

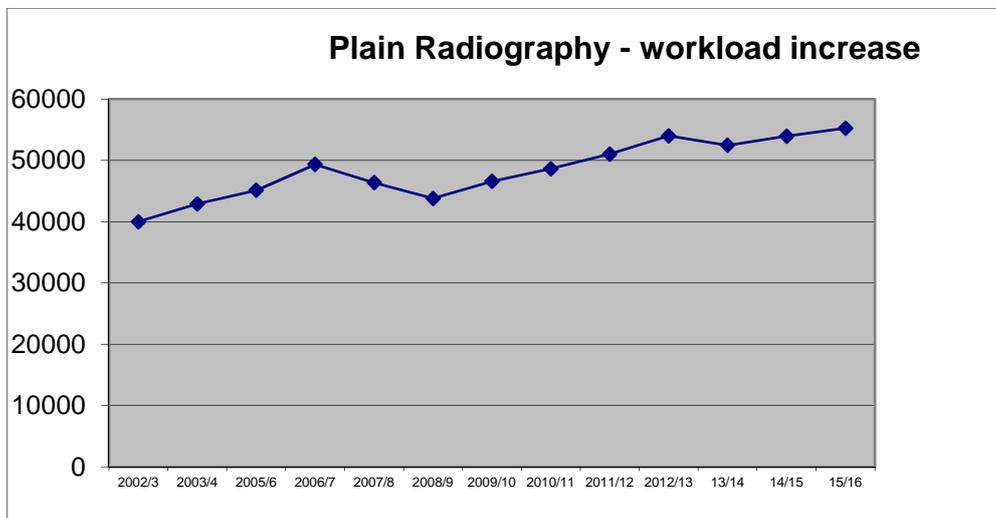
Diagnostics Division

Imaging Department

Review of benefits provided by implementation of Retrofit DR.

The Imaging Department at RJAH Orthopaedic NHS Foundation Trust undertakes approx. 54,000 plain radiographic examinations per annum. Protocols are complex, consistent with the Trust's specialist Orthopaedic caseload and many specialised orthopaedic projections are undertaken which affects the throughput of each imaging room.

Increase in demand for radiography has been consistent at between 3 – 5% per annum over recent years.

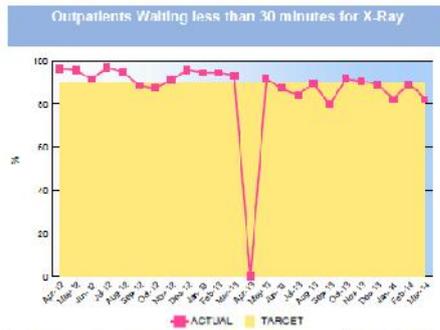


The imaging Department at RJAH has for a number of years recorded the percentage of patients waiting under 30 minutes prior to the start of the examination.

An ambitious target of 90% has been set meaning that under 10% of Outpatients attending without an appointment for radiographic examination should wait over 30 minutes before the examination is initiated.

Up to 2013/14 records show that the target was being achieved on a regular basis but increasing demand meant that achievement of the target was on a less regular basis.

Patient Experience - Diagnostic Division



Period	Target	Actual	Performance
Apr-13	90.00	90.00	r
May-13	90.00	91.60	g
Jun-13	90.00	87.10	a
Jul-13	90.00	83.90	r
Aug-13	90.00	89.30	a
Sep-13	90.00	79.70	r
Oct-13	90.00	91.60	g
Nov-13	90.00	91.30	g
Dec-13	90.00	88.90	a
Jan-14	90.00	82.20	r
Feb-14	90.00	88.89	a
Mar-14	90.00	82.20	r

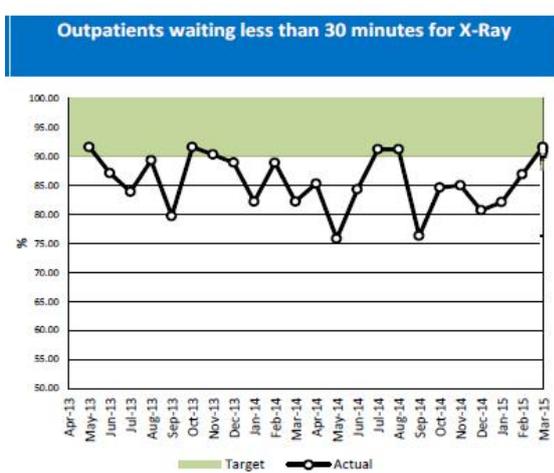
Since 2013/4 performance has shown a steady decline in relation to the target as demand for Imaging examinations grew.

