Strategic Plan Report for the Eastern North Carolina Stroke Network

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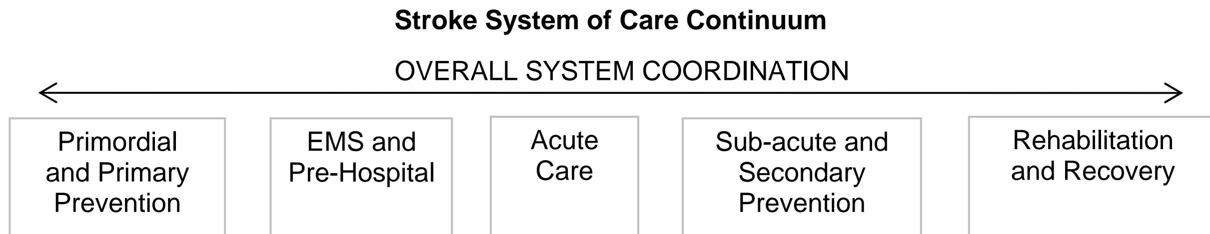
Practical Applications of
Public Health
December 5, 2008

Glossary of Terms

AAA	Area Agencies on Aging
ACLS	Advanced Cardiac Life Support
AHA / ASA	American Heart Association / American Stroke Association
AHEC	Area Health Education Center
ALS	Advanced Life Support
ASC	Acute Stroke Capable
ASLS	Advance Stroke Life Support
CARF	Commission on Accreditation of Rehabilitation Facilities
CCN	Community Care of North Carolina
CCP	Cooperative Cardiovascular Project
CDC	Centers for Disease Control
CE	Continuing Education
ECC	Emergency Cardiovascular Care
ECU	East Carolina University
ED	Emergency Department
EMD	Emergency Medical Dispatch
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
ENC	Eastern North Carolina
ENCSN	Eastern North Carolina Stroke Network
ERAC	Eastern Regional Advisory Council
GWTG	Get with the Guidelines
HDSP	Heart Disease Stroke Prevention
IPIP	Improving Performance in Practice
JCAHO	Joint Commission on the Accreditation of Healthcare Organizations
JWTF	Justice Warren Task Force
LA	Los Angeles Pre-Hospital Stroke Screening
MEND	Miami Emergency Neurological Deficit
NAS	Non Acute Stroke
NCHA	North Carolina Hospital Association
NENA	National Emergency Number Association
NR	Non Responder
PSC	Primary Stroke Center
QI	Quality Improvement
RAC	Regional Advisory Council
RACE	Reperfusion of Acute Myocardial Infarctions in Carolina Emergency Departments
SAC	Stroke Advisory Council
SCC	Stroke Care Collaborative
TJC	The Joint Commission

Introduction

The Eastern North Carolina Stroke Network (ENCSN) engaged in a strategic planning process from July – September 2008. A group of stroke stakeholders were convened for three meetings to develop plans for strengthening the ENCSN structure and membership, and identifying priority actions to address stroke needs in the eastern region of North Carolina. The planning process encompassed the stoke system of care continuum including primordial and primary prevention, and pre-hospital, acute care, sub-acute and secondary prevention, and rehabilitation and recovery.



A core group provided oversight throughout the planning process and collaborated with an independent consultant to plan and facilitate the meetings, and produce this report. Participants in the strategic planning meetings and core group members are listed in Attachment A.

Strengths and Challenges

During the first meeting, strategic planning participants engaged in a series of concurrent small group discussions and report outs to identify strengths and challenges along the stroke system of care continuum in the eastern region. Highlights of that discussion are presented below; the full details of this exercise are included in Attachment B.

