(OR 1.43, 95%CI 1.39,1.48), adolescents (OR 1.18, 95%CI 1.13,1.23), mothers living above 2,000 meters (OR 1.58, 95%CI 1.55, 1.60), those self-identified as indigenous (OR 1.35, 95%CI 1.32,1.39), and mothers living in very high deprivation (OR 1.23 95%CI 1.19, 1.26). On the other hand, antenatal care shown a protective gradient reducing the risk of SGA by 33% (OR 0.67, 95%CI, 0.64, 0.69), 25% (OR 0.75, 95%CI, 0.71, 0.78) and 23% (0.77, 95%CI, 0.73, 0.82) starting at the first, second and third trimester, respectively.

Conclusions Data mining was useful to demonstrate how maternal education and other social determinants influence the proportion of SGA babies who start their lives under significant disadvantages. This digital profiling would be useful to gain visibility of nulliparous women with delayed education who are at the highest risk of having vulnerable newborn babies. Early contact with health care is the best opportunity to reduce SGA live births. Women's access to health care, schooling, and social security are modifiable factors that are feasible to target by political and financial policies.

Quality Improvement and Patient Safety

648 DELAYED CORD CLAMPING QUALITY IMPROVEMENT PROJECT NEONATAL INTENSIVE CARE UNIT -LEEDS CHILDREN'S HOSPITAL

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Background Delayed Cord Clamping (DCC) in a new born is endorsed by The Resuscitation Council, BAPM,RCOG and WHO. A peri-natal Quality Improvement initiative was carried across the neonatal units at Leeds Children's Hospital.

Objectives The aim of this project was to introduce a delay between birth and clamping of the umbilical cord of 1 minute or more. This allows smoother physiological transition, reducing IVH and mortality in preterm babies. Our target was to achieve 80% of preterm babies having DCC of more than 1 minute.

Methods Quality improvement methodology was applied at various stages. This collectively included brainstorming, creation of a driver diagram with steps to consider, its implementation at various primary and secondary driver levels and writing of a standard operating procedure (SOP) jointly with maternity. Monthly we collected pre and post intervention data from several neonatal databases, progress was reviewed and obstacles tackled. Tools used were multidisciplinary meetings, teaching to healthcare professionals, posters, simulation scenarios and a big push towards documentation of DCC to achieve quality data.

Results Results were analysed and interpreted through run charts and pie diagrams. Pre- intervention data (Jan 2019-Nov-2019) showed nearly 100% of DCC in term babies which completed phase 1 of the QI project. Phase 2 utilised our interventions to aim to achieve 80% DCC compliance in preterm babies. Both subgroups of babies showed significant improvement in DCC post intervention (Dec 2019-November 2020); from median 38% to 65% (32–36 weeks) and 0%

to 50% (<32 weeks). Less variability is noticeable in the 32–36 week group, however there is wide variability in the extreme preterm group which is attributable to small numbers of babies being born and their condition at birth. Phase 3 is to support resuscitation on the cord with a Life start trolley.

Conclusions Introduction of quality Improvement measures in the form of education, communication, promotion and guideline development, our institution showed significant success in the rate of deferred Cord Clamping in a new born. There has been a significant improvement in compliance across both preterm subgroups. We hope the rates of compliance will improve further upon the introduction of a Life start trolley.

Quality Improvement and Patient Safety

651 SURVIVING AND THRIVING – CREATING A CULTURE OF IMPROVEMENT DURING COVID

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Background Staff strive to deliver high-quality care in demanding settings, and though keen and motivated, are often short on time, support, or skills to engage in quality improvement (QI) activities. There is a perceived notion that, though there are QI opportunities for senior medical and nursing staff, these are less accessible to allied health care professionals. Experience and feedback have shown that formal support for developing QI skills is often fragmented, difficult to access and as a result, QI can be seen as a 'tick-box' exercise or undertaken only if mandated as essential for progression.

Objectives Our aim was to develop QI capability amongst multi-professional staff thereby empowering individuals and teams to drive a culture of continuous improvement.

Methods We set up QI Hub in 2018 to enable multi-professional staff to develop QI capability, by providing shared learning, collaboration, and individual mentorship. Hub is multi-disciplinary and open to everyone within the Trust.

The format consists of a structured and comprehensive QI educational programme providing fortnightly, dedicated teaching on key QI methodologies including Model for improvement, Process map, Lean, and patient involvement. Each session is followed by individualised, practical face-to-face workshops with mentors, covering projects, ABCD, and action learning sets. Our faculty come from different specialties, providing effective communication and shared, collaborative QI. Each cohort runs for 4 months.

Due to restrictions during COVID, staff were struggling to undertake or receive support for QI projects. We adapted the program to deliver it remotely since May 2020, with fortnightly sessions of dedicated online QI teaching, mentorship, and virtual workshops.

Surveys were conducted for individual sessions, at end of each cohort and after one year of completion.

Results QI Hub has been running successfully for 2 years and we have supported 70 QI projects with over 80 participants.

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 EQUIP PROJECT

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Background Our team were part of the EQUIP pioneers to participate within the first paediatric epilepsy quality improvement collaborative pilot (RCPCH EQUIP) 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 EQUIP 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 EQUIP 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.