Back to the Basics in Resuscitation

Cheryl Camacho, BS, NRP
Kia Paige, LPN
Disclosures

Cheryl Camacho
Kia Paige

Back to the Basics in Resuscitation

No relevant financial relationship(s) exist
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
Overview of Main Topics

- Performance Analysis
- Planning
- Metrics
- Blended Learning Education
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 participants’ 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.
Simulation Based Code Blue Improvement is a Continuous Process

1. Planning
2. Operational Logistics
3. Event/Debriefing
4. Education and Process findings
5. Buy in
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
Metrics…..Who Needs Them?

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

# Code Blue Metrics

## MOCK CODE BLUE EVALUATION FORM

<table>
<thead>
<tr>
<th>Date:</th>
<th>Drill Started</th>
<th>Drill Completed</th>
<th>Location:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time to Recognition:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Call for Help:</td>
<td>Yes □ No □</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code Blue Button Pressed:</td>
<td>Yes □ No □</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overhead Page:</td>
<td>Yes □ No □</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Healthcare Practitioner

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Code Blue Team</td>
<td>Yes □ No □</td>
<td></td>
</tr>
<tr>
<td>Surgical Team</td>
<td>Yes □ No □</td>
<td></td>
</tr>
<tr>
<td>Clinical Specialist</td>
<td>Yes □ No □</td>
<td></td>
</tr>
<tr>
<td>Respiratory</td>
<td>Yes □ No □</td>
<td></td>
</tr>
<tr>
<td>Anesthesia</td>
<td>Yes □ No □</td>
<td></td>
</tr>
<tr>
<td>Chaplin</td>
<td>Yes □ No □</td>
<td></td>
</tr>
<tr>
<td>Security</td>
<td>Yes □ No □</td>
<td></td>
</tr>
<tr>
<td>Dept. Head/Manager</td>
<td>Yes □ No □</td>
<td></td>
</tr>
</tbody>
</table>

### Code Management

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CPR Started</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPR Stopped</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code Cart Arrived</td>
<td>Yes □ No □</td>
<td></td>
</tr>
<tr>
<td>Airway/O2 Established</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check Rhythm/Confirm Pulse (after CPR)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confirm VFib</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defib Arrived</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defib Hooked Up and/or Defib Patches Applied</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defib at Correct Setting (120J, 150J, 200J)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intubation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consider IV Access (if no IV)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epinephrine Administered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antidysrhythmics Administered</td>
<td>Amio □ Lido □ Mag □</td>
<td></td>
</tr>
</tbody>
</table>

### S.A.F.E. Questions?

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

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

<table>
<thead>
<tr>
<th>Educational Findings</th>
<th>Recommendations</th>
<th>BARRIERS/CHALLENGES</th>
</tr>
</thead>
</table>
| 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 |

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

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

<table>
<thead>
<tr>
<th>Next Steps</th>
<th>Objective</th>
<th>Outcomes</th>
<th>BARRIERS/CHALLENGES</th>
</tr>
</thead>
</table>
| 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 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 |
Refocused our Education Efforts

- Code Blue events
- In Situ “mock” code blues with debrief
- Serious games and applications
- Defibrillator Task Trainer Application
- Skills Practice and first four training
- Reinforce process steps with mnemonics, simulation
In Situ Mock Code Blue
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
Did it work?
Time to Defibrillation Indicator

![Graph showing the relationship between time to defibrillation and whether or not a virtual defibrillator app was used. The x-axis represents whether the app was used (No or Yes), and the y-axis represents time to defibrillation in seconds (0s, 1m 40s, 3m 20s, 5m 0s, 6m 40s, 8m 20s, 10m 0s). The data points suggest a trend towards longer times as the app was not used.]
Key Performance Indicators

- Time to chest: 52s
- Time to defibrillation: 4m 34s
- Time to first drug: 5m 36s

- Time to chest: 33s
- Time to defibrillation: 4m 8s
- Time to first drug: 5m 33s
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
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
Discussion

Cheryl Camacho, BS, NRP  Cheryl.Camacho@email.sitel.org
@cheryl3391

Kia Paige, LPN  Kia.Paige@email.sitel.org
References

