2014: An "Acute Cardiovascular Emergencies" (ACE) Rapid Access Network at UVA: A Review

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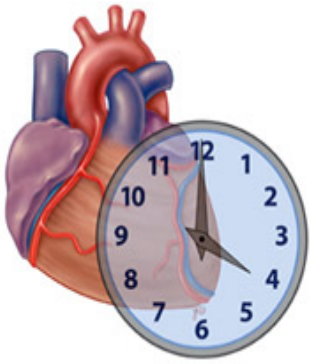


ACE:Time Critical Diagnosis

- **STEMI** (**ST**-segment **E**levation **M**yocardial **I**nfarction)
- **Stroke:** Acute Ischemic CVA
- **Sudden Cardiac Arrest** (SCA) with Spont. Return of Circulation (SROC)
- **Aortic Emergencies (AE):** Ruptured AAA & Dissection

STEMI/Stroke/SCA/AE

- Time Critical Events requiring emergent decision making and expertise in care
- Few in number but with High Impact Factor
- Individual Diagnoses but many parallels in care
- Multiple conditions, one possible general approach

Stroke/STEMI/Cardiac arrest

- Cardiovascular emergencies share similar principles of quality patient care'
  - Emergent diagnosis at all pt "portals" is paramount
  - Time critical treatments early in the process
  - Careful collaboration between UVA referral facilities and EMS providers is essential
  - Efficient decision making and triage required
  - Protocol driven care in early stages is beneficial
  - Guaranteed access to tertiary treatment centers

STEMI/Stroke/Arrest: National Trends

STEMI & Stroke;

"Regional Systems of Care" concept well established; supported by the AHA and all major stakeholder groups (AHA position statements, etc)

- Sudden Cardiac Arrest
- Science less defined but recent AHA statements endorse the concept of Regional Systems of Care

STEMI/Stroke/SCA: UVA 2014

STEMI: Currently, UVA has a well structured collaboration between Cardiology and Emergency Medicine

- Top Tier STEMI Treatment times
- Clear protocols of care
- Strong transfer conduit from Culpeper
- A Growing partnership with EMS
- Active leadership at state and national levels

STEMI/Stroke/Arrest: UVA 2014

Stroke: Well defined Stroke Alert process within the UVA system

Outside UVA: Dr. Nina Solenski from Neurology led development of a regional Stroke System of Care (Result: The STAT Network)

- Involvement of UVA telemedicine
- Ability to videoconference integral to process
- Integrated feedback loops
- Initial partnerships with Bath Community and Culpeper Regional Hospitals
- Aggressive outreach to EMS with education

STEMI/Stroke/Arrest: UVA 2014

Sudden Cardiac Arrest (SCA) with Spontaneous Return of Circulation (SROC) :

Treatment science more complex then STEMI/Stroke; system of care parallels with Stroke and STEMI, however

Sudden Cardiac Arrest Packet and protocols now in place at UVA and Culpeper

STEMI/Stroke/SCA

- Each system has a “Attending Grade” decision maker 24/7 via the 924-0000 (external alerts) or 4-2012 (ED/internal)
- Communications via the Paging Operator, bypassing Bed Center
- ED closely involved in system design, operation and feedback
- Protocols & ALERT Packets for each

Aortic Emergencies (AE)

- Similar in concept to STEMI/Stroke/SCA
- Idea of a single response to all AE events both internally and within our EMS and referral center(s) catchment area
- In development at UVA

STEMI/Stroke/SCA: UVA 2012

STEMI: Relatively well established System of Care with the strong partnership of Culpeper Regional Hospital & area EMS

Stroke: An evolving System of Care modeled after STEMI; anticipated rapid progress in 2011

Cardiac Arrest with Spontaneous Return of Circulation (SROC: Evolving System of Care; ongoing discussion at multiple levels; active evolution of our competitors

