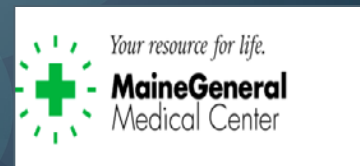




ENHANCING TELEHEALTH SYSTEMS TO INCREASE ACCESS AND IMPROVE STROKE OUTCOMES IN MAINE



Presenter Disclosure Information

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Enhancing Telehealth Systems to Increase Access and
Improve Stroke Outcomes in Maine

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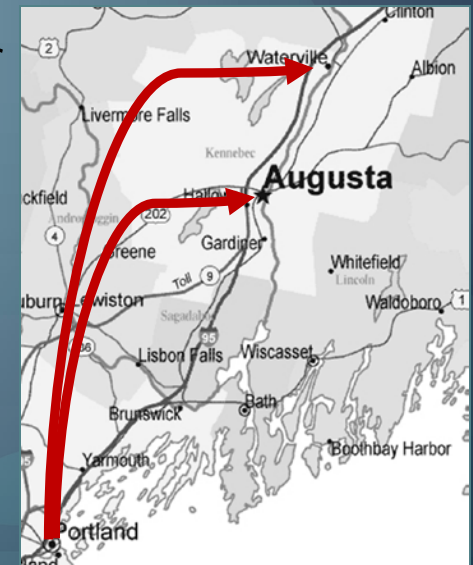
Background

Ongoing barriers to improving access and outcomes:

- Rural Geography, Limited ED Exposure and Neurology Coverage
 - Historically low state-wide use of tPA – 1.8% among all ischemic strokes in 2006¹

Maine CVH Program RFP – Acute Stroke Diagnosis/Treatment

- Maine Medical Center/MaineGeneral Medical Center collaborative proposal for telestroke pilot
 - Goal = 24/7 linkage between MMC neurologists and MGMC Emergency Departments (2)



¹ Maine All-Claims Database; Data compiled by Maine Health Data Organization (ICD-9: 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91, 436, and ICD-9 procedure code: 99.10)

Telestroke Pilot Objectives

To determine whether a telestroke pilot between two Maine hospitals would:

- Increase number of patients receiving evidence-based stroke care, specifically increased administration of tPA in eligible patients
- Improve patient outcomes, including morbidity and mortality
- Increase provider confidence in acute stroke diagnosis and treatment

Methods and Resources

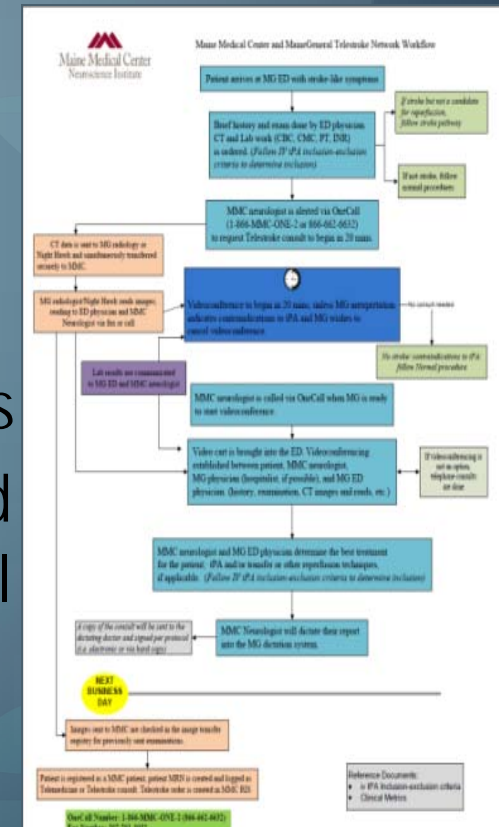
Increase Evidence-Based Diagnosis and Treatment:

- Development of Protocol and Instruction Manual

Increase Provider Confidence

- Training for ED providers and neurologists from clinical and technological perspectives:
 - Integration of protocol through standing meetings
 - Multiple “mock” stroke calls to identify issues and familiarize providers with equipment and protocol
 - Educational video produced:

<http://www.mmc.org/neuro>



Methods Continued...

Enhance Existing Telehealth Network

- Work with IT teams to increase capacity of PACS, install equipment (PVX videoconferencing at MMC and Tanberg at MGMC), and trouble-shoot tech issues

QI and Evaluation

- Development of abstraction tool and database for tracking and analysis of all telestroke patients
- Limited statistical analyses to date, due to small sample size (n=5 between March 1 and May 30, 2009)

Pilot Results

- Five MGMC ischemic stroke patients met criteria for telestroke protocol during first quarter (March-May, 2009)
 - Pilot time interval goals met for all patients:
 - Telestroke consult activation \leq 20 minutes (Mean = 14 minutes)
 - tPA administration \leq 60 minutes (Mean = 30 minutes)
 - Two of five patients received tPA – all five were transferred to MMC for follow-up
 - 4 male/1 female – both tPA pts. male; Mean age: 58 ± 21.5
 - In comparison – One of 152 MGMC ischemic stroke patients received tPA during 2007
 - Technology issues arose during two calls – computer security, delay in receiving PACS image, camera failure at spoke site

Results Continued...

