

# Twiage

## An OSF Innovation Partnership Case Study

### THE OPPORTUNITY

Emergency departments (EDs) around the country rely on emergency medical service (EMS) providers to deliver urgent care and transport individuals to a hospital facility for treatment. Emergency personnel use a radio or cell phone to relay information about an incoming patient to a central call center. Call center staff communicate that same information to a charge nurse in the ED who is then expected to notify the rest of the medical team. The current process has become a bit like the game of telephone where information has the potential to be lost in translation.



### THE SOLUTION

In early 2018, OSF Partnerships introduced Twiage, a mobile application that streamlines communication between first responders and the ED. EMS providers pull up the app to directly communicate with emergency physicians and nurses using text or video. As they respond to an incident, pre-hospital teams can plug in vital information about the individual they are treating. The app also includes GPS, so doctors and nurses can track how far first responders are from the ED.

### THE IMPACT

OSF HealthCare Saint Francis Medical Center was the first hospital in the state to test Twiage with area EMS providers which has since improved communication between paramedics and the ED. Twiage sends alerts five to ten minutes earlier than waiting for a radio call. An average case can be entered in 30 seconds as opposed to the two minutes it takes to initiate a radio call. Armed with patient information in advance, clinicians can prepare and map out a course of action before patient arrival.

### OSF PARTNERSHIPS

OSF Innovation Partnerships works to find solutions that will improve patient outcomes, enhance patient experience and reduce the cost of health care. We seek to discover technology, products and services that can transform health care.

### OSF INNOVATION

Launched in 2016, OSF Innovation is the overall umbrella initiative for the planning, structure, goals and services OSF HealthCare uses to innovate for the improvement and transformation of health care.

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## IMPROVING COMMUNICATION BETWEEN FIRST RESPONDERS AND THE ED

Time can mean the difference between life and death in many medical emergencies such as trauma sustained from a car accident, heart attack and stroke. However, many of these situations take place nowhere near a hospital. It's the responsibility of emergency medical service (EMS) providers to do what they can to stabilize a patient wherever they are and communicate with emergency department (ED) personnel on what's coming.

However, the current process can be burdensome. Emergency personnel use a radio or cell phone to relay information about an incoming patient to a central call center. Call center staff communicate that same information to a charge nurse in the ED who is then expected to notify the rest of the medical team. If a nurse or doctor has a follow-up question, they have to get in contact with the call center which then has to get an ambulance on the radio.

"It's like playing the telephone game," said Matthew Jackson, MD, emergency medical services medical director for Peoria EMS and emergency physician with OSF HealthCare Saint Francis Medical Center. "You need to have hand-off after hand-off to make that connection occur."

There are also issues with delays as nurses might be on another line, or the call center could be inundated with other emergency related calls. In 2018, OSF Partnerships introduced Twiage, a mobile application that streamlines communication between first responders and the ED.

## HOW TWIAGE WORKS

OSF Saint Francis was the first hospital in the state to test Twiage with area EMS providers. Pre-hospital teams can pull up the application on any mobile device to directly communicate with the ED using text or video. As they respond to an incident, pre-hospital teams can plug in vital information about the individual they are treating. This includes patient identification, the type of emergency the patient is facing and what medical interventions are taking place.

"If I am responding to a motor vehicle accident and we have someone who is entrapped, we can take a couple of snapshots to show the damage and condition of the patient," said Randy Wolfe, EMS Chief with Eureka-Goodfield Fire Protection District.

"We can then directly send that information to the ED, so those physicians and nurses can actually see where we are situation-wise."

The app includes the ability for first responders to text physicians and nurses as well as send video from the field.

"If someone is having a stroke, our EMS providers can send a short video clip to our medical teams. If someone is having a heart attack, first responders can transmit an EKG," said Debbie Trau, director of Emergency Service and Patient Experience, OSF Saint Francis. "In both instances, we are getting the information we need to prepare our ED clinicians and specialists, so they can accelerate care when these patients arrive."

Both physicians and nurses in the ED have access to the app on their area computers. Timelier notification and the ability to have direct communication with emergency responders means better care for patients who need it most.

## IMPACT

OSF HealthCare initially tested Twiage with six EMS agencies. Since then, five more have signed on to use the app. This has led to pre-hospital teams directly communicating with ED physicians and nurses 98% of the time.

Twiage sends alerts five to ten minutes earlier than just waiting for a radio call. An average case can be entered in 30 seconds as opposed to the two minutes it takes to initiate a radio call. Armed with patient information in advance, clinicians can prepare and map out a course of action before patient arrival. As a result, hospital rooms are assigned 95% of the time prior to pre-hospital teams arriving to the ED.

*"We talk a lot about smart phones destroying our communication with each other, but in this case it's enhancing the way EMS providers and the ED connect with each other. Because of Twiage, we are confirming diagnoses out in the field. As a result, patients only have to stop in the ED long enough to get signed in and then head off to treatment, depending on the severity of their condition."*

—DEBBIE TRAU, DIRECTOR OF EMERGENCY SERVICE AND PATIENT EXPERIENCE, OSF SAINT FRANCIS.

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