Ionising Radiation (Medical Exposure) Regulations Inspection (Announced)

Cardiff and Vale University Health Board: University Hospital of Wales, Diagnostic Imaging

Inspection date: 17/18 August 2021

Publication date: 19 November 2021

This publication and other HIW information can be provided in alternative formats or languages on request. There will be a short delay as alternative languages and formats are produced when requested to meet individual needs. Please contact us for assistance.

Copies of all reports, when published, will be available on our website or by contacting us:

In writing:

Communications Manager

Healthcare Inspectorate Wales
Welsh Government

Rhydycar Business Park

Merthyr Tydfil

CF48 1UZ

Or via

Phone: 0300 062 8163

Email: hiw@gov.wales

Website: www.hiw.org.uk

Digital ISBN 978-1-80391-332-2

Contents

Healthcare Inspectorate Wales (HIW) is the independent inspectorate and regulator of healthcare in Wales

Our purpose

To check that people in Wales receive good quality healthcare

Our values

We place patients at the heart of what we do. We are:

- **Independent**
- **Objective**
- **Caring**
- **Collaborative**
- **Authoritative**

Our priorities

Through our work we aim to:

Provide assurance:	**Provide an independent view on the quality of care**
Promote improvement:	**Encourage improvement through reporting and sharing of good practice**
Influence policy and standards:	**Use what we find to influence policy, standards and practice**

1. What we did

Healthcare Inspectorate Wales (HIW) completed an announced Ionising Radiation (Medical Exposure) Regulations inspection of The Diagnostic Imaging Department within The University Hospital of Wales on 17 and 18 August 2021. We visited the Diagnostic Imaging Department of the University Hospital of Wales during our inspection. This incorporated the:

- Emergency Department
- Paediatric Hospital (Children's Hospital of Wales)
- Main Department.

Our team, for the inspection comprised of two HIW Inspectors and a Senior Clinical Officer from the Medical Exposures Group of Public Health England, who acted in an advisory capacity.

HIW explored how the service:

- Complied with the Ionising Radiation (Medical Exposure) Regulations 2017 (IR(ME)R 2017)
- Met the Health and Care Standards (2015).

Further details about how we conduct Ionising Radiation (Medical Exposure) Regulations inspections can be found in Section 5 and on our website.

2. Summary of our inspection

Staff had a good awareness of their roles and responsibilities in line with IR(ME)R 2017.

There was very positive feedback provided from patients about their experiences when attending the department. We saw that arrangements were in place to promote privacy and dignity of patients and found that staff treated patients in a kind, respectful and professional manner.

Discussions with staff throughout our inspection provided assurances that arrangements were in place to ensure that examinations were being undertaken safely. However, a number of areas were highlighted in regards to ensuring the documentation required under IR(ME)R was in place, including making sure that written IR(ME)R employer's procedures accurately reflect clinical practice.

Overall, staff were happy with the level of support provided by the department leads. However, concerns were highlighted in relation to several instances of staff feeling there may have been discrimination in the workplace.

This is what we found the service did well:

- Patients who completed the survey were happy with the service provided
- The privacy and dignity of patients was maintained
- The department had considered the communication needs of the patients in the department
- A number of initiatives had been put in place to make the department an inclusive place for all patients
- Staff we spoke with were aware of their duty holder requirements under IR(ME)R 2017

- Effective infection, prevention and decontamination
- Good communication between department staff and managers
- Generally, staff comments in the survey were positive.

This is what we recommend the service could improve:

- Eliminate any potential areas of discrimination
- A number of areas were highlighted relating to ensuring that written employer's procedures accurately reflect clinical practice. There is also a need to remove duplication and ambiguity and add clarity to provide a more consistent and robust suite of employer's procedures as required under IR(ME)R
- The equipment inventory must be kept up to date
- Ensure the completion of mandatory training by staff within the required timeframes
- Annual appraisals for all staff.

3. What we found

Background of the service

Cardiff and Vale University Health Board was established on 1 October 2009 and provides primary, community, hospital and mental health services to the people of the counties of Cardiff and the Vale of Glamorgan. The health board as a whole provides these services to a population of around 505,000 people.

The University Hospital of Wales (UHW) is a 1,080 bed hospital located in Cardiff, it is the third largest university hospital in the UK and the largest hospital in Wales. The UHW site also houses a dental hospital and the Noah's Ark, Children's Hospital for Wales.

The Radiology Department at UHW, included radiology services within the emergency department and the Children's Hospital of Wales. The department equipment included diagnostic general radiography and mobile X-ray equipment, C-arm[1] mobile fluoroscopy and general fluoroscopy[2] equipment, dedicated interventional and cardiac catheterisation[3] equipment, computed tomography (CT)[4] scanners and dental equipment.

The department employs a number of staff including advanced practice reporting radiographers, radiographers, consultant radiologists, nurses, porters, radiology department assistants and administrative and clerical staff.

The department provides an out-of-hours service staffed by radiographers and radiology registrars and was also supported by a third-party provider providing

[1] A C-arm is an imaging scanner intensifier. The name derives from the C-shaped arm used to connect the X-ray source and X-ray detector to one another. C-arms have radiographic capabilities, though they are used primarily for fluoroscopic intraoperative imaging during surgical, orthopedic and emergency care procedures.
[2] Fluoroscopy is a type of medical imaging that shows a continuous X-ray image on a monitor, much like an X-ray movie.
[3] Involves insertion of a narrow tube into the heart through an artery to examine how well the heart is functioning.
[4] A CT scanner is a large, donut-shaped machine with a tunnel in the middle where the scanning takes place. A person lies on a flat table that slides in and out of the tunnel. Sometimes, the medical team may use pillows or straps to keep the person in the correct position, while the scan is taking place.

justification and clinical evaluation of out of hours CT scans. The department also has advice and support provided by Medical Physics Experts[5] (MPE) employed by RPS Cardiff, part of Velindre University NHS Trust.

[5] An MPE is a person having knowledge, training and experience to act or give advice on matters relating to radiation physics applied to medical exposure in diagnostic radiology, nuclear medicine and radiotherapy, whose competence in this respect is recognised by a competent authority. All employers who carry out medical exposures are required by IR(ME)R to appoint a suitable medical physics expert.

Quality of patient experience

We spoke with patients, their relatives, representatives and/or advocates (where appropriate) to ensure that the patients' perspective is at the centre of our approach to inspection.

There was very positive feedback provided by patients about their experiences when attending the department.

We saw that arrangements were in place to promote privacy and dignity of patients and found that staff treated patients in a kind, respectful and professional manner.

Information provided indicated that overall, there were adequate arrangements in place to meet the communication needs of patients attending the department.

HIW issued both online and paper surveys to obtain patient views on the Diagnostic Radiology Department at the hospital. In total, we received 101 responses (nine online and 92 paper surveys). The majority of the respondents agreed their comments could be published anonymously within our report. Not all respondents answered all of the questions.

Patient comments included the following:

> *"Really kind and understanding"*
>
> *"Staff very kind, caring and considerate"*
>
> *"Very happy to receive the service provided."*

Patients were asked in the questionnaire to rate their overall experience of the service. 95 of those that responded rated the service as very good or good. Almost all the patients who responded said it was very easy or fairly easy to find their way to the department.

We also issued an online survey to obtain staff views on the diagnostic imaging department at the hospital. In total, we received 59 responses from staff at the hospital. Not all respondents answered all of the questions.

We received responses from a variety of staff including radiographers, clerical staff, nurses and healthcare support workers. Staff had worked in the department from less than a year to more than ten years.

Staying healthy

Information was displayed in the department's main reception and patient waiting area on how patients could look after and care for their own health. The information available included advice on smoking cessation, alcohol awareness and healthy lifestyle. In addition, the “Having an X-ray” all-Wales poster, which included detail of the importance of informing staff if patients were or thought they may be pregnant was displayed. Similar posters were also displayed in the other two departments visited (emergency department and the paediatric department, within the Children’s Hospital of Wales).

Dignified care

During our time in the department we observed staff speaking to patients in a polite, sensitive and professional manner. Almost all of the patients who completed a survey said that they had been treated with dignity and respect by staff and all patients confirmed that they were able to maintain their own privacy, dignity and modesty during their appointments. 37 of the 39 staff who answered the question said patients’ privacy and dignity was always or usually maintained and two said it sometimes was maintained.

No sensitive staff and patient conversations were overheard within the main waiting room area. All patients who responded said they were asked to confirm their personal details before starting their procedure or treatment. Patients were greeted by reception staff and then the radiographer would collect them from the waiting room when ready. We did not overhear any sensitive conversations taking place within the department during our visit. 86% of the patients who answered the question said they were able to speak to staff about their procedure or treatment without being overheard by other people. 96% of patients said they were listened to by staff during their appointment.

Whilst we did not observe patients having their procedures, we saw staff greeting patients in a friendly manner. We were informed that doors to examination rooms were locked when examinations were being undertaken.

The department’s main waiting area had been reorganised to allow for social distancing between waiting patients. Signs were displayed on the chairs not to be used. The number of seats available within the department appeared appropriate for the number of patients attending during our visit. The secondary

waiting room immediately outside the examination rooms also had chairs arranged to ensure social distancing.

