Imaging Services

The Royal Wolverhampton NHS Trust

Visit Date: 13th February 2018   **Report Date: May 2018**

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UKAS INSPECTION 8831

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INTRODUCTION

This report presents the findings of the review of imaging services at The Royal Wolverhampton NHS Trust that took place on 13th February 2018. The purpose of the visit was to review compliance with the following West Midlands Quality Review Service (WMQRS) Quality Standards:

- WMQRS Quality Standards for 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 an organisation's Annual Quality Statement (AQS). 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 that 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

Most of the issues identified by quality reviews can be resolved by providers' and commissioners' own governance arrangements. Many can be tackled using 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 NHS 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. A consultant radiologist was due to attend as part of the visiting team, but became unavailable in the few hours immediately before the visit.

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IMAGING SERVICES

THE ROYAL WOLVERHAMPTON NHS TRUST

General Comments and Achievements

Much progress had been made since the last West Midlands Quality Review Service visit in September 2016. Staff referred to external visits that had provided an impetus for change.

Reviewers noted that staff were loyal to the service and enthusiastic in their roles. Staff turnover was described as comparatively low given the opportunities there might be with local radiology services.

The process of undertaking post-operative x-rays of some orthopaedic patients, especially for hip replacements and shoulder joints, in the recovery area at both Cannock and Wolverhampton had ceased. Post-operative x-rays were now undertaken on the first post-operative day in the department, and the opening times of the radiology department at Cannock had been extended to weekends to accommodate this.

Training for, and regular audit of the practice of, Emergency Department staff who were required to give preliminary reports on emergency head CT scans overnight was now conducted. In addition, the Trust had agreed a business case to outsource neuro-radiology reporting of head CT scans outside of normal working hours, and planned to implement this service from April 2018.

Quality assurance processes across the service had improved greatly since the last visit. An electronic referral system; Integrated Clinical Environment® (ICE) had been implemented, which had improved the process for scheduling, vetting of requests and reporting. The system had been 'rolled out' to all local general practitioners. A fast track process had been agreed when unexpected findings were identified, with the recording and monitoring actions visible on the ICE system. A rolling programme of audit was now in place, including audits covering the work of reporting radiographers. Regular meetings to discuss the reporting of discrepancies were now held with reporting radiographers and sonographers.

A network-wide on-call service with Dudley Group NHS Foundation Trust to provide access to interventional radiology had been implemented.

Project work on 'getting it right first time' had commenced, and meetings were being held to look at reviewing reporting numbers, MDT attendance and the incidences of real-time reporting.

Good Practice

1. The quality assurance process had improved greatly since the last visit. Reviewers were impressed with the work of the governance lead in leading this work. A wide range of standard operating procedures (SOPs) and risk assessments had been completed, and the lead had spent time working and training staff in various areas to make sure staff were aware of all the relevant documents and of how to access them on the imaging system. Staff who spoke to the reviewers were able locate SOPs in their own areas, and referred to them with knowledge.

2. The business continuity plan was clearly written and very comprehensive.

3. Reviewers noted a good education and training programme for staff development, and CPD opportunities. Reviewers were pleased to see that this was on both the New Cross and the Cannock sites.

4. A 'good news' bulletin was distributed to staff on a regular basis. This only detailed positive messages, and provided staff in the department with a forum to share good practice taking place across the department.

5. The service was prepared for, and (by self-assessment) compliant with, the new Ionising Radiation (Medical Exposure) Regulations IR(ME)R that came into force on 4 February 2018.

6. Local Safety Standards for Invasive Procedures (LocSSIPs) had been developed for invasive procedures. Audits showed compliance with the WHO Surgical Safety Checklist for interventional radiology.

7. Reviewers noted that there was strong operational leadership in the department. Staff felt supported in their work, and reviewers noted that the leaders of the service were driving operational change.

Immediate Risks

Reviewers saw no immediate risks to patient safety.

Concerns

1. **Immediate reporting**

    Immediate (hot) reporting of plain film was only available between 9am and 5pm. Evening and weekend shifts were covered by overtime on an ad hoc basis by the reporting radiographers. Reviewers considered that this was not a robust way of staffing the service, especially because of the uncertainty of cover arrangements and the potential for delay and subsequent backlog. The informal arrangements also meant that staff in the Emergency Department were not clear where the radiographer was based for the session, as there was no dedicated room.

