WM QRS West Midlands Quality Review Service

NHS

Imaging Services

Wolverhampton Health Economy

Visit Date: 21st September 2016

Report Date: December 2016

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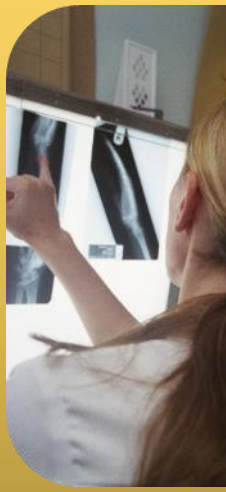

UKAS INSPECTION 8831

INDEX

INTRODUCTION

This report presents the findings of the review of Imaging Services that took place on 21st September 2016. The purpose of the visit was to review compliance with the following West Midlands Quality Review Service (WMQRS) Quality Standards:

- Imaging Services, Version 1.2 December 2013

The aim of the standards and the review programme is to help providers and commissioners of services to improve clinical outcomes and service users' and carers' experiences by improving the quality of services. The report also gives external assurance of the care which can be used as part of organisations' Quality Accounts. For commissioners, the report gives assurance of the quality of services commissioned and identifies areas where developments may be needed.

The report reflects the situation at the time of the visit. The text of this report identifies the main issues raised during the course of the visit. Appendix 1 lists the visiting team which reviewed the services in Wolverhampton. health economy. Appendix 2 contains the details of compliance with each of the standards and the percentage of standards met.

This report describes services provided or commissioned by the following organisations:

- The Royal Wolverhampton NHS Trust
- NHS Wolverhampton Clinical Commissioning Group
- NHS Cannock Chase Clinical Commissioning Group
- NHS South East Staffordshire and Seisdon Peninsula Clinical Commissioning Group

Most of the issues identified by quality reviews can be resolved by providers' and commissioners' own governance arrangements. Many can be tackled by the use of appropriate service improvement approaches; some require commissioner input. Individual organisations are responsible for taking action and monitoring this through their usual governance mechanisms. The lead commissioner for the service concerned is responsible for ensuring action plans are in place and monitoring their implementation liaising, as appropriate, with other commissioners, including commissioners of primary care. The lead commissioner in relation to this report is Wolverhampton Clinical Commissioning Group.

ABOUT WEST MIDLANDS QUALITY REVIEW SERVICE

WMQRS is a collaborative venture between NHS organisations in the West Midlands to help improve the quality of health services by developing evidence-based Quality Standards, carrying out developmental and supportive quality reviews - often through peer review visits, producing comparative information on the quality of services and providing development and learning for all involved.

Expected outcomes are better quality, safety and clinical outcomes, better patient and carer experience, organisations with better information about the quality of clinical services, and organisations with more confidence and competence in reviewing the quality of clinical services. More detail about the work of WMQRS is available on www.wmqrs.nhs.uk

ACKNOWLEDGMENTS

West Midlands Quality Review Service would like to thank the staff and service users and carers of Wolverhampton health economy for their hard work in preparing for the review and for their kindness and helpfulness during the course of the visit. Thanks are also due to the visiting team and their employing organisations for the time and expertise they contributed to this review.

Return to *Index*

IMAGING SERVICES

THE ROYAL WOLVERHAMPTON HOSPITAL NHS TRUST

General Comments and Achievements

At New Cross Hospital, imaging facilities and equipment were excellent. Equipment was well-managed and replaced regularly. Teamwork within the department was good with good evidence of cross-disciplinary working. Relationships with other departments were good, especially with the Emergency Department, theatres and cardiology. Leadership for individual imaging modalities was strong. The service was developing pre-printed procedure-specific consent forms which would save significant amounts of time and would be scanned into patients' records.

Imaging within the Heart and Lung Centre was particularly well-organised. Facilities for patients were very good and good patient information had been developed for all procedures. The team leader had a particularly positive approach with a strong emphasis on ensuring imaging was sensitive and responsive to patients' needs and wishes.

Staff in the Urgent and Emergent Care Centre were enthusiastic and had put significant thought into pathways and processes relating to imaging, ensuring these were as 'streamlined' as possible. As a result, patient flow worked well and teamwork was good.

Cannock Hospital had developed particularly good audits of ultrasound and processes for review of reporting.