Eastern Region Strengths

- Professional Education (e.g., training opportunities such as ASLS, Annual Stroke Conference, and EMS online)
- Prevention (e.g., community awareness of issue from ads and hospital outreach)
- Emergency Response (e.g., EMS toolkits)
- Care (e.g., good hospitals, certified primary stroke center, and trauma network)
- Rehabilitation (e.g., accredited rehab center)
- Resources (e.g., NC stroke bill, EMS toolkits, media access, AHEC, and ECU)

Eastern Region Challenges

- Community Awareness (e.g., low awareness about warning signs leads to delayed care)
- Health Care Access (e.g., primary care and medications)
- Emergency Response (e.g., uneven EMS coverage across region; paramedic versus transport)
- Standard of Care (e.g., lack of consensus among providers regarding standards of care)
- Silo Mentality (e.g., financial competition among providers)
- Media Market (e.g., Northeast NC region is in the Virginia media market)
- Data Issues (e.g., some patients in region go to out of state hospitals)
- Regional Characteristics (e.g., large rural geographic region creates long response time)

Internal and External Strategies

After identifying strengths and challenges, participants again worked in small groups to develop strategies to strengthen the ENCSN internally as well as external actions the Network could take to better meet stroke needs in the region. Highlights of that discussion are presented below; the full details of this exercise are included in Attachment C.

Strategies to Strengthen the Network

- Clarify Network Mission
- Market the Network
- Strengthen Network Membership
- Secure Funding for Network Initiatives

Strategies to Address Stroke Needs

- Promote Standards of Care
- Conduct Asset Mapping
- Improve Data Access
- Provide Professional Education
- Convene Summit

Priority Progress Markers

During the second meeting, strategic planning participants reviewed a framework and progress markers for a stroke system of care that had been recommended by the American Stoke Association's Task Force on the Development of Stroke Systems.[1] The goal of this discussion was to refine the framework and progress markers to be applicable to eastern North Carolina.

Adjustments were made to the original set of progress makers and their definitions. Planning participants then reviewed existing needs assessment data related to the progress makers and, based on those data, undertook a priority setting process to identify issues that the ENCSN would focus on for the next two years. The five priorities selected by the group are listed below. The full details of this exercise are included in Attachment D, including the revised progress markers and their definitions, as well as the number of votes each progress maker received during the priority setting process.

ENCSN Priority Progress Markers

Focus Area	Progress Marker	Definition
Overarching Systems	Stakeholder Committee	Regional Stakeholder group established and meeting minimum of four times per year. ENC region appropriate level stakeholders and structure should be clearly defined with functional committees.
Primordial and Primary Prevention	Community Prevention Education	Coordinated and diverse community education conducted in each county at least two times annually on stroke prevention and recognition. Partners should include, but not limited to Healthy Carolinians, Health Depts., Hospitals, AHA / ASA, etc.

[1] The full report of the ASA Task Force can be found at http://stroke.ahajournals.org/cgi/reprint/36/3/690

ENCSN Priority Progress Markers (continued)

Focus Area	Progress Marker	Definition
Acute Care	Hospital Plan of Care	Primary stroke centers and acute stroke capable hospitals establish and consistently use clinical plans of care that are based on national guidelines and standards of care.
Quality Improvement	QI Programs	100% of primary stroke centers and acute stroke capable hospitals establish and consistently use stakeholder group approved (or state approved) quality improvement tools, such as GWTG Stroke and/or CDC Coverdell.
Quality Improvement	Continuing Education Requirements	Regional implementation that all healthcare providers (including 911 dispatchers) that care for stroke patients complete a minimum of two hours of stroke assessment and care education as a part of their licensure/credential renewal requirements. Educational material follows national guidelines.

Mission, Vision, and Values

During the third meeting, participants first undertook the task of addressing the "Stakeholder Committee" priority progress marker (see above). Participants reviewed and revised the original network mission to produce the following statement of vision, mission, and values.

- **Vision**: The vision of the ENCSN is to be recognized as a leading resource for voluntary collaboration on stroke best practices in Eastern NC communities.
- **Mission**: The mission of the ENCSN is to improve the prevention, treatment, and quality of stroke care in Eastern NC through a coordinated regional system.
- **Values**: The values of the ENCSN are prevention, education, and access to quality care.

Membership

Also in accordance with addressing the "Stakeholder Committee" priority progress marker, participants clarified the region to be served by the ENCSN. It was decided that the eastern region would include the 30 counties listed below and depicted on the following map.

