help staff stratify which discharge medication supply method was most appropriate, a simple algorithm was written and displayed on the wards. Supply through the hospital pharmacy remained an option if required. Regardless of which strategy was used, communication to the GP of medicines supplied was essential.

Results The impact of the new process was assessed as part of a Foundation Trainee Year Pharmacist Audit. The audit sought a subjective opinion from staff. The results of this audit showed that staff were using the discharge pathways regularly, thought the discharge process was faster without compromising safety and patient care, and was undertaken well within their scope of competency. Prescription tracker data showed the number of discharge prescriptions being dispensed in pharmacy more than halved. A concern had been that medicines supplied on discharge would not be well communicated to the GP, but a review of a random sample of electronically transmitted IDLs showed that medications supplied via these new processes were being documented.

Conclusion Discharge medicines can be supplied safely and without delay at ward level, or via Hospital community pharmacy prescriptions, if the correct processes are implemented and followed.

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P08 PRECISION MEDICINES IN PRACTICE: THE CONNECTION BETWEEN CFTR MODULATORS AND DERANGED LIVER ENZYMES

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10.1136/archdischild-2023-NPPG.8

Background and Aim For most of the 83 years since acknowledging cystic fibrosis (CF) as a separate disease entity, treatment has primarily focused on symptomatic relief.[1] Following the discovery of the CFTR gene, efforts have been made to produce therapies to target the underlying dysfunctions caused by CFTR mutations.[2] Moderate transaminase elevations are commonly observed in CF patients. Severe transaminase elevations have been observed in patients taking CFTR modulators in clinical trials with the initial STRIVE trial revealing that treatment discontinuation was commonly due to an increase in hepatic enzymes.[3] Consequently, liver function test (LFTs) monitoring is recommended for all patients before commencing therapy, every three months for the first year and annually thereafter. This audit aims to assess the compliance of LFT monitoring in clinical practice for paediatric patients initiated on CFTR modulators, evaluate the incidence of liver-related adverse effects, and examine trends between the CFTR modulator used and the clinical significance of LFT derangements, and determine if there are any sex-related correlations.

Methods Patient data, including date and age on treatment initiation, gender, LFT results at baseline (AST, ALT, ALP, GGT and total bilirubin), first derangement since initiation and monitoring frequency were extracted from the clinical system Meditech®, pseudonymised and analysed. There were 91 records of patients being treated with a CFTR modulator. Some patients were on more than one CFTR modulator as treatment can be switched if eligible. For the purpose of the audit after consultation with the local CF clinical team, a two-month deviation outside of the recommended monitoring frequency was considered non-compliant. LFT derangements were classified as clinically significant if the result was higher than 3 times the upper limit of normal (ULN).

Results Our study found that most patients (50/91 – 54.9%) on CFTR modulators in the tertiary centre did not have their LFTs monitored following the recommended guidelines. A statistically significant increase in LFT abnormalities from pre- to post- intervention with a CFTR modulator was observed ($p=0.015$). Kaftrio®/Kalydeco® (3/20 – 15%) and Orkambi® (1/29 – 3.4%) were the only CFTR modulators that led to patients developing clinically significant derangements (>3x ULN). Additionally, a greater proportion of females (24/51 – 47.1%) than males (15/40 – 37.5%) had abnormal LFTs within the tertiary centre contrary to previous epidemiological studies where males have been documented to have a greater risk of abnormal LFTs. However, the strength of this association was negligible ($\phi = 0.096$, $p=0.360$).

Conclusion In conclusion, the tertiary centre's compliance with LFT monitoring guidelines for patients initiated on CFTR modulators was substandard. Most records of treatment initiation occurred during COVID-19, which impacted monitoring as many hospitals suspended routine clinical work to limit the spread of the infection in high-risk groups. Time constraints limited the audit during the data extraction period; therefore, results should be interpreted cautiously. In the absence of the COVID-19 pandemic a re-audit process should include patient lifestyle data and consider other medication regimens that could potentially alter LFTs. Introducing a blood clerk would enable the CF unit to monitor LFT changes more efficiently.

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P10 INITIATION OF BISOPROLOL IN PAEDIATRIC PATIENTS – EXPERIENCE FROM A SPECIALIST PAEDIATRIC CARDIAC CENTRE

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10.1136/archdischild-2023-NPPG.9

Aim Given the lack of published dosing information to guide the use of bisoprolol in our paediatric cardiology patients, we assessed the safety and tolerability of initiation and maintenance doses of bisoprolol in a cohort of children with congenital structural heart disease, cardiomyopathy, or structural normal heart, to treat heart failure, arrhythmias or hypertension, and prevention of arrhythmias in channelopathies.

Method A retrospective review of hospital records of all children who received bisoprolol between May 2014 and August 2019 in a tertiary paediatric referral centre. Patients were identified via pharmacy records and clinical informatic systems were used to identify the indication, dose at initiation (mg/kg), up-titration dose, and any documented side effects.

