GREAT ORMOND STREET HOSPITAL

This internationally renowned children's hospital integrated a content management and imaging solution with its EPR to become one of the most advanced digital hospitals in Europe.

Great Ormond Street Hospital (GOSH) is a busy tertiary paediatrics centre. With research partner, UCL (University College London) Great Ormond Street Institute of Child Health, GOSH hosts the UK's only paediatric National Institute for Health Research (NIHR) Biomedical Research Centre (BRC). GOSH receives 240,000 outpatient visits and almost 45,000 inpatient visits every year. Most patients are referred from other hospitals throughout the UK and overseas. GOSH provides the UK's widest range of specialist health services for children on one site, with over 60 different clinical specialties.

GOSH needed to upgrade its out-of-date digital infrastructure, since some systems were at the end of their effective lives. The electronic patient record (EPR) and imaging systems were at the heart of their strategy. "You don't have a complete EPR unless it includes medical images of the patient," said Dr Shankar Sridharan, Chief Clinical Information Officer at GOSH. "We wanted to ensure our EPR provided access to pictures from both visible light and DICOM sources. Our main motivation was quality of clinical care."

GOSH uses the Hyland OnBase document imaging platform, integrated tightly with its Epic EPR. The Hyland solution seemed to be the obvious choice, not least because over 70 percent of US Epic sites use Hyland as their document imaging solution supplier, tightly integrated with Epic. The hospital also uses PACS and a Vendor Neutral Archive (VNA), the latter also integrated with Epic. Additionally, as the OnBase XDS repository capabilities are leveraged, the hospital will increasingly index all documents within OnBase, enabling a complete picture of all documents in the organisation. This will also facilitate external sharing of documents where appropriate.

"We wanted more than just a document store," said Christopher Jephson, Consultant Paediatric Otolaryngologist. "We also looked at additional capabilities such as form writing, which we wanted to use to develop an e-consent system." In a children's hospital, a consent form may require many signatures, including those from the patient, parents, a social worker and a language interpreter.

![NHS Great Ormond Street Hospital for Children NHS Foundation Trust](logo)

INDUSTRY
Healthcare

SIZE
Part of the National Health Service (NHS) Foundation Trust, GOSH is one of the leading children's hospitals in the world, providing 240,000 outpatient visits and 45,000 inpatient visits every year.

LOCATIONS
London, United Kingdom

PRODUCTS IN USE
OnBase

GOSH had some prior experience with medical image management, having installed a VNA in 2016. "The VNA provided us with added control over most diagnostic images, but we soon realised that adding document images and clinical photographs to the mix was also necessary to truly complete the patient picture," said Simon Hadley, head of Clinical Digital Content at GOSH. "At the time, few vendors handled both."

The project team at GOSH quickly recognised that by incorporating document and clinical images into the EPR project, the hospital would be able to provide a significant improvement in information access for front-line clinicians. At the time, the industry seemed divided into document imaging vendors and clinical imaging vendors. However, this separation meant little to those caring for patients. "As we moved towards the implementation of the EPR, we recognized we should integrate the content management systems and the EPR into a seamless whole from the clinicians' point of view" said Hadley, "we also consolidated some of our existing systems, saving management costs. We were able to reduce the number of interfaces we needed to maintain."

The imaging systems were incorporated into the EPR project, which went live mid-2019. Since the hospital went live with this consolidated content management, imaging and EPR solution, they have noticed a significant reduction in the time doctors spend looking for notes and other information. This improvement in access means improvements in the quality of care, and an improvement in productivity as less time is wasted. "OnBase has been beyond fabulous," said Dr Sridharan. "Though, 90 percent of hospital staff have no idea that OnBase is being used. They think it is all in our EPR."

GOSH is now 'paper-lite' and uses virtually no paper-based information. "We use printed summaries to aid ward-rounds," Dr Sridharan said. "We have scanning bins around for anything ad-hoc that needs to be scanned into the system and policies and procedures for every document type. The bins are hardly used." In fact, space that had previously been allocated for medical records has been repurposed.

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The implementation strategy was to "go an inch deep and a mile wide," quickly enabling as many departments as possible to begin using the system. This strategy was designed to create complete workflows that could then be deepened as the enterprise collectively gained experience and understanding of the systems' capabilities. This strategy was also felt to be the best way of avoiding simply recreating yesterday's workflows for tomorrow.

GOSH plans to add patient-originating and clinician-generated images, such as photographs, videos and diagrams. For example, a patient who has travelled a long way for hand surgery will be able to submit a video of post-operative progress in holding a pencil. Diagnostically helpful video clips, such as parent-originating recordings of a child having a short seizure may avoid patients having to make long journeys to the city.

Saving time has been a consistent theme in thinking about the system benefits. "The most valuable resource in a hospital like ours is the clinician's time," Jephson said. "Time not spent looking for information is time we can spend with patients."

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