Results We identified 7373 potential participants, of which 4360 were eligible.

The maximum number of presentations was seen in 2020 (810) with a steady rise every year; 2011 (187), 2012 (178), 2013 (253), 2014 (321), 2015 (376), 2016 (351), 2017 (478), 2018 (666) and 2019 (740).

The median age at presentation was 14 years (range 7–17 years), 3248 (74.5%) were female, and 3593 (82.4%) were White British. Most (4178, 95.8%) were first time attendances, with 178 (4.1%) being unplanned reattendances; the median number of presentations per patient was one (range 1–57).

All patients included in the data set presented with a mental health condition but the coded diagnosis was the primary reason for the mental health attendance. The most common coded diagnoses were Paracetamol overdose (714), Depression (615), Anxiety (343) and Alcohol intoxication (310) and NSAID overdose (101).

The median ED length of stay (LOS) was 216 minutes (range 1–1037 minutes), and median hospital LOS was 1 day (range 0–62 days).

Triage category was predominantly category 3 (1562, 35.8%).

Conclusions We have described that the number of mental health conditions presenting to our emergency department are rising and at a younger age group than expected. The presentations are predominantly higher in females and white British which was unexpected in a department which serves a multicultural city. It would be interesting to see if our trends are found throughout other sites in the UK. Assessing trends is essential in highlighting problems that could be met with altering mental health practice within the emergency department e.g. provision of in house mental health support in the emergency department.

Association of Paediatric Emergency Medicine

HOSPITAL AT HOME: CHILD AND PARENTAL EXPERIENCES OF AMBULATORY ANTIBIOTICS FOLLOWING REVIEW AND DISCHARGE FROM ACCIDENT & EMERGENCY

Background As paediatric emergency departments adapt to rising footfall, preventing admission whilst ensuring high standards of safety and care is of increasing importance. The Royal College of Paediatrics and Child Health (RCPCH) in their ‘Facing the Future: Standards for children in emergency care settings’, a guideline for the future of paediatric emergency departments, highlights the importance of robust ambulatory care. Ambulatory care and in particular ambulatory antibiotics has been a feature of acute paediatric care for well over a decade for patients who require intravenous (IV) antibiotics but are medically fit for discharge. Objectives The aim of this study was to evaluate patient and parental experiences of ambulatory antibiotics directly from a paediatric emergency department (PED) and to improve this service.

Methods This study was a qualitative analysis of patient and parental experience over a four-month period from May – August 2020. Data were collected from surveys distributed at the time of the second dose of antibiotics to all patients ambulating on IV antibiotics. Parameters were surveyed in a graded scale (poor, fair, good, excellent) for overall satisfaction and communication along with yes/no and free-text answers exploring other aspects of the ambulating process.

Results 38 patients were eligible for inclusion in this study, 28 of whom (74%) completed the survey. The number of patients was limited by changes in practice and health-seeking behaviours for children with infections during the COVID-19 pandemic.

Overall satisfaction was rated as ‘excellent’ by 75% of participants and ‘good’ by 25%. 96% of patients felt they fully understood the reason for ambulatory antibiotics and 100% of participants preferred ambulatory care to admission. The information given to patients and their families was rated as excellent by 71% of participants and good by 29%.

Free text thematic analysis of responses related to communication highlighted recurrent comments around improving communication including the information given regarding the decision to ambulate, the practicalities of the ambulating process and the diagnosis. Other strong emerging themes included improving advice around cannula care and safety net advice.

The survey feedback has resulted in us implementing various changes to improve the service, including an information leaflet on the ambulatory process including day to day practicalities of the process, how to care for the cannula and safety net advice regarding when to return. In addition, the PED team have been educated to provide clear communication explaining the decision to ambulate, the diagnosis and to be aware to cannulate the non dominant hand for comfort if possible.

Conclusions This study should encourage paediatric emergency departments nationwide to utilise the resource of ambulatory antibiotics directly, to avoid admission and better utilise our finite healthcare resources. Overall the experience of ambulatory antibiotics for certain conditions was very positive, a statement best demonstrated by 100% of participants preferring ambulatory care to hospital admission.

Future developments to the ‘Hospital at Home’ pathway is for children with certain conditions to receive their second dose of antibiotics at home to minimise hospital visits whilst results are awaited.

Quality Improvement and Patient Safety

IMPROVING THE QUALITY OF CARE FOR CHILDREN WITH COMMUNITY ACQUIRED PNEUMONIA: A QUALITY IMPROVEMENT PROJECT

Background The British Thoracic Society’s (BTS) Quality Improvement (QI) programme for childhood community-
acquired pneumonia (CAP) was created following its national audit in 2016. Improvement areas include reducing the number of unnecessary investigations and the use of oral over intravenous (IV) antibiotics. Local data collected between January–October 2020, followed a similar over-investigation and treatment pattern. We describe a project carried out between October and December 2020 to identify areas for improvement, implement and test changes using improvement methodology.

