| Arkansas | Black | 95.0 |
| Louisiana | White | 45.6 |
| Louisiana | Black | 73.0 |
| Mississippi | White | 47.2 |
| Mississippi | Black | 70.6 |
| Tennessee | White | 51.6 |
| Tennessee | Black | 77.6 |
| HP2010 | HP2010 Target | 48.0 |

Overall declining stroke mortality rates may suggest progress in improving patient survival after a stroke event; preventing risk factors; detecting and controlling risk factors brought about by increased stroke awareness levels; and/or increasing access to acute stroke care. However, the battle is far from won. Over a quarter of our regional population leads an unhealthy lifestyle – over 31% of adults have high blood pressure; over 34% have high cholesterol, and over 22% smoke. To make matters worse, only 18% of our citizens are aware of all the current symptoms of a stroke and the need to call 911. Once emergency services are alerted, across our broad 5-state region, there are only 25 certified primary stroke centers.

| STATE | Stroke Deaths [3] | New or Recurrent Strokes [2] | Adults w/High Blood Pressure [1] | Adults w/High Cholesterol [1] | Adult Smoking Rate [1] | Number of Stroke Centers [4] | Adults Aware All Signs & Call 911 |
|---|---|---|---|---|---|---|---|
| Alabama | 2,700 | 46,000 | 33% | 39% | 23% | 2 | 17% [5] |
| Arkansas | 1,900 | 32,000 | 31% | 40% | 22% | 3 | 18% [1] |
| Louisiana | 2,200 | 39,000 | 32% | 34% | 22% | 5 | 12% [5] |
| Mississippi | 1,600 | 27,000 | 34% | 38% | 24% | 3 | 12% [5] |
| Tennessee | 3,400 | 59,000 | 34% | 34% | 24% | 12 | 14% [5] |
| | | | | | | | |
| Regional | 11,800 | 203,000 | Over 31% | Over 34% | Over 22% | 25 | Less than 18% |

[1]Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance 2007 Survey.

[2]Milken Institute. An Unhealthy American: The Economic Burden of Chronic Disease. Milken Institute, Chronic Disease Impact Website.

[3]CDC WONDER On-line Database, compiled from Compressed Mortality File 1999-2006 Series 20 No. 2L, 2009.

[4]The Joint Commission. Helping Healthcare Organizations Help Patients. The Joint Commission on Accredited Healthcare Organizations, Quality Check Website.

[5]Centers for Disease Control and Prevention. "Awareness of Stroke Warning Symptoms: 13 States and the District of Columbia." 2005. Morbidity and Mortality Weekly Report. 2008;57(18);485.

# INTEGRATION AND MEDIA

## STRATEGIC PLAN HIGHLIGHTS – INTEGRATION AND MEDIA WORKGROUP

### Goal

- ☐ Identify and promote best practices in health communications that focus on the prevention and treatment of stroke.

### Major Outcome Objectives

- ☑ To identify cross-cutting messaging, the DSSN conducted a survey of effective media approaches that DSSN states have used to promote heart disease and stroke prevention in our region (see Appendix) .
- ☑ The DSSN launched a new website: **http://deltastatesstroke.net** with basic information about stroke and including all the resources developed by the DSSN.

## RECOMMENDATIONS TO PROMOTE COORDINATED STROKE PREVENTION AND TREATMENT MESSAGES ACROSS THE REGION

- **Collaborate**
  - Partner with groups who share similar health improvement goals:
    - Can leverage funds for coordinated health media campaigns.
    - May increase available supporters and resources to accomplish shared goals and influence for stroke prevention and treatment programs and policies.
  - Partner with groups willing to share their expertise:
    - Can help stroke prevention and treatment stakeholder organizations to pool their strengths and develop new communications skills and resources from non-traditional partners.
    - Examples might include state partners such as the Department of Transportation, the Department of Education, the medical review quality improvement organization, and colleges and universities.
  - Partner with local and statewide groups to form a network of organizations (or a coalition) whose members share similar stroke health promotion goals.
- **Don't reinvent the wheel** – there are many excellent stroke education resources available for free and/or less than the cost of developing new materials (See "Bibliography," Appendix).
- **Target your Audience**
  - Choose health communication strategies that will resonate with the group you are trying to reach.
    - One recent study identified that American adults who have two or more cardiovascular risk factors can be differentiated by age in terms of their use of media (See "Age Matters," Appendix).

# POLICY AND ADVOCACY

## STRATEGIC PLAN HIGHLIGHTS – POLICY AND ADVOCACY WORKGROUP

### Goal

- ☐ Develop regional strategies to improve stroke systems of care at the federal and state level.

### Major Outcome Objectives

- ☑ To identify gaps in access to stroke treatment, the DSSN developed maps of the certified primary stroke centers across the region. The stroke centers identified on the DSSN maps received the Joint Commission's Certificate of Distinction for Primary Stroke Centers, certifying that they follow the best practices established by the Brain Attack Coalition's "Recommendations for the Establishment of Primary Stroke Centers." These maps showed that the number of Primary Stroke Centers increased from 20 centers in 2009 to 25 centers in 2010, a 25% increase. (see Appendix)
- ☑ The DSSN published state-specific "Legislative Policy Briefs" highlighting the burden of stroke, summarizing best practice strategies currently in place to improve stroke systems of care and describing recommendations for implementation of these strategies. The briefs are designed for use with legislators to help implement policy changes to improve stroke systems of care. (see Appendix) .

## REGIONAL STRATEGIES TO IMPROVE STROKE SYSTEMS OF CARE

- **Advocate for a stroke system of care.** Coordinated stroke response and care gives stroke victims access to the most effective treatment.
- **Support efforts to fund certified primary stroke centers.** Stroke centers are medical facilities staffed by health care professionals with specific training in rapidly diagnosing and treating strokes. There are only 25 certified primary stroke centers in the DSSN region.
- **Promote stroke awareness campaigns.** Awareness of stroke warning signs and the need to call 911 saves lives and reduces disability.
- **Make healthy choices easier.** Support policies and programs that will help people make lifestyle and behavior changes to reduce their risk for stroke. 80% of strokes can be prevented.
- **Extend insurance coverage.** Support policies that include health care coverage for chronic disease prevention, such as tobacco cessation and blood pressure and cholesterol screening, treatment and control.
- **Support policies focused on people at high risk for stroke.** Implement programs focused on high-risk groups such as African-Americans, Hispanics, uninsured, low-income Alabamians, and the elderly.

# TRAINING AND EDUCATION

## STRATEGIC PLAN HIGHLIGHTS – TRAINING AND EDUCATION WORKGROUP

### Goal

- ☐ Develop regional strategies to improve systems training and education that increases professional and community awareness of the signs and symptoms of stroke and the need for urgent care.

### Major Outcome Objectives

- ☑ The DSSN produced a "Stroke Awareness and Education Toolkit for Healthcare Providers." This electronic toolkit was designed to increase professional awareness and knowledge of stroke. The DSSN's Stroke Awareness and Education Toolkit for Healthcare Providers is available on CD in limited quantities through each State Health Department, Heart Disease and Stroke Prevention Program in the DSSN region (see Appendix for contact information), and the electronic toolkit is available on the DSSN website at **http://www.deltastatesstroke.net**.

