

in the number of bleeps in the 10 weeks post-change implementation (23). The median average response times of all three pharmacy teams were shown to be within the 15-minute time limit. Mean average response times were higher. Pharmacy team response times remained below the 15-minute limit. ANOVA ($F=7.1$ $f_{crit} = 3.3$) and T-tests showed there were no significant differences in the mean average response times of pharmacy teams ($p=0.7$).

Conclusion Data and practical use has shown that the transfer of pharmacy communications away from radio-pagers to the CareFlow notification system has been a success. We have shown pharmacy to be more accessible and efficient in their completion of tasks assigned by other members of staff. With noted benefits of receiving tasks out of hours for completion in the morning. Response times remain within the 15-minute limit, showing the majority of their tasks are responded to efficiently. However, mean responses were relatively higher. This may indicate tasks that are not responded to within these 15 minutes may have been missed, and therefore have far longer waiting periods. This is likely a contributory factor for the continued low-level use of the radio-pagers through the 10 weeks post-change implementation.

P12

DO PAEDIATRIC DOSING SETS FOR INTRAVENOUS (IV) PIPERACILLIN/TAZOBACTAM AND ORAL MORPHINE MAKE IT MORE LIKELY TO GET 'THE DOSE RIGHT FIRST TIME' IN AN ELECTRONIC PRESCRIBING SYSTEM?

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Aim Dosing errors are the most predominant type of paediatric medication error in a hospital setting.¹⁻³ The main aim was to investigate the effect of dosing sets, a type of clinical decision support (CDS) software, on paediatric prescribing safety in an electronic prescribing system. The secondary aim was to determine the impact of dose range checking (DRC) software on erroneous prescribing.

Method A retrospective observational clinical audit was conducted in a large tertiary paediatric hospital. The dosing sets and DRC software were fully integrated within the hospitals existing electronic prescribing system, namely MeditechV6. Data from before and after the introduction of dosing sets and DRC alert data from IV Piperacillin/Tazobactam and oral morphine prescriptions was extracted from MeditechV6 and analysed. The main outcome measures included the proportion of prescriptions with dosing errors, the type of errors and the level, and appropriateness of alert overrides.

Results The error rate did not significantly reduce following the introduction of either dosing sets. In the pre-intervention period 7/180 (3.9%) IV Piperacillin/Tazobactam prescriptions resulted in error and in the post-intervention period there were 5/180 (2.8%) prescription dosing errors ($n=12$, Pearson χ^2 value=0.345, $p=0.557$). All detected errors comprised of sub-therapeutic doses and prescribing inaccuracies were more prevalent in patients over 12 years and less than 50 kilograms (kg). A total of 54/180 (30%) orders did not apply the dosing sets following implementation and 2/54 (3.7%) orders were subsequently erroneous. There was 1/120 (0.8%) prescribing error following accurate dosing set selection and 2/6 (33.3%) prescribing errors following inaccurate selection.

After the introduction of dosing sets, 23/50 (46%) oral morphine to take out (TTO) prescriptions contained a dosing inaccuracy versus 11/50 (22%) prescriptions pre-introduction ($p=0.011$). Inpatient oral morphine prescribing inaccuracies decreased following dosing set introduction from 14/50 (28%) to 9/50 (18%) respectively ($p=0.235$).

A total of 36/45 (80%) IV Piperacillin/Tazobactam DRC alerts were overridden at the point of prescribing and such actions were deemed clinically inappropriate for 6/36 (16.7%) prescriptions. Similarly, 6/20 (30.0%) of overridden oral morphine DRC alerts were deemed clinically inappropriate when audited against hospital guidelines.

Conclusion The introduction of drug-specific dosing sets did not significantly reduce the incidence or nature of prescribing errors for neither IV Piperacillin/Tazobactam nor oral morphine. In addition, the generation of DRC alerts did not prevent the submission of all erroneous prescriptions.

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P13

VITAMIN D PREPARATIONS: WHAT'S IN THE BOTTLE?

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Aim The UK incidence of vitamin D prescribing in children has increased by 26-fold in recent years.¹ Public Health England recommends that children over 1 year take a daily vitamin D supplement.² But the availability of over 200 different vitamin D products can be confusing for parents and clinicians. Our study aimed to assess the usage of licensed and unlicensed vitamin D only (VDO) preparations across primary care in England, and to compare measured and labelled vitamin D content of VDO preparations marketed in England.

Method Analysis of the vitamin D content of randomly selected VDO preparations using reversed-phase high performance liquid chromatography. Retrospective trend analysis of prescription reimbursement data for VDO prescriptions from 2008 to 2018.

Results Licensed and unlicensed VDO preparations were available in a wide range of dose strengths from 400 to 50,000 IU. The number of licensed VDO preparations increased from 4 to 32 between 2008 and 2018, along with an increase in the proportion of VDO prescriptions fulfilled by licensed preparations. However, prescriptions of unlicensed preparations remained high and accounted for 42% of the prescription items in 2018. The 11 unlicensed preparations analysed had vitamin D concentrations ranging from $41.2 \pm 10.6\%$ to $165.3 \pm 17.8\%$ of the declared content, with only one meeting the acceptable criteria of 90-125%. The 2 licensed preparations met the required standards. There was no association between the preparation dose strength and the magnitude of percentage difference between measured and labelled contents ($r=0.41$, $p = 0.17$). Unlicensed liquid preparations in dropper bottles showed the greatest inter-sample variability suggesting

there may be a lack of uniformity in drop volume delivered which could lead to dose variability.

