Health Information and Quality Authority

An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

Health Information and Quality Authority

Report of the assessment of compliance with medical exposure to ionising radiation regulations

Name of Medical Radiological Installation:	University Hospital Waterford
Undertaking Name:	Health Service Executive
Address of Ionising Radiation Installation:	Dunmore Road, Waterford
Type of inspection:	Announced
Date of inspection:	04 May 2022
Medical Radiological Installation Service ID:	OSV-0007381
Fieldwork ID:	MON-0031222

About the medical radiological installation:

University Hospital Waterford is an acute teaching hospital with approximately 500 beds. The radiology department services the cardiology, orthopaedic, nephrology, urology, oncology, neurology, vascular surgery, ENT, neonatology, opthamology and rheumatology departments. The imaging services that are offered include general X-ray, dental X-ray, dual-energy X-ray absorptiometry (DXA), nuclear medicine, computed tomography (CT), mammography, fluoroscopy, interventional radiology, interventional cardiology, theatre fluoroscopy, vascular mobile fluoroscopy and mobile radiography. The radiology department is comprised of five general X-ray rooms, two mammography suites, one gamma camera, two CT scanners, an interventional radiology suite, a fixed fluoroscopy unit, an interventional cardiology suite, four mobile fluoroscopy units, eight mobile X-ray machines, a DXA unit and a dental orthopantomography (OPG) unit. These along with non-ionising modalities such as ultrasound and MRI complete the imaging department. In the coming year there will be the addition of a second interventional cardiology suite and replacement of one of the existing general rooms.

Radiology services in satellite installations in Dungarvan Community Hospital and Kilcreene Regional Orthopaedic hospital also come under the governance of the Radiology Department of University Hospital Waterford. The radiology service is delivered by a large team of radiographers, radiologists, radiology nurses and medical physicists supported by portering, clerical and household services staff.

How we inspect

This inspection was carried out to assess compliance with the European Union (Basic Safety Standards for Protection against Dangers Arising from Medical Exposure to Ionising Radiation) Regulations 2018 and 2019. The regulations set the minimum standards for the protection of service users exposed to ionising radiation for clinical or research purposes. These regulations must be met by each undertaking carrying out such practices. To prepare for this inspection, the inspector[1] reviewed all information about this medical radiological installation[2]. This includes any previous inspection findings, information submitted by the undertaking, undertaking representative or designated manager to HIQA[3] and any unsolicited information since the last inspection.

As part of our inspection, where possible, we:

- talk with staff and management to find out how they plan, deliver and monitor the services that are provided to service users
- speak with service users[4] to find out their experience of the service
- observe practice to see if it reflects what people tell us
- review documents to see if appropriate records are kept and that they reflect practice and what people tell us.

About the inspection report

In order to summarise our inspection findings and to describe how well a service is complying with regulations, we group and report on the regulations under two dimensions:

1. Governance and management arrangements for medical exposures:

[1] Inspector refers to an Authorised Person appointed by HIQA under Regulation 24 of S.I. No. 256 of 2018 for the purpose of ensuring compliance with the regulations.
[2] A medical radiological installation means a facility where medical radiological procedures are performed.
[3] HIQA refers to the Health Information and Quality Authority as defined in Section 2 of S.I. No. 256 of 2018.
[4] Service users include patients, asymptomatic individuals, carers and comforters and volunteers in medical or biomedical research.

This section describes HIQA's findings on compliance with regulations relating to the oversight and management of the medical radiological installation and how effective it is in ensuring the quality and safe conduct of medical exposures. It outlines how the undertaking ensures that people who work in the medical radiological installation have appropriate education and training and carry out medical exposures safely and whether there are appropriate systems and processes in place to underpin the safe delivery and oversight of the service.

2. Safe delivery of medical exposures:

This section describes the technical arrangements in place to ensure that medical exposures to ionising radiation are carried out safely. It examines how the undertaking provides the systems and processes so service users only undergo medical exposures to ionising radiation where the potential benefits outweigh any potential risks and such exposures are kept as low as reasonably possible in order to meet the objectives of the medical exposure. It includes information about the care and supports available to service users and the maintenance of equipment used when performing medical radiological procedures.