Objectives To improve care for children presenting to the Children’s Emergency Department (CED) with CAP over a 3 month period by following the BTS guidelines: Measured by a reduction in

- Blood tests from 37% to 27%
- CXR from 45% to 35%
- Use of IV antibiotics from 20% to 15%
- Children seen for follow-up from 9% to 5%

Methods The project was divided into two parts.

(Part 1) Baseline data was collected retrospectively from January 2020 to October 2020 using the e-audit feature on the Symphomy program. Children over 1 year of age with a primary diagnosis of CAP or Lower respiratory tract infection (LRTI) who presented to CED were included. This data was used to determine the frequency of blood tests, CXR, IV antibiotics and follow-up being done at our hospital.

(Part 2) The improvement project utilized the Institute for Healthcare Improvement (IHI) model for improvement methodology. We initially presented baseline data to staff working in CED. This raised awareness around BTS guidelines and resulted in suggestions for first tests of change: teaching sessions with junior doctors around CAP and its management, a survey to judge current knowledge of CAP and BTS guidelines. Throughout the project we measured data to track the impact of interventions. We continued to engage the team with weekly updates regarding the project in CED bulletin, including sharing the data and celebrating successes. During the course of the project, a local guideline was also made for the assessment, investigation and management of CAP. This is now being adopted regionally.

Results Data was plotted on run charts but has yet to show any change. However given the timing of interventions there has not yet been adequate time see any signals of non-random variation. Additionally coronavirus has had an impact on number and type of patient admissions.

Conclusions The Covid-19 pandemic and the lockdown has greatly reduced the number of CED admissions with CAP/ LRTI. This might be why we have not been able to demonstrate significant change in the approach to managing patients with CAP. However, this QI project successfully involved and educated various staff in the approach to management of patients with CAP. The interest shown by clinical staff has led to the development of a local guideline around management of CAP, which will soon be disseminated department wide.

The pandemic has also affected the daily working of CED which led to initial difficulties in staff engagement and teaching. Now, with a gradual return to usual activities it might be worthwhile to extend the project and look for further improvement particularly following implementation of new guideline.

Abstracts

Paediatric Critical Care Society

1435 RAPID EXOME SEQUENCING IN ACUTELY UNWELL CHILDREN – PROVIDING NEW DIAGNOSTIC OPTIONS IN INTENSIVE CARE SETTINGS

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Background Rapid exome and genome sequencing in acutely unwell children has become increasing available worldwide over the last five years. The diagnostic rate is variable; however most relevant literature highlights the importance of the effect of a genetic diagnosis on the management in acute neonatal (NICU) and paediatric intensive care (PICU) settings.

NHS England published the National Genomic Test Directory to integrate and embed genomic testing into mainstream medicine. The test directory lists genetic testing for different disorders and ‘R14’ was allocated to the rapid exome sequencing service for acutely unwell babies and children with a potentially monogenic disorder. R14 service was launched by NHS England on 1st October 2019.

The service is delivered by the Exeter Genomics Laboratory, South West Genomic Laboratory Hub, running in collaboration with clinical genetics units. The main aims are to provide rapid genetic diagnosis to influence acute management and provide equity of access.

Objectives This study is a retrospective service evaluation and analysis of all cases recruited during the first year of the R14 service in England from 1st October 2019 until 30th September 2020. The primary and secondary outcomes focus on assessing turn-around-time (TAT), diagnostic rate and management impact of a rapid genetic diagnosis.

Methods A standardised proforma was created and eligible patients were identified through the electronic database at the Exeter Genomic Laboratory. The proformas were pre-populated with the molecular findings, circulated to the 17 regional clinical genetics centres and completed using patient notes. Anonymised data were collated and analysed using Microsoft Excel.

Results 361 acutely unwell children were included, 53%(192/361) were male. Patient age groups were neonates 40%(144), infants 40%(143), children 20%(72), two unknown. 50%(182) were recruited from NICU, 26%(93) PICU, 24%(86) ward or home. 91%(329/361) were trio samples.

The median TAT was 11 days from receipt of the DNA samples in the Exeter laboratory to the final report. The majority(331/361, 92%) received a final report within the 21-day TAT standard. 14/30 were delayed to allow additional testing where preliminary results were re-classified to diagnoses.

The diagnostic rate was 38%(141/361). The result influenced management in 94%(133/141) of these patients.

Impact of diagnosis on management

In 75%(100/133), the diagnosis directly influenced management for the proband or family members. In a further 25%(33/133), diagnosis was helpful solely for discussing...