Background

Our quality improvement project sought to identify how often our institution delivered defibrillation to patients who experience VFib/pVTach within 2 minutes.

Methods

- Quantitative analysis
  - Our institution’s code blue data was obtained from January 2018 to September 2019. Approximately 360 code events were reviewed to isolate 26 VFib/pVTach cardiac arrests. Time to defibrillation was calculated by identifying the interval from time to recognition of VFib/pVTach arrest to time of delivery of the first shock.

- Root cause analysis
  - Done through a 2 question survey

Results

- 27% of VFib/pVTach arrests were defibrillated within the recommended 2-minute interval. 75% of patients did not receive any shock for a shockable rhythm despite being in cardiac arrest longer than 2 minutes. The average time to defibrillation was 2 minutes and 33 seconds.

- 100 responses (22% RN in ICU, 9% RN on telemetry, 13% RN on med/surg, 21% residents, 11% interns, 21% residents, 11% RTs, 14% Hospitalist TJUH, 3% Hospitalists at JHN)

Problem Identification

Our quality improvement project sought to identify how often our institution delivered defibrillation to patients who experience VFib/pVTach within 2 minutes.

Aims for Improvement

- Improve average time to defibrillation after VFib/pVTach cardiac arrest to < 2 minutes within an 8 month interval at TJUH and JHN.
- Improve the percent of VFib/pVTach cardiac arrests that are defibrillated within the recommended 2 minute interval by 30% at TJUH/JHN within an 8 month interval

Proposed Intervention

- Code blue event recording changed from a paper record system to a phone application which will automate a code blue event record that will be emailed to code blue data keeper.
- Reinforcement of post-code debriefing such that when code record is emailed to code blue data keeper, recorder is prompted to list 3 areas of improvement that can be identified by the resuscitative team.
- Utilization of Zoll defibrillator data to analyze resuscitation parameters and incorporate results into simulation sessions to further improve resuscitation efforts

Implementation Plan

Implementation team: Dr. Yair Lev in the Department of Cardiology, Internal Medicine Residents, Nursing at TJUH and JHN, Code Blue Committee.

Measurement Strategy

Outcome measure

- Average time to defibrillation after in hospital VFib/pVTach cardiac arrest between 9/1/2020 to 3/15/2021
- Percent of in hospital VFib/pVTach arrests defibrillated within the recommended 2-minute interval during the above defined time period.

Process measure

- Percentage of cardiac arrests due to VFib/pVTach are not declining (given overwhelming number of COVID admissions, PEA contributing more to cardiac arrests than VFib/pVTach).