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:

- **Forced function:** All paracetamol prescriptions for patients under 1 year of age were capped at 180 mg (change from 1000 mg). The prescriber could not enter a number greater than 180 mg.
- **Automation:** All oral paracetamol prescriptions were changed to automatically prescribe 15 mg/kg 6 hourly regardless of age (previously 2 different options requiring the prescriber to input dose and frequency according to formulary directions).
- **Standardisation/simplification:** All oral paracetamol prescriptions were rationalised to a single option with automatic dose and frequency as above (previously 2 different options unnecessarily).
- **Reminder/rule:** A rule of 'Consultant Approval' was added to all intravenous paracetamol prescriptions. The intention of this was for a review of the prescription before use to ensure appropriate use and dose/frequency. This could not be forced, so an education package was launched across the unit by the quality improvement group.

Prescription details were downloaded from the EP system for 3 month periods pre and post changes. The data was audited by pharmacy undergraduate students for prescribing accuracy.

Results The forced function, automation and standardisation options were implemented with 100% compliance. The 'consultant approval' rule was followed in 23% of cases. Consultant review led to a 58.6% reduction of IV paracetamol prescriptions on the unit and zero prescriptions for the first 2 months post implementation. The usage of oral paracetamol increased accordingly. This change corresponded to an overall reduction rate of 41.7% for intravenous paracetamol prescriptions.

Conclusions This project demonstrates how changes that increase automation within prescribing can reduce error and that implementation is more successful than education. A limitation of our data analysis was that we did not measure the effect on pain relief or pain scores in the patients who did not receive IV paracetamol compared to those who did.

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P16 CEASE: DEPRESCRIBING ON DISCHARGE FROM PICU

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Aim To develop a screening tool for prescribers to aid deprescribing on discharge from paediatric intensive care (PICU). Deprescribing is defined as 'the process of withdrawal of an inappropriate medication supervised by a healthcare professional with the goal of managing polypharmacy and improving outcomes'.¹ On the subject of deprescribing in paediatrics there is currently a lack of published literature however it is thought that we will be able to rationalise medicine use by being able to identify and document their indications.²

Method An audit was completed of twenty-five paediatric patients following discharge from PICU. Data was collected on which medicines were not appropriately stopped by PICU prescribers when patients were stepped down to the ward.

These medicines were categorised by their indication and this information was used to create a deprescribing screening tool. Prescribers on PICU were educated on this new tool and a further audit is currently underway to assess the impact of this.

Results Twenty-five children were discharged from PICU to wards within the hospital over a four week period. Of these all twenty-five had two medicines or more that should have been deprescribed or a plan documented for before stepping down. A total of 110 medicines could have been deprescribed (median 4 per patient, range 2–8). These medicines were categorised by their indication: sedation 38.2% (n=42), electrolytes 33.6% (n=37), additional charts 18.2% (n=20), gastro-protection 4.5% (n=5), antibiotics 2.7% (n=3), other 2.7% (n=3).

We found that these medicines included high risk critical care only medicines that were unsafe to be administered on a ward such as high strength potassium infusions or inotropes, oral and IV sedative agents and antibiotics with no documented plan. Based on this information the following 'CEASE' screening tool was created:

Charts - are additional charts still in use and appropriate?

Electrolytes - have all PICU only electrolytes been stopped?

Antibiotics - do all antibiotics have a documented plan?

Sedation - has all sedation been stopped or if not is there a documented plan of when and how to stop?

Enteral - if enteral feeds have started has all gastro-protection been stopped?

A further audit is currently underway to assess the impact of the 'CEASE' tool.

Conclusion The audit has shown that a range of different medicines were inappropriately continued outside of PICU, this includes high risk medicines not suitable for use on the ward. The development of the 'CEASE' tool has been created to aid prescribers in the identification of medicines which should be deprescribed. This should help to provide better treatment, improve patient safety and promote antimicrobial stewardship.

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P17 INTRODUCING CONCENTRATED PRETERM STOCK PARENTERAL NUTRITION AND THE IMPACT ON BESPOKE COMPOUNDING

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Background It is widely recommended that stock parenteral nutrition (PN) bags are used where possible to reduce the risks associated with bespoke PN compounding.¹ A review was undertaken within a level three neonatal unit which identified that a large proportion of compounded bags were made due to the need to provide full nutrition in a smaller volume. A preterm concentrated aqueous PN bag was developed which, when run with stock lipid syringes, meets the nutritional requirements of preterm babies in a total volume of 100 ml/kg/day.²