



Healthcare
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Inspections
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To drive improvement

Announced Inspection Report – Ionising Radiation (Medical Exposure) Regulations 2017

University Hospital Wishaw

NHS Lanarkshire

4-5 May 2021

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Contents

About our IR(ME)R inspections	4
--------------------------------------	----------

Summary of inspection	6
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What we found during our inspection	8
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About our IR(ME)R inspections

Our approach

Healthcare Improvement Scotland has a statutory responsibility to provide public assurance about the quality and safety of healthcare through its inspection activity.

The quality of care approach and the quality framework together allows us to provide external assurance of the quality of healthcare provided in Scotland.

- **The quality of care approach** brings a consistency to our quality assurance activity by basing all of our inspections and reviews on a set of fundamental principles and a common quality framework.
- **Our quality framework** has been aligned to the Scottish Government's *Health and Social Care Standards: My support, my life* (June 2017). These standards apply to the NHS, as well as independent services registered with Healthcare Improvement. They set out what anyone should expect when using health, social care or social work services.

We have aligned the Ionising Radiation (Medical Exposure) Regulations (IR(ME)R) 2017 to the quality framework.

How we inspect services that use ionising radiation for medical exposure

The focus of our inspections is to ensure each service is implementing IR(ME)R 2017. Therefore, we only evaluate the service against quality indicators that align to the regulations.

What we look at

We wanted to find out:

- how the service complies with its legal obligations under IR(ME)R 2017 and addresses the radiation protection of persons undergoing medical exposures, and
- how well services are led, managed and delivered.

After our inspections, we publish a report on how well a service is complying with IR(ME)R and its performance against the Healthcare Improvement Scotland quality framework.

More information about the quality framework and quality of care approach can be found on our website:

www.healthcareimprovementscotland.org/our_work/governance_and_assurance/quality_of_care_approach.aspx

Summary of inspection

About our inspection

We carried out an announced inspection to the University Hospital Wishaw, NHS Lanarkshire, on Tuesday 4 and Wednesday 5 May 2021. We spoke with a number of staff including the medical director, IR(ME)R lead, radiology management team, radiologists and radiographers. The inspection team was made up of two inspectors.

University Hospital Wishaw offers plain film, computerised tomography (CT) mammography and bone density scanners in the diagnostic department that fall under IR(ME)R. The focus of this inspection was the plain film and CT imaging.

What we found

What the service did well

- NHS Lanarkshire's dose optimisation group provided good examples of working to optimise patient dose, and
- we saw NHS Lanarkshire had a good approach to ensuring patients are advised of the risks and benefits of exposure to ionising radiation.

What the service needs to improve

- NHS Lanarkshire must ensure that its employer's procedures and standard operating procedures are aligned to current practice.
- NHS Lanarkshire must demonstrate a process to define clinically significant incidents that are required to be reported to Healthcare Improvement Scotland.

Detailed findings from our inspection can be found on page 8.

What action we expect NHS Lanarkshire to take after our inspection

This inspection resulted in five requirements and two recommendations. Requirements are linked to compliance with IR(ME)R. See Appendix 1 for a full list of the requirements and recommendations.

An improvement action plan has been developed by the NHS board and is available on the Healthcare Improvement Scotland website.

https://www.healthcareimprovementscotland.org/our_work/inspecting_and_regulating_care/ionising_radiation_regulation.aspx.

NHS Lanarkshire must address the requirements and make the necessary improvements as a matter of priority.

We would like to thank all staff at the radiology department, University Hospital Wishaw for their assistance during the inspection.

What we found during our inspection

Outcomes and impact

This section is where we report on what key outcomes the service has achieved and how well the service meets people's needs.

Domain 1 – Key organisational outcomes

High performing healthcare organisations identify and monitor key measures that help determine the quality of service delivery and the impact on those who use the service or work with the service.

IR(ME)R requires that those who refer a patient to be exposed to medical radiation, those who operate equipment and those healthcare professionals (medical and non-medical) who justify that the procedure is necessary, must be adequately trained and entitled to do so. Entitlement is given to each person involved in the process by the employer.

