

Title: "WE SAVE LIVES" The Impact of Establishment of Cardiac Emergency Unit in Early Identification and Management of Acute Myocardial Infarction

Category: Acute Coronary Syndromes

ABSTRACT

INTRODUCTION: Mortality in STEMI is clearly related to the time of symptoms onset to reperfusion time. The care of patients presenting with chest pain to hybrid Emergency Department (ED) gets compromised due to busy triage system. During the phase of service lines implementation, a notion of a separate Cardiac triage and emergency services was emerged aiming to achieve prompt coronary reperfusion in STEMI patients to improve the outcomes.

OBJECTIVES: To enhance fast track care to STEMI patients in ED for better outcome. To improve and sustain quality care indicators in cardiac service.

METHODS: In 2016, a special Cardiac Emergency (Car-ER) was established in the main ED. A dedicated multi-disciplinary team was established under supervision of Heart Lung and Vascular Service line leadership. The performance indicators were developed that benchmark with international practice guidelines of ACC and NCDR Cath lab registry. These matrices include ECG within 10 min, Aspirin within one hour of arrival and proportion of patients with STEMI receiving immediate PCI within 90 minutes. Reasons of delays, morbidity and mortality were recorded, and monthly core level internal audits conducted for feedback and future direction.

RESULTS: A total 2914 patients had visited CER during October 2016 to September 2017. Of which 30% were diagnosed with Acute Coronary Syndrome (ACS), 21% were AMI including 38% and 62% STEMI and NSTEMI respectively. 20% were Non-ACS. A major chunk >50% were rule-out for cardiac ailments. Among STEMI, 98.8% ECG done within 10 min of arrival and interpreted while Aspirin given in <1 hour to 96.5%. The median DBT was 77 IQR (60, 107 min). The DBT <90 min achieved in 70% of patients. A significant difference in mortality 5.4% and 18% (p value =0.024) was observed between less than and more than 90 min DBT respectively. Overall morbidity was 11.6% however no significant difference observed between the groups. Discharge medication including Aspirin, beta blockers and statin given to 97-98% eligible patients.

CONCLUSION: Our interim data showed that a separate CER has improved clinical outcomes in STEMI patients and mortality rates are comparable to various CATH-Lab registries. Our tertiary care hospital is the first and one of its kinds to take this initiative. Rapid and focused triage, diagnosis and revascularization could be made through dedicated team and multidisciplinary approach.