A full list of all regulations and the dimension they are reported under can be seen in Appendix 1.

This inspection was carried out during the following times:

Date	Times of Inspection	Inspector	Role
Wednesday 4 May 2022	09:00hrs to 15:15hrs	Maeve McGarry	Lead
Wednesday 4 May 2022	09:00hrs to 15:15hrs	Kirsten O'Brien	Support

Governance and management arrangements for medical exposures

Inspectors found that there was effective leadership, governance and management arrangements in place to facilitate the safe delivery of medical exposures at University Hospital Waterford (UHW). Documentation reviewed by inspectors outlined the oversight and reporting structures in place for radiation protection. The General Manager was the designated person responsible for the radiation protection of service users at the hospital and was a member of the hospital's Radiation Safety Committee (RSC) and Executive Management Team (EMT). The RSC reported to the Quality, Risk, Safety and Audit Committee, which in turn reported to the EMT. The General Manager of the hospital reported to the Health Service Executive (HSE) as the undertaking for this hospital via the South/South West Hospital Group. Inspectors found that the governance structure in place was simple, yet effective and was clearly articulated by staff to inspectors on the day of inspection.

Inspectors were satisfied that all medical radiological procedures took place under the clinical responsibility of a practitioner, as defined in the regulations. There was evidence that referrers and practitioners were involved in the justification of individual medical exposures, and that practitioners and medical physics experts (MPEs) were involved in optimisation.

Inspectors reviewed documentation and spoke with staff regarding the involvement of MPEs in medical radiological practices at the hospital, and the level of involvement was found to be in line with the services provided. Evidence of professional registration was also reviewed by inspectors. Inspectors were informed that the MPEs based at UHW had responsibility for a number of services regionally. Staff informed inspectors that the involvement of MPEs included optimisation, audit, preparing technical specifications for medical equipment and education and training. The delivery of on-site radiation safety training by MPEs had been disrupted due to constraints placed by COVID-19, but online training options were being explored for practitioners and other staff at the hospital.

Inspectors were informed of the system in place for policy development, oversight and approval at the hospital. Policies and procedures reviewed by inspectors were found to have been approved and were within the expected review dates. However, inspectors identified the opportunity to update some policies to ensure that they reflect day-to-day practices as described by clinical staff. For example, the shared practitioner responsibilities for justification of medical exposures for various modalities, including high dose procedures such as nuclear medicine, should be strengthened in documentation to ensure they are clearly allocated. A draft justification document was reviewed by inspectors and this should be progressed by the undertaking to ensure clarity regarding roles and responsibilities of staff within the hospital. In addition, the *'Radiation Safety Procedures'* should be updated to reflect the clinical practice outlined to inspectors. For example, to outline that the presence of a radiographer is retained in areas outside the radiology department such as theatre, in the absence of new training requirements being established by

the relevant professional regulators, as per Regulation 22.

Notwithstanding some improvements in documentation identified over the course of the inspection, University Hospital Waterford demonstrated a clear commitment to ensuring the radiation protection of service users undergoing medical radiological procedures.

Regulation 4: Referrers

All referrals reviewed by inspectors on the day of inspection were from referrers as defined in the regulations. Referrals for medical radiological procedures at the hospital were accepted from recognised nurse referrers within their particular scope of practice which was outlined in a document reviewed by inspectors. The hospital's *'Radiation Safety Procedures'* outlined that radiographers were entitled to adapt referrals and perform secondary referrals for medical exposures and examples of when this would occur were provided. Similarly, staff articulated circumstances where such adapted or secondary referrals by radiographers were accepted in clinical practice.

Judgment: Compliant

Regulation 5: Practitioners

Inspectors reviewed a sample of records in relation to medical exposures on the day of inspection and found that only those entitled to act as practitioners, as defined in the regulations, had taken clinical responsibility for individual medical exposures.

