

“Timely Identification & Intervention for changes in ECG”

Paving STEMI pathway to clinical excellence

Author:- Dr. Kriti Tambi

Co- Author -Dr. Suhasani Jain

Rukmani Birla Hospital, Jaipur

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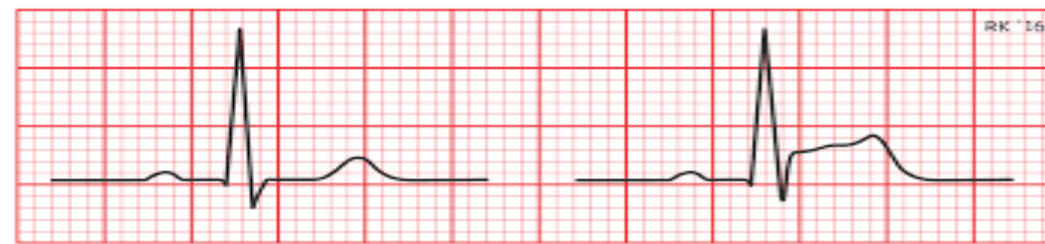
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Introduction

An electrocardiogram is a picture of the electrical conduction of the heart. By examining changes from normal on the ECG, clinicians can identify a multitude of cardiac disease processes. An electrocardiogram (ECG) is a common diagnostic test. It's a non-invasive and painless procedure. It helps doctors identify various cardiac conditions such as arrhythmia, heart attack or enlarged heart

Myocardial Infarction- Myocardial infarction (MI) is defined as myocardial cell death in combination with symptoms suggestive of myocardial ischemia.

STEMI (ST Elevation Myocardial Infarction) is a clinical syndrome defined by characteristic symptoms of myocardial ischemia in association with persistent ECG ST-elevation in at least 2 ECG leads, and subsequent release of biomarkers of myocardial necrosis.



Normal

ST elevation



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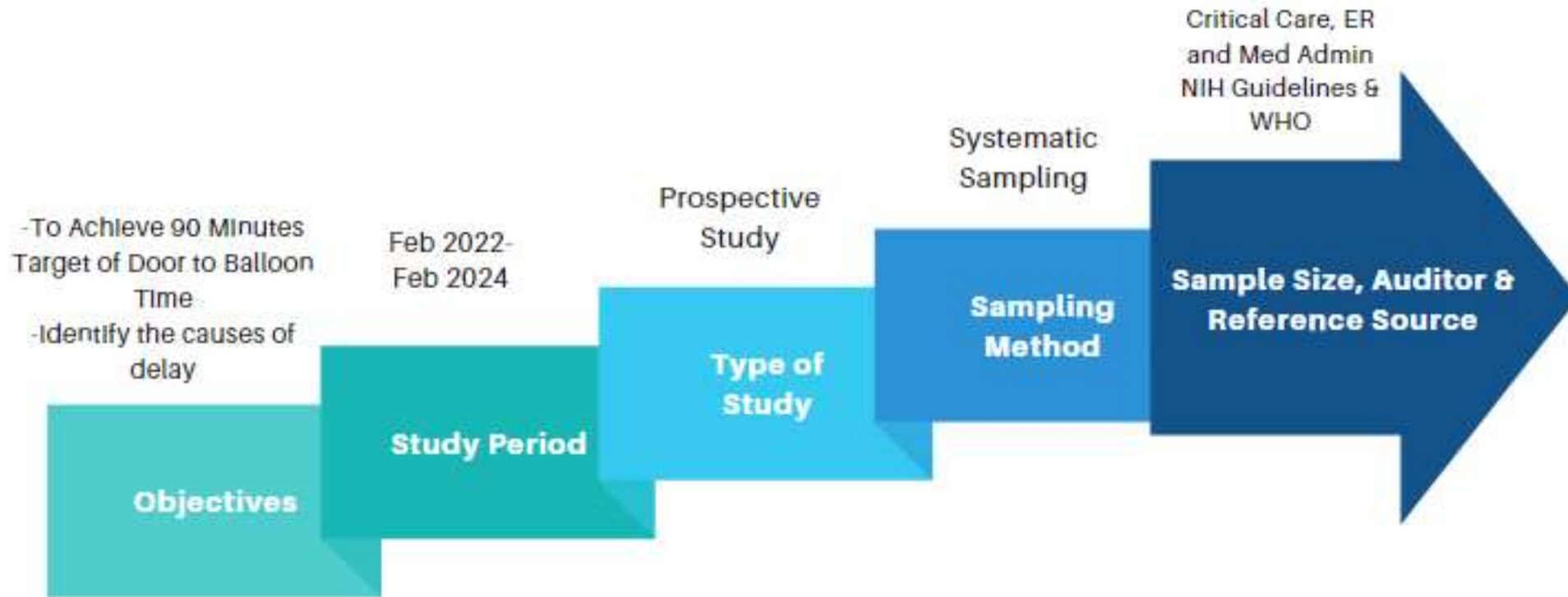
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Review of Literature

