7 ENT CLINICAL ACTIVITY DURING COVID19 PANDEMIC

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Background During COVID19 pandemic all ENT registrars and SHOs were re-deployed to other specialties and senior clinical fellows were upgraded to consultants. The aim of this project is to analyse ENT clinical activity during the COVID19 pandemic in order to assess appropriateness of ENT staffing level and contribute in preparation for future similar events.

Methods Retrospective data collection was performed via Epic from 23/3/20 until 21/6/20. ENT admission and procedural data were collected and compared to other paediatric surgical subspecialties. Finally, a case study has been incorporated into our presentation to demonstrate the additional difficulties encountered in the care of complex airway patients during the COVID19 pandemic.

Results 143 patients were admitted under ENT. In total, 220 ENT operations were performed on ENT patients as well as patients admitted under other teams. 52.4% of these cases were airway procedures. When considering relative workload during this period, SNAPS performed 251 cases while ENT and Cardiothoracics both performed 220 operations.

The case report studied was an eight months girl with tracheal stenosis who required multiple admissions due to acute airway compromise. This case demonstrated that adversities encountered during the COVID19 pandemic included difficult access to local hospitals, challenging patient transfer, limited medical staff and theatre resources.

Conclusion During the COVID19 pandemic ENT continued to have a high workload of complex patients, especially relating to airway issues. This was on a background of restricted access to paediatric inpatient facilities and resources at other hospitals in North Central London. Following the re-deployment of all ENT junior doctors, ENT at GOSH became a consultant only service whilst SNAPS and cardiac surgery kept their full complement of juniors. The results of this study have helped in planning for a potential COVID19 second wave response, particularly around operating theatre allocation and in surgical junior workforce deployment.

8 GREAT ORMOND STREET HOSPITAL (GOSH) SUMMER SCHOOL 2020: LESSONS ON DESIGNING A DIGITAL CONFERENCE

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Background GOSH Summer School (GSS) is a conference for medical students and early career trainees. It has been run as a face-to-face event in the previous two years. COVID-19 outbreak challenged us to reformat the conference digitally.

Methods The GSS was run over four days, and the programme had main themes on each day: General Paediatric, Surgery and Innovation, Global health and COVID, and Paediatric Sub-specialties. The conference was hosted as webinar/Q&A sessions; questions were submitted via a digital platform

with anonymous options. Participants were encouraged to interact via conference App.

Results 60% of the registrations were medical students from year 4 and 5. 630 different users logged in to the conference, with an average of 300 participants per session compared to 50–75, in the previous two years. According to the daily polls, GSS was the first virtual conference for 59% of the participants since the pandemic; 58% preferred to ask questions using an online written platform, 4% preferred to speak directly, and 38% chose both. About the most productive method to deliver education, 36% chose face-to-face sessions, 34% Webinars, and 22% felt these two methods were considered equal. 78% voted that our format of 30 minutes presentation with 15 minutes Q &A was 'about right.' 69% felt our current format of 4–5 hours per day of webinar time was considered the best option. About 227 participants joined the conference App. 346 participants completed the post-conference survey, and 100% voted to continue the online format for next year's conference.

Discussion The online GSS was as successful as the previous face-to-face events. We have learned that digital platforms can efficiently deliver high-quality education, promote interaction and engagement with the participants, and reach a larger number of students.

9 REMOTE WOUND REVIEWS: EMPOWERING PATIENTS AND PARENTS THROUGHOUT COVID AND BEYOND

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Background Post-operative wound reviews constitute an essential part of care for children undergoing surgery, allowing prompt identification of post-operative complications.

Until now it has been routine practice in the orthopaedic department to delegate wound reviews to community services. However, departmental follow-up may have significant benefits including improved continuity of care. Additionally COVID-19 has meant that avoiding face-to-face consultations has greater appeal, particularly for patients with significant co-morbidities.

We developed a remote service for safe and patient-centred orthopaedic wound checks.

Methods Stake-holder perspectives were captured by surveying parents as well as orthopaedic surgeons within the department. Suitable patients were identified and provided with a choice between remote wound checks (RWC's) versus community services as standard. Patients opting for RWC's were asked to upload photographs of their wounds to MyGOSH two weeks post discharge. Once images had been reviewed a telephone consultation took place during which the Bluebelle wound healing questionnaire was carried out. Parental satisfaction scores were gathered following telephone consultation.

Results 100% of staff respondents supported a RWC service. A total of 7 patients were identified as suitable for this pilot, all opted for RWC over routine community follow-up.

