to this patient. Initially the manufacturer was unable to support this request in a timely manner which led us to pursue second line therapy with cladrabine.

Pharmacist advised on cladrabine dosing based on chemotherapy protocols, liaised with procurement to source drug and facilitated set up of drug using electronic prescribing system, supported consultant to prescribe and nursing staff to administer drug.

Without the contribution of the pharmacy team, it is likely that this patient would not have received treatment in a timely manner and drugs may have been inadvertently prescribed and administered that could trigger histamine release.

Outcome Patient received three cycles of cladribine using doses described in LCH-IV protocol. Hepato-splenomegaly was reduced and counts normalised. There was no visible improvement of skin lesions. The manufacturer of midostaurin responded several weeks later granting the supply of a trial stock liquid formulation on a compassionate basis.

Lessons Learnt Medicines governance around compassionate access schemes are lengthy and therefore second line treatment was required. Consideration of most appropriate analgesia and infection prophylaxis was researched and prescribed for patient.

P10 APP FOR PAEDIATRIC INFLAMMATORY BOWEL DISEASE (PIBD) PATIENTS – A SUCCESS?

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10.1136/archdischild-2022-NPPG.19

Aim To determine the impact of the introduction of the app IBDMate to the paediatric inflammatory bowel disease (PIBD) service on patient satisfaction, medication adherence and understanding.

Method The PIBD department and IBDrelief have developed an app - IBDMate for children with inflammatory bowel disease (IBD) and their guardians. The app aims to improve the health literacy and quality of life for patients. With IBDMate, the PIBD team can 'prescribe' educational courses from hundreds of videos, articles and quizzes featuring the PIBD team. Topics include living with IBD, medication, meet your team, tests and research.

The project was ethically approved by the patient engagement team. A baseline measure of patient satisfaction with the PIBD service and understanding of medications was established prior to the app introduction using a paper-based questionnaire, distributed to patients after their hospital visit from 01/10/2020 - 31/12/2020. Following the introduction of the app, a second online questionnaire was distributed from 01/05/2021 - 30/06/2021.

The PIBD helpline was also reviewed for medication related enquiries during the study period. Data from patients/guardians who had not accessed the app before completing the second questionnaire were excluded. Patients were given a unique identifier and no personal information was collected. Descriptive and comparative statistical analysis was undertaken to assess impact.

Results The first and second questionnaires were completed by 33 and 31 patients respectively. Patient satisfaction with the quality and way information is received improved from 88% to 100%. Understanding of how medication works and side effects of medicines improved by almost 20%. After using IBDmate patients were able to remember 10% more information about their medicine and unintentional medication omission reduced from 10% to 0%. Responses to open questions revealed patients felt that the app helped them understand their medicines better and they found it useful to get to know the clinical team and hear other patients' stories. Participants felt the app was a trusted, reliable and relevant source of information. Suggested improvements were having a section for younger children to engage with, and retention of login details. 55% used the app to look at information about their medication. The number of calls to the PIBD helpline that were related to medication dropped from 25% to 15% following introduction of the app.

Conclusion The introduction of IBDMate has had numerous positive impacts on patients through increased knowledge, accessibility, medication adherence and trust in information. This project demonstrates the benefits and further potential of the app although several areas would benefit from additional work including: monitor service satisfaction to ensure high standards are maintained as the app is developed; encourage broader use of the app; further research on the impact of the app on freeing up clinical resources by reduced helpline call volume and clinic visits; and further development of the app to include resources for younger children and retention of login details.

P11 USING NOVEL TECHNOLOGY TO IMPROVE COMMUNICATION TO AND BETWEEN PHARMACY STAFF

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10.1136/archdischild-2022-NPPG.20

Aim To explore possible alternatives to the current radio-pager communication system following the department of health's order for their removal by the end of 2021. To analyse the feasibility and practicality of these systems and implement the most appropriate choice into practice.

Method Analytical tools including driver diagrams and process maps were constructed and examined to identify possible alternatives to the current radio-pager system. Systems such as Microsoft Teams® and Whatsapp ® were considered but were discredited due to concerns surrounding information governance. CareFlow, a system already implemented in the adult services at the Trust, was consistently identified as fulfilling criteria to enable its utilisation as an alternative to radio-pager. These criteria being: ease of use (task raising), accessibility and maintaining information governance standards.

The utilisation of radio-pager and CareFlow data were retrospectively collected and analysed for the 10-weeks before and after the implementation of CareFlow. Comparison of this data involved 2-sided T-tests and ANOVA statistical tests, comparing mean data of radio pager against CareFlow tasks, the comparison of workload and efficiency of the pharmacy teams after rollout. CareFlow tasks raised were analysed for time to completion as the accepted limit for radio-pager response is 15 minutes.

Results A statistically significant increase ($P = 0.004$) of 69.5% in the weekly average number of CareFlow tasks in the 10 weeks post-intervention (71) compared to the weekly average number of bleeps in the 10 weeks prior (42). Additionally, a statistically significant 45% decrease ($P = 0.0002$)

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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 15minute limit. ANOVA (F=7.1 fcrit = 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 15minute 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 15minutes 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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10.1136/archdischild-2022-NPPG.21

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 $\chi 2$ 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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10.1136/archdischild-2022-NPPG.22

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 ± 10.6% to 165.3 ± 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

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