Changing rooms were available for patients who were required to remove their clothing prior to their procedure. Changing rooms were also available in the paediatric department, including baby changing rooms. There were also gender neutral toilets available in the main department waiting room.

Patient information

As previously detailed, we saw evidence of posters displayed within the department waiting area, which included information on the benefits and risks of the radiation exposure involved in the examinations undertaken.

There was an employer's procedure in place that described how the benefits and risks of an exposure to ionising radiation should be communicated to patients. This procedure set out that the information that should be given to the patient in a format that could be understood, i.e. the radiation quantified in terms of days of background radiation received. This should also include the benefit of having the examination and making the right diagnosis or the correct treatment choice outweighing the risk associated with the exam. Each X-ray room had a list of examinations and the corresponding days and months of background radiation to which they were equivalent. We identified that this employer's procedure could be improved by including the following details:

- What information will be provided
- Who will provided the information
- The forms of communication to be used
- How staff access support if additional information is required
- How the method and level of communication reflects the risk
- What to do when there are different communication challenges
- Situations when the benefit and risk communication will not be provided.

Staff we spoke with confirmed that verbal discussions with the patient routinely took place prior to procedures, regarding the benefit and risk of the exposure. From the patient questionnaires 93 percent of patients who responded to the questionnaires said that they had received clear information to understand the benefits and risks of their treatment options. Additionally, a further 97 percent, said that they felt that they had been as involved as much as they wanted to be

in relation to decisions about their examination/treatment. From the staff questionnaires, all staff, bar two, said they were always or usually involved in decisions about their patient's care. The other two said they were sometimes involved.

83 percent of patients confirmed that they had been given information on how to care for themselves following their examination and 97 percent of staff said they were always or usually satisfied with the quality of care they gave to patients.

Improvement needed

The health board must ensure that the benefits and risk employer's procedure is updated as described in the body of the report.

Communicating effectively

We noted that a hearing loop was available in the main waiting room area on the reception desk. The receptionist described how the equipment worked and confirmed that it was occasionally used by patients visiting the department.

There was bilingual information and posters displayed in the department. Signage to the department was in both Welsh and English. There was also a Welsh language sign displayed on a clear screen at the reception desk. The notice advised patients that they could speak in Welsh to staff whenever they saw the Cymraeg emblem on staff uniforms. Also, the sign stated that the department would do their best to offer care in the patient's preferred language, although this may not always be possible. This sign was also seen in other waiting room areas visited.

All patients who responded to the relevant question on the questionnaire said they were able to communicate with staff in their preferred language. Additionally all patients said healthcare information was available in their preferred language. Staff we spoke with said that the Welsh speaking staff wore relevant lanyards and this was also on the staff uniforms. They also stated that appointment letters

were sent out bilingually informing the patient to ask if they needed a Welsh speaker. We were also told about the 'Active Offer'[6].

The radiology information system (RIS)[7] was used to record information on patient needs. When the procedure was scheduled, relevant adjustments were made such as for hard of hearing patients, using lip reading and writing information down. If patients could not speak English a translation service was used over the telephone.

We were also told that the health board had introduced a number of initiatives to help patients, these included:

- The Royal National Institute for the Blind (RNIB) had run training courses for the health board
- Waiting rooms had been designed in conjunction with the RNIB and dementia bodies, with appropriate colours
- A book with different languages for first aid was available
- One member of staff has been presented with a staff recognition award for promotion of the Welsh language in the department.

Timely care

Staff we spoke with said that if there were any delays they would inform the main reception desk. We spent some time in the main reception observing the patients and the area. Whilst we did not hear patients being told of waiting times by reception staff on arrival to the department there were no patients observed waiting longer that 10 minutes to be seen. Only two of the 82 patients that responded to the question on the questionnaire said they had to wait over 30 minutes.

---

[6] An 'Active Offer' simply means providing a service in Welsh without someone having to ask for it. The Welsh language should be as visible as the English language.

[7] A radiological information system (RIS) is the core system for the electronic management of imaging departments. The major functions of the RIS can include patient scheduling, resource management, examination performance tracking, reporting, results distribution, and procedure billing. RIS complements HIS (hospital information systems) and PACS (picture archiving and communication system), and is critical to efficient workflow to radiology practices

The vast majority of patients who responded to the questionnaire stated that it was at least fairly easy to make an appointment.

Patients' Rights

We spoke with members of staff, including senior staff, and they said that the health board had values and a mission statement to treat everyone fairly. The radiology areas were wheelchair accessible, with staff speaking a number of different languages. Senior staff said there was an open door policy and that they worked with staff on health board values, including equality impact assessments.

The vast majority of patients said they felt they could access to the right healthcare at the right time, regardless of any protected characteristics[8]. Two patients said they had faced discrimination when accessing or using this health service. This area is discussed further later in this report.

Individual Care

Listening and learning from feedback

Staff told us that on the occasions where verbal concerns were raised by patients, attempts were made, where possible, to speak with the patient immediately to try to help resolve any issues or concerns quickly and efficiently. Where this was not possible, we were told that patients were signposted to the concerns process.

Half of the staff respondents reported they did not know whether patient / service user experience feedback was collected within their directorate or department. Similarly over half the staff respondents said they did not receive regular updates on patient and service user experience feedback in their directorate or department. Additionally, the majority of staff who responded to the questionnaire said they did not know if feedback from patients or service users was used to make informed decisions within their directorate or department. We were told by management that feedback would be given to patients of the results of any survey. However, there had not been any patient satisfaction surveys in the last

[8] Protected characteristics are specific aspects of a person's identity defined by the Equality Act 2010, age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex and sexual orientation). The 'protection' relates to protection from discrimination.

18 months due to COVID-19, which we confirmed with the patient experience team.

Information leaflets and a poster were available within the department with regards to the all Wales NHS complaints procedure, known as Putting Things Right (PTR)[9]. Bilingual information leaflets were also displayed in the waiting area relating to the Community Health Councils[10].

Improvement needed

The health board must ensure that staff understand how patient feedback is used to make improvements.

[9] 'Putting Things Right' (PTR), is the integrated process for the raising, investigation of and learning from concerns. Concerns are issues identified from patient safety incidents, complaints and, in respect of Welsh NHS bodies, claims about services provided by a Responsible body in Wales.

[10] CHCs are the independent voice of people in Wales who use NHS services. They are made of local volunteers who live in the communities they serve. They are supported by a small group of paid staff.

Delivery of safe and effective care

We considered the extent to which services provide high quality, safe and reliable care centred on individual patients.

Following detailed discussions with senior staff assurance was provided that clinical practice appeared safe and generally the statutory requirements of IR(ME)R were understood. However, this was not reflected in the employer's procedures which are a legal requirement under IR(ME)R.

Staff we spoke to could demonstrate an awareness of their IR(ME)R responsibilities. However, a number of areas were highlighted, relating to ensuring that written procedures accurately reflect clinical practice.

Information provided indicated that adequate arrangements had been implemented by the service to allow for effective infection prevention and decontamination within the department.

Discussions with staff throughout our inspection provided assurance that arrangements were in place to ensure that examinations were being undertaken safely.

Compliance with Ionising Radiation (Medical Exposure) Regulations

Prior to our inspection, HIW required staff at a senior and department level to complete a self-assessment form (SAF). This was to provide HIW with detailed information about the department and the employer's key policies and procedures in place, in respect of IR(ME)R 2017. This document was used to inform the inspection approach. We noted that there were a number of procedures with duplication. The procedures also lacked clarity and required further information for staff to follow. We spoke with staff in detail about the content of the SAF and we were assured that generally there was an understanding of IR(ME)R requirements but this was not reflected in the documented employer's procedures. Clinical practice appeared safe but this needed to be reflected in the employer's procedures (EPs). The format and information needed to be reviewed to provide 14 clear EPs as required by

IR(ME)R[11]. This should include the detail from the 'Implications for clinical practice in diagnostic imaging, interventional radiology and diagnostic nuclear medicine'[12], for staff to follow.

The 'Exposure of patients to ionising radiation procedure' is the organisation's overarching policy providing a general description of what will be done for patients around the use of ionising radiation. It was generally a clear and an unambiguous document. Below this high level radiation safety policy should sit the 14 employer's procedures (EPs), required under IR(ME)R. These procedures should provide clear processes for staff to follow. Work instructions and standard operating procedures (SOPs) if required sit g beneath the EPs. Duplication of information and processes should be avoided by including hyperlinks, or written links and not repeating processes across multiple documents.

Duties of employer

Patient identification

The employer had a procedure for staff to follow to correctly identify patients prior to their exposure. This was to ensure that the correct patient had the correct exposure, in accordance with the requirements of IR(ME)R 2017. The procedure set out that staff were expected to confirm the patient's full name, date of birth and home address.

