Back to the Basics in Resuscitation

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Disclosures

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Back to the Basics in Resuscitation


No relevant financial relationship(s) exist

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Objectives

- Utilize resuscitation in situ data to identify performance or knowledge deficits and prompt education and follow up

- Explain how metrics obtained during in situ simulations can be utilized in planning future education interventions

- Understand methods for assembling necessary resources to effectively initiate a metric driven resuscitation program

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Overview of Main Topics

- Performance Analysis
- Planning
- Metrics
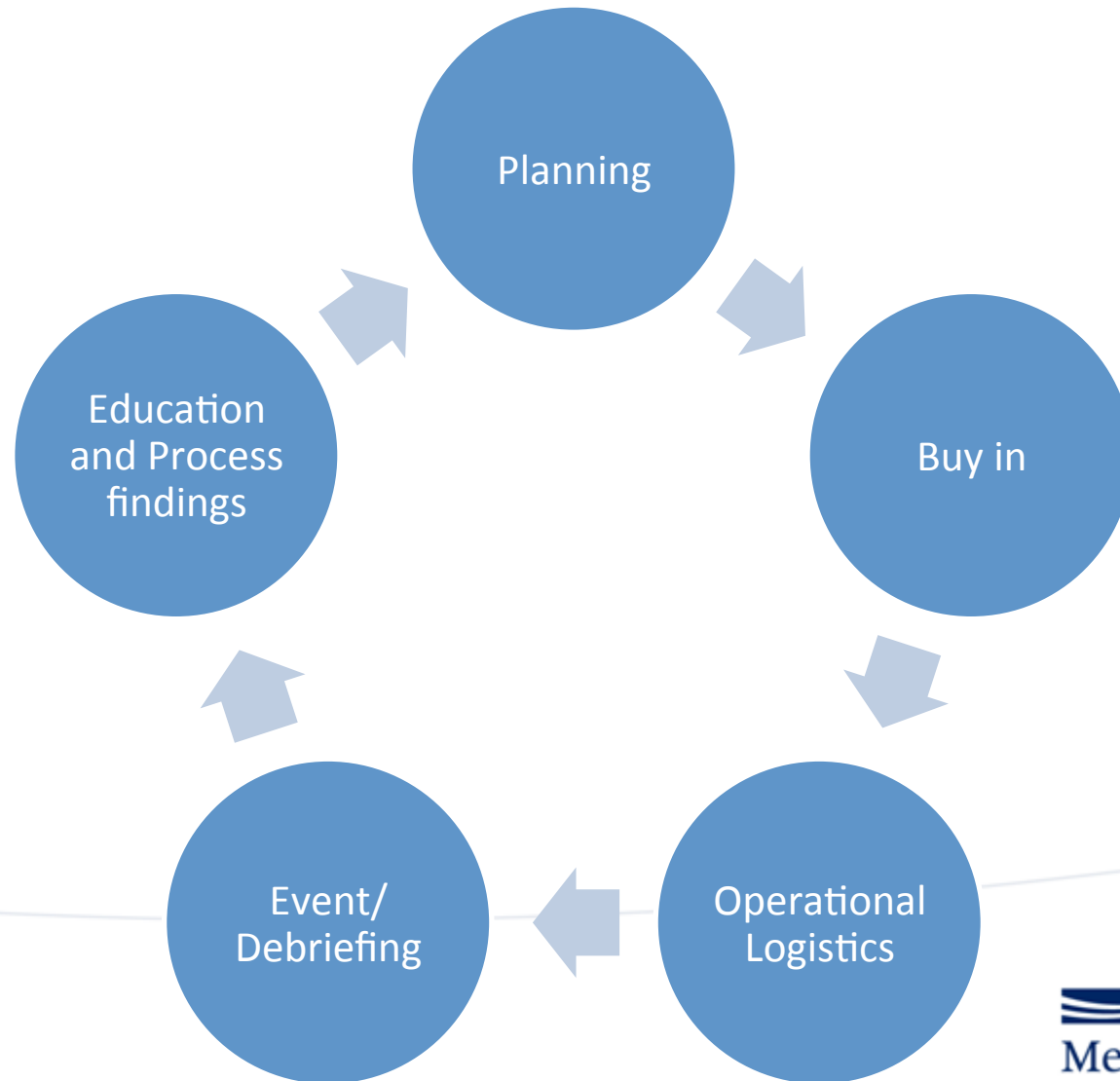- Blended Learning Education