Good Practice

1 The ultrasound area had a helper for every room. This meant that a chaperone was available for every examination, patient flow was good and good use was made of sonographers' time. In particular, sonographers could write reports while the helper prepared the next patient.

2 Several examples of good practice in staff training were observed. An excellent induction training pack was in use for all staff. CT scanning had very good procedure-specific training documents. Eleven new starters had each been allocated a more senior member of staff to shadow for two months.

3 Arrangements for staff progression were very good. Assistant practitioners were in place and well-used. Progression pathways were in place from assistant practitioner through to radiographer and reporting radiographer roles.

4 A very good portering system was in place which tracked patients. Staff could therefore see where their patients were at any time which improved staff efficiency.

5 Electronic stock replacement in interventional radiology and in the Heart and Lung Centre automatically recorded the stock used on the patient's record and ordered a replacement.

6 In the Emergency Department, sonographers had been trained to report plain radiographs which used time not needed for sonography and was a very efficient use of staff time.

Immediate Risks[1]

1 **Post-operative x-rays in recovery area**

Post-operative x-rays of some orthopaedic patients, especially hip replacements and shoulder joints, were being taken in the recovery area at both Cannock and, to a lesser extent, Wolverhampton. This practice exposed staff and other patients to an unnecessary radiation risk with no clinical justification or benefit to the patient concerned. At Cannock Hospital a safe distance of two metres could not be achieved. X-ray images taken in recovery would not be adequate (quality and lack of lateral views). X-rays could be taken in theatre if a problem was suspected and problems such as joint dislocation would become apparent as soon as the patient was mobilised. Screens were used to try and limit radiation exposure but these were small and, in the cases observed by reviewers, were not properly positioned. This practice also added manual handling risks for patients and staff. The Trust had been advised that this practice was contrary to IRR 99, IRMER regulations 200 and local radiation rules but the practice had continued.

At Cannock Chase Hospital, the practice resulted in the X-ray department being closed while the radiographer was in the recovery area, which inconvenienced other patients who could arrive and find a note on the department door asking them to wait. At New Cross Hospital, the practice impacted on the availability of radiographers for imaging in theatres and on the wards, both of which had limited capacity.

2 **Head CT scanning**

Overnight head CT scans were not reported by someone with competences in head CT reporting. Scans were reported by Emergency Department consultants. Additional training had been provided in 2012 by the lead neuro-radiologist and the practice of the Emergency Department consultants had been audited in 2012. Training and audits had not been repeated since 2012[2]. Head CT scans were, however, fully reported by radiologists the next day.

Concerns

1 **Lack of Patient Group Directives**

Reviewers were seriously concerned that Patient Group Directives (PGDs) were not in place covering the prescribing and administration of medication, including oral and intravenous contrast media, 'Buscopan', 'Picolax', oxygen and 'Entonox', by non-medically qualified staff. A PGD template was available on the pharmacy intranet which could be used. The lead radiographer in mammography had started developing PGDs for mammography.

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[1] **Trust response:**
Post-operative x-rays in recovery area, this practice has now ceased and post –operative x-rays are now undertaken in the Radiology Department. The x-ray department at both New Cross and Cannock Chase Hospital will open on a Saturday as well on a Sunday to provide a seven day service for these patients.
Head CT scanning: The normal practice is for these scans to be preliminary reported by the ED consultants and then fully reported the next day by Radiology. Agreement has been reached that an audit to compare a sample of reports from the ED consultants against the Consultant Radiologists reports will be completed by the 31 October 2016.Radiology is developing a mandatory training programme and monitoring mechanism for the ED Consultants requiring training, with a series of these training sessions taking place throughout October 2016, to be completed by the 31 October 2016. A refresher training programme and monitoring mechanism will be further developed to ensure that practice is kept up-to-date.
WMQRS Response. The actions taken, once completed will mitigate the immediate risks identified during the visit.

[2] Royal College of Radiologists: Standards for the reporting of imaging investigations by non-radiologist medically qualified practitioners July 2016

2 **Consultant staffing**

The service had seven or eight vacancies out of an establishment of 33 radiologists. Two of the vacancies were covered by locums. The Trust was actively recruiting 'fellows' but the expected number of 'fellows' would not be sufficient to fill all vacancies.

3 **Radiographer and sonographer staffing**

Although the Trust was at establishment for radiographers and had recently recruited 11 newly qualified staff, weekend shifts were covered by overtime in most areas of the department. Some staff suggested that overtime working at weekends was compulsory. This was not a robust way of staffing the service at weekends and was not good for staff health and well-being. [NB. This finding did not apply to staff working in the Emergency Department.]

