INSTITUTING **PRO-ACTIVE MULTI-DISCIPLINARY RISK MITIGATION TO IMPROVE OUTCOMES AND TEAM DYNAMICS** IN A PEDIATRIC HEART PROGRAM

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**BACKGROUND**

- Complex pediatric cardiac patients are at high risk for poor outcome after cardiac procedures
- Serious event and mortality rates for these complex patients at Nationwide Children’s Hospital, though improving, were higher than desired.
- During high acuity situations and events, communication and teamwork are fundamental to successful outcomes but can be challenging. We noted a breakdown in teamwork and development of a non-collaborative culture amongst our team members.
- Pro-active mitigation (called “Safety II”) has been shown to decrease safety events and improve reliability.

**OBJECTIVES**

- **Primary** - Improve outcomes in cardiac patients at high risk for post-procedure morbidity/mortality
- **Secondary** - Improve communication, teamwork and culture in our Heart Center

**DEVELOPING AN INTERVENTION**

- Pre-procedure planning for every patient includes a formal multi-disciplinary case review. Post-procedure care, however, is typically provided by a smaller group and may be limited to the input of as few as one or two physicians.

**INTERVENTION/ WORK TO DATE**

- The Heart Center (HC) PROMISE program:
  - **PRO-active Mitigation to decrease Serious adverse Events**
  - Scheduled multi-disciplinary consultative review in pre-identified high-risk patients
  - Virtual platform at 4 timepoints pre-procedure and post-procedure
  - Brief discussion: patient and procedural risks, pro-active mitigation plan, guidelines for invasive interventions, planned follow-up
  - Required participants: HC leadership, cardiac surgeon, cardiac ICU physician, cardiac anesthesiologist, interventionalist, imager
  - Key elements of call developed
  - EMR (EPIC) document template created to facilitate documentation and communication with front line providers
  - Multi-disciplinary work group established to review data, assess results and provide input for modifications

**OUTCOMES**

- Initial patient enrolled July 2020; 35+ patients enrolled to date
- Outstanding participation by team, with typical attendance by >15 physicians plus additional “listeners”
- Process measures: appropriate patient enrollment, diagnosis, completion and content of calls, documentation of calls
- Outcome measures: mortality, morbidities (eg cardiac arrest, unplanned procedure), culture/communication

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**NEXT STEPS**

- Ongoing tracking of process/outcome measures
- Creation of EPIC “Flag” for rapid communication
- Dissemination to other programs nationally

**REFERENCES**

1. Merandi J, Safety II Behavior in a Pediatric Intensive Care Unit, Pediatrics 2018
2. Provan DJ. Safety II professionals: How resilience engineering can transform safety. Reliability Engineering and System Safety, 2019

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