

7 (O-I5) Factors Associated with Conversion to In-person Visit Among Patients Presenting for Pediatric Telehealth Encounters

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Objectives: To identify patient- and illness-related factors associated with conversion to in-person visits among children presenting for pediatric telehealth encounters.

Background: Increases in telehealth utilization during the COVID-19 pandemic have been driven by limited availability of office visits due to infection prevention guidelines, parental hesitancy to enter healthcare facilities, and parity in reimbursement for providers. Due to increased demand and limited number of telehealth providers, it is important to determine which children may benefit the most from these encounters.

Methods: In this retrospective case-control study, patients 0-21 years old presenting for a telehealth encounter were evaluated. Children who had an in-person visit within seven days of the telehealth visit were identified as conversion cases and matched in a 1:3 ratio to controls by age in months up to 36 months and by year for those 4 and older. Patient demographics, past medical history, symptoms, and diagnoses were collected. A multivariable logistic regression model was developed including variables significantly associated with conversion on univariate analysis.

Results: From March–April 2020, there were 2,465 pediatric telehealth encounters. Of these, there were 67 (3%) conversions to in-person visits. 79% of these conversions originated from general pediatric telehealth encounters and the remaining from subspecialty telehealth visits. 69% of these conversions were to the ED and 31% in the clinic. Median days to in-person visit was 2 (1, 5). Median age was 25 months (1, 172), 66% were female, and 43% had a chronic medical condition. 55% were uninsured or on Medicaid, and the remaining were commercially insured. The most common symptoms reported included 42% respiratory, 22% fever, 19% pain, 18% vomiting/diarrhea, and 18% rash. After matching with controls based on age, a multivariable logistic regression model revealed that a history of cancer (OR 15.8, 95% CI 1.3-195.0), emesis (OR 4.6, 95% CI 1.1-18.9), pain (OR 4.5, 95% CI 1.5-13.3), non-COVID-19 related respiratory symptoms (OR 3.9, 95% CI 1.5-9.7), and telehealth visit with a specialist in allergy, endocrinology, gastroenterology, or pulmonary (OR 0.3, 95% CI 0.1-0.7) were associated with conversion, with an AUC of 0.82.

Conclusion: This introductory evaluation may suggest that certain patient- and illness-related factors are associated

with telehealth conversion to in-person encounters. To appropriately allocate telehealth and ambulatory resources, further study will determine whether some children will benefit if they are triaged directly to in-person visits.

8 (O-F6) A Mixed-methods Study of Barriers and Facilitators to Point-of-care Ultrasound Implementation for Emergency Department Providers at the Durham Veterans Affairs Healthcare System

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Objectives: Our primary objective was to identify the facilitators and barriers to optimize our program implementation using the Consolidated Framework for Implementation Research (CFIR) and test for impact at a single local emergency department (ED).

Background: Emergency ultrasound program leaders nationwide recognize that point-of-care ultrasound (POCUS) knowledge retention and utilization are difficult to achieve. Prior studies have identified a lack of provider training with a gap in POCUS knowledge and skills, lack of credentialed ultrasound users, and lack of quality assurance image review as significant barriers to POCUS use. A standardized approach to identifying and addressing barriers to sustainable POCUS implementation is needed to increase POCUS use, reduce radiology ultrasound, and potentially improve ED flow.

Methods: Our mixed-methods study implemented a co-designed, multifaceted intervention at the Durham Veterans Affairs ED from November 2021–October 2022 (12 months) to enhance POCUS usability and sustainability, including education, equipment knowledge, quality review process, and image archiving in the health record. Furthermore, 20/25 (80%) full-time ED providers participated in small- or large-group hands-on educational POCUS training sessions between February–May 2022. We conducted 14 semi-structured interviews to identify emergent themes and codes on ED POCUS use and performed team-based coding using inductive and then deductive analysis using NVivo. For our impact evaluation, we assessed POCUS program acceptability, effectiveness, and feasibility via provider pre/post-course questionnaires, interviews, and health record data (ED POCUS, radiology ultrasound orders, and ED length of stay (LOS)).

Results: Five POCUS themes emerged: convenience and

efficiency; ED environment (space and place); opinions on ED clinical POCUS use and education; and peer influences, feedback, and teaching. POCUS facilitators include machine availability, resident teaching, ED procedural POCUS, hands-on group training, colleagues' contagiousness and enthusiasm, and ultrasound faculty support and guidance. Additionally, ED and hospital leadership support and hospital-wide POCUS collaboration were cited as essential for success. POCUS barriers were time constraints, alternative radiology imaging availability, POCUS knowledge and skills comfort, and eliminating unnecessary and cumbersome steps for image acquisition and documentation/storage. Additional identified needs (image review, faculty credentialing, and an archiving system), require development locally to strengthen provider skills and reduce duplicated radiology studies. For feasibility and effectiveness, we found no significant change in ED LOS (6.7±7.5 hours, $P=0.0849$) and radiology ultrasounds ordered (355±361, $P=0.417$) but a significant increase in ED POCUS (72±267 scans, $P<0.001$), in the six months pre/post-intervention. The most frequently performed POCUS scans were cardiac, deep vein thrombosis (DVT), soft tissue, musculoskeletal, and biliary, and radiology studies were DVT, biliary, and scrotal ultrasound. From pre/post-intervention survey data, overall comfort with performing and teaching diagnostic and procedural POCUS changed minimally. All respondents agreed that POCUS is a useful clinical tool and that residents should learn POCUS, supporting acceptability.

Conclusion: We identified the barriers and facilitators to sustained POCUS training and implementation using the CFIR framework. Our POCUS program is acceptable, effective, and feasible based on survey responses, interviews, and health record data. Future work should address POCUS barriers and incorporate facilitators by tailoring POCUS education and clinical use toward individual providers at each site, using momentum from positive peer feedback, selecting an "ED clinical champion," and integrating ED and hospital leadership support, with the goal to extend our implementation evaluation into a standardized national scale intervention.

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