

# GOSHEN HEALTH



## THE CHALLENGE

In 2006, the American Hospital Association and the American College of Cardiology released new guidelines for how quickly hospitals should provide care to heart attack patients. They advised that the “door-to-inflation time” aka the “door-to-balloon time” should be 90 minutes or less. This means that a patient should be registered, evaluated, and ultimately in an operating room receiving potentially life-saving catheter treatment (the balloon) within 90 minutes. Shortly after these guidelines were released, the Centers for Medicare and Medicaid as well as The Joint Commission followed suit and revised their standard to 90 minutes.<sup>1</sup>

All hospitals that provide care for heart attack patients must track their door-to-inflation time. In 2006, the staff at Goshen Health began taking a hard look at their process for treating these patients to see where improvements could be made. In particular, they had been considering technology advancements that could speed the flow of information needed to manage these situations, thereby saving patients from damaged heart muscle and related long-term disability—if not saving their lives.

Goshen Health’s door-to-inflation time was averaging 129 minutes for the 20 or so patients who arrived annually with heart attacks. One of the reasons it took this long was that contacting all the necessary personnel was a manual process that required operators to reach some staff members by phone and others by pager. Andrea Daniels, RN, BSN, and Director of Cardiovascular Services for Goshen Health, knew that the dedicated staff was up to the task of improving care for these patients. “We’re on a mission to provide excellent patient care. If my mom came in as one of our heart attack patients, I wouldn’t want her waiting even 90 minutes before care is administered just because we’re making calls,” she said.

## THE OBJECTIVE

Goshen Health set out to reduce its 129-minute door-to-inflation time to fall well below the 90-minute guideline and help these patients receive treatment faster. The hospital team analyzed their “Code STEMI” (ST elevation myocardial infarction) process, which is the protocol used for heart attack patients. It includes various activities that must occur to transfer critical information quickly among 30 hospital staff members as patients move from registration through the emergency department and ultimately into the surgical procedure during which the blocked artery is ballooned.

## OVERVIEW

Goshen Health, formerly Goshen General Hospital, is a community hospital in Goshen, Ind., that staffs more than 150 physicians across nearly 20 specialties. The hospital is proud of its high standards of care and typically scores in the 90th percentile for Joint Commission accreditation.

## INDUSTRY

Healthcare

## BUSINESS DRIVERS

- Reduce door-to-inflation time and help heart attack patients receive life-saving treatment faster
- Improve Code STEMI processes, tracking the transfer of critical information among hospital staff during a patient emergency
- Maintain a superior level of care in conjunction with new industry guidelines

## SOLUTION

Spok® e.Notify

## RESULTS

- Reduced door-to-inflation time to 68 minutes through Spok e.Notify and related communication improvements
- Time and resources are saved in staffing and registration
- Patients receive faster care and the hospital saves more lives

<sup>1</sup> Cath Lab Digest; Tips to Improve Door-to-Balloon Time to < 90 Minutes: Life in the real world; VOLUME: 15, Mar 01 2007 Issue Number: 03, Barbara Lamia, RN, MSN, CCRN, Clinical Nurse Specialist

## CASE STUDY

The team set out on a process to improve this code STEMI handling through the following steps:

- Identification and evaluation of each of the communication and action steps required for a code STEMI
- Evaluation of the technology and process options to speed or eliminate some of these steps
- Review and trial of the new plan so all involved would be clear on their roles
- Refinement of the process based on real-world situations

## THE SOLUTION

Daniels formed a multidisciplinary team to get the right people communicating about the project. “When something new needs to happen at the hospital, we really collaborate to make it work,” she said. “For code STEMI, there were a multitude of calls being made that didn’t need to be. A lot of time was being wasted.”

Daniels’ plan was to examine the steps in light of suggestions featured in the March 2007 edition of Cath Lab Digest. “This article identified improvements that could shave precious minutes off the door-to-inflation time,” she said. Centralized paging was noted as a way to save a great deal of valuable time.<sup>2</sup>

Daniels and the team implemented several streamlined procedures in 2006 and 2007 before looking at centralized paging options. When the time came, they selected Spok® e.Notify. This emergency notification system, used by many of the leading hospitals in the United States, enables two-way communication that is documented, auditable, and repeatable. It accommodates emergency-related variables regarding which personnel should be notified and via what device, as well as what information to relay. The application enables two-way response of pages sent/received and can escalate to predetermined staff members if those initially contacted do not respond.

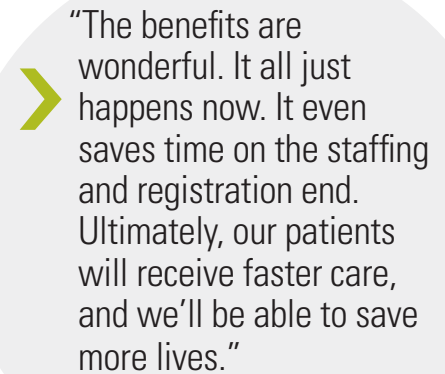
“After we got [Spok] e.Notify in place, we performed a drill to get our process solidified. All went well, and everyone was excited with the improvements,” Daniels said.

## THE RESULTS

By 2008 the team at Goshen Health had reduced its door-to-inflation time to an impressive 68 minutes through Spok e.Notify and related communication improvements. “[Spok] e.Notify has improved our communication and efficiency. I responded to the first code STEMI we had after implementing the system. Everyone just came on cue. With the two-way response and escalation abilities, it was amazing how quickly it happened. There were real benefits for the patient.”

Now, when an ER patient’s electrocardiogram indicates a heart attack, ER staff activates the highly efficient “code STEMI” alert process. This code can be initiated in many different ways and by many different people. For example, the ambulance driver could call it in while en route, or the ER admitting nurse could activate it with a wireless device. In many cases, the ER secretary initiates the code through Spok e.Notify to alert 30 people simultaneously with specific instructions based on their role. These members include the cath lab staff, house supervisor, ICU shift coordinator/nurses, attending cardiologist, cardiovascular coordinator, ER director, cardiovascular director, ER shift coordinator, and x-ray/imaging and lab technicians. Upon receipt of the notification, everyone immediately prepares for next steps and responds appropriately. The house supervisor relies on Spok e.Notify to track who has responded and take follow-up action if needed.

“We meet after each incident to work the glitches out of our process,” Daniels said. “For example, after the first one, we added the option to cancel an alert once it has gone out in case no intervention was needed. The benefits are wonderful. It all just happens now. It even saves time on the staffing and registration end. Ultimately, our patients will receive faster care, and we’ll be able to save more lives.”



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Andria Daniels, RN, BSN  
Director of Cardiovascular Services

<sup>2</sup> Lamia, 2007