



Enhancing Emergency Department Efficiency Decreases Patient Disposition Times

Poor efficiency in the emergency department (ED) can lead to prolonged hospital stays, overcrowding, and subsequent delays in definitive treatment. These were the motivating factors that led Aurora St. Luke's South Shore to implement processes that would reduce delays in triaging, treating, and transferring acute stroke patients in their ED.

Treatment plans are delayed when length of stay is prolonged in the ED. The goal is to get the patient to the appropriate destination for their condition as quickly as possible, leading to rapid implementation of treatment plans, including specialty consultations and interventions. With acute stroke cases, reducing delays to transfer patients to a comprehensive stroke center improves outcomes by getting them to a team of neuro specialists and access to interventions that could reverse the effects of their stroke. When interventions are done as quickly as possible, blood flow is restored to the brain, reducing the risk of permanent deficits.

With the support of site administrators, staff decided to take a multidisciplinary approach to developing processes, knowing that ED efficiency relies on the organization and timeliness of all partner departments. Areas that do diagnostic testing — lab and radiology, hospitalists, and inpatient leaders — would all be contributors to pieces of the bigger plan to expedite patient flow through the ED.

In August 2015, Aurora St. Luke's South Shore Hospital started the process to make their ED more efficient. One team, led by Yvette Procter, ED Manager, focused on enhancing "door to doctor" time, or the time the patient arrives to the time they see a provider. Yvette also led a team on "door to disposition" time, or the arrival to departure time from the ED.

Another team, led by Jodie Bragg, ED Clinical Nurse Specialist and Stroke Program Coordinator, focused on a plan called Access Alert, to address overcrowding caused by surges in ED volume.

Medical staff leadership were also integral in ensuring the new processes were implemented. Aurora St. Luke's South Shore's Chief Medical Office, Dr. Vijayakumar; ED Medical Director, Dr. Almeida; and Hospitalist Director, Dr. Mishra, were directly involved in process enhancements from a medical staff perspective. They coached teams of providers on workflows to increase efficiencies and decrease patient disposition times.

The new processes also emphasized collecting blood and urine samples early, again to obtain results more quickly for treatment decisions. Patients are often handed a urine cup to provide a specimen before they are even roomed in the ED. ED nurses and technicians collect blood samples generally within the first 10 minutes of a patient's arrival.

In continued efforts to streamline care, in October 2016, the hospital instituted a new process to route possible stroke patients directly to radiology for a computed tomography (CT) scan. Jodie Bragg led this multidisciplinary team, which included EMS. If radiology testing is delayed, the provider doesn't have all the information they need to make treatment and disposition decisions. The process — and the culture — were changed to anticipate patients going quickly to radiology for their CT scans. On average, the staff will have a CT result from the radiologist within 18 minutes of arrival. Previously, it would take up to 45 minutes for these results.

These enhancements required all areas of the hospital to implement significant changes to their process workflows, which ultimately led to decreased patient disposition times in the ED.

The Wisconsin Coverdell Stroke Program works with hospitals, emergency medical services, and professional organizations across the state to support a healthier Wisconsin by improving community awareness and the quality of stroke care. Wisconsin hospitals of all types and sizes are invited to be part of the Wisconsin Coverdell Stroke Program.

The Players

Paul Vilar, MSN, RN, SCRNP, Stroke Program Manager, Aurora St. Luke's Medical Center

Yvette Procter, MSN, RN, CEN, CIC-Csp, Manager of Emergency Services, Trauma Coordinator, Aurora St. Luke's South Shore

Jodie Bragg, MSN, RN, CEN Clinical Nurse Specialist, Emergency Department Stroke Program Coordinator Aurora St. Luke's South Shore

Dr. Vijayakumar, MD, Chief Medical Officer

Dr. Almeida, MD, Emergency Department (ED) Medical Director

Dr. Mishra, MD, Hospitalist Group Medical Director

What They Did

Utilized quality improvement methods. In 2015, we formed teams made up of site leaders led by ED leadership to address overall ED throughput. This was done in anticipation of the goal of No Diversion (of ambulances) in Milwaukee County as well as to meet benchmarks established by the Centers for Medicare and Medicaid Services for overall ED efficiency.

Streamlined care process. Developed direct-to-computed tomography (CT) processes for patients who arrive to the ED with acute stroke symptoms. If they meet criteria including last known well time within 4.5 hours (now 24 hours), and are stable to be out of the department with an RN for 10 minutes, then they go directly to CT and are ready to begin their scan usually within five minutes of arrival.

