length of hypoglycaemic episodes and shorten treatment duration for babies.

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P08 TEN-FOLD MEDICATION ERRORS IN A TERTIARY PAEDIATRIC HOSPITAL

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Aim To perform a retrospective analysis of tenfold medication errors between the 1st January 2017 and the 31st December 2018 and identify contributing factors.

Method Information from all tenfold medication errors reported to the Ulysses system between 1st January 2017 and 31st December 2018 which met the criteria was inputted into a data collection sheet. Information gathered included the age of the patient, the time the error occurred, the location within the hospital, the point in the medication process the error occurred, the drug involved and the NCC-MERP category of harm assigned to the error. Reports were excluded if they were repeated entries or if they did not meet the criteria for a tenfold medication error. The total number of medication errors reported per month and the total number of admissions per month was also identified. Once data collection was complete, these errors were qualitatively analysed and compared with those of a previous audit using errors reported from 1st January 2013 to 31st December 2014.

Results Tenfold errors were most likely to be reported in the Critical Care areas (34.4% of tenfold errors being reported over the two-year period). Prescribing was the most common origin of error accounting for 54.3% of tenfold errors in 2017 and 51.7% in 2018. The most common category of harm assigned was category B (no harm – error did not reach patient) with a total of 40.6% of the errors reported. The age group with the highest number of errors reported was 29–364 days with 39.3% tenfold medication errors reported over the two-year period. Morphine was the most common drug involved accounting for 13.8% of errors reported.

Conclusion The findings from this report mirror the results from the previous audit performed in 2014 in respect to error origin and patient age. Tenfold prescribing errors have more chance of being intercepted before reaching the patient due to there being more steps in the process before administration, therefore it is less likely that errors that originate at prescribing will reach the patient. Tenfold administration errors were more likely to reach the patient and therefore to cause harm. Morphine was the most reported drug in both 2017/18 and the 2013/14 audit suggesting that more work needs to be done on the safe use of opioids. Critical Care was the location with the highest number of errors reported, patients in this area often require complex medication regimes increasing the likelihood of being involved in a medication error.¹

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P09 A SURVEY OF THE NPPG GROUP CONCERNING MEDICATION ADMINISTRATION PROBLEMS AMONG CHILDREN AND YOUNG PEOPLE AGED 0 TO 18 YEARS OLD

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Aim To identify issues encountered by pharmacy healthcare professionals with regards to problems that they have experienced, complaints received, queries and feedback by the patients or parents or caregivers in terms of medication administration for children and young people aged 0 to 18 years old.

Method An online survey using the Online Surveys tool was devised to obtain healthcare professionals' perspective regarding medication administration problems encountered by parents, caregivers or paediatric patients when administering or taking their medication at home. The survey was sent to the members of the Neonatal and Paediatric Pharmacists Group (NPPG), who represent different geographical areas within the UK and further afield. Informed consent was obtained from participants. This study was reviewed and approved by the Life and Health Sciences Ethics Committee, Aston University.

Results 37 pharmacists and 1 technician completed the survey. The majority of the respondents 23/38 were currently practicing in England, with 6/38 respondents being registered pharmacists outside the UK, 1/38 was practicing in Northern Ireland, 3/38 within Scotland and 4/38 were practicing in Wales. 71.1% of the respondents strongly agreed that parents or caregivers require further training when it comes to medication delivery to their children. In addition, when asked about their concerns regarding prescribed medication to children aged between 0 to 18 years old, respondents expressed a different level of concern regarding each age group. Regarding neonates, the main concern was the suitability of the prescribed formulation and the ability of the parents to accurately measure and administered a low dose volume. In contrast, for children aged between 28 days to 12 years, the common concerns were associated with palatability, which will further reflect upon child compliance and the parent or caregiver's ability to understand medication instructions and administration. Finally, for older aged children, adherence was a common concern. Furthermore, liquid formulations (suspensions (60.5%), solutions (55.3%) and injections (44.7%)) were predominantly used among children aged 0 to 18 years old within both in and outpatients setting. Overall, the majority of the respondents expressed that counselling time between the patient and pharmacists and the need to provide further training and educational material to parents and young people is an important issue to improve understating in regards medication use.

Conclusion The findings suggest that medication administration problems occur frequently among paediatric patients, and the nature of these problems varies among each age group. Medication training for both parents and young people could be a key factor to help reduce this problem. Future research is needed to investigate and gain insight into personal experiences with medication use and administration from a parent and/or young person's perspective. This will help to highlight the current problem in the UK and further develop potential interventions to reduce medication administration errors by

parents of children aged 0 to 16 years old and by young people up to the age of 18 years.