Judgment: Compliant

Regulation 6: Undertaking

The lines of governance and clinical oversight for the radiation protection of service users at the hospital were communicated to inspectors by management and other staff during the inspection. The structure communicated was consistent with an organogram provided in advance of the inspection. The hospital's General Manager was the designated manager and was a member of the RSC. The RSC met twice a year, was chaired by a radiologist and was the main forum for the oversight of radiation protection of service users. The RSC reported up to the Quality, Risk, Safety and Audit Committee and this communication was supported by written reports. Upward communication from the hospital to the undertaking was through

the designated manager via the South/South West Hospital Group.

The allocation of responsibility for justification of medical exposures was shared between radiologists and radiographers. While a draft document on justification was in development by the hospital, inspectors found that the allocation of responsibilities should be more clearly outlined in documentation to reflect day-to-day practices. For example, in nuclear medicine inspectors were informed that certain procedures were justified by radiographers with specific qualifications and other procedures were justified by radiologists, however, this delineation of responsibility was not defined in documentation.

The practical aspects of medical exposures were only carried out by practitioners at the hospital and the presence of radiographers was retained in areas where medical exposures were conducted outside the radiology department, including theatre and in the interventional cardiology suite. While this is deemed good practice in the absence of new training requirements being implemented, as per Regulation 22, documentation including the *'Radiation Safety Procedures'* should be updated to ensure that this allocation of responsibility is documented in line with current legislation and the clinical practices outlined to inspectors.

Judgment: Substantially Compliant

Regulation 10: Responsibilities

Inspectors were satisfied that all individual medical exposures took place under the clinical responsibility of a practitioner, as defined in the regulations. Practitioners and MPEs were found to be involved in the optimisation of medical exposures and examples of this involvement were provided to inspectors by members of the multidisciplinary team. Inspectors were informed that the practical aspects of medical exposures were only carried out by practitioners at University Hospital Waterford.

Judgment: Compliant

Regulation 19: Recognition of medical physics experts

Inspectors were informed that the MPEs based at the hospital supported a total of seven medical radiological facilities in the region including University Hospital Waterford. Staff communicated the arrangements in place to ensure the continuity of medical physics expertise was maintained locally at UHW.

Judgment: Compliant

Regulation 20: Responsibilities of medical physics experts

Documentation reviewed by inspectors and discussions with management and staff indicated that the MPEs were responsible for dosimetry at the hospital. In addition, MPEs had contributed to the optimisation of medical exposures, diagnostic reference levels (DRLs) and the definition and performance of quality assurance of the medical radiological equipment. The MPEs were involved in education and training of practitioners in relevant aspects of radiation protection. Due to the constraints placed by COVID-19 online training for practitioners was being implemented by the MPEs at the time of inspection.

Judgment: Compliant

Regulation 21: Involvement of medical physics experts in medical radiological practices

Staff who spoke with inspectors reported that they had access to medical physics expertise when needed. MPE involvement in medical radiological practices was evident, with the level of involvement commensurate with the radiological risk posed by services at the hospital.

Judgment: Compliant

Safe Delivery of Medical Exposures

Inspectors reviewed records and other documentation and communicated with staff and management to assess the safe delivery of medical exposures at UHW. The hospital had put significant measures in place to ensure that effective and understandable information was made available to patients on the risks and benefits associated with the radiation dose from medical exposures. Information leaflets and signage were developed by UHW (in-house) and pertained to specific modalities, such as CT and general X-ray. Signage relating to pregnancy and relevant risks associated with radiation exposure were also developed by in-house and this information was provided in multiple languages.

Another area of good practice identified by inspectors was in relation to clinical audit. A sample of audits were reviewed by inspectors including reviews of imaging procedures to identify optimisation opportunities and audit carried out to monitor adherence with local policies. From the examples reviewed by inspectors, it was evident that the hospital had a proactive approach to audit with multidisciplinary

involvement, and that audit was used to inform quality improvement.

Furthermore, a multidisciplinary approach to optimisation was evident and many examples of good practice were provided to inspectors. The medical physics team had undertaken an optimisation project to look at how quantitative metrics such as the exposure index value could be used to compare image quality across various pieces of general X-ray equipment from different manufacturers. While the project was ongoing, the potential for optimisation of medical exposures across the digital systems in clinical use was outlined to inspectors. In another example of optimisation, an audit of portable paediatric hip X-rays had resulted in optimisation of those procedures and this resulted in a considerable dose reduction.