ENCSN Member Counties

Beaufort	Currituck	Halifax	Nash	Pitt
Bertie	Dare	Hertford	Northampton	Tyrell
Camden	Duplin	Hyde	Onslow	Warren
Chowan	Edgecombe	Jones,	Pamlico	Washington
Carteret	Gates	Lenoir	Pasquotank	Wayne
Craven	Greene	Martin	Perquimans	Wilson

Target Membership Counties of the Eastern NC Stroke Network

Member County

To be eligible for ENCSN membership, individuals must live or work in these 30 target counties. Anyone who is a stroke champion in the region can become a member, including, but not limited to: hospital stroke coordinators, nurses, emergency medical services (EMS), physicians, medical directors, rehabilitation therapists, stroke caretakers, health policy administrators, public health scientists, health advocacy organization members, and stroke survivors. Stroke stakeholders outside of this 30 county region who are interested in joining the ENCSN should contact the Steering Committee staff.

Structure

Lastly, participants developed the following organizational structure for the ENCSN, including a representative steering committee with staff, workgroups to address the remaining four priority progress markers, and a clear delineation of roles and responsibilities.

ENCSN Structure

Steering Committee
- 2 network co-chairs
- Workgroup (co-)chairs
- 2 open seats
- 2 staff

Co-chairs: Community prevention education workgroup

Co-chairs: Hospital plan of care workgroup

Co-chairs: QI programs workgroup

Co-chairs: CE requirements workgroup

ENCSN Member Roles and Responsibilities

General Membership	▪ Attend and participate in quarterly meetings ▪ Serve on one of workgroups ▪ Disseminate information from the Network back to individual organizations ▪ Share data for Quality Improvement purposes ▪ Be true to the *regional* Network mission
Steering Committee	• Create an agenda for the Network meetings • Maintain meeting minutes • Maintain communication with JWTF, HDSP • Focus on goals, mission, strategic initiatives • Pursue or oversee funding sources • Oversee website development • Create/ensure linkages with RAC, RACE, IPIP, CCP • Maintain accountability of achieving planned priorities
Work Group Chair	• Keep in touch with all workgroup members • Schedule and organize workgroup meetings • Maintain meeting minutes of what is decided during each workgroup meeting • Facilitate forward momentum by keeping on task with action plan • Keep workgroup members informed of Steering Committee decisions, and visa versa • Support and integrate with other workgroups (maybe on future website info)

Further discussion about the ENCSN structure included the suggestion to convene quarterly meetings during which committees and workgroups meet, followed by a general membership meeting. Quarterly meetings may also include "success stories", education / information, and networking opportunities. Workgroups are expected to communicate between scheduled quarterly meetings. Communication among members may be further facilitated by establishing an email listserv with a moderator.

Action Planning

Strategic planning participants began the process of creating workgroups, identifying workgroup co-chairs, listing additional members to recruit, and developing initial action plans for working on priority progress markers. The products of their work are presented below.

Workgroup Action Plans			
Workgroup	Chair(s)	Recruitment Targets	Initial Action Steps
Community Prevention Education	Jo Morgan and Hospital Stroke Coordinator (TBD)	Hospital Stroke Coord., Health Promotion Coord., Healthy Carolinians, EMS Staff, Screening Coord. (ie. Terry Congleton), Shantell Cheek, Senior Centers, Disparity Coord., Area Agencies on Aging (AAA)	▪ Identify Network counties [October] ▪ Identify champions in each county (e.g., ED nurse, hospital board member [Nov-Feb] ▪ Identify existing stroke ed. programs (e.g., Stroke Risk ID Program (NC Stroke Association, Beth Parks) [Nov-Dec] ▪ Secure local / state resources to support implementation [Nov-Dec] ▪ Coordinate with state education campaigns
Hospital Plan of Care	Jo Malfitano and Nancy Pate; Marie Welch is ad hoc chair until permanent chair is recruited. [Chairs should not be UHS.]	Heritage, Duplin, Wayne, Lenoir, Nash, Martin, Roanoke-Chowan, Craven (Dr. May), Chowan, Washington, OBX (Outerbanks), Bertie; and the following counties that are moving toward Joint Commission certification: Onslow, Lumberton, Wilson, Carteret, Halifax, Albemarle	▪ Report progress to SAC [October] ▪ Recruit chairs and members [November] ▪ Convene workgroup meeting to clarify mission and goals, and address the concern that lots of stroke coordinators and hospitals may get tapped for all the committees [November] ▪ Convene workgroup to follow up on the January 2009 EMS Report [January] ▪ Clearly articulate what it means to have a plan of care ▪ Identify barriers for hospitals who don't have plans of care ▪ Conduct a workshop on guidelines and how to do a plan ▪ Create a website with information to assist hospitals in creating a plan, being a resource, showing sample plans (apply for website grant – NC Stroke Ass.) ▪ Involve more hospitals in the Network ▪ Get state support in creating hospital plans of care ▪ Help create links between hospitals and resource (JCAHO certification)

