professionals due to different barriers. This study aims at reviewing if the use of pharmacological methods for pain provided during the emergency care of pediatric trauma patients is proper.

Method Retrospective study of 560 consecutive clinical records of trauma patients, aged from 0 to 18, assisted from March to December 2017 by Advanced Life Support Units. Minor injuries excluded.

Results Median age was 12 years (IQR 8–15). 71.8% (402) males. The most common diagnoses were upper limbs fractures and dislocations 38.4% (215), 6.3% (35) major traumas. Pain assessment scales were used in 16.6% (93). Children received analgesia in 44.1% (247), >6 years were 50.5% (221) and ≤6 21.0% (26), $p < 0.001$. Fentanyl was used in 78.5% (194) followed by Acetaminophen 20.6% (51), Ketorolac 17% (42) and Ketamine 8.9 (22). Midazolam was associated in 35.2% (84). Analgesia in major trauma was 74.3% with respect to serious wounds and brain injuries 10.8% $p < 0.001$. Intravenous route was favourite 74% (183), followed by intranasal, 20.2% (50).

Conclusion The study demonstrates that, according to international guidelines, major trauma analgesia is greater than another groups, but not generalized. Intravenous infusion opioids are the main pharmacological method. However, pain scales are insufficiently applied and there is often a pain undertreatment, particularly in the youngest. Promoting suitable pain scales and alternatives to intravenous route like intranasal could increase treatment.

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29 FEASIBILITY OF USING A DEFIBRILLATOR TO PROVIDE REAL-TIME AND POST-EVENT FEEDBACK TO PARAMEDICS ON THE QUALITY OF THEIR CPR

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Background Ambulance Victoria aimed to improve paramedic CPR performance by introducing audio-visual CPR feedback via a defibrillator with accelerometer-based technology and detailed debriefs post event.

Method We conducted an evaluation assessing the feasibility of using a defibrillator to provide real-time and post-event feedback to paramedics on the quality of their CPR. The pilot was conducted over a 6 month period between the 17th June 2017 and 17th December 2017.

Results Ambulances participating in the trial arrived first at 234 out-of-hospital cardiac arrests (OHCA). Of these cases,

teams voluntarily used the CPR Feedback Pads for 85 (36%) OHCA, however case data was only available for 70 cases. The majority (77%) of paramedics who used the CPR Feedback device found it easy to apply with the defibrillator pads, with little to no disruption to standard CPR performance. The recommended chest compression depth (>5 cm) and rate (100–120 compressions per minute) were achieved for half of cases (51% for both). The median chest compression fraction (84%) was above the recommended standard of >80%. Overall, only 26% of paramedics who received real-time feedback were able to achieve all three CPR Quality Standards. When compared to perceived performance, this statistic differed significantly, as the majority (70%) of paramedics believed their CPR was already of good quality. Most paramedics reported that they found the post-event feedback helpful (74%).

Conclusion Although utilization rates were low for the CPR Feedback device, the mismatch between perceived and actual performance highlights the need for such feedback.

Conflict of interest None.

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30 AMBULANCES ATTENDING DIABETES-RELATED EMERGENCIES IN CARE HOMES – CROSS SECTIONAL DATABASE STUDY

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Background Diabetes, affecting 1 in 5 care home residents, may lead to ambulance call-outs and hospitalisation. We aimed to investigate the epidemiology of diabetes-related emergencies involving ambulance attendances to care home residents.

Method Cross-sectional design investigating ambulance attendance to people presenting with diabetes-related emergencies in the East Midlands, UK, between 2012 and 2017. We analysed dispatch and ambulance clinical data with care home data, including call category, timing, location, care home type, clinical or physiological measures, treatments, conveyance (transport to hospital) and costs.

Results Overall 2 19 722 (6.7% of 3.3 million) ambulances attended care homes over 6 years, with 12 080 (5.5%) to diabetes-related emergencies. Of 3152 care home patients categorised as having a ‘diabetic problem’, 1957 (62.1%) were conveyed to hospital, similar to that for community residents taking into account other factors. Factors associated with conveyance included reduced consciousness (OR 0.91, 95% CI 0.87–0.95), elevated heart (1.01, 1.01–1.02) or respiratory rate (1.08, 1.06–1.10), no treatment for hypoglycaemia (0.54, 0.34–0.86) or additional medical (but not psychiatric) problems. Ambulance costs were significantly lower when a patient was conveyed, by some £18 (95% CI £11.94–£24.12), but this would be outweighed by downstream hospital care costs. For a simulation in which all trusts’ mean NHS Reference Costs were used, conveyance was no longer significant in the cost model.

Conclusion Conveyance following diabetes-related emergencies was as common for care home as for other community residents despite access to trained staff, and more likely with impaired consciousness, abnormal physiological measures or lack of treatment for hypoglycaemia.