performance of the machine learning classifiers was compared to a baseline logistic regression model.

Results There were 564 patients in the study population, of whom 307 had a LOS greater than three days and 105 had a LOS greater than seven days. Using the seven-day threshold, the optimal model was the random forest, which achieved an AUC of 0.785 and correctly classified 42.9% of long LOS patients. Using the three-day threshold, the optimal model was the multilayer perceptron, which achieved an AUC of 0.737 and correctly classified 85.7% of long LOS patients. The performance of the machine learning models was variable, and they did not unanimously outperform the baseline models.

Conclusions The machine learning models performed poorly in predicting long LOS. Further work is required to assess the clinical utility and value of deep learning methods in an operational setting.

46 CAPTURING THE INSIGHTS OF ADOLESCENTS WITH LIVED EXPERIENCE OF HEALTH AND SOCIAL CARE TO INFORM THE DESIGN & DELIVERY OF A TRAINING FOR HSCP THAT SUPPORTS EFFECTIVE CONVERSATIONS WITH CHILDREN & YOUNG PEOPLE & THEIR FAMILIES ABOUT TRANSITION

¹Lesley Cavalli, ²Rachel Naunton, ²Rashaun Pacquette-Simpson, ²Amy Sutton, ³Nigel Mills. ¹Great Ormond Street Hospital and University College London; ²Great Ormond Street Hospital; ³Imperial College Healthcare NHS Trust

10.1136/archdischild-2020-gosh.46

Transferring from children's to adult health and social care services can provide both risk and opportunity (Northumbria, 2017). Effective programmes that offer a period of preparation and integration (transition) should be centred on children and young people (CYP) and placed in the context of CYP's lives and should include 'the training of healthcare professionals to utilise effective interpersonal and communication skills' that meet the needs of each CYP (Kime et al 2013, NICE 2016). In 2018 the CQC identified shared decision-making within the top 4 areas requiring improvement in CYP care.

We captured insights from adolescents and their parents with lived experience of transition services both within and external to GOSH. Twenty-nine adolescents participated in an all-day focus group delivered remotely. The group considered 3 key questions. All contributions were transcribed. A separate parent group, focused on the same questions. Themes of Time, Information, Personalisation, Communication and Integration were common to both YP and parents. In addition, YP referenced the impact of mental health on decision making and the impact of health on their education and were aware of diversity and language barriers and the importance of including siblings in communications. Parents had additional concerns around the impact of learning disabilities on their child's transition and of moves to adult learning institutes.

Results provide preliminary information about what 'good should look like' in the design and delivery of our transition services with particular reference to communication. Focus group data, systematic review of the literature and engagement with additional stakeholders including health and social care professionals themselves will be triangulated to develop a co-produced training.

47 FHIRWORKS 2020: AN INTEROPERABILITY HACKATHON FOR A HEALTHCARE INFORMATION EXCHANGE

¹Sheena Visram, ²Dean Mohamedally, ³Daiana Bassi, ³Usman Bahadur, ⁴Costas Stylianou, ⁵Jon MacNamara, ⁶Tom Winstanley, ⁷Glen Quinn, ³Neil J Sebire. ¹University College London; ²GOSH DRIVE; ³GOSH DRIVE; ⁴Intel; ⁵IBM; ⁶NTT Data; ⁷Aridhia

10.1136/archdischild-2020-gosh.47

Introduction Interoperability in healthcare is a fundamental principle for scalable deployment of novel tools. Fast Healthcare Interoperability Resources (FHIR) comprise data specifications and an application processing interface (API) for the secure exchange of electronic health records (EHR). GOSH DRIVE together with UCL Computer Science and the National Framework of IXNs (Industry Exchange Network) has supported the integration and mainstreaming of standards that make healthcare systems interoperate. Here we present an interoperability hackathon and resulting catalogue of prototypes built using the latest R4 FHIR for healthcare.

Method During February 2020, a two-day hackathon with UCL CS and GOSH DRIVE tasked computer science students with 15 broad challenges to explore FHIR for healthcare. Solutions were built using a synthetic patient record testbed. This testbed offered a FHIR API access allowing connection to any developer environment and technology stack. Mentorship was provided to students by Microsoft, Aridhia, IBM, Intel, EMIS and NTT Data.

Results The GOSH FHIRworks 2020 Hackathon saw 129 FHIR open source demonstrators being built for GOSH DRIVE and the NHS. Exploratory prototypes included smart letter generators (28), graphical data visualisations (37), and also a breadth of smart watches, scanners, chatbots and AR/VR demonstrators. This included automated video conferencing over Skype and MS Teams, filtered FHIR data aggregated on Google Maps to visualise patient demographics and immersive solutions that conceptualised patient FHIR records as holograms.

Conclusion As part of the GOSH DRIVE vision to accelerate the deployment of cutting-edge technologies, we have demonstrated effective use of synthetic patient datasets through FHIR APIs to conduct interoperability hackathons. As a next step, these FHIR solutions will be hosted in a demonstrator suite on site to introduce FHIR principles and capabilities to staff at GOSH. We believe that such NHS partnerships with academia facilitate the advancement of safe and secure future healthcare information exchanges.

48 CHILDREN'S EXPERIENCES OF PERSONAL PROTECTIVE EQUIPMENT (PPE) DURING THE COVID-19 PANDEMIC

Louise Carter. Anaesthetic Registrar, Great Ormond Street Hospital

10.1136/archdischild-2020-gosh.48

Background The Coronavirus pandemic has affected each one of us from every part of society. From the neonate to centenarians no one is exempt. Our paediatric population has had to adapt rapidly to the huge changes arising from the pandemic, none more so than those coming into hospital and interacting with healthcare professionals. Great Ormond Street Hospital caters for many children with multiple disabilities and/or health problems and rare and congenital conditions. They may present for multiple surgeries and procedures requiring anaesthesia over many years but these interactions