At Cannock Hospital one sonographer was about to retire and the other would be working alone until a replacement was found.

4 **Quality assurance**

At New Cross Hospital, internal audit and peer review processes were not robust. Reviewers did not see any evidence of internal quality assurance or peer review for consultant radiologists. Arrangements for learning from discrepancies were in place. Audit for reporting radiographers was not yet in place although there were plans for this to be addressed. At New Cross Hospital there was no process for discussion of sonographers' discrepancies. A rolling programme of audit was not yet in place.

5 **Trust-wide governance of ultrasound**

Trust-wide guidelines for the governance of ultrasound were not yet in place. Advice and training was provided by the New Cross Hospital imaging department on request. Links with the Emergency Department and urology services were good but other areas the imaging service was not routinely involved in ultrasound governance in other areas of the hospital.

6 **Privacy and dignity**

The CT and MRI area had only two single changing rooms and male and female patients of all ages then sat in the waiting room together which impacted on their privacy and dignity. Reviewers were told that two gowns were supplied but patients were observed wearing only one gown. Reviewers suggested that staff be stricter in requiring two gowns to be worn and, possibly, provide pictures showing how to put these on.

7 **Document control**

Several policies and procedures were out of date and in the process of being reviewed. Arrangements for document control and for ensuring implementation of newly agreed policies did not appear robust.

Further Consideration

1 Skill mix and role extension was used very effectively in some areas but the CT and MRI area had approximately 10 radiographers and no helpers. This resulted in clinical staff doing bookings, all administrative work and preparing patients, which was very inefficient use of their time. The governance lead had no administrative support and was spending time on clerical duties such as collating information on complaints. Many of the issues identified in this report could be addressed more quickly if the time of the governance lead could be used more effectively.

2 Cannulation and contrast preparation were not included in the Assistant Practitioner role. Reviewers commented that in many other departments these responsibilities are undertaken by Assistant Practitioners.

3 No fixed appointments were offered for patients referred by GPs and there was no option for patients to request appointments or to have an appointment outside of 9am to 4pm, Monday to Friday (i.e. open

access only). Reviewers suggested that the imaging service talks to patients about whether appointments and more extended hours would better meet their needs.

4 Several important policies and procedures were not yet documented, including referral management, operational policy and locally agreed imaging timescales. The lack of documented policies may be related to the relative lack of audit (see above).

5 The imaging service did not have an acknowledgement system for unexpected findings. Sending an unexpected finding could be monitored but there was no way of knowing that anyone had received or actioned the finding. A system was in place for critical findings.

6 Some ultrasound machines were on a five year replacement cycle whereas others were replaced every six years. It may be helpful to align these periods, in line with Royal College of Radiologists' guidance.

7 Leadership of the individual modality areas was strong but reviewers commented that they appeared to work quite separately and greater communication and sharing may be helpful.

8 The CT area did not have a daily cleaning log. The room was cleaned daily but the log was not kept in the room with the CT and was signed only once a week.

9 Some aspects of practice surprised reviewers, including use of oral contrast media for CTs when most other departments give water or nothing which saves patient discomfort, money and time. Also, manual records of consumables were still being kept despite the electronic stock replacement system being in use for four years.

10 Very little patient information or procedure-specific information was easily available in the main imaging department, though specific information was sent out to patients in advance. Patient feedback mechanisms were not yet in place and there were no mechanisms for involving patients and carers in decisions about the organisation of imaging services.

Return to *Index*

APPENDIX 1 MEMBERSHIP OF VISITING TEAM

Visiting Team

Adam Ashworth	Service Manager – Radiographer MRI	Sandwell and West Birmingham Hospitals NHS Trust
Jenny Cooke	Advanced Practitioner Radiographer	Burton Hospitals NHS Foundation Trust
Bob Colclough	User representative	
Jeanette Dadds	Radiographer - CT Lead	Walsall Healthcare NHS Trust
David Hill	Chief Radiographer	Worcestershire Acute Hospitals NHS Trust
Dawn Humble	Advanced Practitioner Fluoroscopy Radiographer	Burton Hospitals NHS Foundation Trust
Dr Umesh Urdeshi	Consultant Radiologist	Worcestershire Acute Hospitals NHS Trust

