Case Study

Kingston Hospital NHS Trust

PROVEN LARGE-SCALE DEPLOYMENT

CLASS LEADING VR

FLEXIBLE & WORKFLOW DRIVEN

> Kingston Hospital went from a dated RIS to completely electronic workflow management system - nobody else outside of our team would have known of the migration. This lack of down-time is exactly what we wanted to achieve.
>
> **Vin Majuran, Consultant Radiologist**
> **Kingston Hospital NHS Trust**

Kingston Hospital reduces radiology turnaround times and clerical loads with adoption of Radiology+ from Soliton IT.

Serving over a quarter-of-a-million people in South West London, Kingston Hospital NHS Trust employs nearly three-thousand staff on site and runs a busy district hospital as well as a number of outpatient clinics in the surrounding communities. The Trust provides a full range of diagnostic and treatment services to their 400-bed site and has a reputation as the best cancer hospital in London as well as a highly regarded maternity and orthopaedic service.

Continuing the Trust-wide focus on patient care, Kingston's Radiology department is a consultant-led multi-disciplinary team working within CT, MRI, Ultrasound, X-ray, Nuclear Medicine, DEXA, Breast Imaging and Fluoroscopy. The team consists of 131-staff – including 21-consultants and 50-radiographers who carry out around 275,000 annual examinations within their multi-disciplinary and extended roles.

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PREVIOUS SYSTEMS REQUIRED IMPROVEMENTS

For managing electronic radiology processes, Kingston Hospital had a RadCentre Radiology scheduling system deployed by Amersham Medical Systems in 1993. The digital infrastructure of RadCentre was a welcome progression from the previous analogue methods used within Radiology; it supported the migration from paper-based imaging operations, replacing the Cardex system, by offering a digital workflow. Although functionally apt, this system had been in use for 25-years, and Kingston knew that other software applications were on the market which clerically and clinically enhanced Radiology workflows further.

Vin Majuran, Consultant Radiologist for Kingston Hospitals, comments:
"The former process was very people heavy and tiered; get a paper request form, book it in manually, retrieve the form, enter it into another system, get it signed, return it etc. As this hardcopy request form encompassed a huge amount of information, by mislaying this form, you've essentially lost 8 different inputs of data."

Kingston Hospital's Radiology department had identified that clerical teams had a disproportionate number of administrative jobs; a team of 12 were laden with analogue paper pushing tasks which was taking them away from vital patient-facing tasks. In addition, the lack of audit trail or ownership of each request was a risk – the paper form was only ever in once place at any one time, could be viewed by only a single person and took 20-30 days to reach the scan stage - passing through 8 different contributors in the process. Although the department successfully booked examinations within their six-week processing deadline, they lacked fluidity in promptly notifying patients of appointments – an administration task that their RIS could not accommodate easily, which brought more clerical burden when patients received their proposed date and times late and they inevitably required re-booking.

TRUST SCOPES REQUIREMENTS

When the national PACS project came to London in 2006, the Trust saw the merits in refreshing their RIS workflow in line with other NHS Trust Hospitals around the country. **Jim Weir, Radiology Manager** for Kingston, had general stipulations for a new application, needing a system to be electronically efficient enough to reduce clerical errors, quicken workflow and ultimately reduce turnaround times.

Functionally, these requirements called for easy requesting by the clinician, quick routing to an assigned radiologist for vetting, easy access protocols, and smooth upload to a worklist.

SIEMENS Healthineers

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Jim comments:
"When identifying the features for the new RIS, electronic vetting was at the top of the list. This was a big step for Kingston as our Radiologists previously vetted in a very different way to what we were going to move to. Along with automated protocolling and sending and upload of worklists, automatic vetting was crucial to our vision of Radiology autonomy."

On an industry level, the NHS England *Five Year Forward* initiative of a 2020 Paperless NHS put other demands on the Radiology team's way of working. The importance of reducing paper-based processes, ultimately to provide a quicker and more efficient patient service, would call for a digitalised workflow to track a patient's clinical and administrative journey around the hospital. This electronic audit trail would enable better management of clerical staff's time and increase visibility and accessibility of a patient's record and clinical images, therefore reducing examination turnaround times and, consequently, providing a better standard of patient care.

A MANAGED SERVICE (MES) & RIS APPOINTMENT

Jim was offered a managed equipment service (MES) from Siemens Healthineers– a partnership to provide NHS Trusts with access to the latest clinical systems, technologies, and equipment over a contractual period at a fixed cost. For Kingston, this meant Siemens not only supplying a new RIS application, but also complete management of the RIS provision within the MES - ownership, supply, purchase, installation, training, support, and ongoing replacement. Combined with the required integration with Kingston's PACS from Sectra, the team sought a dynamic system for deployment.