What we found - fulfilment of statutory duties and adherence to national guidelines

Entitlement

The process of entitlement sets out the scope of practice that an individual can carry out, such as the types of referrals and clinical evaluations. The scope of practice depends on the individual's qualifications, role, training and experience. An individual's scope of practice can change over time, such as following additional training or moving to a new role. An individual's scope of practice is set out in a formal letter from the employer (NHS Lanarkshire). The individual is required to work within this scope of practice.

NHS Lanarkshire's employer's procedures EP1 (Entitlement of duty holders for medical exposure) and EP2 (Procedure to identify individuals entitled to act as referrers, practitioners, operators and medical physics experts and a description of their duties) provides guidance on the entitlement process. The IR(ME)R lead is responsible for entitling all those who refer patients for medical exposures to be carried out within NHS Lanarkshire. The employer's procedures provides guidance on the basic qualifications required by different staff groups to be entitled as a referrer, practitioner and operators. It also details the scope of practice.

We are assured that NHS Lanarkshire has processes in place to demonstrate that entitlement by staff group and the qualifications required by each group.

All radiologists who are Fellows of the Royal College of Radiologists are entitled to carry out justifications and clinical evaluations. A radiologist is a doctor who is specially trained to interpret diagnostic images such as x-rays and CT scans.

Radiographers, depending on their training, are entitled as operators to carry out justifications and plain film clinical evaluations.

Another group of staff that are entitled to make referrals are non-medical referrers, healthcare professionals who are not doctors or dentists. The IR(ME)R lead can entitle a range of healthcare professionals to act as referrers for a range of medical exposures. A full list of all non-medical referrers, including their scope of practice, is available on the NHS board's intranet site for radiographers and radiologists to access.

The lead IR(ME)R radiologist and the clinical lead radiologist told us they are involved in the review and approval of scope of practice requests for non-medical referrers. Both could clearly describe how requests are assessed to ensure that the scope of practice of the non-medical referrers was appropriate. However, it was not clear how this process was managed and the approval process was not reflected in the employer's procedure. There was no central group, such as an IR(ME)R approval panel or similar, to review requests by non-medical referrers, providing comment on whether it is appropriate for individuals, or their scope of practice, to be approved.

Referral

Referrals are received by the radiology department from a variety of sources from within University Hospital Wishaw and from the community. Referrals are made using an electronic referral systems for services within the hospital and a standard referral card for community based referrals. Referral cards are scanned onto the radiology information system. A referral can only be made by a person who is entitled to do so.

When a referral is made by non-medical referrer, radiographers will check the referrer's scope of practice against the non-medical referrer's database. Radiographers told us this process worked well and the database was easy to access. Medical staff can refer all plain film and CT examinations. Should any referral be made outwith someone's scope of practice, it will be rejected.

Justification

NHS Lanarkshire's EP5 (Justification of medical exposure) provides guidance on the justification process.

Radiologists review all referrals, other than plain film, to ensure that information is sufficient to justify the referral. Radiographers carry out the majority of justifications for plain film exposure and some CT procedures, which is consistent with their scope of practice. Others, such as orthopaedic surgeons, are entitled to justify specific exposures as part of their speciality.

The radiologist will consider the clinical information and whether the procedure is necessary or if it can be achieved using non-ionising radiation imaging, such as ultrasound or MRI. They will also consider any lower dose ionising radiation options available and any previous imaging history for potential duplication.

We were told that if a referral was received with insufficient information, a request for a new referral is made, the original request cancelled and the referrer informed. Both radiographers and radiologist told us this process worked well.

When a referral is justified, the radiographer or radiologist completes the appropriate electronic record on the radiology information system, to show that the exposure has been justified.

NHS Lanarkshire uses a private company to provide radiology services out of hours. We were told that on occasion, referrals are made from within the hospital to radiographers that are outwith their scope of practice. When this occurs, the referrer is told to contact the private company. This has led to some tension as referrers do not always understand the radiographers' scope of practice and therefore why they cannot justify all referrals.

When a justification is made, it is recorded on the radiology information system for plan film and CT. For specialist exposures such as orthopaedic surgery, the justification is recorded in the patient notes.

Clinical evaluation

After an image has been taken, the radiologist or radiographer (the operator) will review the image and report their findings (clinical evaluation). All staff we spoke with could describe the process and where information is recorded. The operator who undertook the clinical evaluation is identified on the report, whether it is staff from NHS Lanarkshire or from the private company that provides out-of-hours radiology service.