Increased Provider Confidence Observed:

- Five different ED providers at MGMC successfully utilized protocol and equipment during first quarter
- Immediate increase in tPA administration promising, despite small initial number of patients

Patient Outcomes

- Zero mortalities among telestroke patients
- One complication – venous thrombosis
- Discharge Status: Rehab Hospital – 2; Home – 2; AMA - 1

Conclusions/Implications

Neurological
coverage in place –
24/7/365

Standardized
system and protocol
to promote evidence
based diagnosis and
treatment

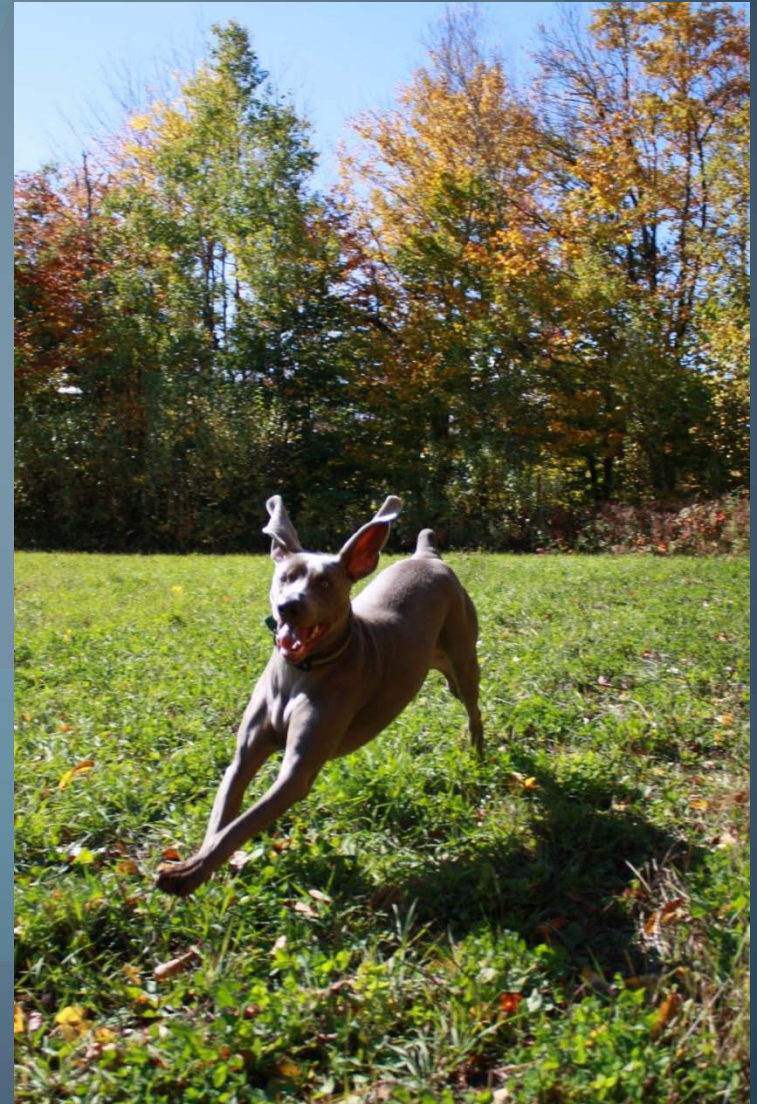
Increased provider
confidence;
improved patient
care and outcomes

- Pilot shows promise in significantly increasing state-wide tPA use among eligible patients
- State-wide partners are utilizing pilot resources developed to expand telestroke networks, with goal of 100% coverage

Moving Forward

- MassGeneral currently provides 24/7 neurology to two Maine hospitals: York Hospital and Mercy Hospital via established telestroke network
- MMC will serve as telestroke hub for eight MaineHealth affiliates – currently expanding existing telehealth platform to support the model
- Eastern Maine Medical Center will serve as hub for 16 affiliate and non-affiliate hospitals throughout Central and Northern Maine; have already seen sharp increase in “drip and ship” stroke patients from remote sites (n=16 for 2009)
- Maine Telehealth Reimbursement Law

Look Carefully... And Then Leap!



Thanks!

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