TeleStroke Network in Maine:
A Statewide System of Care and Collaboration for Acute Stroke Patients

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Purpose/Background

Maine Medical Center (MMC) deployed a TeleStroke Network in 2015 to provide support for emergency physicians with the assessment and treatment of suspected acute stroke patients.

- 6 neurologists from MMC and 3 from Pen Bay Medical Center
- Partner hospitals (start up date):
  - Miles Memorial Hospital – (Feb 2015)
  - Mid Coast Hospital – (Mar 2015)
  - Waldo County Healthcare – (Mar 2015)
  - MaineGeneral Health – (Sept 2015)

Objectives

- Established a system of care to enhance and standardize stroke care across the TeleStroke Network and state of Maine through the use of telehealth technology, evidence-based developed protocols, training and administrative support
- Provide 24/7 access to board certified neurologists for emergent video consultation to facilitate the diagnosis and management of acute stroke

Results

TeleStroke Program Overview as of 02/01 – 9/29:

- 39 TeleStroke calls:
  18 ischemic and 1 primary hemorrhagic
- 28 Video Consults: Mean 20 +/- 14 min
- 9 tPA given
- Door-to-Needle (DTN) time(<60 minutes target): Mean 58 +/- 15 min
- TeleStroke Request-to-Neurologist Call Back: Mean 4 +/- 7 min
- TeleStroke Neurologists' NIHSS: Mean 9 +/- 8
- 14 transfers

Pre- and Post- Implementation tPA administration rate of Go-live date to August 2015:
= total tPA administered (ED and inpt)/
total ischemic stroke volume (ED and inpt)

- Mid Coast: 2.13% (n=94) in 2014 to 1.89% (n=53) in 2015. (P=NS)
- Miles: 4.17% (n=48) in 2014 to 13% (n=23) in 2015. (P=NS)
- Waldo: 2014 data not retrievable; 12% (n=25) in 2015.
- TeleStroke Network 2015: 46% (n=13)

Quality Data

	Telestroke Program	Mid Coast		Miles		Waldo	
	Feb-Aug 2015	CY 2014	Mar-Aug	CY 2014	Feb-Aug	CY 2014	Mar-Aug
tPA Administered: ED and Inpt	6	2	1	2	3	Data not retrievable	3
Total Ischemic Stroke: ED and Inpt	13	94	53	48	23		25
tPA Administration Rate	46%	2.13%	1.89%	4.17%	13%		12%
National Avg tPA Administration Rate	<5%						

Design/Methods

- Core group of neurologists who agreed to provide voluntary support of the TeleStroke Network
- Nurses and physicians trained in the use of TeleStroke equipment and stroke care before and after Go-live (recommendations are made to have medical residents and nurses NIHSS certified)
- Portable laptop for remote 2-way video conferencing and an applications portal to allow access to electronic medical records (EMR) and imaging done at partner hospitals
- ED provider and TeleStroke neurologist together recommend the best treatment plan to the patient/patient's family
- Documentation of TeleStroke consult dictated or documented directly into the EMR sent emergently to consulting hospitals
- 24/7 technical support
- Ongoing data monitoring for quality improvement purposes
- Quarterly Steering Committee meetings to review data, performance and allow for feedback and idea sharing

Conclusions / Implications for Practice

- Implementing a TeleStroke system in Maine has helped facilitate the tPA use in stroke patients presenting to partner hospitals
- Emergency medicine physicians have increased access to expertise in stroke care
- Patients in remote areas have an increased chance for tPA consideration