Objectives To study the clinical profile of a patient with long QT syndrome presenting as seizures and syncope.

We aim to evaluate the patient with genetically confirmed long QT syndrome to establish the frequency of delayed recognition.

We aim to raise the awareness of the possibility of Long QT syndrome in cases of unexplained recurrent syncope with seizures.

Methods We report a 9 year old girl who presented since 2 years of age with history of intermittent syncope and seizures. The girl had multiple presentations to ED and one presentation to the paediatric ward with either syncopal episodes or short seizure like episodes secondary to painful stimuli which were thought to be vasovagal. She did have previous ECGs which were reported as being normal however retrospective analysis of one of the available ECG showed a QTc of 463 milliseconds. She had background of PUJ obstruction and came to the hospital last year for DMSA (dimercaptosuccinic acid scan). During the cannulation she had a syncopal episode with quick recovery. And an ECG done showed bradycardia with a QTc of 460 milliseconds. She was referred to the inherited cardiac care team and further genetic analysis confirmed a pathogenic KCNQ1 mutation (long QT1). Her mother (who was suffering with seizures) and brother were also diagnosed with long QT syndrome. She was commenced on Nadolol and is currently stable and doing well.

Results There are several case reports of unrecognised long QT syndrome in literature and this case is another example of the same. The case illustrates that more needs to be done by the PEC (Paediatricians with expertise in cardiology) and Paediatric cardiologists groups to ensure these are recognised early to avoid morbidity and mortality. An index case often results in diagnosis of other members in the family so has significant preventative implications for avoiding sudden cardiac arrests. Suggestions would include more education for colleagues in Emergency department, Primary care and general paediatricians about manual QTc calculations and pertinent family history, all children with syncope having ECGs vetted by PECs and more discussions in specialist group committees.

Conclusions The presence of a prolonged QT interval and sinus bradycardia along with documented ventricular tachycardia during the 'seizures' confirms the diagnosis of the Long QT syndrome. This possibility should be considered by paediatricians who see a child with seizures or recurrent syncope.

This experience emphasizes the importance of obtaining an electrocardiogram in all children with syncope or seizure disorder of unknown origin.

Paediatric Clinical Leaders: Service Planning, Provision and Best Practice

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CREATION OF A PILOT MEDICAL EQUIPMENT LOAN BANK TO FACILITATE RAPID DISCHARGE FROM A TERTIARY CHILDREN'S HOSPITAL DURING THE CORONAVIRUS PANDEMIC

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Background Children who, by definition, are classified as long stay or delayed patients are in hospital for longer periods of

time. A large proportion of these children have equipment requirement for discharge. These vary dependant on condition and clinical dependency. The majority usually require a minimum of at least a piece of equipment such as: a suction machine, saturation monitor or nebuliser. Many of the children, who would be described as children with medical complexity (CMiC), would require all of the above, plus additional pieces. All equipment would be deemed a necessity for discharge and so therefore, would be non-negotiable. Many of the children would have co-morbidities that would be perceived to have an increased risk of deterioration or fatality if exposed to infection risks, such as, Coronavirus.

Objectives We undertook a pilot medical equipment loan bank, for children where equipment was a perceived barrier to discharge

Methods The pilot equipment loan was undertaken using the creation of a medical equipment bank, which consisted of surplus medical equipment, which was commonly required for discharge i.e. suction machines, saturation monitors, portable ventilators and humidifiers. This equipment loan service was led by a Family Support Worker and Sister from The Children with Medical Complexities Team. The main stakeholders included key teams such as: Clinical Teams, Therapies and Medical Representatives. The loan was based on a rapid discharge basis, where equipment was the perceived to be a barrier to discharge. The equipment was held in a central point and carefully monitored and followed up with child's local community teams or CCG. Arrangements were made for the pieces to be returned in person or collected from places of safety, i.e. Hospices or community team offices.

Results From the start of the Coronavirus pandemic until the current day, the estimated amalgamated cost saving to the Trust is in excess of £300,000, taking into consideration the cost per item. This was based on various pieces of equipment being loaned from different specialisms and ward areas. When samples of six loans were reviewed the collective bed days saved was in excess of 1000. The bed day costs varied dependant on specialism and ward area. Some of the areas naturally demanded a higher tariff than their lower dependant counterparts.

Conclusions The Coronavirus pandemic has enabled innovation, learning and initiative to be challenged. This would ordinarily have not occurred and consequently barriers would have been formed with the biggest impact being on the child and family. The rapid medical equipment bank pilot demonstrates that by working together in conjunction with others, thinking innovatively and putting the child and family at the centre, we can effect change. The longer term goal would be how the pilot can be developed into something more substantial.