Siemens and Kingston Hospital identified several vendors who were prolific in the market for RIS supply and, after seeing that many RIS were still amid development, highlighted UK-based RIS developer Soliton IT and their leading RIS, Radiology+.

Soliton IT, based in Hemel Hempstead, has a software suite of radiology workflow, reporting, sharing and VR applications, which have been designed by clinical professionals and ex-radiographers, built by the industry's most renowned software developers and equipped especially for the radiology discipline. Their leading application, Radiology+, offers automation of radiology tasks with its intuitive workflow dynamic which includes many modular specialist features. Routine radiology tasks such as scheduling patient appointments, protocolling, vetting, data-entry, inter-departmental messaging and reporting are displayed in a concise worklist interface for easy identification and handling.

In addition, Radiology+ offers a full statistics module- a customisable graphical analysis on area performances and highlights, in quantitative terms, where areas for improvement lay. Soliton IT's technical department could also draw from decades of radiology IT experience as the previous developers of RadCentre; many of Amersham Medical System's former staff are now part of the Soliton IT team. In addition, Soliton IT had a proven track record with both Sectra integration from their RIS deployment at North Middlesex Hospital and Siemens partnership from their installation at a north London scanning centre.

The RIS project team, Jim, Vin and Siemens had a clear preference for the Soliton IT system, which was fully-developed and intuitive with its clear interfaces, solid structure and multi-faceted nature that worked both in a Trust environment and at remote locations. Vin comments:
"In terms of enabling Trust and remote working, many RIS vendors could demonstrate a RIS that could do one of these effectively but not the other. We wanted to mirror a system for someone who worked at home, with access to reports, images and requests, the same as if they were working in the hospital. Soliton IT were the first ones to demonstrate that their RIS could work both inside the hospital and out."

Jim elaborates:
"Soliton IT's functionality needed no further development or was not work in progress, contrary to other providers that Kingston Hospital assessed. Their Radiology+ was already fully equipped, appeared to manage much of the workflow itself and was ultimately ready to go."

TRUST SEES QUICK & TANGIBLE IMPROVEMENTS

After a quick deployment, reduced to a matter of months with meticulous planning from the Trust, Siemens and Soliton IT, Kingston Hospital went live with Radiology+ in August 2017. Within weeks, Jim and the team recorded tangible improvements in how the department could work with quantitative advances within turnaround times and deliverables.

The timeframe from clinician request to Radiologist vetting is now 2-days compared to the previous 2 weeks, and the vetting element streamlined processes with the most pertinent requests routed to the most relevant Radiologist – ultimately reducing risk of errors. The enhanced workflow also means that clerical practices vastly improved with administration teams able to make appointments quickly and easily - requests were already formatted and sorted into date order to filter urgencies. In measurable terms, where staff could previously make 40-50 appointments per day, Radiology+'s enhancement of clerical tasks resulted in the daily booking of 206 appointments.

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Also, the prior 21-day processing time has since been reduced to just 6-days, thus reducing time spent on phone to patients querying appointment times. Overall, the accessibility of data within Kingston's radiology department has vastly expanded as a result of Radiology+, adding transparency and flexibility to both clinical and clerical tasks and enabling a better performance of the team overall. The Did Not Arrive (DNA) rate has significantly reduced in line with the improvements to the Trust's scheduling system and subsequent management of patient lists. Also, the site's PALS group recorded less issues around the radiology turnaround times, and the department's incidents levels have reduced. Radiology+ also integrated seamlessly with the site's PACS to allow autonomy between patient information and clinical images around the Trust.

Jim comments on the MES Partnership with Siemens and Soliton IT:
"Soliton IT was a pleasure to work with and the relationship between them and Siemens was notably advantageous. Both vendors managed each other well and the MES agreement is a smooth process for the Trust. Functionally, the measurable improvements of turnaround times and user satisfaction is down to the efficiency of Radiology+ and how Soliton IT and Kingston have configured it."

Within 3 months, Kingston Hospital NHS Trust's administration processes have radically improved – a remarkable achievement that they are delighted to present internally to the Trust and demonstrate to patients. Today, around 450 staff are regular users of Radiology+ and, such was the success of the deployment, that Kingston proposes to enhance their workflow further by investing in Radiology+ Mobile, a paperless and mobile way of working for modern radiology departments.

RADIOLOGY+ - KEY BENEFITS

- Proven integration with Sectra PACS
- Flexible, modular and adaptable to individual user and site requirements
- Developed in collaboration with NHS users
- Intuitive and easy to learn
- One content-rich interface provides an at-a-glance view of Radiology tasks
- Specialist clinical modules available
- Mobile application for mobile users
- Fully integral voice recognition with clinical contexts incorporated
- Supports multi-site configurations

FEATURED PACS PARTNER

SECTRA

Kingston Hospital NHS
NHS Foundation Trust

Radiology +

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