Staff we spoke with were able to describe the correct procedure to identify patients prior to any examinations. Additionally, all patients who responded to our survey said that they were asked to confirm their personal details prior to the examination. The patient records that we reviewed confirmed that these details were checked and recorded on the documentation. Further clarity is required in the employer's procedure as to how the person responsible for the ID checking

[11] Schedule 2 of the IR(ME)R 2017 requires that the employer's written procedures for exposures must include procedures in 14 different areas as listed in the schedule.

[12] This guidance seeks to explain how the requirements of the regulations should be interpreted and used in practice. It explains the principles and requirements of IR(ME)R, providing clinical scenarios to enable practical interpretation of the regulations. https://www.rcr.ac.uk/system/files/publication/field_publication_files/irmer-implications-for-clinical-practice-in-diagnostic-imaging-interventional-radiology-and-nuclear-medicine.pdf

process can be identified and for situations where there is more than one operator involved in an examination.

Individuals of childbearing potential (pregnancy enquiries)

The employer had a written procedure in place in relation to the process for establishing whether an individual of childbearing age maybe pregnant or breastfeeding, prior to undergoing an examination. This procedure aimed to ensure that such enquiries were made in a standard and consistent manner.

The procedure set out the process that staff should follow depending on the responses. Details included the age range of patients who should be asked about pregnancy or breastfeeding, which was between the ages of 12 and 55.

We also noted that posters were displayed within the department advising individuals to speak with staff if they either were or thought they may be pregnant. This was important to minimise potential harm to an unborn child from the exposure to ionising radiation.

Staff we spoke with were able to describe their responsibilities in regard to the pregnancy enquiries, which were in line with the written employer's procedure described above. As part of our inspection, we reviewed a random sample of patient records. There was evidence, from the sample of records checked, to indicate the relevant checks had been carried out and recorded by staff.

Non-medical imaging exposures

We were provided with a number of procedures to cover the requirement of IR(ME)R to have an employer's procedure for carrying out non-medical imaging (NMI)[13] exposures. However from the detail provided in the SAF it was stated NMI exposures related to clinical trials which under IR(ME)R are not classified as non-medical imaging exposures. During discussions, with senior staff it was evident that non-medical imaging exposures do not appear to be fully understood. The employer should provide an employer's procedure describing the processes to follow for the non-medical imaging exposures performed in the health board, reflecting the correct detail for this area of imaging. More detail is

[13] Non-medical imaging exposures include those for health assessment for employment purposes, immigration purposes and insurance purposes. These may also be performed to identify concealed objects within the body.

required on how NMI is identifed, who can refer for NMI, who justifies and authorises these referrals and how these exposures are optimised for each class of NMI exposure performed. References to clinical trials and post mortem imaging should not be included in this employer's procedure.

Referral guidelines

The referral guidelines used by the employer were the Royal College of Radiologist (RCR) iRefer[14] publication, which set out the referral guidelines and also provide an indication of the radiation dose for referrers wanting to refer a patient for imaging. In specific instances national guidelines were used, and staff explained both were available on the health board intranet site. There was also a community health pathways portal which contains referral guidelines for those GPs who have access to the portal.

There were written procedures in place in relation to referrals and referral guidelines for individuals to follow. Information included within the document set out that referrals were accepted from entitled referrers on condition that it was in accordance with the set guidance for referral to the department. The information required included the relevant patient details, the referrer identity and signature, the examination required and significant medical data to justify the exposure. However, this procedure needs to be updated to contain the appropriate information for staff to follow and read as a work instruction rather than an IR(ME)R procedure.

We were told that referrals were made via the health board radiology paper request form. With the exception of plain film and emergency requests these had to be submitted to the radiology department in advance. Again with the exception of plain film[15], which had to be justified at the time of appointment, all requests had to be justified prior to booking an appointment.

[14] iRefer is widely accepted as a major tool to promote evidence-based imaging. iRefer evaluates clinical evidence from diverse sources and uses a network of clinical experts to validate information. It reflects current best practice.

[15] Plain film X-ray is the most common diagnostic radiological modality used in hospitals. Plain film imaging uses X-rays to produce an image of the bones, lungs or teeth to aid in diagnosis. The information produced is saved like a photograph which can then be reported by a Radiologist or specially trained Radiographer.

A random sample of referrals were reviewed as part of the referral documentation check and both current and retrospective checks of a number of random theatre referrals evidenced a referral form from the clinician.

The management of non-medical referrers appeared to be structured and effective.

Improvement needed

The health board must update all procedures to ensure that:

- There is one clear, unambiguous procedure for staff to follow relating to each of the 14 employer's procedures required by IR(ME)R 2017
- Each procedure should include information provided in the IR(ME)R guidance
- All other documentation should not duplicate content from the employer's procedures but refer to the content of the source document or contain hyperlinks to these documents
- The employer's procedure relating to non-medical imaging reflect the correct IR(ME)R classification of these exposures and required information as detailed in the body of the report. Reference to clinical trials or post mortem exposures should not be included in the NMI Employer's procedure
- The employer's procedure reflects how the person responsible for the ID process can be identified and for situations where there is more than one operator involved in an examination
- There are written procedures in place in relation to referrals and referral guidelines for individuals to follow.

Duties of practitioner, operator and referrer

The employer had a system in place to identify the different types and roles of the professionals involved in referring and performing radiology examinations for patients. The EP on how IR(ME)R 2017 was implemented within the department

identified, by staff group, who were entitled to be referrers[16] practitioners[17] and operators[18] (known as duty holders).

The health board's Ionising Radiation Risk Management Policy gave a commitment to ensure all managers and staff were aware of their roles in the safe use of ionising radiation. All clinical board directors were informed of the requirement for referrers to be entitled and the responsibilities associated with duty holder entitlement.

The health board as the employer, delegated the task of entitling duty holders to managing professional post-holders familiar and experienced in the area of practice. The chain of entitlement was seen. The entitlement from the Chief Executive Officer (CEO) to the individual referrer duty holder, was given and agreed through a letter of entitlement which defined their scope of entitlement. The CEO delegated the task of entitlement through various prescribed routes and we saw evidence of the entitlement matrix during the inspection.

Staff we spoke with had a clear understanding of their relevant duty holder roles and scope of entitlement under IR(ME)R. Staff confirmed that they were able to access up to date electronic versions of policies and procedures via the health board online shared drive. We were told that all staff had computer access within the department.

Senior staff described the system for notifying department staff of any changes to policies and procedures within the department. This involved individual staff members being provided with details of any reviewed and updated documents. Staff were then asked to confirm that they had reviewed and understood the relevant changes, a record of which was subsequently made and retained. Staff we spoke to confirmed they were aware of the system in place.

[16] Under IR(ME)R a referrer is a registered healthcare professional who is entitled, in accordance with the employer's procedures, to refer individuals for medical exposures.
[17] Under IR(ME)R a practitioner is registered healthcare professional who is entitled, in accordance with the employer's procedures, to take responsibility for an individual medical exposure. The primary role of the practitioner is to justify medical exposures.
[18] Under IR(ME)R an operator is any person who is entitled, in accordance with the employer's procedures, to carry out the practical aspects of a medical exposure.

Justification of Individual Medical Exposures

Staff we spoke with had an understanding of the justification process. There was a document that would be considered as an employer's procedure for the justification and authorisation of medical exposures. We noted that this would benefit with being updated to make it clearer. This should include the need for authorisation guidelines to be provided by a named practitioner who retains responsibility for every exposure authorised under the guidelines they have issued. We were told that there were number of radiographers who authorised CT referrals under authorisation guidelines. These guidelines were evidenced in the CT department, but they did not identify a named practitioner. Whilst the radiographers knew who this individual was and could name them, these authorisation guidelines need to clearly identify the individual practitioner for all those referrals authorised by the radiographers under the authorisation guidelines. Senior staff stated that within the CT documentation the authorisation practitioner was named within the document but the document had not been signed by the practitioner.

Discussions were held with senior managers relating to carers and comforters. There was a procedure in place relating to the exposures of carers and comforters. We were told that the practitioner for the patient exposure would also act as the practitioner for the carer and comforter exposure for general X-ray examinations. In justifying the exposure of the carer and comforter the practitioner must also satisfy themselves that the patient truly requires the close support of another individual for the examination to take place successfully. The employer's procedure would benefit from more clarity and detail relating to checking pregnancy status of carers and comforters, if the carer or comforter is under 18 or not and ensure that this information is recorded.

Improvement needed

The health board is to ensure that:

- The authorisation guidelines must be signed by the practitioner. This is in addition to naming the one individual who will be the practitioner for all those referrals authorised by the radiographers under their guidelines
- The employer's procedure includes more clarity and detail relating to checking pregnancy status of carers and comforters, if the carer or comforter is under 18 or not and ensure that this information is recorded.

Optimisation

The employer had arrangements in place for the optimisation[19] of patient exposures. We were informed that optimisation was completed with the support and advise the[20] MPE. Annual reports for equipment quality assurance were provided by the radiation protection supervisor and any actions were acted upon. There was also a quarterly image optimisation team[21] (IOT) meeting with ongoing projects across modalities. The MPEs participate in the IOT meetings, offering advice, support and improvement ideas to on-going projects. We noted that the MPEs undertook patient radiation dose audits. The interpretation of findings of these dose audits and the preparation of recommendations were made for consideration at the IOT meetings.

