REPORT OF THE
JOINT COMMISSION ON HEALTH CARE

Stroke Prevention and Care

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

REPORT DOCUMENT NO. 145

COMMONWEALTH OF VIRGINIA
RICHMOND
2008

Code of Virginia § 30-168.

The Joint Commission on Health Care (the Commission) is established in the legislative branch of state government. The purpose of the Commission is to study, report and make recommendations on all areas of health care provision, regulation, insurance, liability, licensing, and delivery of services. In so doing, the Commission shall endeavor to ensure that the Commonwealth as provider, financier, and regulator adopts the most cost-effective and efficacious means of delivery of health care services so that the greatest number of Virginians receive quality health care. Further, the Commission shall encourage the development of uniform policies and services to ensure the availability of quality, affordable and accessible health services and provide a forum for continuing the review and study of programs and services.

The Commission may make recommendations and coordinate the proposals and recommendations of all commissions and agencies as to legislation affecting the provision and delivery of health care.

For the purposes of this chapter, "health care" shall include behavioral health care.

Joint Commission on Health Care Membership

Chairman
The Honorable Phillip A. Hamilton

Vice-Chairman
The Honorable Stephen H. Martin

Senate of Virginia
The Honorable J. Brandon Bell, II
The Honorable Harry B. Blevins
The Honorable R. Edward Houck
The Honorable Benjamin J. Lambert, III
The Honorable Linda T. Puller
The Honorable Nick Rerras
The Honorable William C. Wampler, Jr.

Virginia House of Delegates
The Honorable Clifford L. Athey, Jr.
The Honorable Robert H. Brink
The Honorable Benjamin L. Cline
The Honorable Franklin P. Hall
The Honorable Kenneth R. Melvin
The Honorable Harvey B. Morgan
The Honorable David A. Nutter
The Honorable John M. O'Bannon, III
The Honorable John J. Welch, III

The Honorable Marilyn B. Tavenner
Secretary of Health and Human Resources

Commission Staff

Kim Snead
Executive Director

Stephen W. Bowman
Senior Staff Attorney/Methodologist

Michele Chesser, PhD
Senior Health Policy Analyst

Jaime H. Hoyle
Senior Staff Attorney/Health Policy Analyst

Sylvia A. Reid
Publication/Operations Manager

Preface

In 2007, House Joint Resolution 635 (O'Bannon) directed JCHC to study and develop strategies that address "stroke prevention and care across the Commonwealth" and to identify and propose solutions to barriers for optimal stroke care, such as:

- Public awareness initiatives
- Emergency response protocols
- Primordial, primary and secondary prevention of stroke
- Rehabilitation of stroke patients
- Continuous quality improvement initiatives and
- Availability of public support to treat indigent and uninsured stroke victims.

Although HJR 635 was left in the House Committee on Rules, JCHC included the study in its work plan.

In response to the findings of this study, six options were adopted by the Commission. Five options involved requests by letter of the Chairman including:

- Virginia Department of Health (VDH) to convene a standing Stroke Systems Task Force.
- Virginia Hospital and Healthcare Association to assist in encouraging all hospitals to establish a protocol for the rapid evaluation and subsequent admission or transfer of the stroke patient.
- VDH Office of Emergency Medical Services to report to JCHC regarding progress in developing a centralized data collection system for electronic medical records.
- Department of Medical Assistance Services (DMAS) to investigate the option for care coordination service payments for those who have had a stroke.
- Department of Social Services (DSS) and DMAS to investigate an expedited Medicaid determination review for acute stroke patients.

The sixth option was to introduce legislation to amend the *Code of Virginia* to require each regional EMS Council to create a uniform destination plan for pre-hospital stroke patients.

On behalf of the Joint Commission and staff, I would like to thank the numerous workgroup members and other participants who assisted in this effort to improve stroke care in Virginia.

Kim Snead
Executive Director
April 2008

Table of Contents

Stroke Prevention and Care

Staff Report

Authority for Study

House Joint Resolution (HJR) 635 (2007), introduced by Delegate John M. O'Bannon III, directed the Joint Commission on Health Care (JCHC) to study and develop strategies to address "stroke prevention and care across the Commonwealth" and to identify and propose solutions to barriers for optimal stroke care, such as:

- Public awareness initiatives
- Emergency response protocols
- Primordial, primary and secondary prevention of stroke
- Rehabilitation of stroke patients
- Continuous quality improvement initiatives, and
- Availability of public support to treat indigent and uninsured stroke victims.

Although HJR 635 was left in the House Committee on Rules, JCHC included the study in its work plan. HJR 635, as introduced, is included in Appendix A.

When JCHC undertook the study, a workgroup was convened with members that had diverse interests and expertise regarding strokes. Participants included:

- A neurologist
- A neuroradiologist
- An emergency care physician
- A general practice physician
- A licensed nurse
- A pharmacologist
- An administrator of a small rural hospital
- An administrator of a Primary Stroke Center
- An administrator of an accredited stroke rehabilitation facility
- A stroke survivor
- A stroke caregiver
- Representatives of:
  - VDH Division of Chronic Disease Prevention
  - VDH Emergency Medical Services
  - American Stroke Association
  - Medical Society of Virginia
  - VCU Center on Health Disparities
  - Virginia Hospital & Healthcare Association

Background

A stroke is loss of brain functions caused by loss of blood circulation or rupture of a blood vessel. There are three types of strokes:

- Hemorrhagic - the most likely to be lethal, occurs when a blood vessel in the brain breaks leaking blood into the brain;
- Ischemic - the most frequent type of stroke, occurs when arteries are blocked by blood clots or by the gradual build-up of plaque and other fatty deposits;

- Transient ischemic attack (TIA) which is also known as a "mini-stroke" occurs when stroke symptoms are present but last for less than 24 hours.

Although experiencing a stroke is a serious medical emergency, only 17 percent of Americans can accurately identify signs of a stroke and recognize the need to call 911 immediately.[1] Rapid treatment of strokes is critical. According to the American Heart Association, the common symptoms of a 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; or,
- Sudden severe headache with no known cause.

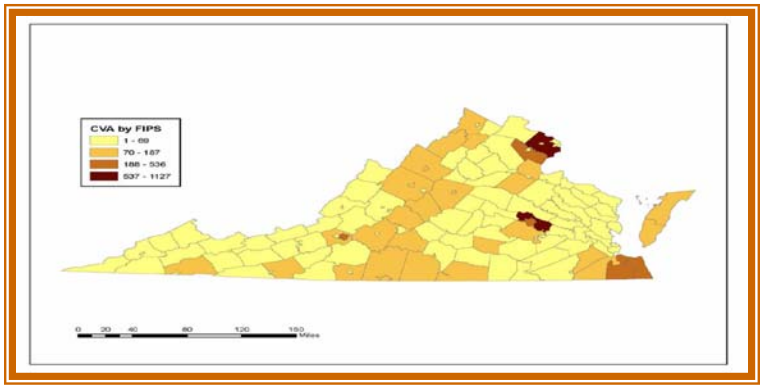
Virginia Stroke Statistics

Stroke is the third leading cause of death in the Commonwealth.[2] Statistics from 2004 indicate:

- 3,681 Virginians died from a stroke[3]
- For every 100,000 Virginians, 54 died from a stroke[4]
- For every 100,000 black Virginians, 79 died from a stroke.[5]

The number of stroke patients that emergency medical services (EMS) responded to over a two-year period is shown in Figure 1.

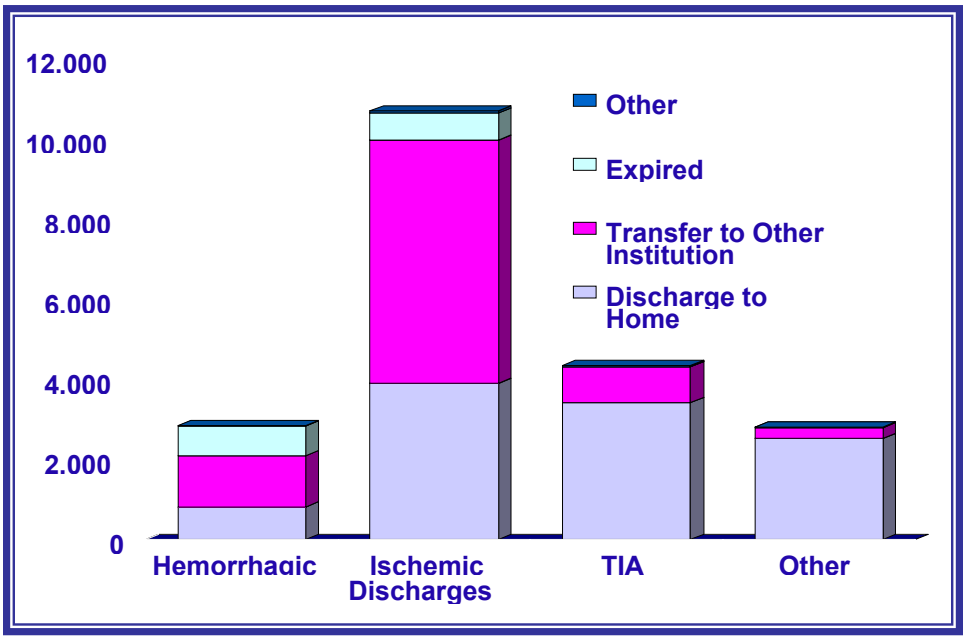
Figure 1: EMS Stroke Patients in Virginia[6]



[1] Behavioral Risk Factor Surveillance System survey, "told they had experienced a stroke" aggregated for 2003-2004, stroke signs and symptoms (2004).
[2] Burden of Cardio Vascular Disease in Virginia, Stephanie Gruss, VDH (July 26, 2006). http://www.vahealth.org/cdpc/cvh/documents/Burden_of_Cardiovascular_Dz_07-06.pdf>.
[3] Virginia Health Information (VHI) Hospital Discharge Dataset, 2004
[4] VDH, Division of Health Statistics, 2004
[5] *Id.*
[6] Sabina Braithwaite, MD presentation to Stroke Systems Workgroup (July 11, 2007).

In 2006, Virginia hospitals had 20,674 stroke patient discharges.[7] Figure 2 shows patient discharges from Virginia hospitals for the different types of stroke. Virginia's most common type of stroke is ischemic and the most likely to be fatal is hemorrhagic. Ischemic strokes also represent the highest level of discharge to a nursing facility and rehabilitation center.

Figure 2: Virginia Hospitals Patient Discharges by Stroke Types (CY2006)[8]



Acute Stroke Treatment Coordination

As a result of stroke onset enough blood is not reaching the brain and therefore the brain is dying. Medical treatments are available to lessen the stroke's effect or in some cases to restore the blood flow to the brain. Some treatments that potentially reduce additional brain damage and/or prevent complications can be used immediately on admission to the emergency department, examples of these include: providing IV fluids to increase blood flow, antiplatelet therapy (similar to using an aspirin for heart attack), blood pressure control, and glucose control.

One treatment that is effective for some ischemic stroke patients is the injection of a Tissue Plasminogen Activator (TPA). The Food and Drug Administration approved the use of TPA if it is given within three hours from known stroke onset. TPA can breakdown clots to allow for the resumption of blood flow to the brain. However, this procedure can be dangerous, if not fatal if given to the wrong patient. Workgroup discussion indicated when this treatment is given not only does the hospital typically have the equipment and resources needed to

[7] *Supra* note 4.
[8] Diane Hillman, Dr. H.A. Presentation to Stroke Systems Workgroup (July 11, 2007).

perform the procedure but also to address severe complications, if there are any. It is difficult to ensure that TPA is administered within three hours of stroke onset. Best practices stroke protocols for administering TPA include the following steps:

Best Practices for Stroke Protocols[9]

1. Patient (or witness) awareness of symptoms calls 911 or chooses fastest transport to ED (for rural areas and stable patient, may be by private conveyance).
2. EMS dispatched at high priority.
3. EMS arrival, immediate evaluation and transport.
4. EMS verifies time of onset with patient/witness.
   - Secure witness location for questions from medical staff - at home or on phone.
5. EMS performs routine actions such as history taking, physical evaluation, etc. and:
   - Pre-hospital stroke scale, finger stick for gross blood sugar level (low blood sugar can create symptoms like stroke), thrombolytic screen.
   - Most EMS units do not do thrombolytic screen, EMS pre-screen for thrombolytics is an "optimal" state" function.
6. EMS pre-notifies receiving emergency department (ED):
   - Possible stroke, time of onset, pre-hospital stroke scale score, blood sugar level, and brief history.
7. ED pre-notified neurology/Acute Stroke Team of incoming stroke.
8. EMS arrival to ED with rapid triage to room and/or directly to CT scanner depending on status/stability.
9. Head CT and labs completed and read.
10. Acute Stroke Team [Neurologist/ED physician] evaluation:
    - Verifies diagnosis of stroke by clinical history
    - Verifies time of onset (determines treatment options)
    - Determines stroke severity (NIHSS stroke scale score).

Based on results of: time of onset; CT; Labs; stroke severity; inclusion/exclusion for rt-PA/interventional reperfusion (MERCI or Penumbra clot removal/retrieval interventions); emergency department doctor, medical doctor and/or neurologist makes treatment decision.

As illustrated, the medical response to acute stroke patients requires great coordination and precision to meet the three-hour timeframe for the TPA procedure. Even if TPA is not the treatment of choice, it is important to initiate medical care quickly because every second blood is not getting to the brain more

[9] Email from Dr. Timothy J. Shephard, *Stroke Systems Consulting*, to Stephen Bowman, *Joint Commission on Health Care* (Aug. 17, 2007).

damage is done. The number of individuals involved in the medical response may include but are not limited to:

- emergency medical technician
- EMS drivers, dispatchers
- emergency room admissions officers
- emergency room doctors
- nurses
- neurologists
- radiologists and
- CT scanner technicians.

Acute Stroke Care Hospitals Roles

Although hospitals are located throughout the Commonwealth, not all have the same resources and personnel to address all stroke issues. Consequently, some hospitals are better positioned to deliver medical care for some acute stroke patients. The *Stroke Hospital Roles Survey*, conducted by Stroke Systems Consulting, included 81 hospitals/hospital systems in the Commonwealth. These hospitals/hospital systems were organized into levels of stroke-readiness as defined below.