Workgroup Action Plans			
Workgroup	Chair(s)	Recruitment Targets	Initial Action Steps
Quality Improvement Programs	Cris Small and Kathy Montero	PCPs (Kathy contact), Jeff Spade-Rural Hospital Association (Jim Baluss contact), AHEC (Area L, Coastal, Eastern)-Contact Steve Willis, Pharmacists Jo Malfitano (Onslow), (Carol Murphy contact), Bob Thomas Thomasville-Tom Doyle (Carol Murphy contact), Iredell-Eddie Bess/Gail Roavis (Carol Murphy contact), Ron Cromartie (Kathy Montero contact); and the following hospitals: New Hanover, Cape Fear, Sampson, Bladen, Johnston, Franklin, Brunswick, Pender; and those that are part of CCP: Craven, Wilson, Lenoir, Roanoke Chowan, Duplin, Martin	▪ Get on the agenda for Medical Management Committee (CCP) ▪ Develop a marketing package to first recruit members to workgroup, then to recruit hospitals ▪ Recruit the workgroup members [November] ▪ Define stroke DRG to use in packet: readmission rates, length of stay, (drill down to region, hospital practitioners)
Continuing Education Requirements	Dawn Grant	Ron May-Craven, Bob Thomas-Carteret, Lynn Dale-Chowan, Dawn Grant-Pitt + 22 other counties, Jo Malfitano-Onslow, Jeremy Hill, Jane Pollock-Pitt, NE - RN Staff Development at Albemarle (?), Mona Hughes-Bertie	▪ Research existing CE for stroke (online, face-to-face) [Kathy Montero, Sylvia Coleman]; ID target audience and prioritize disciplines and settings [October] ▪ Research programs already in existence (i.e., EMD CDs) by discipline and by setting [October] ▪ Pilot test the program at a hospital in the East [Feb-Mar] ▪ Attend/present at the February Staff Development Luncheon at EAHEC [Feb] ▪ Develop a two hour educational program (using a speaker's bureau) [Nov-Jan] ▪ Pilot at hospital in the East and/or EMS agency or community college [March]

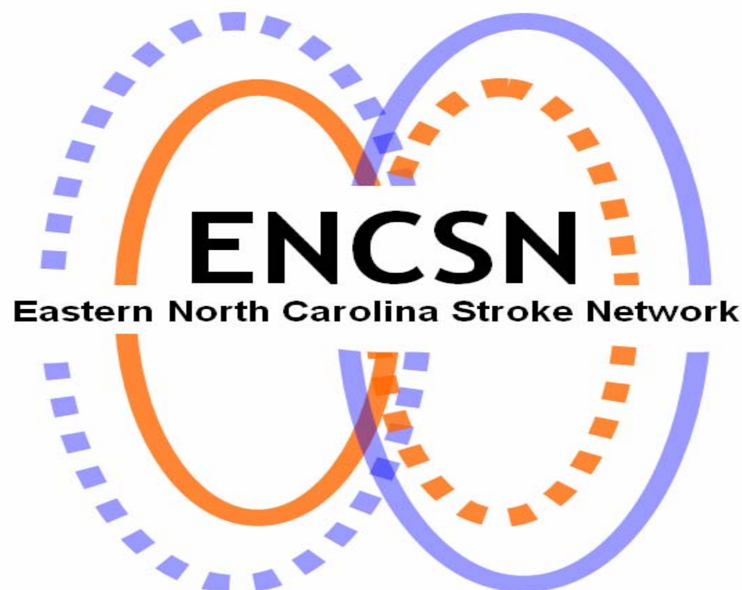
Steering Committee

In addition to forming workgroups and developing action plans, strategic planning participants also identified a variety of individuals to serve on the steering committee. Final selection will be determined at a later date.

