


## Two Hospitals-One Heart: World Class Heart Care through Multi-Disciplinary Collaboration

*American Nurses Association  
7th Annual Nursing Quality Conference  
February 8, 2013  
Session 206 8:30 am-9:30 am*

Susie Schnitker RN, BSN, CEN  
Director of Emergency Services  
Schneck Medical Center  
Seymour, Indiana




## Seymour, Indiana



## Schneck Medical Center

- 97 beds
- Not-for-profit
- Facilities
  - Main Campus
  - 30,000 ED visits
  - State-of-the-Art Cancer Center
  - Outpatient Rehabilitation Center
  - Home Services
  - Family Care Centers




## Objectives

- Describe the benefits of a collaborative approach to heart care
- Define measures to focus priorities for cycles of improvement



## Best in Class Door to Balloon (D2B) for ST-Elevation Myocardial Infarction (STEMI) Patients

## What is a STEMI

STEMI is an acronym meaning "ST segment elevation myocardial infarction," which is a type of heart attack. This is determined by an electrocardiogram (EKG) test.

*In a STEMI, the coronary artery is completely blocked off by the blood clot, as a result virtually all the heart muscle being supplied by the affected artery starts to die. During an acute STEMI seconds count! There is a direct relationship between the amount of time a heart artery is blocked and the severity of the heart attack and odds of survival*

- 1.5 million heart attacks occur in the US each year with 500,000 deaths
- A heart attack occurs every 20 seconds with a heart attack death about every minute.
- Heart attack is a leading killer of both men and women in the United States



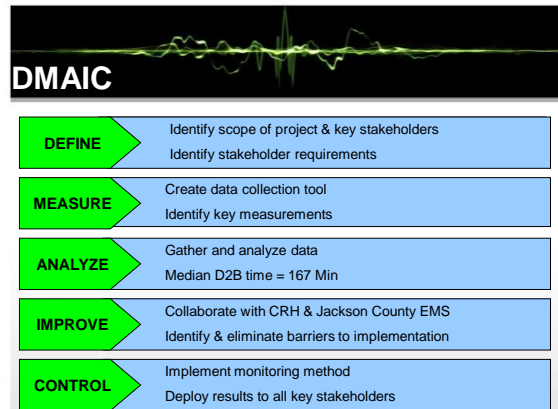
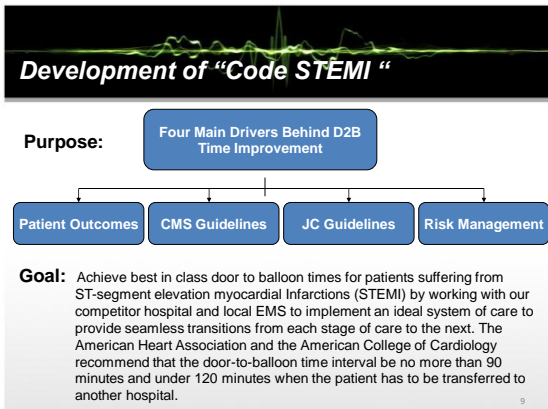
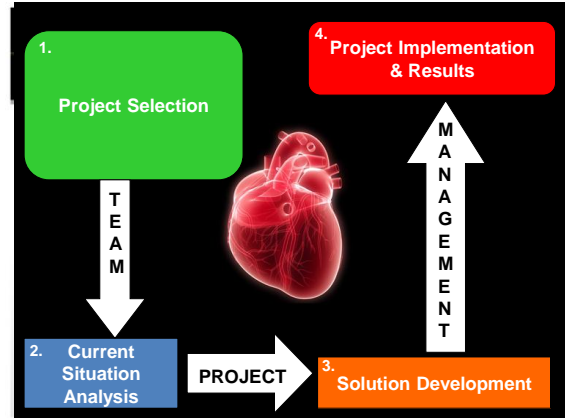
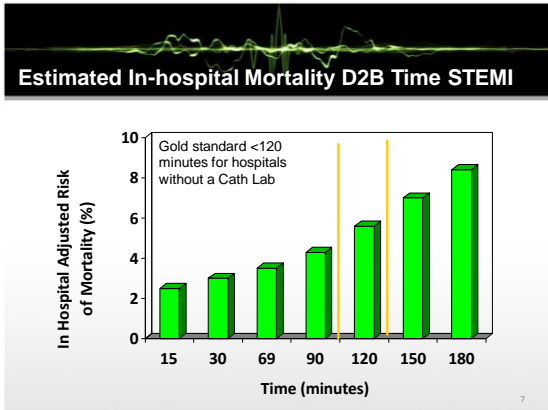
**SCHNECK**  
better healthcare begins here



