

Creating Value and Sustainability with a 31-site Neuroscience Network Spanning the State of Michigan

Case in Point: Michigan Stroke Network



InTouch
Health

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The Challenge

Under the leadership of President Jack Weiner, St. Joseph Mercy Oakland (SJMO) advanced into the top five percent of U.S. hospitals recognized nationally for clinical excellence in areas that included cardiology and orthopedic care.¹ It was also the first certified primary stroke center in the state of Michigan and ninth in the nation.

After investing in a state-of-the-art, neuroendovascular surgical program to serve the greater Detroit area, Weiner wanted to extend the reach of this capability to provide better and more timely stroke access to underserved regions throughout Michigan. A team assembled by Weiner explored ways to use SJMO's neurosciences and stroke programs to serve a wider patient population and determined that an approach using acute care telehealth would be needed.

The Solution

Based on the recommendation of the leadership team, and with the support of Trinity Health, a collaborative network of hospitals was established, working together to deliver the most comprehensive stroke care in Michigan. Using the latest in telehealth technology, the Michigan Stroke Network allowed physicians at participating hospitals to gain access to some of the finest neuroendovascular specialists in the nation, providing stroke patients quality medical care when they need it.

Member hospitals within the Michigan Stroke Network were given 24-hour access to life-saving, highly specialized neuroendovascular technology. Member hospitals also received around-the-clock access to neuroendovascular specialists, access to rapid transport (helicopter or ambulance), and cutting-edge technology that would allow them to consult with leading neuroendovascular specialists across the state of Michigan.

During its first 27 months of operation, SJMO accomplished many of its initial goals and objectives and continued to expand the Michigan Stroke Network to deliver specialized stroke care services to 31 hospitals as far as 250 miles from SJMO's Detroit service area, including:

1. 5 large community hospitals (>400 beds)
2. 4 small community hospitals (>100 beds)
3. 22 rural hospitals (6 are critical access)



St. Joseph Mercy Oakland (SJMO) is a 443-bed comprehensive community teaching hospital and leading healthcare provider serving Oakland County, Michigan. A member of the St. Joseph Mercy Health System, it is an American College of Surgeons verified Level II Trauma Center with an award-winning critical care program and Top 50 Cardiovascular designation. In addition to recognition for clinical excellence, SJMO was recently recertified by the Leapfrog Group as one of the nation's Top Hospitals for patient safety and quality, and consistently ranks in the top 10 percent of hospitals nationwide.

Technology Partner

Prior to 2006, a handful of telestroke programs had been established in the U.S. Typically based on grant funding, these programs utilized general-purpose videoconferencing equipment managed by large teams of dedicated IT personnel. Never designed for delivering time-sensitive, high-acuity care, these hardware-focused solutions suffered from an array of challenges that included equipment reliability, lack of critical planning, implementation, and support services.

SJMO's leadership team reviewed several potential videoconferencing options, but instead selected InTouch Health for its experience and ability to develop and implement a scalable network with best-in-class technology for both providers and patients. Additionally, InTouch's 24/7 monitoring and service capability were deemed essential to supporting the success of the new program.

SJMO launched the mission-based Michigan Stroke Network in 2006. By the end of the second year it had grown rapidly to include 30 member sites. Participants were not required to pay membership or subscription fees, and in contrast to programs funded by grants, the network was self-supporting based on incremental volume generated. The expanded network greatly extended SJMO's market reach and served as a model for telehealth programs being developed throughout the nation and around the world.

"We sought a technology that did not require a technician or take 30 minutes to set up and we also valued mobility ... only InTouch Health met all of our needs."

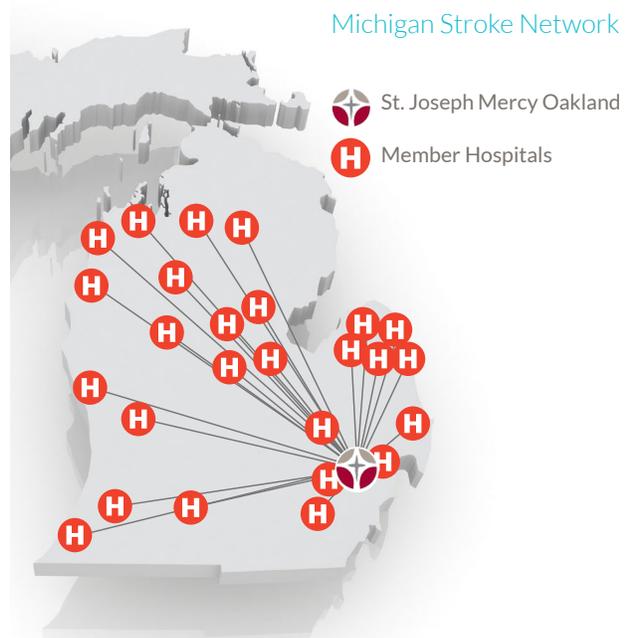
—Jack Weiner
President, St. Joseph Mercy Oakland

The Results

The clinical and financial results achieved by the Michigan Stroke Network have been steady and sustainable, demonstrating the long-term value of an organized and well-executed, statewide telestroke program.