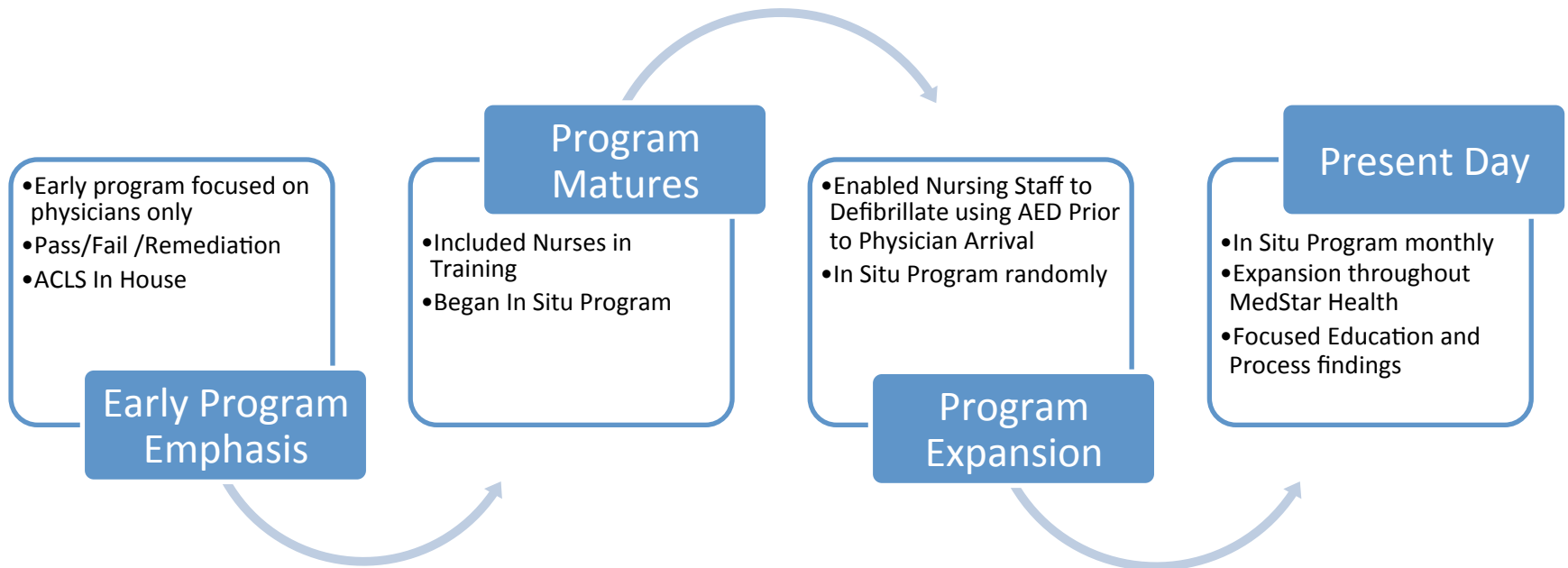MedStar Health
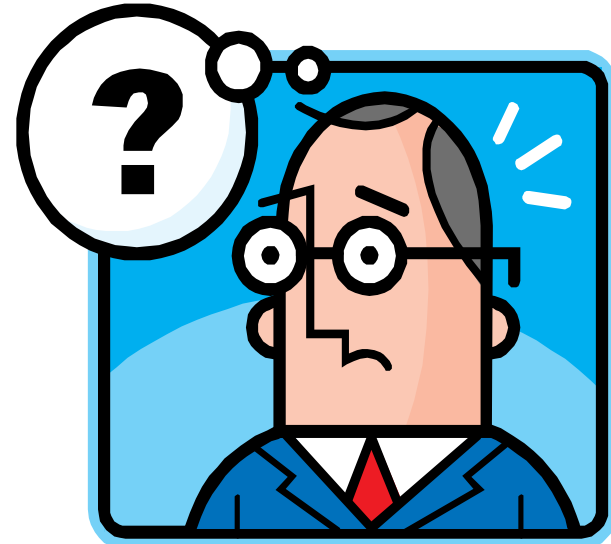
Assessment of Knowledge Gaps

Too much of the current focus of educational research is on the immediate end-of-course performance, which may not be the participiants' performance when they are faced with a resuscitation event months or years later.

