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Outcomes of direct observation of trauma resuscitation

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Introduction: Trauma resuscitations are sporadic high acuity situations that can be difficult to assess for areas of quality improvement. We aim to analyse the type of observation that occurs during trauma resuscitations and outcomes that develop as a result. **Methods:** Medline was searched from 1946 to May 2019 for studies involving direct observation of trauma resuscitation. English studies of both adult and pediatric populations from 2000 onwards were included for study. They were compared for type of observation (in-person vs video) as well as primary outcomes of their observation and any quality improvement as a result. **Results:** A total of 413 publications were identified with 10 meeting eligibility for inclusion. All 10 studies underwent video review with no in-person review being performed. The most common primary outcome was analysis of a critical procedure (6 studies), with tracheal intubation being studied in 4 studies and thoracotomy and vascular access each being studied once. The remaining studies measured communication styles and team effectiveness. Overall 5 of the 10 studies resulted in new policies being put in place for trauma resuscitations, including; use of interosseous lines as first lines in trauma patients in extremis, tracheal intubation check list, and continuing with medical student participation in cardiopulmonary resuscitation. **Conclusion:** This study highlights some of the common focuses of trauma resuscitation observation; critical procedures, team dynamics and communication. A majority of studies focused on critical procedures during resuscitations and quality improvement in the form of checklists to improve them. Remaining studies focused on equally important aspects of team functioning and communication which can be more difficult to objectively measure and derive quality improvement measures for. These studies led an emphasis on use of a horizontal assessment style and closed loop communication in all their trauma resuscitation.

Keywords: observation, resuscitation, trauma

P045

Doing our work better, together: a relationship-based approach to defining the quality improvement agenda in trauma care

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Background: Trauma care represents a complex patient journey, requiring multi-disciplinary coordinated care. Team members are human, and as such, how they feel about their colleagues and their work affects performance. The challenge for health service leaders is enabling culture that supports high levels of collaboration, cooperation and coordination across diverse groups. **Aim Statement:** We aimed to define and set the agenda for improvement of the relational aspects of trauma care at a large tertiary care hospital. **Measures & Design:** We conducted a mixed-methods collaborative ethnography using the Relational Coordination survey – an established tool to analyze the relational dimensions of multidisciplinary teamwork – participant observation, interviews, and narrative surveys. Findings were presented to clinicians in working groups for further interpretation and to facilitate co-creation of targeted interventions designed to improve team relationships and performance. **Evaluation/Results:** We engaged a complex multidisciplinary network of ~500 care providers dispersed across seven core interdependent clinical disciplines. Initial findings highlighted the importance of relationships in trauma care and opportunities to improve. Narrative survey and ethnographic findings further highlighted the centrality of a translational simulation program in contributing positively to team culture and relational ties. A range of 16 interventions – focusing on structural, process and relational dimensions – were co-created with participants and are now being implemented and evaluated by various trauma care providers. **Discussion/Impact:** Through engagement of clinicians spanning organizational boundaries, relational aspects of care can be measured and directly targeted in a collaborative quality improvement process. We encourage health care leaders to consider relationship-based quality improvement strategies, including translational simulation and relational coordination processes, in their efforts to improve care for patients with complex, interdependent journeys.

Keywords: ethnography, quality improvement and patient safety, trauma

P046

Physicians experience with the Epic electronic health record system: findings from an academic emergency department implementation

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Introduction: In June 2019, The Ottawa Hospital launched the Epic EHR system, which transitioned all departments from a primarily paper-based system to an exclusively electronic system using a one-day "big bang" approach. All Emergency Physicians (EP) received online module training, personalization sessions, and at-the-elbow support during the transition. We sought to evaluate EP satisfaction with the implementation process and the system's impact on clinical practice in a tertiary care academic emergency medicine setting. **Methods:** Email surveys were distributed during the pre-implementation and go-live phases. Questions were developed by the research team and piloted for face validity and clarity. Surveys were sent to staff EPs, residents and fellows. Likert scales were used to evaluate agreement with statements and the modified Maslach Burnout Inventory was used to assess burnout. Pre-post groups were compared using chi-squared tests to assess for significant differences. Future surveys will be distributed in 2020 for continued implementation evaluation. **Results:** Response rates were 49% (78/160) in the pre and 48% (76/160) in the post period. The majority of respondents were staff (66% pre; 75% post) working 8-15 shifts/month. Prior to launch, 52% of EPs felt the pre-training modules provided sufficient preparation, however only 32% felt this way after go-live ($p = 0.02$). Providers did not feel there were enough personalization (21% pre vs. 24% post, $p = 0.66$) or hands-on sessions offered (51% pre vs. 39% post, $p = 0.15$) and this opinion did not change after go-live. Before Epic, EPs were most concerned with productivity/efficiency, documentation time, and lack of support/training. Although documentation was reported to be easier after go-live by 69% of EPs, reviewing documents, using standardized workups/protocols, patient monitoring/follow-up, efficiency and billing were reported by >50% of EPs to be more difficult. Overall, there was a 22% increase in feeling confident to use Epic (28% pre vs. 50% post, $p < 0.01$); however, only 38% of providers were satisfied with the system. Notably, 82% of EPs reported experiencing moderate or high burnout in the post implementation period. **Conclusion:** Despite receiving standard

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