Methods/Design We conducted a 1:1, single blind, parallel group, randomised controlled feasibility trial in two UK hospitals. Adults with Colles' type distal radial fractures requiring manipulation in the ED were recruited by supervising emergency physicians supported by network research nurses. Participants were randomised to ultrasound directed fracture manipulation (intervention) or standard care with sham ultrasound (controls). The trial was run through Exeter Clinical Trials Unit and consent, randomisation and data collection conducted electronically in REDCap cloud. All participants were followed up at 6 weeks to record any surgical intervention and also underwent baseline and 3 month quality of life (EQ-5D-5L) and wrist function (Patient Rated Wrist Evaluation (PRWE) assessments.

Results/Conclusions We recruited 47 patients in total, with 23 randomised to the interventional arm and 24 randomised to

the control arm. We were able to follow up 100% of the patients for the 6 week follow up. Data analysis and results will be presented at the time of the conference.

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EMERGENCY AIRWAY MANAGEMENT OUTSIDE THE OPERATING ROOM; A THREE YEAR PROSPECTIVE SERVICE EVALUATION AND QUALITY IMPROVEMENT PROJECT

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Aims/Objectives/Background Emergency airway management outside a controlled theatre environment has been previously

Abstract 292 Figure 1

Abstract 292 Figure 2 Primary induction agents selected throughout the study period

Abstract 292 Figure 3

associated with a high rate of adverse events. Several initiatives to improve safety (such as video laryngoscopy, checklists, simulation training etc..) have been studied in isolation.

It remains unclear as to whether these interventions have been embedded in the Emergency Department (ED) and whether they offer cumulative marginal gains in safety.

Methods/Design A prospective 3-year service evaluation delivered at a major trauma and neurosciences centre between 2016 and 2019. We designed a rolling quality improvement program to mitigate procedural airway risk through collaborative multidisciplinary team (MDT) working, education and transparent metrics.

PDSA cycles included documentary guidance (including flowcharts and checklists), high fidelity simulation training, equipment redesign, prefilled medications and mandatory reporting items (figure 1).

Results/Conclusions We analysed prospectively collected data on 1181 intubation episodes outside a theatre environment over a 39 month period, of which 575 (48.7%) were performed out of hours and 635 (53.8%) were performed in the ED.

Bedside consultant presence and periprocedural checklist use both showed a sustained increase during the study period. Use of ketamine and thiopentone as primary induction agents increased and decreased, respectively (figure 2). Cricoid pressure and video laryngoscopy (VL) utilisation rates remained relatively static throughout, as did a first pass success (FPS) rate of between 83.0 to 93.5%.

Composite major complications (including sustained hypotension and/or critical hypoxia) were significantly reduced during the study period, as demonstrated via statistical process chart (SPC) mapping (figure 3).

In conclusion, we found a quality improvement program to be associated with a sustained reduction in the risk of major complications following emergency airway management. This improvement was not explained by simple direct changes in procedural care, such as the use of VL or technique changes resulting in improved FPS, but may have been influenced by unknown confounding variables.

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PRIMARY CARE STREAMING IN EMERGENCY DEPARTMENTS- CONTEXTS AND MECHANISMS ASSOCIATED WITH PERCEIVED EFFECTIVENESS OUTCOMES: A REALIST EVALUATION

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Aims/Objectives/Background Recent policy has encouraged emergency departments (EDs) to deploy nurses to stream patients from the ED front door to GPs working in a separate GP service operating within or alongside an ED. We aim to describe mechanisms relating to effectiveness of streaming in different primary care service models identified in emergency departments. We explored whether patients were appropriately streamed to emergency care, primary care, other hospital services or community primary care services; *patient flow* (including effects on waiting times and length of stay in the emergency department); and *safe streaming outcomes*. We sought suggestions for quality improvements relating to streaming

Methods/Design A realist evaluation methodology was used to explore perceived streaming effectiveness. We visited 13 emergency departments (purposively selected across England & Wales; 8 streamed primary care patients to a primary care clinician) and carried out observations of triage/streaming and patient flow and interviews with key members of staff (consultants, GPs, nurses). Field notes from observations and audio-recorded interviews were transcribed verbatim and were analysed by creating context, mechanism and outcome configurations to refine and develop theories relating to streaming effectiveness.

Results/Conclusions We identified five contexts (nurses' knowledge and experience, streaming guidance, teamwork and communication, operational management and strategic management) that facilitated mechanisms that influenced the effectiveness of streaming (streaming to an appropriate service, patient flow,