IMPROVING SAFETY IN THE OR: AN INTRAOPERATIVE IMPROVEMENT INITIATIVE IN PEDIATRIC CARDIAC SURGERY

i2 Poster Contributions
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Background: Cardiac surgical procedures, by nature, are complex, in part related to the requisite multi-disciplinary involvement. This creates a milieu for potential near misses that may be the substrate for subsequent morbidity or mortality. In an attempt to create the “safest” operating room, we began an initiative directed at studying all events occurring in a single cardiac operating room and the contributing system factors.

Methods: Over a 3-month period we began to record any event occurring in our operating room that was not desired or anticipated. At the end of this 3-month trial, recurrent patterns were identified and categories of events were then created with consensus definitions for each category. At the end of each operation in our room, we designated a time for systematically going through the list of categories with their definitions to review any recordable events that had occurred. A multi-disciplinary monthly review of data was carried out using control charts to identify system changes and to design and implement additional Plan, Design, Study, Act (PDSA) for intraoperative protocol modifications. Events were further categorized in relation to timing (pre-cardiopulmonary bypass (CPB), during CPB and post-CPB), discipline and specific activities during those distinct intervals.

Results: Nine recurrent categories of events were identified: patient instability, physical injury to the patient, communication failure, change of plan, medication-, blood product-, equipment misuse or malfunction-related, access related, and other/misc. Patient instability and equipment related events accounted for over half of all events (29.7% and 26.3%, respectively). Approximately, 26% of the procedures were associated with an event and of these, 63% were single, isolated events in non-complex patients/procedures.

Conclusions: A systematic approach to recording events in the operating room is the most effective way of capturing potential near misses. Most events are single in nature and occur in the less complex patients. A few categories that are amenable to system-wide improvement initiatives account for most events.