COVID-19 were thematically analysed by dual coding utilising grounded theory.

Results 365 UK trainees responded with equal distribution across deaneries and training grades.

Although the majority of trainees remained in their specialties, there was significant disruption to training events, teaching and learning opportunities. Changes to work pattern were common (87%), including rota amendments (57%), redeployment within paediatrics (18%) or adult services (4%), or requirement to shield (6%). Trainees reported cancelled teaching events (88%) or examination(s) (25%), with the greatest impact to simulation and deanery-based teaching (75% less). Only 82% of trainees anticipated completion of ARCP requirements.

Despite this, for many, novel opportunities presented themselves that may not have otherwise been accessible. 68% reported new opportunities for learning. 93% of respondents attended virtual teaching, commonly in-house (67%), predominantly initiated by middle-grades (67%) or consultants (68%). 71% participated in e-learning. Trainees reported increased opportunities for reflection (28%) and leadership and management (23%). No significant differences were seen between the ST1-3 and ST4+ groups ($p > 0.05$). A breadth of trainee-identified web-based paediatric training resources were also highlighted.

Four **positive** impact themes were identified: Changed Practice, New Skills, Extra Time and Teamworking. Furthermore, four **negative** impact themes were delineated: Training, Clinical Exposure, Safety and Wellbeing.

Conclusions This national survey captured candid paediatric trainee perspectives independent of regulatory bodies such as the GMC/RCPCH. As the COVID-19 pandemic persists, these trainee experiences inform educators to adopt helpful training practices from other regions, including sharing of virtual learning regionally and acting-up opportunities. Positive themes enable wider dissemination of good training practice, for example the sharing of virtual learning regionally, integrating trainees into virtual consultations and remote working, acting-up opportunities and developing leadership and management skills. Negative themes highlight previously under-recognised areas of concern with important potential for further governance and research. Examples include enhancing patient safety through tackling reported trainee fatigue, or combating the reported reduced clinical experience consequent to redeployment or shielding, or instituting protected supporting professional activity time.

Quality Improvement and Patient Safety

777 PARENTAL CONCERN WITHIN PEWS: AUDITING AND EXPLORING CURRENT PRACTICE

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10.1136/archdischild-2021-rcpch.193

Background In 2005 21.5% of NHS hospitals caring for children used Paediatric Early Warning Systems (PEWS) rising to 85% in 2013 and 100% in 2018. However, there is great variation with 47 different parameters used across the country.

There has been a national drive led by the NHS England and NHS Improvement, the Royal College of Paediatrics and Child Health and the Royal College of Nursing to develop a national standardized tool.

One parameter that is not ubiquitously used is parental concern. National PEWS surveys showed in 2013 only one trust used parental concern, by 2018 this had risen to 50% of trusts. This reflects increasing evidence that parental insight is an important factor in the recognition of serious illness. However, where parental concern is incorporated, it is generally a binary 'yes/no' question with little scope for further exploration of what parents are really concerned about.

This quality improvement project set out to audit our use of parental concern parameter 2015–2020, and explore staff and parents' views. We believe this could help facilitate improved recording and response as well as greater involvement of parents in escalating clinical concern to improve patient safety.

Objectives To audit and explore staff and parent views of the parental concern component of the Newcastle PEWS for inpatient paediatric patients at the Great North Children's Hospital (GNCH).

Methods Initially we audited our use of the parental concern parameter from 2015–2020. This is part of our longitudinal PEWS audit and monitoring survey. In the Newcastle PEWS parents are asked 'Have you noticed anything that is different that worries you about your child?' and can answer yes or no.

The second part of this project involved creating a questionnaire for both nurses and parents to gather views on the use and effectiveness of the current parental concern parameter.

Results Parental concern was recorded in 52% of patients when introduced in 2015. This rose to a peak of 87% compliance in 2017. On review of 2020 PEWS core observations, all but one parameter achieved above 90% compliance which was parental concern (79%).

In qualitative feedback parents reported positively 'All staff ask me and my child if we have any questions and if we are OK every time they enter the room.' Staff felt there were limitations to the parental concern parameter, 'Some parents don't mention concerns to nursing staff when asked but then tell a different story on ward rounds' and 'Some parents get very anxious about things that may not be related to PEWS or physical condition.'

Conclusions It has been highlighted in serious incidents and in recent literature that parents are often able to pinpoint deterioration in their children before healthcare staff. There is considerable scope to improve use of the parental concern, both in compliance and in the way we ask the question, allowing for a more nuanced query, reply and response. With the imminent development of a national tool it is vital to further develop and assess the impact of an improved parental concern parameter.