## DSSN STROKE AWARENESS AND EDUCATION TOOLKIT FOR HEALTHCARE PROVIDERS

- **Stroke Definition and Overview**
- **Statistics – Measuring the Burden of Stroke**
- **Risk Factors and their Relevance**
- **Signs and Symptoms**
- **Triage and Diagnosis**
- **Protocols for Treatment**
  - Best Practices – Brain Attack Coalition, JCAHO, and AHA/ASA Recommendations
  - Diagnostic and Treatment Tools – Guidelines, Orders, Pathways (Care Tracks/Care Maps)
  - Rehabilitation Options, Including Screening Tool
- **Stroke Prevention**
- **Quality Improvement for Patient Care**
- **Professional Education** – Online Stroke Education for Healthcare Providers
  - PowerPoint Presentation
- **Patient Education**
  - Health Literacy Issues
  - Multimedia Resources
  - Patient Education Quick Reference Guide
  - Ideas for Community Education Activities
- **Bibliography and Other Useful Resources**
- **Examples of Education Materials**

# RESOURCES FOR STROKE INFORMATION

**ADVANCED STROKE LIFE SUPPORT, http://www.asls.net/introduction.html**

**AETNA INTELIHEALTH, Stroke http://www.intelihealth.com/IH/ihtIH/WSIHW000/9339/10810.html**

**AGENCY FOR HEALTHCARE RESEARCH AND QUALITY, http://www.ahrq.gov/**

**AMERICAN ACADEMY OF NEUROLOGY, http://www.aan.com/go/home**

**AMERICAN ASSOCIATION OF NEUROSCIENCE NURSING, http://www.aann.org/ce/**

**AMERICAN HEART ASSOCIATION**

**Stroke Recommendations and Guidelines**

**http://www.americanheart.org/presenter.jhtml?identifier=3004586**

**Professional Education Center**

**http://learn.heart.org/ihtml/application/student/interface.heart2/index.html**

**AMERICAN STROKE ASSOCIATION, http://www.strokeassociation.org**

**BETTER HEALTH CHANNEL, Stroke Signs and Symptoms Website**
**http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Stroke_signs_and_symptoms?open**

**THE BRAIN ATTACK COALITION**

**http://www.stroke-site.org/**

- **Coalition Initiatives**
  **http://www.stroke-site.org/coalition/coalition.html**
- **Guidelines: Comprehensive diagnostic tools determine range and severity of stroke and effective treatment**
  **http://www.stroke-site.org/guidelines/guidelines.html**
- **Orders: Examples of Hospital Admission Orders, Physician Orders, and checklists**
  **http://www.stroke-site.org/orders/orders.html**
- **Pathways (Care Tracks, Care Maps): Information on step-by-step actions taken by healthcare professionals in caring for stroke patients**
  **http://www.stroke-site.org/pathways/pathways.html**
- **Patient Resources**
  **http://www.stroke-site.org/patnt_resources/patnt_resources.html**

**THE BRAIN MATTERS, www.thebrainmatters.org**

**CENTERS FOR DISEASE CONTROL AND PREVENTION, http://www.cdc.gov/**

**The Stroke Website**

**http://www.cdc.gov/stroke/**

**THE DMR WEBWATCHER: STROKE**

**http://www.disabilityresources.org/STROKE.html**

**FEDERAL DRUG ADMINISTRATION**

**Stroke** **http://www.fda.gov/ForConsumers/ByAudience/ForWomen/ucm118564.htm**

**HEALTHSTREAM: STROKE EDUCATION**

**http://learn.healthstream.com/content/GenentechStroke/Files/Accessing_Courses_AP.pdf**

**THE JOINT COMMISSION**

**Certificate of Distinction for Primary Stroke Centers**

**http://www.jointcommission.org/CertificationPrograms/PrimaryStrokeCenters/**

**NATIONAL BRAIN ANEURYSM FOUNDATION, www.Bafound.org**

**NATIONAL INSTITUTES OF HEALTH**

**National Institute of Neurological Disorders and Stroke**

- **Know Stroke. Know the Signs. Act in Time**
  **http://www.ninds.nih.gov/disorders/stroke/knowstroke.htmU**
- **Proceedings of a National Symposium on Rapid Identification and Treatment of Acute Stroke: December 12-13, 1996**
  **http://stroke.nih.gov/resources/stroke_proceedings/index.htm**
- **Stroke http://www.ninds.nih.gov/disorders/stroke/stroke.htm**
- **Stroke: Hope through Research**
  **http://www.ninds.nih.gov/disorders/stroke/detail_stroke.htm**
- **What You Need to Know about Stroke**
  **http://www.ninds.nih.gov/disorders/stroke/stroke_needtoknow.htm**

**National Institute on Aging**

- **Stroke http://www.nia.nih.gov/HealthInformation/Publications/stroke.htm**
  Also available in Spanish:
  **http://www.nia.nih.gov/Espanol/Publicaciones/FDA/derrame.htm**

**National Heart Lung and Blood Institute**

- **Carotid Endarterectomy (CEA)**
  **http://www.nhlbi.nih.gov/health/dci/Diseases/carend/carend_what.html**

**National Institute of Diabetes and Digestive and Kidney Diseases**

- **Diabetes, Heart Disease, and Stroke**
  **http://diabetes.niddk.nih.gov/dm/pubs/stroke/#prevent**

**NATIONAL LIBRARY OF MEDICINE**

**MedlinePlus – Stroke Section**

**http://www.nlm.nih.gov/medlineplus/stroke.html**

**NATIONAL REHABILITATION INFORMATION CENTER, http://www.naric.com/**

**NATIONAL STROKE ASSOCIATION**

**http://www.stroke.org**

- **Types of Stroke** **http://www.stroke.org/site/PageServer?pagename=TYPE**
- **Stroke Center Network**
  **http://www.stroke.org/site/PageServer?pagename=SCN**
  Cornerstone program of the National Stroke Association comprising community and academic hospitals with stroke centers. Education, networking opportunities, and patient education materials are some of the benefits of membership.
- **National Stroke Association Online Learning Center**
  **http://www.aheconnect.com/nsa/**
  This online learning center provides accredited stroke education on prevention, treatment, and rehabilitation. There are modules for prehospital providers/EMS and nurses.
- **EMS/Prehospital Providers** (education, resources, journals, & publications)
  **http://www.stroke.org/site/PageServer?pagename=EMS**
- **Medical Professionals** (Professional Membership, Professional Education, Professional Guidelines, Journals, & Publications, Patient Education Resources)
  **http://www.stroke.org/site/PageServer?pagename=MEDPRO**
- **Stroke Survivors Website** **http://www.stroke.org/site/PageServer?pagename=SURV**

**NORTH CAROLINA PROGRAM ON HEALTH LITERACY (UNIV OF NORTH CAROLINA, CHAPEL HILL)**
**http://nchealthliteracy.org/index.html**

**STROKE ALERT, www.strokealert.org**

**UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES**

**Office of Disease Prevention and Health Promotion** (Healthfinder.gov)
**http://healthfinder.gov/prevention/PrintTopic.aspx?topicID=10**

**Office on Women's Health** **http://www.womenshealth.gov/heart-stroke/**

**WASHINGTON UNIVERSITY SCHOOL OF MEDICINE and STROKE CENTER AT BARNES-JEWISH HOSPITAL**

**The Internet Stroke Center: Professionals and Students Area**

**http://www.strokecenter.org/prof**

**The Internet Stroke Center: Patients and Families Area**

**http://www.strokecenter.org/patients/**

**WEBMD STROKE HEALTH CENTER, http://www.webmd.com/stroke/default.htm**

# EXAMPLES OF STROKE RESOURCES

### BROCHURES

Stroke: Reducing Risk and Recognizing Symptoms (National Stroke Association)
**http://www.stroke.org/site/DocServer/Reducing_Risk.pdf?docID=3324**

Is it a Stroke? Check these signs FAST! (Massachusetts Department of Health)
**http://www.maclearinghouse.com/PDFs/HDSP/HD2101.pdf**

### POSTERS

Stroke Triage Poster (Delta States Stroke Network) **http://www.deltastatesstroke.net**

Know Stroke (NINDS) **http://stroke.nih.gov/documents/NINDS_KS_SignPoster_LetterSize.pdf**

Is it a Stroke? Check these signs FAST! (Massachusetts Department of Health)
**http://www.maclearinghouse.com/PDFs/HDSP/HD2102.pdf**

### WALLET CARDS

Know Stroke Information Card (NINDS)
**http://stroke.nih.gov/documents/NINDS_KS_WalletCard_3-5x4.pdf**

