STRAC STROKE SYSTEM DEVELOPMENT
Historical Perspective

Dicky Huey, MD
STROKE COMMITTEE CHAIR
Closing the Gap
The Development of a Regional Stroke System

Johanna Sharp¹, Melissa Alonzo³, Adam Blanchette³, Lee Birnbaum⁵, Eric Epley⁴,
Eleanor Lacson⁴, Anne Leonard⁵, Preston Love⁴, Deb Motz², Michele Patterson³, Justin Pruitt⁵,
Brandi Wright⁴, Dicky Huey²

1-University Health System  2-Baptist Health System  3-Methodist Healthcare System
4-Southwest Texas Regional Advisory Council
5-University of Texas Health Science Center at San Antonio

Abstract #3639
Closing the Gap - Development of a Regional Stroke System

Johanna Sharp¹, Melissa Aloroi², Adam Blaschette³, Lee Binkovitz⁴, Crist Elkins⁴, Eleanor Issac⁴, Anne Leonard⁴, Preston Love⁴, Deb Matt⁴, Melissa Peterson⁴, Lindsy Probst⁴, Brenda Wright⁴, Trudy Ebert⁴

1-University Health System 2-暴跌 Health System 3-Methodist Healthcare System 4-Southwest Texas Regional Advisory Council

Background

In 2009, the 7th largest populated city in the United States, had no certified Primary Stroke Centers, or organized approach to care for stroke patients.

Methods

Hospital leaders were compelled to create stroke programs in their facilities in response to increase community pressure following a patient who had a poor outcome secondary to her access to a stroke center in San Antonio.

The Southwest Texas Regional Advisory Council (STRAC) Stroke Committee, comprised of hospital, physician and EMS leaders, developed a Stroke Letter of Agreement signed by the participating hospitals and EMS agencies. This letter defined an interim process for performance and pre-hospital stroke alert criteria while hospitals developed programs and became certified as stroke centers. The agreement established a commitment to maintain a rapid response team, a central stroke call process, and process improvement. Transfer training tools were developed to monitor hospital responses to transfer requests and patient acceptance.

Purpose

To describe how in one year, a large geographic region progressed from no system of stroke care to an organized system of 32 Certified Primary Stroke Centers and numerous EMS-agencies.

Stroke Alert Criteria

1. Signs or symptoms of stroke within the previous 24 hours
2. Neck weakness
3. Speech difficulty
4. Less than 90 minutes from onset of symptoms
5. Blood pressure between 160/90 and 160/100

Stroke Algorithm

1. Recognition
2. Evaluation
3. Management

Results

By coordinating a system of care with first responders, no longer diverting patients out of the service area, and data sharing, a large region progressed from having no stroke system to an organized system of 32 Certified Primary Stroke Centers, which provide the region access to quality care. The STRAC Stroke Performance Committee and Coordinator Committee conduct monthly meetings.

Conclusions

This process successfully closed the gap in stroke care. The STRAC Stroke Committee continues to improve data collection, provide feedback to EMS, set goals for public education, and engage hospitals and EMS agencies in the commitment to quality stroke care.

References:


Background and Purpose

- In 2009, the 7th largest populated city in the United States, had no certified Primary Stroke Centers, or organized approach to care for stroke patients. The purpose is to describe how in one year, a large geographic region progressed from no system of stroke care to an organized system of 10 Certified Primary Stroke Centers and numerous EMS agencies.
STRAC
Southwest Texas Regional Advisory Council

- 22 Counties
- 2.4 Million People
- 26,000 Square Miles
- 71 EMS Agencies
- 53 Hospitals
  - 11 Primary Stroke Centers
    - 3 Seeking Comprehensive Status
Hospital leaders were compelled to create stroke programs in their facilities in response to intense community pressure following a patient who had a poor outcome secondary to no access to a stroke center in San Antonio. The Southwest Texas Regional Advisory Council (STRAC) Stroke Committee, comprised of hospital, physician and EMS leaders developed a Stroke Letter of Attestation signed by participating hospitals and EMS agencies. This letter defined an interim process for performance and pre-hospital stroke alert criteria while hospitals developed programs and became certified as stroke centers.
**Stroke Algorithm**

1. **RECOGNITION**
   - **Stroke Warning Signs**
     - Sudden onset of any of the following:
       - Numbness/weakness on one side of the face or body
       - Difficulty speaking or understanding speech
       - Blurred vision
       - Loss of balance/coordination
       - Severe or unexplained headache

2. **EVALUATION**

3. **MANAGEMENT**
   - **CT scan normal, no evidence of hemorrhage**
   - **CT abnormal, evidence of hemorrhage**
     - **Target Times**
       - Door to MD < 15 min
       - Door to CT scan < 25 min
       - Door to CT read < 45 min
       - Door to Lab results < 45 min
       - Door to TPA < 60 min

**Methods**

Despite a competitive environment, Stroke Coordinators met monthly to discuss data and develop regional reports for review in the Stroke Committee. In addition, stroke algorithms were distributed to rural facilities to assist with care prior to transfer to a stroke center.
Methods

The agreement established a commitment to maintain rapid response teams, a central one-call transfer process, and process improvement. Transfer tracking sheets were developed to monitor hospital responses to transfer requests and patient acceptance.
Results

Stroke Patients Transferred Out of TSA-P CY 2009-2012*

By coordinating a system of care with first responders, no longer diverting patients out of the service area, and data sharing, a large region progressed from having no stroke system to an organized system of 10 Certified Primary Stroke Centers, which provide the region access to quality care. The STRAC Stroke/Performance Improvement Committee and Coordinator Committee continue monthly meetings.

*STROKE Patients" is defined as any patient transported by AirLIFE from within Trauma Service Area - P that had a transferring diagnosis with any of the following: Cerebral Vascular Accident, Stroke, Subarachnoid Hemorrhage, or Intracranial Hemorrhage. "STROKE Patients Transferred Out of Region" is defined as any patient that was defined as a

*Through 12/12/2012 Data Provided by San Antonio AirLIFE
Results

Total Stroke Alert Patients

![Graph showing total stroke alert patients per month in 2011.]

TPA Administration For Occlusive Stroke Alerts

![Graph showing TPA administration for occlusive stroke alerts per month in 2011.]

Overall Average: 33%
Conclusion

This process successfully closed the gap in stroke care. The STRAC Stroke Committee continues to improve data collection, provide feedback to EMS, set goals for public education, and engage hospitals and EMS agencies in the commitment to quality stroke care.
STRAC Stroke Committee

Stroke Committee Chair                    Dicky Huey M.D.
Stroke Committee Vice-Chair              Adam Blanchette M.D.
STRAC Executive Director                 Eric Epley CEM, NREMT-P

Primary Stroke Centers

<table>
<thead>
<tr>
<th>Baptist Medical Center</th>
<th>North Central Baptist Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methodist Hospital</td>
<td>Northeast Baptist Hospital</td>
</tr>
<tr>
<td>Methodist Stone Oak Hospital</td>
<td>Northeast Methodist Hospital</td>
</tr>
<tr>
<td>Metropolitan Methodist Hospital</td>
<td>Southwest General Hospital</td>
</tr>
<tr>
<td>Mission Trail Baptist Hospital</td>
<td>St. Luke’s Baptist Hospital</td>
</tr>
<tr>
<td>University Hospital</td>
<td></td>
</tr>
</tbody>
</table>