



Objective

To improve outcomes for patients with Acute Ischemic Stroke by ensuring prompt assessment and timely interventions.

Overview



- 15 Hospitals (5,000 Beds*)
- 4 Tertiary
- 8 Community
- Children
- Psychiatric
- 2 Long Term / Rehab Care Facilities (376 Beds*)
- Feinstein Institute
- Hospital and LTC Affiliate Network
- Largest provider in the NY Metro area - 13.5 % share
- 7.0 M Population Served
- 3.6 million patient contacts
- 278,000 Discharges
- 137,000 Ambulatory Surgeries
- 805,000 Emergency Visits
- 817,000 Home Care Visits
- \$5.7 Billion in Revenue
- 3rd Largest Secular Health System in U.S.
- 42,000 Employees
- LIJ's Largest Employer
- NYC's 9th Largest Employer
- Recipient of the 2010 National Quality Award from NQF

Background

- With approximately 4000 stroke discharges per year across the acute care hospitals in the North Shore – Long Island Jewish Health System (NS-LIJHS) coordination of Stroke services was deemed a priority
- Stroke care, especially for patients with Ischemic Stroke is highly time sensitive
- Rapid physician assessment, immediate testing, prompt intervention with t-PA and transfer to a higher level of care, if necessary, are critical to achieving the best possible outcomes

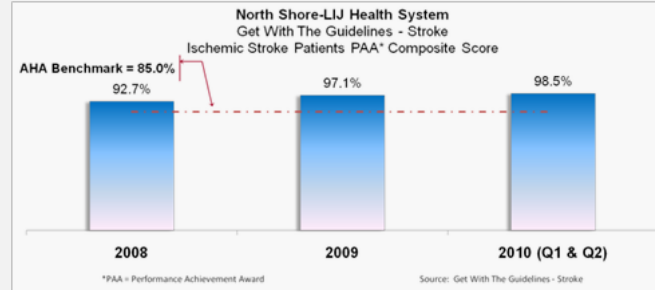
Methods

- Consensus building through a systemwide multidisciplinary stroke task force including representation from each of our hospitals, and Center for Emergency Medical Services (CEMS)
- Standardized evidence - based order sets for Ischemic Stroke
- Standardized protocols for administration of IV t-PA and endovascular therapy
- Protocols for timely transfer of patients from the community hospital to tertiary hospital setting who are candidates for interventional stroke therapies
- Implementation of a Stroke Rescue Program
- Sharing of best practices among facilities
- Systemwide implementation of a uniform methodology for performance measurement / improvement
- Participation in a national database
- Reports to board of trustees, senior leadership and front line care givers
- Key leadership support

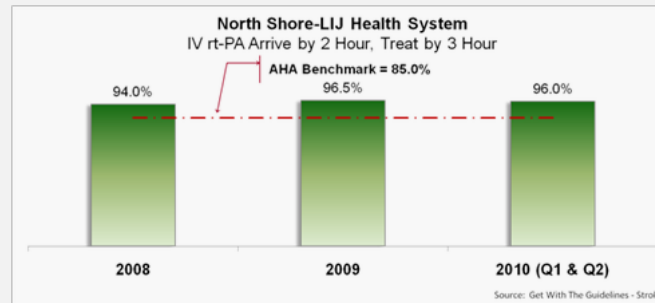
Standardized Tools

- Ischemic Stroke Order set
- Ischemic Stroke Management with IV t-PA
- CEMS Stroke Rescue Protocol
- Stroke Management Transport Protocol
- Clinical Guidelines for IV t-PA
- Clinical Guidelines - Endovascular Stroke Therapy

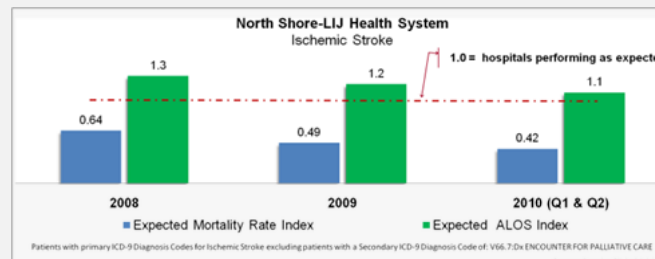
Results



- Get With The Guidelines-Stroke Composite Score Performance Measures
- Intravenous Tissue Plasminogen Activator (IV t-PA) arrive by 2 hour, treat by 3 hour
 - Early Antithrombotics
 - Deep Vein Thrombosis Prophylaxis
 - Deep Vein Thrombosis Prophylaxis
 - Antithrombotics at Discharge
 - Anticoagulant for Atrial Fibrillation/Flutter
 - Low Density Lipoprotein or MD-Staton
 - Smoking Cessation
- ✓ 4.7% increase in composite score 92.7% (2008) to 97.1% (2009)



✓ 2.7% increase in t-PA administration 94.0% (2008) to 96.5% (2009)



- ✓ 23.4% decrease in risk adjusted mortality index (excluding Palliative Care) 0.64 (2008) to 0.49 (2009)
- ✓ 7.7% decrease in average length of stay index (excluding Palliative Care) 1.30 (2008) to 1.21 (2009)

Acute Stroke Rescue Program

- North Shore University Hospital (NSUH) serves as the hub for the NS-LIJHS' Stroke Rescue Program
- Provides 24/7 neurology consultation and rapid patient transfer
- Three components:
 - Rescue** – for patients who may be candidates for aggressive interventional procedures
 - Transfer** - for patients in the community hospital setting who require a higher level of care
 - Telestroke** – remote video telecommunication to facilitate off-site neurology consultation 24/7

One Phone Call Activates An Acute Stroke Rescue



CEMS Stroke Rescue Transport Measure

2010	Average Response Time	Benchmark Met
Quarter 1	1:04:13	80.9%
Quarter 2	0:46:29	91.6%

For the First Two Quarters of 2010

- Total of 33 stroke rescue patients
 - 21 Drip and Ship patients
 - 11 Endovascular stroke therapy
- 9 hospitals (35 miles)
 - 7 System hospitals
 - 2 Non-system hospitals

Stroke Rescue Best Practices

- Direct Physician to Physician discussion
- Stroke Rescues prioritized by CEMS
- Paramedics expedite patient transfer
- Standardized Stroke Rescue Protocol
- Regular educational sessions to CEMS, hospital staff

Next Steps

- Develop web-based data tool
- Analyze clinical outcome data for Acute Stroke Rescue patients
 - Admission Stroke Scale
 - Discharge Stroke Scale
 - Performance Measure Compliance

Conclusion

Through adherence to evidence-based guidelines, implementation of an Acute Stroke Rescue Program, establishing inter-facility transfer protocols for patients requiring a higher level of care and monitoring patient transport times to identify gaps in transfer processes, the health system has improved the timeliness of treatment and patient outcomes.