LEVEL 1 - Comprehensive Stroke Center (CSC) - (6 hospitals): As defined by the Brain Attack Coalition (BAC) criteria and survey. A CSC can provide care for all levels of acute, sub-acute and chronic stroke and stroke related conditions (diabetes, hypertension, rehabilitation, investigational therapies, etc.). A CSC can also provide care for the most complex stroke patients including but not limited to those requiring expertise in neurosurgical, neuroimaging, neurointerventional, and neuroclinical care. There is not a current certification program for CSCs, but the BAC recommendations for CSCs can be found on their web site.

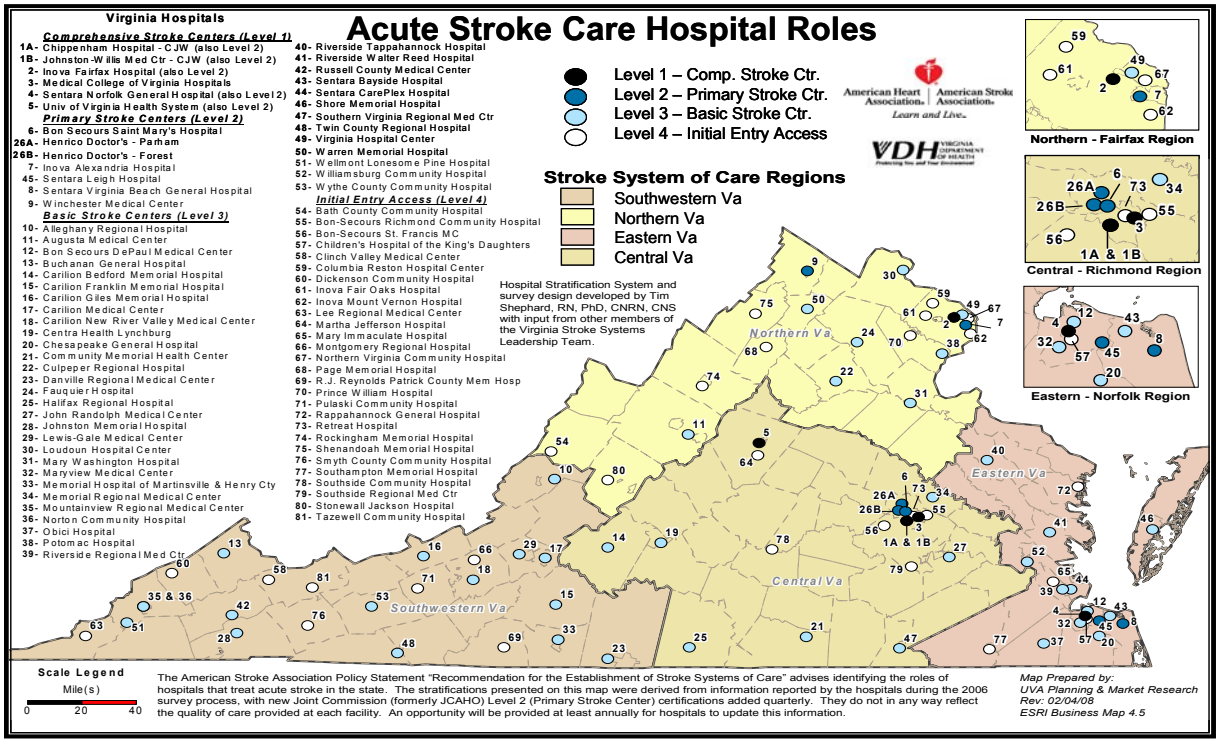
LEVEL 2 - Primary Stroke Center (PSC) - (7 hospitals):
As defined by The Joint Commission (formerly JCAHO) certification criteria (developed in collaboration with the American Stroke Association and based on the Brain Attack Coalition's "Recommendations for the Establishment of Primary Stroke Centers"). This type of institution has been certified by The Joint Commission as a Primary Stroke Center. For further information see The Joint Commission's web site.

LEVEL 3 - Basic Stroke Center (BSC) - (44 hospitals):
This is typically a larger institution that may not have the stroke volume, market competition or strategic initiative to become a certified PSC but has many of the components of a PSC as noted in national survey results (5, 6). By definition this type of institution can fulfill many of the functions of a PSC, although the strategic administrative, clinical, fiscal and/or market impetus is not present to create the internal support for implementing the remaining infrastructure components. This type of institution may or may not plan to seek PSC certification.

LEVEL 4 - Initial Entry Access (IEA) - (28 hospitals):
Although this type of institution may have a fully functional Emergency Department, they may not have the stroke volume to provide the impetus to invest in the full infrastructure of a PSC or seek certification. This is typically a smaller institution, those with a very limited stroke population and/or PSC capability only during weekday working hours. They may treat and transport or elect to transfer hyper-acute strokes. Implementation of telemedicine/teleradiology, transfer agreements and pre-planned transfer routes/service will be most useful in integrating this type of institution within a regional stroke system.

There are thirteen Level 1 and 2 hospitals, forty-four Level 3 hospitals, and twenty-eight Level 4 hospitals. Figure 5 uses the definitions above to display the Commonwealth's hospitals into the distinct stroke-readiness levels.

Figure 5: Acute Stroke Care Hospital Roles



Stroke Workgroup Discussion and Recommended Options

The JCHC-convened workgroup met four times throughout the summer of 2007 (June 8, July 11, July 27, and August 14). Discussions and presentations addressed background information and stroke prevalence, as well as a review of the stroke systems in place related to prevention, emergency and continuing care, rehabilitation, and ongoing improvement efforts. After much deliberation, the workgroup developed and recommended eight options (including the option to take no action) for JCHC consideration. Description of the seven options to improve stroke systems in the Commonwealth follows.

Creation of Standing Stroke Systems Task Force. The workgroup agreed on the need to designate a standing task force to address 28 recommended strategies for developing a continuum of stroke care in Virginia. The distribution of the 28 strategies is shown above each area of care in Figure 6. The strategies are described in Appendix B: *Virginia Stroke Systems of Care: Work Plan*. The *Work Plan* is based on "Recommendations for Establishing Stroke Systems of Care" a Policy Statement of the American Stroke Association (ASA). The *Work Plan* represents an assimilation of strategies developed by the Virginia Stroke Systems Leadership Team and subsequently reviewed, amended and approved by the Stroke Systems Workgroup. The continuum of care or the *Work Plan* can be changed as needs and resources change by addressing component ratings, resources, and strengths/gaps in care.

Figure 6: Stroke Continuum of Care[10]

VDH Designation of "Primary Stroke Centers." The workgroup recommended introducing legislation to provide the VDH Commissioner with the authority to designate a hospital as a "primary stroke center." A hospital would have to be accredited as a primary stroke center by the Joint Commission or receive a similar designation by an equivalent national accrediting body in order to be designated by the State as a PSC. This recommendation was made primarily because one hospital advertised that it was a PSC even though it was not accredited by the Joint Commission as such. Fortunately the hospital voluntarily agreed to stop the advertising themselves as a PSC. However, the State had no authority to take action if the hospital chose to continuing to advertise as a PSC.

Establishment of Hospital Protocols for Stroke Treatment. The workgroup recommended that all hospitals establish protocols for the rapid evaluation and

[10] This graphic was created by VDH and was modified to include the number of strategies for each area as well as including the "Availability of public support to treat indigent and uninsured stroke victims.

subsequent admission or transfer of stroke patients. Protocols, even if simple, have been shown to improve outcomes. Each hospital would be expected to have a set of reviewed, written protocols so that the best decisions for acute stroke patients could be made in a standardized, time-efficient manner. These protocols would not be intended to create a standard of care requirement. The workgroup suggested that establishing protocols could be accomplished by introducing legislation to require the protocols or by allowing VHHA to encourage hospitals to develop them.

Creation of Regional Stroke Triage Plans for Emergency Medical Services. The workgroup recommended introducing legislation to require that each regional EMS Council create a uniform destination plan for pre-hospital stroke patients. These plans would incorporate each region's diverse geography, travel times, and medical resources, to ensure that the stroke patient would be taken to the appropriate hospital. Valuable time is wasted when a patient is taken to one hospital, assessed and then transported to yet another hospital for needed care instead of being transported directly to the appropriate hospital.

Reporting on the Collection of Electronic Medical Records. The VDH Office of Emergency Medical Services is working to include electronic medical record data in its Pre-hospital Patient Care Reporting (PPCR) system. The PPCR currently includes ambulance response data. When the medical records component is added, a more complete picture of response and transport times as well as the drugs and procedures initiated during transport will be available. The workgroup recommended that OEMS report to JCHC in 2008 regarding progress made in including medical record data within the PPCR.

Consideration of Stroke-Related Care Coordination Payments. Care coordination assists in organizing a patient's necessary care from different health care providers so the patient's holistic treatment will be timely and effective. The Department of Medical Assistance Services (DMAS) only pays for care coordination services for a limited number of conditions – not including stroke. The workgroup recommended asking DMAS to consider reimbursing for care coordination for stroke patients to facilitate access to medical and rehabilitative services.

Consideration of Expedited Review for Medicaid. An expedited review is a quicker determination of whether an individual is eligible for Medicaid. Currently, DMAS only allows for expedited reviews for a limited number of conditions – not including stroke. The workgroup recommended that DMAS consider allowing expedited review of those stroke patients who appear to be Medicaid-eligible. Recovery following a stroke can be limited by any delay in receiving specialized medical or rehabilitative care. The lack of a payor can result in delays in finding providers for needed care.

Options

A total of thirty-four comments were submitted. Thirty-one supported Options 2 - 8. Two comments addressed Option 5, while neither supporting nor opposing. Finally, Virginia Hospital and Health Care Association supported Options 4B, 7, and 8, opposed Option 3, and addressed Options 2 and 4A.

Option 1: Take no action

☑ **Option 2:** By letter of the Chairman request that VDH convene a standing Stroke Systems Task Force to address improvement in Virginia's Stroke Systems, meet quarterly, and focus on:

- Stroke systems work plan
- Topics referred from stroke systems workgroup
- Other stroke issues/concerns, as necessary
- Outcome analysis of interventions

Task force membership shall include:

- Neurologist
- Neuroradiologist
- Emergency care physician
- Two family practice physicians
- Licensed nurse
- Pharmacologist
- Small rural hospital administrator actively involved in stroke care
- Primary Stroke Center hospital administrator
- Office of Emergency Medical Services representative
- VDH Division of Chronic Disease Prevention representative
- Stroke survivor
- Administrator from an accredited stroke rehabilitation facility
- Stroke caregiver
- American Stroke Association representative
- Virginia Hospital & Healthcare Association representative
- Medical Society of Virginia representative
- VCU Center on Health Disparities representative
- Virginia Association of Health Plans representative
- Physical Medicine and Rehabilitation Physician

Public Comment - Option 2:

Thirty-one comments in support of Option 2.
Additional comment:

VHHA neutrally commented regarding Option 2 – VHHA supports increased efforts to improve all care and will participate in the task force but find the legislative mandate "unnecessary and inappropriate."

Option 3: Amend the *Code of Virginia* to grant the Department of Health's Commissioner the authority to designate certain hospitals to be a "Primary Stroke Center" when accredited as a "Primary Stroke Center" by the Joint Commission or similar designation by another equivalent national accrediting body (similar to trauma designations).

Public Comment – Option 3:

Thirty-one comments in support Option 3.
One comment opposed

Additional comments:

> American Heart Association (AHA) commented in support of Option 3 – "This option regards more than the punitive aspect of 'truth in advertising.' …. [It is] a crucial building block for establishing a full stroke system of care. This state-level designation will be important in addressing EMS destination plans for pre-hospital stroke patients, developing inter-hospital transfer protocols, and developing an accurate picture of care across the state. In addition, this designation will be an important tool for educating the public about the role of Primary Stroke Centers."

> VHHA commented in opposition to Option 3 – Duplicating the Joint Commission (formerly JCAHO) accreditation of 'Primary Stroke Center' is "redundant and unnecessary." "In the very limited instances of which we are aware of this occurring in Virginia, simple explanation to the institution that this is inaccurate provided sufficient to correct the situation…. Option 3 appears to be a redundant solution to an infrequent problem…. If such a designating authority were granted to VDH, it would be important that hospitals that unwittingly use the title 'Primary Stroke Center' be given ample opportunity to correct innocent mistakes before being sanctioned."

Option 4: Establish hospital guidelines for stroke treatment. (JCHC may support either or both)

- **4A** - Amend the *Code of Virginia* to mandate that all hospitals establish a protocol for the rapid evaluation and subsequent admission or transfer of the stroke patient.

Public Comment – Option 4A:

Thirty-one comments in support of Option 4A.
Additional comment:

> VHHA neutrally commented regarding Option 4A- "Hospital and health systems already have protocols for the appropriate disposition

of patients…. **VHHA would oppose** this option if it prescribed the content of the protocols or was accompanied by an inadequate opportunity to correct prior to enforcement or sanction." If this option is accepted, look to § 32-127 B. E. as a model for the language (protocols for obstetrical services).

☑ **4-B** - Letter from JCHC chairman to VHHA requesting assistance on encouraging all hospitals to establish a protocol for the rapid evaluation and subsequent admission or transfer of the stroke patient.

Public Comment – Options 4A and 4B:

AHA –"The American Stroke Association supports policies that require hospitals to have plans and protocols in place for stroke treatment. This option should not be construed to dictate the contents of the hospital plan….including whether to provide care on site or transfer. This area has been identified by national stroke experts and the American Stroke Association as a key benchmark to building effective stroke systems and achieving quality patient care."

☑ **Option 5:** Amend the *Code of Virginia* to require each regional EMS Council to create a uniform destination plan for prehospital stroke patients, with partners including the Office of Emergency Medical Services (OEMS) and public safety answering points (PSAPS), as well as other organizations as deemed appropriate.