- George NE, Shukkoor AA, Joseph N, Palanimuthu R, Kaliappan T, Gopalan R. Implementation of clinical audit to improve adherence to guideline-recommended therapy in acute coronary syndrome. *Egypt Heart J*. 2022 Jan 12;74(1):4. doi: 10.1186/s43044-021-00237-7. PMID: 35020077; PMCID: PMC8755862.
- Amsterdam EA, Wenger NK, Brindis RG, Casey DE Jr, Ganiats TG, Holmes DR Jr, Jaffe AS, Jneid H, Kelly RF, Kontos MC, Levine GN, Liebson PR, Mukherjee D, Peterson ED, Sabatine MS, Smalling RW, Zieman SJ. 2014 AHA/ACC Guideline for the Management of Patients with Non-ST-Elevation Acute Coronary Syndromes: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *J Am Coll Cardiol*. 2014 Dec 23;64(24):e139-e228. doi: 10.1016/j.jacc.2014.09.017. Epub 2014 Sep 23. Erratum in: *J Am Coll Cardiol*. 2014 Dec 23;64(24):2713-4. Dosage error in article text. PMID: 25260718.

CASE STUDY METHODOLOGY



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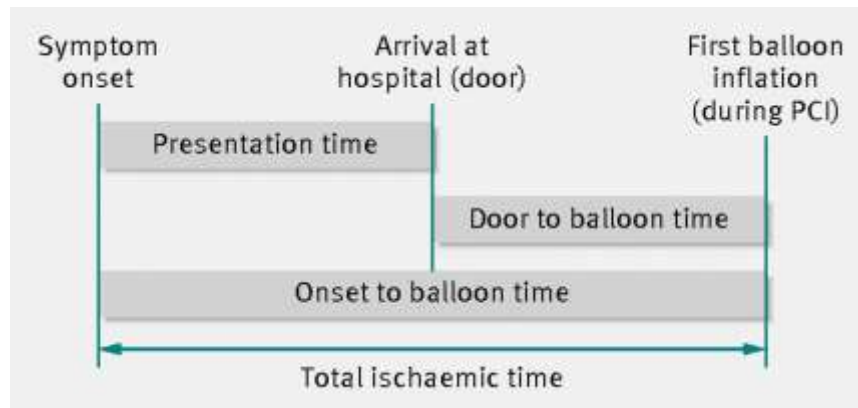
STANDARDS & OBJECTIVE ELEMENTS

Objective 1:

