

For Joint Commission Compliance Strategies

## Spotlight on Success

### Baptist Health Achieves 18-Minute Door-to-Needle Times for Stroke Patients

A patient arriving at the hospital with signs of an acute ischemic stroke has a window of opportunity that health care professionals refer to as “door-to-needle time”: The time elapsed between the patient entering the hospital and the administration of intravenous thrombolytic therapy (tPA) medication.<sup>1</sup> Clinical practice guidelines recommend a door-to-needle time of 60 minutes or less.

Many organizations, including Baptist Health System in San Antonio, Texas, are working to improve door-to-needle times for stroke patients. Baptist Health, in collaboration with telemedicine firm Specialists on Call, has used a systematic approach to reduce its door-to-needle time to 18 minutes.

Door-to-needle times for patients often exceed 60 minutes in many US hospitals. A study examining six years of data (2003–2009) from the American Heart Association/American

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*Timely intervention is essential to the recovery of stroke patients.*

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Stroke Association (AHA/ASA) Get With The Guidelines®—Stroke program found a median door-to-needle time of 78 minutes and indicated that less than 30% of US patients received treatment within a window of 60 minutes or less. Of 641 US hospitals reporting >10 tPA-treated patients, only 6.7% treated at least half of their patients within 60 minutes.<sup>2</sup> Data from the Safe Implementation of Treatments in Stroke—International Stroke Thrombolysis Register showed a mean door-to-needle time of 68 minutes in 14 European countries.<sup>3</sup> (See the box on page 13 for additional information resources.)

For every 15-minute reduction in door-to-needle time, the risk of death falls by 5%. Symptomatic intracranial hemorrhage is also less frequent for patients with door-to-needle time ≤60 minutes compared with those who were treated later (4.7% versus 5.6%;  $p < .0017$ ).<sup>2</sup>

The Joint Commission requires that organizations seeking stroke care certification report data on door-to-needle times (under performance measure STK-4).\*

## Building Systems

In 2007, leaders at Baptist Health, a five-hospital system located in the greater San Antonio area, realized they were facing a potential crisis. “We looked at our geographical area, demographic data, and the provision of neurological services we were providing and realized we were a major city without a stroke program,” explains Shan Largoza, MBA, CHFM, CHSP, CHEP, vice president of Ancillary Services and Environment of Care at Baptist Health System. “We knew we had to act quickly to ensure patients were not adversely impacted.” In an area with such a large and rapidly growing population, a local neurology service that provided support for stroke care was spread too thin to respond appropriately, resulting in many San Antonio patients facing a long journey to Dallas or Houston for treatment. Baptist Health knew a solution needed to be found. The system’s leadership decided to leverage telemedicine throughout the system’s five hospitals to facilitate early diagnosis.



*Door-to-needle times often exceed 60 minutes in US hospitals.*

Baptist Health works with Specialists on Call, a certified telemedicine organization. Til Jolly, MD, chief medical officer of Specialists on Call, notes that door-to-needle time is challenging for hospitals nationwide, not only in organizations that serve rural areas. “As a provider of telemedicine, there is an assumption that the bulk of our work is in isolated areas,” he notes. “That’s not the case, we also support medium and large hospitals that don’t have the right mix or number of clinicians to provide effective neurological diagnostic support. Baptist Health System, not unlike many other systems, had a need to cover acute emergencies, largely driven by the urgency of stroke care.”

## Embrace Collaboration

The close working relationship between Baptist Health’s staff and their telemedicine provider helped them achieve these low door-to-needle times. “Above all, Baptist Health staff are well trained to recognize and act with the right resources,” Jolly explains. “When they suspect that a patient has suffered a stroke, they notify the stroke call center, which is located in Virginia.” While the system begins communicating with telemedicine staff, Baptist Health staff start the appropriate testing and IVs. After everything is in place, the Baptist Health team places the telemedicine video

\* These requirements apply to optional stroke care certification programs and are not included in Joint Commission accreditation standards.

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unit in front of the patient, and Specialists on Call dials into the cart and examines the patient. After this examination is complete, the remote neurologist and emergency department physician confer about the right therapy moving forward. “All of our work is supported by the team at the bedside,” Jolly says.

Baptist Health staff have embraced this collaboration. “Whenever a new system is put in place, there is always a little skepticism as staff become familiar with it,” explains Largoza. “Yet in our case, there was such a clear need for telemedicine services that it was largely welcomed by staff.” The effectiveness of the technology itself accelerated staff acceptance of the new system. “Very quickly the services were proven to improve processes, so any initial hesitancy was quickly overcome,” Largoza says. He adds that, in general, staff found the equipment to be intuitive and easy to use.

