

Stroke Treatment Alliance of Rochester

A Community-wide URMCM Initiative



Member Hospitals:

Highland Hospital Rochester General Hospital Strong Memorial Hospital Unity Health System

FACT: In 2009, **33%** of people admitted to a Rochester hospital with the primary diagnosis of stroke were under the age of 65—People in their **productive years**.

STROKE'S impact on the Rochester Community

Stroke is the leading cause of disability and the 3rd leading cause of death in the US.

The cost of stroke for Monroe County and surrounding regional counties is estimated to be \$228 M annually:

\$149 M of direct medical care and rehabilitation costs

\$ 79 M in indirect costs including lost productivity

In Monroe County alone, over 4,000 patients were hospitalized with a stroke diagnosis this year. Of those individuals experiencing a stroke, 20% will need help walking, 70% will not return to their previous job, and over 50% will not be able to work at all.

STAR IS BORN: A Beacon of Hope

The creation of Rochester Neurosurgery Partners (RNP) in 2003 under the leadership of Dr. Webster Pilcher, Chair of URMCM Neurosurgery, made possible a city-wide initiative for the care of neurosurgical patients in Rochester. RNP leadership of Neurosurgery in all three health systems has improved the integration and cost effectiveness of care in our community. In 2007, a similar organizational effort by URMCM Neurology, under the leadership of Dr. Steven Goldman, brought integrated Neurology services to Rochester General, Highland and Strong Memorial Hospitals. With the enthusiastic support of Dr. Mary Dombovy, Chief of Neurology at Unity Health System and Clinical Associate Professor of URMCM Neurosurgery, the stage has been set for a city-wide collaboration in Neuromedicine focused upon stroke: the Stroke Treatment Alliance of Rochester ("STAR").

In 2007, Dr. Pilcher, Dr. Curtis Benesch (Director of the URMCM Stroke Service) and Dr. Babak Jahromi assembled a group of neurologists, neurosurgeons and advanced care providers from each hospital in Rochester with a common goal: to leverage our city-wide collaborations to promote integrated and cost effective care pathways for patients with cerebrovascular disease and stroke. This consortium has begun to analyze existing practice patterns and to develop the treatment protocols and analytical tools needed to take this effort to the next level. In addition they have developed collaborative relationships around stroke care among the URMCM, the RGH and the Unity Health Systems. Our collaboration has benefited from the contributions of Neuromedicine physicians in all health systems, including Curtis Benesch and Babak Jahromi at SMH, Richard Barbano and Scott Burgin at RGH, Robert Holloway at Highland and Mary Dombovy at Unity; and from the unwavering support of Rick Constantino, Senior Advisor and Physician Project Coordinator at RGH.

STAR'S MISSION: To establish an integrated network of all hospitals in the city of Rochester, NY, in order to provide timely, state-of-the-art, cost efficient, quality care for patients with cerebrovascular disease.

STROKE AFFECTS PEOPLE OF EVERY AGE



Meet Ms. S.
... a vibrant, productive,
40 year old artist.

On November 9, 2008, Ms. S. suffered from what could have been a life devastating medical event - a stroke. Like many people her age, Ms. S. believed that she was too young to ever worry about having a stroke, however the reality is that in 2009, 33% of people admitted to Rochester hospitals with the primary diagnosis of stroke were under the age of 65. With over 4,000 stroke discharges from Rochester hospitals, this represents 817 young, productive people suffering a life altering and potentially deadly event in the year 2009 alone.

Fortunately for Ms. S., Dr. Babak Jahromi, URMCM's endovascular neurosurgeon and Director of the RNP stroke program, was able to use specialized imaging technology and endovascular interventions to minimize the potential brain damage. After only four days in the hospital and nine days in rehab, Ms. S. was able to return home to live a productive life.