JACKSON COUNTY  
COMMUNITY HEALTH SERVICES  
20 YEARS OF SERVICE



COLUMBUS  
REGIONAL  
HEALTH  
*thinking beyond*



### Project Charter

STEMI IMPROVEMENT PROJECT		
<b>Project Charter</b>		
<b>Organizations:</b> Schneck Medical Center, Jackson County EMS, Columbus Regional Health,	<b>Champions:</b> Tammy Dye & Vicki Johnson	<b>Process Owners:</b> Matt Chandler, Susie Schnitker Staci Glick, Julie Bailey & Dennis Brasher
Project: ED STEMI: Rapid Identification and Intervention		
<b>Problem Statement:</b> In quarter one 2010 our median door to balloon time was 167 minutes. The American Heart Association and the American College of Cardiology recommend that the door-to-balloon time interval be no more than 90 minutes and under 120 minutes when the patient has to be transferred to another hospital.		
<b>Project Objective:</b> The objective of this project was to create a process that allowed 100% of STEMI patients to be reperfused with a door to balloon time under 90 minutes.		

### SIPOC

Suppliers	Inputs	Process	Outputs	Customers
EMS Registration Triage Nurse Emergency Physician Dispatch	Transportation 12 Lead EKG Doctor assessment History & Physical Diagnosis Handoff Communication	1. Onset of symptoms 2. EMS Dispatch 3. 12-lead ECGs 4. Early Diagnosis 5. Transport to SMC 6. ED MD confirms diagnosis, pt stays in ambulance 7. Notify CRH/Activate Cath Lab 8. Transport to CRH 9. Cath Team receives patient from EMS 10. Patient treated	Positive patient outcomes Pt & Family satisfaction Accurate, timely information. Accurate, timely treatment Door to Balloon time under 90 minutes	Patient Families Staff Physicians SMC, CRH, & JCEMS Dispatch

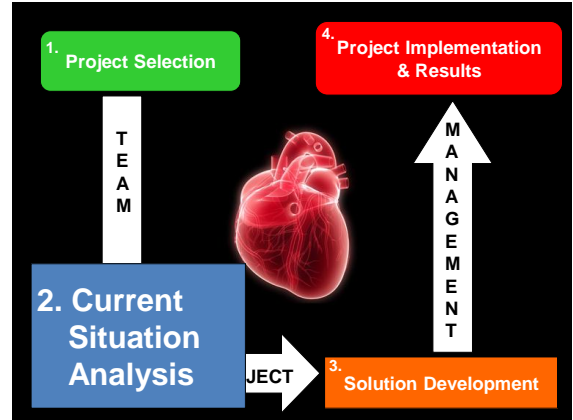
## Excellence Every Person, Every Time

• Project Impact on Key Stakeholders

Patient	<ul style="list-style-type: none"> <li>Improved outcomes</li> <li>Increase patient satisfaction</li> </ul>
SMC, CRH, & JCEMS	<ul style="list-style-type: none"> <li>Increase in clinical quality</li> <li>Increase possibility for further collaborations</li> </ul>
Physicians & Staff	<ul style="list-style-type: none"> <li>Streamlined processes</li> <li>Increased staff engagement</li> </ul>

- Door to balloon times under 90 minutes (best in class)
- Address to balloon times under 120 minutes (best in class)
- Improved patient outcomes

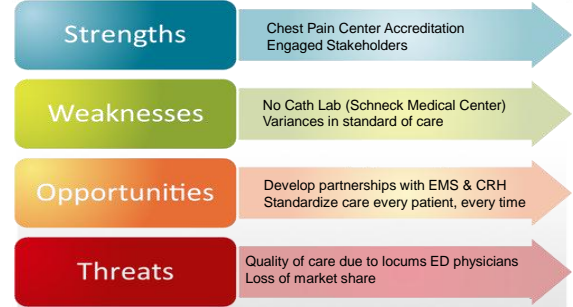
13



## STEMI Kaizen Event

2 D A Y K A I Z E N	ED STEMI Kaizen Event Agenda	
	Day 1 (September 27th, 2010)	Day 2 (September 28th, 2010)
	0830-0900 Training and review of current data (SZ)	0830-1015 Future state process map
	0900-0930 SIPOC	1015-1030 Break
	0930-0945 Break	1030-1200 Action Plan
	0945-1030 Review/validate current state map	1200-1230 LUNCH
	1030-1100 Affinity diagram and creation of Customer Requirement Tree	1230-1500 Implement Improvements through 5S and system re-design
	1100-1200 Brainstorming of potential failure modes using Man/Machines/Materials soft tool	1500-1630 Control Plan
	1200-1245 LUNCH	
	1245-1400 FMEA	
	1400-1415 Break	
	1415-1500 FMEA	
	1500-1630 Brainstorm of improvements	

