Pharmacist participation on adult code blue teams: a quality improvement initiative

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Background

Pharmacist participation on resuscitation teams is considered by the American Society of Health System Pharmacists to be a service that hospital pharmacy departments should provide[1]

Benefits of pharmacist participation on resuscitation teams[2-3]
- Increase compliance with ACLS algorithms
- Decrease in mortality

Boston Medical Center
- 450 bed academic medical center
- >24,000 admission per year
- ~50 full-time inpatient and emergency department pharmacists
- Currently pharmacists only attend adult respiratory and cardiac arrests in the intensive care units and emergency department
- This project will expand pharmacist participation to include floor codes

Model for Improvement

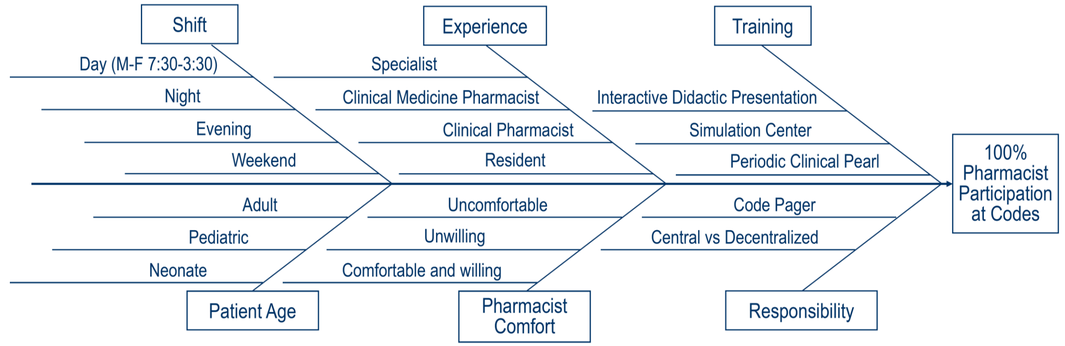
Aim
- Our aim is to increase pharmacist participation on inpatient adult code blue teams to 100% by June 30, 2017

Metrics
- Outcome
  - Percentage of adult inpatient respiratory and cardiac arrests with pharmacist participation
- Process
  - Pharmacist utilization of appropriate documentation of code attendance, interventions, and time spent

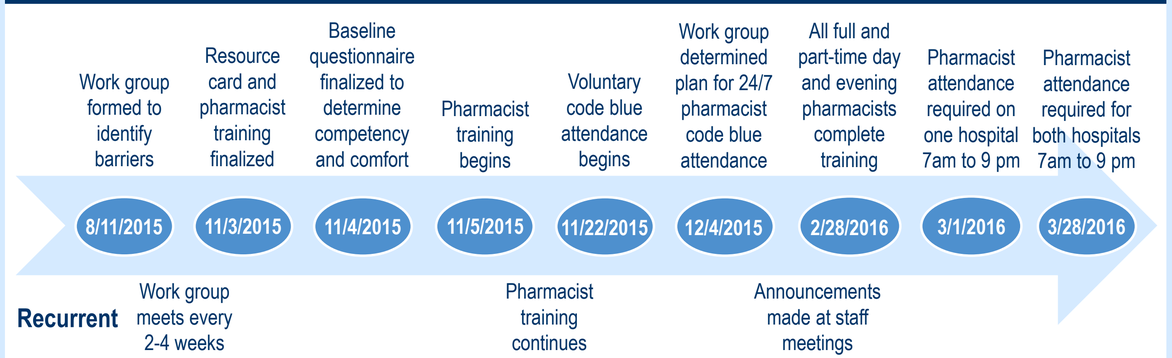
Secondary Aim
- Our aim is to have 100% of full-time pharmacists complete training by June 30, 2016

Metrics
- Outcome
  - Percentage of pharmacists attending training
- Process
  - Pharmacist comfort and competence level prior to and after completing training

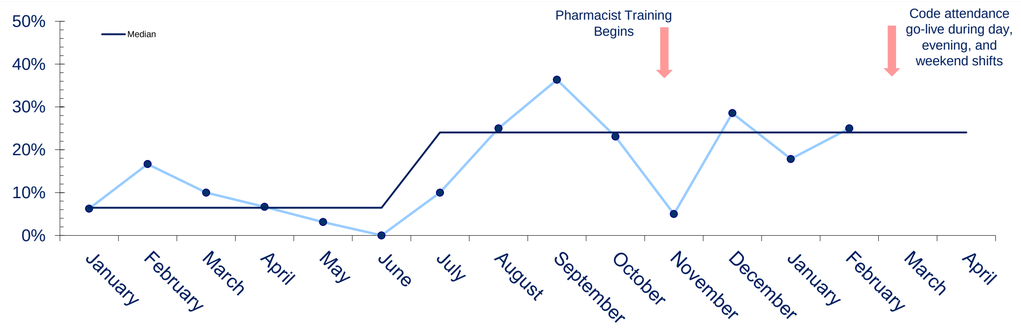
Cause and Effect Diagram



Timeline



Percentage of Pharmacist Participation at Adult Code Blue 2015 – 2016



Baseline Data

Competency (n = 38)	**Pre-score**^	**Post-score**^
Which medication is usually administered first?	97	100
What agent is used to reverse an opioid overdose?	100	100
What medication is the primary antiarrhythmic for pulseless ventricular tachycardia or ventricular fibrillation?	95	100
Which agent is used to treat acidosis?	100	100
Which medications need to be labeled prior to being handed to a nurse?	76	86
How often can epinephrine be administered?	97	100

^percentage of pharmacists answering question correctly

Confidence (n= 38)	**Pre-score**^	**Post-score**^
Drawing up medications	3.2	4.0*
Anticipating needed medications prior to prescriber ordering	2.4	3.8*
Locating the code tray	3.5	4.4*
Labeling medications	3.4	4.4*
Communicating information	2.9	3.9*
Obtaining additional medications	2.9	4*
Mean confidence score	3.1	4.1*

^mean score rated on a scale 1-5 from least to most comfortable
*statistically significant improvement

Conclusion

- Completing both a didactic and hands-on training program improved pharmacists' comfort level.
- Determining which pharmacists were responsible for attending specific codes has improved accountability for code blue response.
- Next steps include expanding code blue attendance to include the overnight pharmacists.

References

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3. Bond C, Raehl C. Clinical Pharmacy Services, Pharmacy Staffing, and Hospital Mortality Rates. Pharmacotherapy. 2007;27(4):481-93
4. Marlowe K, Woods D. Evaluating a Training Program for Pharmacist Code Blue Response. Hospital Pharmacy. 2005;40(1):49-53

Disclosure

All authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.

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