2. **Discrepancy meetings**

    Reviewers noted that there were separate discrepancy meetings for radiologists and radiographers. Discrepancy meetings are a forum for collective learning from errors and discrepancies. Reviewers considered that this was a lost opportunity for shared multi-disciplinary learning. Reviewers recognised that there may be a benefit in having separate meetings, but representation from one group at the other group's meeting would facilitate shared learning and reduce the risk of repeated error. Additionally, reviewers noted that there was no discrepancy forum for sonographers.

3. **Equipment management – Cannock Hospital**

    Reviewers were told that some of the equipment replacement programme at Cannock had been delayed. Reviewers understood that this was a legacy issue from a previous organisation. Equipment operated on CR (computed radiology) rather than the recognised clinical good practice standard of digital imaging. Reviewers understood that because of quality issues and the potential for 'lost' images, patients were occasionally subjected to additional unnecessary radiographic exposure. There were three X-Ray rooms at Cannock with this equipment, which was eleven years old.

    Reviewers were told that replacement of this equipment was on the 2018/19 capital replacement programme, although it had also been in previous capital programmes. The plan was to replace two rooms in 2018/19, with the third room being replaced under a subsequent plan the following year. This staged plan had been agreed to manage future upgrades and replacements. Reviewers were concerned that if this replacement was further delayed it would have continuing clinical impact on safety (unnecessary exposure) and patient care.

    Staff reported incidents via the Trust system and sent a monthly log of incidents. Reviewers were told that engineers would attend promptly to repair the equipment. Staff were aware of the requirements of the IR(ME)R regulations. The service manager estimated that staff had submitted fewer than five incidents.

4. **Trust-wide governance of ultrasound**

    The lack of Trust-wide guidelines for ultrasound had not been progressed since the last visit. As the previous visit report stated, 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 the imaging service was not routinely involved in ultrasound governance in other areas of the hospital.

5. **Privacy and dignity**

    The privacy and dignity of patients attending the CT and MRI departments at Wolverhampton Hospital was still an issue. Reviewers acknowledged that structural changes to the areas were not a feasible option at the time of the visit. At the time of the visit patients were still observed wearing only one gown rather than the

two gowns they were offered. It was not clear to reviewers whether this was because the patients were not instructed to wear two gowns on arrival, or for other reasons. Reviewers considered that the Trust should make stronger arrangements to ensure the privacy and dignity of those attending – for example, reinforcing the need for staff to communicate to patients on arrival so that they understand the need to wear two gowns or implementing a process whereby patients bring their own dressing gowns or suitable other clothing to wear instead. Staff auditing patient compliance with the arrangements may also be helpful in ensuring that patient privacy and dignity is improved.

Further Consideration

1. The service had five consultant radiologist vacancies out of an establishment of 25 radiologists. The vacancy ratio had improved since the last visit when the service had had eight vacant consultant posts. Although the Trust had been actively recruiting, it had not been able to recruit sufficient numbers to fill all vacancies.

2. Radiographer and sonographer staffing. The service had 16 Bands 5 and 6 vacancies from an establishment of around 100 posts. Use of agency staff was required to cover the CT and MRI services. In some of the clinical areas (e.g. CT), there appeared to be a heavy reliance on radiographers. In view of the number of vacancies, reviewers suggested looking at whether the skill mix should be reviewed to consider the use of assistant practitioners to support, in particular, the CT and MRI suites. Consideration of this might also mitigate the impact of the 15% vacancy rates described.

3. Senior staff were spending considerable time vetting referrals, checking blood results and ensuring that estimated glomerular filtration rates (eGFR) had been requested prior to contrast examinations. Although reviewers were told that this work should be reduced once referrers were more familiar with the system, reviewers considered that some aspects of this work could be undertaken more appropriately by training assistant practitioners or imaging assistants (although final oversight would be required by senior staff).

4. Reviewers noted the on-going work to reduce the existing reporting backlog of 7,800 investigations to 1,500 with additional funding of reporting sessions by the end of March 2018. Reviewers noted that good progress had been made, but considered that once these extra reporting sessions ceased, careful monitoring of the backlog would be required to ensure prompt action was taken should the reporting delays start to increase.

5. Reviewers noted that there were a number of reporting radiographers who also delivered clinical radiography in order to maintain their wider skills. Once vacant posts have been filled, the service may wish, as part of its wider skills mix and longer-term sustainability evaluation, to assess whether there are sufficient reporting radiographer sessions.

