one of which was abnormal (Wolff Parkinson white). Four patients had a chest x-ray (18%), one of which was abnormal (pneumonia). No patients had cardiac enzymes measured.

In post-pubescent girls the causes of chest pain include musculoskeletal (69%), idiopathic (16%), respiratory (9%), gastrointestinal (3%) psychiatric (3%) and one patient had cardiac pathology (prolonged QT interval). Twenty-nine patients had an ECG (91%), one of which was abnormal (prolonged QT interval). Nine patients had a chest x-ray (28%), none of which were abnormal. No patients had cardiac enzymes measured.

Conclusions The most common cause of chest pain was musculoskeletal (49%). 2% of cases were due to cardiac pathology. The ECG was a common screening tool for children presenting with chest pain. The number of chest x-rays performed in post-pubescent boys was notably higher than in the remaining groups. Cardiac enzymes were rarely performed.

British Association for Paediatric Nephrology

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CHILDREN UNDERGOING KIDNEY TRANSPLANTS DURING THE PANDEMIC AND THEIR FAMILIES FEEL SIGNIFICANT FEAR

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10.1136/archdischild-2021-rcpch.144

Background The current SARS-CoV-2 pandemic has brought a lot of anxieties for patients with end stage renal disease particularly as they were identified as a vulnerable group. Many transplant programmes were closed and reopening brought new concerns for patients and professionals. We report patient experience on receiving a kidney transplant in childhood in our centre during the pandemic.

Objectives This study aims to get a better understanding of the concerns patients and families have about receiving a kidney transplant during the SARS-CoV-2 pandemic which would help professionals in their transplant programmes.

The secondary outcome was to identify if these concerns were adequately addressed prior to transplant and if patients and carers felt safe care was delivered throughout their transplant experience.

Methods In the first six months of the reopening of our transplant programme, 13 paediatric patients received a kidney transplant. An anonymous online questionnaire was sent to all patients and families who received a renal transplant. The questionnaire contained multiple choice and open-ended questions that explored how participants felt in respect to SARS-CoV-2, what concerns they had and how they found the additional safety precautions that our unit implemented during the pandemic.

Results Study participants included 50% parents or carers responding on behalf of a child under 12 years of age, and the remaining were children over the age of 12 years. All transplanted patients felt that all their questions were answered before the transplant and 75% felt well informed about SARS-CoV-2 and the effects it may have on transplantation. 62.5% reported feeling nervous, 37.5% were anxious, 25% scared and 12.5% felt relaxed about transplantation during the pandemic. The majority of participants reported

surgical complications being their biggest fear; and two participants were worried about catching SARS-CoV-2. Other concerns that participants mentioned were regarding the recovery time and having to spend time away from loved ones. More than 87% felt that care was delivered safely in inpatient and outpatient settings, although one participant mentioned feeling vulnerable when leaving the hospital. 75% of participants found shielding easy and understood its importance before the transplant and this increased to 87.5% after the transplant. Overall, 87.5% of patients were glad to have received a kidney transplant during the pandemic with one patient reporting how difficult they found it being isolated from friends and family once they felt well after the transplant.

Conclusions Receiving a kidney transplant can be a stressful experience, particularly during a pandemic. Our results show the SARS-CoV-2 pandemic has had a significant impact on children and families with end stage renal disease with patients reporting feeling significant fear. We found that detailed counselling of patients and families about risks and addressing their concerns related to SARS-CoV-2 contributed to a good patient and family experience on transplantation during the pandemic. Further studies are needed to look into the long-term effects of the pandemic on this vulnerable group of patients and strategies in addressing the same to improve patient experience.

Quality Improvement and Patient Safety

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USING SERVO CONTROL AS A PART OF NORMOTHERMIA BUNDLE IN A TERTIARY NEONATAL UNIT

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10.1136/archdischild-2021-rcpch.145

Background Hypothermia has high correlation with neonatal mortality and maintenance of normothermia is a key quality indicator of neonatal care. Recent National Neonatal Audit Programme (NNAP) data has shown that only 67.9% of pre-term neonates (<32 weeks gestational age) born in Lancashire Women's and Newborn Centre were normothermic (36.5–37.5) on admission to the neonatal unit. Comparing this to the national average of 70.3% highlighted the importance of a need for practice change.

Objectives The introduction of a normothermia bundle was proposed as a QI initiative to optimise thermoregulation, the use of SERVO control in the delivery room being a part of this. This was based on the principle of closed loop feedback to regulate heater output instead of manual control. The idea was to prevent both hypo and hyperthermia.

Methods A process map of thermoregulation was produced in the form of a flow-diagram with specific emphasis to human factors and role allocation of a temperature champion. This was disseminated to all relevant health care professionals via teaching, simulation and daily briefs. After an initial pilot of 1 month, certain alterations were made and a final SOP was agreed upon.

Results Data collected over a 3 month period after implementation has shown 100% of delivery room temperatures in <32 weeks gestational age within range prior to transfer, and 81.2% with normothermic admission temperatures.

