

Improving Capture of Care Complexity on a Pediatric Acute Care Cardiology Unit J. Hansen MD, E. Clark CPC, CDEO, C. Goldberg MD, MS, S. Pasquali MD, MHS, C. Strohacker MD Division of Cardiology, Department of Pediatrics, C.S. Mott Children's Hospital

## Purpose

## Background

Patient acuity and associated care complexity can vary widely across pediatric patients cared for on the acute care cardiology or stepdown unit. Documenting these factors significantly impacts coding and billing and hence professional revenue capture. There are many barriers including physician knowledge of complex billing rules, physician workload, and limited communication and collaboration between coding and physician teams. After conducting external benchmarking demonstrating under-coding of high acuity patients on our unit, we designed and implemented a QI project to address these barriers. Our global aim was to enhance overall revenue through appropriate capture of acuity and level of care.



## **QI** Methodology

Using the Model for Improvement methodology, we identified key drivers of change and implemented Plan-Do-Study-Act cycles starting with N=1 trials and ramping to unit-wide tests. Our efforts focused on enhanced collaboration and communication between physician and coding teams including bidirectional education efforts, IT solutions including electronic medical record (EMR)-based tools (Figure 2) to maximize efficiency, and real-time physician support and case review from a coder with domain expertise in pediatric cardiac care.



## **Outcome Measures**

Our primary outcome metric was relative value units (RVUs)/patient hospital day. Our primary balance measure was concordance between physician selected level of service vs. coder review. All materials were reviewed and approved by institutional revenue cycle and compliance departments. A run chart was used to analyze change over time in the pre- (18) months) vs. post- (12 months) intervention period.

# **Project Design**

## **Results and Conclusion**

### Results

6465 patient days were analyzed from June 1 2021 to May 31 2022. The pre-intervention baseline was 1.4 RVUs/patient day. In the first month post-intervention, RVUs/patient day increased beyond the 3-sigma control limits indicating a significant change. Through 12 months of intervention, RVUs/patient day increased by 57% to 2.2 RVUs/patient day (Figure 3) with a 441% increase in intensive care and 379% increase in critical care billing, and >\$500,000 overall in excess revenue (Figure 4). The most common discordance between physician and expert coding review remains under-coding by the physician.



system that is abruptly changed coinciding with the intervention period.





### pre to post intervention

Conclusion

Using Model for Improvement methods and a multifaceted approach including enhanced education, collaboration & communication, and EMR-based IT solutions, our intervention was successful in enhancing appropriate capture of acuity and downstream revenue on the acute care unit. Ongoing efforts are utilizing similar methods across other areas of the heart center.