6. Little progress had been made on user and carer engagement since the last visit. Patient feedback mechanisms were not yet in place and the service was not linked into the Trust Friends and Family feedback mechanism. There were also no mechanisms for involving patients and carers in decisions about the organisation of imaging services. Reviewers noted that as part of a 24-hour post-procedure telephone welfare check, the fluoroscopy service asked patients whether their care had been good. Reviewers commended the intention of this, but noted that it was not an effective or reliable method of obtaining accurate patient feedback.

7. Very little patient information or procedure-specific information was easily available in the main imaging department, although specific information was sent out to patients in advance. Although staff would verbally inform patients as to what to expect after their attendance, this information was not supported by anything in writing. Those with memory loss or dementia would be reliant on a carer or family member being present to remember this information. Most of the information seen by reviewers had been written by staff with no patient involvement.

8. Reviewers noted that there was no process through which patients could easily identify the staff undertaking procedures. Reviewers were aware that the service had already considered a photo-board. Alternatives, such as a uniform guide, may help patients' assurance and understanding of the process being followed.

9. Apart from interpreter services, communication aids were not available in the department.

10. The consent process for interventional radiology was reliant on patients attending an additional appointment. Patients attended an initial clinic, then a review/consent clinic before the procedure day. Reviewers considered that requiring patients to attend a specific consent clinic was unnecessary, and felt that the process could be streamlined.

11. Consultants who met with the visiting team were knowledgeable about their service and were able to articulate a vision. However, reviewers only had the opportunity to meet two consultant radiologists out of the 20 Consultants in post and were therefore unable to form a robust view on medical operational leadership across all the service areas.

12. At the time of the visit it was not easy to locate other relevant Trust or network-agreed guidelines (for example paediatric, vascular or Trust-wide guidelines for ultrasound) and therefore staff might also not be familiar with their contents. Creating links to specific guidance in other areas of the intranet may help with this issue.

APPENDIX 1 MEMBERSHIP OF VISITING TEAM

Visiting Team		
Adam Ashworth	Operational Service Manager – Lead Radiographer	Sandwell & West Birmingham Hospitals NHS Trust
Bob Colclough	User Representative	
Jenny Cooke	Advanced Practitioner Radiographer	Burton Hospitals NHS Foundation Trust
Jeanette Dadds	CT Lead	Walsall Healthcare NHS Trust
Vanessa Palmer	Superintendent Radiographer	Walsall Healthcare NHS Trust

WMQRS Team		
Tim Cooper	Director	West Midlands Quality Review Service
Sarah Broomhead	Assistant Director	West Midlands Quality Review Service
Rachael Blackburn	Assistant Director	West Midlands Quality Review Service

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

Details of compliance with individual Quality Standards can be found in a separate document.

Service	Number of Applicable QS	Number of QS Met	% met
Acute Trust-Wide	1	0	0
Imaging Services	49	35	71
Health Economy	50	35	70

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ACUTE TRUST-WIDE

Ref	Standard	Met Y/N	Reviewer Comments
XC-505 BI Visit MP&S CNR Doc	**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	Trust-wide guidelines were not accessible to reviewers at the time of the visit.

IMAGING SERVICES

Ref	Standard	Met Y/N	Reviewer Comments
XR-101 BI Visit MP&S CNR Doc	**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	Information was available, but had been developed by staff without user and carer input. The information available did not include any information about staff who may be present. Reviewers considered that involvement of service users in reviewing and developing information, including post-investigation advice, would ensure that the information was more appropriate to the needs of those using the service.
XR-102 BI Visit MP&S CNR Doc	**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 BI Visit MP&S CNR Doc	**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	The service was not able to create additional space, and therefore the findings from the previous report were unchanged. 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 were not always used. This was not a problem for patients waiting for plain film x-ray as they waited in the cubicles. Reviewers considered that suggesting to patients that they bring their own dressing gown or suitable clothing may be helpful with maintaining patients' privacy and dignity.
XR-195 BI Visit MP&S CNR Doc	**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 or learning difficulties were not available. Staff could access an interpreter if notified in advance.