Records

During our inspection, we looked at the information recorded on the radiography information system and saw:

- referrer information to support justification
- identification checks
- scanned documents, such as pregnancy check questionnaires
- details of the referrer and operator
- any relevant previous imaging
- radiation dose
- justification, and
- clinical evaluation.

Radiography staff could describe the checks they carried out prior to recording this information. They told us they would review the clinical history to check it matched the patient information and where they would get the dose information. They also told us they would carry out a secondary check by routinely asking patients why they are attending.

Radiographers carry out the final check to ensure that the right patient gets the right exposure. They are positively encouraged to be vigilant and challenge any areas of concern.

What needs to improve

NHS Lanarkshire provided a flow chart for the review and approval of the scope of practice for non-medical referrers. The flow chart shows which staff groups should be involved in the process. While radiographers are very involved in the process, it was not clear which specific members of staff must be involved and who provides the final approval, whether it is an approval panel or down to individuals. The flow chart was not part of the employer's procedure (requirement 1).

Requirement 1

- NHS Lanarkshire must ensure its employer's procedures demonstrate a structured mechanism for the review and formal approval of the scope of practice for non-medical referrers.
- No recommendations.

Service delivery

This section is where we report on how well the service is delivered and managed.

Domain 5 – Safe, effective and person-centred care delivery

High performing healthcare organisations are focused on safety and learning to take forward improvements, and put in place appropriate controls to manage risks. They provide care that is respectful and responsive to people’s individual needs, preferences and values delivered through appropriate clinical and operational planning, processes and procedures.

NHS Lanarkshire has a duty under IR(ME)R to develop written procedures commonly referred to as employer’s procedures. These are intended to provide a framework under which professionals can practice. Each organisation must appoint an IR(ME)R lead who will take responsibility for the implementation systems and process to ensure statutory requirements are being met.

What we found - safe delivery of care

NHS Lanarkshire’s employer’s procedure EP1 (Entitlement of duty holders for medical exposure) states the medical director is responsible for the implementation of IR(ME)R. We saw links between the medical director and the chief executive detailed in the NHS board’s health and safety policy, however it was not included in the employer’s procedures.

The radiology IR(ME)R lead and clinical leads are responsible for the ongoing implementation of IR(ME)R for the diagnostic department. They are supported by the deputy radiology service manager to provide assurance on IR(ME)R compliance.

NHS Lanarkshire’s radiation safety committee meets once each year. It links to the:

- acute clinical care governance committee
- quality planning and quality assurance committee and
- improvement committee.

The NHS board’s radiation safety committee also links to the local University Hospital Wishaw radiation safety committee. IR(ME)R is a standing agenda item at both committee meetings. The NHS board’s radiation safety committee is chaired by the medical physics expert and is the primary group for ensuring

compliance with IR(ME)R. It is from this group that the medical director, as IR(ME)R lead, is assured that the NHS board is meeting its statutory obligations. While the group only meets once each year, we were told that should anything require immediate attention, it is addressed between meetings.

The medical director discusses IR(ME)R when they meet with the associate medical director's professional leads covering all the modalities and the acute service medical director.

The radiology operational management meeting is where lead site radiographers and clinical leads from all hospitals meet with the associate medical director, director of access, diagnostic service manager and deputy diagnostic service manager. IR(ME)R is a standing item and is used as a forum to discuss and share information relevant to IR(ME)R. Such as, changes to the CT head protocol was made as a result of a request from the emergency department at this meeting.

IR(ME)R is also discussed at a variety of other meetings, including:

- weekly consultant radiologists meetings
- site superintendent meetings
- monthly huddles, and
- daily safety briefs.

All staff groups we spoke with were positive about the different groups and that IR(ME)R was a standing agenda item on many of them. They felt there was sufficient opportunity to share information regarding IR(ME)R.

Safety culture

Staff we spoke with were positive about the safety culture within the NHS board. Radiology staff told us they are encouraged to report near misses and incidents to help drive improvements. The medical director and radiology IR(ME)R lead are clear about the positive approach and management of IR(ME)R. Staff are committed to ensure that radiation safety for patients is promoted, implemented and lessons are learned.

