Dublin Ireland, 842 children were discharged with no fixed address, typically into emergency accommodation in 2018. This compares with 651 children in 2017, a 29% increase.¹ Children born into homelessness are more likely to have low birth weights and are at greater risk of death.² The aim of this study was to compare a random cohort of children presenting to the ED and compare differences between children living in homelessness and those at risk of homelessness to those living in stable accommodation across a variety of parameters.

Methods A self-administered parental questionnaire was handed to parents checking in to the ED in TSCUH over a 2-week period. An information sheet was also given to parents to explain the purpose of the research. Results were analysed using Microsoft excel.

Results 120 (n=120) questionnaires were filled out by a random selection of parents over the initial study period. Age range was 1 month to 15 years. Number of General Practice (GP) attendances ranged between 0 and 6 in past 6 months, ED ranged between 0 and 12.

50% (n=60) owned their own homes. 96% (n=115) were fully vaccinated. 89% (n=106) thought their child had a nutritionally complete diet. However 24% (n=29) thought their living situation did not enable the parent to adequately prepare/cook meals for their child.

18% (n=22) lived in homelessness/emergency accommodation or with family. In this group 27% (n=6) vs 19% (n=17) had fast-food/ready-meals twice or more per week. Parents thought their accommodation had a negative effect on their child's health in 19% (n=4) vs 6% (n=6) in this group. Making and maintaining friends was thought to be affected by accommodation in 20% (n=4) vs 7% (n=7). The effect on ability to exercise/play of living situation was 36% (n=8) vs 12% (n=12).

Conclusion The above data clearly demonstrates parental perspectives on the impact of homelessness on children. This compares the perspectives of parents living in different types of accommodation and demonstrates the detrimental effects homelessness can have on children's health and well-being.

P265

THE RELIABILITY OF POINT OF CARE KETONE MEASUREMENT IN THE PAEDIATRIC HYPOGLYCAEMIA SETTING

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Introduction Point of care capillary ketone (beta-hydroxybutyrate) measurement is often used in the management of paediatric dysglycaemia. The accuracy of point of care ketone (POCK) measurement has not been evaluated in the setting of paediatric hypoglycaemia. This study aimed to assess the accuracy of POCK measurement compared to gold-standard laboratory plasma ketone (PK) measurement in a population of infants and children presenting to a paediatric emergency department.

Methods This retrospective study was conducted between January-December 2017 in the Emergency Department (ED) at Children's University Hospital (CUH), Temple Street, Dublin, Ireland. The ED recorded 54,222 attendances during the study

period and all hypoglycaemia screens performed in the study period were reviewed.

PK values were extracted from laboratory records. POCK results were retrieved from patient's electronic emergency department medical records. Where data was incomplete (either POCK or PK measurement were not recorded), results were excluded from the analysis. Results were also excluded where greater than thirty minutes had elapsed between POCK and PK measurement. The agreement between the two methods of ketone measurement was analysed using a Bland-Altman plot. The difference between mean POCK and PK were analysed using a paired t-test.

Results A total of 34 hypoglycaemia screens were performed in ED during the study period. Of these, 15 screens were excluded (two because of incomplete data and 13 because of a time interval of greater than thirty minutes between POCK and PK measurement). 19 screens were included in the analysis. No significant difference was seen between mean PK (3.39 ± 1.66 mmol/L) and mean POCK (4.28 ± 1.62), with a mean difference of -0.30 ± 0.54 mmol/L (95% CI, -0.364 to -0.243; $p=0.032$). No significant proportional bias was seen between POCK and PK levels on Band-Altman plot.

Discussion This study provides evidence for the use of POCK as a reliable surrogate for PK in the setting of hypoglycaemia in paediatric patients. Accurate POCK measurement is very useful in the diagnosis and management of paediatric hypoglycaemia. In the paediatric ED, children presenting with hypoglycaemia often do so during episodes of intercurrent illness where dehydration is common, and phlebotomy is challenging. Furthermore, when faced with a small child with hypoglycaemia, timely correction of hypoglycaemia is an urgent priority. While not a substitute for formal diagnostic tests, POCK measurements are quick and easy to obtain, can direct appropriate investigation and allow sample prioritisation where sample volume is limited.

P266

B-LINES SCORE ON LUNGULTRASOUND AS A DIRECT MEASURE OF RESPIRATORY DYSFUNCTION IN PICU PATIENTS WITH SEVERE POLYTRAUMA

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Purpose Fluid overload is frequently found in critically ill pediatric patients with severe polytrauma (SP) and is associated with adverse outcomes. Lungultrasonography (LU) and bioimpedance spectroscopy (BIS) are potentially useful tools for the noninvasive volume assessment. We evaluated the utility of these measures, alone or in combination, in estimating the $\text{PaO}_2/\text{FiO}_2$ ratio in critical pediatric patients with SP.