Public Comment –Option 5:

Thirty-one comments in support of Option 5.
Additional comments:

AHA – "The need for standardized EMS triage and treatment plans is clearly established on a national level…" A short time frame of 3 hours for thrombolytic treatment "makes it critical for the transport system to respond through an established and organized protocol designed to minimize avoidable delays." Because of Virginia's diverse demographic and geographic issues a regional approach is supported instead of a statewide protocol.

VDH Office of Emergency Medical Services (OEMS) – "There are 11 Regional EMS Council areas….on any given day the availability of EMS resources and personnel cannot be guaranteed. An experienced advanced life support (ALS) provider with advanced skills may be on duty today, while tomorrow an entry-level EMT with more limited patient care skills and field experience…. Also, the thrust of this option … does not adequately recognize the variable nature and availability of EMS resources. For example, to require inexperienced EMS providers to bypass a closer hospital in order to transport patients to designated Primary Stroke Center, that in many cases would be a great distance away, would place undue hardships on the resources of some

if not all of the EMS regions … and might increase exposure to liability for EMS personnel."

"Enactment of this type of legislation would require contract modifications and additional funding to develop, implement and appropriately manage the proposed destination plan. Additionally, the Regional EMS Councils are non-profit organizations that function as contractors for OEMS and hold no authority to enforce a destination plan."

Michael Ashby M.D. – "A single destination hospital should not be designated until the possible effect of all stroke patients going to that destination is studied. The new hospital could be challenged with the new volume. This could have a negative impact on other emergency department patients using that emergency department."

☑ **Option 6:** Request by letter of the Chairman that OEMS report to JCHC in 2008 regarding progress in developing a centralized electronic medical record data collection.

Public Comment – Option 6:

Thirty-one comments in support of Option 6.
Additional comment:

VDH Office of Emergency Medical Services – "if the option is directed solely at OEMS' Pre-hospital Patient Care Reporting (PPCR) system, which collects ambulance response data, then the Option should be revised to state that clearly…. OEMS has been actively pursuing approval to plan and procure a modernized electronic patient care reporting (e-PCR) system…. OEMS would be pleased to report to the JCHC on the status of this project upon request."

☑ **Option 7:** Request by letter of the Chairman that Department of Medical Assistance Services (DMAS) investigate the option for care coordination service payments for those who have had a stroke.

Public Comment- Option 7:

Thirty-two comments in support of option 7.
Additional comment:

VHHA comment in support of Option 7– "Virginia's Department of Medical Assistance Services should investigate the option for care coordination service payments to promote more effective and efficient treatment of all patients with acute conditions, including stroke patients."

☑ **Option 8:** Request by letter of the Chairman that Department of Social Services (DSS) and DMAS investigate an expedited Medicaid determination review for acute stroke patients.

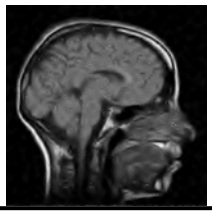
Public Comment- Option 8:

Thirty-two comments in support of Option 8.
Additional comment:

> VHHA comment in support of Option 8 – "Increasing the speed of eligibility determinations should facilitate faster flow of resources to hospitals and health systems. In fact there may be many such disease states or conditions that should have faster eligibility reviews."

JCHC Staff for this Report
Stephen W. Bowman
Senior Staff Attorney/Methodologist

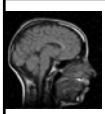
Virginia Stroke Systems



Presented to the:
Joint Commission on Health Care

October 17, 2007

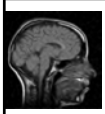
Stephen W. Bowman
Senior Staff Attorney/Methodologist



Agenda

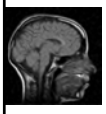
- **Overview (HJR 635)**
- **Stroke and Stroke Systems Information**
- **Virginia Stroke Systems Strategy Recommendations**
- **Policy Options**

Overview



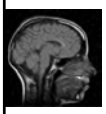
HJR 635

- HJR 635 (O'Bannon) directed JCHC to study and develop strategies that address "stroke prevention and care across the Commonwealth"
- HJR 635 was left in House Rules Committee; however, JCHC agreed to include the study in its workplan.



HJR 635

- JCHC was requested to identify and propose solutions to barriers for optimal stroke care, such as:
  - Public awareness initiatives
  - Emergency response protocols
  - Primordial, primary and secondary prevention of stroke
  - Rehabilitation of stroke patients
  - Continuous quality improvement initiatives, and
  - Availability of public support to treat indigent and uninsured stroke victims



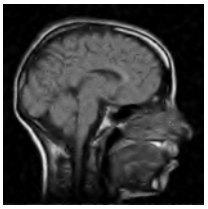
Stroke Systems Workgroup Membership

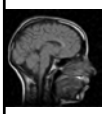
- Neurologist
- Neuroradiologist
- Physician - emergency care
- Physician - general practice
- Licensed nurse
- Pharmacologist
- Administrator - small rural hospital
- Administrator - primary stroke center
- Administrator - accredited stroke rehabilitation facility
- Stroke survivor
- Stroke caregiver

Representatives from:

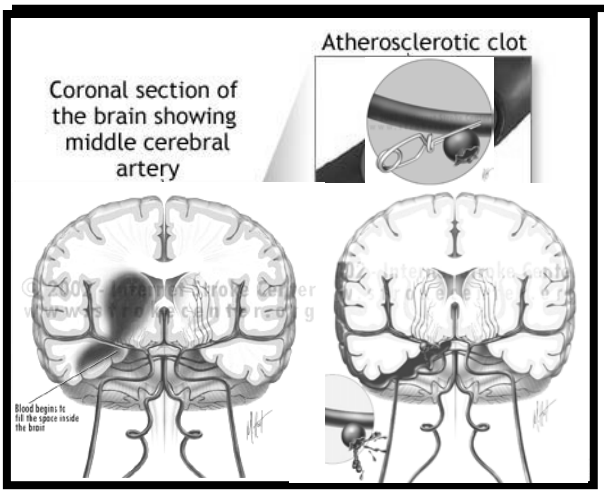
- Virginia Department of Health - Division of Chronic Disease Prevention
- American Stroke Association
- Medical Society of Virginia
- VCU Center on Health Disparities
- Virginia Hospital & Healthcare Association

Stroke and Stroke Systems Information



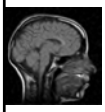


What is a Stroke?



- Loss of brain functions caused by a:
  - **loss of blood circulation, or**
  - **rupture of a vessel.**
- Blood leak (hemorrhage) occurs inside the brain or surrounding the brain

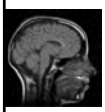
Graphic Sources - Skull and brain - http://www-stat.stanford.edu/~jstarck/brain.html
–Brain and clot - http://www.strokecenter.org/patients/ich.htm



Stroke Symptoms

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

Source: American Heart Association website: http://www.americanheart.org/presenter.jhtml?identifier=4742 Last accessed 9/6/07

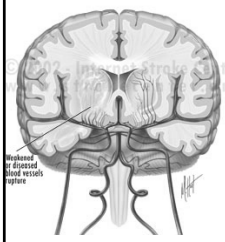


Important Stroke Facts

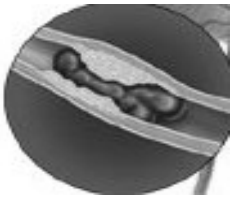
- Only 17% of Americans can accurately identify signs of stroke and recognize the need to call 911 immediately
- Rapid treatment of strokes is critical

Source: American Heart Association: Preventing and Treating Stroke, Legislator Policy Brief

Types of Stroke



- **Hemorrhagic** - occurs when a blood vessel in the brain breaks leaking blood into the brain
- **Ischemic -** occurs when arteries are blocked by blood clots or by the gradual build-up of plaque and other fatty deposits



- **Transient Ischemic Attack (TIA)** - stroke symptoms that always last less than 24 hours before disappearing

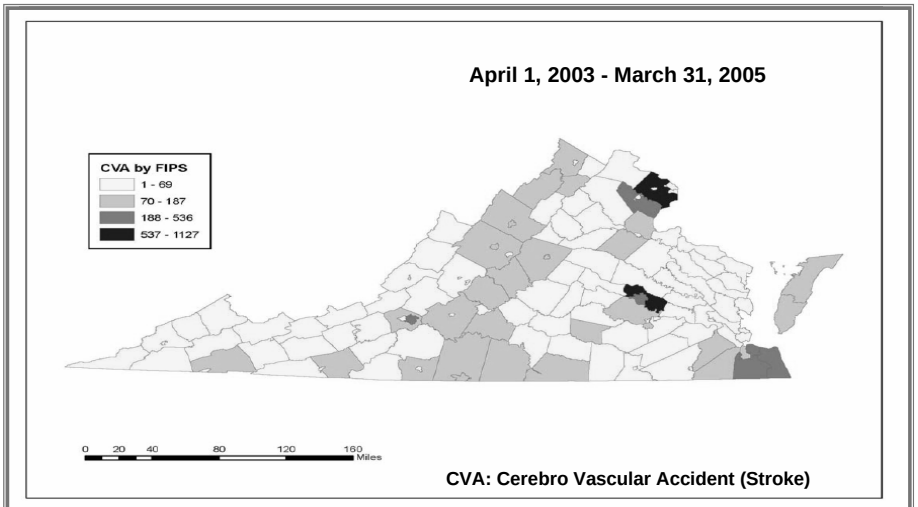
Source: Definitions from National Stroke Association website accessed 8/13/07

Virginia Stroke Statistics

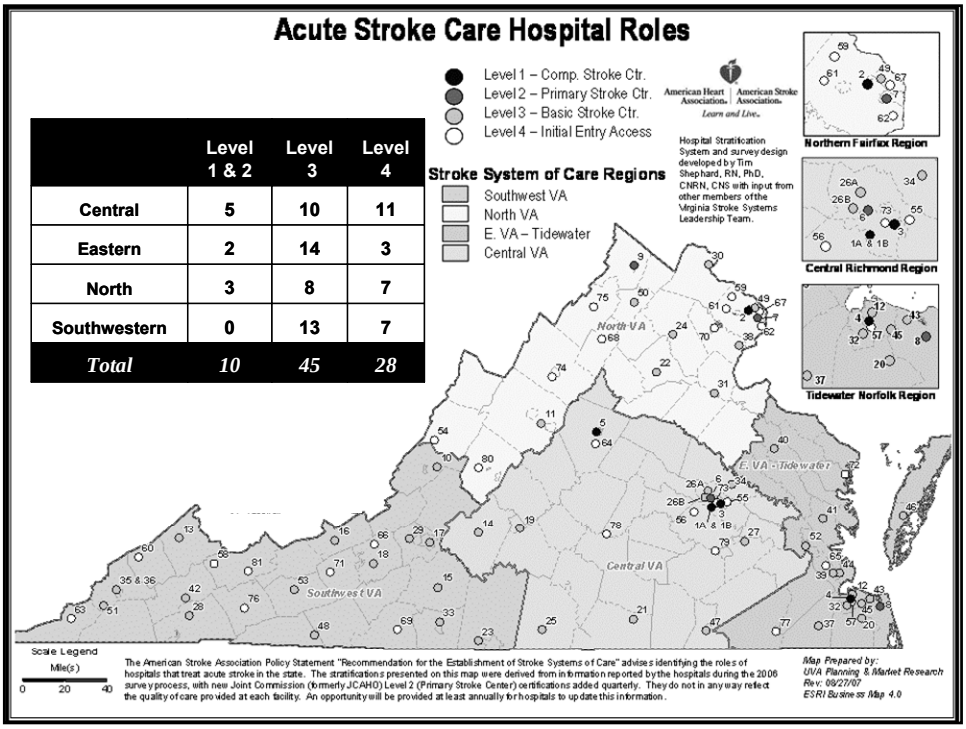
- 20,674 stroke patient discharges from Virginia hospitals in 2006*
  - 2000-06 average is 21,170 strokes*
- 3,681 Virginians died from a stroke (2004)**
- For every 100,000 Virginians, 54 died from a stroke (2004)**
- For every 100,000 Black Virginians, 79 died from a stroke (2004)**

Sources: *Compiled from discharge data provided by Diane Hillman Dr.H.A, ** Virginia Department of Health

EMS Stroke Patients in Virginia



Source: From Sabina Braithwaite, MD presentation to Stroke Systems Workgroup July 11, 2007



	Level 1 & 2	Level 3	Level 4
Central	5	10	11
Eastern	2	14	3
North	3	8	7
Southwestern	0	13	7
Total	*10*	*45*	*28*

Stroke Center Designations

- **Designations are for baseline informational purposes not for accreditation purposes**
  - Only "Primary Stroke Center" designation is complete and refined enough for a hospital accreditation

Levels

1 - Comprehensive Stroke Center (CSC) can provide care for all levels of acute, sub-acute and chronic stroke and stroke related conditions as well as for the most complex stroke patients. No current certification process.

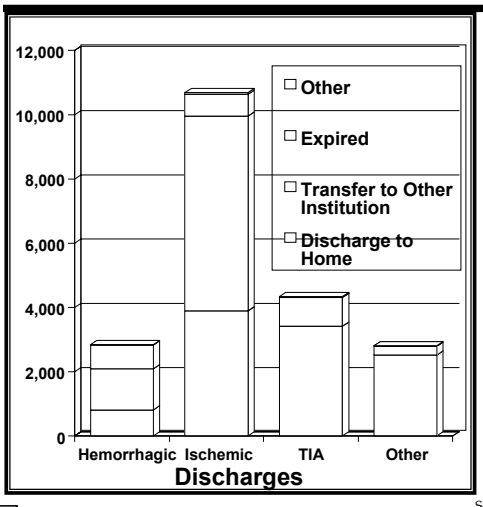
2 - Primary Stroke Center (PSC): Defined by the Joint Commission (formerly the Joint Commission on Accreditation of Healthcare Organizations).

3 - Basic Stroke Care (BSC): Has not become certified PSC but has many of the components of a PSC.

4 - Initial Entry Access (IEA): Typically a smaller institution with a very limited stroke population and/or PSC capability only during weekday working hours. They may treat and transport or elect to transfer hyper-acute strokes and have implemented telemedicine/teleradiology, transfer agreements and pre-planned transfer.