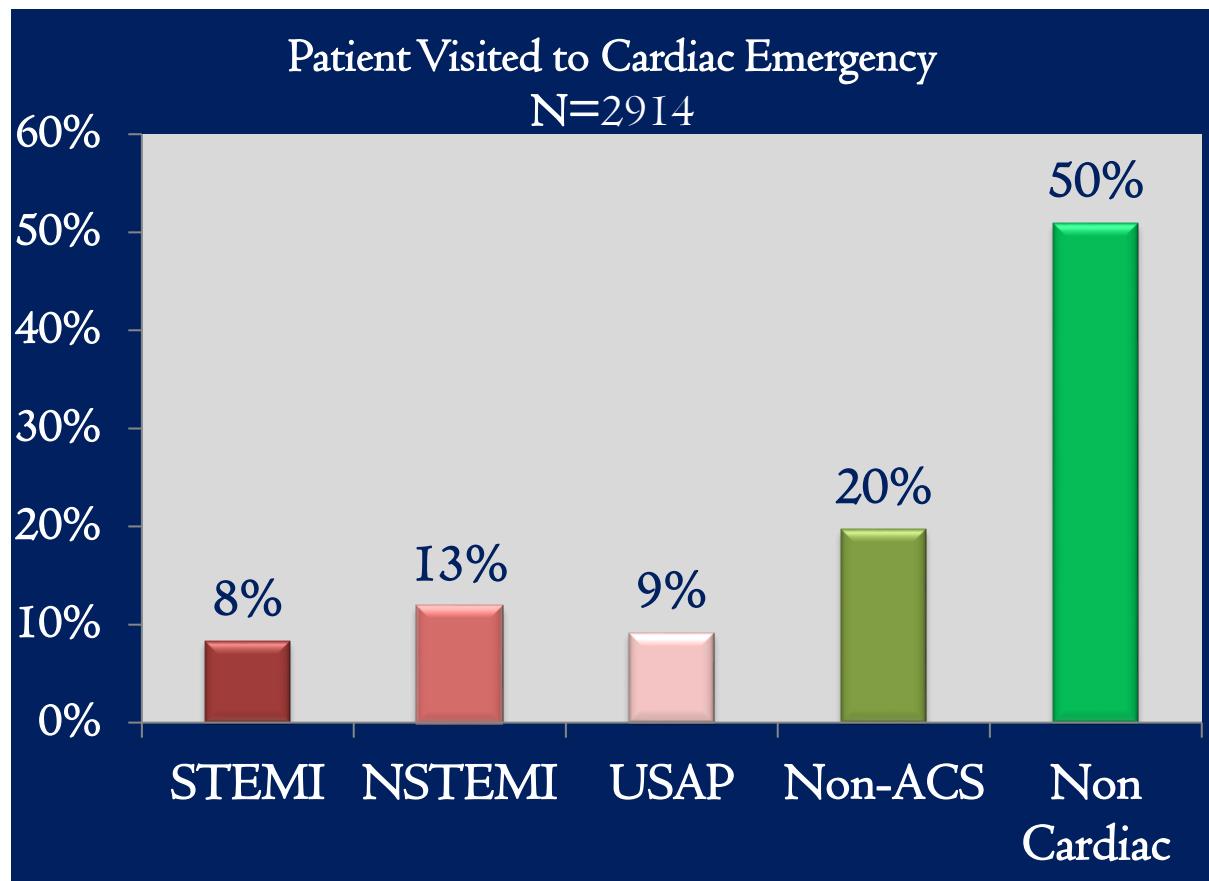


Figure 1: Diagnostic trend of patients admitted in the CER

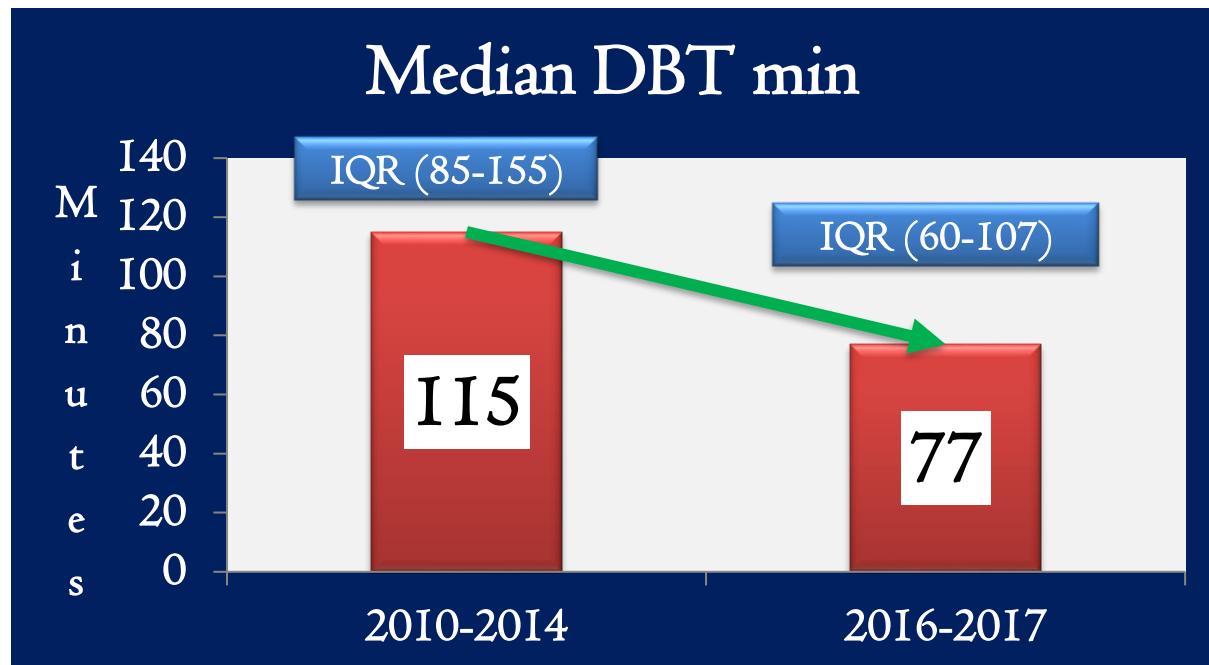


Figure 2: Comparison of median DBT time of STEMI patients