British Paediatric Neurology Association

778 IMPROVING THE PAEDIATRIC EPILEPSY PATHWAY

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10.1136/archdischild-2021-rcpch.194

Background The nature of epilepsy means it can be difficult to diagnose accurately. Currently there are almost 300 paediatric patients with a diagnosis of epilepsy managed by the RUH. Of these, almost 25% are not managed via epilepsy clinic. The route into the epilepsy service is complex leading to disparity in the quality of care provided. Through evaluation of service demand together with implementation of a pathway for first afebrile seizures, we aimed to change the service to introduce consistent, high quality care.

Objectives To develop and implement the first afebrile seizure pathway to ensure all cases with suspected epilepsy were seen by a paediatrician with a special interest in epilepsy, with early input from an Epilepsy Specialist Nurse for all cases, within an appropriate timeframe.

Methods As part of the national EQIP project we applied newfound QI skills as well as taking inspiration from other EQIP teams. We initially conducted a review of our service including process mapping of current referral pathways and reviewing the journey through that process of 24 patients (utilising epilepsy 12 cohort 1). We redesigned our referral pathway including specialist triage of referrals and used rapid PDSA cycles to set up and troubleshoot a 'first fit clinic'. We utilised patient stories from cohort 1 to generate buy-in for the project from other stakeholders. We reviewed local data regarding referral numbers to estimate likely demand in order to plan service expansion. We then compared the patient journey of the first 53 new patients seen via our new referral pathway (cohort 2).

Results We created a first fit clinic which achieved our goals as below. We also achieved significant service redesigns and improvements including a first fit referral proforma, specialist triage including early ENS contact to bridge the gap from referral to clinic and a new epilepsy team website including signposting to local services to facilitate holistic care.

Abstract 778 Table 1

	Cohort 1	Cohort 2
Initial review by epilepsy specialist	4/24 (16%)	53/53 (100%)
Review by ENS	12/24 (50%)	53/53 (100%)
Longest wait following first GTCS	4 months	3 weeks*

*with ENS telephone contact and safety advice given within 2 weeks.

Conclusions Engagement with the EQiP project facilitated our complete service redesign. There are challenges but the regular national meetings act as a driver to get work done alongside an opportunity to learn from other EQiP Teams. The Initial success of service redesign sparked enthusiasm for other ideas and has cascaded into significant positive changes to our service. Rapid workplace changes relating to the initial Covid wave allowed relative freedom to rapidly iterate and evolve this new service.

British Association of Perinatal Medicine and Neonatal Society

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IMPACT OF PERINATAL FACTORS ON BIOMARKERS OF CARDIOVASCULAR DISEASE RISK IN PREADOLESCENT CHILDREN

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10.1136/archdischild-2021-rcpch.195

Background Arterial stiffness is an independent predictor of cardiovascular morbidity and mortality in adults. Arterial structure and function changes that increase arterial stiffness occur gradually over years but may be influenced by the perinatal environment.

Objectives To systematically review the literature to determine how the perinatal environment impacts arterial structure and function in preadolescent children, following PRISMA guidelines.

Methods PubMed was searched using the terms: 'pulse wave velocity' (PWV), 'carotid intima-media thickness' (cIMT), 'arterial stiffness index' (SIx), 'flow-mediated dilation' (FMD), 'flow imaging', 'laser flow Doppler', 'venous plethysmography', 'cardi* magnetic resonance imaging', 'aortic intima-media thickness' (aIMT), 'vascular ultrasound' and 'neonat*', 'paediatric', 'infant*', 'child*'. Case reports, case series, reviews, commentaries, conference proceedings, animal studies, articles not in English and articles with children >12 years old were excluded. Articles exploring the impact of perinatal factors on arterial structure and function were included.

Results 28/1084 studies identified were included. PWV, a measure of arterial stiffness, was performed in 20 studies, including brachio-femoral (bfPWV), carotid-femoral (cfPWV), brachio-radial (brPWV) and aortic PWV (aPWV). Two studies measured the augmentation index (AIx), and two measured stiffness index (SIx), both indicators of vessel stiffness. Five studies measured cIMT and aIMT, since wall thickness can influence arterial stiffness.

17/28 studies explored perinatal maternal factors. Maternal age, serum ferritin, ethnicity, and psychosocial stress did not significantly impact neonatal PWV. Oily fish consumption in late pregnancy was associated with lower childhood aortic PWV (0.084m/s/portion/week; 95% CI: -0.137 to -0.031; $p=0.002$); maternal alcohol consumption in the second trimester was associated with increased cfPWV at 9 years (0.2m/s higher; 95% CI: 0.06 - 0.4, $p=0.02$). Maternal diabetes was associated with higher neonatal and infant PWV (two studies). The reported impact of maternal blood pressure (BP) varied: no association was found with infant bfPWV, but an inverse relationship was found between neonatal aPWV and maternal