application front-end was developed in Ionic. The back-end consists of an internal SQLite Database that provides the mobile app with direct read and write access to the data, stored locally in a single file.

The mobile app developed allows patients to record important information about their condition. The app will support patient self-management, and empower patients when accessing services outside of their normal care team. This app could be modified to support a variety of childhood chronic conditions.

22 DIGITALISATION OF MYEYES, A VISION RELATED PATIENT REPORTED OUTCOME MEASURE

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Childhood visual impairment (VI) has significant impact on the child and with far-reaching consequences for the child's social and educational experiences and future career prospects.

The VQoL_CYP and FVQ_CYP are validated patient-reported outcome measures (PROMs) which capture vision-related quality of life (VQoL) and functional vision (FV) and are designed for use by children and young people living with VI, to capture children's own perspectives of the impact of VI. They are currently used as paper based questionnaires in research and routine clinic practice. However, clinicians and families would benefit from digitalising the process, allowing patients to complete questionnaires electronically with data automatically collected into a database for analysis.

In collaboration with UCL computer science, through the industry exchange network, researchers at GOSH and UCL GOS Institute of Child Health developed a proof of concept app was created to deploy both instruments digitally (collectively, 'MyEyes'), complete with a database for analysis. The web application was developed using Django with a PostgreSQL database. The mobile app was developed using Ionic.

The digitalisation of the questionnaires has the potential to improve the child's experience of self-completion. Deployment via a mobile app allows patients to complete questionnaires at sequential time-points, in-between normal clinic visits, thus providing clinicians with more information about their eye condition over time.

To gain feedback on the technology, patients and families will now test the prototype mobile app. This project demonstrates how PROMs can be digitalised, supporting a more efficient collection process for important patient-generated data. This prototype could serve as an example of how other PROMs in use at the hospital could be deployed digitally.

23 RAPID DESIGN AND DEPLOYMENT OF AN ADULT CRITICAL CARE TRANSPORT TEAM – THE LAUNCH OF BIG CATS

Cathy Roberts, Mark Clement. *Children's Acute Transport Service (CATS)*

10.1136/archdischild-2020-gosh.23

The Children's Acute Transport service (CATS) is a stand-alone paediatric critical care transport service in the north thames region. In April 2020, demand for adult intensive care beds exceeded surge capacity in some North Central London (NCL), units which led to an urgent need to transfer COVID-19+ve adults between units.

A newly formed adult critical care transport service in the NCL region became overwhelmed with requests and CATS were asked to assist. Big CATS was launched within 48 hours, activated 16 times and offered a 7 day a week daytime service without denuding paediatric capacity.

24 MONITORING BONE HEALTH IN CHILDREN AND YOUNG PEOPLE WITH COELIAC DISEASE – A CLINICAL AUDIT

Sarah Khweir, Fevronia Kiparissi, Edward Gaynor. *GOSH*

10.1136/archdischild-2020-gosh.24

Introduction Monitoring of bone health via bone density in coeliac disease (CD) using dual-energy X-ray absorptiometry (DEXA) in childhood is recognised in clinical practice, however there is variance in frequency of monitoring. At Great Ormond Street Hospital (GOSH) the coeliac protocol is to perform a DEXA after diagnosis. National guidelines are non-specific about the paediatric population. This audit explored whether children with CD are meeting current guidance of DEXA scan monitoring at GOSH and whether those who have had DEXA scans had a change in their management.

Methods Retrospective clinical audit, registered with the research and development team. Data collected via electronic patient records (EPR) April 2020 on all patients seen in the dietetic led coeliac clinic.

Results 31 patients in dietetic led coeliac clinic. Median age at diagnosis was three years. 87% patients had a DEXA scan, of which 81% of were normal. Scans were performed a median 3.5 years after diagnosis. 2/5 patients with abnormal DEXA had tTGA's of 8–12.5U/ml. BMAD z-scores were completed in 78% of patients with mean -0.27. Serum levels of vitamin D were >25 nmol/L in 100% patients but 45 nmol-60 nmol/L in children with abnormal DEXA. No child had faltering growth at time of DEXA.

Conclusions As children are being diagnosed early, and there is a reversal in low bone mineral density on a gluten free diet, there are fewer indications to measure DEXA routinely. DEXA should therefore be only reserved for 'at risk' groups. Vitamin D supplementation of 10 ug daily and annual monitoring should be routinely advised.