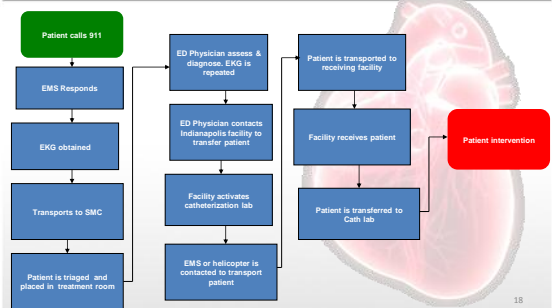
## SWOT



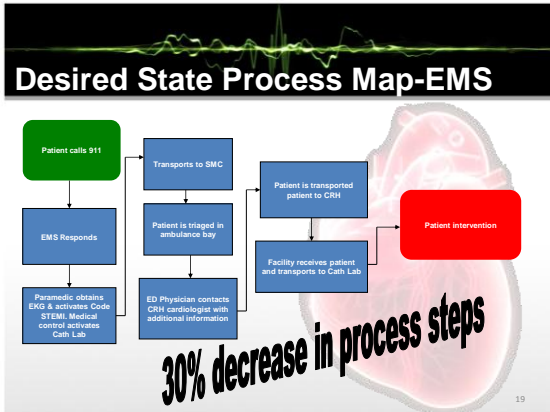
## Goal: Door to Balloon Time <90 Minutes



## Current State Process Map-EMS

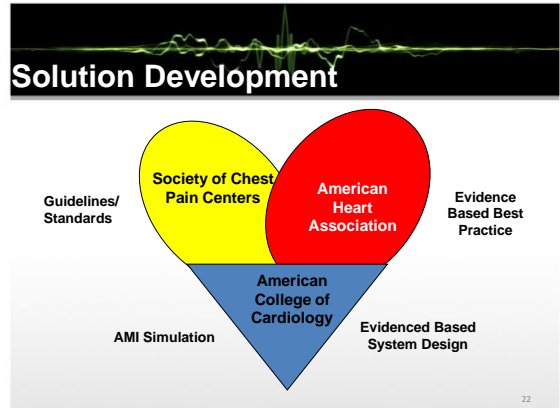
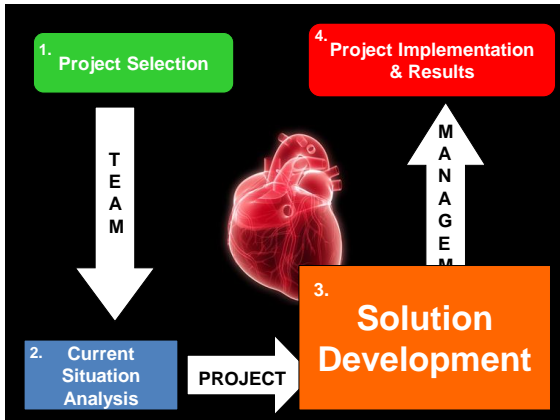


18



### Narrowing the List of Opportunities

Potential Failure Mode	SEV	OCC	DET	RPN	Actions Recommended
Lack of clinical personnel as first contact	8	10	5	400	Change process to Triage Nurse First
Clocks not synced on EKG	5	10	9	450	Sync clocks on a routine basis
Clocks not synced on EKG	5	10	9	450	Sync clocks on a routine basis
Busy	7	7	8	392	Proper triage and rapid identification of critical patients
High census	7	7	8	392	Proper triage and rapid identification of critical patients
Inaccurate history	9	6	6	324	Clinical person as first contact
Poor historian	9	6	6	324	Clinical person as first contact
Inaccurate history	9	6	6	324	Clinical person as first contact
Late diagnosis	10	4	8	320	Rapid identification and interventions of ACS patient through expedited ED process
Mid-diagnosis	10	4	8	320	Change process to Triage Nurse First
Atypical symptoms	10	4	8	320	Change process to Triage Nurse First
Delayed EKG	10	6	5	300	Rapid identification and interventions of ACS patient through expedited ED process



### Solution Development

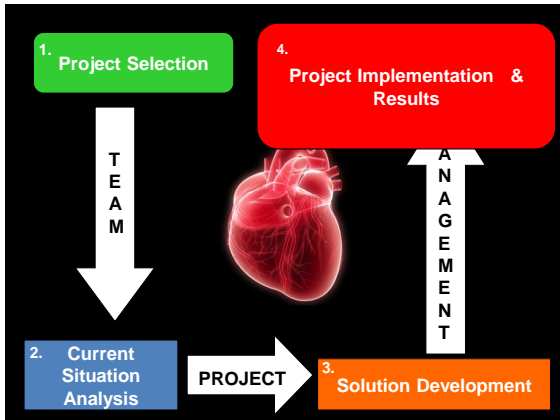
**Grant Application and Recipient:**  
**Simulation for Improved Teamwork in Myocardial Infarction**  
**SIM-FIT MI**  
 An in situ Educational Initiative Tailored to Individual Hospital Needs  
 April 13, 2011  
 Taped and analyzed by  
 The American College of Cardiology

