Background The accuracy of reporting electrocardiograms by trainees in paediatric emergency medicine has been shown to increase with experience. However, most paediatric trainees will only spend 3–6 months in the emergency department with limited opportunity to improve skills in electrocardiogram reporting.

Interpretation in the emergency department has been shown to be relatively inaccurate and additional reporting of emergency department electrocardiograms by a consultant paediatric cardiologist increases the diagnostic accuracy. As a result, in many paediatric cardiac units the burden of electrocardiogram reporting is placed on the cardiology team, resulting in a significant workload. In addition, time taken for electrocardiograms to be reviewed by reporting teams may result in delay to clinic referral for patients with electrocardiogram abnormality.

A previous study has shown that even amongst paediatricians, accuracy at interpreting paediatric ECGs is only around 60%. Although, there are accepted normal ranges and values for paediatric electrocardiograms, these are often presented in busy tables that can be complex and daunting to use, especially in a time pressured clinical environment.

We hypothesised that a diagnostic aid, in the form of an electrocardiogram checklist, could assist in electrocardiogram interpretation, helping to screen for electrocardiograms that needed to be reviewed by a cardiologist and reducing the time to cardiology review for patients with electrocardiogram abnormalities.

Objectives We set out to assess the use of a simple checklist and guideline to aid interpretation of paediatric electrocardiograms in the paediatric emergency department.

Methods An electrocardiogram interpretation checklist and guideline were implemented in the emergency department. Abnormal electrocardiograms identified by the checklist were reviewed by a paediatric cardiologist and patients appointed to a cardiology outpatient clinic. The process was prospectively evaluated over six months to determine the ability of the checklist to detect abnormal electrocardiograms. The emergency department clinicians were sent a questionnaire to evaluate their experience with the checklist.

Results Between May and November 2018, 600 electrocardiograms were performed in paediatric emergency department. 48 electrocardiograms of patients known to cardiology services or discussed with the on-call team were excluded. Of the remaining 552 electrocardiograms, 30 were identified by the emergency clinicians as abnormal and sent for cardiology review. 13/30 of these were considered normal by the consultant cardiologist and the patients discharged. The other 17 patients were allocated to cardiology outpatient clinic. Only 3/17 required ongoing follow-up. Of the 522 electrocardiograms deemed normal by the emergency department clinicians, cardiology disagreed in 8 (1.4%). In these cases, there was either incorrect lead placement or the checklist had been applied incorrectly. All 8 patients were seen in cardiology outpatient clinic but subsequently discharged. Use of the checklist demonstrated an excellent negative predictive value of 98.47% [CI 97.32% to 99.13%]. Following implementation, time from emergency department attendance to outpatient clinic decreased from a median of 89 to 45 days ($P<0.001$) and survey respondents reported increased confidence in interpreting paediatric electrocardiograms.

Conclusions The use of a simple checklist and guideline allows confident and accurate detection of electrocardiogram

abnormality by emergency department staff and speeds referral to cardiology clinic for patients with electrocardiogram abnormalities.

British Paediatric Allergy Immunity and Infection Group

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AUDIT OF SPECIFIC IGE TESTING IN PAEDIATRICS DEPARTMENT SLIGO UNIVERSITY HOSPITAL, SLIGO

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Background 5–6% children suffer with food allergy in Republic of Ireland.

In UK 3–6% preschool and 1–2% of older children suffer with food allergy.

Most common food allergens are milk, egg, nuts, fish.

Most children present with atopic conditions.

38.7% of these children present with severe allergic reaction/anaphylactic reaction which is life threatening. These children require emergency management including adrenaline.

In children with food allergies, 38.4% are allergic to multiple foods.

Objectives To assess the pattern of results of specific IgE Testing.

To see Indications of Epipen prescription for children with allergic reactions being met or not.

Methods Retrospective review of the charts who got specific IgE Testing in Sligo University Hospital. These patients were referred through Paediatrics, ENT OPD or GP between July 2015 to January 2016.

A proforma was made to take the data and it contained the names of the patient with coding, age, associated family and personal history of allergies/asthma/atopic eczema, indication for the testing, results of the test, whether prescribed Epipen or not.

Completed data was analysed and report was generated.

Results 45% pts were < 3yrs old who were tested for Specific IgE levels.

13.3% patients included in the audit were meeting the criteria to prescribe Epipen.

50% of the total 8 pts meeting the guidelines were not prescribed Epipen.

Total IgE levels can be normal, as in this audit 61.7% pts had normal IgE level. These can be falsely high as in 14 out of 22 patients with high IgE levels there was no history of anaphylaxis or severe allergic reaction.

Nuts(27%), Egg(21%) and milk(8%) allergy are commonest among food allergies along with grass and house dust mite common as co allergens.

