

Pulsara Case Study: Cy-Fair Volunteer Fire Dept

REDUCTION OF CARDIAC TIME-TO-TREATMENT

How one EMS and hospital system worked together to cut door-to-balloon time for STEMI patients.



Cy-Fair Volunteer Fire Department (VFD) in Houston, Texas, implemented a new solution to streamline communication between the field and hospital teams – improving critical care for its STEMI patients.



a national EMS leadership conference, the agency approached North Cypress Medical Center about collaborating to improve communication between EMS and the hospital during these critical, time-sensitive cases.

Once activated from any mobile device, Pulsara instantly alerts all members of the critical care team, ensuring that everyone remains updated in real time. The team is notified and ready to go when the patient is, EMS knows whether they are taking the patient to the emergency department or straight to the cath lab, and pre-registration information is provided before arrival – shortening the patient's journey to definitive treatment.

Both hospital and EMS leaders immediately recognized the potential to improve communication and patient care, and they moved forward with testing the platform in November, 2014.

RESULTS

With Pulsara, Cy-Fair's EMS providers were able to provide North Cypress Medical Center's care teams with real-time, accurate patient information, which allowed the hospital to improve coordination and preparation.

By December 2015, just a year after implementing Pulsara, the EMS and hospital teams were achieving 90-minute door-to-balloon time with 85% of STEMI patients – a 25% improvement from 2014.

One of the most successful cases resulted in a record door-to-needle time for a 60-year-old man with a 100 percent occlusion. Using Pulsara, EMS activated the ER, cath lab, and cardiologist simultaneously within four minutes of patient contact. The patient arrived at North Cypress Medical Center just a few minutes later, where the care team performed life-saving interventions immediately, opening the occluded artery just 31 minutes (including an 8 minute transport time) after EMS first arrived at his side.



As a result of the drastic improvement, Cy-Fair received the American Heart Association's Mission: Lifeline EMS Gold Plus Award – a national recognition for EMS agencies that meet high standards of performance.

"Pulsara gave us the opportunity to see where our downfalls were and provide quality improvement to actually address the issues that were there," Price noted.

Additionally, relationships between EMS personnel and hospital staff improved, with the ability to now provide timely feedback throughout the patient journey. Having the feedback loop from Pulsara also led many of the EMS personnel to further educate themselves on the criteria for activating the STEMI team in order to reduce the number of false activations.

Cy-Fair has implemented Pulsara for stroke activation and is testing its use for all patients transported to North Cypress. The department has also begun implementation with a second hospital in the area, Cypress Fairbanks Medical Center – all to ensure continued positive outcomes for its patients.

BACKGROUND

Cy-Fair VFD's EMS division services a bustling 155 square miles of unincorporated Harris County outside of Houston's city limits, one of the nation's fastest growing areas.

PROBLEM

Responding to approximately 25,000 911 calls each year, with over 200 STEMI cases annually, the agency needed a way to better manage communication and improve response. Cy-Fair VFD identified that its performance for cardiac patients was below community standards. Exchange of data between the EMS service and North Cypress Medical Center – a 175-bed hospital covering the Northwest Houston region – was almost non-existent.

To initiate STEMI activations, EMS personnel were calling under the assumption that necessary patient information was being recorded by ED staff. But in reality, status and other important information from the field wasn't being effectively tracked.

Cy-Fair VFD estimated that the door-to-balloon time for STEMI patients was 90 minutes or less for only 60% of cases—well short of their goal of 90%. Both the EMS and hospital sides knew communication and data reporting needed to improve significantly.

SOLUTION

Mark Price, Quality Coordinator for Cy-Fair VFD, and his colleagues were determined to change the way the department activated STEMI cases in the field. After learning of Pulsara at



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