The consultant radiologist clinical lead and lead IR(ME)R radiologist both provided positive leadership for the implementation of IR(ME)R. The IR(ME)R radiologist described their long-term involvement in IR(ME)R and the positive effect the implementation of the regulations had had on radiation safety.

Radiologists discuss IR(ME)R related issues as a professional group. Radiographers also told us they felt supported in their role to challenge and question referrals to ensure they are appropriate.

We saw a PAUSE poster prominently displayed in the radiology department to remind staff to take time when carrying out the appropriate checks before patient exposure. Radiologists and radiographers confirmed that they are supported to take the time needed to carry out all their role safely.

Employer's procedures

NHS Lanarkshire has three levels of procedures:

- level 1 applies to the whole NHS board, including all modalities
- level 2 are standard operating procedures that are modality specific across various sites, and
- level 3 are called department protocols, which are usually site specific within a hospital.

The responsibility for the development of employer's procedures is detailed in document EP19 (Document control). Level 1 employer's procedures are required to be authorised by the NHS board's IR(ME)R lead. Level 2 and 3 procedures are developed by different teams and authorised by the clinical director or lead in radiology.

All radiographer's we spoke with confirmed they are informed of any updates to these procedures. Any changes are communicated through:

- the NHS board's intranet and department IT systems
- morning huddles
- staff meetings, and
- email.

The implementation of the employer's procedures is monitored through observation of practice and monitoring of incidents.

Patient identification

Employer's procedure EP7 (Patient identification) provides guidance on the three points of identification to be asked of all patients prior to exposure. These checks are essential to ensure that the correct person is being exposed to ionising radiation. All staff we spoke with could clearly explain the different ways they identify a patient and what to do if there was any doubt. Should

there be any minor discrepancies, such as a wrong address, the radiographer can make a note in the radiology information system and proceed with the exposure. The exposure will not go ahead if any significant concerns are raised. Patient identification checks, once complete, are recorded in the radiology information system. We saw procedures in place for the imaging of patients in emergency situations.

Risk benefit conversations

Employer's procedure EP23 (Provision of information relating to the benefits and risks of an exposure) details how information is made available for patients who receive an exposure. Information posters are displayed in prominent places throughout the radiology department and in the changing cubicles. EP23 states that the operator will offer the relevant information for those who have not had the opportunity to read the poster, such as patients who have been brought down from a ward within the hospital.

NHS Lanarkshire has also piloted providing patients with information on risk and benefits as part of pre-planned appointments. Levels of awareness on the risks and benefits was at 60% before the pilot and 97% following the pilot.

Making enquiries of individuals who could be pregnant

Risk benefit conversations are required when making enquiries of individuals who could be pregnant. All the radiographers we spoke with were familiar with the employer's procedure EP8 (Exposure of females of childbearing potential). They told us anyone of child bearing capacity aged between 12 and 55, for exposures where the lower diaphragm and upper thigh are directly in the primary beam, are asked the pregnancy status questions.

EP8 provides information on how to proceed in different scenarios. Such as, the need to record the justification when proceeding with an exposure of the uterus of someone who is pregnant or possibly pregnant.

Responses to the pregnancy status questions are recorded on a paper form, which is scanned into the patient record on the radiology information system. All radiographers we spoke with confirmed that this was always carried out. Records we reviewed had relevant checks recorded in line with EP8.

Information posters are displayed in the diagnostic department also highlighted the need to inform a member of staff of any possibility that the patient may be pregnant.

Carers and comforters procedures

NHS Lanarkshire has clear guidance on the authorisation of an exposure to a carer or comforter, such as the mother of a child. All radiographers have received training on the authorisation of an exposure to a carer or comforter. If an exposure is authorised, it will be recorded in the radiology information system as authorised by the operator. The carer or comforter will be identified by their relationship to the patient. All radiographers we spoke with were very clear exposure would be avoided of a carer or comforter where possible.

General duties in relation to equipment

As equipment reaches the end of a pre-agreed age it is automatically replaced.

Staff carry out routine quality assurance checks and could describe the procedure if results from these checks are outside the expected parameters. Staff told us they report the fault and the site superintendent would escalate it to the manufacturer.

