

FUJIFILM EXEMPLAR

RJAH Orthopaedic Hospital – How to Increase Capacity and Reduce Waiting Times

RJAH Orthopaedic NHS Foundation Trust (RJAH) undertakes 54,000 plain radiographic examinations per annum. Protocols are complex with many specialised orthopaedic procedures and the patient demographic presents older patients than a general department, all of which detrimentally affects the throughput of each imaging room. Demand has been steadily increasing for many years at a rate of 3%-5% per annum, and from 2013 performance was showing a steady decline in relation to the RJAH target to have 90% of outpatients without an appointment seen within 30 minutes. Increased numbers of patients waiting more than 30 minutes produced delays that resulted in consultants overrunning and subsequently impacting in Theatres and Outpatients.

In 2015 the Imaging Department presented a business case to the Trust to increase plain radiography capacity in order to meet the 90% target. The recommendation was to adopt DR retrofit technology which indicated an estimated 25% capacity improvement per room. Two DR rooms were predicted to produce an increase in total plain radiography capacity of 10% for the department. This would reduce the outpatient waiting time without investment in an additional imaging room or an increase in radiographic staffing.

The business case was approved and installation of retrofit DR equipment was undertaken in two rooms in late November 2015.

The installation was very quick and the results were immediate - between December 2015 and March 2016 the department met its 90% target for four months consecutively. Throughput in the two DR rooms increased significantly, with a comparison to the same 4 month period the previous year showing a 40.1% and 32.2% increase in each room respectively. During the same period a conventional CR room that wasn't retrofitted saw a -14.4% drop in throughput, reflecting the radiographers' choice to favour the new DR rooms. The DR technology also delivered improved image quality and radiologists expressed a preference for images from the new rooms.

The procurement of retrofit DR for two rooms at RJAH has produced a significant increase in the capacity of the rooms in which it was installed and has delivered the predicted 10% increase in departmental plain radiography capacity. The increased capacity has facilitated a decrease in waiting times for patients attending from outpatients for plain radiography, thus improving the outpatient attendance experience. These improvements have also reduced the consequent delays to consultants/ clinicians and increased the overall efficiency of the Imaging Department.

The DR retrofit has successfully delivered the primary RJAH objectives at a substantially lower cost than the alternative room solution. Departmental productivity has significantly improved, resulting in reduced waiting times and improved patient experience. There were no additional staff costs or space requirements, and departmental KPIs are now being met both for patients and staff. The installations have also demonstrated to the Trust how DR technology can both deliver improved imaging services and produce cost savings.

An ancillary learning was that the CQC looks very favourably on the use of KPIs. During the period prior to the DR installation - when targets were not being met but KPIs for waiting times and turnaround had been set – the CQC visited RJAH. Despite not meeting the targets, the fact they had been set meant that the CQC report encouraged the Trust to provide the department with the means to achieve them. By the time the report was published the business case was already approved, but if it had not been this would have given the department additional leverage to request the Trust's approval.

Quick Reference Comparison

	Room Solution	Fujifilm Retrofit
Improved image quality	Yes	Yes
Reduced dose	Yes	Yes
Increased departmental throughput	Yes	Yes
Increased departmental capacity	Yes	Yes
Improved radiographer efficiency	Yes	Yes
Full range of image processing tools available	Yes	Yes
Full range of detectors available	Yes	Yes
Potential for detectors and console to be used in future room solution	N/A	Yes
Compatible for mobile units	No	Yes
Extend life of functioning CR equipment	No	Yes
Installation time	Weeks	1 day
Departmental disruption	Significant	Minimal
Turnkey costs	Significant	None
Turnkey disruption	Significant	None
Staff training required	Significant	Minimal
Capital expenditure	Significant	Minimal

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