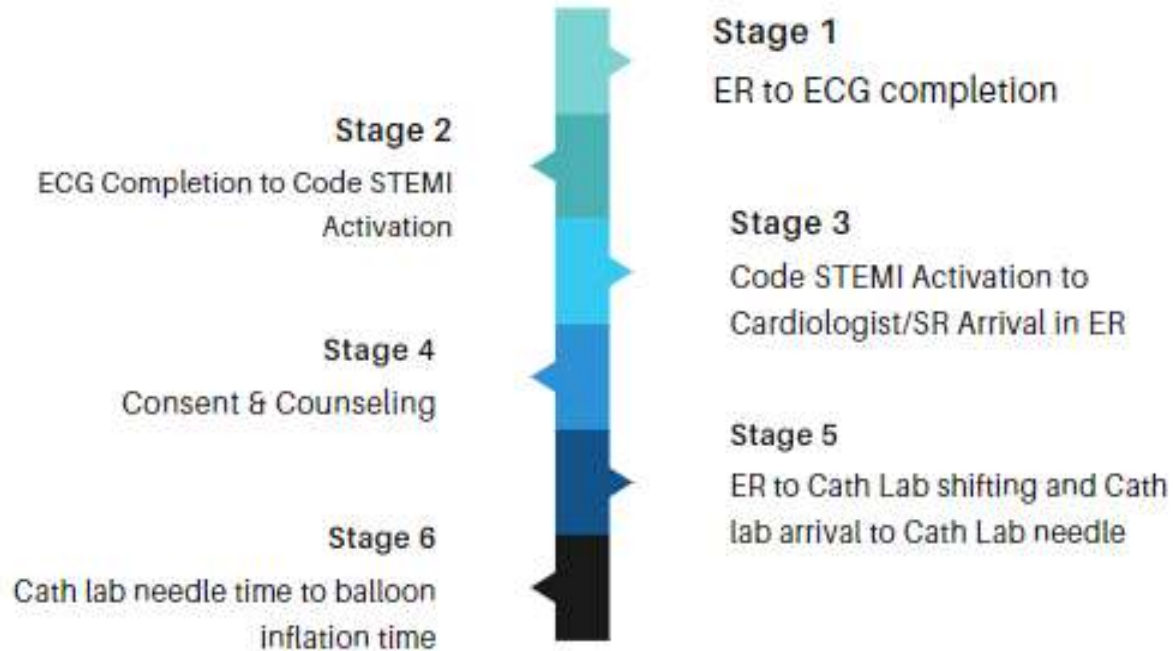
Standard 1.1: All patients achieving the 90 Minutes Target of Door to Balloon Time for reducing the premature death caused by ST Elevation MI.

Objective 2:

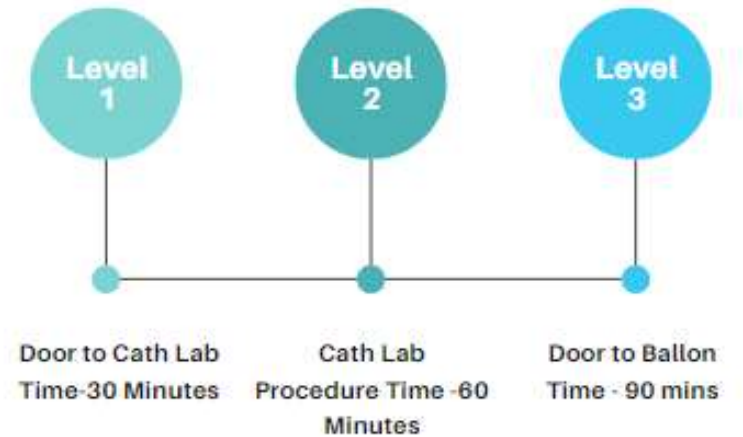
Standard 2.1: 100% Identification of cases wherein delay is caused and to identify the cause of delay in managing ST elevation MI



PROCESS MAPPING



STEMI DASHBOARD



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FINDINGS:-

OBJECTIVE ELEMENTS 1.1

CLINICAL DASHBOARD (STEMI)

Year	Avg Door to Cath Lab time(min)	Total Cath Lab time(min)	Avg Door to Balloon time(min)
2022	55	52	92
2023	40	41	76

