



Members of the HSE NIMIS Programme National Team

A Sharper Image: New Diagnostic Sharing, Forged in a Pandemic

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The uptake of medical technology is historically slow and arduous. Systems, people, and the technologies themselves are forced to adapt to each other, which can be a long journey. Decades separated the first use of an MRI, and the machines' current ubiquity, with more than 50,000 operating around the world. Likewise, nearly half a century has passed between the invention of CT scanning and the hundreds of millions of scans now produced each year.

Ireland's BEAM Image Sharing solution is a rare exception to the rule that change takes a long time. In the face of COVID, the need to enable the digital sharing of patients' diagnostic images and reports between the public and the private healthcare sector changed from a medium-term aspiration to an immediate requirement.

Collaboration between the Health Service Executive (HSE) and Change Healthcare accelerated the implementation of this advanced image sharing solution, rolling BEAM out to 49 healthcare facilities in just a few months.

BEAM is a web-based, secure imaging record (X-rays, scans and exam reports) sharing platform, replacing the previous process that required use of CDs and DVDs to share patients' X-rays and scans between hospitals and required physical transfer by courier or taxi. Today, 43 public hospitals and six private facilities in Ireland are live on BEAM.

According to Sharon Flatley, NIMIS Programme, BEAM Project Manager at the HSE, BEAM has delivered innovative change in the Irish healthcare sector. "We strive to improve patient care and service delivery as the patient is our ultimate end user,"

she says. "BEAM has a much quicker turnaround making it more effective and efficient in providing care for our patients."

The implementation of the HSE's National Integrated Medical Imaging System (NIMIS) a number of years ago connected most public hospitals and enables clinicians to access patients' images and reports regardless of where they were taken within the network, a capability that has transformed patient care in Ireland. The challenge of how to support image sharing between NIMIS and the other public hospitals, private hospitals, and imaging centres throughout the country remained.

When it comes to patient treatment, Gary Monk, PACS Manager at Connolly Hospital says, "Image and report availability is key to treating the patient faster. If we get an exam report and images back within a day of the exam being performed with a negative finding, the clinician can act on that finding immediately. The end result is the patient's treatment is delivered faster."

Change Healthcare and the HSE had planned the rollout of BEAM as part of a NIMIS system upgrade, however the arrival of Covid-19 radically changed the timeframe. A project that was originally about increasing efficiency, became about urgently delivering enhanced image sharing capabilities with private hospitals to support the patient services being delivered as part of the government emergency contract.

Dr. Niall Sheehy, Consultant Radiologist St. James's Hospital reports on the exchanged studies between St. James Hospital and Beacon. He maintains the introduction has made a significant change for medical teams. "St James's Hospital was the first public site to use BEAM," he says. "Prior to BEAM, the image transfer process required printing on to a CD. With up to 20 scans a day, and each requires a CD to be burned, which then has to be uploaded and checked. It was a very labour intensive, a manual process that might have taken up to a week for scans to reach our system. We needed digital transfer and were happy to start using BEAM."

Efficiency is always desirable, but what really matters is patient outcomes, and speedier image and report availability is key to supporting this. For the clinician, it is about continuity of care in a quicker, safer way. For the radiology department, it is the removal of the time-consuming process of burning CDs/DVDs and uploading imaging from CDs/DVDs received from other hospitals and clinics. In terms of security and audit, the workflow is significantly more secure and transparent.

Keith Morrissey NIMIS Programme Lead with the HSE says that "Since June 2020, over 10,000 patient studies have been shared through BEAM. The solution is providing an enhanced streamlined workflow to support the outsourcing of Radiology examinations between NIMIS Public Hospitals and a range of private hospitals/clinics operating the BEAM solution where a bi-directional exchange of imaging records may be required,"

Ray Cahill from Change Healthcare concludes, "The implementation of the BEAM technology to Ireland is an excellent example of the HSE's focus on digital transformation, as a key enabler towards supporting patient care and outcomes. Necessity is the mother of innovation and in the current environment, I suspect we will see significant movement in this area of Healthcare IT".