- **Co-chairs** (final selection TBD): Dr. Stackhouse, Don Ensley, Skip Cummings, Chris Mansfield, Jo Malfitano, [Regional EMS], [Hospital Administrator], [Medical Director], [local vs state rep. who can report to SAC or JWTF], Lynn Dale (but time constraints do not permit right now).
- **Workgroup chairs**: Jo Morgan, Marie Welch (ad hoc), Cris Small, Kathy Montero, and Dawn Grant
- **Open seats**: Jim Baluss, [Family Practice Doctor], and Marie Welch (personal request)
- **Staff**: Elynor Wilson and India Foy

Logo

Lastly, participants brainstormed images and phrases to be used to create a logo for the ENCSN. Several logos were subsequently developed and an electronic poll was conducted to select the final logo, presented below.



Attachment A: Strategic Planning Participants and Core Group

Name	Organization	Area
James Baluss	Community Care Plan of North Carolina	Regional
Jay Briley	Albemarle Hospital	Pasquotank, Camden
Lynn Dale	Chowan Hospital	Chowan
Kathleen DeVoreJones	Martin Tyrrell Washington District Health Dept	Washington
Martha Dixon	Pitt County Memorial Hospital	Pitt
Joanne Eddy *	Northeastern NC Partnership for Public Health	Regional
India Foy	Northeastern NC Heart Disease and Stroke Prevention Regional Coordinator	Regional
Susan Freeman	Pitt County Memorial Hospital	Pitt
Dawn Grant *	Eastern AHEC	Pitt
Jeremy Hill	NC DHSR Office of Emergency Medical Services	Pitt
Josephine Malfitano	Onslow Memorial Hospital	Onslow
Ronald May	Craven Regional Medical Center	Craven
Tom Mitchell	NC DHSR Office of Emergency Medical Services	Pitt
Kathy Montero *	American Heart Assn - Mid-Atlantic Affiliate	Wake
Jo Morgan *	Pitt County Health Department	Pitt
Carol Murphy	NC Stroke Care Collaborative	Statewide
Beth Parks	NC Stroke Association	Statewide
Nancy Pate	Onslow Memorial Hospital	Onslow
Mary Pollock	The Brody School of Medicine at ECU	Pitt
Jennifer Slepin	NC Stroke Care Collaborative	Statewide
Cristine Small	Pitt County Memorial Hospital	Pitt
Robert Thomas	Carteret General Hospital	Carteret
Marie Welch	Pitt County Memorial Hospital	Pitt
Elynor Wilson *	Eastern NC Heart Disease and Stroke Prevention Regional Coordinator	Regional
David Napp *	Practical Applications of Public Health (consultant)	Durham

* Core group member

Attachment B: Strengths and Challenges

Strengths - Small Group Discussion #1: Thinking about stroke on the continuum from prevention, response, care, and rehabilitation, what are the Eastern regions' strengths?

Strengths Sorted by theme

ENC Regional Stroke Network

- Network includes interested individuals and organizations with a desire to collaborate
- Communication and good representation from entities along the continuum of care
- Collaboration among the Network, health departments, and others
- Discussion of common issues and stroke care

Professional Education

- Training opportunities (e.g., ASLS, Annual Stroke Conference, EMS online training)
- Involvement of EAHEC, ECU, and community colleges

Prevention

- Community awareness of issue from ads and hospital outreach
- Media market shared throughout many parts of the region
- State focus and grants for the region because of the magnitude of the problem

Response

- EMS toolkits rolled out in region
- Satellite air and ground ambulances help increase response time
- Emergency Medical Dispatch available in some counties
- Major efforts underway for EMS coordination

Care

- Good hospitals in our region, including a primary stroke center (Pitt Co Memorial Hospital Joint Commission Certification and several hospitals nearby)
- Trauma network established
- Established relationships through the network
- Quality improvement efforts are underway for data and best practices (e.g., stoke collaborative registry, GWTG, and IPIP)
- Awareness and recognition of the issue in the medical community

Rehabilitation

- Hospital based inpatient and outpatient rehab, and home health rehab available
- Accredited rehab center in region
- Skilled nursing homes in the region
- Stroke support groups
- Strong public health infrastructure (e.g., visiting nurses, home health)

