Conclusions There was positive feedback received from trainees, consultants and patients. Trainee led induction using the AccuRx NHS digital accredited system has improved uptake. Clearer appointment letters explaining video consultation will also encourage patient participation. During each rotation managing trainee clinics will be given as a task to a trainee. This will help to ensure sustainability so trainees will continue to deliver clinics remotely with one-to-one consultant engagement, supervision and learning. Birmingham Children's Hospital is looking at redesigning the whole outpatient service to incorporate telemedicine.

Association of Paediatric Emergency Medicine

612 PAEDIATRIC ED ATTENDANCES VIEWED THROUGH THE COVID LENS – PERSPECTIVE FROM AN EMERGENCY DEPARTMENT

¹Caroline Ponmani, ²Chandu Wickramaratchchi, ³Louise Mathers, ³Harinder Sahota, ³Ashrafhusen Tai. ¹BHRUT; ²Barking Havering and Redbridge University Trust; ³Barking Havering and Redbridge NHS Trust

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Background The COVID-19 pandemic has resulted in significant changes in the healthcare system. Whilst adult services were overwhelmed with sick patients there was an unprecedented decline in paediatric attendances.

Objectives The objective is to monitor the trends and understand change in PED attendances so that we can make decisions regarding any planned restructuring post COVID-19.

Methods Data from PED attendances and admissions from March 2020 to date was extracted and compared to the same period in 2019. Case notes of children who presented with sepsis/serious illness were analysed to learn if there was a delay in presentation.

Results The noticeable difference in 2020 was the 65- 75% reduction in PED attendances for minor acuity illness (URTI, tonsillitis, otitis media, gastroenteritis)

Injury visits fell to 65% below normal just after lockdown was announced, increasing to 50% below normal by July and August falling to less than 50% during the second lockdown. Fractures, likely include a significant number of playground injuries, fell to 70% below normal. The 60 - 70% reduction in PED attendances in soft tissue injuries was consistent with both lockdowns and children no longer attending school and possibly reduced participation in sporting activities.

There was an initial decrease(20% in April 2020 compared to 2019) followed by an increase in children to the same numbers as seen in 2020 August and September presenting to PED with mental illness as the pandemic progressed with an increasing proportion of children who had not presented to PED before the onset of the pandemic.

Dramatic (80%) reduction in respiratory illness(bronchiolitis, pneumonia, croup) was noted in the winter months. December is normally peak season for bronchiolitis and asthma/viral induced wheeze, for the first time such a dramatic reduction in attendance and admissions were noted in winter.

The children who presented to PED in 2020 with a serious illness and sepsis presented in a timely manner. Analysis of the timeline of events showed that parents had tried to

manage them at home with the help of 111 and virtual GP clinics. When they could not be successfully managed at home, parents were able to correctly identify this and brought them to PED.

Conclusions Over the years it has been observed that many children present to the emergency department with minor acuity illness that can be managed at home or by primary care. The pandemic data provides a unique opportunity to view this data, insights from this can be translated into planning services resulting in a sustained reduction in PED visits for minor acuity and self limiting illness. Social distancing to combat COVID-19 and universal precautions appear to have prevented circulation of communicable diseases. Improved compliance with home asthma medication, reduced air pollution levels, and reduced exposure to viral triggers and allergens likely contributed to the reduced number of children with wheeze or asthma.

Parents know that hospitals are open and ready to care for their children when they need them, but also feel confident to manage minor ailments at home with watchful waiting.

British Association of General Paediatrics

613 A CROSS SECTIONAL STUDY IN CHILDREN WITH IRON DEFICIENCY ATTENDING A REGIONAL SPECIALIST HEALTH CARE SERVICE

¹Vidhyashree Sampath-Arutperumselvi, ²Aruna Gorugantu, ²Sherin Hamza, ²Mahjoubah Ahmid Ahmid, ²Alison Kelly. ¹St Helens and Knowsley NHS Trusts; ²NHS Greater Glasgow and Clyde

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Background Iron deficiency (ID) is the most common nutrition deficiency and a public health problem worldwide. WHO describes ID as ferritin values <12 ug/L among children <5 years and <15ug/L in children >5 years. In UK, there is no national consensus however, a serum ferritin <12ug/L is widely accepted as iron deficient state.

Objectives To study the iron deficient cohort of patients presenting to a regional healthcare setting in UK in terms of demography, deprivation, ethnicity and clinical problem.

Methods It is a retrospective study. A list of all serum ferritin values <12ug/L, done between August2018 and August2019 in patients aged 6 months to 16 years, was obtained from the regional laboratory. Data was collected from electronic health record systems. Statistical analysis was done using SAS version 9.4.

Results The total number of samples were 730, out of which 116 were repeat samples. The 614 patients were sub-grouped into 3 categories; patients with underlying chronic health conditions were excluded from further analysis (speciality group, numbers 158), patients with autism, developmental delay or syndromes categorized as 'community group' (numbers 125) and patients with no chronic conditions as 'No Background (NB) group' (numbers 331).