## Improving Performance

A close evaluation of existing processes and a commitment to improving them has helped Specialists on Call and Baptist Health achieve striking results together. “For us, when looking at improving door-to-needle times, we realized no one approach would help us achieve that goal,” explains

## Tracking and Reporting Progress

To improve performance, an organization must first measure and analyze its performance. The following are examples of data that Specialists on Call and Baptist Health System track in their work on stroke care.

Specialists on Call measures and reports performance on the following areas related to door-to-needle times:

- Response times
- Satisfaction levels among emergency room physicians
- Consistency in documentation and diagnosis/treatment plan

Baptist Health’s measures include the following:

- Door-to-needle times
- Patient’s length of stay

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—Shan Largoza, MBA, CHFM, CHSP, CHEP  
Vice president of Ancillary Services and Environment of Care at Baptist Health System

Jolly. He attributes improved door-to-needle times to a number of actions:

- The hospital system committing to measure performance and direct the right resources to make improvements
- Adopting a collaborative approach that enables the hospital system and telemedicine firm to work together to achieve the shared goal of improved times
- Ensuring that speciality services and leadership are on board and actively engaged with the goal of reducing times
- Improving the operational work flow and communication strategy between the hospital and telemedicine service to speed up the process
- Ensuring that all resources are on hand to enable early notification and responsive testing approaches
- Using an adaptive approach to what is suitable to the specific needs in the hospital setting

## Taking It to the Next Level

Largoza and Jolly emphasize that this success doesn’t mean their work is done. Efforts for further improvement are continuous. “We’re always looking for new ways to shave off minutes with door-to-needle times,” notes Jolly. By embracing technology and the potential it offers to provide accessible and reliable diagnostic support, Baptist Health has seen a transformation in stroke care during the past decade. These encouraging results demonstrate that a focused, systematic initiative can help improve door-to-needle times, save lives, and speed recovery.

Largoza says that innovation and exploration of new approaches is invaluable. “Working effectively with a partner

can really improve your service and patient outcomes by filling in important gaps in diagnosis and care,” he stresses. Jolly also points out that telemedicine need not be seen as an exotic or novel area of medicine any longer: “Telemedicine is becoming increasingly critical to effective health care provision and can make a big difference, especially in time-sensitive areas like treating ischemic strokes.” With more research into the effectiveness and impact of telemedicine and an effort to better embed its function into the medical school curriculum, the use of telemedicine could continue to expand. **TS**

## References

1. Gill S. Reducing door to needle time for stroke thrombolysis. *BMJ Qual Improv Rep*. 2014 Dec 10;3(1). Accessed Aug 28, 2017. <http://bmjopenquality.bmj.com/content/3/1/u204771.w2199.full>.
2. Fonarow GC, et al. Timeliness of tissue-type plasminogen activator therapy in acute ischemic stroke: Patient characteristics, hospital factors, and outcomes associated with door-to-needle times within 60 minutes. *Circulation*. 2011 Feb 22;123(7):750–758.
3. Wahlgren N, et al. Thrombolysis with alteplase for acute ischaemic stroke in the Safe Implementation of Thrombolysis in Stroke-Monitoring Study (SITS-MOST): An observational study. *Lancet*. 2007 Jan 27;369(9558):275–282. Erratum in: *Lancet* 2007 Mar 10;369(9564):826.

## Additional Resources

The American Heart Association/American Stroke Association (AHA/ASA) Get With The Guidelines®–Stroke program overview: [http://www.heart.org/HEARTORG/Professional/GetWithTheGuidelines/GetWithTheGuidelines-Stroke/Get-With-The-Guidelines-Stroke-Overview\\_UCM\\_308021\\_Article.jsp#.WYLxLlJytEY](http://www.heart.org/HEARTORG/Professional/GetWithTheGuidelines/GetWithTheGuidelines-Stroke/Get-With-The-Guidelines-Stroke-Overview_UCM_308021_Article.jsp#.WYLxLlJytEY)

The AHA/ASA *Stroke Fact Sheet*: [http://www.heart.org/idc/groups/ahaecc-public/@wcm/@gwtg/documents/downloadable/ucm\\_491528.pdf](http://www.heart.org/idc/groups/ahaecc-public/@wcm/@gwtg/documents/downloadable/ucm_491528.pdf)

The Joint Commission’s Disease-Specific Care Certification program, which includes programs for primary and comprehensive stroke care: [https://www.jointcommission.org/certification/certification\\_main.aspx](https://www.jointcommission.org/certification/certification_main.aspx)

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