Resources

- Resources and attention for stroke in region (i.e., NC stoke bill)
- Resources include the stroke belt bill, EMS toolkits, media access, AHEC, and ECU
- Data linkages exist (e.g., EMS and NC SCC) and quality data available through the EMS toolkit, collaborative registry, and GWTG
- Resources available through partnerships (e.g., HDSP coverage, grants, funding, education, faith based groups, NC stroke association, AHA / ASA)

Challenges - Small Group Discussion #2: Thinking about stroke on the continuum from prevention, response, care, and rehabilitation, what are the Eastern regions' challenges?

Challenges sorted by theme

Community Awareness

- Low community awareness about warning signs (leads to delayed care)
- Perception that stoke only affects elderly
- Hesitancy to call 911

Health Care Access

- Poor access to primary care and medications
- Large Medicaid and uninsured population
- Too few health care providers
- Infrastructure can't handle increased demand
- Too few rehabilitation facilities

Emergency Response

- Limited E911 coverage
- Uneven EMS coverage across region (paramedic versus transport)
- Lack of EM transportation resources and protocol
- Some counties don't have ALS service
- Poor communication and transportation infrastructure in rural areas

Standard of Care

- Standard of care is inconsistent
- Hard to get physician buy-in for best practices
- Lack of consensus among providers regarding standards of care
- Different levels of capacity across hospitals make standard of care difficult
- Hard to make stroke a priority during concurrent time-sensitive events (MI, trauma)
- Difficult to expand treatment options
- Hard to obtain latest technology (e.g., coiling)

Silo Mentality

- Silo mentality among health care facilities
- Lack of defined role and responsibilities
- Financial competition among providers
- Buy-in does not exist at all levels
- Local champions not identified
- Poor communication (no inventory of resources)

Media Market

- No uniform media market (boarder counties)
- NE region is in VA media market
- Hard to sustain a media presence on issue

Data Issues

- Data challenges (e.g. some patients in region go to out of state hospitals)
- Lack of transparency of data (access)

Regional Characteristics

- Large rural geographic region (long response time)
- Poor roads and transportation infrastructure
- High level of poverty
- Competing community priorities (e.g., food, housing)
- Aging population (predicts increased incidence)
- Increasing Hispanic population

Other

- Reimbursement for continued therapy
- Hard to empower patients to take control of medical management (risk factors, working with physician)
- Need for administrative support

Attachment C: Internal and External Strategies

Internal Strategies - Small Group Discussion #3: What can we do in the next 1-2 years to strengthen the Eastern NC Regional Stroke Network?

Strategies to strengthen the Network sorted by theme

Clarify Network Mission

- Define the mission and intention of the Network
- Publicize the mission

Market the Network

- Brand and market the Network
- Seek endorsements (e.g., AHA/ ASA, Health Departments, medical societies, Board of Nursing)

Strengthen Network Membership

- Clarify / formalize what it means to be a member (look at examples from Community Care of NC, CCNC, and Regional Advisory Council, RAC)
- Strengthen network membership (e.g., across the continuum of care from each county, client representatives, nurse coordinators, pharmacy, home health)
- Recruit stroke champions from each hospital
- Use personalized recruitment strategies
- Share data with leaders
- Form network sub-groups (ERAC)

Secure Funding for Network Initiatives

- Seek funding to support Network activities (e.g., upgrade training for EMS and clinicians, incentive use of registry and Get with the Guidelines, get media access, provide Network administration)
- Emphasize our collaboration in application (e.g., Kate B Reynolds)

External Strategies - Small Group Discussion #4: What can the Eastern NC Regional Stroke Network do in the next 1-2 years to better meet stroke needs in the region?