Ref	Standard	Met Y/N	Reviewer Comments
XR-196 BI Visit MP&S CNR Doc	**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	Staff could access an interpreter if notified in advance.
XR-197 BI Visit MP&S CNR Doc	**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 Friends and Family Test mechanism for feedback about the service was not yet in place. At the time of the review visit, only a survey covering cardiology had been undertaken, and there were no patient groups or other mechanisms for involving patients in decisions about the organisation of the services. The fluoroscopy service nurse would ring the patient the day after the procedure and get some initial telephone feedback, but reviewers considered that patients may not feel that they could comment constructively on their experiences at this stage.
XR-201 BI Visit MP&S CNR Doc	**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 BI Visit MP&S CNR Doc	**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	

Ref	Standard	Met Y/N	Reviewer Comments
XR-203 BI Visit MP&S CNR Doc	**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	Standard	Met Y/N	Reviewer Comments

XR-204
 	
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	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 a good induction training plan. CT scanning also had procedure-specific training documents and training.
			Reporting radiographers were also providing training sessions for colleagues at both the New Cross and the Cannock Hospital sites.

XR-205 BI Visit MP&S CNR Doc	**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	A clear process for ensuring and recording local induction training for locums and agency staff was in place.

Ref	Standard	Met Y/N	Reviewer Comments
XR-206 BI Visit MP&S CNR Doc	**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.	Y	Since the last visit an on-call service across the local network for interventional radiology had been implemented.
XR-299 BI Visit MP&S CNR Doc	**Administrative and Clerical Support** Administrative, clerical and data collection support should be available.	Y	However, administrative support for governance was only one half-day per week, and the support was often used to support other imaging services.
XR-301 BI Visit MP&S CNR Doc	**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. Reviewers did not see any results but were assured by those they met that results could be accessed by other staff via the shared drive.

Ref	Standard	Met Y/N	Reviewer Comments
XR-302 BI Visit MP&S CNR Doc	**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	
XR-401 BI Visit MP&S CNR Doc	**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	N	Facilities were generally very good, although see Quality Standard XR-103 in relation to privacy and dignity in the CT and MRI area.

Ref	Standard	Met Y/N	Reviewer Comments
XR-402 BI Visit MP&S CNR Doc	**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	N	See main report about procurement and maintenance of equipment at Cannock Hospital. No issues were identified about equipment at the New Cross Hospital site. Since the last visited a process for undertaking and recording a daily cleaning check in CT area had been implemented. However, the recording checklist for the portable suction equipment did not appear to be up to date and it was not clear whether this form had been superseded by the main recording checklist.
XR-403 BI Visit MP&S CNR Doc	**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 BI Visit MP&S CNR Doc	**Moving and Handling Aids** Moving and handling aids should be available and appropriately maintained.	Y	
XR-405 BI Visit MP&S CNR Doc	**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	

Ref	Standard	Met Y/N	Reviewer Comments
XR-501 BI Visit MP&S CNR Doc	**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 on 'ICE' (the new electronic referral system). There was also a process for identifying 'ICE' users who were not up to date with IR(ME)R training, and restricting their 'ICE' use until training had been completed.
XR-502 BI Visit MP&S CNR Doc	**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	The electronic referral system 'ICE' had been implemented since the last visit. From discussions with staff during the visit it was not clear that there was a robust process for offering flexibility of appointments, although appointment letters did offer the option to change an appointment date. None of the records seen identified any patients who were particularly vulnerable. Reviewers were told that this information was not routinely documented by 'ICE' and, therefore, it was often not known whether a patient would require additional support until they arrived in the department.
XR-503 BI Visit MP&S CNR Doc	**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	See 'further consideration' section of the report about streamlining the consent process.
XR-504 BI Visit MP&S CNR Doc	**Image Acquisition Protocols** Image acquisition protocols should be in use covering: a. Roles and responsibilities b. Patient identification c. Image quality	Y	

Ref	Standard	Met Y/N	Reviewer Comments
XR-505 BI Visit MP&S CNR Doc	**Imaging in Pregnancy** Guidelines should be in use covering imaging of women who are or who may be pregnant.	Y	
XR-506 BI Visit MP&S CNR Doc	**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	Reviewers were told that general guidelines had been developed in conjunction with Birmingham Children's Hospital and were awaiting ratification. Guidelines were in place for radiology requirements for non-accidental injuries. A paediatric radiographer was shortly starting in post.
XR-507 BI Visit MP&S CNR Doc	**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	Y	
XR-508 BI Visit MP&S CNR Doc	**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	Y	A range of reporting templates was still in use though there was clear service guidance about the level of information assessed as being acceptable. Discrepancy meetings were also in place. Clear guidance was in place for reporting radiographers.

