(n=45; 94%). Only n=13 (31%) hospitals prescribed medications with dose bands such as IV chemotherapies (n=27; 64.3%), antimicrobials (n=9; 21.4%) and other type of drugs (n=6; 14.3%). The dose banded antimicrobials were cefotaxime, ceftriaxone, piperacillin/tazobactam and benzylpenicillin. Almost all of the participants agreed that it could reduce prescription errors (n=37; 77.1%), save nursing time (n=37; 77.1%) or reduce wastage by reassigning the syringe to another patient (n=32; 66.7%). On the other hand, n=13 (27.1%) participants thought dose banding can expose to risks of drug inefficacy or toxicity by not giving the exact dose (milligram-per-weight) and n=8 (16.7%) thought it can increase wastage (because of the batch production and the expiry date). Only 13 hospitals (29%) prepared some antimicrobial in the centralized aseptic unit with milligram-per-weight doses.

Conclusion Some paediatric hospitals have experienced dose banding for IV antimicrobials such as cefotaxime, ceftriaxone, piperacillin/tazobactam and benzylpenicillin. The participants of the survey thought that it was very attractive in order to reduce wastage and the prescription errors. On the other hand, there was no paediatric hospitals currently producing batches of IV antimicrobials in the CIVAS. Introducing batches of dose banded antimicrobials will needs further studies about time and cost saving as well as stability of some IV antimicrobials syringes.

P17 DOSE RANGE CHECKING (DRC) IN PAEDIATRIC ELECTRONIC PRESCRIBING; AN EFFECTIVE TOOL IN REDUCING PRESCRIBING ERRORS?

[1]Elizabeth Kane*, [1]Alice Lippitt, [2]Octavio Aragon Cuevas, [2]Andrea Gill. *[1]Liverpool John Moore's University; [2]Alder Hey Children's Hospital*

10.1136/archdischild-2022-NPPG.25

Aim DRC software aims to reduce dosing errors,[1] however, it has been linked to 'alert fatigue', a phenomenon which causes prescribers to potentially override alerts despite being clinically relevant.[2 3] The project aim is to determine the effectiveness of the DRC software implemented into the electronic prescribing software used in a paediatric tertiary hospital.

Method A retrospective clinical audit was undertaken to investigate the DRC alerts produced during July and August 2020. The DRC alert subtypes and the top 10 drugs that produced alerts were described. Alerts generated due to a 'missing value' (height, weight, or dose unit) were counted but not analysed further. Dose-based alerts were clinically screened to ascertain whether they were appropriately or inappropriately overridden. This involved considering whether the DRC recommendations differed from BNFc recommendations, local in-house guidance, or deviations occurred due to individual patient idiosyncrasies or specialist prescribing. Data from dose-based alerts was interrogated to determine whether increasing the acceptable dose range limit from 5% to 10% would have significantly reduced the number of alerts fired. Alerts that were inappropriately overridden and resulted in a medication error were categorised by severity using the EQUIP study scoring tool.[3]

Results 1778 alerts generated in July and August 2020 were analysed. 48% (n=846) of those alerts were produced due to a 'missing value'. The DRC software did not recognise whether the alerted drug was recorded at the same dose in the patients' 'home medications' (verified drug history) or whether in-house dose guidance was used. If recognised, the number of alerts would have reduced by 21.4% (n=200). Conversely, increasing the DRC acceptable dose range from 5 to 10% would have reduced the number of alerts only by 4.5% (n=42).

Overall, 741 alerts were clinically screened. 95% (n=704) of these were not actioned by prescribers. Of those alerts 5.2% (n=37) should have been acted upon and this led to medication errors. 35% (n=13) of the errors were significant and 22% (n=8) were serious according to the EQUIP study tool. 62.5% (n=5) of serious medication errors involved a 'Narrow Therapeutic Index' drug, such as gentamicin and liposomal amphotericin. 38% (n=5) of significant errors related to no prescribed maximum frequency for intravenous ondansetron.

