

Improving Pediatric Rapid Response Teams: Initial Data Tracking and Perception Survey

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Scope: Effective rapid response teams (RRT) improve inpatient pediatric care by identifying early clinical deterioration and escalating care. This complex process has not been studied locally. Goals: To 1) establish a procedure to prospectively track rapid response (RR) events, 2) review inpatient pediatric cardiac arrests occurring outside the ICU to determine preventability, and 3) survey clinical staff about their experiences with the RRT process. Methods: Mixed methods with 1) building a prospective cohort database of RR to determine rate of initial RR, repeat RR, ICU transfers, RR called within 12 hours of hospital admission or transfer from an ICU, clinical deterioration events (CDE), and emergency transfers (ET); 2) performing a retrospective cross-sectional review of pediatric cardiac arrest outside of the ICU to determine preventability, and 3) qualitatively surveying staff with an open-ended questionnaire to determine strengths, weaknesses, and barriers to calling a RR. Findings: RR were prospectively tracked for February and March of 2025 with a mean of 15.5 initial RR/month, 3.5 repeat RR/month, and a total ICU transfer rate of 52%. Of these, 27% were recent hospital admissions but 0% were recent ICU transfers. Of the transfers, 63% met CDE criteria, mostly due to requiring non-invasive positive pressure ventilation, but 0% met ET criteria. Pediatric arrest review of 2021-2024 revealed 5 inpatient events outside the ICU. Two cases (40%, 0.5/year) were found to be possibly preventable with signs of clinical deterioration with enough time to call the RRT and initiate ICU transfer prior to arrest, and 4 (80%) had primary cardiac diagnoses. The survey received responses from nurses, physicians, and respiratory therapists (n=30, 12, and 3, respectively). Participants appreciated the fast response of the RRT, as well as the number of people and the helpful information it supplied. Communication, staff arriving at different times, and unclear role designations were seen as areas for improvement. Identified barriers to calling a RR included fear, nurse-physician disagreement, and lack of knowledge. Significance: Several new initiatives were developed to track RR occurrences and outcomes, determine pediatric arrest preventability, and further understand staff experiences with RR events. The high CDE rate with no ET suggests appropriate escalation of care for a high acuity population during the respiratory season, and the infrequent rate of RRT-preventable arrests outside the ICU suggests appropriate RRT use. This baseline will aid in quality improvement as changes are made to the RRT process in the future. The survey completed by staff identified improving communication and reducing fear as areas for future improvement.