For paediatric patients, there was evidence of the arrangements and specific exposure settings that were being used to provide assurance that exposures to children were optimised. Paediatric protocols were weight based, which we noted as an example of good practice.

Diagnostic reference levels (DRLs)

The process for establishing DRLs was described and this involved a collaboration with the Radiation Protection Service (RPS) Image Optimisation Teams and the Radiation Protection Supervisors. On a three yearly cycle the dose data recorded on the RIS is extracted and used to set local diagnostic reference levels for the most common imaging examinations. This process was also repeated when new equipment was installed following completion of a set number of examinations or a set time period.

We saw evidence of DRL charts in the ED X-ray rooms we viewed and the CT scanner control room. There were lists of local DRLs and National DRLs and staff explained how and when each of these values were used.

---

[19] Optimisation refers to the process by which individual doses are kept as low as reasonably practicable.

[20] The Radiation Protection Adviser is a requirement of the Ionising Radiations Regulations 2017 (IRR17) which deals with the safe and compliant use of all sources of ionising radiation (sealed and unsealed radioactive sources and all forms of electrically generated ionising radiation).

[21] A radiographer, radiologist and medical physicist working together to consolidate expertise in order to consistently optimise all examinations using all examinations using ionising radiation, including CT scans for dose and image quality.

Staff were required to compare doses to the DRLs provided and document those exams that exceeded local DRLs on average sized patients. We were told these records are regularly checked by the RPS and any anomalies reported to the site lead radiographer and onward to the MPE where appropriate.

We observed that information and guidance on DRL management is currently included across multiple documents. To avoid duplication and to make it easier for staff to read and follow, these should be consolidated into a single employer's procedure.

Paediatric DRLs

The diagnostic imaging of paediatric patients was carried out in a specialised area in the Children's Hospital of Wales, which was included as part of diagnostic imaging inspection. Senior staff explained that European DRLs were used in the children's hospital if local DRLs were not available for a particular examination. In this area, the European DRLs were listed alongside the local DRLs as they were based on patient weight.

We also considered that a lot of thought had gone into the paediatric imaging area of the Children's Hospital of Wales, to make it a children friendly area.

Clinical evaluation

There was a procedure in place which described the process regarding clinical evaluation. The statement of intent stated that all medical exposures must have an evaluated outcome which would be made available to the referrer and any other staff involved in that individual's care.

The SAF stated that clinical evaluation was usually undertaken by a radiologist, radiology registrar or appropriately trained radiographers working within a defined scope of practice and entitled as an operator for this task. The employer's procedure requires updating to include more detail and clarity on the following issues:

- Who provides the clinical evaluation
- Where the evaluation is recorded
- What happens when the evaluation occurs outside of radiology (for every location where this might take place)
- How training is provided to staff carrying out clinical evaluation

- How the operator carrying out the task of evaluation identified and entitled
- The process for unexpected findings.

Regular audits were performed to identify any unreported examinations and senior managers in each modality ensured these examinations were subsequently reported in a timely manner.

We carried out a retrospective review of the patient referral documentation, held in the department. We noted that there was evidence that a formal radiology evaluation had taken place on the documentation seen.

Improvement needed

The employer is to ensure that:

- There is only one employer's procedure for DRLs. All references to DRLs in other documents should refer to this document to avoid duplication.
- The employer's procedure is updated to include more detail around who provides the clinical evaluation. This is to include the areas described in the main body of the report such as where the evaluation is recorded and what happens when the evaluation happens outside of radiology for each area this takes place.

Equipment: general duties of the employer

The employer had an inventory (list) of the equipment used within the radiology department. The inventory contained the information required under (IR(ME)R 2017. However, from our enquiries we were told that there was a mini C-arm[22] in orthopaedics that had yet to be added to the equipment inventory. We were told that this equipment was hired at short notice and only arrived onsite a few days before the on-site inspection.

[22] A mini C-Arm is an X-Ray machine that scans a specific body area, usually the upper body, while allowing clinicians to view the results in real time, live on the monitor screen during surgery.

There was an employer's procedure in place in relation to quality assurance (QA) of equipment.

Following our review of the employer's procedure for QA of equipment it was highlighted that the document would benefit from further review and updating. This should include appropriate information, some of which was included in the SAF and taking into account inclusion of the detail described in the IR(ME)R guidance.

We were also told that a robust QA programme was carried out monthly by radiographers, supported by an annual Radiation Protection Service Level B testing on all equipment.

Improvement needed

The employer must ensure that:

- The employer's procedure is updated to include appropriate information, some of which was included in the SAF and takes into account inclusion of the detail described in the IR(ME)R guidance
- The equipment inventory is up-to-date and includes the mini C-arm referred to above and any other equipment in use not listed.

Safe care

All respondents to the staff questionnaire said their organisation always or usually has the right information to monitor the quality of care across all clinical interventions and took swift action when there are shortcomings. Also all respondents said they were always or usually content with the efforts of their organisation to keep them and patients safe.

Almost all staff who completed the questionnaire agreed that the care of patients or service users was the organisation's top priority with only one who disagreed. All respondents, who expressed an opinion, said that the organisation acted on concerns raised by patients or service users. All staff bar one, who expressed an opinion, said they would recommend their organisation as a place to work. 96 percent of staff agreed they would be happy with the standard of care provided by their organisation for themselves or for friends or family.

Managing risk and promoting health and safety

Those we spoke with stated that there was level access throughout the department with wide doorways to allow access for patients with mobility issues.

The department was well signposted on the main corridor. The department was well maintained and areas seen appeared clean and were free from clutter. We also noted that the CT scanner room viewed was clean and bright. There were an appropriate number of chairs for the patients who visited the department to use, during the time our observations were carried out.

Arrangements were in place to promote the safety of staff, patients and visitors. For example, appropriate signage and restricted access arrangements were in place to deter and prevent unauthorised persons entering areas where radiology equipment was being used.

Most staff who completed the questionnaire agreed that their organisation encouraged them to report errors, near misses or incidents. All but three of the respondents agreed the organisation would treat reports of an error, near miss or incident confidentially. The vast majority agreed that the organisation would not blame or punish the people who were involved in such incidents.

Infection prevention and control (IPC)

We asked a series of questions in the staff questionnaire relating to COVID-19 compliance, the responses included:

- 93 percent of respondents agreed their organisation had implemented the necessary environmental changes
- 95 percent agreed their organisation had implemented the necessary practice changes
- 85 percent agreed there had been a sufficient supply of personal protective equipment (PPE)
- 95 percent agreed there were decontamination arrangements for equipment and relevant areas.

The majority of staff who completed the questionnaire, and all the staff we spoke with, said they always or usually had adequate materials. This included supplies and equipment to do their work and enable them to follow IPC procedures. We were told that there was an IPC link practitioner in each modality and that audits were conducted on hand hygiene, bare below the elbow and cleaning procedures. Additionally, the health board IPC team visited to view the department and to provide support as required. One member of staff commented in the questionnaire:

"At times there have been issues with FFP3 mask supply in that the models changed frequently earlier in the pandemic and at times not all styles of mask were available to fit all people."

Senior staff stated that alternative size masks were sourced where possible and if the required FFP3 mask was not available, the staff would not enter aerosol generating procedure areas. They stated that consideration of sizes for all staff was made, including the purchase of individual respiratory hoods where no masks fitted appropriately. We were told that all PPE was ordered by the nursing team, who ensured an adequate stock was kept. Staff told us that there was a lot of training provided on the donning and doffing[23] of PPE and that this training was also provided to new staff as well as there being posters in the clinical room.

The sample of staff training records reviewed indicated that all staff were up to date with IPC training at the time of our inspection.

Staff we spoke with said that on all face to face procedures with patients, they were required to wear full PPE (that is, masks, gloves, apron and visor). Additionally, all patients wore full PPE. Most patients seen were not COVID-19 positive and following the procedure, the area was cleaned with disinfectant wipes. If there was a patient seen who was COVID-19 positive, then additional techniques were used to clean the area thoroughly.

When the inspection team toured the department, all areas appeared to be clean and in a good state of repair. Hand washing facilities were available within the examination rooms visited as part of the inspection. Hand sanitiser was available in waiting room areas and PPE was seen in examination rooms visited.

Clear plastic screens had been installed on the reception desks in the department areas visited to protect patients and staff. There was signage on the floor to remind patients to keep a social distance. Within the department area there were also signs on the floor to remind patients and staff to keep left when walking through the department.

[23] Donning – putting on personal protective equipment (PPE); Doffing – taking off personal protective equipment (PPE)

Signs displayed within the department included the need for patients to wear face masks and to sanitise their hands, and there was detail on the importance of not attending the unit if they had any symptoms of COVID-19. Additionally, there was a sign stating that only patients were permitted to go past the reception area, unless there was an escort or carer required.

All the patients who completed the questionnaire said the setting was clean and all almost all patients said there was evidence of COVID-19 complaint procedures during their visit.