Trends of Non-Cardiac patients

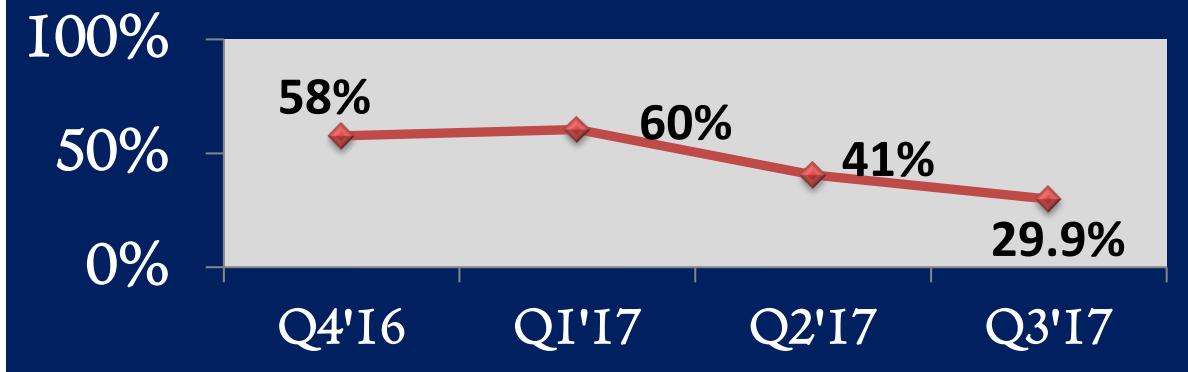


Figure 3- Quarterly trend of non-cardiac patients with improved triage

