Background
In-hospital cardiac arrest (IHCA) is a life-threatening emergency affecting over 10,000 children in the US annually. Survival of cardiac arrest is correlated with resuscitation team performance and adherence to evidence-based resuscitation algorithms. Despite the importance of accurate and timely delivery of life-saving interventions, deviations and errors occur in many resuscitations, especially in inpatient areas of the hospital where cardiac arrest is a low frequency event. Simulation opportunities for healthcare professionals to practice life-saving skills could prevent delays and deviations in the essential elements of pediatric resuscitation.

One of the most critical times of code performance is during the initial resuscitation, prior to the code team arrival. This study evaluated the impact of an in-situ simulation intervention, named 1st Five Minute Drills, on team performance in the initial stages of resuscitation.

Methods
This was a single-center prospective interventional quality improvement project implemented designed to improve resuscitation team performance through repeated exposure to brief, in-situ simulations. Code team performance of resuscitation skills and adherence to evidence-based algorithms were observed and scored using the Clinical Performance Tool (CPT). A linear regression model measured the means of mean CPT scores over 3 time periods. A t statistic was used to evaluate for statistical significance of the increased scores over time.

Results
Nine 1st Five Minute Drills were conducted and included fifty-four participants of various disciplines. Scoring of the VT scenario via a modified CPT tool at various timepoints during the study demonstrate a statistically significant (p=0.013) 35% improvement in code team performance.

Conclusion
The implementation of 1st Five Minutes Drills resulted in improved simulation resuscitation team performance. This low-cost, high-yield intervention that is generalizable to other departments and hospitals. Next steps will include emphasis on sustainability with development of additional scenarios and further evaluation of compliance with AHA algorithms during actual patient resuscitations.

Keywords: Resuscitation, Simulation, Pediatric, Quality Improvement