All 7 patients received a remote wound check within 2 weeks of discharge (mean 11.7 days). One parent reported visiting their GP prior to remote review citing low confidence with dressing removal. All patients had reassuring photos and Bluebelle scores requiring no further follow-up prior to routine clinic. The median Bluebelle score for the cohort was 3

(high score indicating wound complications, maximum 41). Mean satisfaction score amongst parents was 4.3 (out of 5).

Conclusion RWC's are desirable amongst our patient cohort. Parents engaged well with the remote service and satisfaction was high. Following this pilot we propose expansion of this service to empower families in the COVID-era and beyond.

10 RESEARCHING SARS-COV-2 FROM HOME: MAXIMISING THE BENEFIT OF THE GOSH DIGITAL RESEARCH ENVIRONMENT DURING NATIONAL LOCKDOWN

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The 2019 novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) causes COVID-19, characterised by potentially severe respiratory and gastrointestinal symptoms. As of early October 2020, there were around 34 million confirmed cases of COVID-19 and more than 1,000,000 associated deaths globally. Initial data indicated that COVID-19 affected children with fewer symptoms and less severe disease compared with adults, however more recently some have developed an unusual associated systemic inflammatory condition: paediatric inflammatory multisystem syndrome temporally related to SARS-CoV-2 infection (PIMS-TS).

In the UK, Public Health England outlined a shielding strategy designed to protect those extremely vulnerable to SARS-CoV-2 infection, such as individuals who are immunocompromised. At the same time, the UK Government enforced a National Lockdown for all except key workers. As such, researchers were unable to continue working on site at hospitals and Universities. The web-based Digital Research Environment platform at GOSH made it possible for research on GOSH patients to continue despite those limitations. Even more, the efficient data integration processes that the DRE have implemented enabled a rapid extraction of COVID-19 related data from the GOSH EPR system to support initial research results.

We were able to examine a cohort of paediatric patients, presenting to GOSH, with suspected COVID-19 or PIMS-TS to document their clinical characteristics and outcomes with regard to the presence of underlying medical conditions associated with vulnerability and to establish whether underlying conditions such as vitamin D deficiency were prominent in these patients. By analysing this data during the first wave, we were able to identify that apparently 'vulnerable' groups were not overrepresented in patients hospitalised with COVID-19 or PIMS-TS.

11 TOWARDS INTERNATIONAL FEDERATED HEALTH DATA ANALYSIS: EXPERIENCE WITH THE 4CE CONSORTIUM FOR CHARACTERISATION OF COVID-19

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The Covid-19 pandemic necessitated collaborations from hospitals around the world to improve knowledge and find suitable treatments. Responding to the quick spread of the virus, an international consortium was formed (4CE, <https://covidclinical.net/>) to rapidly collect data from the Electronic Patient Records (EPRs) of participating hospitals and publish results. The Digital Research Environment (DRE) enabled GOSH to join the consortium as one of the lead contributors of paediatric Covid-19 data in Europe and the only hospital in the U.K. The objective was to develop methods that ensure quick data collection and analysis using a mixed model of federated and centralised data analysis, and publish results on the clinical characterisation of Covid-19 in both children and adults to inform care and research.

Building on the DRE's automated data integration processes and flows from the GOSH EPR system, we developed methods to semi-automate our Covid-19 cohort identification, restructure and harmonise our data to the internationally agreed specification and standards, perform quality control collaboratively, produce aggregate-level data using summary statistics, validate severity, and incorporate appropriate obfuscation of results. GOSH IG approval was obtained before sharing summary data with 4CE for further analysis.

We were able to rapidly develop suitable technical and governance solutions as a first step towards federated health data analysis in an international collaborative of hospitals. The consortium analysis results, currently being submitted for publication, clinically characterise Covid-19 at an international level informing care and research. 4CE offers a new model of collaborative health data analysis based on the use of EPRs and federated analysis to respond quickly to pandemics like Covid-19.

The use of GOSH DRE enabled our participation in the 4CE consortium and quick generation of collaborative data analysis results on Covid-19 paving the way for further development of advanced international federated health data analytics using EPRs.

12 COVID-19; A REFLECTION OF PHYSIOTHERAPY INTERVENTION IN THE PICU

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The novel COVID-19 poses challenges in the paediatric physiotherapy community. In March 2020 there were not, and still are not, any clinical guidelines on the management of the physiotherapy needs in this cohort of children.

Links between national adult and paediatric services were formed to utilise and adapt adult national intensive care guidelines to plan paediatric COVID-19 respiratory physiotherapy assessment and treatments. With support of medical colleagues, protocols on the use of humidifiers, ventilators and bagging circuit filters and the necessity of closed suction were created.

To determine a suggested management, we utilised knowledge of viral/ARDS conditions and devised an algorithm to identify which patients required physiotherapy intervention.

Proning of patients was identified as a key treatment. Together with our clinical simulation centre, a skills lab was