The ideal methodology (i.e., instructional design) and frequency of training required to enhance retention of skills and performance in simulated and real resuscitations needs to be determined.

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Simulation Based Code Blue Improvement is a Continuous Process

History and Context

Early Program Emphasis
- Early program focused on physicians only
- Pass/Fail /Remediation
- ACLS In House

Program Matures
- Included Nurses in Training
- Began In Situ Program

Program Expansion
- Enabled Nursing Staff to Defibrillate using AED Prior to Physician Arrival
- In Situ Program randomly

Present Day
- In Situ Program monthly
- Expansion throughout MedStar Health
- Focused Education and Process findings

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Metrics…..Who Needs Them?

- Consider Traditional (KPI) and Alternative Metrics
    - In situ response times
    - Team performance metrics
    - Rapid response metrics
    - Hospital Policies

Hunt, E.A., Fiedor-Hamilton M., Eppich W.: Resuscitation Education: Narrowing the Gap Between Evidence-Based Resuscitation Guidelines and Performance Using Best Educational Practices. *Pediatr Clin N Am* 2008; 1025-1050. (bridging the gap)

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Code Blue Metrics

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Simulation Training
& Education Lab (SiTEL)

MOCK CODE BLUE EVALUATION FORM

Date:		Drill Started:		Drill Completed:		Location:	

Time to Recognition

Call for Help:		Yes ☐	No ☐	Time:	
Code Blue Button Pressed:		Yes ☐	No ☐	Time:	
Overhead Page:		Yes ☐	No ☐	Time:	

Code Blue Team

Healthcare Practitioner	Arrival Time	Identified Themselves	
Code Blue Team		Yes ☐	No ☐
Surgical Team		Yes ☐	No ☐
Clinical Specialist		Yes ☐	No ☐
Respiratory		Yes ☐	No ☐
Anesthesia		Yes ☐	No ☐
Chaplin		Yes ☐	No ☐
Security		Yes ☐	No ☐
Dept. Head/Manager		Yes ☐	No ☐

Code Management

CPR Started					
CPR Stopped					
Code Cart Arrived	Yes ☐ No ☐				
Airway/O2 Established					
Check Rhythm/Confirm Pulse (after CPR)					
Confirm VFib					
Defib Arrived					
Defib Hooked Up and/or Defib Patches Applied					
Defib at Correct Setting (120J, 150J, 200J)					
Intubation					
Consider IV Access (if no IV)					
Epinephrine Administered					
Antidysrhythmics Admnistered	Amio ☐ Lido ☐ Mag ☐				

S.A.F.E. Questions?

Did anyone feel that something incorrect or unsafe occurred?	Yes ☐ No ☐
Were safety critical tasks checked by a another team member?	Yes ☐ No ☐
Was SBAR format utilized for any information exchange?	Yes ☐ No ☐
Were there any opportunities to ask clarifying questions during the scenario?	Yes ☐ No ☐
Were any communications difficult to understand and if so, were they repeated/re-issued to clarify?	Yes ☐ No ☐
What issues were not communicated/were unknown to the team that if known could have influenced the outcome?	Meds ☐ Defib ☐ PT Info ☐
If a mistake or error was made, was there an opportunity to recover?	Yes ☐ No ☐

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Findings

- **Educational Findings**

- **Process Findings**

Performance issues
- Communication
- Lack of knowledge sharing
- Afraid to ask for help

- Delays in Defibrillation
- Lack of device knowledge

- Delays in team arrival due to paging delays

- Lack of process/algorithm knowledge
- Fewer opportunities to practice

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Education and Process findings

Institution: MedStar Montgomery Medical Center
Dates of Training: April 12, 2016

Educational Findings	Recommendations	BARRIERS/CHALLENGES
Lack of LP 20 knowledge	1. Implement LP 20 education during unit specific first 5's 2. LP 20 set up with half body and rhythm generator for practice	1. MMMC resources 2. Availability to schedule and conduct unit specific education
Lack of code team member identification at unit specific level	1. Review the CB policy for specific role delineation of code team 2. Unit specific members review code blue team policy 3. Reinforce code team roles during first 5's	1. MMMC resources 2. Availability to schedule and conduct unit specific education
Lack of team communication	1. Practice team communication in first 5's and in situ CB	1. MMMC resources 2. Availability to schedule and conduct education
Inability to properly open CB cart	-Practice opening code cart in first 5's - Practice opening code cart in skills stations - Practice opening code cart during in situ training	1. MMMC resources 2. Availability to schedule and conduct unit specific education