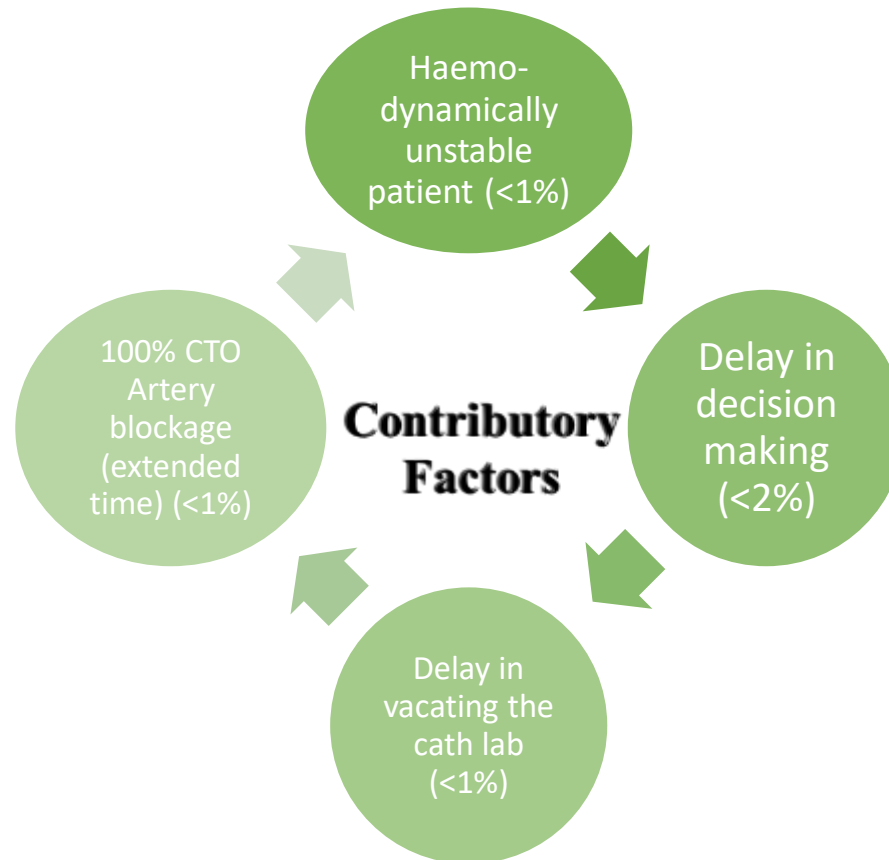
KEY INITIATIVES DELIVERED:-

- Real time data integration- Clinical Dashboard for STEMI
- Cath Lab Technology Innovation- Imaging Modalities (e.g. IVUS, OCT), stent placement accuracy and complication management during primary PCI.
- Advanced Investigations analytics- Cardiac Markers, 2D Echo, bed side ECG etc.
- Streamlines communication and coordination (Emergency, Cardiology & Cathlab team) - Code STEMI
- Quality Improvement Project (QIP)
- Patient Engagement and Education- Education about early interventions, adherence to medication, lifestyle modification and post discharge follow up care

OBJECTIVE ELEMENTS 2.1

Delay in adherence to the internal benchmark (90mins)

2022- 95% adherence



2023- 100% adherence

A Way forward to excellence...

Phase II (January 2024 onwards)-

- a. **Timeliness of reperfusion therapy-** Initiation of Thrombolytic Therapy or Percutaneous Coronary Intervention
- b. **Adherence to clinical guidelines-** Use of Aspirin, Beta Blocker, Ace Inhibitors and statins in ER.
- c. **Complications and adverse events-** Complications such as cardiogenic shock, arrhythmias, heart failure, or bleeding events.
- d. **Patient outcomes-** In hospital mortality & morbidity, length of stay, untoward incidences and discharge disposition.

THANK YOU



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