Hub was popular with 72% representation from multidisciplinary healthcare professionals. Majority of the participants had no previous experience of QI. 96% reported increased confidence in undertaking QI. Participants described Hub as 'enlightening', 'empowering', and 'feeling valued'.

Hub has supported personal growth and career progression and alumni have taken on senior management roles and led further QI projects. 100% would recommend us to their colleagues.

Feedback using Likert survey revealed that 95% participants reported individual sessions as highly satisfactory, workshops useful and support from faculty was valued. We continued to deliver QI training and support remotely without affecting the quality of training. 96% rated the virtual sessions 'very good' and workshops were deemed valuable.

QI projects have led to improvements in patient safety and outcomes including streamlining of care, medication safety, reduced Los, and better patient experience. These were presented at Trust, national and international meetings.

Conclusions QI Hub has enabled multi-professional staff to undertake high-quality QI projects and empowered them to deliver continuous improvements for patients throughout the pandemic. We have demonstrated that an effective QI programme can be delivered virtually in the current climate to ensure that the improvements and support systems for QI are sustained.

Quality Improvement and Patient Safety

652 INTEGRATED SEIZURE CARE PATHWAY- A RCPCH EQIP PROJECT

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Background Our team were part of the EQIP pioneers to participate within the first paediatric epilepsy quality improvement collaborative pilot (RCPCH EQIP) in England and Wales, managed by the Epilepsy12. The purpose of the pilot was to provide 12 paediatric epilepsy teams with practical training and support, help them uncover the gaps in service provision and develop interventions that meet their specific needs.

Objectives At the initial EQIP meet, our team chose to develop and implement an integrated care pathway for children admitted to Paediatric ward with epileptic seizures or seizures like events in order to facilitate consistent high quality care for these children.

Methods The project started with short surveys of parents/patients, doctors and nurses. Based on these, three important areas of improvement were identified; namely, history taking, investigations and safe discharge. The existing acute admissions clerking document was improvised to accommodate these changes. For improving seizure history, a box with prompts covering important points in a good seizure history was inserted next to history taking section. For guidance to doctors on appropriate investigations and management, a flow chart was prepared and inserted. To ensure a safe

discharge, a safety discharge check list was prepared and inserted at the end of the clerking document. These 3 sections went through several rounds of testing in ward and improvised.

Results After several PDSA cycles, a final clerking document, titled as Integrated seizure care pathway, has been rolled out in the department. We are noticing a much better seizure history and safety advice on discharge as well as improved parent/patient experience.

Conclusions Based on our experience in this RCPCH EQIP project, we recommend initiation of Quality improvement projects in other Epilepsy units to improve team efficiency and quality of patient experience.

Paediatric Critical Care Society

655 BRINGING PAEDIATRIC ICU PROCEDURAL SKILLS TO THE DGH SETTING

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Background Tertiary intensive care unit (ICU) placements can introduce and teach methods of best practice for procedures. Two examples being, Midlines for long-term peripheral access and Pigtail Catheters for Chest drain insertion.

Pigtail chest drains have superseded traditional Trocar blunt dissection approach, with most tertiary units advocating the pigtail seldinger technique. Studies have shown this to be safer and easier.

Midlines are routinely used in ICU, as long-term peripheral access. This can be inserted using cannulation with a seldinger technique, under direct vision or ultrasound guided. Midlines are a safe, effective option for children who require prolonged antibiotic regimes. It can mean less repetitious cannulation insertion and reduced hospital stay.

Objectives In our busy South London DGH, midlines and pigtail chest drains were not available or taught. Using experiences from ICU placements, both were introduced, and observed to see if this improved trainee skill set and patient care.

Methods The importance of midlines and pigtail chest drains was presented to the paediatric department stakeholders. Following this, funding was allocated to purchase required equipment. Guidelines for each technique was created and received clinical governance approval.

From March 2020 to 2021, small group chest drain and midline sessions were held, offering teaching to both doctors and nurses.

During the chest drain sessions, participants were shown how to insert them on a mannequin and attach it to an underwater seal. Each participant had the opportunity to practice this skill, with individualised feedback. During the Midline sessions, participants were shown how to insert these into a mannequin arm, and each had a turn.

Specific emphasis was given to safety elements, including careful consideration for the guidewire. Participants were encouraged to refer to the unit guidance, to familiarise themselves with the support material.

A pre and post session confidence questionnaire was provided, and participants were asked to share additional comments.

Results 15 nurses and 25 paediatric doctors were trained in using the pigtail chest drain. 100% of participants reported feeling more confident with this technique following the training. One registrar has since successfully inserted a pigtail chest drain for a neonate with a large pneumothorax.