Safeguarding children and adults at risk

Staff we spoke with described the action they would take, should they have any safeguarding concerns. We were informed that safeguarding guidance and support was available on the health board intranet page. We were also informed that all staff were required to complete mandatory online training. The sample of staff training records reviewed indicated that all staff were up to date with safeguarding training at the time of our inspection.

Effective care

Quality improvement, research and innovation

Clinical audit

Information was provided to demonstrate compliance with IR(ME)R 2017 with regard to IR(ME)R audit. Evidence was provided of the audits already completed this year, as well as the audits scheduled for the remainder of the year.

There was a procedure in place in relation to clinical audit. Evidence was provided on three audits which were examples of good topics to audit and of the changes in practice that were made following the results. Staff also described how it was intended to re-audit those changes. Additionally, they described how audit meetings were now held via online meetings, which meant more staff could be involved. This was considered as an example of a strong culture for clinical audit. We also noted there was a culture of audit across radiology in the health board. From the evidence seen, this was multi-disciplinary, with all staff groups involved.

Expert advice

There were three MPEs employed under a service level agreement (SLA) with the Radiation Protection Service (RPS) based in Cardiff. The department had

checked that the MPEs were listed on the approved list for Radiation Protection Advisors (RPA 2000), the certification body for MPEs.

As stated above, we were told that the MPEs participate in the IOT and offer advice, support and improvement ideas to on-going projects. The IOT role and remit was describe by senior staff; the team had been formed and meeting regularly for a number of years. The MPE attended these multidisciplinary meetings which had staff for all the diagnostic modalities attending. It was noteworthy that this optimisation team was in place and functioning.

The MPE and equipment quality assurance (QA) sections of the SAF were comprehensively completed answering the questions asked clearly. Documentation provided to the inspection team prior to inspection on these areas was reviewed and they were current, clear and unambiguous. The RPS SLA was comprehensive and clearly stated what was expected of the contract. The QA performed by radiographers had been developed with the MPEs and documents provided prior to inspection, including spreadsheets, were well completed and clear.

There was also evidence noted of good communication between the department and the MPEs and also that the MPEs were visible with the department.

Medical research

The SAF provided stated that the department did participate in research and two similar procedures were provided relating to clinical trials. Whilst the process explained was clear to follow, there should only be one employers procedure relating to clinical trials. This employers procedure should contain the information from the SAF provided, which was clearly explained and written.

Improvement needed

The employer must ensure that there is only one employer's procedure relating to clinical trials and it is updated to include the detail provided in the SAF.

Record keeping

We reviewed a sample of patient care records. All the records we saw had been completed with appropriate details by those staff involved in the exposure. This included the recording of the relevant entitled practitioner details to demonstrate that exposures were being justified.

Quality of management and leadership

We considered how services are managed and led and whether the workplace and organisational culture supports the provision of safe and effective care. We also considered how the service review and monitor their own performance against the Health and Care Standards

The department was being well managed and comments from staff indicated that they felt supported by senior staff within the department. It was clear from our inspection that there was a good rapport between department staff and senior managers.

Staff were able to describe the process to report any significant accidental or unintended exposures well.

Generally staff comments to the survey were positive.

However, we were concerned to find that several members of staff, who completed our survey, said that they had faced discrimination at work within the last 12 months. Additionally, several staff said that there was not fair and equal access to workplace opportunities.

The percentage of staff who had completed the mandatory training and the number of staff who had received an annual appraisal could be improved.

Governance, leadership and accountability

We spoke with three members of staff and three senior managers about items relating to health and care standards. Senior managers confirmed that they worked with, and involved staff, at every opportunity. Information was normally shared between management and staff by various methods including emails, social networking groups, newsletters and staff noticeboards. Staff were required to confirm they had read and agreed up to date written procedures relevant to their practice with a signature. Staff awareness of current procedures was also

confirmed as part of the values based appraisals (VBA)[24] and induction process. Management said that they ensured staff complied with procedures through regular audits and observations of practice.

Senior staff in the department who we spoke with said that whilst there was a values based appraisal process within the department, due to COVID-19 there has been a delay. We were told that staff had been assigned to complete the appraisals and monitor staff and they believed that all staff have received an appraisal in the last 15 months. We asked staff in the questionnaire about their annual review or appraisal; only two thirds of staff said they had received an appraisal within the last 12 months. Of those staff who had received an annual review or appraisal, 73 percent said it identified their learning needs and 84 percent said their manager supported them to receive training and development.

Senior staff stated that the low numbers of VBAs were contained to one staff group and that new management procedures were now in place which would address this.

Staff said that senior managers (from outside the department) were not as visible as they could be in the department. However they felt that staff were encourage to develop their areas of practice and there were regular bulletins sent out by the CEO. Staff said they were made aware of reviews and amendments of the written procedures and protocols in place through emails, noticeboards and through the quality management system known as Q-Pulse. The act of opening the email was also used as proof of reading.

The SAF was returned to HIW within the agreed timescale. Whilst we did highlight a number of discrepancies in the responses provided, in the majority of areas highlighted, staff were able to provide the additional information or clarification promptly.

Improvement needed

The health board must ensure that processes are put in place to ensure that value based appraisals are completed for all staff in a timely manner and that

[24] Undertaken to ensure that staff development was enhanced and opportunities created in relation to professional development, leadership and clinical skills.

this compliance is maintained to ensure staff are aware of the requirements to perform their duties and maintain their development.

Duties of the employer

Entitlement

The system described by staff for entitlement and details provided in the SAF were clear. However, as previously described this did not reflect what was written in the employer's procedures. This included the delegation of the task and the process by which named individuals or groups of individuals were entitling to act as referrers. This was also evidenced on the entitlement matrix.

Five staff records were chosen at random from the entitlement matrix and their training records provided for the inspection team to review. All appeared up to date and with assessor and trainee having signed the competencies and all dated. Additionally, the matrix showing the local entitlement documentation for orthopaedic surgeons using a mini C-arm was seen and the detail was good.

The entitlement process was described in different places in the documentation and as described above, there is a need for clarity and evidence around this area. One EP is required containing all the detail around entitlement, delegation, training requirements and the process for entitlement.

Procedures and protocols

Staff we spoke with as part of our inspection confirmed that they had access to up to date versions of the policies and procedures. Also, senior staff confirmed that when any changes to documents occur, notifications were circulated to department staff, who were subsequently asked to confirm that they had read and understand the relevant changes.

There was a written procedure for QA programmes relating to written procedures and protocols and this was also explained in the SAF. The employer's procedure we reviewed needs to be updated to include management comments in the SAF such as the use of a standard template, version control and the locking of documents so they cannot be changed remotely.

As highlighted previously, following review of the required IR(ME)R employer's procedures in place, we did highlight those which were lacking the required level of detail and clarity for staff to follow. During discussions with staff, we were provided with assurances on the practice being carried out. However, on a number of occasions the practice described did not reflect the detail included within the associated written employer's procedure. Whilst the SAF and staff

discussions provided a good level of detail on the process of entitlement this needed to be repeated in the corresponding EP.

Significant accidental or unintended exposures

The employer had two documents, one relating to Investigating and Reporting Significant Accidental or Unintended Exposures/Clinically Significant Accidental or Unintended Exposures. The other document was a Standard Operating Procedure for Incident Management in Radiology, as a whole, not just IR(ME)R incidents. The two documents provided as IR(ME)R employer's procedures required updating and inclusion of information. Staff were able to describe the process to the inspectors but the documentation did not reflect what happens in practice or what is required in an employer's procedure.

We were told that all incidents were recorded on Datix, the electronic incident system within the health board. A full root cause analysis report would be completed for each reportable incident. Additionally, those considered non-reportable and near misses were investigated. Any actions required, would be implemented to reduce the risk of reoccurrence. Also, in the last few months the department had developed a new template so that all non-reportable and near misses incidents were fed back to staff and reported through the safety and quality meetings. To ensure a consistent approach, a coding taxonomy[25] was used. The database demonstrated to the inspection team was a clear way of managing the coding and analysis. Senior staff also described that they shared some incidents across an All Wales radiology group to QA and to ensure they were all coding the same way for consistency.

The process for recording and analysing significant accidental or unintended exposures, including near-misses was described well in the SAF. However the associated documentation did not reflect the detail in the SAF or the processes staff described to the inspectors.

Staff we spoke with were aware of the procedure for reporting and investigating accidental or unintended exposures and other incidents. Management we spoke with that there would be a root cause analysis or local investigation into any incident. Situation-Background-Assessment-Recommendation (SBAR) was

[25] the study of the general principles of scientific classification

used to learn from incidents and staff were made aware that the investigations were open and transparent. We were told that staff received risk assessment training and that safety alerts were shared with staff via email including actions required. A record of all safety alerts received and list of actions taken is located on the shared drive.

Eleven members of staff who responded to the questionnaire said they had seen an accidental or unintended exposure incident affecting staff within the last month. Eight members of staff said they had seen an accidental or unintended exposure incident affecting patients in the last month. Just under half the respondents said they had seen patient safety errors, near misses, or incidents in the last month. The majority of respondents agreed the last time they saw an error, near miss or incident, it was reported.