Process Findings	Recommendations	BARRIERS/CHALLENGES
Overhead pages not being able to be heard in rooms	Notify Dot and Kiersten for follow up	
Code pages, delay in notification	Notify Dot and Kiersten for follow up	
Code Blue policy not followed	Review of code blue policy for role delineation and accuracy prior to implementing code blue education	

Code Blue Recommendations

Code Blue Recommendations

Institution: MedStar Montgomery Medical Center
Dates of Training: 4/12/2016

Next Steps	Objective	Outcomes	BARRIERS/CHALLENGES
Unit based education (monthly) -First fours -LP 20 Mary and Cheryl to discuss with Dot creation of checklist for LP 20 use	1. Learner will perform effective CPR 2. Learner will identify team roles and responsibilities 3. Learner will accurately utilize to defibrillator	1. Learners will describe the importance of roles in a code blue and the positioning around the bed 2. Learners will demonstrate the functionality of the LP 20	1. Logistics 2. Allocating resources
Review of the MMMC Code Blue Policy	1. Identify if unit based and code team based roles are clearly delineated in the policy	1. Role Specific Identification -Unit Level -Code Team 2. Code Team at MMMC will evaluation CB policy for accuracy	1. Obtaining buy in to make changes 2. Allocating time to review policy
Monthly Code Blue events	1. Assess improvements in code team communication 2. Assess improvements in LP 20 use 3. Assess improvements in roles of the code team 4. Assess improvements in first five response	See above	1. Time and resource allocation

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Refocused our Education Efforts