Performance for 2014/15

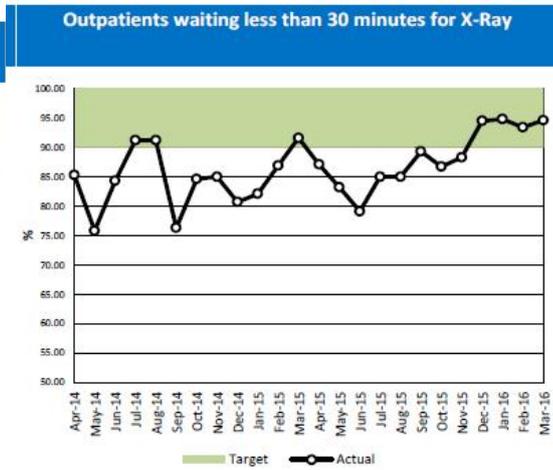
Performance for 15/16

Patient Experience

Patient Experience



Period	Target	Actual	Performance
Apr-14	90.00	85.30	a
May-14	90.00	75.80	r
Jun-14	90.00	84.30	r
Jul-14	90.00	91.20	g
Aug-14	90.00	91.20	g
Sep-14	90.00	76.30	r
Oct-14	90.00	84.60	r
Nov-14	90.00	85.00	a
Dec-14	90.00	80.70	r
Jan-15	90.00	82.10	r
Feb-15	90.00	86.90	a
Mar-15	90.00	91.60	g



Period	Target	Actual	Performance
Apr-15	90.00	87.10	a
May-15	90.00	83.20	r
Jun-15	90.00	79.10	r
Jul-15	90.00	85.00	a
Aug-15	90.00	85.00	a
Sep-15	90.00	89.30	a
Oct-15	90.00	86.70	a
Nov-15	90.00	88.30	a
Dec-15	90.00	94.50	g
Jan-16	90.00	94.80	g
Feb-16	90.00	93.40	g
Mar-16	90.00	94.60	g

During 2014/5, conscious that the number of months on which the target was being achieved was reducing, the department presented a business case to the trust to procure two Fuji retrofit systems for the department. Options included Retrofit DR and the provision of additional Imaging Room and associated staffing.

It was felt that the provision of DR in two conventional CR rooms would produce an improvement in throughput and assist the department in reaching the target without investment in additional equipment and an increase in radiographic staffing that the additional room would require.

The business case was approved and installation of the product was undertaken in late November 2015.

The results have been immediate and the data shows that between December 15 and March 2016, the department met it's 90% target for four months consistently. A performance which had not been achieved since 2013.

Throughput within the two DR rooms has increased significantly since the DR was introduced.

	Daily Average No of Exams Dec to March 2014/15	Daily Average No of Exams Dec to March 2015/16	Increase
Room 3	25.2	35.3	40.1%
Room 7	28.3	37.4	32.2%
Room 5	29.9	25.6	-14.4%

Comparison of activity within the rooms for December 2014 to March 2015 with December 2015 to March 2016 shows that average daily throughput increased by 40.1% and 32.2% respectively for Rooms 3 and 7. This increase is larger than expected but the data indicates increased use of the rooms outside the core hours of the department.

Room 5 – a conventional CR room in which DR has not been fitted saw it's average throughput fall when comparing the same periods of time. This is, we believe, indicative of the fact that the DR rooms have now become the rooms of choice for the radiographers – particularly when working outside core hours.

Additional Benefits

Radiologists are pleased with the image quality and doses are reduced in comparison to the CR rooms.

An unexpected development is that the radiologists have requested that all pre MR Orbit imaging is undertaken with DR as there is virtually no possibility of dust/particular artefact affecting the image.

Conclusion

The procurement of two DR rooms for the Imaging Department have facilitated a significant increase in the capacity of the rooms in which it was installed and the department as a whole.

The increases in throughput justify the initial procurement of retrofit DR and the adoption of a future strategy to increase DR provision within the department as a means of achieving future increases in capacity for plain radiography negating the requirement to increase the number of plain radiography rooms within the department.

Eric Hughes

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