Conclusions There had been some initial hesitancy to use new system and availability of probes in all delivery areas. Simulation sessions for staff training and provision of spare probes in the emergency resuscitation kits have facilitated use. Hypothermia during transport is an identified area to improve.

British Paediatric Respiratory Society

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THE DIFFICULT ASTHMA MULTI-DISCIPLINARY CLINIC: SILVER LININGS OF THE COVID CLOUD

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10.1136/archdischild-2021-rcpch.146

Background An estimated 5–10% of children with asthma have problematic severe asthma, defined as asthma which is poorly controlled (chronic symptoms, episodic exacerbations, continued requirement for short-acting β agonists) despite a daily dose of at least 800 μ g budesonide or equivalent for 6 months or longer. Such patients should be referred to a specialist difficult asthma team in a tertiary care, in order to facilitate systematic specialist assessment and a multi-disciplinary approach to management.

Objectives As with most outpatient services, the delivery of paediatric difficult asthma (DA) clinics was disrupted by the COVID-19 pandemic. Teams were required to restructure clinics and operating procedures, in order to optimise patient care despite the restrictions on face-to-face appointments. This study aimed to assess the impact that the COVID-19 pandemic had on the initial assessment of patients referred to the paediatric DA clinic at a tertiary care, specifically in relation to being seen by the appropriate multi-disciplinary team (MDT) members and having relevant investigations completed.

Methods The electronic notes database was interrogated to provide a list of children and young people with asthma referred to the paediatric DA clinic between 1/9/2016 and 31/12/2020. In total 144 patients were identified, and their electronic medical records were retrospectively reviewed. Patients were considered to have been seen 'pre-COVID' if their initial appointment in the paediatric DA clinic occurred prior to 23/03/2020, and considered to have been seen 'post-COVID' if their initial appointment was on or after 23/03/2020.

Results Of the total 144 patients, 130 were initially seen in the paediatric DA clinic pre-COVID and 14 were initially seen post-COVID. In the post-COVID group, fewer patients had fractional exhaled nitric oxide (FeNO) (71%) and spirometry (57%) as part of their initial work-up. In the pre-COVID group, 85% had FeNO measured and 96% had spirometry. This was in contrast to the proportion of patients having a physiotherapy and psychology assessment; in the post-COVID group, 64% had physiotherapy review and 50% had psychology review following their difficult asthma referral, compared to 52% and 26%, respectively, in the pre-COVID group. The wait for initial specialist assessment after being seen in the DA clinic for the first time was also reduced in the post-COVID cohort. The median wait for physiotherapy and psychology assessment decreased from 91 and 180 days in the pre-COVID group to 70 and 35 days, respectively, in the post-COVID group.

Conclusions Unsurprisingly given strict restrictions on in-person appointments and aerosol generating procedures, assessment of FeNO and spirometry was lower in patients first seen in the DA clinic post-COVID. However, improvements were seen in relation to physiotherapy and psychology assessment in the post-COVID group, as the physiotherapist and psychologist were able to attend more DA clinics to see new patients at their first appointment. This highlights that changes to working in response to the COVID-19 pandemic can actually help to streamline services and promote early input from the wider MDT when managing patients with problematic severe asthma.

Association of Paediatric Emergency Medicine

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IMPROVING THE TRIAGE ORDER FOR PAEDIATRIC PATIENTS – A COLLABORATIVE QUALITY IMPROVEMENT PROJECT

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10.1136/archdischild-2021-rcpch.147

Background The Royal Hospital for Children (RHC) in Glasgow is the busiest paediatric emergency department in the UK with over 70000 attendances a year. With increasing attendances yearly and added system pressures due to COVID, we reviewed our triage system. In previous winters approximately only a third of the sickest patients presented by ambulance. The current system allows patients brought by ambulance to be triaged first, resulting in those brought by car waiting.

Objectives To develop a Scottish Ambulance Service (SAS) arrival flow chart to be used by ambulance staff to improve getting the right patient triaged at the right time. By utilising the flowchart, patients needing immediate triage or treatment must be identified, whilst identifying those safe to wait in time of arrival with patients brought by other modes of transport.

Secondary aims were to identify data for a group of patients that could potentially wait for triage without the SAS team.

Methods We developed a Flow Chart to be used by ambulance staff with 2 outcome arms – immediate SBAR handover and triage with nursing staff (urgent), or wait for triage by time of arrival (non-urgent), based on red flags, observation parameters (national PEWS) and clinical concern. Red flags were exclusion criteria for subsequent completion of the chart and indicated the need for urgent triage. Following a 2 week pilot study in September 2020, all SAS arrivals notes were reviewed in conjunction with their flow chart outcomes.

Results A total of 183 patients arrived by ambulance (10%). 71.6% of patients had a completed triage form or appropriate use of red flags/stand by status. 13.0% were stand by calls, 26.7% had red flags, 20.6% were classified as urgent and 39.7% as non-urgent.

Review of all cases showed that patients subsequently triaged as category 1 and 2 had attended by car and patients of low acuity triage categories had attended by ambulance.

Use of the flow chart showed that zero patients subsequently triaged as category 1 or 2 were classified as non-urgent by use of the flow chart.