

Quality Nursing Care



Radiology staff participate in a mock drill to validate the process for effective, efficient care of stroke patients being transferred to Froedtert Hospital. *Left to right:* **Katie Duvall, BSN, RN, CRN;** **Laura Theine, RT(R)(CT);** **Kari Boerst, RT(R)(CT).**

Stroke Door-to-Needle Time Improvement

Froedtert Hospital's nursing philosophy includes an emphasis on the delivery of high-quality patient care and making a difference in the lives of patients through commitment to nursing research, evidence-based practice and quality improvement. This commitment is palpable, as it permeates the culture of our Magnet® designated hospital. Nurses are often the one constant in a patient's health care experience; integrating information and coordinating all aspects of patient care is a nurse's pivotal role and responsibility. So, it is inherent nurses lead and participate in quality improvement activities that assure we are providing the best care possible.

Quality nursing care doesn't happen in a vacuum. Members of the interprofessional team, including nurses, each contribute unique skills within their scope of practice to plan for and address patient care needs. When nurses have a significant impact on care outcomes, those outcomes are considered to be nurse-sensitive. One such measure is the mean time to intravenous thrombolytic therapy, more commonly referred to as door-to-needle (DTN) time. DTN refers to the time from when the patient arrives at the hospital

to the time the tissue plasminogen activator (tPA) to dissolve blood clots is started. The national standard recommends patients experiencing an ischemic stroke receive tPA within 45 to 60 minutes of arrival to the hospital. The stroke DTN improvement team set a more ambitious goal, putting processes in place to cut that time significantly, and targeting a 30-minute DTN time.

The interprofessional quality improvement initiative was co-led by Sue Fuhrman, MSN, MS, RN-BC, CCNS, APNP, FAHA, Comprehensive Stroke Program coordinator, and Marc Lazzaro, MD, FAHA, interventional neurologist and program director of the Comprehensive Stroke Center and Stroke and Neurovascular Program. The team's focus was on assuring every step could be carried out as efficiently as possible for the shortest DTN time, while maintaining the safety and integrity of the process. Goal timeframes were identified for each phase of the process. While a stroke patient is still in the community, the paramedics notify the hospital. That sets up a sequence of paging alert communications to the stroke team, which were revised as part of this improvement, so the team is ready and waiting. Upon arrival, the

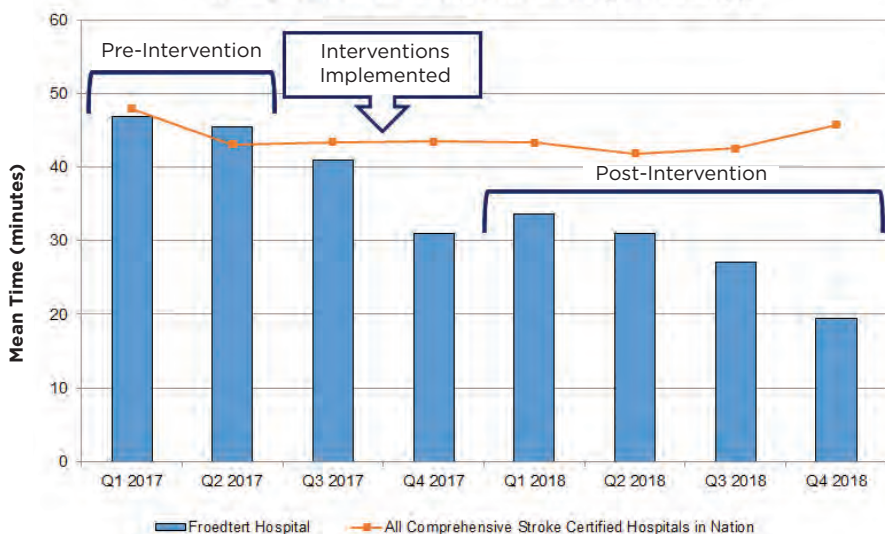
patient is immediately taken for a CT scan to visualize the clot and assure there is not bleeding that would contraindicate use of tPA. Unnecessary steps were removed from the process; for instance, the team identified that changing into a hospital gown does not need to occur until after the tPA is administered.

One of the most impactful improvements involves bringing the team and resources to the patient in the CT area. Now, as soon as the scan is evaluated and the need for tPA confirmed, it is administered there rather than taking the patient back to the Emergency Department (ED). By starting the tPA in the CT area, additional testing needed for thrombectomy consideration can be expedited. Parallel-processing is also crucial. For example, while the Neurology team is evaluating the patient’s CT scan, the pharmacist is preparing the tPA medication. The improvement team also revised the universal protocol/timeout checklist and developed a documentation template used by the stroke team. These steps facilitate patient safety, with all team members on target with the process, and assure that indeed the patient is a candidate for tPA prior to administration. The team that has an impact on DTN time includes the ED nurses, Neurology, ED and Radiology physicians, a pharmacist and CT technologists. An ED technician and patient transporter may also be involved. If a stroke patient is coming directly from another hospital and/or will have a procedure, such as a thrombectomy, after receiving tPA, the Radiology and Interventional Radiology nurses, physicians and other staff also participate in the patient’s care. Staff in all these roles within those departments received education and communications during the improvement initiative.

The team’s efforts in streamlining every step of the process have been significant, with DTN time steadily declining over the past 18 months. For the last nine months, the DTN time has consistently been under 30 minutes, well below the national average of other comprehensive stroke certified hospitals. This impressive work has earned Froedtert Hospital the Target: Stroke Silver Plus Honor Roll-Elite Plus award; it is the highest American Heart Association Get With The Guidelines®-Stroke quality achievement award for 12 straight months of consistent high performance, recognizing our dedication and success in achieving the highest standard of stroke care in each of seven nationally accepted core quality measures. Sue Fuhrman was happy to share, “I was recently notified that we will soon be receiving the Target: Stroke Gold Plus Honor Roll-Elite Plus award as a result of sustaining our excellent outcomes for 24 straight months. The team is honored to be recognized as leaders in outstanding stroke care and, most importantly, we’re proud of the difference we are making for our patients.” ■

Froedtert Hospital is recognized as a Comprehensive Stroke Center, the highest level of recognition dually awarded by The Joint Commission and the American Heart Association/American Stroke Association. Our nurses, physicians and other staff are specially trained in stroke recognition and care, with stroke experts available 24 hours a day to respond to the acute needs of stroke patients. Seconds count when responding to a stroke, and limiting the extent of damage requires urgent diagnosis and treatment. The national standard recommends patients experiencing an ischemic stroke receive tPA within 45 to 60 minutes of arrival to the hospital. The stroke door-to-needle improvement team set a more ambitious goal, putting processes in place to cut that time significantly, and targeting a 30-minute door-to-needle time. This goal represented a notable endeavor and demonstrates the team’s commitment to our patients.

Stroke: Mean Time to IV Thrombolytic Therapy



	Froedtert Hospital	All Comprehensive Stroke Certified Hospitals in Nation
Q1 2017	46.9	47.9
Q2 2017	45.4	43.1
Q3 2017	40.9	43.4
Q4 2017	30.9	43.5
Q1 2018	33.6	43.3
Q2 2018	30.9	41.8
Q3 2018	27.0	42.5
Q4 2018	19.5	45.7