Source: Acute Stroke Care Hospital Roles, American Heart Association

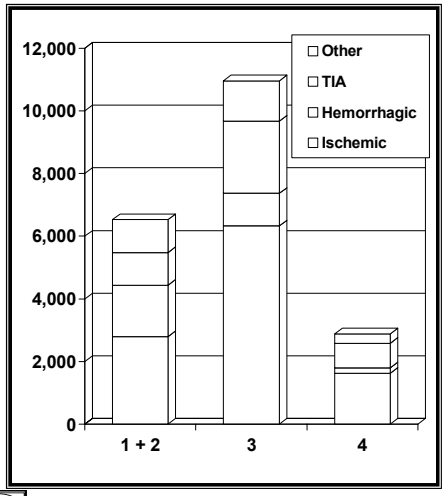
Patient Discharges by Stroke Types for all Virginia Hospitals – CY2006



- Hemorrhagic strokes are the most likely to be fatal
- Ischemic strokes represent the highest level of discharge to other institutions
  - This includes skilled nursing facilities (SNF) and rehabilitation centers

Source: Diane Hillman, Dr.H.A. Presentation to Stroke Systems Workgroup July 11, 2007

FFY05-06 Mix of Stroke Types at Virginia Hospitals



Level 1 and 2
PSCs & CSCs serve a disproportionate percentage of hemorrhagic stroke patients

Level 3
Serves the highest volume of stroke patients

Level 4
Serves the fewest patients

Source: Diane Hillman, Dr.H.A. Presentation to Stroke Systems Workgroup July 11, 2007

Acute Stroke Treatment

- TPA -Tissue Plasminogen Activator*
  - Within 3 hours from known time of onset*
  - Intra-arterial TPA within 6 hours
- MERCI Retriever**
  - Within 8 hours from known time of onset

*FDA-approved – 1996
**FDA-approved for "clot removal"

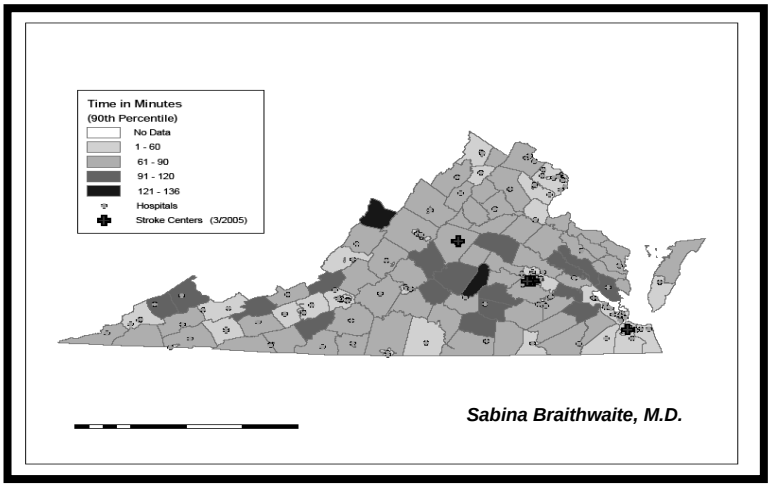
Source: Tim Shephard, PhD (personal communication, 8/17/07)

Acute Stroke Treatment (cont'd)

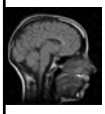
- Other treatments that can reduce brain damage and prevent complications:
  - Blood pressure control
  - Glucose control
  - IV fluids (increase blood flow)
  - Antiplatelet therapy (similar to aspirin for heart attacks)
  - Surgery (i.e. "carotid endarterectomy, CEA")

Sources: Tim Shephard, PhD (personal communication, 8/17/07)
Nina Solenski, M.D. (personal communication, 9/24/07)

Length of Time From 911 Call to Patient's Arriving at Hospital *(90th Percentile)*



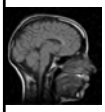
Source: Sabina Braithwaite, M.D. presentation to Stroke Systems Workgroup July 11, 2007



Best Practice for Stroke Protocols

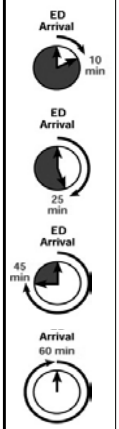
1. Patient (or witness) awareness of symptoms calls 911.
2. EMS dispatched at high priority.
3. EMS arrival, immediate evaluation and transport.
4. EMS verifies time of onset with patient/witness.
   - Secure witness location for questions from medical staff - at home or on phone.
5. EMS performs routine actions such as history, physical evaluation, etc. and:
   - Pre-hospital stroke scale, finger stick for gross blood sugar level (low blood sugar can create symptoms like stroke), thrombolytic screen.
6. EMS pre-notifies receiving emergency department (ED):
   - Possible stroke, time of onset, pre-hospital stroke scale score, blood sugar level, and brief history.

Sources: Tim Shephard, PhD (personal communication, 8/17/07)
Nina Solenski, M.D. (personal communication, 9/24/07)



Best Practice for Stroke Protocols
(Cont'd)

ED Time Goals*

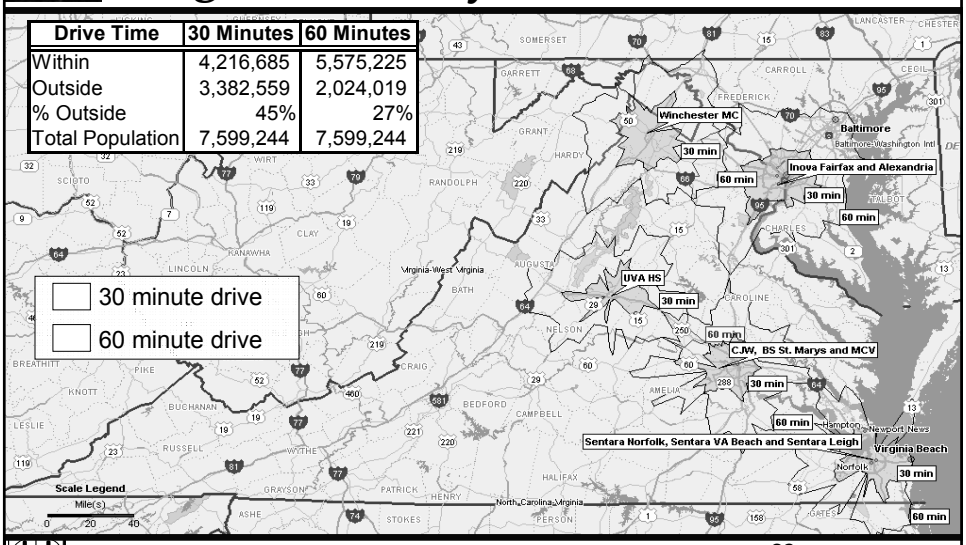


7. ED pre-notified neurology/Acute Stroke Team of incoming stroke.
8. EMS arrival to ED with rapid triage to room and/or directly to CT scanner depending on status/stability.
9. Head CT completed and read.
10. Acute Stroke Team [Neurologist/ED physician] evaluation:
    - Verifies diagnosis of stroke by clinical history
    - Verifies time of onset (determines treatment options)
    - Determines stroke severity (NIHSS stroke scale score)
    - Reviews inclusion/exclusion criteria for treatment with TPA or MERCI clot retrieval.
11. Based on results above, ED MD and/or Neurologist makes treatment decision.

Sources: Tim Shephard, PhD (personal communication, 8/17/07)
Nina Solenski, M.D. (personal communication, 9/24/07)
* Circulation 2005;112:IV-111-IV-120

Drive Times from Virginia Primary Stroke Centers

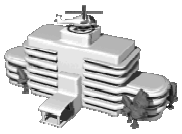
Drive Time	30 Minutes	60 Minutes
Within	4,216,685	5,575,225
Outside	3,382,559	2,024,019
% Outside	45%	27%
Total Population	7,599,244	7,599,244



Source: Diane Hillman, Dr.H.A. Presentation to Stroke Systems Workgroup July 11, 2007 **23**

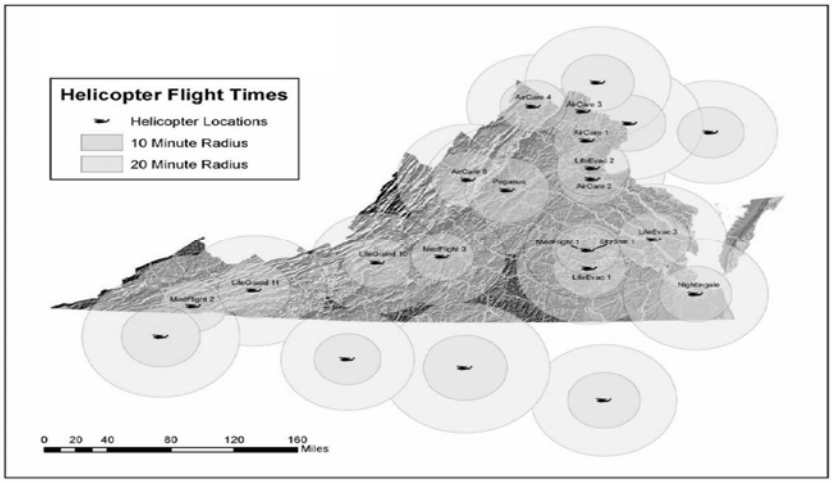
Air Ambulances Are Used to Move Patients Quickly

- 16 Air Ambulances are based in Virginia
  - 2 new (NOVA, Virginia Beach)
- 20 Air Ambulances cover some portion of Virginia within 20 minute flight time



Source: Sabina Braithwaite presentation to Stroke Systems Workgroup July 11, 2007 **24**

Helicopter Flight Times



Source: Sabina Braithwaite, M.D. presentation to Stroke Systems Workgroup July 11, 2007

Virginia Stroke Systems Strategy Recommendations

A Stroke Systems Workplan Was Created and Approved

Virginia Stroke Systems of Care: Work Plan

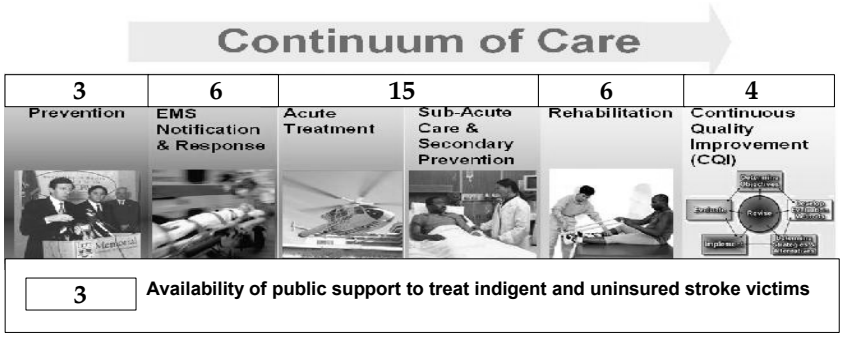
This document is based on the ASA Policy Statement, *Recommendations for Establishing Stroke Systems of Care* and represents an assimilation of strategies developed by the Virginia Stroke Systems Leadership Team. After which this was reviewed, amended and approved by the 2007 Joint Commission on Health Care's Stroke Systems Workgroup. It serves not just as a static document but can be changed as the needs and resources of Virginia's Stroke Systems change. This document is to be used as a strategy document to improve Virginia's Stroke Systems of Care by addressing component ratings, resources, and strengths and gaps in care. A table of abbreviations is included as an addendum.

PRIMORDIAL & PRIMARY PREVENTION OF STROKE

STRATEGY A-1: DEVELOP SOCIAL MARKETING STRATEGIES
DESCRIPTION: Engage multiple channels in providing community awareness and/or community education about stroke risk factors, signs and symptoms, and urgent response, in addition to information about lifestyle behaviors that lower risk.

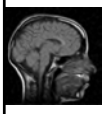
PARTNERS
VDH, VA Business Coalition on Health, OEMS, stakeholders, hospital systems

28 Strategy Recommendations for Stroke System Task Force*



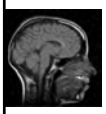
- Number of target strategies denoted above each area of care
- Recommendations include: strategy description, partners, tools, resources, accomplishments, next steps, and measures.

•*Some strategies apply to more than one area, therefore the sum of the areas is greater than the total number of approved strategies
•Graphic created by VDH and modified by JCHC staff



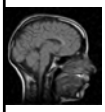
Strategy Recommendation Examples

- Public Awareness:
  - A-2: Engage partners in implementing awareness for high-risk populations
    - Identify existing educational programs and resources and develop strategies to promote and provide access to them.
- Emergency Response Protocols:
  - B-3: Promote the Use of Most Current Recommended Diagnostic Algorithms and Protocols by Emergency Medical Dispatchers
    - Put strategies in place to:
      - Provide for the most advanced level of prehospital care available,
      - Have consistent use of and prompt updating of established standards of response by EMS dispatchers, particularly non-traditional (ie, police, non-EMD).



Strategy Recommendation Examples (Cont'd)

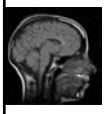
- Primordial, primary and secondary prevention of stroke:
  - A-7: Engage Partners in Providing Professional Education Relevant to Stroke Prevention
    - Encourage and support provision of professional education related to diagnoses and control of risk factors for stroke, in a format with measurable outcomes related to practice change.
- Rehabilitation of stroke patients:
  - E-1: Provide for and Promote Standardized Rehabilitation Screening Early in Treatment
    - Ensure that all stroke patients receive a standard screening evaluation during the initial hospitalization, with emphasis on assessment of all residual impairments.



Strategy Recommendation Examples (Cont'd)

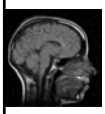
- Continuous quality improvement initiatives:
  - C-1: Improve Quality Of Hospital Care Through Promotion of Primary Stroke Centers (PSCS)
    - Conduct and analyze surveys to determine present levels of care available. Disseminate results and provide support systems to encourage more hospitals to develop enhanced stroke systems of care.
- Availability of public support to treat indigent and uninsured stroke victims:
  - F-2: Document Costs of Indigent and Uninsured Stroke Patients
    - Show the direct and indirect financial costs of these patients. Request that hospitals, doctors and rehabilitation providers to break out indigent and uninsured stroke patients cost to them.