All staff could describe the procedure when a service engineer is on site and what documentation is to be used a part of the handover arrangements. The handover documents are completed by the service engineer after every visit. CT staff will always carry out quality assurance before a machine is put back in use. The engineer will indicate whether quality assurance is required before the use of x-ray equipment. When we visited the department we saw documentation from the service engineer and quality assurance records are in place.

Optimisation

Dose optimisation is the balance between the lowest dose and the image quality that is clinically suitable.

The medical physics experts use dose audit information to set local dose reference levels in partnership with the radiologists. Where local dose reference levels are not available, NHS Lanarkshire can use information from medical physics experts who have access to data for the west of Scotland. Scottish and UK dose reference levels are also available that provide a reference point on what the expected dose from an exposure should be. All NHS Lanarkshire local dose reference levels are below the national dose reference levels.

The equipment used to expose patients to ionising radiation has a variety of pre-set protocols that help deliver standardised exposures. These can be modified for adults and children and take account of different body sizes. Many exposures have a dose reference level that provides an indicator of the level of expected exposure. All operators we spoke with could describe how they select the correct protocol for the intended purpose and are aware of the dose reference levels. Should the recorded value of an exposure be outside agreed

limits without reason, an investigation will be carried out. The investigation considers the patient details, the quality of the image taken, the protocol used and scan range.

NHS Lanarkshire has a dose optimisation group chaired by a medical physics expert. The group includes members from all modalities, medical physics experts and radiologists. The radiologists and medical physics experts we spoke with described the balance between image quality and the dose to obtain clinically effect images. They told us they are involved in the process for agreeing new dose reference levels and other protocols that affect dose. The group provided good examples of working to optimise patient dose. For example, the protocol for CT imaging of renal lesions and the use of high Kv chest exams. Both resulting in a reduced patient dose.

Accidental or unintended exposure

NHS Lanarkshire EP15 (Reporting of incidents involving unintended exposure; overexposure or underexposure of patients) details the procedure to follow when an error occurs or identified. A supplementary radiation incident reporting flowchart, not part of the employer's procedure, was also available.

The process of reporting and investigating incidents was well understood by all staff we spoke with. There is a culture that supports the reporting of incidents and sharing lessons learned. Incidents are shared throughout the radiology department up to the IR(ME)R lead.

What needs to improve

We found that the current governance arrangements for the review of employer's procedures and standard operating procedures did not ensure that they are kept up to date, aligned or provided sufficient detail to reflect current practice. As part of the inspection we reviewed all level 1 employer's procedures and all the submitted level 2 standard operating procedures. While we were told that more detailed procedures are being developed, we found on multiple occasions they did not to reflect current practice, contradicted each other or referred to outdated guidance, including the following.

- The term medico legal is used throughout the employer's procedure. This is a term that was removed when IR(ME)R 2017 came into force.
- Radiologist, and others as nominated, are clearly identified as being part of the process to agree the scope of practice for non-medical referrers.
- DR SOP 14 (Contact shielding for patients attending all radiology modalities) is a more recent standard operating procedure. Within the employer's procedure an older standard operating procedure and DR SOP8 (Mobile Unit

– Radiographic Protocols) are now out of date based and provide outdated advice (requirement 2).

EP15 (Reporting of incidents involving unintended exposure) did not refer to the current national guidance on reporting significant accidental and unintended exposure under IR(ME)R as produced by the UK IR(ME)R regulators. We were assured by the medical physics expert, who is contracted from NHS Greater Glasgow and Clyde, the most up-to-date guidance is being used when deciding on what incidents are to be reported to Healthcare Improvement Scotland. EP15 does not include any guidance on the process for deciding if an incident is clinically significant. The radiologist could clearly explain that they would be involved in the decision making process, however this process was not included in the employer's procedure. It was therefore not clear how this process is managed without a documented process to provide guidance and consistency of approach (requirement 3).

Requirement 2

- NHS Lanarkshire must implement a quality assurance system to ensure all written procedures and protocols promote a consistent approach to service delivery, are up to date and support service quality.