Is it a Stroke? Check these signs FAST! (Massachusetts Dept of Health)
**http://www.maclearinghouse.com/PDFs/HDSP/HD2107.pdf**

### VIDEOS

Know Stroke (NINDS) **http://stroke.nih.gov/video/knowstroke.zip**

Stroke Symptoms. Act FAST. (National Stroke Association)
**http://nsa.convio.net/mov/Women_In_Your_Life.wmv**

### PSAS

Print PSAs (American Heart Association) **http://psa.americanheart.org/**

Cholesterol & Stroke (National Stroke Association)
**http://www.stroke.org/site/DocServer/cv_63_8618.wvx?docID=4701**

### POWERPOINT PRESENTATIONS

Explaining Stroke (National Stroke Association)
**http://www.stroke.org/site/DocServer/SAM_Stroke_Community_Presentation_Guide.ppt?docID=1181**

Stroke (Delta States Stroke Network) **http://www.deltastatesstroke.net**

### TOOLKITS

Stroke Awareness and Education Toolkit for Healthcare Providers **http://www.deltastatesstroke.net**
Stroke: When Minutes Matter and Stroke: Patient Education Toolkit (American Heart Association)
Available for purchase at **http://www.krames.com/aha**

# ACKNOWLEDGEMENTS

The purpose of this section is to recognize those partners have been represented on the DSSN Steering Committee, Advisory Committee, Workgroups, and/or provided technical assistance to the DSSN.

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Alabama Neurological Institute
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American Stroke Association
Arkansas Department of Health
Arkansas Foundation for Medical Care
Arkansas Medical, Dental & Pharmaceutical Association
Baptist Health Medical Center - (Arkansas)
Birmingham Regional EMS System
Brookwood Medical Center (Alabama)
Bunkie General Hospital (Louisiana)
Centers for Disease Control and Prevention
Community Health Centers of Arkansas, Inc.
East Jefferson General Hospital (Louisiana)
East Tennessee State University
Forrest General Hospital - Neurosurgery Unit (MS)
Genetech, Inc.
Great Lakes Stroke Network
HealthSouth Kingport (Tennessee)
Jackson National Heart, Lung, and Blood Institute (MS)
Louisiana Department of Health and Hospitals
Memorial Hospital of Gulfport (Mississippi)
Minnesota Stroke Partnership
Mississippi State Department of Health
National Stroke Association
Neurology Consultants (Tennessee)
North Mississippi Medical Center
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Sparks Neurology Center (Arkansas)
St. Thomas Neurology Group (Tennessee)
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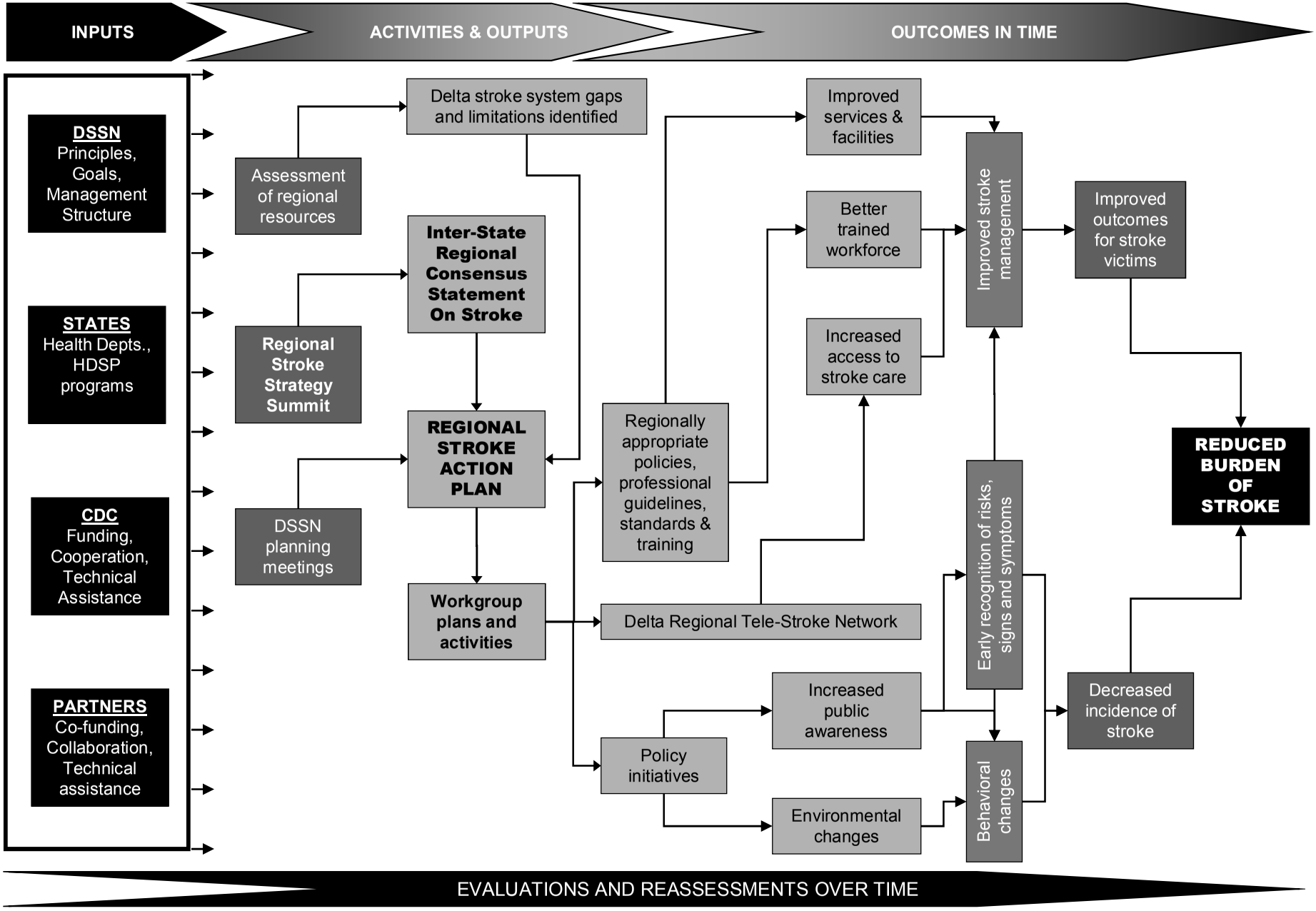
Tennessee Primary Care Association
Tennessee State University
Tri-State Stroke Network
University of Alabama at Birmingham
University of Alabama at Tuscaloosa
University of Arkansas for Medical Sciences
University of Louisiana
University of Mississippi Medical Center
University of South Alabama at Mobile
University of Tennessee Health Science Center
University of Tennessee, College of Medicine
Vanderbilt University Medical Center

# Appendix

# Delta States Stroke Network Logic Model



Delta States Stroke Network

# *Interstate Regional Consensus Statement*

***on Stroke by the STATE Health Officers of the States of***

***Alabama, Arkansas, Louisiana, Mississippi and Tennessee***

TO ALL TO WHOM THESE PRESENTS SHALL COME-*GREETINGS*:

**WHEREAS,** Stroke is the 3rd leading cause of death in the States of Alabama, Arkansas, Louisiana and Tennessee, and the 5th leading cause of death in Mississippi; and

**WHEREAS,** The states of Alabama, Tennessee, Arkansas, Louisiana and Mississippi rank as numbers 1, 2, 3, 7 and 9, respectively, in stroke mortality in the US; and

**WHEREAS,** These five states share important socioeconomic, geographic, and demographic factors related to the stroke burden; and

**WHEREAS,** The Delta States Stroke Network:

- is a partnership of our five states, funded by the Centers for Disease Control and Prevention, brought together to jointly work towards the reduction of the burden of stroke in our region;
- is mandated to enhance understanding of stroke and stroke burden from a regional perspective and increase the ability of members to work across state boundaries and leverage efforts within the region;
- should develop and implement interventions to address stroke-related issues with emphasis on partnership, education, training, policy, and environmental/systems-change strategies;
- aims to function in an integrating role, bringing state agencies and their partners together to engage in projects and activities coordinated over time and across the region; and

**WHEREAS,** The hallmark of a systems approach is the promotion of communication and collaboration among the various elements of the system, and given the above common elements, it is of potential benefit for these five states to facilitate collaboration and cooperation among their Health Departments, and through them, among their partners, and at higher levels within their states.

