Tele-STROKE

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Protecting your world of experience with ours.
The Scope of the Problem

• 800,000 a year, third leading cause of death, leading cause of adult disability.

• On average, someone dies from a stroke every 4 minutes.

• Every 40 seconds...someone in the US has a stroke.

• t-PA needs to be given within 3.5 hrs, which presents an opportunity to improve patient outcomes and reduce overall costs to the US health system.²

Sources: Sg2 Analysis, 2006.

Stroke Incidence US Market, 2000-2020
Women & Stroke

• Stroke kills more than twice as many American women every year as breast cancer
• More women than men die from stroke and risk is higher for women due to higher life expectancy
• Women suffer greater disability after stroke than men
• Women ages 45 to 54 are experiencing a stroke surge, mainly due to increased risk factors and lack of prevention knowledge
African Americans & Stroke

• Incidence is nearly double that of Caucasians
• African Americans suffer more extensive physical impairments
• Twice as likely to die from stroke than Caucasians
• High incidence of risk factors for stroke
  – Includes hypertension, diabetes, obesity, smoking and sickle cell anemia
Impact on Stroke Care

• Videoconferencing by off-site stroke neurologist provides accurate assessment of the patient’s physical condition and neuroimaging studies

• Tele-stroke can maximize use of life saving therapies:
  – A rural hospital that had not used tPA in 2yrs increased tPA administration to 5.6% with the Partners Tele-Stroke Network
  – Houston: 0.8% use of rt-PA improved to 8.3%

• Reduces mortality rate by identifying patients who need to be transferred for advanced care.

Sources: Sg2 Analysis, 2006.
TeleStroke-PROs

• The cost is flexible, depending on the system used
• It can be wireless, nearly real time with broad band
• Extend stroke care expertise into rural and underserved areas.
• It is time saving and efficient. Doc-Doc, Doc-patient interaction allowed at distance
• Multifunctional: films, labs, medical records, pathology report
• Provides rapid access to specialized interventions through initiation of inter-hospital transfers and improve in basic on-site stroke therapy.
• It has demonstrated improved use of t-PA.
• It may improve enrollment in acute stroke trials.
MCMH/CRMC Partnership
Hub and Spoke Model

**Spoke**
- Assess and stabilize
- CT Scan
- Teleneurology Consult
- Administer tPA, if eligible
- Continued on-site management of non-stroke patients
- Transfer to CRMC if patient identified as acute ischemic stroke
- “Drip and Ship”

**Hub**
- Intensive Care Monitoring withNIH Stroke trained nurses
- On-site neurologist coverage
- Neurosurgical coverage, if needed, via transfer agreement
- Speech pathologist evaluation and treatment
- Physical therapy evaluation & aggressive treatment
- Interdisciplinary care plan, management and discharge preparation
InTouch Health

• https://www.youtube.com/watch?v=-KVv6N2SvBA
Definition of Stroke

- Sudden brain damage
- Lack of blood flow to the brain caused by a clot or rupture of a blood vessel

**Ischemic = Clot**
(makes up approximately 81 percent of all strokes)

**Hemorrhagic = Bleed**
- Bleeding around brain
- Bleeding into brain

www.stroke.org
Transient Ischemic Attack (TIA)

- Transient ischemic attack (TIA) is a warning sign of a future stroke – up to 40 percent of TIA patients will have a future stroke.
- Symptoms of TIAs are the same as stroke.
- TIA symptoms can resolve within minutes or hours.
- It is important to seek immediate medical attention if you suspect that you are having or have had a TIA.
Stroke Symptoms

- Sudden and severe headache
- Trouble seeing in one or both eyes
- Sudden dizziness
- Trouble walking
- Sudden confusion
- Trouble speaking
- Sudden numbness or weakness of face, arm or leg

If you observe any of these symptoms, CALL 9-1-1 IMMEDIATELY. Every minute matters!
Be Stroke Smart

Reduce—Stroke risk

Recognize—Stroke symptoms

Respond—At the first sign of stroke, CALL 911 IMMEDIATELY
Every minute, 2 million neurons are lost in the brain during a STROKE.
≤60 min
Give Activase bolus and initiate infusion in eligible* patients

0 min
Suspected stroke patient arrives at ED

≤10 min
Initiate MD evaluation, including patient history and time last known well/symptom onset. Initiate labwork. Assess using NIHSS

≤45 min
Interpret CT scan and labs. Review patient eligibility for Activase

≤15 min
Notify stroke team (including neurologic expertise)

≤25 min
Initiate CT scan

*Eligible patient criteria may vary depending on specific stroke center guidelines.
Code Stroke Bag
Lifestyle Changes for Survivors and Caregivers

- Daily living skills
- Dressing and grooming
- Diet, nutrition and eating difficulties
- Skin care problems
- Pain
- Sexuality/Intimacy

- Behavior
- Depression & Anger
- Emotional Liability
- One-sided Neglect
- Memory Loss
- Communication Problems

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Stroke Recovery

- 10 percent of stroke survivors recover almost completely
- 25 percent recover with minor impairments
- 40 percent experience moderate to severe impairments requiring special care
- 10 percent require care within either a skilled-care or other long-term care facility
- 15 percent die shortly after the stroke
Perceptions of Stroke

Myth:
- Is not preventable
- Cannot be treated
- Only strikes the elderly
- Happens in the heart
- Recovery ends after 6 months

Reality:
- Up to 80 percent of strokes are preventable
- Stroke requires emergency treatment
- Anyone can have a stroke
- Stroke is a “Brain Attack”
- Stroke recovery can last a lifetime

www.stroke.org

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Ambulance Entrance
ER Registration
CT Scan
Trauma Room
Conclusion

- Telemedicine CAN solve the problem of access to specialty services
- Telemedicine improves TPA use in stroke patients in rural and remote ERs
- Telemedicine empowers physicians whom may have been reluctant to treat
- Telemedicine speeds up the ability to access a “Stroke Neurologist”