Requirement 3

- NHS Lanarkshire must update employer's procedure EP15 (Reporting of incidents involving unintended exposure; overexposure or underexposure of patients) to reflect current statutory criteria. It must demonstrate the process for deciding which incidents are clinically significant and detail the role of the clinicians.
- No recommendations.

Domain 6 – Policies, planning and governance

High performing healthcare organisations translate strategy into operational delivery through development and reliable implementation of plans and policies, and have effective accountability, governance and performance management systems in place.

What we found - risk management, audit and governance

Contracted services

NHS Lanarkshire uses a private company to provide radiology services out of hours. Radiographers and medical staff can contact the company for advice. All justifications are assigned to an individual and their details recorded on the radiology information system.

Clinical audit

The scope of audits are included in employer's procedure EP21 (Clinical audit). An annual audit is carried out by the clinical leads. A report on the outcomes of the audit is submitted to the clinical governance committee . We saw additional documents and audit tools used to support the audit referenced in EP21. However, these are not referenced in the employer's procedure or supporting standard operating procedures.

What needs to improve

A review of the CT clinical evaluations was undertaken when the private company that provides out-of-hours radiology services was first appointed. Ongoing review is only through the audit results provided by the private company. No independent auditing is undertaken by NHS Lanarkshire to provide assurance. Employer's procedure EP21 states that clinical audit for contracts services must be undertaken (requirement 4).

NHS Lanarkshire should consider their current audit programme against the examples of clinical audits on the Royal College of Radiologists on webpage AuditLive. It provides an audit framework identifying best practice in key stages of the audit cycle.

Requirement 4

- NHS Lanarkshire must update its employer's procedure to include the role of clinical audit for the private company that provides contracted radiology services. It should include what is to be audited and the frequency by the NHS board.

- No recommendations.

Domain 7 – Workforce management and support

High performing healthcare organisations have a proactive approach to workforce planning and management, and value their people supporting them to deliver safe and high quality care.

What we found - staff recruitment, training and development

Expert advice

NHS Lanarkshire contracts medical physics expertise from NHS Greater Glasgow and Clyde for conventional and complex x-ray equipment. They provide advice to the NHS board in relation to compliance with IR(ME)R. Medical physics experts are appointed by letter by the IR(ME)R lead. They are involved in a variety of areas including:

- commissioning of new equipment
- acceptance testing of new equipment
- quality assurance of equipment
- dose monitoring
- training and
- analysis of incidents.

The medical physics experts also provide advice on whether an incident requires to be reported to Healthcare Improvement Scotland. Staff we spoke with confirmed that while the medical physics experts are not often seen, they are available for advice and support.

The medical physics experts submit an annual report to the NHS board's radiation safety committee. The report details the implementation of IR(ME)R and the services delivered in the past year. They also meet with the deputy diagnostic service manager every 2 months to discuss any ongoing issues.

Training

We found comprehensive training records in place for staff involved in medical exposure to radiation. Once a radiographer qualifies, NHS Lanarkshire provides induction and ongoing training. We were told that operators must be trained on each of the difference types of equipment. All the radiographers we spoke with told us they had received appropriate training and we saw this backed up in their training record.

A radiographer's training record is closely linked to their entitlement. We reviewed a sample of records and saw the entitlement records corresponded to the training record.

Radiologist training and continual professional development is managed through their annual appraisals and medical revalidation process, which takes place every 5 years.

What needs to improve

While we saw evidence of continual education for radiologists and radiographers, it was not possible to identify training that relates specifically to IR(ME)R. It was also unclear what continual education was needed for staff outside radiology, who have obligations under IR(ME)R (requirement 5).

The Royal College of Radiologist provides guidance on training requirements for referrers. It is considered best practice that, where practicable, all referrers complete some form of local awareness training. NHS Lanarkshire should ensure its training includes:

- use of the electronic and paper referral system
- how to request, cancel or change a referral (electronic and/or paper)
- local procedures governing the use of IT, and
- how to access referral guidelines, including information on radiation dose (recommendation a).