**NOW, THEREFORE,** WE, THE STATE HEALTH OFFICERS of the states of Alabama, Arkansas, Louisiana, Mississippi and Tennessee, do hereby agree to collaborate, to the extent possible and allowable within our resources and limitations, on the following lines of action:

1. To support and facilitate the general aims and objectives, and the work of the Delta States Stroke Network, as outlined above;
2. To increase visibility of stroke as a public health and economic problem in the region;
3. To promote and facilitate the formation of strategic partnerships and collaborations;
4. To encourage and promote regionally adopted and endorsed standards and guidelines for stroke prevention and care;
5. To make available relevant data that will enable the DSSN to carry out its functions of determining the burden of stroke in the region, setting priorities and targets, as well as evaluating the effectiveness of its activities;
6. To work to improve the quality of stroke care across the region, such as through the development of regional stroke registries;
7. To support other regional initiatives, such as:
   - Regional stroke conferences;
   - Regional media campaigns;
   - Regional data collection efforts to fill data gaps;
   - Development of efforts such as telestroke initiatives that may need to cross over state boundaries for maximum effectiveness and efficiency.

We make this commitment in the best interests of the citizens of our states and for the betterment of health in the nation.

Signed this, the 24th day of November 2009.

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Paul Halverson, DrPH, FACHE, Arkansas

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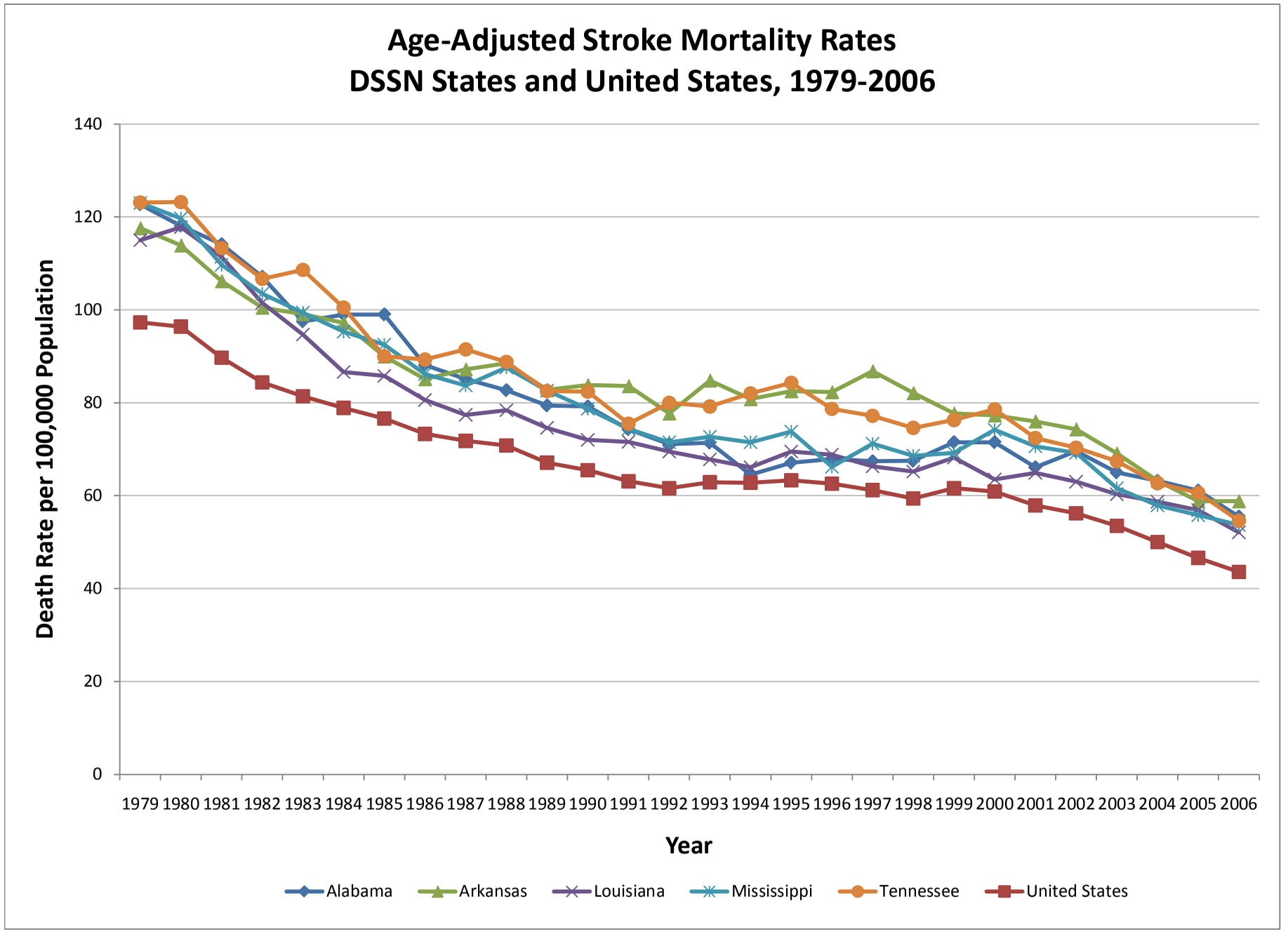


*Rates per 100,000 population. Age-adjusted to the 2000 U.S. standard population.

A3

Source: Centers for Disease Control and Prevention, National Center for Health Statistics. CDC WONDER On-line Database. Accessed 4/9/10.

# Regional Summary of Messages for DSSN Heart Disease and Stroke Programs

| **Delta States Stroke Network** | | | | | |
|---|---|---|---|---|---|
| **Results of Research of Regional Media Materials and Messages** | | | | | |
| **3-Year Analysis of Media Types and Messages** | | | | | |
| | | | | | |
| | | | | | |
| **Methods of Communication used in the Region** | **Alabama** | **Arkansas** | **Louisiana** | **Mississippi** | **Tennessee** |
| Radio Stations | | x | x | x | |
| Outdoor Boards/Posters | | | x | x | |
| Newspaper Advertisement (Sunday's and Target Newspaper's) | | x | x | x | |
| Grocery Store Displays | | x | | | |
| Television Coverage | | x | | | |
| Grocery Store Bags with Symptoms | | x | | | |
| Schools | | | | | x |
| Community/Nonprofits | | x | | | x |
| Faith-Based Organizations | | | x | x | |
| | | | | | |
| | | | | | |
| **Media Messages and Programs implemented in the Region** | **Alabama** | **Arkansas** | **Louisiana** | **Mississippi** | **Tennessee** |
| National Heart, Lung and Blood Institute | | | x | | |
| Electronic Patient Management Systems | | | x | | |
| Work with Businesses and Employees | x | x | x | | |
| Health Screenings by Partners | | x | | | |
| Cooking and Shopping Demonstrations | | x | | | |
| REACH 2010-Initiative to target African American Women and Communities | | | x | | |
| Giveaways donated by Partners | | x | | | |
| Training at the University Health Sciences Center/Patient Education | | | x | | |
| Sister's Together at Southern University | | | x | | |
| AHA Search Your Heart Materials for Priority Population-Training | | x | x | x | x |
| Know Your Number's Campaign-Signs and Symptoms | | x | | x | |
| EMS Training | x | x | x | | |
| How to Improve Stroke Care Training (hospitals and providers) | x | | | | |
| Healthy Worksites Workshops | x | | | | |
| Historically Black Colleges - Public Awareness Campaign- Power to End Stroke (AHA Program) | x | | x | | |
| HDSP Councils and Stroke Task Forces | x | x | x | x | x |
| | | | | | |
| | | | | | |
| **Media Messages and Programs implemented in the Region** | **Alabama** | **Arkansas** | **Louisiana** | **Mississippi** | **Tennessee** |
| AHA Get With the Guidelines | | | | | x |
| Hospital Association and AHA implementation of JCAHO Certified Primary Stroke Centers | | | | | x |
| Stroke Telemedicine Project (s) not totally funded by DSSN | | x | x | x | x |
| Partnered with AHA for Awareness of Signs and Symptoms-For the General Public | | x | | | x |
| Stroke Standards of Care for Health Care Professionals | | | | | x |
| Healthy Communities-Workgroup Targeted to the low-income population Working with athletes. | | | x | | |
| Strike Out Stroke- Bowling Tournament/DOH/Educational | | | x | | |

# EXPAND YOUR REACH AND IMPACT: TARGET YOUR MESSAGE

"Age Matters—Reach People Where They Are: Results and Implications of the Simmons National Consumer Study for Planning Cardiovascular Health Communications" (Poster Presentation, formatted for paper copy - Included with permission from Andrew Riesenberg, MS).