- ### Solution Development
- EMS performs 12 lead EKG and field activates one call process to cath lab for positive STEMI EKG's
  - ED physician and nursing team assesses and stabilizes patient in ambulance for transport to receiving facility
  - Developed similar process for walk in STEMI patients
  - Standardized equipment between all providers
  - Data collection and rapid feedback to everyone involved in the process
  - Collaboration & coordination of resources
  - Mock code event to identify waste in process
  - Training & education for Dispatch, EMS, SMC ED Staff, CRH ED Staff, Cath Lab Staff

## Intended Benefits

- Intended Benefits
  - Tangible
    - Improve door to balloon times
    - Improve patient outcomes
  - Intangible
    - Increase stakeholder satisfaction with transition of care processes
    - Increase engagement of staff in the success of the initiative
    - Look for opportunities to collaborate on other initiatives

## Data Pre-Implementation



## Implementation

Standardized Processes & Procedures

## Implementation

**STEMI TRANSFERS**

**Columbus Regional Hospital**

**ONE CALL: 812-375-3777**

This call connects you directly to ED physician who will accept the transfer immediately

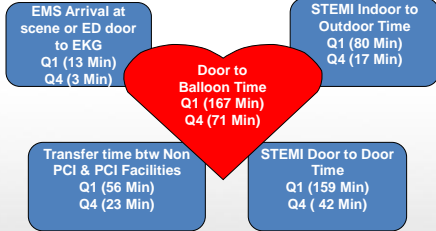
## Implementation

### EMS/ED/Transfer Performance Measures

Description	Benchmark	January	February	March	Q1 Roll-up	April	May	June	Q2 Roll-up
	95%	95%	95%	95%	95%	95%	95%	95%	95%
PT Score Rate Within 48 hours	95%	55	100	15	76	221	96	100	167
PT Score rate within 72 hours	95%	55	100	15	76	221	96	100	167
Door to Door to Hospital	10	38	18	15	20	14	13	17	13
Door to FMC Time	10	24	28	36	31	38	32	32	33
Door to ED Transport Time	5	22	9	7	13	6	7	7	7
EMS arrival to EKG Time	10	N/A	N/A	N/A	N/A	N/A	15	14	15
EMS Time on Scene	10	39	54	69	64	27	26	28	27
Total time with EMS	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	118
EMS contact to PCI	10	7	9	11	9	8	7	5	7
SAC Door to SAC time	10	13	11	11	9	8	7	5	7
EMS identified STEMI in the field	100%	N/A	N/A	N/A	N/A	N/A	100%	100%	100%
Door to Hospital Time	20	43	40	44	36	43	37	36	36
Door to Hospital/Outlet time	40	34	35	35	39	35	37	31	38
Door to Facility time	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SAC, STEMI in door to Door Time	10	N/A	100	87	97	87	87	87	87
STEMI Transfer time between non-PCI/PCI facilities	26	N/A	57	68	65	41	38	25	32
STEMI Door to Door Time (i.e. SAC indoor to PCI indoor)	26	N/A	162	155	150	91	85	85	74
First STEMI EKG to Cath Lab	31	N/A	107	117	121	83	82	61	69
STEMI Door to Balloon Time	30	N/A	142	152	167	127	96	92	100

## Data Post-Implementation

### Faster TAT in every key process



31

## Implementation – Confirmed Benefits

### Intended Benefits

- Tangible
  - Improved door to balloon times
  - Improve patient outcomes
- Intangible
  - Increase stakeholder satisfaction with transition of care processes
  - Increase engagement of staff in the success of the initiative
  - Look for opportunities to collaborate on other initiatives

**62% Improvement**

Door to Balloon Times

32

## Implementation

**Goal:**  
Best in Class Performance

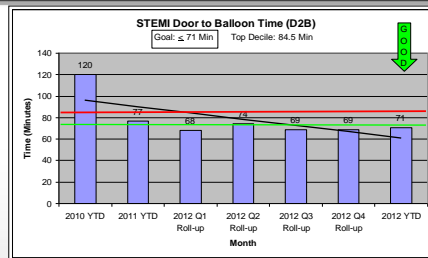
- Door to balloon times under 90 minutes.

### Results

- Door to balloon time **71 minutes (best in class for non-PCI facility)**, out performing hospitals that have a cath lab on site!

33

## Results



34



Thank you for allowing me to share our story of how we have broken down barriers and worked together to put the people of our communities first in everything we do.

Contact information:  
Susie Schnitker RN BSN CEN  
sschnitker@schneckmed.org



35