

centralized, de-identified ED information system database with time-stamp quantifiers and compared to the following four-week time period where the shift is a regular ED physician shift at the same time. The ED physician and nursing team planned and implemented the PF role, then results were evaluated and shared with the wider ED staff in departmental grand rounds and quality council presentation formats, and recommendations were gathered from to adjust and strengthen future iterations of PF role implementation. **Results:** Descriptive statistics and Mann-Whitney and Median tests were calculated. On average there were 185 daily ED visits in the trial and comparison periods. Median ED LOS decreased by 12 minutes in the PF trial period ($p < 0.05$). Furthermore, there was a 12 minute decreased ED LOS for all discharged patients ($p < 0.05$). PIA time decreased by 13 minutes for patients that were admitted. The average percentage of EMS offloads within 60 min improved from 75% to 80.7% for admitted patients. LWBS and 72-hour bounce-back rates were unchanged. No additional patient concerns arose related to or during the trial. Physician feedback on the PF role was mainly positive. **Conclusion:** The defined role of a PF in an ED can decrease ED LOS, albeit not achieving the desired 30-minute reduction on the first iteration, this trial supported proof-of-concept for implementation of a PF role in a tertiary care centre ED. Further iterations are needed to evaluate the scalability and sustainability of this role.

Keywords: quality improvement and patient safety, physician float, emergency department throughput

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Conceptualizing unnecessary care in emergency departments (ED): qualitative interviews with ED physicians and site chiefs

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Introduction: Unnecessary care is an increasingly commonly used term in medicine. Previous survey research suggests that definitions of unnecessary care vary within and among professional and patient groups. This research explores how emergency physicians and administrators understand the term unnecessary care. **Methods:** Site chiefs and emergency physicians in an Alberta region were recruited through email and online surveys respectively for a qualitative study. One hour one-on-one in-depth interviews explored understandings of unnecessary care within the emergency department (ED) context. Interview transcripts underwent thematic analysis. **Results:** Five physicians and seven site chiefs completed interviews. Two key themes emerged. First, interviewees conceptualized unnecessary care as inappropriate or non-urgent presentations. This patient-centric view raised non-urgent ED presentations as a health system problem with complex components, including: lack of public knowledge of healthcare resources, shrinking comfort and scope of community providers and patient willingness to utilize other resources. Despite concerns over non-urgent visits, interviewees expressed that these patients still need to be seen, assessed and managed. The second conceptualization focused on over-investigation (and to lesser extent, treatment). This physician-centric conceptualization identified issues around: variation in physician risk tolerance, established decision rules with the allowable miss rates, patient expectation for testing or physician feeling that the patient was owed something or that patient would not accept their diagnosis/treatment without testing. Additionally, interviewees described patient characteristics that may initiate more aggressive investigation (e.g., patient reliability, follow-up care access, etc.). An overarching concern about the connection between unnecessary care and wasted resources was identified.

Additionally, interviewees emphasized that patient conversations are outside the scope of unnecessary care despite their possible implications for limited time resources. **Conclusion:** A range of concepts surrounding unnecessary care in the ED were identified. Further exploring nuances of these conceptualizations may inform and improve the effectiveness of campaigns seeking to improve efficiency in practice and reduce inappropriate care. Additionally, this work provides an impetus for developing clearer concepts of care within the ED.

Keywords: unnecessary care, qualitative research

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Barriers and facilitators to physician use of computerized clinical decision support for mild traumatic brain injury and suspected pulmonary embolism

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Introduction: As utilization of CT imaging has risen dramatically, evidence-based decision rules and clinical decision support (CDS) tools have been developed to avoid unnecessary CT use in low risk patients. However, their ability to change physician practice has been limited to date, with a number of barriers cited. The purpose of this study was to identify the barriers and facilitators to CDS adoption following a local CDS implementation. **Methods:** All emergency physicians at 4 urban EDs and 1 urgent care center were randomized to voluntary evidence-based CT imaging CDS for patients with either mild traumatic brain injury (MTBI) or suspected pulmonary embolism (PE). CDS was integrated into the computerized physician order entry (CPOE) software and triggered whenever a CT scan for an eligible patient was ordered. Physicians in both the MTBI and PE arms were ranked according to their CDS use, and a stratified sampling strategy was used to randomly select 5 physicians from each of the low, medium and high CDS use tertiles in each study arm. Each physician was invited to participate in a 30-minute semi-structured interview to assess the barriers and facilitators to CDS use. Physician responses were reported using a thematic analysis. **Results:** A total of 202 emergency physicians were randomized to receive CDS for either MTBI or PE, triggering CDS 4561 times, and interacting with the CDS software 1936 times (42.4%). Variation in CDS use ranged from 0% to 88.9% of eligible encounters by physician. Fourteen physicians have participated in interviews to date, and data collection is ongoing. Physicians reported that CDS use was facilitated by their confidence in the evidence supporting the CDS algorithms and that it provided documentation to reduce medico-legal risk. CDS use was not impeded by concerns over missed diagnoses or patient expectations. Reported barriers to CDS use included suboptimal integration into the CPOE such as the inability to auto-populate test results, it disrupted the ordering process and was time consuming. A common concern was that CDS was implemented too late in workflow as most decision making takes place at the bedside. Physicians did not view CDS as infringing on physician autonomy, however they advised that CDS should be a passive educational option and should not automatically trigger for all physicians and eligible encounters. **Conclusion:** Physicians were generally supportive of CDS integration into practice, and were confident that CDS is an evidence-based way to reduce unnecessary CT studies. However, concerns were raised about the optimal integration of CDS into CPOE and workflow. Physicians also stated a preference to a passive educational approach to CDS rather than an automatic triggering mechanism requiring clinical documentation.

Keywords: clinical decision support, knowledge translation, barriers and facilitators