*Andrew L. Riesenberg, MS, Judith McDivitt, PhD, DeAndrea L. Martinez, MPH, William E. Pollard, PhD, Kristen Betts, BHS, Fred Fridinger, DrPH, CHES*

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## CONSUMER PROFILES

**The 18–34 segment can be described as …**

- **Social Dwellers:** 95% live with at least 1 other person.
- **Health Care Non-Seekers:** 71% do not have regular medical check-ups.
- **Cost-Sensitive:** 71% will not pay anything when it concerns their health.
- **Moviegoers:** 78% went to movie theatres in the last six months.
- **Wage-Earners:** 72% are employed full-time or part-time.
- **Convenience Eaters:** 92% eat at fast-food and drive-through restaurants.

IMPLICATIONS:

- *Reach this segment by creating a "buzz" through messages that individuals will talk about at home.*
- *Address barriers to seeking and paying for health care in campaign messages.*

**The 35–49 segment can be described as …**

- **Work-Centric:** 72% are employed full-time.
- **Job-Devoted:** 65% still drag themselves to work when they are sick.
- **Health Care "Delayers":** 57% do not see doctors or nurses unless very ill.
- **Computer Savvy:** 73% have a home computer.
- **Unconcerned about Heart Attacks:** 93% do not take OTC pain relievers to prevent heart attacks.

IMPLICATIONS:

- *Reach this segment through worksite campaigns.*
- *Address barriers that lead people to delay seeking care in campaign messages.*

**The 50–64 segment can be described as …**

- **Partnered:** 65% are married.
- **Insured:** 79% have health insurance.
- **Health Care Users:** 62% agree that it is important to go to the doctor when sick.
- **Skeptical of Insurers:** 63% believe their HMO has too much power.
- **Healthy Eaters:** 6 out of 10 work at eating a well-balanced diet.

IMPLICATIONS:

- *Reach this segment by targeting influential spouses, who can relay messages to their partners.*

**The 65+ segment can be described as …**

- **Persons of Faith:** 70% say faith is very important to them.
- **Religious:** 6 out of 10 agree that is important to attend religious services.
- **Insured:** 84% have health insurance.
- **Health Care Users:** 74% have regular medical check-ups.
- **Dieters:** 71% are presently watching their diet.
- **Satisfied:** 72% are very happy with their life as it is.
- **Low-Income:** 68% have household incomes under $50,000.

IMPLICATIONS:

- *Reach this segment at the doctor's office and through faith-based campaigns.*

## MEDIA STRATEGY RESULTS AND IMPLICATIONS

**Advertising Outside the Home:**

- More than half of consumers aged 18–64 years noticed ads on large billboards—this channel may reach the widest audience.
- Advertising on buses, mobile billboards, and bus shelters or benches may also have a far reach.
- As age increases, the percentage of consumers noticing these ad types significantly declines.
- These channels may not effectively reach 65+ populations.
- Least noticed ad types: airport displays, taxis, banner displays (airplanes/blimps), subway trains/platforms, and telephone kiosks.

## Mass Media

• TV and newspapers keep the 65+ population informed more so than other age groups. A majority of this age group reads the newspaper most days.

• 35–64 year olds report that radio keeps them informed, and they are more likely to listen to the radio every day than other age groups.

• Nearly half of all respondents avoid watching TV commercials, and this percentage increases with age.

| Mass Media Behaviors | 18–34 | 35–49 | 50–64 | 65+ |
|---|---|---|---|---|
| Typically Avoid Watching TV Commercials | 43.2% | 42.9% | 45.1% | 47.6% |
| Listen to the Radio Every Day | 51.3% | 57.2% | 55.2% | 40.6% |
| Read the Newspaper Most Days | 23.6% | 33.7% | 46.8% | 62.1% |

EFFECTIVE TV STRATEGIES MAY INCLUDE:

• Creating exemplars of "heart-healthy" behaviors in local news.

• Health education embedded in TV programming and story lines.

## Internet and Interactive Media

• E-mail communications may have a far reach among 18–64 year olds.

• 18–34 year olds use instant messaging (IM) and read/write blogs more so than other age groups. Strategic blogging and messaging in IM applications may reach this age group.

• 35–64 year olds visit online news and weather sites more so than other age groups. Strategic messaging appearing on news and weather sites may effectively reach these populations.

• Campaigns that involve an SMS/text messaging component and Web sites and applications configured for mobile phones may reach 18–34 year olds.

• Least reported online activities: message boards, videos, chat rooms, and no online activities.

| | 18–34 | 35–49 | 50–64 | 65+ |
|---|---|---|---|---|
| Household Internet Subscription Rates | 53.8% | 59.8% | 54.0% | 36.0% |

## Health Information Seeking

• Information in doctor's offices may reach a high majority of individuals aged 50+.

• As age increases, respondents are significantly more likely to gather information from newsletters and find that health information by drug companies is useful.

• Web sites may effectively reach younger populations, especially 35–49 year olds.

• A greater percentage of 18–34 year olds get information from the library and friends than do other age groups.