Operational Outcomes:

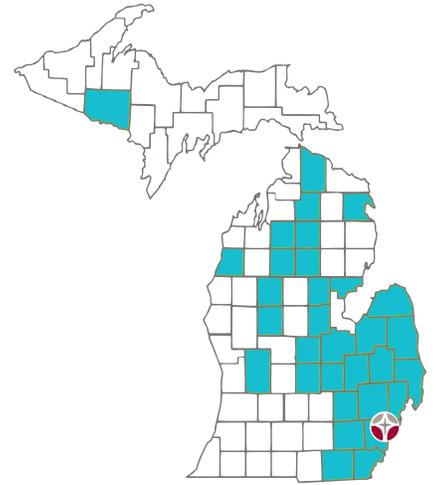
1. Streamlines transfers for patients requiring interventional therapies while allowing 70% to remain at their originating facility
2. Provides interventional treatment for more than 35% of all patients transferred
3. Improves member hospital patient census and stroke patient comfort with the availability of SJMO ancillary neuro-specialist coverage



“Our mission was to architect a new model for distributed regional stroke care, and InTouch Health actively supported us every step of our journey.”

—Rob Fisher

RN, MBA, Former MSN Director



The Michigan Stroke Network also reported the following average patient outcomes during the program’s first six years:

1. 375 (32%) of 1,142 calls resulted in transfers to SJMO’s Certified Stroke Center
2. 29.5% of all transferred patients received interventional treatment in an angiography suite
3. 16% of all stroke patients received IV t-PA compared to the national average of 2-3%²

Clinical Outcomes

Many critical clinical improvements relating to the delivery of stroke care have been achieved throughout the network:

1. An overall t-PA rate of greater than 16% was achieved for all patients, versus the national average of 2-3%²
2. A 20% reduction in average door-to-needle time to approximately 50 minutes (NINDS standard is 60 minutes³)
3. An average initial NIH Stroke score of 11.4 (moderate) with an average discharge score of 2.8 (minor)⁴



“We achieved dramatic improvements in t-PA utilization at member hospitals and realized a measurable halo effect of interventional cases and ICU volume at our center.”

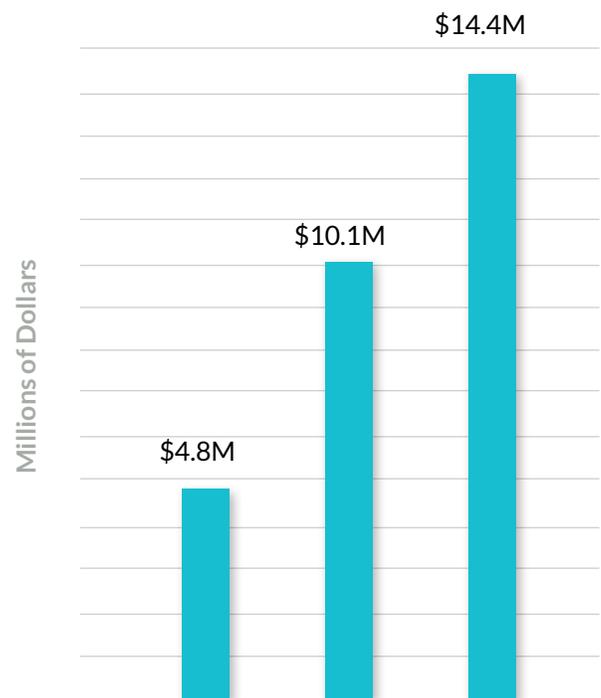
—Connie F. Parliament, RN, MSN, CRN

Clinical Program Director of Neuroscience Services, St. Joseph Mercy Oakland

Financial Outcomes

SJMO tripled its neuroscience service line revenue in the program’s first three years and has continued to grow its volume of advanced interventional procedures referred by member hospitals.

SJMO Neuroscience Service Line Revenue



About InTouch Health

InTouch Health provides technology-enabled services to healthcare organizations for the delivery of high-quality virtual care, anytime, anywhere.

InTouch Health solutions are designed to help healthcare system customers in executing their telehealth strategies. The cloud-based InTouch TeleHealth Network enables the deployment of telehealth applications anywhere, while providing users: 1) unmatched ease of use and diagnostic capabilities, 2) high reliability, 3) FDA clearance and HIPAA compliance, 4) reconfigurable and secure access control, and 5) clinical and technical reporting.

A successful telehealth program depends on clinician adoption and use. InTouch Health's Provider Access Software is simple and intuitive, and the Network enables clinicians to make and keep a connection the first time.

InTouch has a number of clinically designed patient access devices that are FDA cleared to support acute care applications and are in use in over 1,100 hospitals. InTouch also has patient access software for use with consumer devices such as laptops and tablets.

1. <http://www.stjoesoakland.org/QualityAwardsRecognition>
2. Kleindorfer D et al. Eligibility for Recombinant Tissue Plasminogen Activator in Acute Ischemic Stroke: A Population-Based Study. Stroke 2004; Vol. 35, pp. 27e-29e.
3. Tissue plasminogen activator for acute ischemic stroke. The National Institute of Neurological Disorders and Stroke rt-PA Stroke Study Group. N Engl J Med 1995; Vol. 333(24): pp.1581-7.
4. National Institute of Health, National Institute of Neurological Disorders and Stroke. Stroke Scale. http://www.ninds.nih.gov/doctors/NIH_Stroke_Scale.pdf.