The majority of respondents agreed staff who are involved in an error, near miss or incident were treated fairly and that were informed about errors, near misses and incidents that happened in the organisation. They also agreed that they were given feedback about changes made in response to reported errors, near misses and incidents.

All staff who responded said that if they were concerned about unsafe clinical practice, they would know how to report it and the majority said that they would feel secure raising concerns about unsafe clinical practice. Again the majority said that they were confident that their organisation would address their concerns. Only one member of staff said that front-line professionals who deal directly with patients, were not sufficiently empowered to speak up and take action if they identified issues in line with the requirements of their own professional conduct and competence. Again one member of staff stated that there was not a culture of openness and learning within the organisation that supported staff to identify and solve problems.

Improvement needed

The employer must ensure that:

- Actions are taken to significantly reduce the numbers of accidental or unintended exposures of staff and patients
- The entitlement process is clearly explained in one EP containing all the detail around entitlement, delegation, training requirements and the process for entitlement

- The EP for QA programmes relating to written procedures and protocols is reviewed and dated to include management comments in the SAF. These include the use of a standard template, version control and the locking of documents so they cannot be changed remotely

- The incident management and investigating and reporting incidents, provided as IR(ME)R employer's procedures, are updated and the relevant information included.

Staff and resources

Workforce

We were concerned to find that nine staff, who completed our survey, said that they had faced discrimination at work within the last 12 months. Additionally, nine staff disagreed with the comment that staff had fair and equal access to workplace opportunities. (Regardless of Age, Disability, Gender reassignment, Marriage and civil partnership, Pregnancy and maternity, Race, Religion or belief, Sex and Sexual orientation). The health board must ensure that processes are in place to allow any member of staff to report any issues of concern internally, as well as to ensure that any concerns raised are appropriately investigated and responded to.

We received comments relating to equal access to workplace opportunities, which included:

> *"I have heard of female colleagues (not within the team I work for) being told indirectly they are unsuitable to apply for certain more senior jobs because they would wish to go on maternity leave and have work life balance (working part time) or already work part time. Male nurses despite being far fewer in number seem to be much more likely to be in senior roles across the UHB"*

> *"People are already lined up for the next promotion before it's been released and it's not fair on those others who want the job. It's supposed to be based on interview alone. There should be an independent person on interview panels in the NHS to prevent this."*

As previously detailed, as part of our inspection a staff survey was made available to provide all staff working within the department with the opportunity to provide their views. Additionally, discussions were held with senior managers of the service, as well as a selection of staff working within the department. The

three members of the department staff we spoke with spoke clearly and well. They had a good understanding of DRLs, carers and comforters, and had a clear understanding of their roles. They also described a consistent approach for example with benefits and risks.

Almost all respondents said that their immediate manager encouraged those who worked for them to work as a team. All the staff said that their immediate manager could be counted on to help with a difficult task at work, at least most of the time. All staff said that their immediate manager gave clear feedback on their work and that they asked for their opinion before making decisions that affected their work. The majority of staff said that their immediate manager was supportive in a personal crisis. We received comments about immediate managers, some are shown below:

> *"They are very supportive and caring"*
>
> *"Great management. Never had any problems or concerns. Super supportive"*
>
> *"My managers were extremely supportive in a time where I (was injured) and supported me throughout time off, an operation and ensuring I am appropriately supported on returning to work. They check on me regularly and I really appreciate this, they are very considerate."*

All but one of the staff said they knew who senior managers were and all but four said communication between senior management and staff was effective. Eight staff said that senior management do not try to involve staff in important decisions and five said they never acted on staff feedback. However, the majority said that senior managers were committed to patient care. We received comments relating to senior managers, some are shown below:

> *"Our senior managers have no patient contact"*
>
> *"We are discouraged from approaching the [name of post] directly. Information has to go via [a member of staff]. I often feel that information is 'watered down' or not passed on accurately."*

Nine members of staff said their job was detrimental to their health. Almost all staff who expressed an opinion said their immediate manager and the organisation took a positive interest and action on health and well-being. However, seven members of staff said their current working pattern and off duty did not allow for a good work life balance.

"Over the past 2 years there has been an increased demand on me to undertake out of hours working due to staff shortages within the department and a struggle to recruit. This has resulted in poor work life balance due to a vast amount of night and weekend on call commitments. Also the constant switching between nights and days can be challenging to manage."

All members of staff who responded, bar one, agreed they were aware of the occupational health support available. Almost all staff said that in the event of challenging situations, they were offered full support. Some specific staff comments included:

"I have struggled with some illness in the past and work have always been fully supportive"

"Occupational health have a huge backlog post-covid and took 4 months to deal with my previous referral"

"My colleagues who have been referred to occupational health report that there is a waiting list of 3 months."

Staff we spoke with said that concerns were dealt with and responded to and there was sufficient access to training and development opportunities to support them in their role. They were also aware of how to access any additional support should they need it, such as occupational health.

Senior staff stated that there is currently a 3 month waiting time for manager referrals in occupation health due to a 45% increase in the number of manager referrals to the service. However, the waiting times for self-referral to occupational health physiotherapy is less than 2 weeks and the waiting time for self-referral to employee wellbeing is currently 1-2 weeks. Staff can also access individual advice by calling the occupational health service directly however this will not provide a report to the line manager.

Staff we spoke with said that the department was a large department and that there were a number of skill sets required to ensure there was sufficient staff on duty with the relevant skill mix, to complete their roles. However, four out of the 39 staff who completed this question on the questionnaire said there was never enough time for staff working in the department to do their job properly.

From figures supplied on the SAF, the vacancies in the department had been fully recruited to, with all vacancies due to be filled in the next three months. Whilst there were vacancies for radiologists, the SAF stated that these posts had been advertised. There were no vacancies for any nursing posts.

88 percent of staff agreed their workplace was supportive of equality and diversity. We received comments regarding workplace equality and diversity, some are copied below:

> *"Very inclusive and diverse workplace, reflected in our department which is great to see!"*

> *"One of radiology's strongest points, fantastic area supporting diversity"*

Improvement needed

The health board must ensure that processes are in place:

- To allow any member of staff to report any issues of concern internally, as well as to ensure that any concerns raised are appropriately investigated and responded to
- To ensure that staff are treated fairly and equally and that any instances of discrimination will not be tolerated and appropriate action taken.

The health board must ensure that arrangements are put in place to reduce the perceived occupational health waiting time.

Training

Staff we spoke with, and those that answered the survey questionnaire, said that they had access to relevant training and development opportunities to support them in their role. Examples of this training included a master's degree course and the health board used Agored Cymru[26] to give staff opportunities to obtain qualifications in other areas.

A review of the mandatory training records for staff showed there was clear evidence that staff had completed safeguarding training at least to level two. There was clear evidence that staff had completed health and safety training, IPC

[26] Agored Cymru is the Welsh awarding body of choice for education and training providers in Wales.

training and resuscitation training. There was also evidence that staff had completed other training identified by the organisation as mandatory such as moving and handling and fire safety. However three of the five records checked showed that staff were out of date with their moving and handling training and three were also out of date with fire safety training.

We were told that mandatory training was reported monthly to the clinical board and that monthly reminders were sent out to staff to complete their mandatory training. Training records checked were clear and there was an appropriate system to identify when training was due. Each staff member's training record checked showed at a glance the expiry dates for relevant training required. Compliance figures were provided for all staff working within the department as a percentage. There were several listed with compliance percentages of under 70 percent and one area of the department with compliance of 17 percent or lower. However, the majority of staff had compliance of over 85 percent of the training required. This issue was subsequently discussed with senior managers who gave reasons for the low numbers in some instances.

Almost all staff who completed the questionnaire said they had received training in health and safety and infection control. All said they had received training in fire safety and awareness and in safeguarding.

Not all staff who completed the survey (five out of 57 staff) said they had received training in IR(ME)R relevant to their functions as a practitioner. Additionally, six members of staff said they had not received up to date training in accordance with IR(ME)R relevant to their specific area of practice. We received several comments on training that staff would find useful, some of which are shown below:

> *"Specialist qualification for succession to band 8a"*
>
> *"As a (non-medical person) I would find it quite useful to see the process for each type of scan that we perform as it might help us answer patient queries about the examinations"*
>
> *"Venepuncture and phlebotomy with a more consistent approach to ongoing practice"*
>
> *"I have completed a Masters in [subject] which was funded and supported by the department."*

All staff who responded in the questionnaire said that training always or usually helped to do their job more effectively, stay up-to-date with professional requirements and helped them deliver a better patient experience.

Improvement needed

The health board must ensure that processes are put in place to ensure that Mandatory training compliance for all staff is improved and increased to above the 85% number consider as a “green” on the performance dashboard.

4. What next?

Where we have identified improvements and immediate concerns during our inspection which require the service to take action, these are detailed in the following ways within the appendices of this report (where these apply):

- Appendix A: Includes a summary of any concerns regarding patient safety which were escalated and resolved during the inspection
- Appendix B: Includes any immediate concerns regarding patient safety where we require the service to complete an immediate improvement plan telling us about the urgent actions they are taking
- Appendix C: Includes any other improvements identified during the inspection where we require the service to complete an improvement plan telling us about the actions they are taking to address these areas.