The following only includes results from the NB group. SIMD (Scottish Index of Multiple Deprivation) is differentially represented in this group ($\chi^2(9)=177.17$, $p<0.0001$). Looking at the deviation plot, the SIMD categories of 1 and 2 are overrepresented, with relative deviations above 0. Age is differentially represented ($\chi^2(16)=235.86$, $p<0.0001$). The age groups of 1 to 4 years are overrepresented, with relative

deviations above 0.5. Sex is differentially represented ($\chi^2(1) = 5.59$, $p = 0.02$), with males being slightly overrepresented (relative deviation > 0.1). When compared to the ethnic breakdown of a Scottish city, chi-square tests revealed that the prevalence of Arabic patients in this sample is 10 times more than the prevalence in the city population (5.4% vs. 0.52%, $\chi^2(1) = 154.77$, $p < 0.0001$), Asian Indian patients is 3 times higher in this sample than in the city population (4.5% vs. 1.34%, $\chi^2(1) = 25.51$, $p < 0.0001$), Asian Pakistani patients is 4 times higher than in the city population (18.7% vs. 4.35%, $\chi^2(1) = 164.53$, $p < 0.0001$), and the prevalence of White Scottish patients is 0.4% that of the city population (34.7% vs. 83.7%, $\chi^2(1) = 581.49$, $p < 0.0001$). By plotting the mean values of the MCV (Mean corpuscular volume) and Hb (Haemoglobin) against the ferritin values in this sample, it was noted that at a serum ferritin value of 4ug/L, the mean Hb falls below 100g/L and at serum ferritin values < 7 ug/L, the mean MCV was below 75fL. There were similar findings in the community group. Wide range of non-specific symptoms noted in the NB group.

Conclusions Ethnic minority groups, socio-economic deprivation, males aged 1 to 4 years are identified as high-risk factors for iron deficiency in the population presenting to the local healthcare settings. Also, Hb and MCV tends to fall at very low levels of serum ferritin. Iron deficiency anaemia occurs at later stages of iron deficiency and therefore, ID should be considered in any child with above-mentioned high-risk factors, presenting to health care settings with non-specific symptoms.

British Association for Community Child Health

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INNOVATIVE £50 HEADSET AND FREE APP SENT BY POST TO MANAGE GLUE EAR -THE MOST COMMON CHILDHOOD HEARING LOSS- WHEN SERVICES WERE CLOSED DURING THE C19 PANDEMIC

¹Tamsin Holland Brown, ²Isobel Fitzgerald O'Connor, ³Jessica Bewick, ³Colin Morley.
¹Cambridgeshire Community Services NHS Trust; ²Cambridge University Hospitals NHS foundation Trust; ³University of Cambridge

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Background Hearing loss from glue ear affects ~1 in 10 children starting school in UK/Europe. Of all children globally with a hearing loss, fewer than 10% of children have access to hearing aids: affordable solutions are needed. Studies showed children with OME hear better with bone conducting headsets. During COVID-19 we investigated whether children with glue ear (also known as Otitis Media with Effusion, OME) without access to audiology or grommet surgery during the Covid pandemic, could be aided remotely with £50 bone conduction kits and the HearGlueEar app.

Objectives

1. Could families pair and set up a product set (requiring Bluetooth connectivity) themselves
2. Could children's quality of life be improved with remotely managed hearing support.
3. Can glue ear be successfully managed remotely.
4. Does this management affect the number of grommet operations required?

Methods Starting July 2020, during COVID-19, children aged 3–11 years with OME and on a grommet waiting list were invited to a single arm, prospective study. They received the kit, instructions and HearGlueEar app by post. By 3 weeks parents were asked to charge and pair the devices, attend a remote consultation and complete an OMQ-14 questionnaire. Remote follow-up lasted 3 months.

Results 82% (26 children) of those waiting for grommet operation list at the time of first lockdown in 2020 joined the study.

Children experienced more challenging listening situations during the pandemic with remote learning, social distancing and masks obscuring lip reading.

Families and the children felt empowered to manage their child's condition at home and school.

100% of families set up the product set remotely without professional help. Although some families needed additional support through the study therefore contact with a professional to trouble shoot was important.

Quality of life (OMQ-14) responses were 90% positive. Comments included: 'Other people have said, wow his speech is clearer.', 'It is making a real difference at home.', 'He said over and over again, 'I can hear everybody, wow.', 'It is no exaggeration to say this has made an astronomical improvement to his quality of life'. 'She is getting on really well with the headphones - pairing them with the iPad at home is simply brilliant.' One child said 'I can hear my best friend again'.

20% of those in the study avoided grommet operations: either choosing this management option as an alternative or successfully supporting their child's hearing until the glue ear self-resolved.

Conclusions Posting a bone conduction kit, HearGlueEar app and remote consultation is an effective management option for children with glue ear. This reduced the need for some grommet operations affording cost-savings and relieved hospital waiting lists. Children's hearing was supported at home and at school as well as challenges experienced in the pandemic with on-line education, social distancing and communicating with face coverings.

<https://medrxiv.org/cgi/content/short/2021.01.21.21249496v1>

Association of Paediatric Emergency Medicine

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THE CHILDREN MAY HAVE GONE BUT CHILDREN UNDER 1 MONTH HAVE NOT. EMERGENCY DEPARTMENT ATTENDANCES IN UNDER 1 MONTH OLDS DURING THE 2020 COVID-19 PANDEMIC

¹Patrick Aldridge, ²Fran Franks, ²Rachel Parish, ²June Swanton, ²Kate Pampin-Cao. ¹Frimley Hospital; ²Frimley Park Hospital

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Background Research during 2020 suggests UK Paediatric Emergency department (PED) attendances dropped by 30% at the start of the first National Lockdown (March 2020). Our PED (28,000 attendances (2019) vs 21,000 attendances (2020)) saw a similar drop in attendances but anecdotally noted babies under 1 month increased. Throughout 2020 many healthcare providers (including General practitioners (GP), Health Visitors (HV) and midwives) moved from routine 'face to face' (F2F) review to virtual contact, plus