

**Advancing Stroke Care in South Carolina—Telemedicine to Deliver Urgent Stroke Care**

Robert J Adams MS MD  
Professor of Neuroscience  
University Eminent Scholar  
Director South Carolina Center of Economic Excellence  
Director MUSC Stroke Center  
Medical University of South Carolina  
Charleston, SC 29425  
[adamsrj@musc.edu](mailto:adamsrj@musc.edu)  
832 792-7058

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**Disclosure**

- Inventor/Stockholder in ReachMDCall, Inc a for-profit Georgia corporation marketing a web based system to provide urgent stroke and other medical consultation

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*Member, REACH Stroke Network*

- Trivia question: In what major market was the "picturephone" tested by AT and T? and when?

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**Telemedicine—Considerations for the Future in South Carolina**

Robert J Adams MS MD

- Surviving until help arrives
- Can effective partnerships among users be developed to share some costs but to allow room for specialty and application specific growth development and enterprise?
- Imagine a statewide “platform” in comparison to Broadcast TV

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**Telemedicine—Considerations for the Future in South Carolina**

Robert J Adams MS MD

- Analogy
  - A telemedicine “utility” or system would be comparable to?
    - The fiberoptic cables that underlie transmission on the internet?
    - The servers and routers and the fiberoptics/ microwave transmission systems?
    - All these plus the web browser engine that allows movement on the internet?

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**Telemedicine—Considerations for the Future in South Carolina**

- FCC regulates the channels
- Sets specs
- Controls content
- Requires some content
- 99% of what is on TV is not govt produced but privately made and valued by themarket
- Programming is the “content” that makes people turn on TV
- Lots of channels, limiting factor is quality of programs
- New applications use the platform
- No comparable authority is involved in telemed
- A web based system linking vast public and some private sites is like broadcast or cable
- Specialty services are the program content—support for these is the job of those content providers

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### Telemedicine for Acute Stroke

- Can evaluation be done effectively and quickly?-- Yes
- Can remote sites give tpa safely? Yes
- Can patients be transferred safely or kept and receive good care? *Probably*
- Is video/CT transmission necessary? Yes
- How reliable are the systems? *Reliable enough*
- Are they "cost effective"? *Not clear yet*

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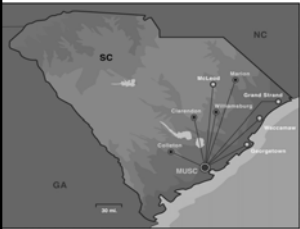
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### REACH MUSC Program



Implementation—  
May 2008

- Georgetown and Waccamaw—300 beds
- McLeod Regional - 350 beds

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Site	Start Date	Consults as of 02/14/09	tPA Indicated	tPA Given	Transport to MUSC	Treated with tPA	Transfer to MUSC
Georgetown	5/1/2008	25	7	5	10	18%	41%
Waccamaw	5/6/2008	21	7	6	10	26%	47%
McLeod	5/7/2008	37	15	15	5	37%	11%
Grand Strand	9/1/2008	12	3	3	11	25%	92%
Marion	9/18/2008	8	2	2	3	25%	38%
Williamsburg	12/23/2008	3	1	1	2	33%	67%
<b>Totals</b>		<b>106</b>	<b>35</b>	<b>32</b>	<b>41</b>		

\* 3 families refused treatment with tPA

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- New Developments in 2009
  - Trauma and Sepsis modules and programs are being developed
  - "Tele-locum tenens" piloted last week at Georgetown and Waccamaw (covering in hospital neurology for sole vacationing neurologist on site)
  - 9 REACH "floor" consults delivered in 5 days
  - Proposal developed for possible CDC funding to use REACH in Community Health Clinics and high volume practices to assist in preventive care of patients at risk for stroke and heart disease

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Member, REACH Stroke Network

- New Developments in 2009
  - What is a "REACH co-consultation"?
  - Concept of simultaneous examination and interaction with patient, family, specialists and primary care team, with review of other data followed by joint decision and plan, developed and communicated in "real time"
    - Consultants and indeed primary care team or family members living in other cities could all participate with internet and phone access and scheduling coordination the only requirement

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Member, REACH Stroke Network

- REACH facilitated "co-consultation"
  - RJA consults 2-11 on patient at Georgetown, 50 ish year old with renal osteodystrophy and quadriparesis
  - RJA talks with patient and patients admitting nephrologist by phone, suggests CT myelogram
  - Next day RJA shows patient via REACH to IJ the MUSC neurosurgeon, they interview/examine the patient, review his films via remote access to G town PACS, and develop a plan
  - RJA, IJ and Gtown nephrologist talk by phone and plan is made to transfer patient to MUSC for next day surgery

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**REACH→MUSC<sup>SM</sup>**  
*Member, REACH Stroke Network*

Tele-stroke and telepsych are two successful applications but its hard for a few applications to sustain the entire railroad  
Can we hold out until reinforcements arrive?

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**REACH→MUSC<sup>SM</sup>**  
*Member, REACH Stroke Network*

- Given its compelling inherent logic, why has telemedicine been adopted in such a slow and spotty manner in the US?
  - 1) Costly and cumbersome technologies
  - 2) Too many people needed to do one consult, inefficient
  - 3) Insufficient motivation to make it work where ready alternatives are present (telephone, transfer of patients)

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**REACH→MUSC<sup>SM</sup>**  
*Member, REACH Stroke Network*

- Given its compelling inherent logic, why has telemedicine been adopted in such a slow and spotty manner in the US?
  - 4) To date no compelling national security interest has been linked to telemedicine
  - 5) Failure to achieve economies and efficiencies of scale the way telephone, TV broadcast, cable, cellular and internet have developed
  - 6) "Boutique" rather than "bread and butter" applications remain the status quo

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- Telemedicine system as a “utility”
  - “**an organization that provides or maintains an infrastructure or service for public use and is subject to government regulation**”
    - If for example a system such as REACH were widely available (as a low cost “utility”) how would this encourage logical and efficient use and where would the system administration and governance reside?(vis a vis the Public Service Commission?)

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- Blueprint for a sustainable future
  - 1) abandon emphasis on “medicine” and join forces with business, technology, education, law enforcement, homeland security, military etc to build out the grid (the utility) first, then adapt it to medical uses later (basically add a zillion camera’s to the grid)
  - 2) adopt a flexible and modern platform on which multiple applications can be built and sustained and plug-ins and new applications encouraged

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- Blueprint for a sustainable future
  - 3) go beyond “video conferencing” and aggressively develop “remote presence” via robotics (prior rate limiting step was bandwidth, now we have it!)
  - 4) develop a statewide plan (perhaps via a “legislative study committee” approach as we are using with stroke and epilepsy)

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*Member, REACH Stroke Network*

- Blueprint for a sustainable future
  - 5) develop a state agency that is charged with development and regulation of the utility of telemedicine that is supported by taxes and subscribers fees
  - 6) analogy of radio, TV, cable: specialty uses such as stroke or pediatric cardiology or clinics etc become the "programming" over the particular medium

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*Member, REACH Stroke Network*

- Blueprint for a sustainable future
  - 7) within sufficiently flexible technical standards, allow and encourage the development of specialized applications, devices, programs, extensions, innovations and interactivity etc to meet a variety of needs and wants and stimulate economic as well as clinical development in SC
  - "If you build it they will come, but.... will they pay? "

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