# JCAHO certified primary stroke centers 2010

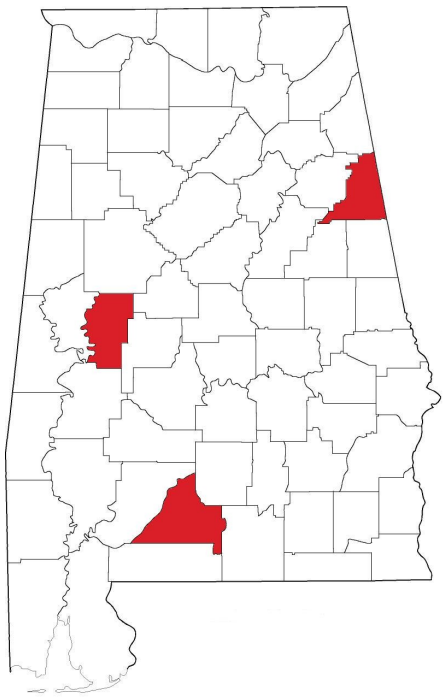

Map created by Jim Files 6-21-10 Arkansas Department of Health

## JCAHO-Certified Primary Stroke Centers in DSSN Region

| Organization | Street Address | City | State | Zip Code | Telephone Number |
|---|---|---|---|---|---|
| Decatur General Hospital | 1201 Seventh Street, Southea | Decatur | AL | 35609 | 256-341-2000 |
| Huntsville Hospital | 101 Sivley Road | Huntsville | AL | 35801 | 256-265-1000 |
| Baptist Health Medical Center - Little Rock | 9601 Interstate 630, Exit 7 | Little Rock | AR | 72205-7299 | 501-202-2000 |
| Sparks Regional Medical Center | 1 Towson Ave. | Fort Smith | AR | 72917 | 479-709-7175 |
| University of Arkansas for Medical Sciences | 4301 West Markham | Little Rock | AR | 72205 | 501-686-5660 |
| Ochsner Clinic Foundation | 1514 Jefferson Highway | New Orleans | LA | 70121 | 504-842-3000 |
| Our Lady of Lourdes RMC Stroke Center of Exce | 611 St. landry Street | Lafayette | LA | 70506 | 337-289-2000 |
| Rapides Regional Medical Center | 211 Fourth Street | Alexandria | LA | 71301 | 318-769-3000 |
| Tulane University Hospital and Clinic | 1415 Tulane Avenue | New Orleans | LA | 70112 | 504-988-0482 |
| West Jefferson Medical Center | 1101 Medical Center Bouleva | Marrero | LA | 70072 | 504-349-1886 |
| Forrest General Hospital | 6051 US Highway 49 South | Hattiesburg | MS | 39401 | 601-288-7000 |
| Memorial Hospital at Gulfport | 4500 13th Street | Gulfport | MS | 39501 | 228-867-4000 |
| North Mississippi Medical Center, Inc. | 830 South Gloster Street | Tupelo | MS | 38801 | 662-377-3837 |
| Baptist Hospital | 2000 Church Street | Nashville | TN | 37236 | 615-284-555 |
| Erlanger Health System - Main Site | 975 East Third Street | Chattanooga | TN | 37403 | 423-778-7792 |
| Fort Sanders Regional Medical Center | 1901 Clinch Avenue | Knoxville | TN | 37916 | 865-541-1100 |
| Johnson City Medical Center Hospital | 400 North State of Franklin R | Johnson City | TN | 37604-6094 | 423-431-6111 |
| Mercy Health System, Inc. | 900 East Oak Hill Avenue | Knoxville | TN | 37917 | 865-545-8000 |
| Methodist Healthcare University Hospital | 1265 Union Avenue | Memphis | TN | 38104 | 901-516-0702 |
| Middle Tennessee Medical Center, Inc. | 400 North Highland Avenue | Murfreesboro | TN | 37130 | 615-396-411 |
| Saint Thomas Hospital | 4220 Harding Road | Nashville | TN | 37205 | 615-222-2111 |
| Skyline Medical Center | 3441 Dickerson Pike | Nashville | TN | 37207 | 615-769-7100 |
| The University of Tennessee Memorial Hospital | 1924 Alcoa Highway | Knoxville | TN | 37920 | 865-305-6646 |
| Vanderbilt University Hospital and The Vanderbilt | 1211 22nd Avenue South | Nashville | TN | 37232-2101 | 615-343-9566 |
| Wellmont Bristol Regional Medical Center | 1 Medical Park Boulevard | Bristol | TN | 37621-8694 | 423-844-4200 |

*Source: The Joint Commission Quality Check, http://www.qualitycheck.org/consumer/SearchQCR.aspx, accessed 6/18/10.*

What if YOU knew that EVERYONE in Conecuh, Cleburne, and Hale Counties was going to have a life-threatening medical emergency this year...



leaving over 2,700 Alabamians dead and thousands more seriously disabled.

**WOULD YOU TRY TO DO SOMETHING TO HELP?**


Delta States Stroke Network

**EVERY YEAR, there are about 46,000 reported cases of stroke in Alabama, and over 2,700 Alabamians lose their lives battling a stroke.**

## WHY SHOULD ALABAMA LEGISLATORS BE CONCERNED?

**In Alabama, the stroke death rate is 1.3 times the national average,** *and the state ranks second in stroke mortality in the United States.* ***Over 2,700 Alabamians die from stroke each year.***

**Stroke drains the economy.** *In Alabama, there are about 46,000 reported cases of stroke each year, with an annual price tag of $260 million in medical expenses and $420 million in lost productivity.*

**Stroke care is insufficient and fragmented in Alabama.** *Without adequate treatment — within three hours of the first symptoms, stroke victims can suffer severe neurological damage or death.*

**Awareness of stroke warning signs and the need for urgent care is dangerously low.** *Only 17% of Alabamians are aware of all the correct symptoms of a stroke and the need to call 911.*

**Many Alabamians have a ticking time bomb—inside them.** *Two of the most common causes of stroke are high blood pressure and high cholesterol. Smoking doubles the risk for stroke.*
**33% of Alabamians have high blood pressure, over 39% have high cholesterol, and 22.5% smoke.**

## WHAT CAN ALABAMA LEGISLATORS DO?

**Advocate for a stroke system of care.** *Coordinated stroke response and care gives stroke victims in Alabama access to the most effective treatment.*

**Support efforts to fund certified primary stroke centers.** *Stroke centers are medical facilities staffed by health care professionals with specific training in rapidly diagnosing and treating strokes.*
**There are only two certified primary stroke centers in Alabama (Decatur and Huntsville).**

**Promote stroke awareness campaigns.** *Awareness of stroke warning signs and the need to call 911 saves lives and reduces disability.*

**Make healthy choices easier.** *Support policies and programs that will help Alabamians make life-style and behavior changes to reduce their risk for stroke. 80% of strokes can be prevented.*

**Extend insurance coverage.** *Support policies that include health care coverage for chronic disease prevention, such as tobacco cessation and blood pressure and cholesterol screening, treatment and control.*

**Support policies focused on Alabamians at high risk for stroke.** *Implement programs focused on high-risk groups such as African-Americans, Hispanics, uninsured, low-income Alabamians, and the elderly.*

## WHAT IS A STROKE?

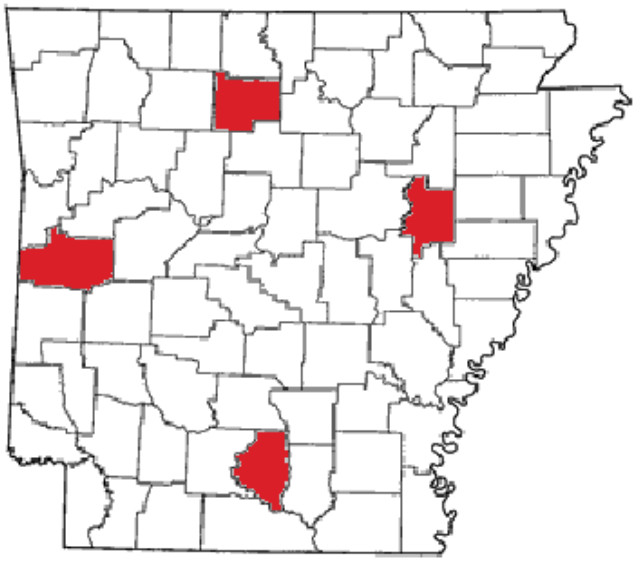
***A stroke happens when the blood supply to the brain is cut off or when a blood vessel bursts. Without oxygen, brain cells begin to die and death or permanent disability can result.***

### The five warning signs of stroke are:

- **Sudden numbness or weakness of the face, arm, or leg , especially on one side of the body;**
- **Sudden confusion, trouble speaking or understanding;**
- **Sudden trouble seeing in one or both eyes;**
- **Sudden trouble walking, dizziness, loss of balance or coordination;**
- **Sudden severe headache with no known cause.**

**Stroke is an emergency.**
**Call 911**

What if YOU knew that EVERYONE in Calhoun, Scott, Searcy, and Woodruff Counties was going to have a life-threatening medical emergency this year...



leaving nearly 1,900 Arkansans dead and thousands more seriously disabled.