The European Federation of Organisations for Medical Physics. Policy Statement No. 7.1 provides guidance on the roles, responsibilities and status of the medical physicist including the criteria for the staffing levels in a medical physics department. We were told the current provision of medical physics experts is equivalent to 0.25-0.5 of a full time role. NHS Lanarkshire and NHS Greater Glasgow and Clyde's health physics independently calculated the medical physics expert resource appropriate for NHS Lanarkshire using the European Guidelines on Medical Physics Expert and obtained a figure just less than 3 whole time equivalent staff. While there was no indication that the current resource was not sufficient, it was suggested that more could be accomplished if more resource was made available, such as further optimisation work (recommendation b).

Requirement 5

- NHS Lanarkshire must develop a procedure that details the continual education requirements for all who work within the scope of IR(ME)R.

Recommendation a

- NHS Lanarkshire should provide local awareness training for all referrers. Training should align to guidance issued by the Royal College of Radiologists, IR(ME)R Implications for clinical practice in diagnostic imaging, interventional radiology and diagnostic nuclear medicine.

Recommendation b

- NHS Lanarkshire should outline the medical physics expert resource required to meet the predicted service needs.

Appendix 1 – Requirements and recommendations

The actions that Healthcare Improvement Scotland expects the independent healthcare service to take are called requirements and recommendations.

- **Requirement:** A requirement is a statement which sets out what is required of a service to comply with the Regulations. Requirements are enforceable at the discretion of Healthcare Improvement Scotland.
- **Recommendation:** A recommendation is a statement that sets out actions the service should take to improve or develop the quality of the service but where failure to do so will not directly result in enforcement.

Domain 1 – key organisational outcomes	
Requirement	
1	NHS Lanarkshire must ensure its employer’s procedures demonstrate a structured mechanism for the review and formal approval of the scope of practice for non-medical referrers (see page 11). <i>Regulation 6(1)(a)</i> <i>Ionising Radiation (Medical Exposure) Regulations 2017</i>
Recommendations	
None	

Domain 5 – Safe, effective and person-centred care delivery	
Requirements	
2	NHS Lanarkshire must implement a quality assurance system to ensure all written procedures and protocols promote a consistent approach to service delivery, are up to date and support service quality (see page 18). <i>Regulation 6(5b)</i> <i>Ionising Radiation (Medical Exposure) Regulations 2017</i>

Domain 5 – Safe, effective and person-centred care delivery

Requirements continued

- 3** NHS Lanarkshire must update employer's procedure EP15 (Reporting of incidents involving unintended exposure; overexposure or underexposure of patients) to reflect current statutory criteria. It must demonstrate the process for deciding which incidents are clinically significant and detail the role of the clinicians (see page 18).

Regulation 8 (4biv)

Ionising Radiation (Medical Exposure) Regulations 2017

Recommendations

None

Domain 6 – Policies, planning and governance

Requirement

- 4** NHS Lanarkshire must update its employer's procedure to include the role of clinical audit for the private company that provides contracted radiology services. It should include what is to be audited and the frequency by the NHS board (see page 19).

Regulation 7

Ionising Radiation (Medical Exposure) Regulations 2017

Recommendations

None

Domain 7 – Workforce management and support

Requirement

- 5** NHS Lanarkshire must develop a procedure that details the continual education requirements for all who work within the scope of IR(ME)R (see page 21).

Regulation 6(3)(b)

Ionising Radiation (Medical Exposure) Regulations 2017

Domain 7 – Workforce management and support (continued)

Recommendations

- a** NHS Lanarkshire should provide local awareness training for all referrers. Training should align to guidance issued by the Royal College of Radiologists, IR(ME)R Implications for clinical practice in diagnostic imaging, interventional radiology and diagnostic nuclear medicine (see page 22).
- b** NHS Lanarkshire should outline the medical physics expert resource required to meet the predicted service needs (see page 22).

Complaints/Concerns

If you would like to raise a concern or complaint regarding any aspect of the inspection then please discuss this with the lead inspector in the first instance.

If there is a concern or complaint about the conduct of an inspector please contact Kevin Freeman-Ferguson, Head of Service Review, kevin.freeman-ferguson@nhs.scot in the first instance to discuss your concerns in more detail.

Alternatively, Healthcare Improvement Scotland has a complaint and feedback service that can be contacted directly. Details can be found on our webpage.

http://www.healthcareimprovementscotland.org/about_us/contact_healthcare_improvement/complaints.aspx

Our contact details are:

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