WMQRS Team

Jane Eminson	Director	West Midlands Quality Review Service
Sarah Broomhead	Assistant Director	West Midlands Quality Review Service

Return to *Index*

APPENDIX 2 COMPLIANCE WITH THE QUALITY STANDARDS

Analyses of percentage compliance with the Quality Standards should be viewed with caution as they give the same weight to each of the Quality Standards. Also, the number of Quality Standards applicable to each service varies depending on the nature of the service provided. Percentage compliance also takes no account of 'working towards' a particular Quality Standard. Reviewers often comment that it is better to have a 'No, but', where there is real commitment to achieving a particular standard, than a 'Yes, but' where a 'box has been ticked' but the commitment to implementation is lacking. With these caveats, table 1 summarises the percentage compliance for each of the services reviewed.

Table 1 - Percentage of Quality Standards met

Service	Number of Applicable QS	Number of QS Met	% met
Imaging			
Acute Trust-wide	1	0	0
Imaging Services	49	31	63
Total	**50**	**31**	**62**

Pathway and Service Letters

Quality Standards for Imaging Services have the following prefixes:

XC-	Acute Trust-wide
XR-	Imaging Services

Topic Sections

Each Quality Standard reference number has three numbers after the 'dash'. The first number identifies the relevant section and the last two are unique to the Quality Standard.

-100	Information and Support for Patients and Carers
-200	Staffing
-300	Support Services
-400	Facilities and Equipment
-500	Guidelines and Protocols
-600	Service Organisation and Liaison with Other Services
-700	Governance

Return to *Index*

ACUTE TRUST-WIDE

Ref	Quality Standard	Met? Y/N	Reviewer Comments
XC-505	**Ultrasound Guidelines** Trust-wide guidelines for the governance of ultrasound should be in use covering at least: a. Identification of ultrasound equipment, maintenance arrangements and PACS connectivity b. Arrangements for ensuring all ultrasound practitioners have appropriate competences, their frequency of ultrasound practice is sufficient to maintain these competences and for audit of their practice c. Arrangements for delegation to non-medical ultrasound practitioners d. Arrangements for supervision of doctors in training undertaking ultrasound e. Guidelines on cleaning ultrasound probes f. Arrangements for recording and storing images and ensuring availability of images for subsequent review g. Arrangements for documentation and communication of ultrasound results	N	See main report

Return to *Index*

IMAGING SERVICES

Ref	Quality Standard	Met? Y/N	Reviewer Comments
XR-101	**Imaging Service Information** Patients should be offered written information about: a. Imaging services provided, location and hours of opening b. How to contact the service c. Staff they are likely to meet d. Informing staff if they are, or may be, pregnant or breastfeeding e. Radiation risks, including information for women who are, or may be, pregnant or breastfeeding	Y	However patient information was not always easily visible in the areas visited by reviewers. Good information was in place at Cannock Hospital and in the Heart and Lung Centre. Reviewers noted that braille signs were in place for changing rooms and toilets but not for other rooms.

Ref	Quality Standard	Met? Y/N	Reviewer Comments
XR-102	**Procedure Information** For each imaging procedure, patients should be offered written information, and the opportunity to discuss this, covering: a. Preparation for the procedure b. Staff who will be present at or who will perform the procedure c. Any side effects d. How, when and by whom results will be communicated	Y	As Quality Standard XR-101.
XR-103	**Privacy, Dignity and Security** Patients' privacy, dignity and security should be maintained at all times, including security of clothes and personal belongings during examinations and procedures.	N	A good range of cubicle sizes was available. The CT and MRI area had only two single changing rooms and patients of all ages then sat in the waiting room together. Reviewers were told that two gowns were supplied but patients were observed wearing only one gown. This was not a problem for patients waiting for plain film x-ray as they waited in the cubicles.
XR-195	**Communication Aids** Communication aids should be available to help patients with communication difficulties to participate in decisions about their care.	N	The department did not have a hearing loop and communication aids for people with communication difficulties or learning difficulties were not available.
XR-196	**General Support for Service Users and Carers** Patients and carers should have easy access to the following services. Information about these services should be easily available: a. Interpreter services, including access to British Sign Language b. 'Compliments and complaints' procedures	Y	
XR-197	**Involving Patients and Carers** The service should have: a. Mechanisms for receiving feedback from patients and carers about their treatment and care. b. Mechanisms for involving patients and carers in decisions about the organisation of the services. c. Examples of changes made as a result of feedback and involvement of patients and carers	N	The service was considering introducing the Friends and Family Test but, at the time of the review visit, no surveys had been undertaken and there were no patient groups or other mechanisms for involving patients in decisions about the organisation of the services.