25 IDENTIFYING EFFECTIVE WAYS TO COMMUNICATE HEALTHCARE SCIENCE CAREERS TO SECONDARY SCHOOL STUDENTS

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10.1136/archdischild-2020-gosh.25

Engaging with secondary school students to raise awareness of the careers available in healthcare science is a vital step in recruitment and development of the future workforce. In order for healthcare science careers events to be successful, it

is important to identify the requirements of the target audience.

A learning needs analysis (LNA) online survey was developed to identify the learning requirements of students, and to gain feedback on the Clinical Immunology laboratory tour video developed for Healthcare Science Day. The LNA was distributed to UK secondary school students via multiple social media channels.

The LNA received 48 responses from students across the UK, with a roughly equal distribution of responses across all school years. Slightly over half of the respondents (55%) identified as female, with a mix of different reported ethnicities that demonstrated that the survey had reached a range of respondents.

When asked about their current experience of STEM careers, only 47.9% responded that their school had a formalised STEM careers programme, and 54% had not taken part in a STEM careers activity, demonstrating that schools may not be successfully promoting STEM careers to their students, further impacting on uptake of STEM subjects in higher education and application to STEM careers.

The majority of respondents agreed that the information in the laboratory tour video was useful (56.3%), but only 33.8% agreed that they would investigate further into healthcare science careers as a result. The general consensus amongst respondents was that the video needed to be longer, and to explain some of the concepts raised in more depth.

In conclusion, this survey provided a wealth of useful information that could be used to develop more effective digital STEM careers resources to be used in schools in order to raise the profile of healthcare science careers.

26 UNDERSTANDING STEM CAREERS REQUIREMENTS OF UK SECONDARY SCHOOL STUDENTS

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10.1136/archdischild-2020-gosh.26

Over half of STEM careers employers have reported difficulty in recruiting workers with the correct skills (The Open University, 2019), and it has been demonstrated that engagements with schools by employers can help support students to become more career ready (The Careers and Enterprise Company, 2020). Healthcare scientists work in the NHS using STEM skills to support diagnosis, prevention and treatment of disease and injury. As a lesser known career path, engagement with schools to raise awareness of healthcare science careers is vital.

An online learning needs analysis (LNA) was constructed to acquire an understanding of students learning requirements for STEM careers events, and to gain feedback on a previously recorded careers video. The LNA was distributed through a variety of social media channels.

Responses were received from 111 UK secondary school students aged 11–18 from a wide range of locations and ethnic background. Responses showed that the most commonly checked social media sites were Tik Tok (90.2%), Youtube (87.5%) and Instagram (84.8%) demonstrating the best sites to target in order to engage with students.

Results showed that only a third of respondents were aware of a STEM careers programme at their school, demonstrating a need to more successfully engage with students in order to encourage an interest in STEM careers.

Responses to the STEM careers video were generally positive, with 97.3% rating the healthcare science information in the video at 3/5 or higher. Recommendations from the respondents showed that future videos could be more effective if they were structured to explain career entry requirements, discussions of day-to-day work and attainable career progression routes.

The study highlighted the need for engagement between teaching, students and employers when discussing healthcare science careers, as well as provided suggestions for future careers resource development.

27 PLANNING FOR A PANDEMIC – RENAL DIALYSIS SERVICE

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10.1136/archdischild-2020-gosh.27

Our aim is to provide an evaluation of the implementation of emergency rostering in a specialist service during the co-vid pandemic, using both quantitative and qualitative methodology to inform successes and challenges of the system.

Background In March 2020 As the Co-vid 19 pandemic began to unfold, the predictions of patient numbers and staff sickness in UK modelling informed the need to:

Rapidly develop a robust nursing rota system that could ensure sustainability of three critical areas:

- Patient safety
- Adequate staffing ratios and
- Protect staff wellbeing.

What we did? Developed a roster pattern able to ensure bubbles and back up cover to maintain service across the ward and dialysis unit.

Analysed its impact by collecting patient experience data, safety metrics and conducted a staff survey to consider impact on wellbeing and morale, as well as monitoring for trends in incident reporting, complaints and sickness.

Thematic analysis was used to identify common themes amongst staff and gain insight into the impacts of a new model of working.

FFT data and a patient experience questionnaire shared patient perspectives

What we found? The roster system developed and evaluated during this period has demonstrated via the collation of key measures and both quantitative and qualitative data that the three areas set out as critical, patient safety, adequate staffing ratios and staff wellbeing could be maintained.

This system provided a robust, fair way to nurse through a crisis period. It is key to continuously evaluate and move to more normal patterns and allow non rostered staff time for their own roles as quickly as safety allows. Whilst this was a small piloted area, the positive qualitative and quantitative data produced informs the impact of a system that could be easily replicated for other areas, as a tool to nurse through unique times.