Policy Options



Policy Options

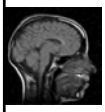
- **Option 1:** Take no action
- **Option 2:** Virginia Department of Health convene a standing **Stroke Systems Task Force** to address improvement in Virginia's Stroke Systems.
  - Quarterly meetings
  - Diverse membership
  - Focus on
    - Stroke systems work plan
    - Topics referred from stroke systems workgroup
    - Other stroke issues/concerns, as necessary
    - Outcome analysis of interventions



Policy Options

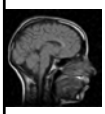
Option 2: Stroke System Task Force Membership

- Neurologist
- Neuroradiologist
- Emergency care physician
- 2 Family practice physicians
- Licensed nurse
- Pharmacologist
- Small rural hospital administrator actively involved in stroke care
- Primary Stroke Center hospital administrator
- Office of Emergency Medical Services representative
- VDH Division of Chronic Disease Prevention representative
- Stroke survivor
- Administrator from an accredited stroke rehabilitation facility
- Stroke caregiver
- American Stroke Association representative
- Virginia Hospital & Healthcare Association representative
- Medical Society of Virginia representative
- VCU Center on Health Disparities representative
- Virginia Association of Health Plans representative
- Physical Medicine and Rehabilitation Physician



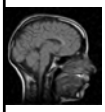
Policy Options

- **Option 3:** Designate certain hospitals as "Primary Stroke Centers"
  - Amend the *Code of Virginia* to grant the Department of Health's Commissioner the authority to designate certain hospitals to be a "Primary Stroke Center" when accredited as a "Primary Stroke Center" by the Joint Commission or similar designation by another equivalent national accrediting body. (Similar to trauma designations)



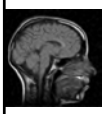
Policy Options

- **Option 4:** Establish hospital guidelines for stroke treatment
  - JCHC support either or both:
    - 4A - Amend the *Code of Virginia* to mandate that all hospitals establish a protocol for the rapid evaluation and subsequent admission or transfer of the stroke patient.
    - 4B - Letter from JCHC chairman to VHHA requesting assistance on encouraging all hospitals to establish a protocol for the rapid evaluation and subsequent admission or transfer of the stroke patient.



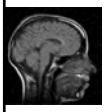
Policy Options

- **Option 5:** EMS regional Councils to develop regional stroke patient destination plans.
  - Amend the *Code of Virginia* to require each regional EMS Council to create a uniform destination plan for prehospital stroke patients, with partners including the Office of Emergency Medical Services (OEMS) and public safety answering points (PSAPS), as well as other organizations as deemed appropriate.



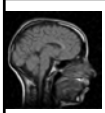
Policy Options

- **Option 6:** VDH briefing on OEMS medical record data collection system in 2008
  - Request by letter of the Chairman that OEMS report to JCHC in 2008 regarding progress in developing a centralized electronic medical record data collection.



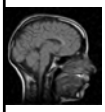
Policy Option

- **Option 7:** Improving care coordination for Medicaid stroke patients
  - Request by letter of the Chairman that Department of Medical Assistance Services (DMAS) investigate the option for care coordination service payments for those who have had a stroke.



Policy Option

- **Option 8:** Expedited Medicaid review for acute stroke patients
  - Request by letter of the Chairman that Department of Social Services (DSS) and DMAS investigate an expedited Medicaid determination review for acute stroke patients.



Public Comments

- Written public comments on the proposed options may be submitted to JCHC by close of business on October 31, 2007. Comments may be submitted via:
  - E-mail (sareid@leg.state.va.us)
  - Facsimile (804/786-5538) or
  - Mail to Joint Commission on Health Care
    P.O. Box 1322
    Richmond, Virginia 23218
- Comments will be summarized and presented to JCHC during its November 8th meeting.

Appendix A

071712440

INTRODUCED

HOUSE JOINT RESOLUTION NO. 635

Offered January 10, 2007

Prefiled January 9, 2007

Directing the Joint Commission on Health Care to study stroke prevention and care across the Commonwealth. Report.

Patron-- O'Bannon

Referred to Committee on Rules

WHEREAS, about 700,000 Americans each year suffer a new or recurrent stroke, meaning that, on average, someone in the United States suffers a stroke every 45 seconds; and

WHEREAS, stroke is the third leading cause of death in Virginia and the United States, responsible for about one out of every fifteen deaths; and

WHEREAS, stroke is a leading cause of serious long-term disability in the United States with about 4.8 million stroke survivors today; and

WHEREAS, Americans paid approximately $58 billion dollars in 2006 for stroke-related medical and disability costs that may be reduced through improved response, diagnosis, and treatment for stroke; and

WHEREAS, the Institute of Medicine (IOM) of the National Academy of Science has concluded that the fragmentation of the delivery of health care services frequently results in sub-optimal treatment, safety concerns, and inefficient use of health care resources; and

WHEREAS, the IOM has recommended the establishment of coordinated systems of care that integrate preventative and treatment services and promote patient access to evidence-based care; and

WHEREAS, the American Stroke Association's "Recommendations for the Establishment of Stroke Systems of Care" maintains that a systems approach is necessary to effect true change in the way stroke is treated nationwide so that patients have access to the most advanced treatment in centers that are best designed and equipped to deal with the critical and time sensitive needs of stroke patients; and

WHEREAS, a stroke system should create or support (i) interaction and collaboration; (ii) organized, standardized approaches; (iii) performance measures and continuous quality improvement; (iv) effective prevention, treatment and rehabilitation of stroke; (v) best patient care despite geopolitical boundaries or corporate affiliations; and (vi) flexibility to best fit the needs of each region or locality; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the Joint Commission on Health Care be directed to study stroke prevention and care across the Commonwealth. The Commission shall also develop strategies and policy recommendations to facilitate stroke prevention and care. Further, the Commission shall confer with health and medical professionals, representing geographically and demographically diverse areas of the Commonwealth, who specialize in the care and treatment of patients suffering new or recurrent strokes. Such professionals shall include (i) licensed practicing physicians in Virginia from each of the following fields: neurology; neuroradiology; emergency care; and internal medicine, general practice, or family practice; (ii) licensed practicing nurses; (iii) a hospital administrator who represents a small rural hospital actively involved in stroke care, and a hospital administrator who represents a hospital that is a certified Primary Stroke Center, upon the recommendation by the Virginia Hospital and Healthcare Association; (iv) representatives of the State Health Department's Office of Emergency Medical Services, and the manager of the Heart Disease and Stroke Prevention Project of the Division of Chronic Disease Prevention; (v) an administrator from a Commission on Accreditation of Rehabilitation Facilities (CARF)-accredited stroke rehabilitation facility; (vi) a stroke survivor or caregiver; (vii) a representative from the American Stroke Association; (viii) a representative of the Old Dominion Medical Society; (ix) representatives of the Virginia Hospital and Healthcare Association, the Medical Society of Virginia, and other stakeholders as appropriate.

In conducting its work, the Joint Commission on Health Care shall identify and propose solutions to address barriers to optimal stroke care, focusing on issues such as public awareness initiatives;

emergency response protocols at facilities receiving stroke patients; primordial, primary, and secondary prevention of stroke; rehabilitation of stroke patients; continuous quality improvement initiatives; and availability of public support to treat indigent and uninsured stroke victims.

Technical assistance shall be provided to the Joint Commission on Health Care by the State Health Department. All agencies of the Commonwealth shall provide assistance to the Joint Commission on Health Care for this study, upon request.

The Joint Commission on Health Care shall complete its meetings by November 30, 2007, and the Chairman shall submit to the Division of Legislative Automated Systems an executive summary of its findings and recommendations no later than the first day of the 2008 Regular Session of the General Assembly. The executive summary shall state whether the Joint Commission on Health Care intends to submit to the General Assembly and the Governor a report of its findings and recommendations for publication as a House or Senate document. The executive summary and report shall be submitted as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents and reports and shall be posted on the General Assembly's website.

Appendix B
Virginia Stroke Systems of Care: Work Plan

This Work Plan is based on the ASA Policy Statement, *Recommendations for Establishing Stroke Systems of Care.* The Work Plan represents an assimilation of strategies developed by the Virginia Stroke Systems Leadership Team, which were reviewed, amended and approved by the 2007 Joint Commission on Health Care's Stroke Systems Workgroup. It serves not just as a static document but can be changed as the needs and resources of Virginia's Stroke Systems change. This document is to be used as a strategy document to improve Virginia's Stroke Systems of Care by addressing component ratings, resources, and strengths and gaps in care. A table of abbreviations is included as an addendum.

PRIMORDIAL & PRIMARY PREVENTION OF STROKE

STRATEGY A-1: DEVELOP SOCIAL MARKETING STRATEGIES

DESCRIPTION: Engage multiple channels in providing community awareness and/or community education about stroke risk factors, signs and symptoms, and urgent response, in addition to information about lifestyle behaviors that lower risk.

PARTNERS
VDH, VA Business Coalition on Health, OEMS, stakeholders, hospital systems

TOOLS & RESOURCES
BRFSS,The Community Guide (from CDC), socio-ecological model, NIH Know Stroke community ed program, ASA stroke speaker's kit

ACCOMPLISHMENTS TO-DATE
- Community education on signs and symptoms of stroke and urgent response are currently underway through VDH Heart Disease and Stroke Prevention Project initiatives utilizing the NIH Know Stroke program.

NEXT STEPS
1) Gather baseline data to assess what the public already understands about stroke signs and symptoms and barriers to urgent response.
   a) Behavioral Risk Factor Surveillance System (BRFSS).
2) Utilize the socio-ecological model and/or CDC's Community Guide to build and evaluate program efforts.
   a) Develop guidelines for campaigns (large and small), including evaluation measures.
   b) Take advantage of existing resources.
3) Influence media/education campaigns & programs.
   a) Develop multiple distribution points for PSAs, print ads, billboards, movie theater advertising, education and awareness, initiatives, etc.
      i) Assure that the messages address the urgency of the topic and the value to partners to investing in the message. The latter can include ROI (return on investment) for business or government partners and service obligations for other partners.
   b) Identify and share existing educational/awareness programs.
      i) Inventory current community education efforts. (need stakeholder input on their current efforts).

ii) Determine if additional supports are needed to make these more successful/far reaching. (ask stakeholders).
iii) Gather input about what else is needed to address gaps, etc. (ask stakeholders).
iv) Utilize web environment and other distribution channels to share information/resources.

c) Create a library of patient education tools at varying literacy levels. (ask stakeholders what they can share).
d) Invest partners in implementing:
   i) Share NIH "Know Stroke" and ASA stroke community ed speaker kits.
   ii) Expand "Know Stroke" awareness education program to worksites (incorporate public education regarding access to local EMS into "Know Stroke" and other educational events).
   iii) Promote Alliance for a Healthier Generation (AHG) childhood obesity campaign (a collaboration between AHA & Clinton Foundation) to viable audiences, as elements become available .
   iv) Promote existing web resources such as Va Action for Healthy Kids (VAFHK), Health Smart Virginia, ASA, and VDH's Champion.
   v) Promote Safe Routes to School (SRTS), a grant-funded initiative designed to incorporate physical activity into students' daily lives through elimination of environmental barriers.
   vi) Influence hospitals providing community education to provide stroke modules for the public.
e) Invest schools in preventive efforts.
   i) Encourage seeking funds to implement SRTS initiatives.
   ii) Share AHA/ASA online cardiovascular education lesson plans.
   iii) Promote healthier food/vending offerings.
   iv) Promote national vending agreement (AHG & American Beverage Association).
      (1) Gather data to share regarding increased revenues related to healthier vending options.
   v) Promote increase in physical activity in schools.

MEASURES
BRFSS data, updated annually, consider pre and post surveys for community education, and possibly focus groups.

STRATEGY A-2: ENGAGE PARTNERS IN IMPLEMENTING EDUCATION / AWARENESS FOR HIGH RISK POPULATIONS

DESCRIPTION: Identify existing educational programs and resources specific to high-risk populations and their families, and develop strategies to promote and provide access to them. Find organizations to create these if existing resources are insufficient.

PARTNERS
VDH CHAMPION program, INOVA hospitals, other stroke stakeholders, ASA, VDH, VCU, Senior Navigator

TOOLS & RESOURCES
ASA Search Your Heart community educational program for African-American audiences, ASA Power to End Stroke (PTES) campaign and materials, ASA When Minutes Matter (WMM) educational program for seniors, VDH Living Longer Living Better Toolkit (LLLB), NINDS Know Stroke education kit.

ACCOMPLISHMENTS TO-DATE
- Search Your Heart (SYH) stroke module implemented in over 100 churches in central, eastern, and northern Virginia by AHA/ASA in 2006.
- Partnership forged with Baptist General Convention of Virginia to implement SYH in 100+ in 2007.

- NINDS Know Stroke educational program being implemented by VDH funded projects.

NEXT STEPS

1) Encourage Search Your Heart/Stomp Out Stroke module implementation in African-American Faith Based Organizations.
    a. Track Search Your Heart/Stomp Out Stroke module already being implemented in Virginia Churches.
2) Power To End Stroke (African-American stroke education campaign), development and funding of ambassadors in high risk areas of state.
3) Media Campaign in high-risk areas of state: High Blood Pressure and Cholesterol (VDH-planned for 2007).
4) Media Campaign in high-risk areas of state: Stroke Signs and Symptoms (VDH-planned for 2008).
5) Identify partners to implement When Minutes Matter stroke education program for seniors.
6) Institute CVD risk education in Hispanic/Latino communities, including signs and symptoms of stroke.
    a. VDH Living Longer Living Better rollout targeted Jan 2007 will be distributed statewide through partners.
    b. ASA Power To End Stroke Campaign will have Hispanic component added, probably fiscal year 07-08.
7) NINDS Know Stroke program continued implementation by VDH.

MEASURES

BRFSS data, updated annually; program implementation outcomes: ie, Search Your Heart (SYH) stroke module outcomes, use of NINDS Know Stroke pre- and post-tests to assess knowledge change, others

STRATEGY A-3: ESTABLISH A RESOURCE WEBSITE

DESCRIPTION: Establish a resource website for Virginia's stroke systems of care (i.e., communities of practice) that stakeholders can link to. Include areas for each component of Virginia's stroke systems of care.