Ref	Standard	Met Y/N	Reviewer Comments
XR-509 BI Visit MP&S CNR Doc	**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	The guidelines reviewed at the time of the visit did not specifically include 'd' or 'e'. A Local Safety Standard for Invasive Procedure (LocSSIP) for interventional radiology was in place, though it did not yet include auditing requirements. In practice, arrangements for accessing a second opinion were discussed at multi-disciplinary meetings.
XR-510 BI Visit MP&S CNR Doc	**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	N	Guidelines for covering arrangements and agreed timescales were not seen at the time of the visit. Reviewers were told that formal arrangements were in place with University Hospitals Birmingham NHS Foundation Trust, for neuro-radiology, and with Birmingham Children's Hospital NHS Foundation Trust, for paediatrics.
XR-511 BI Visit MP&S CNR Doc	**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	

Ref	Standard	Met Y/N	Reviewer Comments
XR-512 BI Visit MP&S CNR Doc	**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 BI Visit MP&S CNR Doc	**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	Y	
XR-514 BI Visit MP&S CNR Doc	**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 BI Visit MP&S CNR Doc	**Ionising Radiation** The service should have an up to date report showing compliance with Ionising Radiation (Medical Exposure) Regulations.	Y	Compliance is based on assurance from the service. Written evidence of the report was not available at the time of the visit.

Ref	Standard	Met Y/N	Reviewer Comments
XR-516 BI Visit MP&S CNR Doc	**Hazardous Substances** The service should have an up to date report showing compliance with Control of Substances Hazardous to Health (COSHH) Regulations.	Y	Compliance is based on assurance from the service. Written evidence of the report was not available at the time of the visit.
XR-517 BI Visit MP&S CNR Doc	**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	
XR-601 BI Visit MP&S CNR Doc	**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	As with the previous report from 2016, some aspects of this Quality Standard were met in practice but there was no operational policy or other guidelines covering all the expected aspects of the Quality Standard. 'b', 'c', 'i', 'j' and 'k' were met and a Standard Operating Procedure for fast-tracking incidental findings was in place. 'e' was not applicable in relation to input to vascular multi-disciplinary team meetings. 'i' was not in place. A good comprehensive business continuity plan had been developed, although some staff who met the reviewing team were not conversant with its contents.

Ref	Standard	Met Y/N	Reviewer Comments
XR-602 BI Visit MP&S CNR Doc	**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	'Hot reporting' was only available between 9am and 5pm, though there were informal arrangements for staff to cover as overtime at evening and weekends. See also main report. Seven-day access to MRI, CT and interventional radiology was in place, but there was less clarity about the process for reporting of procedures outside normal working hours.
XR-603 BI Visit MP&S CNR Doc	**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	
XR-604 BI Visit MP&S CNR Doc	**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	Y	Some benchmarking was in place for room and staff utilisation. Work was in progress looking at reporting times and 'hot reporting' in MDT meetings.
XR-605 BI Visit MP&S CNR Doc	**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	

Ref	Standard	Met Y/N	Reviewer Comments
XR-701 BI Visit MP&S CNR Doc	**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)	N	Data were collected for 'a'. The arrangements for monitoring agreed timescales were in place with department leads but not yet with department staff.
XR-702 BI Visit MP&S CNR Doc	**Audit** The service should have a rolling programme of audit of compliance with guidelines and protocols [QSs 500s].	Y	Audits were monitored and discussed at governance meetings. Staff were invited to present their specific audits, and a good process was in place to disseminate learning with other staff. Audits were all accessible on the department IT 'W' drive.
XR-703 BI Visit MP&S CNR Doc	**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.	Y	
XR-704 BI Visit MP&S CNR Doc	**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	Regular monthly discrepancy meetings were held with radiologists, sonographers and reporting radiographers, although these meetings were not multi-disciplinary.

Ref	Standard	Met Y/N	Reviewer Comments
XR-705 BI Visit MP&S CNR Doc	**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	There was some evidence that backlog and reporting timescales were discussed internally with senior managers, but there was no comprehensive set of indicators or evidence of discussions with commissioners.
XR-798 BI Visit MP&S CNR Doc	**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	Review and learning from other directorates was in place, and notes of meetings were disseminated to staff. Reviewers considered that review and learning could be enhanced if meetings were multi-disciplinary.
XR-799 BI Visit MP&S CNR Doc	**Document Control** All policies, procedures and guidelines should comply with Trust document control procedures.	Y	Documents were well controlled with a clear programme for reviewing policies. See also 'good practice' section in relation to governance.