Methods In a prospective pilot observational study we included 23 patients who presented on admission or developed at any time during intensive care unit stay SP. Patients were studied at baseline and after 48 h with LU, BIS and arterial blood gas.

Results In the univariable analysis, the $\text{PaO}_2/\text{FiO}_2$ ratio was negatively correlated with the B-lines score, and this

association was maintained even after adjustments. A cutoff value of 17 for the B-lines score has a sensibility of 73,91% and a specificity of 69, 23% in identifying patients with $\text{PaO}_2/\text{FiO}_2 < 300$.

Conclusion LU can be used for functional lung evaluation and identification of pediatric patients with increase pulmonary water content and decrease $\text{PaO}_2/\text{FiO}_2$ ratio.

P267 EVALUATION OF A FOCUSED CARDIAC ULTRASOUND PROTOCOL A PEDIATRIC EMERGENCY DEPARTMENT IN VINNITSA REGIONAL CHILDREN HOSPITAL

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The objective of this study was to evaluate the implementation of a focused cardiac ultrasound (FoCUS) protocol in a pediatric emergency department (PED).

Methods We conducted a cross-sectional, observational, quality improvement project in a PED of an urban tertiary care Vinnitsa region children hospital. A FoCUS protocol was collaboratively developed by pediatric intensive care and pediatric emergency medicine. This included a reference document with definitions, indications, image acquisition guidelines, and interpretation expectations. We measured physician-emergency pediatric doctors performance against pediatric cardiologist interpretation of stored cine clips as our reference standard. Focused cardiac ultrasound interpretation was dichotomized for the presence or absence of pericardial effusion, depressed left ventricular function, and chamber size abnormalities.

Results 243 FoCUSs were performed by 5 different emergency doctors from January 218 to December 2019. The prevalence of FoCUS abnormalities was 19.4%. For pericardial effusion, sensitivity was 99,2% (95% confidence interval [CI], 48%–100%) and specificity was 94% (95% CI, 90–100%). For depressed function, sensitivity was 99,4% (95% CI, 56%–100%) and specificity was 98% (95% CI, 94%–100%). For chamber size abnormalities, sensitivity was 97% (95% CI, 50%–100%) and specificity was 95% (95% CI, 88%–98%). The median number of monthly FoCUS increased from 3 (preprotocol) to 7 (postprotocol), and the median rate of adequate studies increased from 0% to 55%.

Conclusions We report the collaborative development and successful implementation of a PED FoCUS protocol. Physician-emergency doctors interpretation of FoCUS yielded acceptable results.

P268 INTRODUCTION OF THE LOW RISK ANKLE RULE TO A PAEDIATRIC EMERGENCY DEPARTMENT: A QUALITY IMPROVEMENT INITIATIVE

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Introduction Ankle injuries are common in children (~ 2% of presentations to PEDs) ¹ X-rays are ordered for 85–95% of patients but only 12% of x-rays reveal a fracture.¹ Clinical

prediction rules such as The Low Risk Ankle Rule (LRAR) exist to help clinicians safely reduce the frequency of radiography in these injuries. The LRAR has been shown to reduce imaging by up to 60% without missing any clinically significant fractures.¹

Aim To introduce the LRAR to our department and study its effect on our rate of radiography and length of stay (LOS). We also sought to identify complications related to its use, such as missed fractures and representations.

Methods A baseline audit was performed to determine our baseline rate of radiography. The implementation strategy involved: staff education sessions, distribution of study information and visual reminders throughout the department, introduction of mandatory prompts into the x-ray ordering system and a 3 week pilot period.

Results The baseline ankle x-ray rate was 879/969 (90.7%). This reduced to 40/92 (43.4%) using the LRAR, a reduction of 47.3%. The average LOS decreased from 132 minutes before the implementation to 123 minutes after. There were no re-presentations with missed fractures.

Further 12 month follow up data after the initial implementation period showed a persistent 46% reduction in the frequency of ankle x-rays performed, compared with the baseline data.

Conclusions The LRAR has been shown to safely reduce the frequency of radiography in ankle injuries.^{1,2} Other studies have demonstrated a reduction in x-ray frequency of 22–60%.^{1,2} Our study was in keeping with these previous studies, while also not missing any fractures, further supporting the use of The LRAR in paediatric emergency departments. The LRAR continues to be used effectively in our department. Follow on data showed an annual saving of € 28, 247.

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P269 IMPROVING THE EMERGENCY DEPARTMENT JOURNEY FOR CHILDREN WITH AUTISM AND COMPLEX NEEDS

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Background Children with autism and complex needs are frequently seen in the Emergency Department (ED). This can be extremely distressing experience for them. This experience can be improved by several measures, including: staff who are experienced in looking after children with autism/complex needs, minimising their time in ED, providing a quiet, relaxing space for them to wait and the use of social stories and play therapists. However, many ED's remain ill-prepared to manage these children.

Aims

- To ascertain staff (paediatric and emergency physicians/nurses) comfort and experience levels in managing children with autism or complex needs in the emergency department.