PARTNERS

ASA, other Primary Stroke Centers, and possibly UVA

TOOLS & RESOURCES

See Washington University's site (gold standard) http://www.strokecenter.org – Developer Mark Goldberg willing to share template with UVA. Include links to Virginia's Primary Stroke Centers.

ACCOMPLISHMENTS TO-DATE

- Approval secured from National AHA/ASA to build site off ASA web pages.

NEXT STEPS

1) Assess viable options for development, ongoing management, funding.
2) Establish standards criteria/ Best Practices for inclusion in resource clearinghouse and other arenas of website; assure appropriate "science review."
3) Assure culturally competent and linguistically appropriate resources are included.
4) Interface with other work groups to address needs for other plan components.

MEASURES

Initially, via hits to website, eventually via usage of web offerings as well. Assure Science Review in place to provide credibility for materials and links included.

STRATEGY A-4: DEVELOP / IDENTIFY POPULATION EMPOWERMENT TOOLS AND MECHANISMS TO MAKE AVAILABLE TO THE PUBLIC AND TO PROVIDERS

DESCRIPTION: Utilize multiple channels for direct contact with consumers to raise awareness and provide tools for impacting lifestyle changes that reduce the risk for stroke.

PARTNERS

Health plans, Agency for Healthcare Research and Quality (AHRQ), provider organizations, product developers, stakeholders

TOOLS & RESOURCES

VSS web environment, You're The Cure AHA grassroots advocacy network, My Preventive Care website, Southern Health members' assessment and education tools, Bon Secours HEARTaware online assessment, VBCH How's Your Health.org website, VDH's Living Longer, Living Better toolkit for the Hispanic/Latino population, Pharma Health Assessment online tool (should be through AHA Science Review by Jan 2007)

ACCOMPLISHMENTS TO-DATE

NEXT STEPS

1) Develop online Stroke Report Card, to compile and compare with National data, including EMS data, BRFSS stroke data, stroke mortality, proximity to a PSC, NCQA HSRP certifications, etc. Use as a tool to share with and invest stakeholders and to chart progress.
   a) Report by Federal Information Processing Standard (FIPS) code or county to compare to state data, wherever possible. (BRFSS data most likely not available at this level, unless several years are aggregated, due to small sample size. It is currently aggregated by health district.)
2) Educate public about You're-The-Cure (YTC) grassroots network that enables their voice to be heard on stroke policy issues.
3) Proactively make public aware of preventive care recommendations at all age levels via "Well Adult" Visit (WAV) checklists.
4) Distribute materials developed by AHRQ that educate public about recommended preventive services and empower them to manage their health maintenance.
5) Explore online equivalents. Example (Acorn): My Preventive Care website: patient visits website for individualized recommendations about behavioral risk factors and recommended screening tests, hyperlinks for education and relevant decision aids, and printouts to bring to physician as prompt for overdue services. See also Bon Secours HEARTaware, a web-based cardiovascular risk assessment, to be offered with free on-site screening for those assessing at moderate to high risk levels.
6) Encourage tracking and reporting of BMI data in schools.
7) Inventory and evaluate health literacy tools for inclusion in offerings.
8) Seek distribution channels to educate nontraditional first responders, such as nursing home staff, senior center staff and volunteers, day program staff, etc.
9) Utilize grassroots networks to spread stroke messages.
   a) Lay educators
   b) Hispanic lay educators
   c) Hairdressers (access through hairdresser networks)
   d) Sisters groups, where available
   e) Power To End Stroke Ambassadors

f) Stroke Support Group Development Project (tbd)
g) National Coalition of Pastors Spouses (if active in VA)

MEASURES
TBD. Identify methods to track outcomes health behaviors and uptake of preventive services.

STRATEGY A-5: DEVELOP WORKSITE INTERVENTIONS TO IMPROVE EMPLOYEE HEALTH

DESCRIPTION: Engage partners who have outreach to corporate environments in promoting and supporting strategies by which employers can impact improved health and fitness among their employees.

PARTNERS
Healthy Pathways Community/Worksite Committee, stakeholders, Virginia Business Coalition on Health, VDH, large employers

TOOLS & RESOURCES
VDH/ASA Medical Emergency Response Plan Guide (under development), Healthy Pathways Emergency Protocol poster kit, ASA website: www.strokeassociation.org, Partnership for Prevention Website: www.prevent.org; AHA Start! Campaign for worksites. See also Bon Secours HEARTaware, a web based cardiovascular risk assessment, to be offered with free on-site screening for those assessing at moderate to high risk levels, Pharma Health Assessment online tool (should be through AHA Science Review by Jan 2007).

ACCOMPLISHMENTS TO-DATE
- Distribution of Emergency Protocol Poster Kits being piloted in Richmond area by AHA Corporate Relations staff and members of statewide Healthy Pathways Coalition Medical Committee.

NEXT STEPS
1) Identify & build distribution channels/incentives to reach employers.
2) Advocate for and share wellness program models, services, and resources (for example, Partnership for Prevention website: www.prevent.org, & AHA web based programs).
3) Distribute "Emergency Protocols for Non-Medical Facilities" posters to work sites.
4) Develop and distribute a Medical Emergency Response Plan (MERP) planning guide for schools/worksites and community organizations (currently under development).
5) Share health risk appraisal tools and guidelines.
6) Identify interventions employees can take advantage of from home to address risk factors, such as internet programs, mail participation programs, phone counseling, etc. Include resources for obesity, smoking cessation, healthy eating, etc.
7) Promote proposals for worksite interventions to improve employee fitness and health, such as in-house. fitness programs, allowing exercise breaks, provision of gym facilities on premises, contracting with fitness centers for employee discounts, and negotiating with health plans to reward preventive behavior.
   a) Share AHA Start! walking campaign for worksites.
   b) See Partnership for Prevention web site for resources: www.prevent.org.
8) Provide information re healthy nutrition in worksites (for example, guidelines on healthy options in vending machines).

MEASURES
TBD. Consider worksite surveys to measure behavior change and assess use of tools and resources.

STRATEGY A-6: FOSTER PROVIDER COMPLIANCE WITH EVIDENCE-BASED STANDARDS OF CARE

DESCRIPTION: Implement financial and other incentives to promote the adoptions of healthy behaviors and relevant clinical prevention services.

PARTNERS

Health Plans, employers, payers, CMS, providers, AHA Quality Improvement staff, Community Care Network of Virginia, Virginia Primary Care Association, VDH

TOOLS & RESOURCES

BRFSS ,The Community Guide (CDC), socio-ecological model, AHA statement: *Payment-for-Quality: Guiding Principals and Recommendations* (Circulation. 2006;113:000-000), www.ncqa.org, Blood Pressure Measurement Specialist Certification classes and BP video toolkit, JNC7 Guidelines

ACCOMPLISHMENTS TO-DATE

- Expressed intention by Anthem to incorporate NCQA HSRP measures into revised pay-for-quality reimbursement infrastructure (targeted @18 mos).
- Grant secured to promote and assist physicians in getting recognized through NCQA HSRP.
- Fourteen hospitals in Virginia actively utilizing GWTG Stroke (approximately 17% of Va hospitals).
- Health Disparities Collaboratives in Community Health Centers (CHC).
- Approximately 210 Trainers trained to provide Blood Pressure Measurement Specialist Certification training.

NEXT STEPS

1) Promote pay-for-quality to health plans to promote quality care delivery.
2) Explore health plans and employers offering discounted rates to employees who pursue primary prevention (e.g., smoking cessation), incentives for "Well Adult" Visits, or direct delivery of preventive services).
3) Promote NCQA Heart Stroke Recognition Program for physicians to impact adherence to treatment guidelines.
4) Promote implementation of Health Disparities Collaboratives within Virginia's CHCs through state-based collaborative structure.
5) Promote and provide Blood Pressure Measurement Specialist (BPMS)certification training via train-the-trainer classes for health professionals.

MEASURES

Systems changes implemented, physicians recognized through NCQA Heart Stroke Recognition Program (HSRP), number of CHCs and providers participating in the HDC, number of patients in the HDC registries, BPMS data measures, other(?). Consider baseline focus groups and use of cognitive analysis.

STRATEGY A-7: ENGAGE PARTNERS IN PROVIDING PROFESSIONAL EDUCATION RELEVANT TO STROKE PREVENTION

DESCRIPTION: Encourage and support provision of professional education related to diagnoses and control of risk factors for stroke, in a format with measurable outcomes related to practice change.

PARTNERS
VDH, ASA, University of Texas ALLHAT project, Community Care Network of Virginia, Virginia Free Clinic Association

TOOLS & RESOURCES
ALLHAT curriculum and Investigator-Educators, University of Texas project logistical support staff

ACCOMPLISHMENTS TO-DATE

NEXT STEPS
1) Evaluate options for providing Professional Detailing (practice-based training).
   a) VDH/ASA consultation re ALLHAT project.
2) Support partners' provision of professional education relative to stroke if specific need of target audience is established and efforts to track actual change in practice can be identified.
3) ON HOLD: Conduct CME event (VDH) -- Professional education to support primary care providers' adherence to primordial and primary prevention treatment regimens. Evaluate the need for this education and establish measures to evaluate outcomes.

MEASURES
TBD

STRATEGY A-8: OFFER CLINICIANS MODELS FOR MODIFIED SYSTEMS OF DELIVERY AND INFRASTRUCTURE

DESCRIPTION: Pilot and share strategies to enable Primary Care Physicians to incorporate recommended treatment guidelines and/or interventions into practice, with attention to careful management of clinicians' time demands that could hinder compliance.

PARTNERS
ACORN, VAFP, ACP, ASA, VHQC, Electronic Health Records (EHR) vendors

TOOLS & RESOURCES
EHR software

ACCOMPLISHMENTS TO-DATE

NEXT STEPS
1) Collect baseline data on rate & quality of care.
   a) Include data on the rate and quality of primordial and primary prevention delivered in primary care settings.
   b) Survey PCPs on use and familiarity of current guidelines for prevention and control of stroke risk factors.
      i) Gather PCPs perspectives on obstacles preventing their compliance.
   c) Include data from partners such as ACORN, a VCU practice-based research network serving the region, the Virginia Academy of Family Physicians, and the Virginia chapter of the American College of Physicians.

d) Collect data on effective interventions to improve the delivery of primordial and primary prevention in primary care settings, drawn from published clinical trials, systematic reviews, and work conducted in practice-based research networks.

2) Explore methods to achieve change in primary care delivery systems.
   a) Embed treatment guidelines into EMR programming to generate prompts at point of care.
   b) For non-EMR practices, develop chart inserts such as standing orders and flow sheets that incorporate the guidelines.
   c) Create "vital sign" models for the systematic identification of patients with behavioral or cardiovascular risk factors.
   d) Create infrastructure that enables clinicians to easily refer patients to appropriate resources (e.g., state quit lines) when patients in need of assistance are identified and that provide feedback or progress reports to clinicians.
   e) Create "reinforcement" systems that help clinicians identify patients who are overdue on services, need further encouragement.
   f) Work with Virginia QIO and other entities pursuing practice redesign models to use team approaches within practices to delegate roles for primary prevention across nurses, rooming staff, and receptionists.
   g) Offer provider education concerning available intervention resources, such as state Quitline, Virginia Stroke Systems website, patient education tools, etc.
   h) Consider provider education on treatment guidelines.
3) Leverage collaborations to help refine solutions.
   a) Establish pilot planning committee involving EHR vendors and health systems that have attempted to use EHRs to provide reminders, guideline prompts, and other tools to improve care delivery but have encountered technical impediments.
      i) Use influence of ASA, VHQC, and other partners to help convince vendors of the need to act.
      ii) Address technical impediments identified above.
4) Promote and market systems revisions across the state.

MEASURES
This provides the measure for other strategies. Also track changes effected in EHR software, and number of patients referred for interventions.

STRATEGY A-9: EDUCATE STATE POLICY MAKERS ABOUT ISSUES & NEEDS IN BUILDING AN EFFECTIVE STROKE SYSTEM

DESCRIPTION: Raise legislator awareness about stroke issues via available channels and distribution networks, and through closely orchestrated contacts by advocates (especially survivors), stroke systems stakeholders, and by their constituents.

PARTNERS
Policy Team (VDH, ASA, OEMS, VHHA), stakeholders, stroke support groups

TOOLS & RESOURCES
ASA Advocacy staff, AHA You're The Cure grassroots advocacy network

ACCOMPLISHMENTS TO-DATE
- Have secured support from key state agencies (VDH, OEMS, VHHA, Virginia AHA/ASA) to pursue a stroke resolution during 2007 legislative session to commend Primary Stroke Centers on their certification by JCAHO.

NEXT STEPS

1) Educate/influence legislators to affect positive change.
   a) Include stroke page in legislator's information packets.
   b) Provide information about Virginia's (tbd) Stroke Report Card, ie, our ranking on health indices.
   c) Orchestrate stroke advocates' participation in educating policy makers about stroke (via legislative reception, state lobby day, National lobby day, direct contact, etc), especially around 2007 resolution regarding Primary Stroke Centers, and STOP Stroke Act.
2) Increase stroke stakeholders' membership and active participation in You're-The-Cure grassroots network.
   a) Work with AHA/ASA Advocacy staff to explore development of Fast Action Site on Stroke.
3) Identify public policy issues around stroke systems of care for Virginia, ie, areas where collaborative efforts alone are not effective to achieve movement. *(Will not pursue in near future, as current collaborative efforts are proving effective.)*

MEASURES

Number of You're The Cure stroke advocates, number of legislator contacts, legislator feedback, legislative and policy change effected

EMERGENCY MEDICAL SERVICES

STRATEGY B-1: DEVELOP RESOURCES AND VEHICLES TO AFFECT STANDARDIZED STROKE TRAINING FOR FIRST RESPONDERS
DESCRIPTION: All first responders will receive training on the most current recommendations for stroke care.

PARTNERS

OEMS Medical Direction Committee (via Sabina Braithwaite), VDH, ASA

TOOLS & RESOURCES

OEMS DVD produced Feb 06

ACCOMPLISHMENTS TO-DATE

- OEMS Satellite training program *Pre-hospital Care of the Stroke Patient* aired in February 2006, and available via web for the next year.
- Training slots for 2006 EMS Symposium confirmed by OEMS, tentative request for presentation/approval secured for 2007.