Stroke is a disease process where collaboration makes a difference

IN THREE YEARS, STAR will:

- Save lives and reduce disability and the associated cost
- Improve the stroke care pathway by using feedback and skill sharing to develop standardization across the community
- Boost community awareness of risk factors and early signs and symptoms of stroke
- Create a model of cross-community collaboration of ALL stakeholders that could be scaled to other disease processes in Rochester.
- Use the Rochester community as a laboratory to demonstrate the benefit of a community-wide approach to a major disease process
- Collect and document outcomes and cost of stroke care

FACT: Upon full integration of STAR, **over 12,000 lives will be positively impacted** over a 3 year period in Monroe & surrounding counties

TREATMENT PATTERNS: A Broken System

Current System of Care: The way it has been...

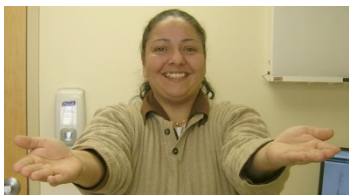
- **Delayed recognition** of symptoms
- **Inadequate coordination** among health systems
- **Inadequate communication** between providers
- **Which leads to:**
 - Death, disability, extended hospital stay
 - Discharge to home care or nursing home



Stroke Treatment: The Rochester community's key issues

- **Limited community awareness** of prevention, risk factors, early identification of signs and symptoms of stroke
- **No cohesive care pathway** among health systems in Rochester
- **No system to track outcomes and costs of care**
- **Adverse economic climate** including
 - Increased health care costs to employers
 - Reduced funding: hospitals, nursing homes, home health care
 - Regulatory environment that may limit health plan options

System of Care Improvement: The way it should be...



- **Early recognition** of symptoms
- **Coordinated care/triage** upon arrival to Emergency Department
- **SWAT Team:** "Time is Brain"
- **Can Lead to:**
 - Short hospital stay
 - Discharge to home & family

FACT: The Cost of Stroke in Monroe & surrounding regional counties will be **>\$660 M over the next three years**

TIME IS BRAIN: MRS. Z

Mrs. Z., age 61, developed stroke symptoms but didn't recognize them and delayed going to a hospital. In hospital evaluation led to outpatient medical management – endovascular intervention wasn't available. Mrs. Z's family was instructed to bring her to the ED with any signs of change. Mrs. Z readmitted when she developed new symptoms, initially felt to be a medication overdose. In the time required to make the diagnosis of stroke in progress, to communicate with specialized providers, and to arrange transfer and endovascular treatment, the stroke and loss of brain cells continued.

Mrs. Z. suffered disabling brain damage, spent 20 days in hospital, 37 days in rehab was discharged to a skilled nursing facility.

Outcome: Mrs. Z

- Extended hospital stay
- Discharge to skilled nursing facility
- Hospital stay costs: \$102 K
- Estimated skilled nursing facility costs: \$1.1 Million

Added together: \$1.2 M

Outcome: Ms. S

- Early recognition, prompt triage, SWAT team approach
- Short hospital stay & discharge to home
- Hospital stay costs: \$55 K
- Estimated nursing facility costs: \$0

Added together: \$55 K

CAN WE DO BETTER?

CAN EVERY PATIENT BE LIKE Ms. S?

COLLABORATION: Maximizes Benefits and Reduces Costs

To improve stroke care across our Rochester community, we must install effective processes of care citywide, optimize MD/health system communication and coordination, and eliminate unnecessary services and technology to reduce cost. This requires a radical revision of the current health care system. STAR is poised to successfully take on this challenge, given that we:

- Are leaders of Neuromedicine services in all three health systems
- Have developed collaborative relationships among physicians, nursing staff and other health care providers across health systems and disciplines
- Have laid the groundwork for standardized and improved practice patterns and treatment protocols
- Have developed the initial framework for collaborative agreements with regional healthcare systems and physicians

In addition, a team of world renowned scientists within the Ernest J. Del Monte Neuromedicine Institute and the University of Rochester are developing new treatment options for stroke and promise to make Rochester the place where these new therapies are first available.

STAR VISION: A 3 Year Plan

The key to continued and sustainable success relies on capitalizing on the momentum of the STAR initiative to take the program to the next level.