5 nurses and 20 paediatric doctors were trained in using the Midline, with all participants feeling more confident with this technique following the training. Four midlines have been successfully inserted into patients requiring prolonged antibiotic regime following these sessions. Three midlines lasted their intended time length, with no complications, and meant patients did not have to return to hospital for repeat vascular access. One midline was dislodged in the context of multiple blood sampling.

Conclusions Following its success we intend on ingraining these sessions within the trainee-teaching curriculum. For clinicians wanting to utilise their skill on real patients, the consultants will supervise this, as required. All procedures will be logged, so they can be audited for quality control. We recommend all paediatric DGH settings incorporate these skills into their units to enable safer and better patient care, and trainee skill-set. However, we recognise the variability in available expertise in all units to undertake training.

British Society for Paediatric Dermatology

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MUCO-CUTANEOUS MANIFESTATIONS IN CHILDREN WITH THALASSEMIA: AN OBSERVATIONAL STUDY

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Background Thalassemia syndromes are a group of autosomal recessively inherited single gene haemoglobinopathies. Beta thalassemia major affects almost every organ system of the body. Several studies have been reported on various systemic complications of beta-thalassemia major, but there is scarce data regarding the muco-cutaneous manifestations of this disease. This study was conducted to describe the muco-cutaneous manifestations noted in multi-transfused beta-thalassemia major children and thus evaluate their correlation with iron overload

Objectives To describe the muco-cutaneous manifestations seen in children living with thalassemia major

Methods A descriptive observational cross-sectional study was conducted on 68 diagnosed patients of thalassemia major attending the thalassemia unit for transfusion at a tertiary care hospital. The data was collected by direct interview of the patients receiving blood transfusion at the thalassemia unit and by a thorough examination of the skin, hair, nails and oral mucosa of these patients.

Results The study included 68 children in the age range of 6 months to 19 years with an average age of the enrolled children being 10.5 years and with a male: female ratio of 1.72:1. The common muco-cutaneous manifestation seen in these patients included knuckle hyperpigmentation (60.2%),

moderate pallor (42.6%), icterus (26.4%), lusterless hairs (20.5%), leuconychia striata (14.7%), and oral ulcers (10.2%).

Conclusions All thalassemic children had atleast one cutaneous manifestation. Thus, careful muco-cutaneous evaluation is required in multi-transfused thalassemics to provide an early diagnosis of dermatological diseases in them. Dermatological evaluation is a valuable part of thalassemia care and hence should be carried in every child suffering from thalassemia.

British Society for Rheumatology

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MACROPHAGE ACTIVATION SYNDROME AND SEPSIS

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Background Sepsis is a state of systemic inflammation due to an infectious etiology leading to multisystem dysfunction and death in severe cases. The morbidity and mortality rises further due to an underlying immuno-modulatory process presenting as MAS (Macrophage Activation Syndrome) than accompanies the state of sepsis.

Objectives To describe a case series of three infants with hyper-ferritinemia and MAS being successfully treated with less immunosuppressive and cytotoxic methylprednisolone and IVIg therapies.

Methods Three children presenting with clinical symptoms and signs of sepsis being treated with antibiotics but not responding to the conventional treatment were screened for the biomarkers of inflammation and satisfied the criteria for Macrophage Activation Syndrome and thus treated with immuno-modulatory therapy. this resulted in a satisfactory outcome.

Results The patients were treated with immunomodulatory therapy with IVIg and methylprednisolone. (One of our cases presented in the neonatal period and we avoided methylprednisolone in the patient weighing risks and benefit). Such immune-modulation slows down the inflammatory storm by reducing cytokines and providing pathogen specific antibodies. These modalities of treatment have been shown to be less immunosuppressive and less cytotoxic in patients with hyper-ferritinemia and MAS(Macrophage Activation Syndrome) than the chemotherapeutic drugs used in HLH (Hemophagocytic Lymphohistiocytosis). The use of these modalities in these cases led to successful outcome in terms of survival of these children presenting as MAS with sepsis.

Conclusions In setting of sepsis, MAS should be suspected if clinical condition is not responding despite appropriate management or laboratory parameters show progressive thrombocytopenia and transaminitis. Screening for MAS can be easily done by serum investigations like ferritin, fibrinogen, triglycerides, platelet count and liver enzymes. The timely administration of IVIg and methylprednisolone in these children reverses the inflammatory state and prevents irreversible organ damage. Thus addition of these immunomodulatory therapies in addition to antibiotics and supportive care improves the patient outcomes.