Ref	Quality Standard	Met? Y/N	Reviewer Comments
XR-201	**Leadership** Imaging Services should have a Clinical Director, Superintendent Radiographer and Divisional Manager (or equivalent) with responsibility for staffing, training, guidelines and protocols, service organisation, governance and for liaison with other services.	Y	
XR-202	**Service Leads** Leads for the following areas should be identified: a. General Radiology b. Body CT c. Body MRI d. Musculoskeletal Imaging (including trauma) e. Ultrasound f. Radio-Pharmacy g. Interventional Radiology h. Neuro-radiology i. Nuclear Medicine j. Clinical Records Management k. Facilities and Equipment	Y	Leadership of these areas was strong but reviewers commented that they appeared to work quite separately and greater communication and sharing may be helpful.
XR-203	**Staffing Levels** The service should have sufficient staff with appropriate competences to deliver the expected number of diagnostic, therapeutic and interventional procedures for the usual case mix of patients within expected timescales (QS XR-602). An escalation policy should be in place which ensures flexibility of staffing in response to fluctuations in demand and availability of staff. Staffing levels should be based on a competence framework covering staffing levels and competences expected (QS XR-204), and should ensure an appropriate skill mix of radiologists, radiographers, nurses, PACS/RIS managers and other staff.	N	See main report.

Ref	Quality Standard	Met? Y/N	Reviewer Comments
XR-204	**Competence Framework and Training Plan** A competence framework should cover expected competences for roles within the service. A training and development programme should ensure that all staff have, and are maintaining, these competences. The competence framework and training plan should cover all staff identified in QS XR-203, including: a. Assistant and Advanced Practitioner roles b. Use of specific ablative and therapeutic devices c. Ionising radiation awareness d. Hazardous substances awareness e. MRI safety awareness for all staff accessing the MRI area f. Any imaging service-specific aspects of: i. Health and safety ii. Moving and handling iii. Infection control iv. Use of drugs v. Information governance, including ensuring confidentiality of patient information and images vi. Resuscitation vii. Safeguarding adults and children	Y	Mandatory training was completed. There was an excellent induction training plan. CT scanning had good procedure-specific training documents and training.
XR-205	**Agency, Bank and Locum Staff** Before starting work in the service, local induction and a review of competence for the expected role in diagnostic, therapeutic and interventional procedures should be completed for all agency, bank and locum staff.	Y	Some agency staff in CT and MRI had undertaken the same induction as other staff.
XR-206	**Emergency Service** Staff with appropriate competences should be available outside planned sessions to respond to urgent requests including for advice, review of previously obtained images, carrying out and reporting urgent: a. Plain and specialist x-ray (24/7) b. CT scanning (24/7) c. Ultrasound (24/7) d. Interventional radiology (24/7) e. MRI (7/7 on site or by network referral) f. Carotid Doppler (7/7 on site or by network referral) Competences for emergency work should be maintained through appropriate Continuing Professional Development and / or daytime job-planned work.	N	Interventional radiology and carotid Dopplers were available seven days a week during core hours. MRI was available seven days a week from 7am to 8.30pm. The Trust was working towards 24/7 interventional radiology.

Ref	Quality Standard	Met? Y/N	Reviewer Comments
XR-299	**Administrative and Clerical Support** Administrative, clerical and data collection support should be available.	Y	See main report
XR-301	**Scientific and Technical Support** Sufficient scientific and technical staff with appropriate competences should be available to support equipment quality assurance, maintenance, breakdown, including breakdown outside normal working hours, and replacement. All scientific and technical staff should have regular assessment of competence appropriate to their role in the maintenance of equipment.	Y	Level 1 quality assurance testing was done by medical physics. Results were not visible to radiographers. There were plans to develop a shared drive so that these could be accessed.
XR-302	**Support Services** Timely access to the following services should be available: a. Radiation protection advice b. Anaesthetic support for patients requiring sedation or general anaesthetic c. IT support d. Porters e. Patient transport f. Security g. Cleaning h. Linen supplies i. CSSD j. Pharmacy, covering advice and supply of drugs and medical gas testing k. Infection control advice l. Medical records	Y	See main report about good practice in portering.