- Code Blue events

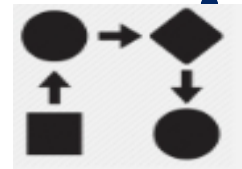- Serious games and applications

- Skills Practice and first four training

- In Situ "mock" code blues with debrief

- Defibrillator Task Trainer Application

- Reinforce process steps with mnemonics, simulation

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In Situ Mock Code Blue

Issues in Mock Code Blues

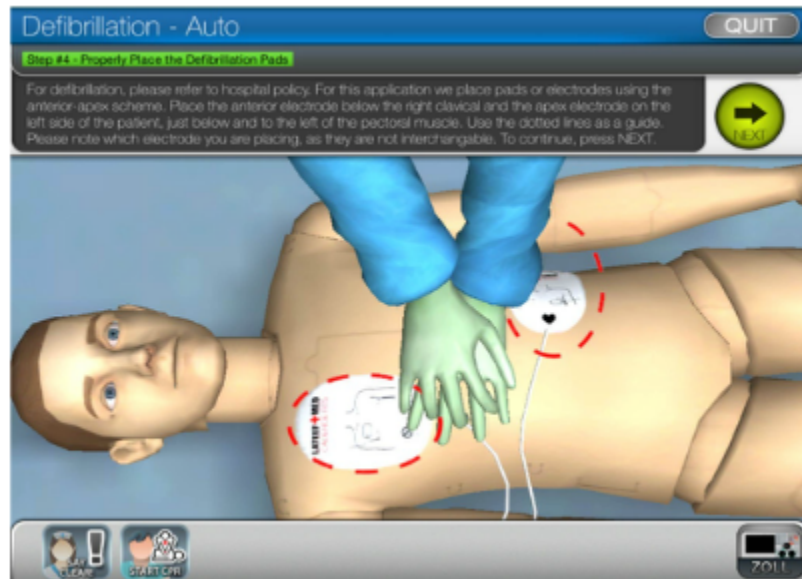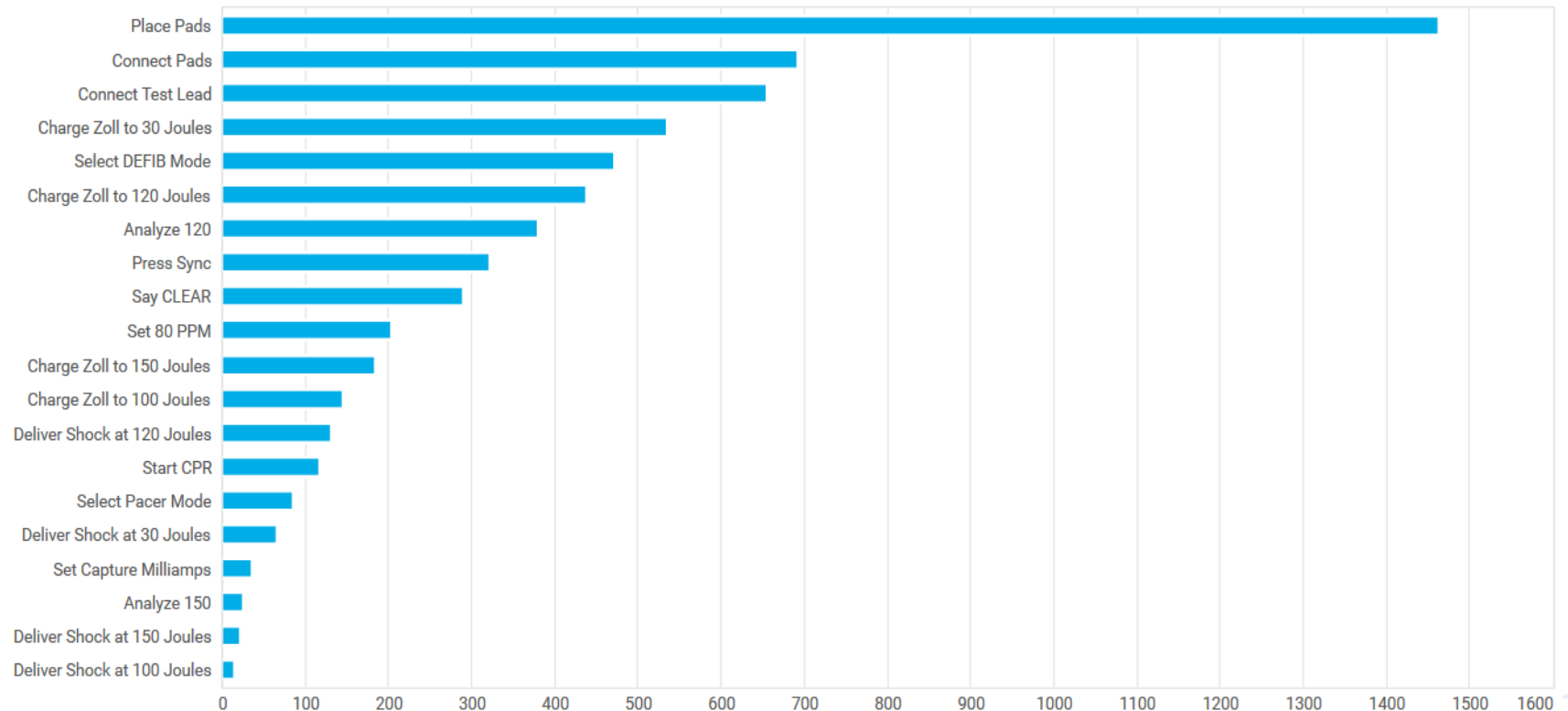| Issue	Value
DEFIB - Didn't understand user interface	39
CPR Board not used	37
COMM - Roles were not clearly identified	36
COMM - Lack of closed loop communication	31
COOR - Poor positioning around bed	19
DEFIB - Could not accurately assess rhythm	19
COOR - Incorrect lowering/positioning of bed	17
COMM - No leader identified	14
TEAM - Required personnel not on site	14
DEFIB - Pads not plugged in correctly	13
CODE CART - Could not locate supplies	11
MED - No IV access when needed	9
CODE CART - delayed arrival	6
DEFIB - Wrong mode was used	5
ERR - Corrective actions were taken due to mistake	4
CODE CART - Could not break lock	3
CODE CART - Didn't understand how to open	3
DEFIB - Incorrect pad placement	3

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Defibrillator task trainer application

