Decreasing Cardiac Arrests in the Pediatric Intensive Care Unit

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Cardiac arrest (CA) occurs in 1.4-2.2% of PICU admissions, and up to 55% of patients do not survive after CA. Cardiac admissions to the PICU have higher risk.

In 2016 and 2017, CMH PICU CA increased.

High-risk cardiac patients targeted for CAP bundle inclusion include:
1. Neonates undergoing cardiopulmonary bypass for repair of congenital heart disease
2. Neonates/infants undergoing surgery involving a shunt or pulmonary artery banding
3. Patients with cardiac disease who are intubated within 4 hours of PICU admission
4. Any other cardiac patient deemed high-risk by the team

Outcome Measurements

- **Primary outcome**: CA events/1000 patient days in all PICU, non-cardiac, and cardiac patients
- **Process measures**: Weekly audit of bundle-eligible patients and bundle compliance

Balancing measures: Length of mechanical ventilation and total PICU days

**Background**
Cardiac arrest (CA) occurs in 1.4-2.2% of PICU admissions, and up to 55% of patients do not survive after CA. Cardiac admissions to the PICU have higher risk.

**Cardiac Patient Interventions**

- **PICU Cardiac Patient CAP bundle**
  1. Bedside safety huddle twice daily
  2. Discussion of vital sign ranges and ensuring ranges are programmed into the bedside monitor
  3. Discussion of interventions for noxious stimuli
  4. Discussion of bedside code medications
  5. Timely multidisciplinary review of CA events

**Patient Population**
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**Project Aims**

1. Develop CAP bundle for cardiac PICU patients
2. Decrease cardiac patient CA events by 25%
3. Develop a multidisciplinary review process for all PICU CA
4. Develop a bundle specific to non-cardiac PICU patients after evaluation of CA events

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