## WOULD YOU TRY TO DO SOMETHING TO HELP?


Delta States Stroke Network

**EVERY YEAR, there are about 32,000 reported cases of stroke in Arkansas, and nearly 1,900 Arkansans lose their lives battling a stroke.**

## WHY SHOULD ARKANSAS LEGISLATORS BE CONCERNED?

**In Arkansas, the stroke death rate is 1.4 times the national average,** *and the state ranks first in stroke mortality in the United States.* ***Nearly 1,900 Arkansans die from stroke each year.***

**Stroke drains the economy.** *In Arkansas, there are about 32,000 reported cases of stroke each year, with an annual price tag of $180 million in medical expenses and $290 million in lost productivity.*

**Stroke care is insufficient and fragmented in Arkansas.** *Without adequate treatment — within three hours of the first symptoms, stroke victims can suffer severe neurological damage or death.*

**Awareness of stroke warning signs and the need for urgent care is dangerously low.** *Only 17.5% of Arkansans are aware of all the correct symptoms of a stroke and the need to call 911.*

**Many Arkansans have a ticking time bomb—inside them.** *Two of the most common causes of stroke are high blood pressure and high cholesterol. Smoking doubles the risk for stroke.* **Over 31% of Arkansans have high blood pressure, over 40% have high cholesterol and over 22% smoke.**

## WHAT CAN ARKANSAS LEGISLATORS DO?

**Advocate for a stroke system of care, including wireless, enhanced 911 coverage.** *Coordinated stroke response and care gives stroke victims in Arkansas access to the most effective treatment.*

**Support efforts to fund certified primary stroke centers.** *Stroke centers are medical facilities staffed by health care professionals with specific training in rapidly diagnosing and treating strokes.* **There are only three certified primary stroke centers in Arkansas (Little Rock-2 and Fort Smith).**

**Promote stroke awareness campaigns.** *Awareness of stroke warning signs and the need to call 911 saves lives and reduces disability.*

**Make healthy choices easier.** *Support policies and programs that will help Arkansans make lifestyle and behavior changes to reduce their risk for stroke. 80% of strokes can be prevented.*

**Extend insurance coverage.** *Support policies that include health care coverage for chronic disease prevention, such as tobacco cessation and blood pressure and cholesterol screening, treatment and control.*

**Support policies focused on Arkansans at high risk for stroke.** *Implement programs focused on high-risk groups such as African-Americans, Hispanics, uninsured, low-income Arkansans, and the elderly.*

## WHAT IS A STROKE?

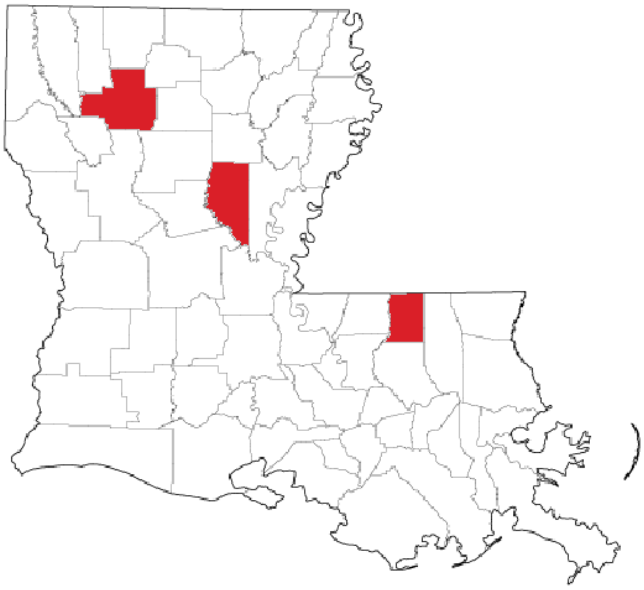
***A stroke happens when the blood supply to the brain is cut off or when a blood vessel bursts. Without oxygen, brain cells begin to die and death or permanent disability can result.***

### The five warning signs of stroke are:

- **Sudden numbness or weakness of the face, arm, or leg , especially on one side of the body;**
- **Sudden confusion, trouble speaking or understanding;**
- **Sudden trouble seeing in one or both eyes;**
- **Sudden trouble walking, dizziness, loss of balance or coordination;**
- **Sudden severe headache with no known cause.**

**Stroke is an emergency.**
**Call 911**

What if YOU knew that EVERYONE in Bienville, La Salle, and St. Helena Counties was going to have a life-threatening medical emergency this year...



leaving about 2,200 Louisianians dead and thousands more seriously disabled.

**WOULD YOU TRY TO DO SOMETHING TO HELP?**


Delta States Stroke Network

**EVERY YEAR, there are about 39,000 reported cases of stroke in Louisiana, and 2,200 Louisianians lose their lives battling a stroke.**

## WHY SHOULD LOUISIANA LEGISLATORS BE CONCERNED?

**In Louisiana, the stroke death rate is 1.2 times the national average,** *and the state ranks seventh in stroke mortality in the United States.* ***About 2,200 Louisianians die from stroke each year.***

**Stroke drains the economy.** *In Louisiana, there are about 39,000 reported cases of stroke each year, with an annual price tag of $250 million in medical expenses and $350 million in lost productivity.*

**Stroke care is insufficient and fragmented in Louisiana.** *Without adequate treatment — within three hours of the first symptoms, stroke victims can suffer severe neurological damage or death.*

**Awareness of stroke warning signs and the need for urgent care is dangerously low.** *Only 11.5% of Louisianians are aware of all the correct symptoms of a stroke and the need to call 911.*

**Many Louisianians have a ticking time bomb—inside them.** *Two of the most common causes of stroke are high blood pressure and high cholesterol. Smoking doubles the risk for stroke.* **Over 32% of Louisianians have high blood pressure, nearly 34% have high cholesterol and over 22% smoke.**

## WHAT CAN LOUISIANA LEGISLATORS DO?

**Advocate for a stroke system of care, including wireless, enhanced 911 coverage.** *Coordinated stroke response and care gives stroke victims in Louisiana access to the most effective treatment.*

**Support efforts to fund certified primary stroke centers.** *Stroke centers are medical facilities staffed by health care professionals with specific training in rapidly diagnosing and treating strokes.* **There are only five certified primary stroke centers in Louisiana.**

**Promote stroke awareness campaigns.** *Awareness of stroke warning signs and the need to call 911 saves lives and reduces disability.*

**Make healthy choices easier.** *Support policies and programs that will help Louisianians make lifestyle and behavior changes to reduce their risk for stroke. 80% of strokes can be prevented.*

**Extend insurance coverage.** *Support policies that include health care coverage for chronic disease prevention, such as tobacco cessation and blood pressure and cholesterol screening, treatment and control.*

**Support policies focused on Louisianians at high risk for stroke.** *Implement programs focused on high-risk groups such as African-Americans, Hispanics, uninsured, low-income Louisianians, and the elderly.*

## WHAT IS A STROKE?

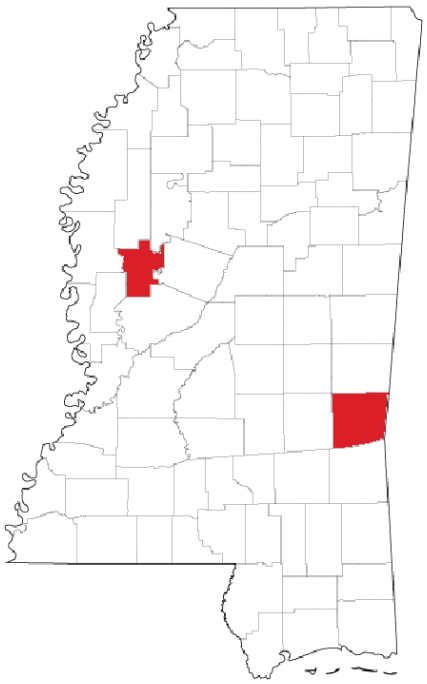
***A stroke happens when the blood supply to the brain is cut off or when a blood vessel bursts. Without oxygen, brain cells begin to die and death or permanent disability can result.***

### The five warning signs of stroke are:

- **Sudden numbness or weakness of the face, arm, or leg , especially on one side of the body;**
- **Sudden confusion, trouble speaking or understanding;**
- **Sudden trouble seeing in one or both eyes;**
- **Sudden trouble walking, dizziness, loss of balance or coordination;**
- **Sudden severe headache with no known cause.**

**Stroke is an emergency.**
**Call 911**

What if YOU knew that EVERYONE in Clarke and Humphreys Counties was going to have a life-threatening medical emergency this year...



leaving about 1,600 Mississippians dead and thousands more seriously disabled.

