

Introduction

- Reduced time to reperfusion has demonstrated better outcomes in STEMI patients
- Current clinical guidelines recommend door to reperfusion time of less than 90 minutes, our current local guideline is 60 minutes
- Door to reperfusion can be divided into Emergency department time and cath Lab time
- Definitive care is only delivered in the Cath Lab

Methods

- STRAC generates a report of all STRAC Regional EMS Heart Alert Cases monthly
- EMS cases are sent to PCI receiving facility to report outcomes to STRAC
- Data is compiled and analyzed by the Office of the Medical Director for San Antonio Fire Department
- Results are reported to the Regional Cardiac Systems Process Improvement Committee monthly and to the medical community quarterly

Results

Table 1. Demographics of the STRAC Regional STEMI patients.

	Dates 1/1/2015 – 6/30/2015
Total number of EMS heart alerts	209
Total heart alerts with stentable lesion	117 (56%)
Age	62 ± 13 years
Gender	76% male

Table 2. Critical time interval for STEMI patients.

Mean 911 to Device	89± 27 min
Mean PCI Center Door to Device	53 ± 24 min
Mean ED Time	31 ± 18 min
Mean Cath Lab Time	22 ± 13 Min

Figure 1. Temporal distribution of all STEMI patients with a documented device time.

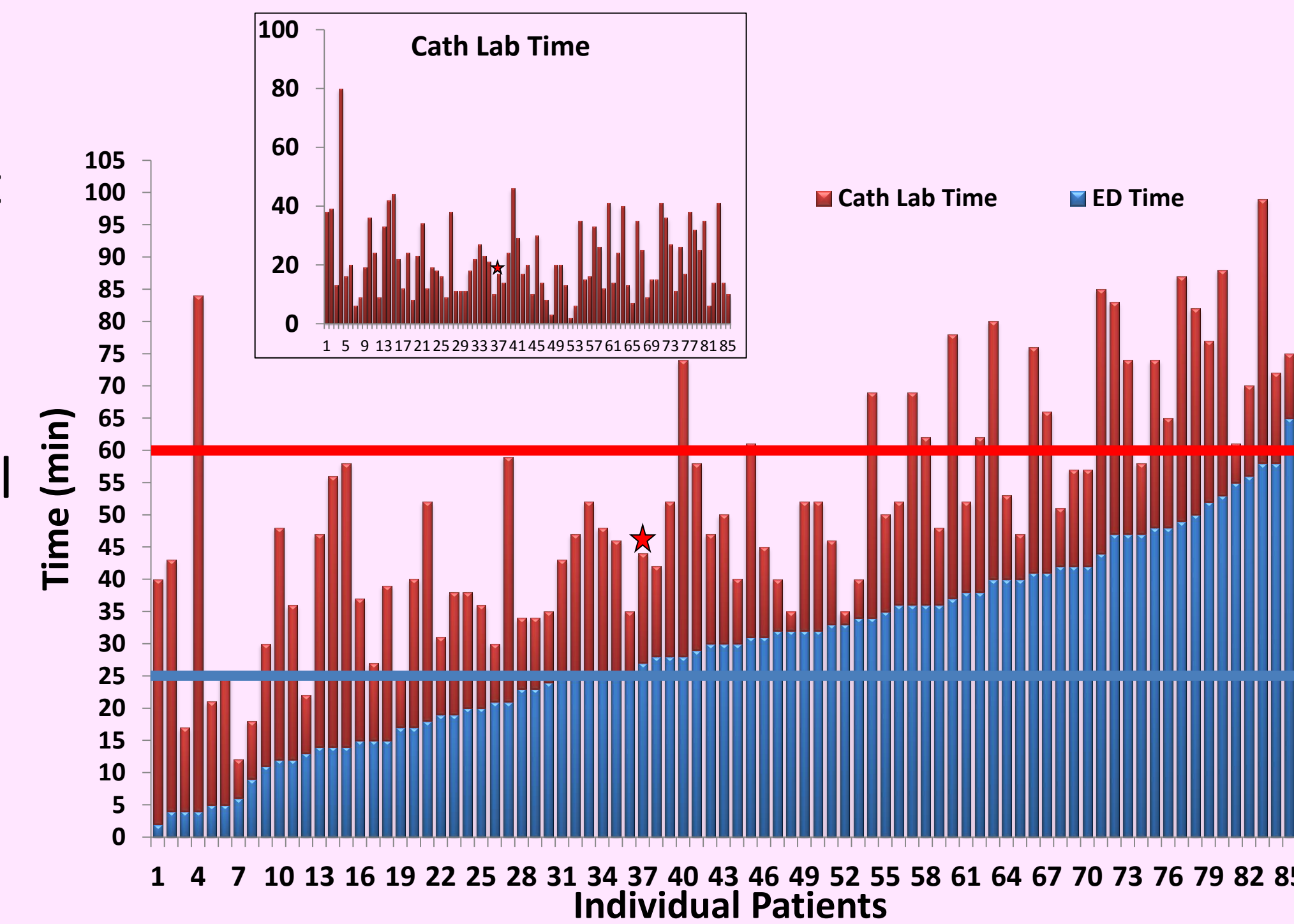
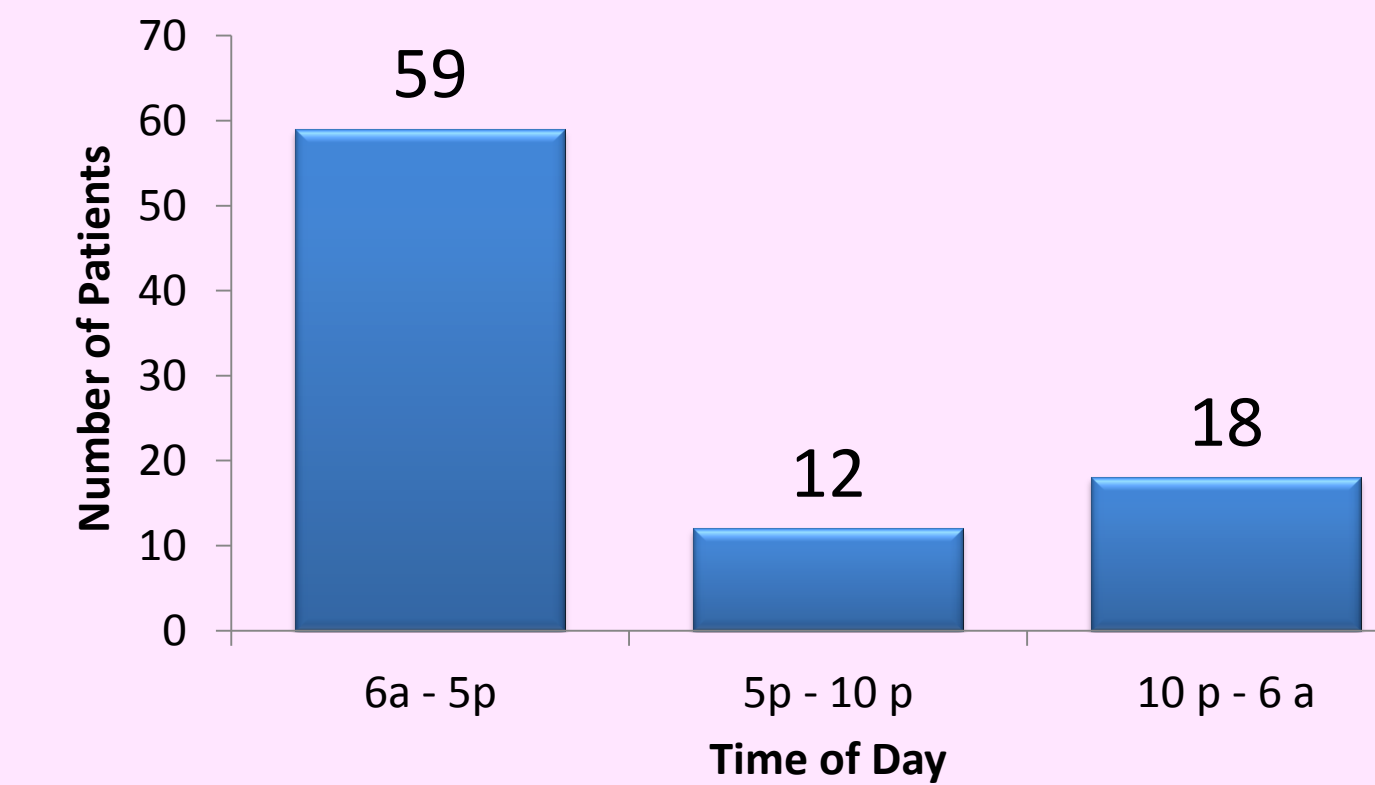