Ref	Quality Standard	Met? Y/N	Reviewer Comments
XR-401	**Facilities and Equipment** The service should have appropriate facilities and equipment to deliver the expected number of diagnostic, therapeutic and interventional procedures for the usual case mix of patients within expected timescales (QS XR-602). Facilities and equipment should comply with all relevant Standards and should ensure: a. Appropriate privacy, dignity and security for patients (QS XR-103) b. Protection of other patients, staff and members of the public from radiation and radioactive sources c. Appropriate separation of children and adults d. Facilities and equipment for scanning of anaesthetised and ventilated patients (Major Trauma Centres only) e. Immediate availability of resuscitation equipment for children and adults	Y	Facilities were generally very good, although see Quality Standard XR-103 in relation to privacy and dignity in the CT and MRI area. Excellent equipment was available, well-managed and replaced regularly. See further consideration section of main report in relation to ultrasound replacement dates. The department at Cannock Hospital did not have a resuscitation trolley in the department but it was stored nearby and could be accessed quickly.
XR-402	**Equipment Management** The service should have arrangements for equipment management covering: a. Procurement and management of equipment and consumables b. Installation assurance c. Calibration, operation and performance of equipment d. Cleaning standards e. Ensuring all equipment used in the MRI examination room is assessed and approved for use in the MRI environment f. Equipment maintenance (service contracts and maintenance schedules) covering planned maintenance and breakdown or unscheduled maintenance g. Contingency plans in the event of equipment breakdown h. Monitoring and management of equipment failures and faults i. Ensuring safety warnings, alerts and recalls are circulated and acted upon within specified timescales j. Programme of equipment replacement and risk management of equipment used beyond its replacement date	Y	The CT area did not have a daily cleaning log. The room was cleaned daily but the log was not kept in the room with the CT and was signed only once a week. The sphygmomanometer in ultrasound room 1 was last inspected in 2014.

Ref	Quality Standard	Met? Y/N	Reviewer Comments
XR-403	**PACS** An IT system for storage, retrieval and transmission of patient information should be in use. This system should meet national PACS Standards.	Y	
XR-404	**Moving and Handling Aids** Moving and handling aids should be available and appropriately maintained.	Y	The hoist in ultrasound was due for inspection in February 2016.
XR-405	**Equipment for Patients with Severe Obesity** The service should have access to appropriate equipment, moving and handling aids and gowns to meet the needs of patients with severe obesity.	Y	
XR-501	**Referral Information** Guidelines on information to be sent with each referral should have been agreed and circulated to all referring GPs and referring hospital clinicians.	Y	Referral guidelines were in place for each procedure and for 'i-refer'.
XR-502	**Referral Management Protocol** A protocol for managing imaging referrals should be in use covering: a. Checking and prioritisation of referrals b. Action to take when requests are inadequately completed c. Vetting of referrals, especially for CT and MRI d. Ensuring renal function (creatinine or eGFR) is recorded before investigations using contrast media e. Flexibility of appointments to meet patients' and carers' needs and to coordinate with other appointments when possible f. Identification of patients who are particularly vulnerable and may need additional support The protocol should be specific about urgency of referrals and arrangements for adults and children.	N	Referrals were being managed but there was no written protocol, other than in CT. Timescales for imaging were not clearly defined and the department worked only to whole Trust standards (rather than identifying the timescales within which imaging should be completed in order that Trust standards could be achieved). In interventional radiology it was not clear how recent blood tests should be and this appeared to vary depending on the radiologist involved.
XR-503	**Consent** An Imaging Service consent procedure should be in use. This procedure should be based on the Trust consent procedure and should have appropriate additional detail to ensure compliance with Royal College of Radiologists (2005) *'Standards for Patient Consent Particular to Radiology'.*	Y	