P10 AN AUDIT TO ASSESS THE PRESCRIBING OF ANALGESIA IN CHILDREN WHO PRESENT WITH PAIN CRISIS DUE TO SICKLE CELL DISEASE (SCD)

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Aim To assess the prescribing of analgesia to manage pain crises in children with SCD. This was to establish whether the Trust was meeting national and local standards. Prompt pain control is essential to reduce length of stay and further complications.¹

Standards

- 100% of admissions will be prescribed regular paracetamol and non-steroidal anti-inflammatory drugs (NSAIDs) at the recommended frequency unless contraindicated in accordance with national guidance.^{2,3}
- 100% of admissions will be prescribed appropriate doses of analgesia with consideration to weight and age in accordance with local policy.⁴

Method The audit was registered with the Trust's audit committee. A list of paediatric patients with the diagnosis of SCD was sought from paediatricians with an interest in haematology. A data collection form was created. Data was collected retrospectively over a one-year period. A total of 60 admissions were reviewed to check whether analgesia was prescribed regularly at the recommended frequency, and at the correct dose. Results were analysed using descriptive statistical analysis. Exclusion criteria included patients with hospital admissions under 24 hours.

Results A total of 55 admissions were included in the final sample. The audit showed the Trust was non-adherent to both standards assessed. A total of 45% (95% CI [31.9%, 58.1%]) of admissions were prescribed regular analgesia. A total of 78% (95% CI [67.9%, 88.9%]) of admissions were prescribed appropriate doses of analgesia. Two main reasons were found as to why analgesia was prescribed at the incorrect dose. This was due to incorrect weights recorded on the electronic system (n=4) and doses based on age only (n=8).

Conclusion The results show prescribers are familiar with the correct doses of analgesia but fail to prescribe analgesia regularly. This highlights an opportunity for education and training in the management of pain crisis in SCD. One recommendation includes development of an integrated care pathway booklet for paediatric patients presenting with pain crisis due to SCD. Integrated care pathway booklets have been implemented for other conditions such as cystic fibrosis yielding positive outcomes. The results have highlighted key issues surrounding the electronic prescribing system such as out-of-date weights remaining on the system unless updated, and default treatment protocols. The electronic prescribing system requires refinement for use within paediatrics. One suggestion includes compulsory weight field on admission. Limitations of this audit included small sample size. There was a lack of data to make suggestions based on different ages.

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P11 ARE LOW MOLECULAR WEIGHT HEPARINS BEING INITIATED, MONITORED AND SUBSEQUENTLY ADJUSTED APPROPRIATELY FOR PAEDIATRIC PATIENTS?

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Aim Heparin is used in patients who require anticoagulation for treatment or prevention of thrombosis. Much of the evidence for anticoagulation with both unfractionated and low molecular weight heparin (LMWH) is derived from adult practice.

This audit aimed to evaluate the accuracy of tinzaparin dosing and monitoring, and thus the provision of appropriate anticoagulation for treatment and prevention of thrombosis in paediatric patients. This was in line with trust clinical guidelines: 'Low molecular weight heparin guideline: paediatrics (treatment and prophylaxis)'.¹

Method Paediatric patients prescribed Tinzaparin between November 2017 and December 2018 were retrospectively identified from finance reports. Patient notes, which documented Tinzaparin indication, dosing and monitoring parameters (Anti-Xa levels) were accessed. Findings were recorded in a data collection questionnaire, derived from set standards, to identify if the corresponding local guidelines had been adhered to.¹ Subsequent statistical analysis was used to highlight trends within the data collection.

Results 88% (21/24) of paediatric patients were dosed accurately according to Tinzaparin indication; treatment or prophylaxis and patient weight as per guidelines. One anomaly was dosed according to local guidelines for adult patients, whilst a second and third were initiated on prophylactic rather than treatment dosing. Only 11% (3/24) of paediatric patients had their Anti-Xa level recorded at the correct time interval of 4 hours post dose. Evaluation of this data confirmed that for prophylactic regimens Anti-Xa levels were recorded in 7% (1/16) of patients, compared to 33% (3/8) for treatment regimens. Although Anti-Xa levels were recorded throughout 100% (8/8) of tinzaparin treatment regimens, 66% (5/8) failed to be recorded within four hours post first and second dose; a guideline requirement. These 'random' Anti-Xa levels commonly lay outside of the desired Anti-Xa level range highlighted in the guideline and subsequent dose adjustment meant that dosing regimens deviated from guidelines in an attempt to get the Anti-Xa levels within range. For regimens that lay outside the desired range but that were then adjusted in accordance with a dose adjustment tool within the guideline, all patients achieved the desired range efficiently and effectively, confirming that following the guideline achieves desirable results.

Conclusions It was clear that Tinzaparin was initiated appropriately in the majority of paediatric patients in accordance with patient age and weight, that an attempt was made to monitor patients receiving a treatment dose regimen and that some effort was made to maintain these levels within the desired range. The main issue raised by this audit was the