Conclusion DRC systems are effective tools for preventing prescribing errors,[1] but it is concerning to see that several significant and serious prescribing errors occurred despite an alert generation. This potentially suggests that alert fatigue may counteract the error preventing effects of DRC alerts. Therefore, further refinement of DRC systems is required to reduce alert fatigue. Unfortunately, increasing the acceptable dose range limits from 5 to 10% does not appear to be a simple way of sorting this problem. Removing 'missing value' alerts would significantly reduce the number of alerts generated. Including in-house guidelines alongside BNFc dose recommendations into the DRC software would also reduce unnecessary alerts.

REFERENCES

1. Sahota H, Hughes P, Barrass C, *et al*. Delivering electronic prescribing and medicines administration in challenging areas such as paediatrics and maternity at King's College Hospital NHS Foundation Trust. *Clinical Medicine Journal* [Internet] 2015;**15**:s5. Available at: https://www.rcpjournals.org/content/clinmedicine/15/Suppl_3/s5
2. Neame M, Moss J, Saez Dominguez J, *et al*. The impact of paediatric dose range checking software. *European Journal of Hospital Pharmacy* [Internet] 2020. Available at: https://ejhp.bmj.com/content/early/2020/03/31/ejhpharm-2020-002244
3. Dornan T, Ashcroft D, Heathfield H, *et al*. An in-depth investigation into causes of prescribing errors by foundation trainees in relation to their medical education. EQUIP study final report. December 2009. Available at: https://www.gmc-uk.org/-/media/documents/FINAL_Report_prevalence_and_causes_of_prescribing_errors.pdf_2893 5150.pdf

P18 ROLE OF THE PHARMACY TEAM IN PAEDIATRIC PALLIATIVE CARE

[1]Muhammad Yunus Hossain, [1]John Weinman, [2]Sian Gaze*. *[1]King's College London University; [2]Evelina London Children's Hospital*

10.1136/archdischild-2022-NPPG.26

Background In 2016, NICE published a guideline on 'End of life care for infants, children and young people with life-limiting conditions: planning and management'.[1] These guidelines recommended that pharmacists should be embedded in every paediatric palliative care team.

Aim To identify the roles of pharmacy teams in paediatric palliative (PP) care and examine the effectiveness of their services as perceived by PP doctors and nurses. To compare 2020 survey results with a study conducted in 2014 by Khan et al,[2] to assess whether any changes could be observed.

Method This was a repeat of the study conducted in 2014 by Khan et al. A SurveyMonkey link was emailed to members of the APPM (Association for Paediatric Palliative Medicine) and NPPG (Neonatal and Paediatric Pharmacists Group) as well as to community pharmacies working closely with local children's

hospices in London and South East England. The questions were identical to the ones used in 2014. The data was analysed using Microsoft Excel.

Results The number of respondents totalled 107 (Response rate: 19%).

The respondents consisted of 84 individuals who were pharmacists or pharmacy technicians, and the remaining 23 were non-pharmacy staff such as doctors or nurses.

The majority of the pharmacy team reviewed palliative care patients on a monthly basis, and this trend had increased since 2014. Overall, an increase in patient contact was observed. The clinical involvement of the pharmacy team in PP care had increased, especially in medicines optimisation and prescribing. Since 2014, the number of pharmacists prescribing for children with palliative care needs appeared to have doubled. Other roles where pharmacy involvement appeared to have increased included advising on storage of medicines, investigating medication errors and formulary development.

Conducting research/audits, writing guidelines and financial reports were not popular tasks. In 2020, only 25% of the pharmacy team were involved with writing patient information leaflets for children with palliative care needs.

Lack of staffing, time and funding were the most frequently reported impediments to the pharmacy team taking on more clinical roles.

In 2014 and 2020, the British National Formulary for Children (BNF-C) was the most popular reference source routinely used by all staff groups. The Palliative Care Formulary, syringe driver compatibility charts and Handbook of Drug Administration via Enteral Feeding Tubes were also popular references amongst the pharmacy team. Doctors and nurses utilised the Alder Hey Book of Children's Doses and the APPM Master Formulary more than pharmacy staff.

In 2020, doctors and nurses gave a median of 10/10 regarding their satisfaction of the pharmacy team's contributions. The minimum score given was 6. Khan's study[1] reported a median rating of 9, but the difference observed was not considered to be statistically significant (p value >0.05).