## WOULD YOU TRY TO DO SOMETHING TO HELP?


Delta States Stroke Network

**EVERY YEAR, there are about 27,000 reported cases of stroke in Mississippi, and 1,600 Mississippians lose their lives battling a stroke.**

## WHY SHOULD MISSISSIPPI LEGISLATORS BE CONCERNED?

**In Mississippi, the stroke death rate is 1.2 times the national average,** *and the state ranks fourth in stroke mortality in the United States.* ***About 1,600 Mississippians die from stroke each year.***

**Stroke drains the economy.** *In Mississippi, there are about 27,000 reported cases of stroke each year, with an annual cost of $150 million in medical expenses and $240 million in lost productivity.*

**Stroke care is insufficient and fragmented in Mississippi.** *Without adequate treatment — within three hours of the first symptoms, stroke victims can suffer severe neurological damage or death.*

**Awareness of stroke warning signs and the need for urgent care is dangerously low.** *Only 12% of Mississippians are aware of all the correct symptoms of a stroke and the need to call 911.*

**Many Mississippians have a ticking time bomb—inside them.** *Two of the most common causes of stroke are high blood pressure and high cholesterol. Smoking doubles the risk for stroke.* **Nearly 34% of Mississippians have high blood pressure, over 38% have high cholesterol and nearly 24% smoke.**

## WHAT CAN MISSISSIPPI LEGISLATORS DO?

**Advocate for a stroke system of care, including wireless, enhanced 911 coverage.** *Coordinated stroke response and care gives Mississippians access to the most effective stroke treatment.*

**Support efforts to fund certified primary stroke centers.** *Stroke centers are medical facilities staffed by health care professionals with specific training in rapidly diagnosing and treating strokes.* **There are only three certified primary stroke centers in Mississippi.**

**Promote stroke awareness campaigns.** *Awareness of stroke warning signs and the need to call 911 saves lives and reduces disability.*

**Make healthy choices easier.** *Support policies and programs that will help Mississippians make lifestyle and behavior changes to reduce their risk for stroke. 80% of strokes can be prevented.*

**Extend insurance coverage.** *Support policies that include health care coverage for chronic disease prevention, such as tobacco cessation and blood pressure and cholesterol screening, treatment and control.*

**Support policies focused on Mississippians at high risk for stroke.** *Implement programs focused on high-risk groups such as African-Americans, Hispanics, uninsured, low-income Mississippians, and the elderly.*

## WHAT IS A STROKE?

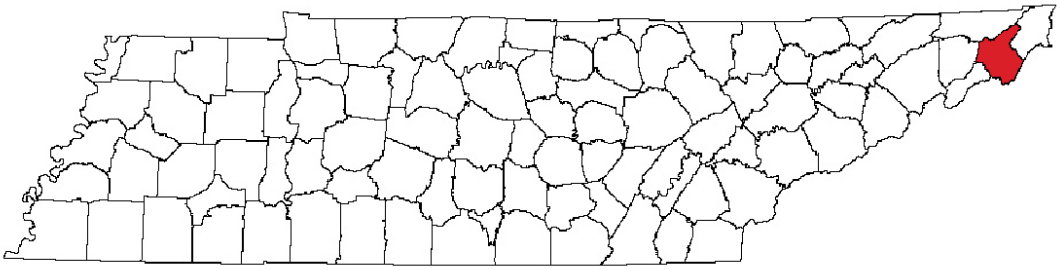
***A stroke happens when the blood supply to the brain is cut off or when a blood vessel bursts. Without oxygen, brain cells begin to die and death or permanent disability can result.***

### The five warning signs of stroke are:

- **Sudden numbness or weakness of the face, arm, or leg , especially on one side of the body;**
- **Sudden confusion, trouble speaking or understanding;**
- **Sudden trouble seeing in one or both eyes;**
- **Sudden trouble walking, dizziness, loss of balance or coordination;**
- **Sudden severe headache with no known cause.**

**Stroke is an emergency.**
**Call 911**

What if YOU knew that EVERYONE in Carter County was going to have a life-threatening medical emergency this year...



leaving over 3,400 Tennesseans dead and thousands more seriously disabled.

## WOULD YOU TRY TO DO SOMETHING TO HELP?


Delta States Stroke Network

**EVERY YEAR, there are about 59,000 reported cases of stroke in Tennessee, and over 3,400 Tennesseans lose their lives battling a stroke.**

## WHY SHOULD TENNESSEE LEGISLATORS BE CONCERNED?

**In Tennessee, the stroke death rate is 1.3 times the national average,** *and the state ranks third in stroke mortality in the United States.* ***Over 3,400 Tennesseans die from stroke each year.***

**Stroke drains the economy.** *In Tennessee, there are about 59,000 reported cases of stroke each year, with an annual cost of $360 million in medical expenses and $540 million in lost productivity.*

**Stroke care is insufficient and fragmented in Tennessee.** *Without adequate treatment — within three hours of the first symptoms, stroke victims can suffer severe neurological damage or death.*

**Awareness of stroke warning signs and the need for urgent care is dangerously low.** *Nearly 14% of Tennesseans are aware of all the correct symptoms of a stroke and the need to call 911.*

**Many Tennesseans have a ticking time bomb—inside them.** *Two of the most common causes of stroke are high blood pressure and high cholesterol. Smoking doubles the risk for stroke.* **Nearly 34% of Tennesseans have high blood pressure, over 34% have high cholesterol and over 24% smoke.**

## WHAT CAN TENNESSEE LEGISLATORS DO?

**Advocate for a stroke system of care, including wireless, enhanced 911 coverage.** *Coordinated stroke response and care gives stroke victims in Tennessee access to the most effective treatment.*

**Support efforts to fund certified primary stroke centers.** *Stroke centers are medical facilities staffed by health care professionals with specific training in rapidly diagnosing and treating strokes.* **There are only twelve certified primary stroke centers in Tennessee.**

**Promote stroke awareness campaigns.** *Awareness of stroke warning signs and the need to call 911 saves lives and reduces disability.*

**Make healthy choices easier.** *Support policies and programs that will help Tennesseans make lifestyle and behavior changes to reduce their risk for stroke. 80% of strokes can be prevented.*

**Extend insurance coverage.** *Support policies that include health care coverage for chronic disease prevention, such as tobacco cessation and blood pressure and cholesterol screening, treatment and control.*

**Support policies focused on Tennesseans at high risk for stroke.** *Implement programs focused on high-risk groups such as African-Americans, Hispanics, uninsured, low-income Tennesseans, and the elderly.*

## WHAT IS A STROKE?

***A stroke happens when the blood supply to the brain is cut off or when a blood vessel bursts. Without oxygen, brain cells begin to die and death or permanent disability can result.***

### The five warning signs of stroke are:

- **Sudden numbness or weakness of the face, arm, or leg , especially on one side of the body;**
- **Sudden confusion, trouble speaking or understanding;**
- **Sudden trouble seeing in one or both eyes;**
- **Sudden trouble walking, dizziness, loss of balance or coordination;**
- **Sudden severe headache with no known cause.**

**Stroke is an emergency.**
**Call 911**

# Stroke

## Stroke is a medical emergency!

Any patient, visitor or co-worker may have signs or symptoms of a stroke! If you suspect a stroke, notify EMS/911 immediately outside of the hospital or notify appropriate personnel if you are working in a hospital.

Do not hesitate as time is ***critical***!

## Signs/symptoms of Stroke:

- Sudden numbness or weakness of the face, arm, or leg, especially on one side of the body
- Sudden confusion, trouble speaking or understanding
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness or loss of balance or coordination
- Sudden severe headache with no known cause

**Remember: Stroke is a medical emergency!**
If a patient, visitor or co-worker presents with any of these symptoms, do not hesitate. Act immediately as time is brain!


Delta States Stroke Network