

Abstract 20

Primary Author: Elvira Baquerizo

Hospital Affiliation: Meridian Health System/ Riverview Medical Center, Red Bank, NJ

Co-Author(s): Rocel Besa, RN; Dawn Williams, RN; Stephani Reynolds, DO; Aristotelis Vlahos, MD; David Zukoff, MD; Jeanne Jacobus, RN

Title: A Multidisciplinary approach to improve First Medical Contact to Device Activation

Background:

Patients presenting with ST segment Elevation Myocardial Infarction (STEMI) has an improved survival rate if coronary perfusion is achieved in a timely manner. Every minute of delay in treating a STEMI patient affects the 30 day mortality rate, with an estimated increase of 7.5% for every 30-minutes delay (DeLuca, 2004). Delays in treatment are primarily related to lack of patient knowledge or acceptance that they are having a heart attack, lack of coordination and the fragmentation of the between the health care systems that are involve in the care of STEMI patient (Levine, et al., 2015). Recent trends and efforts are centered on the First Medical Contact (FMC) to device activation instead of Emergency Department (ED) presentation time, with the premise that earlier medical contact can lead to earlier identification/recognition thus early care and reperfusion. The Acute Coronary Syndrome Committee (ACS) of Riverview Medical Center (RMC) tracks the compliance to FMC to Device Activation within 90 minutes regularly as well as Door to Balloon metrics. During the first quarter of 2015, RMC's compliance to this metric is 66% with a median door to balloon of 65 minutes. Comparing our metrics with the rest of the US hospitals on First medical Contact to Device less than or equal to 90 minutes, RMC is ranked below the 50th percentile according to the National Cardiovascular Data Registry (NCDR®) ACTION Registry®-GWTG™ Outcomes report. With the desire of improving the STEMI Systems of Care Process and to provide the highest quality evidence-based guideline care to our STEMI patients, a goal to be on the 90th percentile was set.

Methods:

A drilldown all the way to the patient level was performed to identify the gaps in the STEMI process. A multidisciplinary Process Improvement (PI) project using the Plan Do Check Act (PDCA) approach was used. The "ED Pause" project was piloted to facilitate rapid transport of STEMI patients to the Cardiac Catheterization Laboratory (CCL). Furthermore, the Acute Coronary Syndrome (ACS) committee realized that even though there was a pre-activation algorithm for STEMI cases, the process was not routinely utilized. Most physicians in the emergency department waited for the patient to arrive, repeat the 12 lead EKG. The "Don't Be Late Pre-Activate the Team" campaign was initiated to encourage field pre-activation of the STEMI team. To facilitate understanding of the new process, an "ED Pause" Flowchart was

created. The performance evaluation tool was revised to reflect Emergency Medical Services metric goals from First Medical Contact to hospital arrival, ED arrival to CCL, and CCL arrival to device activation. Frontline staff education, updating the STEMI boards, and timely sharing of metrics between the ED, CCL, and Emergency Medical Services (EMS) departments are also activities that were done regularly to monitor progress.

Results:

After the implementation of the project, RMC's compliance rate on FMC to device under 90 minutes continuously improved. In 2015Q2 and 2015Q3, RMC's Primary PCI dashboard reports showed that our FMC to Device within 90 minutes compliance rate is 100%, and real-time data abstraction for 2015Q4 revealed that RMC is 100% compliant. Median time FMC to device in minutes also continuously become shorter. The project also decreased the median times for our door-to-balloon (D2B), placing RMC above the 50th percentile for the first time since 2013.

Conclusion:

Early coronary reperfusion improves STEMI patients' survival. Using data to drive Performance Improvement projects such as Pre-activation of the STEMI Team before patient arrival and utilizing "ED Pause" for eligible patients, resulted in not only 100% compliance on FMC to Device within 90 minutes metric, but also improved our median D2B times placing us above the 50th percentile for the first time since 2013 when compared to the rest of the hospital nationwide. The project also fostered team engagement and brought various disciplines to work together to streamline the STEMI Systems of Care process. With these positive results, frontline staff are identifying process gaps, independently brainstorming initiatives that will help improve Our STEMI process of Care.