The primary objective of the Stroke Treatment Alliance of Rochester is to provide better outcomes and cost effective care that will benefit the entire Rochester community – including, but not limited to patients, families, businesses, health care systems and insurance plans.

This includes establishment of consistent protocols which are executed in a timely manner so that patients receive the same level of care regardless of the setting in which they initially present.

A standardized process will enable STAR to document and assess outcomes, therefore demonstrating the value provided by a coordinated, consistent care system and - **more importantly** - providing a framework by which the standard of care can be constantly reevaluated and improved.

- Community education for early identification of risk factors, signs and symptoms (patients, families, emergency care system)
- 24 x 7 call coverage and telemedicine networking of all four hospitals for timely assessment
- Protocols for assessment and transport (if required) for optimal care
- Single city-wide TIA outpatient clinic to promptly assess and treat potential “mini-stroke” patients
- Data collection that includes follow up and outcomes for tracking and benchmarking
- Forum for community-wide review and evaluation to establish best practice

Proposed Program Costs

Telemedicine network at 3 remaining hospitals—RGH, HH, Unity (computers/cameras, hardware, in-service, system maintenance, data archiving)	\$300 K
File server, hardware and software for data collection, storage and reporting	\$85 K
Clinical Nurse Project Coordinator; database entry and management	\$200 K
Education – Public awareness, EMS training, provider networking, CME presentations, marketing)	\$120 K
Total First Year Cost	\$705 K
Estimated Cost for 3 Years	\$1.3 M

This investment in STAR will be... **one-time**

Three Year Projected Cost Savings

Avoidance of skilled nursing facility stay

% benefited	Everyone	Under 65
5%	\$4.3 M	\$675 K
10%	\$8.6 M	\$1.3M
15%	\$13.1 M	\$1.97 M
20%	\$17.5 M	\$2.63 M

Avoidance of home health care

% benefited	Everyone	Under 65
5%	\$1.6 M	\$460 K
10%	\$3.2 M	\$921 K
15%	\$4.8 M	\$1.4 M
20%	\$6.4 M	\$1.8 M

The STAR return will continue... **year after year**

FACT: If just 5% of patients currently discharged to a skilled nursing facility are discharged to home, over 3 years the Rochester community could save \$1.6 M

STAR has created a citywide collaboration among clinical care providers. But this is more than a clinical partnership, this must be a community partnership. As such STAR will require buy in and investment from each affected stakeholder in Rochester.

- **Stroke health care providers:** commit to needed changes in preventive care, community education, standardized and integrated care pathways, data collection and skill sharing
- **URMC's Clinical Translational Science Institute (CTSI)** will be essential to the success of this initiative and to the acquisition of grant funding opportunities
- **Health systems:** commit to needed infrastructure, standardization of protocols, triage, SWAT team approach citywide; collaboration to make STAR the region's leading program
- **Health plans:** evaluate opportunities to align reimbursement methodologies with program goals; support community wide education programs and skill sharing, contribute data collection expertise to assess cost of care and to identify opportunities for improvement
- **Rochester RHIO:** collaborate on technology platform to assist this program
- **Business leaders:** identify opportunities for strategic realignments to overcome barriers to success, provide leadership to impact the quality of life and productivity of employees and their families, facilitate promotion of STAR as a model of how Rochester can again lead in health care
- **Philanthropy:** unique opportunity to leverage success in a novel program designed to benefit the entire community and to serve as a national model for community - centric care

FACT: Of the **4,000+** stroke related discharges that occur in Monroe County per year, **20%** will need help walking, **70%** will not return to their previous job, and over **50%** will not be able to work at all.

By working together across the community, STAR will

- Maximize outcomes
- Enhance productivity of stroke patients and their families
- Reduce costs
- Create a model of cross-community collaboration of ALL stakeholders that could be scaled to other disease process in Rochester



A Community-Wide URMC Initiative

FACT: We can return to the days when Rochester health care is held up to the nation as **how it should be**