Where we identify any serious regulatory breaches and concerns about the safety and wellbeing of patients using the service, the registered provider of the service will be notified via a non-compliance notice. The issuing of a non-compliance notice is a serious matter and is the first step in a process which may lead to civil or criminal proceedings.

The improvement plans should:

- Clearly state when and how the findings identified will be addressed, including timescales
- Ensure actions taken in response to the issues identified are specific, measurable, achievable, realistic and timed
- Include enough detail to provide HIW and the public with assurance that the findings identified will be sufficiently addressed.

As a result of the findings from this inspection the service should:

- Ensure that findings are not systemic across other areas within the wider organisation
- Provide HIW with updates where actions remain outstanding and/or in progress, to confirm when these have been addressed.

The improvement plan, once agreed, will be published on HIW's website.

5. How we inspect services that use ionising radiation

HIW are responsible for monitoring compliance against the Ionising Radiation (Medical Exposure) Regulations 2017 and its subsequent amendment (2018).

The regulations are designed to ensure that:

- Patients are protected from unintended, excessive or incorrect exposure to medical radiation and that, in each case, the risk from exposure is assessed against the clinical benefit
- Patients receive no more exposure than necessary to achieve the desired benefit within the limits of current technology
- Volunteers in medical research programmes are protected

We look at how services:

- Comply with the Ionising Radiation (Medical Exposure) Regulations
- Meet the Health and Care Standards 2015
- Meet any other relevant professional standards and guidance where applicable

Our inspections of healthcare services using ionising radiation are usually announced. Services receive up to twelve weeks' notice of an inspection.

The inspections are conducted by at least one HIW inspector and are supported by a Senior Clinical Officer from Public Health England (PHE), acting in an advisory capacity.

Feedback is made available to service representatives at the end of the inspection, in a way which supports learning, development and improvement at both operational and strategic levels.

These inspections capture a snapshot of the standards of care relating to ionising radiation.

Further detail about how HIW inspects the NHS can be found on our website.

Appendix A – Summary of concerns resolved during the inspection

The table below summaries the concerns identified and escalated during our inspection. Due to the impact/potential impact on patient care and treatment these concerns needed to be addressed straight away, during the inspection.

Immediate concerns identified	Impact/potential impact on patient care and treatment	How HIW escalated the concern	How the concern was resolved
No immediate concerns were identified on this inspection.			

Appendix B – Immediate improvement plan

Hospital: University Hospital of Wales

Ward/department: Diagnostic Imaging Department

Date of inspection: 17 and 18 August 2021

The table below includes any immediate concerns about patient safety identified during the inspection where we require the service to complete an immediate improvement plan telling us about the urgent actions they are taking.

Immediate improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
No immediate assurance issues.				

The following section must be completed by a representative of the service who has overall responsibility and accountability for ensuring the improvement plan is actioned.

Service representative:

Name (print):

Job role:

Date:

Appendix C – Improvement plan

Hospital: University Hospital of Wales

Ward/department: Diagnostic Imaging Department

Date of inspection: 17 and 18 August 2021

The table below includes any other improvements identified during the inspection where we require the service to complete an improvement plan telling us about the actions they are taking to address these areas.

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
Quality of the patient experience				
The health board must ensure that the benefits and risk employer's procedure is updated as described in the body of the report.	IR(ME)R 2017 Schedule 2 (i)	All IR(ME)R employers procedures are currently under review and will be updated to include the details specified within the report with reference to the BIR guidelines	Professional Head of Radiography/QSE lead	10/12/21
The health board must ensure that staff understand how patient feedback is used to make improvements.	Standard 6.3 Listening and Learning from Feedback	Information to be shared with staff by email and via the means of posters when improvements are made including information on how patient feedback has influenced this. Improvements made	QSE lead/service improvement lead	26/11/21

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
		following patient compliments/ concerns to be shared at Safety and Quality meetings. Discuss and work with patient experience team to reintroduce patient feedback surveys when appropriate under current IPC guidance.	QSE lead	As directed by IPC department.
Delivery of safe and effective care				
The health board must update all procedures to ensure that: • There is one clear, unambiguous procedure for staff to follow relating to each of the 14 employer's procedures required by IR(ME)R 2017 • Each procedure should include information provided in the IR(ME)R guidance • All other documentation should not duplicate content from the employer's procedures but refer to the content of	IR(ME)R 2017 Regulation 6 (1)(a)(b) and Schedule 2	Review and update all IR(ME)R employer's procedures with the use of hyperlinks to avoid duplication where possible. Condense current procedures and change those where required to supporting documents. Employer's procedures to include information specified within the report and the BIR guidelines to be used to aid with writing of procedures. Once updated all employer's procedures will be shared both within Radiology on the quality management system and via the	Professional Head of Radiography and QSE lead.	10/12/21

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
the source document or contain hyperlinks to these documents • The employer's procedure relating to non-medical imaging reflect the correct IR(ME)R classification of these exposures and required information as detailed in the body of the report. Reference to clinical trials or post mortem exposures should not be included in the NMI Employer's procedure • The employer's procedure reflects how the person responsible for the ID process can be identified and for situations where there is more than one operator involved in an examination • There are written procedures in place in relation to referrals and referral guidelines for individuals to follow.	Schedule 2 (m) Schedule 2 (e)	intranet to ensure they are accessible to all professionals in the Health Board.		

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
The health board is to ensure that: • Authorisation guidelines clearly describe the one individual who will be the practitioner for all those referrals authorised by the radiographers under their guidelines	IR(ME)R 2017 Regulation 10 (4) and 11 (5)	Authorisation guidelines to be reviewed and updated where applicable. Where appropriate authorisation guidelines will be signed by the named authorisation practitioner.	Modality leads where required / QSE lead / Professional Head of Radiography	19/11/21
• The employer's procedure includes more clarity and detail relating to checking pregnancy status of carers and comforters, if the carer or comforter is under 18 or not and ensure that this information is recorded.	Schedule 2 (n)	During review and update of all IR(ME)R employer's procedures, carers and comforters procedure will be updated to include checking pregnancy, age related considerations and the recording of such information.	Professional Head of Radiography and QSE lead.	10/12/21
The employer is to ensure that: • There is only one employer's procedure for DRLs. All references to DRLs in other documents should refer to this document to avoid duplication.	IR(ME)R 2017 Schedule 2(f)	Review and update all IR(ME)R employer's procedures to reflect current practice and condense where required to avoid duplication.	Professional Head of Radiography and QSE lead.	10/12/21
• The employer's procedure is updated to include more detail around who	Schedule 2(j)			

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
provides the clinical evaluation. This is to include the areas described in the main body of the report such as where the evaluation is recorded and what happens when the evaluation happens outside of radiology for each area this takes place.		Additional detail to be included within procedures as required and specified within report and the BIR guidelines.		
The employer must ensure that: • The employer's procedure is updated to include appropriate information, some of which was included in the SAF and takes into account inclusion of the detail described in the IR(ME)R guidance • The equipment inventory is up-to-date and includes the mini C-arm referred to above and any other equipment in use not listed.	Schedule 2 (d) IR(ME)R 2017 Regulation 15 (1)(b) Regulation 15(2)	Review and update all IR(ME)R employer's procedures to reflect current practice and condense where required to avoid duplication. Additional detail to be included within procedures as required and specified within report. Review of equipment in radiology to be undertaken and inventory updated where required, including radiation equipment used outside of radiology	Professional Head of Radiography and QSE lead.	10/12/21

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
The employer must ensure that there is only one employer's procedure relating to clinical trials and it is updated to include the detail provided in the SAF.	Standard 3.3 Quality Improvement, Research and Innovation IR(ME)R 2017 Regulation 12(4) Schedule 2 (g)	Review and update IR(ME)R employer's procedures including for clinical trials.	Professional Head of Radiography and QSE lead.	10/12/21
Quality of management and leadership				
The employer must ensure that: • Actions are taken to significantly reduce the numbers of accidental exposures of staff and patients • The entitlement process is clearly explained in one EP containing all the detail around entitlement, delegation, training requirements and the process for entitlement • The EP for QA programmes relating to written procedures and protocols is	IR(ME)R 2017 Regulation 8(3) IR(ME)R 2017 Schedule 2 (b) IR(ME)R 2017 Regulation 6(5)(b)	Information relating to incident statistics and key learning points shared on the intranet quarterly to reach all IR(ME)R 2017 duty holders. Review and update IR(ME)R employer's procedure for entitlement and QA programmes as part of a review of all IR(ME)R procedures. Review of IR(ME)R employer's procedure for investigating and reporting incidents	Professional Head of Radiography and QSE lead.	10/12/21