NEXT STEPS

1) Promote availability on website of OEMS Satellite training program *Pre-hospital Care of the Stroke Patient*.
2) Develop standardized enhanced stroke training.
   a) Assess viability of incorporating *Pre-hospital Care of the Stroke Patient* DVD into standardized training statewide.
   b) Foster active involvement of sub-specialists in all aspects of EMS training/standards development.
      i) Arrange for EMS provider interaction with stroke experts, beginning with neurology, in format that provides continuing education credits.
   c) Seek support from OEMS Medical Direction Committee for adoption/promotion statewide.
   d) Seek adoption of standardized training by EMS Councils across state.
3) Seek consistent inclusion of stroke-related training at annual statewide EMS Symposium.
   a) Provide First Responder stroke training and Blood pressure measurement training in November 2006 (ASA & VDH).

b) Provide stroke training (tbd) at 2007 symposium (N. Solinski, UVA).

MEASURES
TDB

STRATEGY B-2: ASSURE PROCESSES IN PLACE THAT PROVIDE RAPID ACCESS TO EMS AND THAT EMS IS DISPATCHED IN THE SHORTEST TIME POSSIBLE
DESCRIPTION: Utilize existing data to identify gaps in access to EMS; develop and implement strategies to address identified gaps.

PARTNERS
OEMS, OEMS Multidisciplinary Group (Medical Direction Committee), VDH, law enforcement leadership, ASA, Virginia Information Technology Agency (VITA) Division of Public Safety

TOOLS & RESOURCES
EMS data system, Virginia Information Technology Agency (VITA)

ACCOMPLISHMENTS TO DATE
- Initial data compilation and early assessment completed.

NEXT STEPS
1) Update 9-1-1 availability information for state OEMS map (Currently in process, with revised map to be available fall 2006).
2) Analyze existing data to assess EMS response across Virginia (Currently in process).
   a) Develop map that overlays EMS data with acute care facility locations and roles (Currently in process: resource identified, waiting on data to be finalized).
3) Identify strategies to address prolonged response times identified through data analysis (including issues with rural access).
   a) Create single standard of service for all Public Safety Answering Points (PSAPs).
   b) Stratify options: self or family transport versus waiting for EMS.
   c) Provide public education about EMS access options (i.e., wait for EMS versus family-transport to nearest facility).
      i) Incorporate public education regarding access to local EMS into "Know Stroke" and other educational events (being implemented with five VDH health district HDSP projects).
4) Identify strategies to address identified variances in dispatch (emergency medical dispatch versus police/non-EMS).
5) Provide support/guidance for law enforcement responding to stroke.
   a) Establish toll-free hotline as a resource for police responding to stroke calls.
   b) Develop training manual or treatment algorithm for police dispatch to use (i.e., decision tree or flowchart).
   c) Provide police/sheriff dispatch center education.
      i) Consider pilot program with rural system/non-EMD.
   d) Consider adding representative of law enforcement (sheriff/police dispatch organizations) to the Stroke Systems Plan Leadership Team.
6) Develop medivac transport protocols.

MEASURES
Phase one delay (patient delay) and phase two delay (transport delay, EMS or self) times from EMS run sheets, other TBD.

STRATEGY B-3: PROMOTE THE USE OF DIAGNOSTIC ALGORITHMS AND PROTOCOLS BY EMERGENCY MEDICAL DISPATCHERS THAT REFLECT THE MOST CURRENT STROKE TREATMENT RECOMMENDATIONS
DESCRIPTION: Put strategies in place to provide for the provision of the most advanced level of prehospital care available, and consistent use of and prompt updating of established standards of response by EMS dispatchers, particularly non-traditional (ie, police, non-EMD).

PARTNERS
OEMS, EMS Councils, Virginia Information Technology Agency (VITA) Division of Public Safety

TOOLS & RESOURCES

ACCOMPLISHMENTS TO DATE
- Initial data compilation and early assessment completed (relevant to Step 1).

NEXT STEPS
1) Develop strategies to promote consistent provision of highest level of prehospital care that responders are qualified to deliver.
2) Assure availability of training and standardized response tools/protocols for non-traditional EMD providers.
3) Identify methods to effect rapid review & approval of EMS protocols.
   a) Enlist support of EMS councils.
4) Use computerized notices and alert memos to ensure any updated stroke treatment guidelines are immediately available to trainers and professional and volunteer EMS responders.

MEASURES
EMS Data project, other TBD

STRATEGY B-4: PROMOTE TRANSPORT OF STROKE PATIENTS TO NEAREST PSC OR EQUIVALENT, AS APPROPRIATE
DESCRIPTION: Provide rationale, guideline, and impetus for EMS use in determining best destination for stroke patient to effect best patient outcome. Assure transport accomplished at most urgent level appropriate.

PARTNERS
Stroke Systems Consulting, ASA, VDH, VHHA, VITA

TOOLS & RESOURCES
Virginia Statewide Stroke System Stratification Survey, EMS Data Project outcomes

ACCOMPLISHMENTS TO DATE
- Acute Stroke Care Survey complete, data analysis initiated.

NEXT STEPS
1) Assess current level of stroke care in Virginia.
   a) Acute care hospitals (in process: survey process completed, data analyzed and going back to hospitals for review).
   b) Assess EMS response times (in process).
   c) Evaluate/update 9-1-1 availability (in process).

2) Develop routing plans to address most efficacious strategy for patient, taking into consideration drive times, patient status, etc.
   a) Include consideration of protocols for use of air transport.
   b) Secure OEMS Medical Direction Committee support for plan.
3) Engage partners/stakeholders in providing public education concerning availability of Primary Stroke Centers and quality of care.
4) Consider possible legislation to support EMS in addressing bypass concerns after stroke system more mature, ie, there are enough Primary Stroke Centers in state to consider required transport.
   a) Assure buy-in from key state agency partners: VDH, OEMS,VHHA.

MEASURES
Plan in place, media impressions re PSCs.

STRATEGY B-5: PROVIDE FOR CONSISTENT DOCUMENTATION OF INFORMATION GARNERED THROUGH STANDARDIZED STROKE ASSESSMENTS AND SCREENING
DESCRIPTION: Impact levels of tracking/reporting required from EMS in the field to document assessments, including time of arrival, time of onset, use of standardized stroke scale, hospital pre-notification, etc. Work with Councils to assure that EMS personnel utilize standard forms and protocols (based on the most current recommendations) to perform assessments and screening to assure consistency of care and improve patient outcomes.

PARTNERS
OEMS Medical Direction Committee

TOOLS & RESOURCES

ACCOMPLISHMENTS TO DATE
- Approval secured from OEMS for use of standard stroke scale (Cincinnatti) – awaiting reprint.
- Approval secured from OEMS Medical Direction Committee to require tracking of time of onset on run sheets.

NEXT STEPS
1) Assure time of onset is documented.
2) Ensure that stroke scale results are documented.
3) Modify run-sheet to include Cincinnati Stroke Scale on the back (in process: awaiting reprint).
4) Incorporate pre-notification of receiving hospital into EMS training.
5) Assess training changes needed.
   a) Include enhanced stroke training in each Council across state.

MEASURES
EMS Data Project: Track consistency of pre-notification, documentation of time of onset, use of stroke scale.

ACUTE STROKE CARE

STRATEGY C-1: IMPROVE QUALITY OF HOSPITAL CARE THROUGH PROMOTION OF PRIMARY STROKE CENTERS (PSCS)

DESCRIPTION: Conduct and analyze surveys to determine present levels of care available. Disseminate results and provide support systems to encourage more hospitals to develop enhanced stroke systems of care.

PARTNERS

Stroke Systems Consulting, ASA, VDH, VHHA, hospital and EMS stakeholders, possibly other state organizations, OEMS, UVA, Telemedicine at UVA, VDH: Facilitate hospital consultation and/or tracking of usage, Virginia Stroke Leadership Team (ASA-VDH) members; Virginia Neurological Society, Virginia College of Emergency Physicians, VAFP

TOOLS & RESOURCES

Centralized Virginia Stroke Systems Website (listing of PSCs), established consumer sites (AARP, associations for the elderly population or caretakers), VHI (use Cardiac Care Analysis model for stroke model), Survey Monkey (for general questions only), Va Stroke Systems Ambassador Service

ACCOMPLISHMENTS TO-DATE

- Initial hospital survey and analysis completed-preliminary report presented to Leadership Team; 100% of Virginia hospitals providing acute stroke care participated.
- ASTP kits distributed to all acute stroke care hospitals in the state.
- Notification of survey status provided to hospitals before public dissemination, with opportunity to update responses.
- Virginia Stroke Systems Ambassador Service concept drafted.

NEXT STEPS

1) Continue hospital survey collection & analysis.
2) Create hospital location map and key for acute care facilities in VA (VDH IT dept) to depict roles of hospitals.
3) Develop strategy/mechanisms for updating hospital survey.
   a) Arrange for survey surveillance/updating online, possibly via Web or by personal visits (annually).
   b) Assess whether cost prohibitive.
4) Provide hospital survey results to EMS, PCPs. This plan will be initiated in the future after notification of the hospitals is completed.
5) Provide for public access of survey results, possibly through Virginia Stroke Systems web site. This plan will be initiated in the future after notification of the hospital is completed.
6) Hospital Stratification –use data-defining hospital roles to identify support needed and build strategies for meeting identified needs.
   a) Develop Stroke System Ambassador Service concept to provide expert opinion to stakeholders on acute treatment issues, especially as related to stroke center certification.
      i) Get Stroke Systems Leadership Team input.
      ii) Recruit and orient Ambassadors for panel.
      iii) Launch to stakeholders (targeted by end of 2006), with targeted offering to facilities nearing Primary Stroke Center status based on survey analysis.
      iv) Roll out to neighboring states

7) Provide follow-up/support for use of ASTP kits to assist hospitals in developing stroke infrastructure. Explore use of technological resources (such as Survey Monkey) to engender more comprehensive outcome analysis.

MEASURES
Number of new Primary Stroke Centers, number of usages for Ambassador Service, number of hospitals reporting actively using ASTP Kits.

STRATEGY C-2: INCREASE KNOWLEDGE AND SKILLS OF HEALTHCARE PROVIDERS REGARDING CURRENT ACUTE TREATMENT BEST PRACTICE GUIDELINES FOR STROKE VICTIMS

DESCRIPTION: Provide on-going educational opportunities and resources through a variety of mediums that enable easy access for providers.

PARTNERS
Virginia College of Emergency Physicians, Virginia Stroke Systems Leadership Team, Virginia Association of Free Clinics, Community Care Network of Virginia, UVA, INOVA

TOOLS & RESOURCES
ER physician training programs, national stroke care leaders, AHA/ASA scientific statements and professional web resources

ACCOMPLISHMENTS TO-DATE

NEXT STEPS
1.) Provide acute care education for emergency-room physicians.
    a. Establish need.
    b. Assure strategies for effecting change via education provided, and vehicle to measure.
2.) Form a "Core Stroke Ambassador Panel" of recognized experts to provide hospital-based consultation for acute stroke care e.g. acting as a resource for moving into the PSC range. (See PSC strategy above for details.)
3.) Establish distribution channels for getting current/latest guidelines in the hands of providers ASAP.

Need other suggestions for providing resources and educational opportunities.

MEASURES
TBD

STRATEGY C-3: ENCOURAGE/ASSIST WITH IMPLEMENTATION OF CURRENT ACUTE TREATMENT BEST PRACTICE GUIDELINES FOR STROKE CARE

DESCRIPTION: Provide information, resources for implementation of best practice guidelines.

PARTNERS
UVA (telemedicine), Medicaid (reimbursement), ASA (quality improvement and advocacy), OEMS, national lobbyist.

TOOLS & RESOURCES
Marilyn Rimer @ St Luke's in Kansas City (pilot study for feasibility of helicopter transport), telemedicine resource development at UVA, Get With The Guidelines Stroke tutorial, Massachusetts General Hospital telemedicine agreement fax/signed (sample), Hawaii Blue Cross 6 month experience

ACCOMPLISHMENTS TO-DATE

NEXT STEPS
1) Promote use of Get With The Guidelines-Stroke and provide support where already in use.
2) Explore methods to obtain ER data (at present there are no standardized forms, no mechanisms to capture, and no standardized reporting).
   a) Make this an OEMS topic of discussion and education.
3) Explore models of physician quality improvement pay-for-performance (across disciplines and including ER doctors).
4) Explore methods for mandating standardized forms and reporting of insurance agencies.
5) Lobby for tPA physician reimbursement (Medicare) based on cardiac tPA model.
6) Research current models of transfer agreements (State-tailored that address both medical and legal issues).
7) Explore current usage of telemedicine and its availability/applicability for VA hospitals.

MEASURES
TBD

SUB-ACUTE CARE & SECONDARY PREVENTION

STRATEGY D-1: IMPROVE QUALITY OF HOSPITAL CARE IN THE SUB-ACUTE AND DISCHARGE PHASES
DESCRIPTION: Provide information, resources, and impetus for implementation of practice guidelines.

PARTNERS
ASA (Quality Improvement), VDH, VHQC, VHHA, large hospital systems, PSCs, Health insurers

TOOLS & RESOURCES
Get With The Guidelines/Stroke tutorial, JCAHO, UVA

ACCOMPLISHMENTS TO-DATE
- Fourteen hospitals in Virginia actively utilizing GWTG Stroke (approximately 17% of Va hospitals).

NEXT STEPS
1) Provide information to hospital Boards and Administrators regarding the benefits of nursing care pathways and standardized stroke order sets.
2) Promote use of Get With the Guidelines Stroke – provide support for implementation where in use.
3) Adapt and use evidence-based stroke order sets and protocols to include development of rehabilitation plans and choice of venue.
   a) Provide on-line order sets/protocols that include a "to-do" checklist.
   b) Include provision of patient education on stroke in protocols.