Ref	Quality Standard	Met? Y/N	Reviewer Comments
XR-504	**Image Acquisition Protocols** Image acquisition protocols should be in use covering: a. Roles and responsibilities b. Patient identification c. Image quality	Y	
XR-505	**Imaging in Pregnancy** Guidelines should be in use covering imaging of women who are or who may be pregnant.	Y	
XR-506	**Imaging of Children and Young People** Guidelines should be in use covering imaging of children and young people, including: a. Action to take if non-accidental injury is suspected b. Reporting by a radiologist with appropriate expertise.	N	Guidelines were not specific about imaging of children and young people.
XR-507	**Infection Control** Guidelines on infection control should be in use, including: a. Imaging of patients with suspected or confirmed contagious and communicable diseases and/or suppressed immune systems, including patient care before, during and after imaging b. Decontamination of equipment and environment following use by patients with suspected or confirmed contagious or communicable diseases	N	'a' was in place. Reviewers did not see documentary evidence for 'b' although practice appeared satisfactory. Reviewers did not see evidence of infection control audits.
XR-508	**Imaging Reporting Guidelines** Image reporting guidelines should be in use covering: a. Roles and responsibilities b. Agreed reporting formats c. System to assure quality, accuracy and verification of reports d. System to ensure amendments are issued within specified timescales (when required) e. Extra views	N	See main report
XR-509	**Interventional Procedures** Guidelines should be in use covering: a. Interventional procedures provided by the service b. Roles and responsibilities c. Use of *'WHO Surgical Safety Checklist: for radiological interventions only'* d. Systems for assuring the quality and outcomes of interventional procedures undertaken e. Arrangements for accessing a second opinion for complex procedures f. Arrangements for clinical support in an emergency	N	'a', 'b' and 'f' were met. 'c': A surgical safety checklist was in use but there was no routine 'stop' moment before interventional procedures. Reviewers suggested that this may be helpful. 'd' and 'e': Reviewers did not see any evidence of compliance.

Ref	Quality Standard	Met? Y/N	Reviewer Comments
XR-510	**Network and More Specialist Services** Guidelines should be in use covering arrangements and agreed timescales for: a. Access to procedures available at other hospitals within the imaging network b. Access to specialist advice or procedures not available locally c. Indications and arrangements for review of imaging by a neuro-radiologist d. Indications and arrangements for review of imaging by a paediatric radiologist e. Indications and arrangements for review of other imaging where appropriate expertise is not available locally	Y	
XR-511	**Unexpected Diagnoses and Potential Medical Emergencies** A protocol covering the management of unexpected diagnoses and indications of potential medical emergencies should be in use.	Y	See main report in relation to acknowledgement of unexpected findings.
XR-512	**Pathway and Condition-Specific Guidelines** Pathway and condition-specific guidelines should be in use covering at least: a. Trauma (adults and children) b. Stroke c. Cancer (including GI malignancy and stenting) d. Venous thrombo-embolic disease	Y	
XR-513	**Management of Drugs and Contrast Media** Guidelines on the management of drugs and contrast media should be in use covering at least: a. Roles and responsibilities b. Security and storage c. Prescription, including prescription of unlicensed medicines d. Preparation and administration e. Identification and management of extravasation f. Identification and management of patients at risk of adverse reactions g. Aftercare of patients	N	See main report in relation to Patient Group Directives. 'e' was met. Guidelines on storage of contrast media were also seen. Other guidelines were not available.

Ref	Quality Standard	Met? Y/N	Reviewer Comments
XR-514	**PACS Procedure** A procedure should be in use covering, at least: a. Access to and use of PACS b. Electronic audit trails of PACS usage c. Use of PACS for teaching, audit and research d. Transfer of images to other organisations, for example, for specialist review e. Security of CD copies of patient images	Y	
XR-515	**Ionising Radiation** The service should have an up to date report showing compliance with Ionising Radiation (Medical Exposure) Regulations.	Y	Compliance based on assurance from the provider. Written evidence was not available at the time of the visit.
XR-516	**Hazardous Substances** The service should have an up to date report showing compliance with Control of Substances Hazardous to Health (COSHH) Regulations.	Y	Compliance based on assurance from the provider. Written evidence was not available at the time of the visit.
XR-517	**Health and Safety** The Trust Health and Safety Policy should be in use with specific reference to: a. Response to clinical incidents, including unintended or excessive exposures b. Use and disposal of sharps c. Re-sheathing d. Prevention of repetitive strain injury e. Signage and hazard warnings	Y	