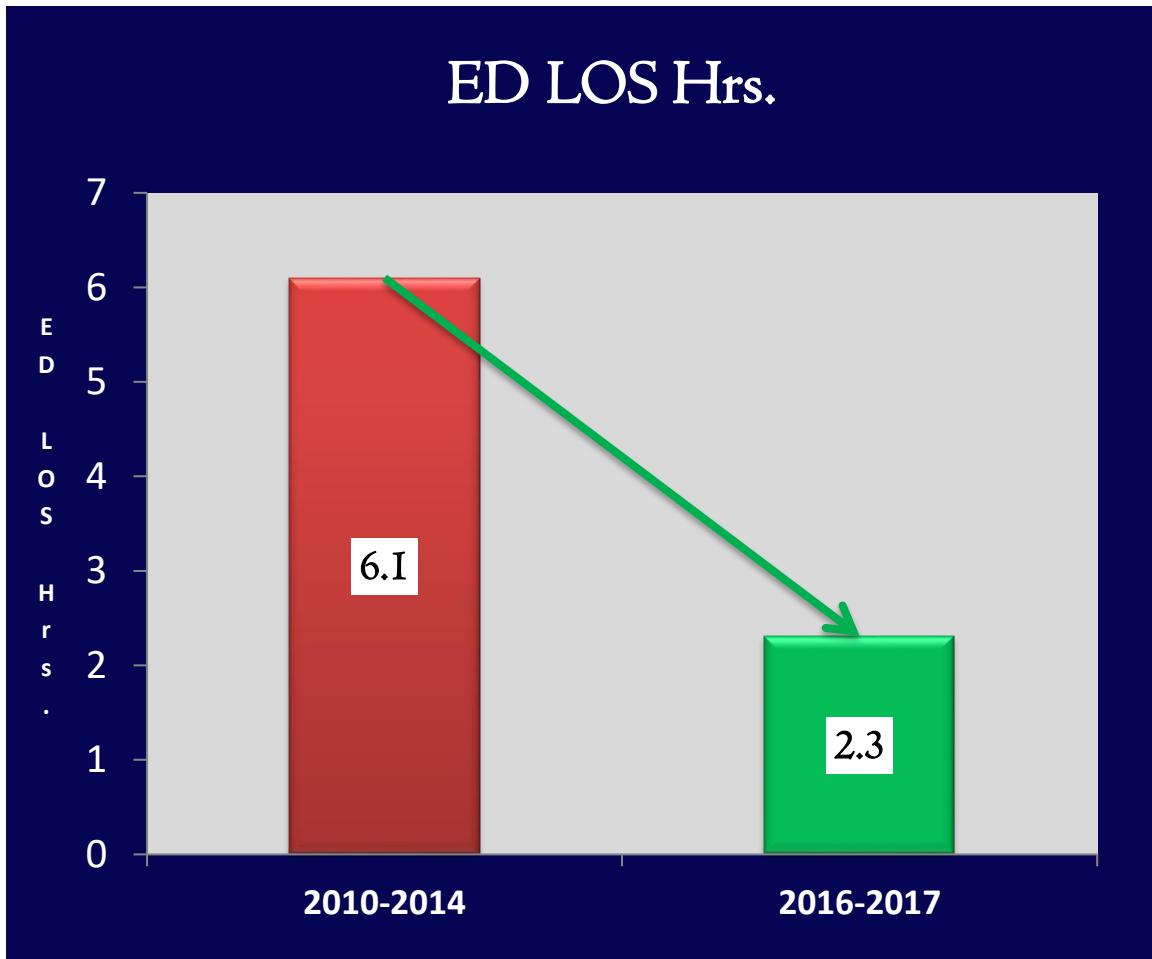


Figure 4- Decrease length of stay compare to hybrid ED before

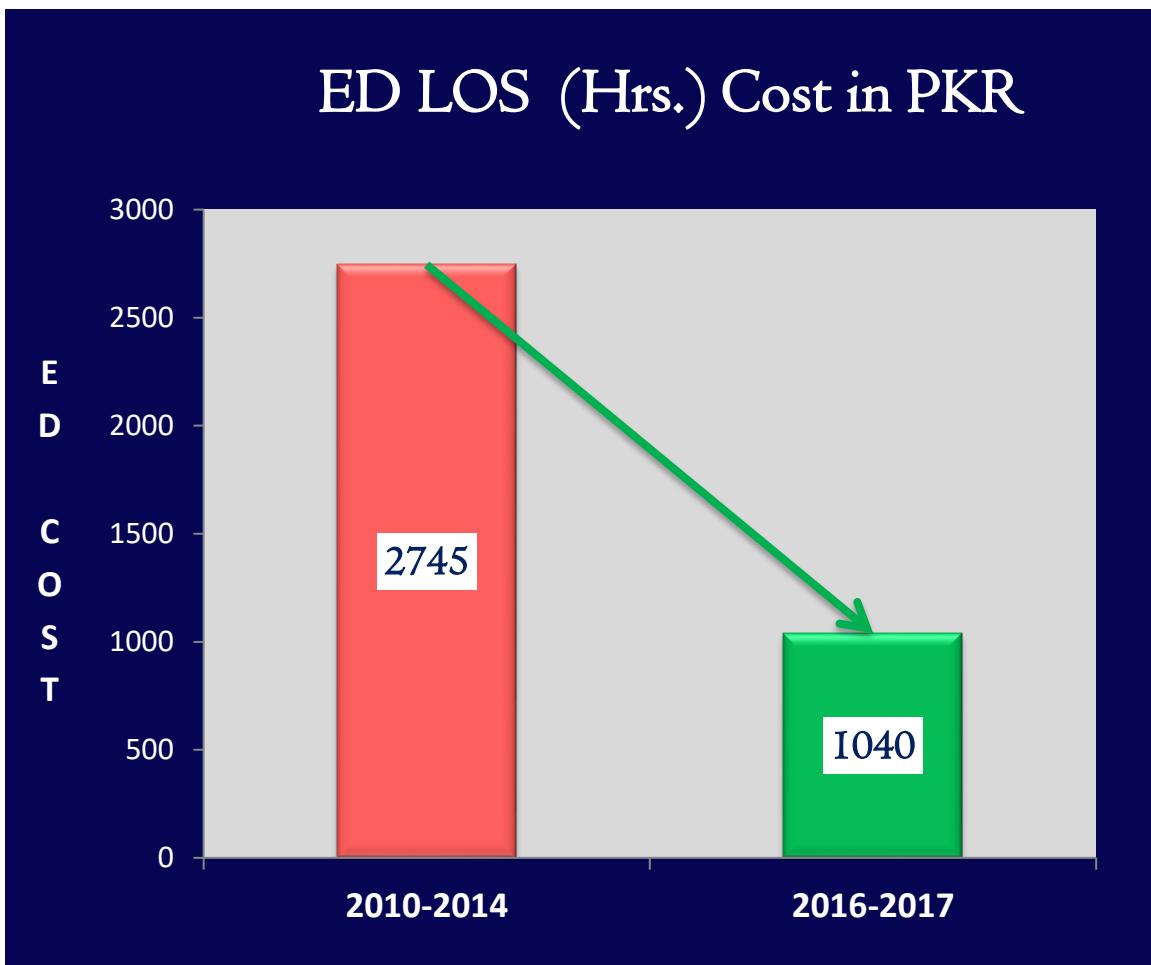


Figure 5- Effective cost reduction achieved