Strategies to address stroke needs sorted by theme

Conduct Asset Mapping

- Inventory resources (CTs, nero, emergency, ED, EMS transportation)
- Identify current best practices in region (processes, progress markers, stroke measures)
- Distribute results

Promote Standards of Care

- Develop regional pre-hospital triage and transport protocols
- Formalize and facilitate implementation of best practices
- Use nurse coordinators (hospital stroke champions) to standardize care and best practices at the local level (e.g., dysphasia screening)
- Improve communications between health care providers
- Develop regional versus local mentality

Improve Data Access

- Create common repository for all aggregate data
- Establish research component to look at outcomes, have data for grants, develop ideas for improvement strategies, establish track record (good for grants), and build reliability
- Disseminate data to stakeholders
- Convene Eastern Region Summit to follow up on stroke toolkit (have representatives from each county, key medical stakeholders, local politicians)

Provide Professional Education

- Conduct a survey of continuing education needs
- Share educational opportunities

Attachment D: ENCSN Progress Markers

System Focus	Progress Marker	Outcomes	Rank / Votes	Notes
Overarching Systems	1. Stakeholder Committee	Regional Stakeholder group established and meeting minimum of four times per year. ENC Region, appropriate level stakeholders and structure should be clearly defined with functional committees.	4th priority 9 votes	Stakeholder group exists, but need to be further defined and strengthened
	2. Stakeholder Committee Endorsed	Stakeholder Committee endorsed by leadership from key stakeholders (e.g. Justice Warren Task Force, NCHA)	2 votes	To ensure success and sustainability
	3. Regional Plan with Stroke	Regional plan developed with stroke specific components, including implementation schedule with specific goals and assigned responsibilities.	5 votes	
Primordial and Primary Prevention	4. Annual Prevention Messaging	Minimum of one regional messaging platform on primary and/or stroke prevention provided each year.	6 votes	Not merged with #6 because on a regional level.
	5. Stroke Policy Agenda	The network engages in and supports setting public policy including efforts to adopt policies that address risk factors for stroke. Examples of risk factors addressed through policy may include Clean Indoor Act, tobacco prevention programs, physical education in schools and nutrition in schools.	0 votes	
	6. Community Prevention Education	Coordinated and diverse community education conducted in each county at least twice annually on stroke prevention and recognition. Partners should include, but not limited to: Healthy Carolinians, Health Depts. Hospitals, AHA / ASA, etc.	3rd priority (tie) 10 votes	Not merged with #4 because on a county-by-county level (e.g. individual hospitals).
EMS / Pre-hospital	*7.* E911 Coverage	E911 coverage (landline and wireless) is available for all of the region's population.	0 votes	NENA indicates that the region is already covered for landline E911. Wireless E911 is too complicated for Regional Network to address at this time.

System Focus	Progress Marker	Outcomes	Rank / Votes	Notes
EMS / Pre-hospital ***(continued)***	8. EMS Dispatch Protocols	Regional implementation of established standards for Emergency Medical Dispatch (EMD) protocols that meet national guidelines. Stroke specific guide cards included in implementation.	4 votes	
	9. EMS Triage Assessment Tool	Regional implementation that all EMS Response Systems utilize a stroke triage assessment tool that meets AHA/ASA guidelines (including Cincinnati Stroke Scale, LA, MEND or other validated tool).	1 vote	To be addressed by utilization of the EMS QI Toolkit
	10. EMS Treatment Protocol	Regional implementation of a stroke treatment protocol that meets (at a minimum) AHA/ASA guidelines and ECC ACLS standards.	1 vote	To be addressed by utilization of the EMS QI Toolkit
	11. EMS Transport Protocols	Regional implementation that all EMS Response Systems develop and implement stroke transport protocols with the intent to transport qualified acute stroke patients to a most appropriate treatment facilities.	2 votes	This should be addressed if state approves pending regulation changes to take effect Jan ‘09
	12. EMS Paramedic	Every county has EMT-Paramedic level care for response.	7 votes	ENC contains the only counties in the state that aren’t covered by EMT-Paramedics.
Acute Care	13. Hospital Plan of Care	PSC and acute stroke capable hospitals establish and consistently use clinical plans of care that are based on national guidelines and standards of care.	2nd priority 11 votes	
	14. System Map of Hospitals	An organized system and map of hospitals that are acute stroke capable and those that are TJC PSC certified. Acute care hospitals will be identified on the map as one of the following: Certified Primary Stroke Center (PSC), Non-Certified Acute Stroke Capable (ASC), Non-Acute Stroke (NAS) and Non Responder (NR).	2 votes	AHA/ASA is conducting at the state level.