Figure 2. Correlation of Goal Emergency Department time of 25 minutes (Blue horizontal bar) with meeting door to reperfusion goal time of 60 minutes (red horizontal bar). Inset: Cath Lab time for patient population. ★ Indicates first patient with a greater than 25 minute ED Time

Results

- 97% of patients were reperfused in less than 60 minutes with a < 25 minute ED Wait Time
- 52 % of patients in the ED > 25 minutes were reperfused in less than 60 minutes p=<0.001
- No difference in Cath Lab time as a function of ED wait time. P=0.9

Limitations

This data set includes all patients – inclusive of those requiring resuscitation and other life saving interventions

Conclusion

Reducing the Emergency Department time to 25 minutes or less resulted in meeting the goal reperfusion time significantly.

Any process under the control of the facility (interventionalist availability, Cath Lab/Team availability, Nonlifesaving Interventions) should be directed toward meeting a 25 minute emergency department time.

Figure 3. Data elements currently being utilized by the STRAC Regional Cardiac Systems Committee

Date	PCI Center	EMS Agency (or Walk-in)	EMS Unit #	Crew Names	Patient Name	Date of Birth	EMS Case #	Age	Race / Ethnicity	Zip Code of patient residence	Gender	Interfacility transfer?	Interfacility D2D	EKG Transmission Attempted?	Call Received in Dispatch	Time of Dispatch	Responding time	Arrive on Scene Time	Time at Patient Side	Time Transport	PCI Center Emergency Department Door Time	Cath Lab Activated Time	Cardiologist Activated Time	PCI Center Cath Lab in Time	Balloon Time		
D2B Time (Minutes)	True/False/ Missed Activation	Comments	Culprit Vessel(s)	Length Of Stay (LOS)	Mortality	Peak cTroponin I	Peak cTroponin T	Peak Myoglobin	C-RP	CK-MB	Ejection Fraction	TIMI Analysis	Symptoms to 911 Call	ASA	NTG	2nd NTG	O ₂	MSO ₄	Response Time	Time to EKG	Scene time	Transport time	911 to ER	911 to Cath	ED Time	Cath Lab Time	Activation Delta