Ref	Quality Standard	Met? Y/N	Reviewer Comments
XR-601	**Operational Policy** An Imaging Service Operational Policy should be in use covering at least: a. Availability of services, including 24/7 availability (QS XR-206) b. Capacity and escalation plan to ensure imaging timescales are achieved (QS XR-602) c. Cleaning schedules d. Protocol for non-medical referrers e. Contribution to cancer, renal, vascular, cardiac and other multi-disciplinary team meetings as appropriate f. Arrangements for medico-legal imaging g. Arrangements for imaging required for research and development h. Arrangements for staff feedback about the imaging service and for involving staff in decisions about the organisation of the service i. Arrangements for obtaining feedback from referring GPs and hospital clinicians and for involving referring GPs and hospital clinicians in decisions about the organisation of the service j. Response to a Major Incident k. PACS Business Continuity Plan	N	Some aspects of the Quality Standard were met in practice but there was no operational policy or other guidelines covering all the expected aspects of the Quality Standard. 'e' was not applicable in relation to input to vascular multi-disciplinary team meetings.
XR-602	**Imaging Timescales** Imaging and initial and final reporting timescales should have been agreed including at least: a. Initial reports available within one hour for Emergency Department, Acute Medical Unit and Acute Surgical Unit requests b. National timescales for diagnostic imaging, including trauma, stroke, TIA and heart failure imaging c. Other timescales agreed locally	N	Locally agreed timescales were not yet in place.
XR-603	**Risk Assessment and Management** A system risk assessment and risk management should be in use covering risk assessment, risk management and review of risks. Risks and actions should be recorded in an up to date Divisional Risk Register. The risk management system should cover at least: a. Risks associated with image acquisition (QS XR-504), image reporting (QS XR-508), interventional procedures (QS XR-509), other guidelines and policies (QS 500s) b. Feedback to staff about risks identified and action taken	Y	

Ref	Quality Standard	Met? Y/N	Reviewer Comments
XR-604	**Service Improvement** The service should have systems for ongoing review and improvement of quality, safety and efficiency, including at least: a. Room utilisation b. Staff utilisation c. Review of clinical pathways with referring GPs and hospital clinicians	N	Service improvement was taking place but there was no formalised system covering the requirements of the Quality Standard.
XR-605	**Service Development Plan** The service should have a development plan or strategy which brings together the staffing, training, equipment and facilities plans for the next five years in support of the Trust's business plans.	Y	A Five Year Plan was available but was short (five pages) and did not cover the imaging impact of changes in other services in the Trust.
XR-701	**Data Collection** Regular data collection and monitoring should cover: a. Recording of date of referral, time of image capture, time of report dictation, time of verification and time of report issue b. Monitoring of agreed imaging timescales (QS XR-602)	Y	Agreed imaging timescales were not yet in place but data were collected for 'a'.
XR-702	**Audit** The service should have a rolling programme of audit of compliance with guidelines and protocols [QSs 500s].	N	Reviewers did not see evidence of a rolling programme of audit. Audit meetings were held on an ad hoc basis but there was no formal audit system. The new lead reporting radiographer was hoping to start regular audit.
XR-703	**Quality Assurance System** The service should have a system to ensure analysis and feedback on the quality of: a. Imaging acquisition (QS XR-504) b. Image reporting (QS XR-508), including double reporting of a minimum of 30 cases per year per reporting healthcare professional for each individual modality reported c. Interventional procedures (QS XR-509) Feedback to individual members of staff should be linked with appraisal and re-validation arrangements.	N	See main report in relation to quality assurance. Quality assurance programmes for equipment were in place.

Ref	Quality Standard	Met? Y/N	Reviewer Comments
XR-704	**Radiology Discrepancy Meetings** Radiology Discrepancy Meetings should be held at least every two months. Consultant radiologists should attend at least 50% of the meetings held. The meetings should have a formal process of recording the outcome for each case, learning and action points, and confidential feedback. An annual report should be produced.	Y	
XR-705	**Monitoring of Key Performance Indicators** Key performance indicators, including timescales for imaging and reporting (QS XR-602) should be reviewed regularly with Trust management and with commissioners.	N	Reviewers did not see any evidence of regular monitoring of key performance indicators (KPIs) Reviewers were told of a seven day KPI for patients with cancer but staff did not appear aware of this.
XR-798	**Review and Learning** The service should have appropriate multi-disciplinary arrangements for review of, and implementing learning from: a. Positive feedback, complaints, outcomes, incidents and 'near misses' b. Published scientific research and guidance relating to imaging services	Y	
XR-799	**Document Control** All policies, procedures and guidelines should comply with Trust document control procedures.	N	Several policies and procedures were out of date. Most of these were in the process of being reviewed.

Return to *Index*