System Focus	Progress Marker	Outcomes	Rank / Votes	Notes
Acute Care ***(continued)***	15. Hospital Roles & Responsibilities	The system map includes the roles and responsibilities for each hospital within the system, and every hospital included in the map has a policy or plan in place with protocols for triage, treatment and transfer (via prearranged transfer agreements) of stroke patients outside their capabilities to a primary stroke center or another appropriate hospital institution; options may include telemedicine.	4 votes	
	16. Geographical System Needs	System includes distribution of hospitals to identify geographical gaps and strive to ensure every resident lives within 1 hour of an acute stroke capable hospital; options may include telemedicine.	1 vote	
	17. System Map Capabilities Re-assessed	Stroke treatment capabilities and capacities across the regional are assessed at least once every 2 years.	0 votes	
	18. Hospital Annual Report	PSC and ASC hospitals document compliance with national treatment guidelines / standards and core measure sets (including The Joint Commission, CDC Coverdell and GWTG-Stroke) in annual report.	0 votes	
Subacute and Secondary Prevention	19. Plan of Care for Stroke Patients	Healthcare providers establish and consistently use clinical plan of care for all patients with a history or suspected history of stroke or transient ischemic events that are based on national guidelines and standards of care.	7 votes	
	20. Standardized Discharge Packet	Hospitals use a standardized discharge packet that educates stroke patients and families on risk factors, medications, stroke warning signs, rehabilitation options and the availability of time sensitive therapy, as well as the appropriate method for activating EMS in their area.	3 votes	

System Focus	Progress Marker	Outcomes	Rank / Votes	Notes
Subacute and Secondary Prevention ***(continued)***	21. Standardized Protocols for Screening	Hospitals adopt and consistently use standardized protocols that screen for and ensure timely transition from inpatient to appropriate next level of care (i.e. rehabilitation and/or outpatient care) consistent with The Joint Commission (TJC) standards for all patients with a history or suspected history of stroke or transient ischemic events.	1 vote	
Rehabilitation	22. Screening and Assessment Tool	Regional implementation of a standardized screening and assessment tool of functional status consistent with national guidelines for hospitalized stroke patients.	1 vote	
	23. Rehabilitation candidates referred	Mechanisms, such as policy and/or standards consistent with national guidelines, including The Joint Commission or Commission on Accreditation of Rehabilitation Facilities (CARF) standards, are implemented regionally to ensure hospitalized stroke patients are referred for post-stroke care.	1 vote	
	24. Rehabilitation guidelines compliance	Rehabilitation providers develop programs to evaluate compliance with the national guidelines (and consistent with TJC or CARF standards) for post acute care and establish system performance measures for compliance.	0 votes	
	25. Post stroke resources	Post stroke care resources and services are identified, published and shared throughout the region on a periodic basis (minimum every two years) including a list of facilities providing comprehensive inpatient rehabilitation services, outpatient services, home care for stroke recovery, community based exercise programs and stroke support groups.	0 votes	NC Stroke Advisory Council will address in FY 08-09

System Focus	Progress Marker	Outcomes	Rank / Votes	Notes
Quality Improvement	26. QI Programs	100% of primary stroke centers and acute stroke capable hospitals establish and consistently use stakeholder group approved (or state approved) quality improvement tools, such as GWTG Stroke, CDC Coverdell.	3rd priority (tie) 10 votes	
	27. Continuing Education Requirements	Regional implementation that all healthcare providers (including 911 dispatchers) that care for stroke patients complete a minimum of two hours of stroke assessment and care education as a part of their licensure/credential renewal requirements. Educational material follows national guidelines.	1st priority 13 votes	

Hospital Stroke Acute Care Capabilities Defined

- Primary Stroke Center (PSC): Hospital is currently certified, designated or licensed as such to meet minimal recommendations from the Brain Attack Coalition *(i.e. The Joint Commission Primary Stroke Center Certification or state certified Program).*
- Acute Stroke Capable (ASC): Hospital is not currently a certified Primary Stroke Center but is following national guidelines and standards to care for stroke patients.
- Non Acute Stroke (NAS): Hospital is not currently equipped and/or staffed to care for stroke patients.
- Non Responder (NR): Hospital status for stroke capabilities not submitted and/or documented.