**Solution:** Improving the Quality of Primary PCI at Johns Hopkins Bayview Medical Center

**Organization:** Johns Hopkins Bayview Medical Center  
**Type:** Acute Care

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**IDENTIFICATION:**
An analysis of ongoing AMI Core Measures data showed that Johns Hopkins Bayview Medical Center consistently was unable to meet the 90 minute door-to-balloon inflation time for patients with ST elevated MIs. The median time to balloon inflation was noted to be 140 minutes after arrival.

**PROCESS:**
In an effort to reduce door to balloon times for patients with ST segment Elevated Myocardial Infarction (STEMI), the Johns Hopkins Bayview Medical Center, Baltimore, MD (USA) cross trained Coronary Intensive Care Unit (CICU) nurses and radiology technicians to set up the catheterization lab and monitor patients until an on-call team could arrive, resulting in a dramatic reduction in overall door-to-balloon time.

**SOLUTION:**
The Cardiac Catheterization Lab at Johns Hopkins Bayview Medical Center is not a 24-hour per day/7 day per week operation. Many of the delays in door to balloon time were due to notification and transport time for staff on call away from the hospital. Plans were identified that would minimize wait time by getting some elements of the procedure started before the arrival of the team.

- Established the reduction of door-to-balloon time as a priority for all stakeholders
- Used field EKGs performed by emergency personnel to trigger the activation of the call team while the patient was being transported to the hospital
- Developed an in-house transition team (the Bridge Team), comprised of a CICU nurse, a radiation technologist, and a CICU resident to transport the patient rapidly from the Emergency Department to the catheterization lab while the on call team was enroute
- Cross trained the Bridge Team to perform basic tasks in the cath lab, including setting up equipment, entering patient data, transferring the patient to the procedure table, attaching EKG leads, etc prior to the arrival of the team
- Developed and implemented a process of immediate feedback of door to balloon times on a case-by-case basis
- Potential problems causing delays would be dealt with in a timely manner

**Results:** With the implementation of a Cardiac Catheterization Bridge Team, the average percentage of patients with STEMI who had reperfusion achieved within 90 minutes of hospital arrival increased from 30% in the twelve months preceding the intervention to an average of 82.5% in the twelve months following.
• Identify all of the critical stakeholders, both within and outside of the health system, and engage them in problem solving. Ensuring that all key stakeholders worked together to achieve the desired improvement was critical to the success of this program.
• Don’t be afraid to think outside of the box. Training radiology technicians and coronary intensive care nurses to serve as a bridge until the on call team could arrive was an effective way to get timely care to patients.

Provide immediate feedback after each case to all of the stakeholders. The team members need to know if the goals were achieved, and if not, what barriers are identified and how could they be addressed to prevent recurrence.