4) Address secondary risk factors by diagnosing and initiating pre-discharge therapy for diabetes, hypertension, smoking, atrial fibrillation, carotid stenosis, sickle cell anemia, obstructive sleep apnea.
   a) Research existing patient target data sheets (develop if necessary).
   b) Provide target data sheets on-line for hospitals to adapt (wallet size card or flash drive).
5) Promote development of tools or use already existing ones to provide patient discharge education based on "best practice" guidelines.
   a) Create a library of varying literacy level patient education tools.
6) Ensure thorough and accurate hand-off of care-especially medicines.
   a) Send additional discharge summary with patient to supply to primary physician and/or post-discharge care team.
   b) Provide detailed status and plan of care directly to receiving entity.
7) Promote aggregated placement of stroke patients through educating hospital Boards and Administrators regarding the benefits of same.
8) Promote and provide Blood Pressure Measurement certification training via train-the-trainer classes for health professionals.
9) If deemed viable to pursue, support legislation for public reporting of process measures and compliance to standards of care.

MEASURES
Number of hospitals using GWTG Stroke, other.

STRATEGY D-2: IMPROVE QUALITY OF POST-DISCHARGE CARE

DESCRIPTION: Foster use of standardized protocols by Primary Care Physicians for continuation of treatment after discharge from hospital.

PARTNERS
ASA, VDH, VHQC, CCNV, VAFC, Anthem, NCQA

TOOLS & RESOURCES
NCQA website, ASA/VDH NCQA HSRP Project

ACCOMPLISHMENTS TO-DATE
- Funding secured through ASA/VDH NCQA HSRP Project to help offset physicians' costs in achieving recognition.

NEXT STEPS- (area needs further development)
1) Promote and assist VA physicians in obtaining NCQA Heart/Stroke Recognition status
2) TBD

MEASURES
TBD

STRATEGY D-3: IMPROVE KNOWLEDGE, SKILLS OF PHYSICIANS, NURSES, ALLIED HEALTHCARE PROFESSIONALS

DESCRIPTION: Provide/promote resources and education regarding current best practice guidelines.

PARTNERS
ASA, VDH, VHQC, VAFP

TOOLS & RESOURCES
Hospital Survey, partners' websites, JCAHO

ACCOMPLISHMENTS TO-DATE

NEXT STEPS
1) Make guidelines regarding standards of care readily available to physicians, nurses, allied healthcare professionals.
   a) Foster development of relationships with certified stroke centers (PSC or CSC) to ensure standards of care are provided via online resources.
   b) If established that many rural hospitals don't have access to high-speed internet, consider putting some of these online resources on CD.
   c) Evaluation: Track utilization of websites through surveys.
2) Provide regular regional educational opportunities utilizing a variety of venues e.g. CVD grand rounds, teleconferencing, live conferencing, office based information sessions for PCPs (detailing).
   a) Establish schedule based on need and changes in protocol.
3) Promote and provide Blood Pressure Measurement Specialist (BPMS)certification training via train-the-trainer classes for health professionals. (Noted and tracked under Stroke Prevention Strategy A-6.)

Need suggestions for further measurable educational interventions.

MEASURES
TBD

STRATEGY D-4: DEVELOP DATA SOURCES THAT CAN BE USED FOR FUTURE PLANNING

DESCRIPTION: Collect, analyze and incorporate performance data using criteria from JCAHO application tool kit.

PARTNERS
ASA, VHQC, VDH, VHHA, large hospital systems, health insurers

TOOLS & RESOURCES
JCAHO application tool kit

ACCOMPLISHMENTS TO-DATE

NEXT STEPS

1.) Measure the prevention of medical complications.
    a.) Promote review of JCAHO stroke quality measures by hospital Boards.
    Need suggestions for what else we need to do to make this happen
2.) Incorporate on-line checklist into data "indicators" to monitor trends as part of process improvement.
3.) Provide on-line bench-marking.
4.) If deemed viable, support legislation for public reporting of process measures and compliance to standards of care.

MEASURES

TBD

STROKE REHABILITATION

STRATEGY E-1: PROVIDE FOR AND PROMOTE STANDARDIZED REHAB SCREENING EARLY IN TREATMENT
DESCRIPTION: Ensure that all stroke patients receive a standard screening evaluation during the initial hospitalization, with emphasis on assessment of all residual impairments.

PARTNERS

Other state stroke systems, VHHA, insurers, hospitals (especially CSCs)

TOOLS & RESOURCES

ASA Policy Recommendations (white paper), existing screening evaluation tools

ACCOMPLISHMENTS TO-DATE

NEXT STEPS

1) Propose and support a statewide industry standard for the information that must be included in a stroke "residual impairment" evaluation during the initial hospitalization for all stroke patients.
    a) Research available stroke "residual impairment" evaluation tools to determine if any are available that include all items listed in the ASA Policy Statement *Recommendations for the Establishment of Stroke Systems of Care*.
        i) If no tool exists, develop one.
    b) Identify appropriate partners to support implementation of standard.
    c) Develop and implement method for informing providers of standards and availability of tool. Focus outreach on non-PSC hospitals.
    d) Identify and implement appropriate method for evaluation of performance.

MEASURES

Number of hospitals utilizing the standard screening evaluation.

STRATEGY E-2: PROMPT THE REFERRAL OF STROKE PATIENTS TO THE APPROPRIATE LEVEL OF REHABILITATION SERVICE FOR THEIR MEDICAL AND FUNCTIONAL NEEDS
DESCRIPTION: Provide a mechanism to direct referrals based on patient need and availability of services, including the potential for recovery and the potential for community discharge, as determined by the initial assessment of rehab services and subsequent clinical observations.

PARTNERS
INOVA, Carilion New River Valley Medical Center (Dr. Ralph Brown), Identify resources through VHHA, Brain Injury Services Network, AHA/ASA

TOOLS & RESOURCES

ACCOMPLISHMENTS TO-DATE

NEXT STEPS
1) Develop a tool that defines the different levels of rehab along the continuum (for patients, families, Case Managers, Discharge Planners) and makes recommendations for rehab placement based on patient circumstances.
   a) Consider impairment level, family support, financial status, and availability of local services and ability/willingness of patient and/or family to travel to access services.
2) Develop a list of available categories of services that are available to support patient/family decision-making.
3) Develop and implement a system to assess the frequency with which patients receive the level of rehab service that is appropriate for their condition, to include performance measures.
   a) Identify an appropriate partner to support implementation of performance measures.

MEASURES
Frequency with which patients receive the level of rehab services that is appropriate for their condition.

STRATEGY E-3: ASSESS THE LEVEL OF AVAILABLE STROKE REHABILITATION SERVICES AND RESOURCES IN VIRGINIA AND STIMULATE FURTHER DEVELOPMENT
DESCRIPTION: Provide for periodic assessment of all levels of rehab providers and demand, for services, including current and future needs for stroke rehabilitation, in order to assure availability of appropriate services. Engage partners in efforts to develop resources to better meet patient needs.

PARTNERS
Licensure boards, VDH (VHI data, Office of Health Policy and Planning (OHPP), DMAS

TOOLS & RESOURCES

ACCOMPLISHMENTS TO-DATE

NEXT STEPS

1) Identify appropriate sources of data to assess current level of available rehab services in Virginia. ask stakeholders for input/ideas.
2) Develop a reporting mechanism for the assessment results.
3) Develop a process for determining current/future need for rehab services.
4) Identify the appropriate frequency for the assessment to occur.
5) Determine the appropriate reporting mechanism for the data.
6) Develop plans and strategies to address gaps in service and resources.
    a) Support implementation of Central Virginia Stroke Support Group Development project.

MEASURES
Data measures TBD, Support Group Development measured through establishment of new groups and their active involvement in advocacy and community education.

STRATEGY E-4: IDENTIFY AND SUPPORT A STANDARD FOR THE SCOPE OF INFORMATION THAT IS NEEDED BY THE PRIMARY CARE PHYSICIAN ON DISCHARGE IN ORDER TO SUPPORT APPROPRIATE FOLLOW-UP
DESCRIPTION: Provide a mechanism for clear communication across the inpatient and outpatient post-stroke continuum of care to help ensure appropriate medical and rehabilitation care. Focus on development of standardized tools and provider education.

PARTNERS
Inpatient-Rehab directors forum, VOHCSW, VDH, Case management association if exists, Professional organizations, VHQC

TOOLS & RESOURCES

ACCOMPLISHMENTS TO-DATE

NEXT STEPS
1) Develop a sample form that includes all of the information needed in an easy to use format.
    a) Obtain PCP input on form and revise as appropriate.
2) Identify appropriate partners to promote and support implementation of standard.
3) Develop vehicles to provide education for rehab providers regarding the need for consistent communication with PCP. Must include CME/CEU credits.
4) Engage statewide physicians organizations and stakeholders in promoting physician support/demand for standardized consistent patient information upon discharge.

MEASURES
Use of standardized form, feedback from users.

Availability of Public Resources for Those 300% and under the Federal Poverty Level (FPL)

STRATEGY F-1: EXPANDING MEDICAID ELIGIBILITY FOR THOSE WHO HAVE HAD A STROKE
DESCRIPTION: Investigate the possibility of expanding the Medicaid eligibility -- lowering eligibility requirements on a state level for stroke-specific services could make more stroke patients eligible for coverage.

PARTNERS
VCU Center for Health Disparities, Department of Medical Assistance Services (DMAS)

TOOLS & RESOURCES

ACCOMPLISHMENTS TO-DATE

NEXT STEPS
1) Research applicability of Medicaid for stroke patients.
2) Research history of Virginia Medicaid expansion for individuals with similar specific condition.

MEASURES
Track numbers of stroke patients receiving services before and after proposed change.

STRATEGY F-2: DOCUMENT COSTS OF INDIGENT AND UNINSURED STROKE PATIENTS
DESCRIPTION: Show the direct and indirect financial costs of theses patients. Hospitals, doctors and rehab break out indigent and uninsured stroke patients cost to them.

PARTNERS
Hospitals, Doctors, Rehab Specialist, Department of Rehab Services, Home-care agencies, nursing facilities and community health centers

TOOLS & RESOURCES
Each provider's data capability to quantify these costs, assess need for State and Local Hospitalization Program funds to fill the gap.

ACCOMPLISHMENTS TO-DATE

NEXT STEPS
1) Stroke Workgroup work with VHHA, Medical Society of Virginia, Old Dominion Medical Society and Rehab providers to determine how much this amount is.

MEASURES
TBD

STRATEGY F-3: NOTIFY STROKE PATIENTS OF STATE AND LOCAL HOSPITALIZATION FUNDS
DESCRIPTION: Notify indigent and uninsured stroke patients that are not on Medicaid of the State and Local Hospitalization Program.

PARTNERS
Hospitals, Stroke Service Providers

TOOLS & RESOURCES
Department of Social Services where the applicant lives and DMAS distributes the funds

ACCOMPLISHMENTS TO-DATE
$12 million was distributed in 2006 to all hospitals for patients that met the program's qualifications (not stroke specific)

NEXT STEPS
1) Work with providers to encourage stroke survivors to pursue this option and of how to apply through DSS.

MEASURES
TBD

Addendum

Table of Abbreviations, Virginia Stroke Systems Work Plan

August 2006

AARP	American Association of Retired Persons
AHA/ASA	American Heart Association/American Stroke Association
ACORN	Ambulatory Care Outcomes Research Network (at Virginia Commonwealth University)
AHG	Alliance for a Healthier Generation
AHRQ	Agency for Healthcare Research and Quality
ALLHAT	Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial
ASTP	Acute Stroke Treatment Program
BRFSS	Behavioral Risk Factor Surveillance Survey
CDC	Centers for Disease Control And Prevention
CEU	Continuing Education Unit
CME	Continuing Medical Education
CMS	Centers for Medicare and Medicaid Services
CVD	Cardiovascular Disease
CSC	Comprehensive Stroke Center (hospital category)
DMAS	Department of Medical Assistance Services
EMD	Emergency Medical Dispatch
EMS	Emergency Medical Services
D&S	Drip and Ship (Feeder/Transfer) (hospital category)
EHR	Electronic Health Records
EMR	Electronic Medical Records
ER	Emergency Room
FIPS	Federal Information Processing Standard
GWTG	Get With The Guidelines
HDSP	Heart Disease and Stroke Prevention
HP	Healthy Pathways (statewide coalition with focus on schools, medical. faith, and community/work site)
HR	Human Resources (ref Directors' Associations)

HSRP Heart Stroke Recognition Program (for Physicians)

JCAHO Joint Commission on Accreditation of Hospitals

MDC Medical Direction Committee

MERP Medical Emergency Response Plan

NCEP National Cholesterol Education Program

NCQA National Center for Quality Assurance

NHBPEP National High Blood Pressure Education Program

NIH National Institutes of Health

NINDS National Institute of Neurological Disorders and Stroke

OEMS Office of Emergency Medical Services

OHPP Office of Health Policy and Planning

PCP Primary Care Provider

PSA Public Service Announcement

PSAP Public Safety Answering Points

PSC Primary Stroke Center (hospital designation)

QI Quality Improvement

QIO Quality Improvement Organization

ROI Return On Investment

rt-PA Recombinant Tissue Plasminogen Activator

SOC Standard Of Care (hospital category)

SRTS Safe Routes To School

S/S Signs and Symptoms

SSP Stroke Systems Plan

SYH Search Your Heart (faith based community education curriculum)

tPA Tissue Plasminogen Activator

UVA University of Virginia

VAFC Virginia Association of Free Clinics

VAFHK Virginia Action For Healthy Kids

VAFP Virginia Academy of Family Physicians

VCU Virginia Commonwealth University

VDH Virginia Department of Health

VHHA Virginia Hospital and Healthcare Association

VHI Virginia Health Information

VHQC Virginia Health Quality Center

VITA Virginia Information Technology Agency

VOHCSW Virginia Organization Of Health Care Social Workers

WAV Well Adult Visit

WMM When Minutes Matter (ASA senior stroke education program)

YTC You're The Cure (AHA grassroots advocacy network)

Joint Commission on Health Care

900 East Main Street, 1st Floor West
P.O. Box 1322
Richmond, Virginia 23218

(804) 786-5445
(804) 786-5538 (Fax)

E-Mail
jchc@leg.state.va.us

Internet Address:
http://jchc.state.va.us