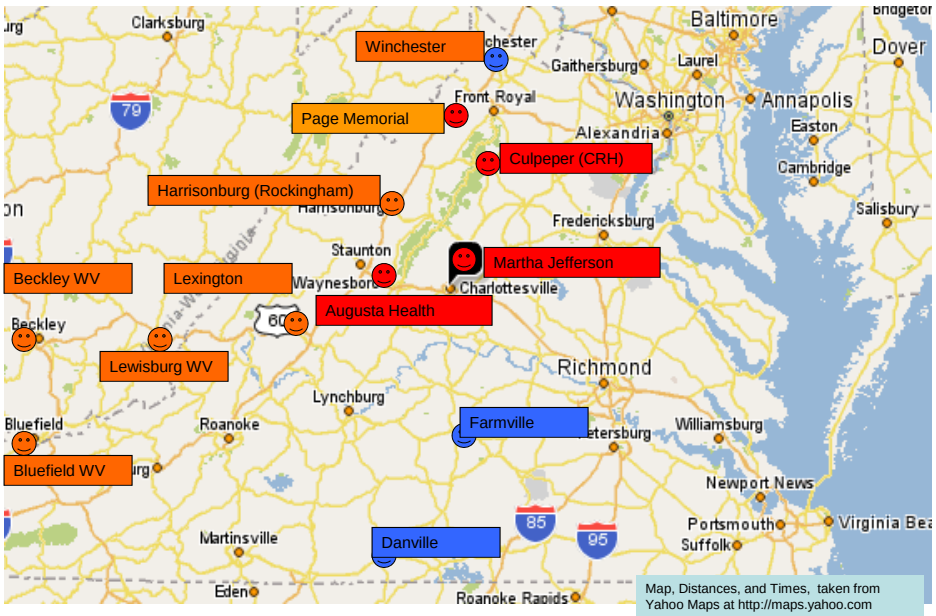
The "ACE" Network: A Proposal

- Acute Cardiovascular Emergencies (ACE) Rapid Access Network
- An interdisciplinary, interdepartmental collaboration between UVA, surrounding health care facilities and local EMS agencies.

The ACE Rapid Access Network:

- Goal: To establish optimized systems of care within the UVA "catchment area" to assist in the efficient diagnosis, pre-hospital management of and facilitated transfer of STEMI, Stroke, SCA and AAA/Dissection patients to UVA for definitive post-event care.

ACE Area Partners…A Sample



ACE: Benefits to UVA

- Better patient outcomes!
- Protection of UVA market share
- Strategic publicity at all levels
- Academic leadership
- Research potential
- Preservation of academic teaching opportunities (preserve volume & acuity)

What if we don't do it?

- UVA will lag evolving trends in critical care and patient quality indicators
- Potential erosion of UVA patient volumes
- Loss in area medical care leadership among EMS and area hospitals
- Creates an "Open Opportunity"for our area competitors to assume a leadership role
- A Missed opportunity to target "high value" patients

Requirements of our referral base..

- Equality of partnership with UVA
- A unified UVA approach
- Access to a UVA physician decision maker
- 100% acceptance of ACE patients
- Feedback from the “black hole” of UVA
- Targeted education and outreach efforts
- One common systems contact person at UVA
- Consistent multi-level feedback to providers

ACE Rapid Access Network

Three potential Patient sources

1) **In-house:** Patients presenting directly to UVA ED or from within the Medical Center (walk-in and/or in-patients)
2) **EMS:** Patients brought in via EMS directly from the field
3) **Other facilities:** Inter-facility transfers expedited to UVA for definitive treatment

UVA Stake Holders (non-inclusive)

The UVA Medical Center!

- UVA Emergency Department
- Cardiology
- Neurology
- Vascular Surgery
- UVA Bed Center
- Pegasus
- MedCom
- Cath lab
- CCU/NNICU
- Interventional Radiology
- Staff and faculty leaders and providers

Necessary Requirements: Level #1

- A Strong **partnership** of the departments of Emergency Medicine, Cardiology, Neurology and TCV surgery
- An Integrated **strategic leadership team** comprised of Physicians, Administration, Clinical Staff & QI to provide strategic support and direction
- Active leadership comprised of EM, Cardiology, TCV Surgery, Neurology physicians and staff to supervise and maintain system
- Sustainable resources and support for “middle management” personnel to administer the core system components
- Effective leverage of existing UVA “components” such as EMS education, media and physician outreach, staff education, QI personnel, etc.

A sample of issues

- UVA would accept all ACE patients 24/7 (no diversion)
- Bed availability issues addressed within UVA
- Defined in-house patient transition pathways would be developed for each condition
- Establishment of a defined UVA Emergency Contact for each condition
- Active involvement of Pegasus and area EMS
- Multi-level feedback loops to providers/referral centers
- Multidisciplinary involvement to assess quality

UVA Hurdles

- Bed placement issues (“are you open OR not”)
- Flow of information issues (paging)
- Issues of consistency (the same plan every time)
- Transportation (Pegasus, etc)
- Time and resources (who is paying?
- Education and outreach

Lessons from Other Systems

- Regional Systems of Care have potential but must be built from the ground up -as well as from the top down!
- Ongoing legwork and detail work will determine success
- Feedback and partnership essential

Solution:

- All these conditions can be addressed by parallel Systems of Care based on one common template (the current UVA STEMI / Stroke System of Care) that is modified to address each specific condition
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More lessons

- Seek the input of all involved –to an extent!
- Clearly understand the condition
  - STEMI? Yes or NO
  - Trauma? Somewhat definable
  - Stroke? **Just what is a stroke, Dr????**
  - Once you decide your plan, stick to it!

Questions??

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