developed methaemoglobinaemia as a result. Initial methaemoglobin was 48% which subsequently improved to 3% following 3 doses of methylene blue with good clinical response. Further investigations excluded Systemic lupus erythematosus and Crohn's disease, which have been reported as associated with PD. The infant's recovery was supported with parental nutrition and discharged home with ongoing follow up with Paediatric metabolic specialists.

Management of PD is mainly supportive with consideration of use of co-factors that can improve collagen stability, suppression of collagenase and topical application of ointments containing L-proline. Enzyme replacement is also being actively researched.

This case illustrates the importance of prompt recognition and treatment of methaemoglobinaemia in infants with unexplained metabolic acidosis. It also highlights awareness of PD, which although, is extremely rare, can be diagnosed through metabolic screening tests and genetic testing, thereby leading to earlier supportive management.

167 DEVELOPMENT OF AN ACUTE GENERAL PAEDIATRICS SERVICE SPECIFICATION AT A MAJOR LONDON TEACHING HOSPITAL

Julia Avery, Navindi Fernandopulle. UK

10.1136/bmjpo-2021-RCPCH.91

Background Acute general paediatrics is responsible for the care of children (0–18) presenting acutely to hospital, usually through either the emergency department (ED) or following a GP consultation. In the acute setting patients may be looked after in the emergency department, paediatric assessment units, ambulatory or day care facilities, inpatient wards, operating theatres, intensive care units and outpatient clinics. In a teaching hospital setting, general paediatricians may also have a role co-ordinating care for complex children.

In the last five-ten years, standards from national and regional bodies govern the care provided to patients by general paediatricians. Services and individual practitioners can be called upon to demonstrate how they meet these standards and evidence the quality of care provided, such as at CQC inspection. Relevant documents, however, may be located in multiple places and are not always easily accessible to staff or adequately monitored as part of service governance.

Objectives

- To derive a practitioner focused service specification based on relevant acute paediatric care standards
- To determine local compliance against standards and identify measures needed to achieve compliance
- To plan a robust, practitioner-led methodology for ensuring ongoing compliance and monitoring

Methods Relevant guidance was identified through a variety of search methods: national bodies' websites, expert opinion and liaison with Trust managers to identify standards reported to regulators.

Standards were collated and reviewed amalgamating any areas of duplication and removing those not relevant. The final list was thematically analysed into key areas of practice. An expert group consensus methodology was then used to rate the service performance against these standards.

Results 65 standards of care were identified from six key documents. Thematic analysis identified nine main themes and 16 subthemes.

Using a Red, Amber, Green (RAG) rating system to identify the services' performance against each theme, an action plan was then created, using a plan, do, study, act (PDSA) process to achieve these standards that were then linked to the service governance strategy and to consultant action plans.

It was decided to audit one of the standards with an amber status to assess if it were being met and, if not, why not. There was a 66.6% compliance, monitored across three paediatric wards, and five themes were identified as reasons for it not being met.

Following on from the data collected, further standards not being met will be explored and their Action Plans will continue to be put into place with their progress monitored regularly within departmental governance meetings.

Conclusions The new service specification is used by clinical staff to reflect on practice and outcomes, allowing easy access to relevant standards to guide clinical practice and service development and quality improvement in a strategic and co-ordinated way. The document is a 'living' document, accessible to all clinical team members and external stakeholders.

It will aid planning, commissioning and provision of acute paediatric services and provide a framework against which to audit provision and demonstrate improvement. A similar methodology could be used across the UK.

169 USING NETWORK ANALYSIS TO FOLLOW MENINGOCOCCAL SEPTIC SHOCK PATHOGENESIS IN INFANTS

Javed Ismail, Govind Benakatti, Mohammed Uddin, Asrar Rashid. United Arab Emirates

10.1136/bmjpo-2021-RCPCH.92

Background Previously we reported the complex nature of the transcriptome in Meningococcal sepsis (MenS) limiting the detection of a representative biomarker from a single time point for a dynamic disease process [1]. In this study, alleviating that limitation, we utilised network methodology to the transcriptome of MenS patients obtained from multiple time points during disease progression.

Objectives

Methods We applied weighted gene co expression network analysis (WGCNA) [2] on normalized expression data of 5 children (P1-P5) with MenS (4 confirmed and 1 clinically assumed) who had blood samples taken at admission (designated 0 hours), 4, 8, 12 and 48 hours (T1-T5). The patients had no previous, comorbidities. We extracted RNA from blood and then the samples were checked by capillary electrophoresis and spectrophotometry for quality control purposes. We conducted microarray (Human Gene 1.0 ST Arrays with 33,297 probes) gene expression experiments to capture the transcriptome profile at each time point.

Results Our initial differential gene analysis between all-time points against T1 showed significant ($p < 1.0 \times 10^{-7}$) up regulation of protein binding and immune response activities. Cluster map was compiled (figure 1) and then this was matched to trait data (figure 2). (Next, applying WGCNA analysis we identified 18 cluster (or modules) that have distinct topological characteristics (sizes ranging from