

Resetting the Goal: Strategies to Decrease Door to Reperfusion Time for ST Elevation MI Patients



Cynthia Briner, MSN, RN
 Brookwood Medical Center
 Tenet Healthcare System
 Birmingham, Alabama

Introduction

Background

Having consistently met the 90 minute door to reperfusion time for ST elevation MI patients, the STEMI Team focused on opportunities to decrease the door to reperfusion time to less than 60 minutes to improve patient outcomes.

Objective

The objective of the team is to identify process improvement opportunities through review of the medical record for adherence to identified time stamps, EKG findings, emergency room and cath lab processes, and patient outcomes. Rapid cycle process improvement strategies are developed and tested to address identified opportunities.

Team Composition

The team is led by the Cardiovascular Clinical Excellence Manager and includes staff members from the Emergency Room and Cardiac Cath Lab, hospital pharmacist, physician champion, and a representative from local EMS providers.

Interventions

Interventions are targeted to the process, reason for delay, or opportunity for streamlining. After presenting the new goal to the hospital cardiologists and emergency room physicians and obtaining their buy-in, the STEMI Data Sheet was changed to reflect the 60 minute door to reperfusion goal and the corresponding time stamps were adjusted.

Having the patient remain on the EMS stretcher rather than transfer to an ER bed allows for rapid patient assessment and serves as a reminder to everyone that time is limited. The patient is then transported to the cath lab on the EMS stretcher. If the EMS service has the technology, the EKG obtained in the field is faxed to the ER and immediately given to the ER physician, who can then activate cath lab and cardiologist notification.

The overhead page of "Code STEMI" by the hospital operator notifies any cardiologist in the hospital that a STEMI case is in the emergency room and a potential change in cath lab patient schedule may occur. The overhead page also notifies the Coronary Care Unit to assess bed availability for a potential admission.

STEMI ALERT
60 MINUTES TO PCI

GOAL to PCI TIME: _____ (arrival + 60 min)

	Atomic Clock Time	
Completed within 10 min of arrival	ED Arrival Time	_____
	EKG Done	_____
	STEMI diagnosed (ST elevation of 1 mm or greater in at least 2 contiguous leads)	_____
	Cardiologist called	_____
	Cath Lab called	_____
	Cardiologist response	_____
	Cath Lab response	_____
Completed within 35 min of arrival	ASA given	_____
	Lab work drawn	_____
	Informed consent for left heart cath and possible PCI	_____
	Admitting notified of need for CCU/ CIU bed	_____
	Medications (if given)	Labs
	Heparin @ _____	Hct. _____
	Lovenox @ _____	BUN _____
	Integrilin @ _____	Cr _____
	Reopro @ _____	
	1 st Cath lab arrival	_____
Patient leaves ER	_____	
Completed within 60 min of arrival	Patient arrives in cath lab	_____
	Cardiologist arrival	_____
	Groin Access	_____
	Reperfusion established / 1 st balloon inflation	_____

Patient Assessment/ Information
 Weight: _____ lbs Allergy to shellfish Allergies: _____

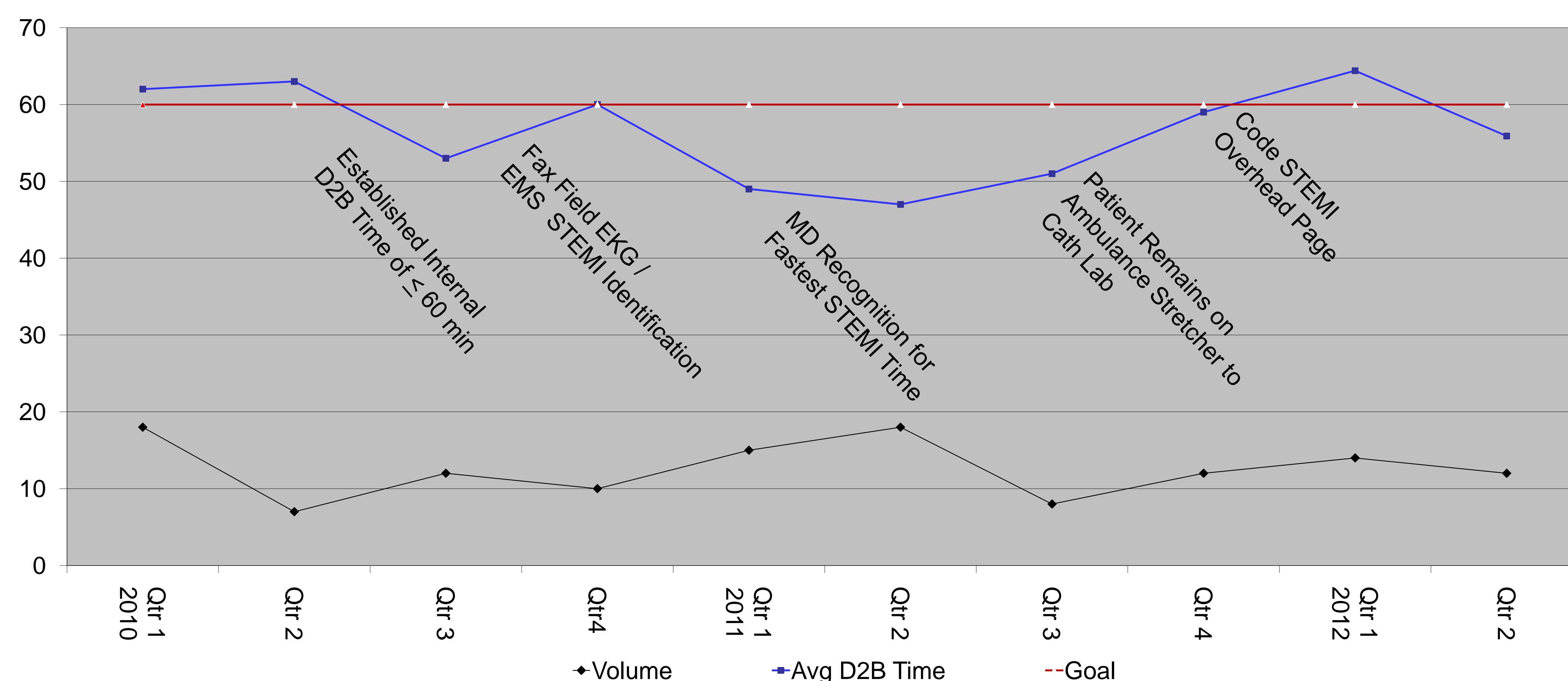
Home Medications: Plavix Prasugrel/ Effient Ticlid Brillenta
 Oral Hyperglycemic Agent Digoxin Coumadin/ Warfarin Heparin Arixtra

Patient has history of:
 Diabetes Renal Disease Previous TIA / Stroke
 Previous MI Hemodialysis Major surgery in last 30 days
 Pacemaker or ICD Active Tuberculosis Procedure: _____
 Previous cardiac stent

Pt. ID Sticker

Results

Average D2B Time with Rapid Cycle Improvement Interventions



Conclusions

Since changing our goal to 60 minutes for door to reperfusion in March 2010, our success rate for attaining the target was 59% (13/22) for the remainder of 2010. With continued evaluation and process improvement, the rate of door to reperfusion within 60 minutes was 71% (39/55) for 2011 with an current rate of 62.3%. As the majority of our strategies addressed process issues, no additional cost was incurred and required minimal change in physician related processes. Physician support remains positive and a sense of friendly competition for the fastest door to reperfusion time exists.