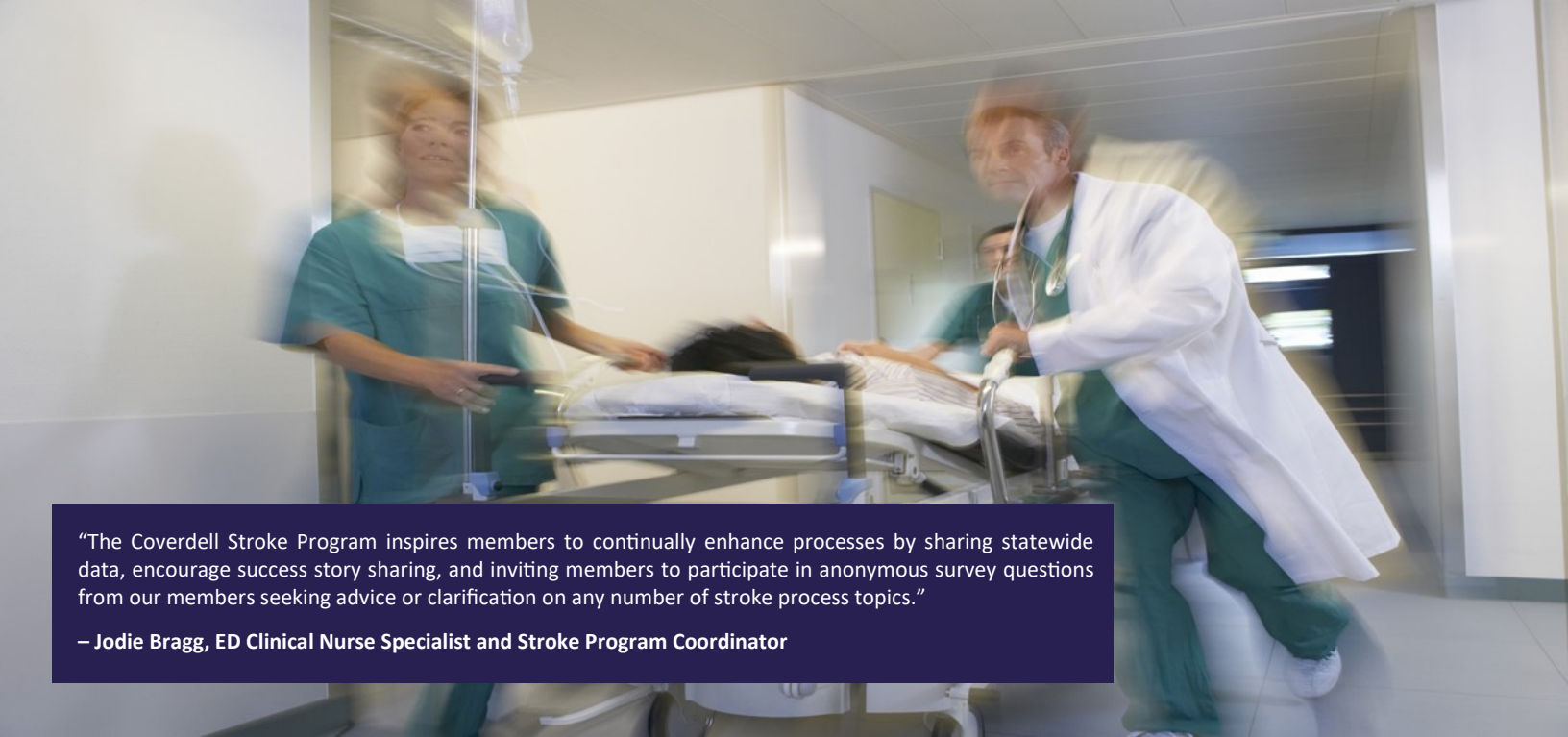
Accomplishments

Reviewed data, particularly patient door-to-transfer times of more than 75 minutes.

Decreased average time to see a provider after arriving in the ED from 25 minutes to six minutes.

Decreased average time from arrival to disposition from 300 minutes to 118 minutes for patients going home and 180 minutes for patients who are transferred or admitted.

Door In to Door Out time for acute stroke patients transferred to the comprehensive stroke center averages 75 minutes, with the fastest time being 43 minutes in 2018.



“The Coverdell Stroke Program inspires members to continually enhance processes by sharing statewide data, encourage success story sharing, and inviting members to participate in anonymous survey questions from our members seeking advice or clarification on any number of stroke process topics.”

– Jodie Bragg, ED Clinical Nurse Specialist and Stroke Program Coordinator

Lessons Learned

Phase in large scale changes. One recommendation is to plan large scale changes in phases and allocate several months to a project of this scale. Avoid implementing too many changes all at once.

Encourage stakeholder input. Invite as many stakeholders to join in the planning and implementation as possible, including site administration, for support.

It doesn't have to be expensive. The facility didn't add any resources to implement workflow changes. Staff analyzed what was needed to meet new priorities and adjusted workflows accordingly.

Success Factors

A measured approach. It was helpful to start by looking at the big picture and then breaking down the process in reverse based on what provided the best outcomes. Focusing on the message of why patients need to move fast to a higher level of care and correlating it with better outcomes helped frame what we wanted to achieve.

Analyzing the data. Paul Vilar, Stroke Program Manager, Aurora St. Luke's Medical Center, reports on Door In to Door Out data for Aurora Health Care and Coverdell data for the state of Wisconsin. We appreciate the effort of abstracting and reporting this data to keep staff performance on the radar at all times.

Team coordination. Paul also facilitates Aurora system stroke steering committee teams to continually discuss opportunities and share site successes. Paul's leadership brings 12 sites together to share local challenges and solutions with each other.

Outreach to EMS Partners. Hospital staff should take field trips to EMS partners to discuss the importance of their role in the system. Providing EMS with feedback on data showing a door-to-CT time reduction of 50% reinforces their importance.

Barriers and Challenges

Workflow changes throughout the hospital. These enhancements required all areas of the hospital to implement significant changes to their workflow processes. As with any change, there was uncertainty and a degree of discomfort with moving forward with what was being proposed.

Along the way, hospital leaders reassured our teams that we would continually evaluate the process changes for pieces that needed additional enhancement as well as celebrate our successes.

Communication. Department team members were encouraged to share what was working well and if anything was not going well so that we could adjust workflows as needed. Knowing they had an important voice in the changes really mattered to them. Rather than being told what to do, they knew that their voice would be heard if there were any concerns or suggestions.

Lower staffing levels at night. A lot of follow-up and communication was done with night shift staff to let them know how their response impacts patient outcomes.

Maintaining Success

Performance data is shared with the site stroke steering committee, stroke core team, inpatient operations team, Quality Risk Safety team, and through medical staff meetings.

A timeline of events with acknowledgement of what went well and suggestions for any improvement opportunities is sent to the entire interdisciplinary team involved in an acute stroke intervention case.