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
reviewed and dated to include management comments in the SAF. These include the use of a standard template, version control and the locking of documents so they cannot be changed remotely • The incident management and investigating and reporting incidents, provided as IR(ME)R employer's procedures, are updated and the relevant information included.	and Schedule 2 (d) IR(ME)R 2017 Regulation 8(3) Regulation 8 (4)(a)(i-iv)	clinically significant unintended or accidental exposures. Review and update local SOP for incident management in radiology and include a link to the new IR(ME)R employer's procedure for clinically significant unintended or accidental exposures.		
The health board must ensure that processes are in place: • To allow any member of staff to report any issues of concern internally, as well as to ensure that any concerns raised are appropriately investigated and responded to	Standard 7.1 Workforce Standard 6.2 Peoples Rights	The Health Board has a number of different ways that staff can report or raise concerns. These include: Health Board has recently implemented the all Wales Respect & Resolution policy, replacing the previous Dignity at Work and Grievance Policies. Training for staff and		

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
• To ensure that staff are treated fairly and equally and that any instances of discrimination will not be tolerated and appropriate action taken. The health board must ensure that arrangements are put in place to reduce the perceived occupational health waiting time.		managers on this is being rolled out across the HB. Staff within Radiology and MP&CE will be reminded of this training and encouraged and supported to attend. Pulse survey to be undertaken to assess impact of the training and awareness across Radiology and MP&CE Health Board has a 'Freedom to Speak up' initiative. The safety and wellbeing of patients, service users and staff has always been a key priority for Cardiff and Vale University Health Board (UHB). We are committed to fostering a culture of openness across all parts of the organisation to support and encourage you to communicate any concerns you might have, with the confidence that you will be treated with respect and dignity when doing so. The Freedom to Speak Up initiative was started	General Manager, Radiology and MP&CE HR and Clinical Board SMT	By December 2021 April 2022

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
		as a means to create an environment that enables and empowers staff to raise concerns they might have or observe in their area of work and to notify the relevant body or authority with the knowledge that action will be taken as a result. All staff in Radiology and MP&CE will be reminded of this initiative and how to find out more information.		
		Pulse survey to be undertaken to assess impact of awareness across Radiology and MP&CE	General Manager, Radiology and MP&CE	December 2021
		Health Board has a Procedure for NHS Staff to Raise Concerns. The aims of this procedure are: a) To encourage staff to discuss concerns and safety issues as soon as possible, in the	HR and Clinical Board SMT	April 2022

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
		knowledge that their concerns will be taken seriously and acted upon as appropriate, b) To encourage staff to report more serious concerns and suspected wrongdoing as soon as possible, in the knowledge that their concerns will be taken seriously and investigated as appropriate, and where requested that their confidentiality will be respected. c) To provide staff with guidance as to how to raise those concerns. d) To assure staff that they should be able to raise genuine concerns without fear of reprisals, even if they turn out to be mistaken. All staff in Radiology and MP&CE will be reminded of this procedure and how to access it.		

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
		Pulse survey to be undertaken to assess impact of awareness across Radiology and MP&CE The Health Board is committed to ensuring that everyone has the right to be treated fairly and with dignity and respect. At Cardiff and Vale UHB we want all our employees to feel valued and respected. The UHB has a duty to take action against employees, patients or the public who act against the laws on equality. Any discriminatory behaviour by staff will be treated as a disciplinary offence and subject to sanctions under the Disciplinary Policy. Members of the public or patients could be refused access to services or premises if they deliberately and knowingly disregard equality laws and policies. We are determined in our aims to: •Remove unlawful discrimination. •Improve equality of opportunity.	General Manager, Radiology and MP&CE HR and Clinical Board SMT	December 2021 April 2022

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
		•Encourage good relations. CD&T Clinical Board have recently appointed Equality Allies for each of the protected characteristics under the Equality Act 2010. These roles will be launched across the Clinical Board by December 2021. These roles, together with the Wellbeing and Mental Health Champions, will support our staff to feel they are being heard, treated fairly and with dignity and respect. CD&T Equality Allies to be launched. CD&T Clinical Board have invested in two awareness raising films: one to help staff with putting the Health Board Values into Action and one to assist staff and managers with raising mental health awareness. These will be piloted within the Clinical Board and then cascaded across the Health	CD&T Senior Management Team	December 2021

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
		Board. A plan to roll these out across the Clinical Board is currently being agreed. It is recommended that Radiology and MP&CE Directorate is prioritised for these awareness sessions. Due to a 45% increase in the number of manager referrals to Occupational Health, and a reduction of capacity due to sickness and vacancies within the service, there is currently a 3-month waiting time for management referrals. In addition, the Occupational Health Physician provider is ending its contract due to their own recruitment issues which has further reduced the clinical capacity Action being taken to address this includes: • Occupational Health and Procurement services are utilising the National Occupational Health Framework to procure an alternative provider which will commence as	CD&T Clinical Board/ Radiology General Manager & HR	March 2022

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
		soon as the existing contract ends in November • OH nurses have been recruited into vacancies and recruitment is ongoing for existing vacancies. • While recruitment and sickness absence is ongoing, OH is resourcing additional Nurse clinical sessions to address the reduction in nursing capacity • Head of service is triaging all referrals and where appropriate is providing direct advice to line managers and signposting to appropriate information/services without need of a consultation • HR colleagues are supporting OH and providing advice to managers regarding when to refer to OH		

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
		• OH is offering virtual Attend Anywhere and telephone appointments to prevent the need to travel to OH thereby making access easier • guidance has been developed to assist line managers when considering a referral to OH to ensure the correct resources are utilised in a timely manner • other options to reinforce/enhance service provision are being explored CD&T Clinical Board and Radiology & MP&CE Directorate to implement actions above where and when appropriate and necessary.	CD&T Clinical Board and Radiology & MP&CE Directorate	December 2021 and ongoing
The health board must ensure that processes are put in place to ensure that:	Standard 7.1 Workforce	A review of Mandatory and Statutory training compliance has recently been		

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
• Mandatory training compliance for all staff is improved and increased to above the 85% number consider as a “green” on the performance dashboard • Performance appraisals are completed for all staff in a timely manner and that this compliance is maintained to ensure staff are aware of the requirements to perform their duties and maintain their development.		undertaken across the Health. This review recommended the following actions: To continue to provide dedicated months of level 1 classroom training. Fire are providing a week of fire classroom drop in sessions early October 2021. To work with subject matter experts to review the training provided and suitability of utilising Teams or Classroom delivery methods To explore steps to simplify the access to e-learning modules, utilising ESR auto enrolment process. To continue working closely with H&S to audit the training requirements for their suite of training and to ensure staffs compliance records are accurate To contribute to the work taking place across Wales		

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
		Provide a suite of training materials to help staff and managers use ESR to reach compliance To improve process with PDNs to ensure all training is captured and recorded via ESR. To explore and investigate the possibility of assessing staff's competence prior to them completing the training. This will ensure that staff are only completing specific modules of the training they need to as identified from the assessment. This project has been discussed to be actioned on an All Wales basis, which may limit progress locally. As well as actioning the above, all staff in Radiology and MP&CE will be reminded of their own responsibility to ensure that they maintain their mandatory and statutory training compliance.	General Manager, Radiology and MP&CE	By end December 2021

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
		Mandatory and Statutory training compliance to be reviewed for all Radiology and MP&CE staff. Managers to ensure compliance at every Values Based Appraisal. The Health Board was due to launch Values Based Appraisals from March 2020. However, a decision was taken to suspend this launch due to the pandemic, with efforts being concentrated on coping with the demands of the pandemic and most importantly continuing to deliver excellent care for our patients and population. A decision was made on an all Wales basis to delay the introduction of pay progression. This decision has now been updated and	General Manager, Radiology and MP&CE All Radiology & MP&CE managers	By end December 2021 By end March 2022

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
		from 1 October 2021 the Pay Progression approach will be reinstated, which will mean that all staff that are due a pay step on or after 1 October 2022 will need to have a pay progression discussion as part of their appraisal. The Health Board has agreed the following actions to assist with the re-launch of Values Based Appraisals and to improve compliance: • Run a social media campaign looking at key aspects of VBA and relaying feedback from staff who have participated in the process • Develop a simplified version of the VBA documentation to streamline the process for managers. • Clinical Board Improvement Plans to be developed to provide assurance that the number of appraisals will improve over the next 6-12 months.		

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
		• Increase the training available to managers via a blended approach (face-to-face & virtual). • Support managers to input VBA onto ESR by developing written guidance and a quick instruction video • Engage with managers where appraisal rates are lower than expected to offer additional support training, etc. • Pay Progression approach – raise awareness that this will commence again from 1st October. The CD&T Clinical Board will support these actions and monitor progress via the monthly Clinical Board Performance Review process. The Radiology and MP&CE Directorate will implement the above actions and report	CD&T Clinical Board Senior Team Radiology General Manager	Monthly and ongoing End December 2021

Improvement needed	Standard / Regulation	Service action	Responsible officer	Timescale
		progress via the monthly CB Performance Review process.		

The following section must be completed by a representative of the service who has overall responsibility and accountability for ensuring the improvement plan is actioned.

Service representative

Name (print): Alicia Christopher

Job role: General Manager, RMPCE & CEDAR (Interim)

Date: 29/10/2021