Quality Improvement and Patient Safety

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DRUG DRILLS: IMPROVING PAEDIATRIC TEAM PERFORMANCE AND CONFIDENCE WHEN PRESCRIBING AND PREPARING UNFAMILIAR EMERGENCY MEDICATIONS

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Background Emergency medications are infrequently required in district general paediatric departments, however when they are it is important for them to be given in a timely manner. Feedback from local simulation scenarios revealed that prescribing and preparing unfamiliar emergency medications was something that both medical and nursing teams felt anxious about. Regular simulation practice is therefore essential for improving patient care and safety in emergency scenarios.

Objectives The aim of this project was to improve paediatric team ability and confidence when prescribing and preparing unfamiliar emergency medications in order to improve patient care and safety.

Methods A series of 'drug drills' involving emergency medication were created: asthma (salbutamol and magnesium sulphate); sedation (morphine and midazolam); duct dependent cardiac disease (prostaglandin) and septic shock (adrenaline and noradrenaline).

Doctors timed how long it took to prescribe the medication after reading a scenario. Nursing staff subsequently timed how long it took them to prepare and administer the medication.

Participants completed an online survey after the 'drug drill' and were asked to record how long it took for them to complete the drill, and whether they felt more or less confident prescribing/preparing these medications. They were also encouraged to provide feedback and learning points to be shared amongst the team to facilitate shared learning.

In future, 'drug drills' will be repeated to assess whether our performance and confidence has improved as a result of extra practice and group feedback.

Results To date, 'drug drills' have been completed by 19 doctors and 12 nurses. Preliminary results and feedback have been positive with 100% of staff saying they felt more confident prescribing/preparing medication after completion.

As a result of the feedback received, changes have already been implemented to help staff in future. For example, we have increased the stock number of 50ml syringes in the resuscitation room as this consistently delayed drug preparation. Also, prescription and administration guidelines are now available on a tablet in the resuscitation room for ease of access.

Conclusions Staff had improved confidence after completing the 'drug drills', which is expected to translate into better performance and patient care. We aim to repeat these drills in the future to see if our prescribing and preparation times have improved, and whether we have learnt from learning points that were identified from feedback.

Paediatric Clinical Leaders: Service Planning, Provision and Best Practice

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WELCOME TO THE TEAM; GOING VIRTUAL

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Background Induction days are a rite of passage for all, but especially for the rotating trainee. A good induction serves many purposes: it teaches key knowledge (e.g. IT systems, safeguarding processes); sets job role expectations; ensures health and safety considerations are addressed; helps new staff feel supported and sets the tone for team relationships over the course of the job. Induction helps new staff assimilate rapidly into the team and reduces clinical risk. The case of Dr Bawa-Garba has highlighted to all, amongst other things, the necessity of a rigorous induction process.

Our face to face consultant delivered induction package had been serially updated and appeared to fulfil these various needs; feedback was excellent and trainees felt confident starting clinical work. During the COVID-19 pandemic, however, social distancing requirements meant it became undeliverable in its current format. To address this a fully digitised induction programme was produced.

Objectives To produce a self-delivering induction package that could be accessed remotely and asynchronously but that still offered an informal, personal, supportive introduction to the department. It would offer robust IT systems training, rota guidance, key safety and governance points and an 'as good as there' tour of the department to allow trainees to integrate rapidly, safely and confidently into the department.

Methods A virtual induction was produced comprising an accessible documents folder, remote intranet access, video tutorials, video clips of staff members and a virtual induction tour. Adding active participation elements in the form of automatically marked quizzes ensured documented engagement with the process. The package was reviewed by junior trainees, nursing staff, clinical support workers and consultants prior to delivery. Anonymous qualitative survey questions including confidence ratings were used to obtain feedback, in addition to open text questions.

Results 10 new trainees underwent the new induction process in two consecutive groups. Feedback was obtained from 9 individuals. All participants felt that the package prepared them well to start clinical work. The process was more efficient, taking only half a standard working day of trainee time, and an hour of consultant time (vs a full day for both) and there were positive thematic comments around accessibility and flexibility to use it as an ongoing reference whilst starting work that were unexpected benefits. Both comments and confidence ratings were superior to those from the previous face to face induction. Interestingly video introductions to the senior team were felt much more helpful than brief face to face meetings.

Conclusions It is possible to produce a virtual induction package that not only provides new starters with the knowledge required to safely start work in a new clinical area, but also develops a sense of team spirit. Although labour intensive to produce initially, the induction package is self-delivering and therefore a significant long term benefit to a department with rotations upwards of 4 times a year. Moving forward the package will be made cross-disciplinary so that all new starters in the department receive a standardised high quality programme.