Conclusion Despite the increasing availability of licensed preparations with assured quality, use of unlicensed preparations to fulfil VDO prescriptions has continued in primary care in England. Unlicensed VDO preparations marketed showed wide variations between measured and declared vitamin D contents. Younger children who are more vulnerable to harm are thus exposed to unnecessary risks of under- and over-supplementation.

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P14 IDENTIFICATION OF PRESCRIBING ERRORS IN A PAEDIATRIC INTENSIVE CARE UNIT (PICU): AN AUDIT

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Aim To identify the nature, frequency and incidence of prescribing errors on a PICU.

Method Electronic intervention data was collected over a two-week period for all patients admitted to or currently on the PICU. A purposefully designed electronic data collection form was developed using Microsoft Excel and piloted by the researchers in advance of commencing the audit to ensure fitness for use. Data was collected in the moment and retrospectively as outlined below. A daily patient list was generated, and the following information extracted from the patient's medication chart; total number of items prescribed each day and the proportion of those that were new. Only patients present in the unit were included in the data collection. Pharmacist interventions are recorded electronically each day. The numbers of interventions reported daily for the study were collected retrospectively from the pharmacy intervention system. The route of administration, type of error, drug, category of harm and prescriber identity to ascertain which shift the error occurred on were also extracted.

Results PICU did not operate at full capacity (24 beds) during the audit period, overall data for 39 patients was captured. Patients ranged from 0 to 15 years of age and had been admitted to the unit for a variety of surgical, medical and trauma-related reasons. A total of 36 interventions were reported giving an intervention rate of 92% per patient and 2.3% per number of prescriptions reviewed. The number of interventions appeared to correlate with the number of items prescribed (none of the prescriptions with 15 or less items required intervention). Many patients within the unit are nil-by-mouth and 77.5% (n=31) of the interventions reported were associated with medicines prescribed via the intravenous route with intravenous antibiotics accounting for 52.5% (n=21) of the total interventions reported. Most errors occurred during a long day shift and were near misses that did not reach the patient.

Conclusion The results show that the incidence of prescribing errors per patient was high but per number of prescriptions this is lower than comparable studies.¹ Prescribing errors were

most common for antimicrobial and intravenous medication and therefore these should be the focus of future reforms. The next steps will include a multidisciplinary team meeting to identify potential causes of error and solutions to overcome these. These are likely to reflect those reported in the literature such as raising awareness of errors, educational prescribing sessions, introduction of prescribing prompts, and a new system approach such as electronic medicines administration and prescribing systems, all of which have proven efficacious in reducing prescribing errors on PICUs.² In order to implement and determine the impact of any changes a quality improvement approach of plan-do-study-act cycles will be adopted.³ This will help us meet the Trust target of a 20% reduction in errors.

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P15 FEASIBILITY OF THE INTRODUCTION OF ASEPTICALLY PREPARED DOSE BANDED ANTIMICROBIALS IN A PAEDIATRIC HOSPITAL

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Aim In 2007 the National Patient Safety Agency issued an alert entitled 'Safer Use of Injectable Medicines'. In response to this alert a number of hospitals have set up Centralised Intravenous Additive Services (CIVAS) to provide ready to use syringes for commonly prescribed intravenous (IV) medications to the wards. It offers a number of advantages including: saving nursing time, reducing risk of calculation and manipulation errors, improving infection prevention and control and leading to potential cost saving (vial sharing). A recent audit in our hospital identified 20% of wastage of ready to use syringes associated with significant cost. One way in which to address the issue is produce batches of ready to use syringes of dose banded antimicrobial. Also, the Paediatric Sepsis 6 Initiative states that intravenous antibiotics should be given to the patients within the hour. Dose-banded antimicrobial preparation could also assist the paediatric emergency department to reduce the patient's wait. The aims of the study was to review the current practice of other paediatric hospitals in order to analyze the feasibility of introducing batch production of dose-banded antimicrobials.

Method We conducted a 20-question survey sent from the 18th of February until the 7th of April 2021 to the Neonatal and Paediatric Pharmacy Group (NPPG), French Society of Clinical Pharmacy (SFPC), European Association of Hospital Pharmacy (EAHP) and other hospital pharmacists from Belgium and Switzerland.

Results Forty-eight pharmacists from 44 paediatric hospitals and 8 different countries participated to the survey. Seventeen (36%) were from the United Kingdom, n=16 (32.7%) from France, n=7 (14.3%) from Belgium, n=4 (8.2%) from Switzerland, n=1 (2%) from Canada, n=1 (2%) from Finland, n=1 (2%) from Ireland and n=1 (2%) from Russia. Almost all the participants have heard about dose banding before