lack of adequate Tinzaparin monitoring throughout prophylactic dosing, thus highlighting an opportunity to educate and communicate the guideline to health care professionals within this field of practice to encourage effective treatment and prophylaxis of thrombosis. Raising awareness for the need of adequate documentation within patient notes to explain omitted dosing would also guide healthcare professionals involved in patient care to make informed decisions and avoid unnecessary alterations to treatment plans.

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P12 EVALUATION OF ENERGY AND PROTEIN INTAKE IN NEONATES USING SCAMP REGIMEN

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Aims Our neonatal unit recently updated their parenteral and enteral feeding guideline and started using a standardised parenteral nutrition regimen (SCAMP).[1]

The aim of this study was to observe the amount of energy and protein that was being delivered to patients using the SCAMP regimen and to evaluate whether it met the recommendations made by ESGPHAN in terms of energy and protein intake.[2]

Methods A data collection form was designed using Excel. Patients were identified using BadgerNet digital software. All required patient parameters were recorded from Badgernet. Data was anonymised and the Excel spreadsheet was password protected. A single investigator collected data over a 28 day period in October/November 2018. Only patients on the SCAMP regimen were included in the study. Patient data was collected from first day of SCAMP regimen until baby was discharged, or ceased parenteral nutrition.

Results

- 22 patients were identified for inclusion in the study. Of these, 17/22 (77%) weighed < 1 kg.
- Majority of babies (20/22; 91%) were aged < 31 weeks corrected gestational age when SCAMP was initiated.
- Majority of babies were on the SCAMP regimen due to prematurity; 4/22 (18%) had a surgical condition, that required PN to be initiated.
- 1 patient had a complex congenital cardiac anomaly.
- Average length of time babies remained on SCAMP was 19 days (range 5–28 days).
- Majority of babies were enterally fed using breastmilk. Some babies were on alternative formula feeds.
- Mean amount of energy delivered to each patient was calculated. The amount of energy delivered increased daily over the first week, and by day 10 of life had reached the target range (110–135 kcal/kg/day). Recommended energy intake was then maintained for the rest of the 28–day study period.
- Target amount of protein intake varied for babies weighing <1 kg and >1 kg. For babies <1 kg, a gradual increase occurred over the first 5 days of life. Recommended protein intake was met between days 5–10 of life, then there was a gradual decline.
- For babies weighing between 1–1.8 kg, the recommended protein intake was achieved within 24–48 hours. Higher than recommended amounts of protein were being delivered between days 5–10 of life. Mean protein intake remained within ESPGHAN recommendations (3.5–4 g/kg/day) during weeks 3 and 4 of life.

The results are encouraging and demonstrate that neonates are managing to achieve the recommended amounts of energy intake from day 10 of life.

Limitations This study focused solely on energy and protein intake – it did not include observations of growth. Future studies should consider looking at more patient-focused outcomes.

Conclusions SCAMP regimen is delivering the recommended amounts of energy for babies on the neonatal unit – target levels are achieved by day 10 of life.

- Future work should focus on observing growth in babies on SCAMP
- Earlier introduction of breast–milk fortifier may be helpful to increase protein intake in babies < 1 kg – potential benefits need to be evaluated against risk of adverse effects.

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P13 OPTIMISING PAEDIATRIC INTRAVENOUS FLUID MANAGEMENT PLANS: A QUALITY IMPROVEMENT PROJECT

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Introduction Intravenous (IV) maintenance fluids are often prescribed post-surgery when enteral routes are contraindicated. Serious consequences have been documented when poor fluid management has occurred, as highlighted in the National Patient Safety Alert (NPSA) 22; reducing the risk of hyponatraemia; when administering IV fluids to children.[1] In response to this, the National Institute for Health and Care Excellence (NICE) published their guidance in December 2015 regarding IV fluids in children.[2] Based on NICE recommendations, a pan hospital fluid guidance was produced. Within the NICE and hospital's own guideline it states that there should be a daily fluid management plan documented. It has been well recognised that this daily fluid management plan was not routinely been completed; hence showing non-adherence to our hospital policy and NICE recommendations.

Aims Primary aim was to improve the documentation of the daily fluid management plan; aimed at the medical staff and the secondary aim was to improve the monitoring requirements of IV fluids and documentation of these; largely aimed at the nursing staff.