Errors in Defibrillator App Scenarios
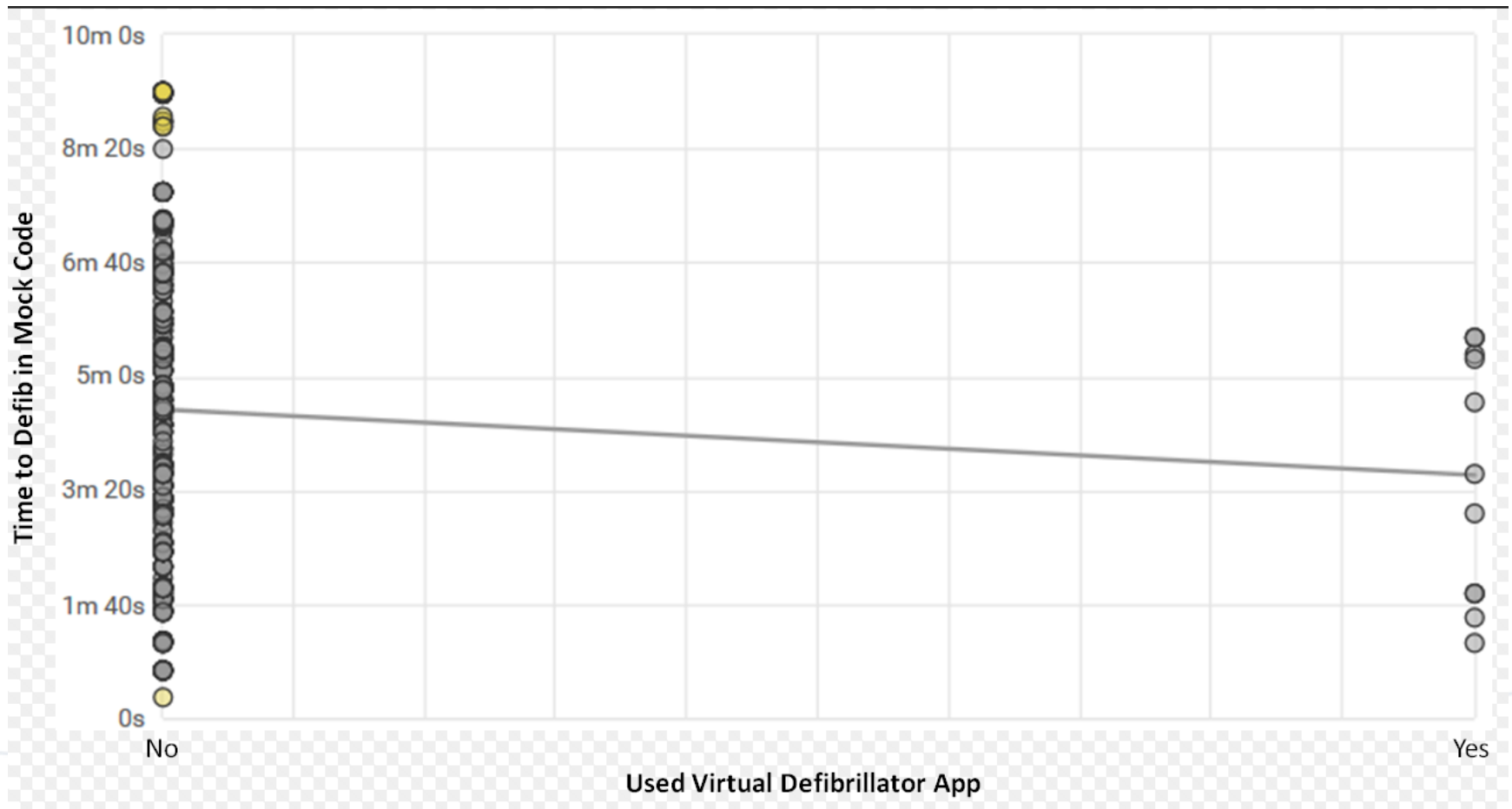
Focused Education

First 4 Curriculum

- Demonstrate immediate recognition of a cardiac arrest and respond
- Activate the emergency response system
- Demonstrate effective compression rate and depth
- Demonstrate rapid and appropriate use of the Defibrillator
- Demonstrate use of effective communication techniques
- Describe an increased confidence level in responding to Code Blue events
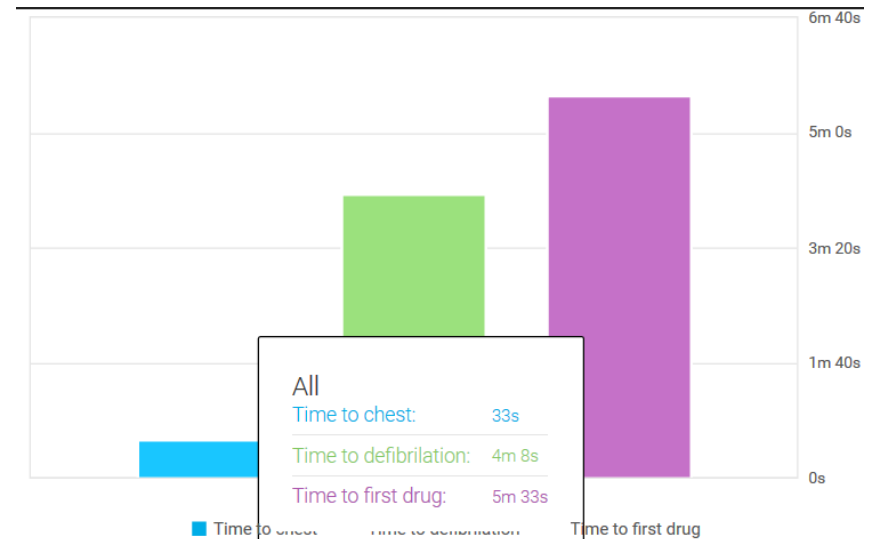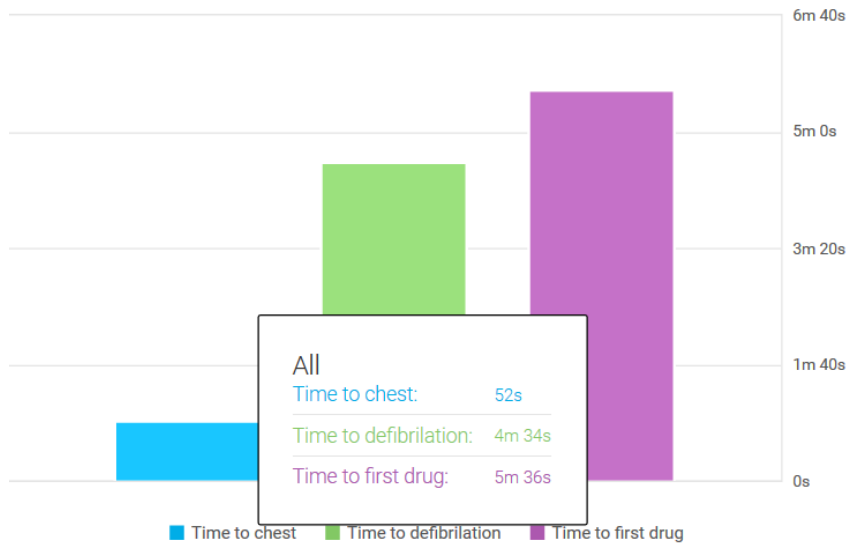
Skills Assessment & Hands on reinforcement

- Airway Management
- Vascular Access
- Dysrhythmia Overview
- CPR Competency

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Did it work?

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Time to Defibrillation Indicator

Key Performance Indicators

All
Time to chest: 52s
Time to defibrilation: 4m 34s
Time to first drug: 5m 36s

■ Time to chest ■ Time to defibrilation ■ Time to first drug

All
Time to chest: 33s
Time to defibrilation: 4m 8s
Time to first drug: 5m 33s

■ Time to chest Time to defibrilation Time to first drug

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Planning/Buy In

- Discussion with Leadership on:
  - KPI overview
  - Situational awareness
  - Need for financial support
  - Communication to unit leaders on importance of attendance
  - Expansion of the program and offerings

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Summary

- Education programs are iterative not static
- Engage stakeholders early and often
- Be thoughtful when choosing metrics
- QA/QI of Metrics can guide your program

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Discussion

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References

1. Hunt, E.A., Fiedor-Hamilton M., Eppich W.: Resuscitation Education: Narrowing the Gap Between Evidence-Based Resuscitation Guidelines and Performance Using Best Educational Practices. *Pediatr Clin N Am* 2008; 1025-1050. (bridging the gap)

2. American Heart Association. (2010). *Highlights of the 2010 American Heart Association Guidelines for CPS and ECC.* Retrieved from http://www.heart.org/idc/groups/heart-public/@wcm/@ecc/documents/downloadable/ucm_317350.pdf

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