

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 study¹ 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

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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 categories² and qualitative data; using patient feedback, to evaluate the processes in three London hospitals. Pathway mapping (PM) sessions, with multi-disciplinary 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 medications² prescribed directly to community pharmacies with clinical screening and counselling conducted by hospital pharmacists.

REFERENCES

1. Stevens S and Pritchard A. Important and urgent – next steps on NHS response to Covid-19. *NHS England* [Online]. 17 March 2020: Available at: <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/urgent-next-steps-on-nhs-response-to-covid-19-letter-simon-stevens.pdf>
2. Guy's and St Thomas' NHS Foundation Trust, Kings College Hospital NHS Foundation Trust, Lewisham and Greenwich NHS Trust. South East London Joint Medicines Formulary. *netFormulary*. [Online]. 2020: Available at: <http://www.selondonjointmedicinesformulary.nhs.uk/>
3. Braun V and Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology* 2006;**3**:77-101.
4. Maher C, Hadfield M, Hutchings M, et al. Ensuring rigor in qualitative data analysis: a design research approach to coding combining NVivo with traditional material methods. *International Journal of Qualitative Methods* 2018;**17**:1-13.

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CHILD PRESENTING WITH PAROXYSMAL ATRIO-VENTRICULAR HEART BLOCK, A MULTI-DISCIPLINARY TEAM APPROACH

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Clinical Pearl What the case involved: 16 month old female presented to local emergency department with short sudden episodes of floppiness and head dropping, followed by immediate return to normal self. Referred to regional centre for neurology review, 24 hour ECG noted marked bradycardia during episodes of head dropping. On cardiology review there were no abnormalities detected on examination, echo or 12 lead ECG. Multi-disciplinary team approach required to determine management. 24 hour ECG evidenced abrupt onset of complete atrio-ventricular block, ventricular standstill of up to 7 seconds with spontaneous recovery of atrio-ventricular conduction.

Pharmacist contribution: Literature reviewed and treatment options determined by multi-disciplinary team. Evidence strongly supportive of theophylline.¹⁻³ Issues with prescribing and use of unlicensed medicines considered and authorisation obtained. Treatment commenced and 24hour ECG performed and analysed daily to determine effect of theophylline on number of atrio-ventricular block episodes. Pharmacokinetic knowledge applied to determine appropriate dose, dosage interval, interpretation of levels and response to treatment. A family centred care approach was taken throughout and parents understood and engaged with the treatment plan. A response to treatment was observed as demonstrated by reduced clinical symptoms, confirmed by ECG findings which showed a small reduction in the number of atrio-ventricular block episodes. However, parents and nursing staff reported notable drug side effects of sweating, agitation and bad behaviour two hours post dose, despite achieving therapeutic concentrations. Parents also felt the frequency of drug administration required at home would be difficult to manage and they had a level of anxiety regarding the unpredictable frequency of the episodes and feeling the need to be in attendance at all times. In the long-term this could have significant implications for family life. On review the multi-disciplinary team and parents agreed the response to theophylline was not adequate enough for a long-term option and the patient proceeded to pacemaker insertion. All were in agreement that this was the correct decision.

Outcome Permanent pacemaker inserted, programmed to VVI mode. This mode will prevent bradycardia by pacing the ventricle if there is a loss of atrio-ventricular synchrony and inhibit ventricular pacing in response to intrinsic ventricular

rhythm. Most recent pacing check: ventricular pacing 1.8% of the time = approx. 2.7hours/week

Lessons Learned Advantage of multi-disciplinary team approach to care. The benefits of engaging parents in discussions and treatment plans were highlighted and improved the patient and family journey. The multi-disciplinary team acknowledged this and will endeavour to apply this approach in the future. The multi-disciplinary team improved their knowledge of the processes involved when using unlicensed medicines and the complex issues around this. The processes followed in this scenario confirmed the importance of evidence and research to plan future novel treatment options.

REFERENCE

1. Dai AI, Demiryurek AT. Effectiveness oral theophylline, piracetam and iron treatments in children with simple breath-holding spells. *Journal of Child Neurology* 2020;**35**:25-30.
2. Garg M, Goraya JS. Treatment of cyanotic breath-holding spells with oral theophylline in a 10 year old boy. *Journal of Child Neurology* 2015;**30**:919-921.
3. Carano N, Bo I, Zanetti E, et al. Glycopyrrolate and theophylline for the treatment of severe pallid breath-holding spells. *Pediatrics* 2013;**131**:1280-1283.

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INTRODUCTION OF STANDARDISED PARENTERAL NUTRITION FOR USE IN PRETERM NEONATES IN A NEONATAL INTENSIVE CARE UNIT AT A LARGE TERTIARY HOSPITAL

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Aim Following the publication of the updated NICE guidelines¹ recommending the use of standardised parenteral nutrition (PN) in preterm and term babies, alongside the known associated risks to patient safety with increased manipulations,² and the need to reduce workload pressures in the aseptic department, the decision was made to introduce standardised PN, Numeta G13 and G16 produced by Baxter, for all babies in the neonatal unit.

When initially introduced, 85% of babies weighing less than 1kg were changed to a bespoke PN. Of the babies who required a switch, 75% had hyponatraemia and/or hypophosphatemia and 45% were switched due to hyperglycaemia. Insulin usage in this cohort had increased from 33% to 76%. An earlier study trialling standard additions of sodium glycerophosphate had reduced the switch rate due to electrolyte imbalance. The aim of this prospective study was to trial an alternative building regimen to reduce the number of patients requiring a switch to bespoke PN due to hyperglycaemia.

Method Standardised PN was routinely titrated by 20ml/kg/day, starting at 60ml/kg/day, up to 120ml/kg/day, with extra glucose 5% to provide enough fluid for hydration. For this prospective study, any neonate weighing less than 1.5kg was commenced on a slower build starting with 40ml/kg/day and building by 20ml/kg/day up to 120ml/kg/day. Glucose 5% was continued to be used as the 'top-up' fluid of choice. This equated to a more gradual build of glucose over the initial 5 day period. Hyperglycaemia was managed using the Trust's 'Management of Hyperglycaemia in the Neonate' guideline.³ 22 patients were included in the study and their insulin requirements and requirement to switch to a bespoke PN were recorded.

Results Insulin usage in this cohort decreased from 75% to 45%. Although higher than the usage prior to the introduction of standardised PN, this is likely explained by the