Methods A simple sticker was designed and attached to continuous sheets for medical notes which had a checklist of monitoring requirements and a section for fluid balance. Additionally, 2 posters were produced; one aimed at medical staff for documenting a fluid management plan and one aimed at the nursing staff with the monitoring requirements. These posters were displayed on the paediatric surgical ward.

Results A total of 22 patients who were prescribed IV fluids were identified for a baseline measurement, an equal number of patients were compared after the intervention. Neonates and children receiving total parenteral nutrition were excluded from the data collection. There were 41% of daily fluid management plans completed pre intervention and post intervention there were 56% completed; showing a 15% increase in completion. As regards the monitoring indications; there were increases for nursing fluid balance completed from 19% to 46%, blood glucose taken and recorded from 64% to 83% and the daily weight documented from 10% to 49%.

Conclusions This short QI project shows that implementation of an intervention did improve outcomes across all indications investigated. The results are not as dramatic as first hoped, but this is largely due to the short time scale of 4 weeks to introduce our change and it coincided with the change-over month of junior medical staff. With further education and champions within the medical and nursing teams; further improvement is very much possible, with the main aim in reducing risk and improving patient safety.

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P14 REDUCING MEDICATION ERRORS USING PRESCRIBING NUDGES: INTRAVENOUS ACICLOVIR ON PAEDIATRIC INTENSIVE CARE

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Aim This Quality Improvement project is the second phase of a long term project to improve the quality of prescribing on the paediatric intensive care unit (PICU). Small adjustments are made to the electronic prescribing (EP) system, known as 'nudges', with the aim of improving the quality of prescribing in terms of error rate or user experience.[1 2]

Intravenous aciclovir is prescribed to most patients admitted to the PICU with suspected meningitis/encephalitis. There is a complicated dosing schedule where the prescriber must decide whether to use body surface area (BSA) or weight to calculate the required dose. Underdosing risks subtherapeutic treatment of a viral encephalitis and overdosing risks acute kidney injury. Within our EP system, dosing by weight can be automated, but dosing by BSA cannot.

A project in 2018 used a 'nudge' to alter the order of prescribing options in the drop down menu on the EP system. This reduced the error rate from 26% to 17% by reducing the likelihood of picking the wrong indication for acyclovir.[3] However, a re-audit in October to December 2018 found the error rate had crept back up to 32%. Prescribing on the EP system is a multi-step process. Prescribers had to pick 'aciclovir' to choose the weight based dose or 'aciclovir injection 3 month-11 yr' to choose the BSA based dosing. When 'aciclovir' was picked, this removed the body surface area dosing option from the prescriber's screen and led them in the direction of an incorrect dose.

Method The intervention for this project was to amalgamate all weight and BSA dosing options for acyclovir within the EP system, and then order them by age so that the prescriber could see all options simultaneously. This change was designed and implemented by our electronic prescribing support pharmacist in April 2019. Pre and post change prescriptions were audited by pharmacy undergraduate students for accuracy using data downloaded from the EP system.

Results The error rate post change was 8% (pre change 32%). The remaining errors reflect transcribing of an incorrect dose initiated outside of the PICU from a referring ward or hospital.

Conclusion This project shows that small, 'smart' changes within EP configuration can improve the quality of prescribing.

Future work involves working with the software company to incorporate the ability to automatically calculate the dose based on BSA, further reducing the need for manual calculations. This project would not have been possible without the skills and knowledge of our electronic prescribing support pharmacy team.

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P15 USING PRESCRIBING NUDGES TO REDUCE MEDICATION ERRORS: PARACETAMOL ON PAEDIATRIC INTENSIVE CARE

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Aim Paracetamol is widely available and its safety profile is relatively good. However, the risk associated with a paracetamol overdose is much greater in a neonate than that associated with an adult.

In 2018, 8% of paediatric medication errors related to the use of paracetamol, including three 10x overdoses. These irregular but serious risks are difficult to manage over time due to degradation of heightened awareness. The aim of this project was to improve the prescribing quality of IV paracetamol on PICU and prevent recurrence of a 10-fold overdose by the implementation of multi-level changes.

Method Electronic prescribing (EP) has been in use on our unit since 2016. Small changes (prescribing nudges) in the configuration of the EP system can be used to improve prescribing quality. Forced functions, automation and standardisation have been found to be more effective in this than more traditional education and training methods.[1 2]

The changes implemented in January 2019 were as follows: