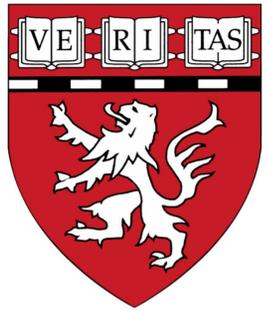




Implementation of an RFID Tracking System to Capture Trauma Attending Arrival Times in the Emergency Department



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INTRODUCTION

- Level 1 trauma centers must meet specific criteria for American College of Surgeons (ACS) Committee on Trauma (COT) validation
- Trauma surgery attending must be in the Emergency Department (ED) within 15 minutes of a trauma activation
- All Level 1 trauma centers must demonstrate compliance with this criteria at least 80% of the time.
- An audit of Q4 2016 activations (n=66) revealed a 69.6% compliance rate.

OBJECTIVE

- To pilot and implement a sustainable, objective system for measuring trauma team compliance with ACS COT guidelines.

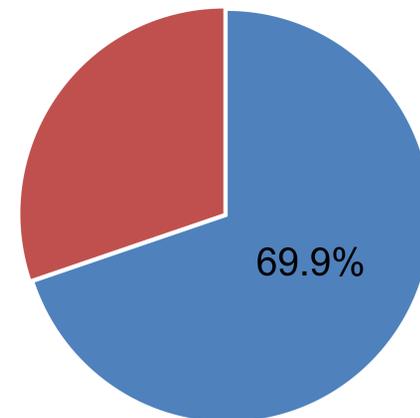
METHODS

- Radio Frequency Identification (RFID) beacons were placed outside the ambulance entrance and trauma bays of the Brigham and Women's ED.
- During pilot, 3 RFID badges were shared by 11 BWH trauma surgeons.

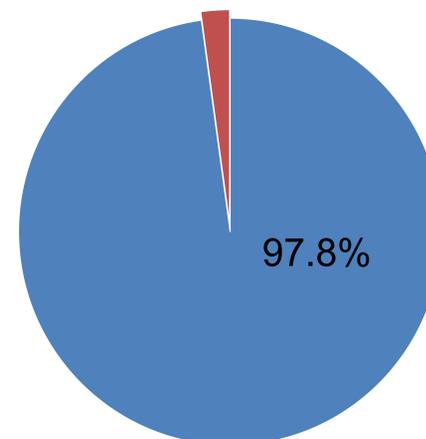
- Amount of time between trauma team activation and surgeon arrival calculated
- Surgical residents' documentation of trauma surgeon arrival time was used as control data
- Pilot data for RFID activations collected from March 27th, 2017-June 31, 2017

RESULTS

Q4 2016 Baseline Audit Data



Pilot testing RFID activation for surgeon attendance



RESULTS

- N = 57 total code trauma activations
- Documentation of trauma surgeon attendance by surgical residents was completed 91.2% (n=52) of the time.
- Trauma faculty wore an RFID badge 80.7% of the time (n=46).
- Trauma surgeon attendance at resuscitation was in compliance of the 15 minute window 97.8% (n=45).
- No RFID data was recorded for remaining 19.3% (n=11)
- 100% of RFID noncompliance was due to absence of badge for various reasons, none were due to system malfunction

CONCLUSION

- Triangulating trauma surgeon location in the ED using RFID technology is a cost effective and sustainable system to maintain ACS COT validation for level 1 trauma centers.
- Findings warrant further study with increased RFID distribution amongst the trauma surgeons at Brigham and Women's Hospital.