Conclusions This study inferred that the involvement of the pharmacy team in paediatric palliative care has increased since 2014. More of the pharmacy team are handling clinical issues and the paediatric palliative healthcare team would like this growth to continue. The increase in prescribing by pharmacists was an interesting finding and it would be well-worth observing how this trend progresses. Consistent with Khan's observations in 2014, non-pharmacy staff highly valued the pharmacy team's contributions.

REFERENCES

1. NICE guidelines. NG 61:2016. *End of life care for infants, children and young people with life-limiting conditions: planning and management*. NICE 2020.
2. Khan J, Gaze S, Tomlin S. The role of the pharmacist in paediatric palliative care. *Archives of Disease in Childhood* 2016;**101**(9):e2. doi:10.1136/archdischild-2016-311535.22

P19 A MIXED METHOD STUDY TO EVALUATE THE MEDICINES OPTIMISATION PATHWAY FOLLOWING VIRTUAL OUTPATIENT CLINICS

[1]Victoria Tsang*, [2]Linda Eftychiou, [2]Venessa Vas, [2]Nanna Christiansen, [3]Joanne Crook, [1]Sian Bentley, [1]Sukeshi Makhecha. *[1]Royal Brompton Hospital; [2]Guy's and St Thomas' NHS Foundation Trust; [3]Kings College NHS Foundation Trust*

10.1136/archdischild-2022-NPPG.27

Aim In March 2020, COVID-19 triggered an NHS directive to reduce face-to-face consultations and adapt to virtual clinics.[1] Hospital pharmacies, each with their own model of care, quickly innovated to ensure patients received their medication safely.

The aim of this study was to evaluate the provision of medications optimisation for paediatric patients following virtual outpatient consultations (VOC) and explore potential improvements for future implementations.

Method This was a mixed method study using quantitative data; which reviewed medications sent to patients in red, amber, and green categories[2] and qualitative data; using patient feedback, to evaluate the processes in three London hospitals. Pathway mapping (PM) sessions, with multidisciplinary team involvement, were conducted across these hospitals to identify areas for improvement and analyse gaps in services. Virtual PM sessions were attended by 30 representatives across the multidisciplinary team including: pharmacists, nurses, consultants, pharmacy technicians, post room attendants; and general, operational, and project managers.

Semi-structured questionnaires were used to conduct one to one telephone interviews with patients' families. A separate topic guide was used to interview General practitioners (GP) and primary care network (PCN) pharmacists. The audio recordings were transcribed as 'intelligent verbatim' and analysed using Nvivo. Braun and Clarke's six phases approach was used to conduct an inductive thematic analysis.[3] To improve the rigorousness of the study, more than 50% of the transcript were double coded.[4]

As this was a service evaluation, ethics approval was not necessary. The project was registered with each hospital's clinical audit department.

Results The three process maps were analysed and potential improvements for the medicines optimisation pathway were assessed by a paediatric pharmacy subgroup using ease-impact matrix. Potential improvements include: exploration and use of Electronic Prescription Service by secondary and tertiary care, improving communication through Information Technology systems between prescribers and hospital pharmacists, and the creation of a transparent standard operating procedure regarding medication supply following VOC.

Seventy-one patients' families across the sites were interviewed between January-May 2021 to reflect on their experience of receiving medications following a VOC. Four GPs and one PCN pharmacist were interviewed in May 2021 to assess on the impact of VOC on primary care.

Key reflections from themes generated include the convenience of receiving medications from hospital pharmacies following VOC, satisfaction of the current process, including medicines packaging and medicines information provided to patients and their families.

Other reflections included limitations of the current process and its implication on patient safety. Medicines information helplines and education provided by pharmacists were regarded by patients' families and GPs as a valuable attribute.

Conclusion Patients' families appreciated the current model of care, however patients' families and primary care healthcare professionals have identified both challenges and suggestions for improvement in delivering the current model. Future research should focus on a mixed mode of integrated care with green and amber medications[2] prescribed directly to community pharmacies with clinical screening and counselling conducted by hospital pharmacists.