Results 157 children (mean 11.6 years; range 2 months – 17.8 years) were identified. 56 children (36%) had a cardiomyopathy, 23 (15%) had structural heart disease and 78 (50%) were receiving bisoprolol with a structural normal heart for the prevention or treatment of arrhythmias. 149 children had a weight documented. The starting dose of bisoprolol ranged from 0.02 mg/kg/day to 0.19 mg/kg/day (mean 0.06 mg/kg/day); independent of the indication. The dose was up titrated in 90 (57%) of children. The weight was documented in 77 of these patients and up-titrated doses in these patients ranged from 0.02 mg/kg/day to 0.4 mg/kg/day (mean 0.14 mg/kg/day). A total of 24 (15%) of children had documented adverse events attributed to bisoprolol. Fatigue or dizziness were the most common reported adverse events, with 67% of the total events. In total, 5 children (3%) stopped bisoprolol due to adverse events; 4 due to fatigue or dizziness and 1 because of wheeze in a known asthmatic. HR was documented before and after initiation of bisoprolol in 89 patients (57%). The mean change was a decrease of 8 beats per minute (bpm) and all were within normal limits. Systolic blood pressure (BP) was documented before and after initiation of bisoprolol in 61 patients (39%). The mean change was a reduction of 4.2 millimeters of mercury (mmHg) and all were within normal limits.

Conclusion Our experience shows that initiating bisoprolol in paediatric cardiology patients with a cardiomyopathy, structural heart disease and normal structural heart, to treat arrhythmias, heart failure, outflow tract obstruction and systemic hypertension at a dose of 0.06 mg/kg once a day, up to a maintenance dose of 0.14 mg/kg/day was safe. However, this is limited by the sample size and retrospective nature of the study. Further studies are needed to be able to comment on the efficacy in this cohort of patients.

P11 ADAPTATION AND IMPLEMENTATION OF STANDARDISED CONCENTRATIONS AND GUARDRAILS TECHNOLOGY IN PAEDIATRIC INTENSIVE CARE

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10.1136/archdischild-2023-NPPG.10

Context Implementation of standardised concentrations of continuous infusions (SCCI) in paediatrics and guardrails technology on smart pumps significantly reduces medication errors and improves patient safety.[1–3] There is a national drive to implement SCCI coupled with guardrails technology on smart pumps, driven by the Neonatal and Paediatric Pharmacists Group (NPPG) and Royal College of Paediatrics and Child Health (RCPCH).[2 3] The merger of two specialist paediatric hospitals prompted alignment of governance processes, of which SCCI implementation across the organisation was key. This article focuses on Hospital B's experience of implementing SCCI and guardrails, utilizing resources from Hospital A, who implemented in 2018.[3]

Methods A team led by pharmacists was convened to lead this quality improvement initiative, linking with Hospital A, to obtain resources including the guardrails library (dataset) and learning from their experience. Hospital B's pharmacists engaged with key stakeholders within paediatrics including a consultant, nurse educator, QI lead nurse and bedside nurse, to review, adapt and validate the library to suit their patient cohort. Plan Do Study Act cycles were used to continuously improve the process of implementation. A staff education session was conducted, outlining the importance and use of SCCI and guardrails.

Results The dataset obtained from Hospital A required some adaptation across 49 drugs; 18 drugs were removed as not routinely used at Hospital B. 71% (22/31) of the adapted standard concentrations were similar whilst 29% (9/31) were amended.

100% of the dataset underwent changes, mostly minor; 12 drugs had units amended whilst 28 of the default doses, 18 of the soft minimum doses, 20 of the soft maximum doses and 23 of the hard max doses were amended.

Rationale for these changes include a slightly different patient cohort in Hospital B; mainly with fluid restriction in patients post-surgery requiring higher doses of sedation and inotropes. Additionally, the SCCI were tailored in line with guidelines, available formulations/strengths such as ready-to-use esmolol and to the adult cohort to aid familiarity, facilitating cross-working between adult and paediatric wards. And for guardrails, minimum or default doses were reduced to enable the lowest dose to be given whilst maximum doses were increased. All changes were to align to guidelines, BNFc or local practice. Unit changes were made to ensure familiarity.

Conclusions and Lessons Learned In conclusion 'one size does not fit all' and using a dataset without adapting it to context poses safety risks. Adaptation of datasets by individuals tailored to local practice and patient cohort is key for successful and safe implementation. This is aligned with the evidence translation literature, which recognises that adoption of changes is complex and context dependent.[4]

Key learning points include engagement of key stakeholders is essential to ensure good communication and buy-in. Tailoring of datasets to meet patient needs is vital; considering PDSA cycles and the test, learn and scale up approach. Comprehensive education and training is crucial to ensure correct utilisation and safety, particularly as implementing changes poses increased risk of medication errors.

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P12 AN AUDIT OF THE USE OF DEXMEDETOMIDINE FOR SEDATION IN A TERTIARY PICU

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10.1136/archdischild-2023-NPPG.11

Aim Dexmedetomidine is a selective central alpha-2 adrenergic receptor agonist. It induces sedation closely mimicking natural sleep, reduces anxiety and has sympatholytic effects – without having a clinically significant effect on respiratory function. Dexmedetomidine has a short half-life and quick onset of action, which have resulted in it being increasingly