Personal history of asthma was +ve in 16.6% patients and for atopic eczema was +ve in 26.6% patients.

Family history of asthma was +ve in 10%, for atopic eczema in 6.6% and for food allergies it was +ve for 33.3% patients.

Conclusions Allergy focused history should be taken and Specific IgE testing should only be done when indicated in the history and for the suspected allergens.

Total IgE levels are nonspecific and these don't add in management of the patients.

Guidelines to prescribe Epipen should be followed and every patient should be given Epipen when indicated.

Guidelines for doing Specific IgE testing will be revised will be revised.

Re audit will be done in due course to see if the updated guidelines are being implemented.

British Paediatric Neurology Association

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TAILORING TRANSITION CARE PATHWAYS TO COMPLEXITY OF YOUNG PEOPLE'S NEEDS

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Background Historically, families reported 'falling off a cliff' on reaching adulthood, as paediatric care ceased. If health needs of disabled adults and those with long-term conditions starting in childhood are to be adequately met, they must first be accurately identified and documented for children and young people. Clear arrangements are required to ensure all needs continue to be addressed, including who is responsible for leading clinical care through transition and into adulthood.

Objectives To describe how local transition care pathways have been developed, based on the evidence of complexity of the needs of young people and in collaboration with families. To describe the numbers of young people on each transition pathway and detail their needs.

Methods Data capture about the multifaceted needs of children and young people is embedded at the point of care in local paediatric clinics. These underpin care pathway design, including on transition to adulthood. Identification of learning disability is prioritised in the paediatric service. Joint paediatric-neurorehabilitation transition clinics have been held for 20 years. Collaboration with learning disability and adult palliative care teams has supported young people with the most complex needs through transition.

This work was approved by the Chief Executive Officer of the NHS Foundation Trust. Funding for the data analysis was from Together for Short Lives.

Data from birth years 1997–2003 were analysed. Complexity of needs was calculated using the Disability Complexity Scale.

Results For 756 young people aged 17 years+ seen in paediatric clinics, the lead for adult healthcare was identified as: routine general practitioner (GP)-led care for 484; enhanced GP care, with annual learning disability health checks, for 183; epilepsy neurology clinic for 62; regional neurofibromatosis service for 5; neurorehabilitation service for 93; adult palliative + learning disability multidisciplinary team care for 9. Whilst the numbers of young people graduating on the neurorehabilitation and palliative care pathways have been relatively stable over time, the number identified with learning

disabilities have increased from 4 in the 1997 birth cohort to 44 for those born in 2003.

The range of medical, functional and family-reported needs and technology dependencies of the young people following each transition care pathway will be presented, including for the group who have died.

All young people on the palliative pathway had 11+ needs, with a higher burden of technology dependencies compared to other groups.

Conclusions Population data evidencing complexity of needs of young people approaching transition to adulthood led to redesign of care pathways in collaboration with families. Population data evidence equality of access to transition care pathways for all young people with the same level of needs.

British Paediatric Allergy Immunity and Infection Group

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SEROPREVALENCE AND KINETICS OF SARS-COV-2 ANTIBODIES IN CHILDREN IN THE UK: A PROSPECTIVE MULTICENTRE COHORT STUDY

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Background During the first wave of the SARS-CoV-2 pandemic in England, children accounted for just 1% of confirmed infections, had a milder clinical course and had much lower mortality than adults, a pattern similar to other international settings. The proportion of children in the UK infected with SARS-CoV-2 was unknown, with children less likely to attend symptomatic testing and issues with the sensitivity of real time reverse transcription PCR of oral/nasal swabs.

Objectives To measure the seroprevalence of SARS-CoV-2 antibodies in children of healthcare workers in the UK and to characterise the antibody response to SARS-CoV-2 infection and longitudinal antibody kinetics of SARS-CoV-2 infection.

Methods Multicentre observational prospective cohort study designed to determine seroprevalence of antibodies to SARS-CoV-2 in healthy children and report on symptoms experienced. Children of healthcare workers were recruited from five UK centres and underwent phlebotomy at three time points, beginning 16 April. There were follow up plasma/serum collections at two and six months after the original collection. Serum and/or plasma were tested for SARS-CoV-2 antibodies.

Results 1042 potential participants were screened for inclusion, with 35 excluded. Of the 1002 included 15 were excluded from analysis due to unsuccessful phlebotomy. Of the 992 included participants at the first time point, 68 had positive SARS-CoV-2 antibody tests, giving a seroprevalence of 6.9% (95% CI 5.4% to 8.6% n=992). Belfast had a significantly lower seroprevalence than all other sites at 0.9% (95% CI 0.2% to 3.3%, n=215, p<0.0001), and London had a seroprevalence significantly higher.