An up-to-date inventory of equipment was provided to inspectors indicating that much work had been done by the hospital and the undertaking in replacing older equipment. Policy documents clearly outlined the quality assurance (QA) programme in place and the roles and responsibilities assigned for QA and other regular performance testing of equipment. However, QA for the CT equipment was not carried out in a timely manner, in accordance with local policy. Inspectors were informed that this was due to the busy clinical workload in the CT service. However, the undertaking should ensure that QA is prioritised, particularly in the context of the service demands and the age of some of the equipment involved.

Inspectors identified some areas requiring improvement in relation to Regulation 8 which were accepted and acknowledged by management and staff. Inspectors reviewed a sample of records and spoke with staff and found that records evidencing justification in advance of a procedure was not available for review on the day of inspection for some procedures carried out at the hospital. The hospital should ensure that records evidencing compliance with Regulation 8 are kept, in line with regulatory requirements. Similarly, some improvements are required in order to come in to compliance with Regulation 13 and this was also discussed with and accepted by management.

Regulation 8: Justification of medical exposures

Information relating to the benefits and risks associated with radiation was available to individuals undergoing medical exposure via posters and information leaflets in the waiting area of the Radiology Department. In-house developed posters for general X-ray, CT and nuclear medicine were on display and included relative dose comparison information presented clearly and supported by graphics. Inspectors were informed that these posters were developed locally in the hospital as part of a wider inclusion and diversity programme and had been adopted for use elsewhere by the undertaking. Further signage in the Radiology Department included posters introducing the radiology team and '*X-rays and shielding patient information*'. Inspectors found that the hospital had a proactive approach to ensure the adequate provision of patient information on the risks and benefits of medical exposures.

Samples of records of medical radiological procedures were reviewed by inspectors

including records of justification in advance of the procedures. In most cases the record was available for review including for CT, nuclear medicine and in-patient general X-ray procedures. However, this record was not maintained for out-patient general X-ray procedures as a different system was employed for this patient cohort. This was acknowledged by management on the day of inspection. While audits of the record of justification were conducted regularly, the outcomes of these audits did not provide assurance of compliance with this regulation, for example in October 2021 justification in advance of a procedure was found to have not been recorded for 31% of the sample reviewed.

Judgment: Substantially Compliant

Regulation 9: Optimisation

Inspectors reviewed documentation and spoke with staff on the day of inspection about the optimisation of medical radiological procedures at the hospital. Many examples of good practice were furnished from across the multidisciplinary teams including radiographers, radiologists and MPEs. Inspectors reviewed a multidisciplinary optimisation report which was completed for 2020 and was being updated to reflect work done in 2021. The report included information on new equipment installed and optimisation of the practical aspects of procedures.

The optimisation carried out for the new interventional cardiology equipment was outlined by the MPE. The optimisation process included the practitioners, the MPE and application specialists from the vendor and resulted in a significant reduction in local diagnostic reference levels (DRLs) compared to the previous equipment. The MPEs added a dose alert system to this new equipment and the use of this was outlined to inspectors. The MPE outlined how optimisation was reviewed at the first annual QA following on from new equipment being installed, taking into consideration feedback from practitioners and any changes to protocols which were made or needed to be reviewed.

A further example of optimisation was an ongoing review of parameters and assessment of image quality for portable paediatric hip X-rays. On the basis of an audit conducted, actions were taken to significantly reduce dose for these procedures and inspectors were informed that this audit cycle was continuing to identify further possible improvements.

A radiologist outlined to inspectors how they were currently reviewing CT procedures with a view to potentially improving the processes involved. Furthermore, a radiologist outlined how they had moved from fluoroscopy to ultrasound for particular procedure types, which is a good example of how the use of non-ionising modalities can be exploited, where appropriate.

An MPE outlined a project which had been instigated by the multidisciplinary team to compare image quality in general X-ray across equipment from various

manufacturers. The project uses a quantitative metric, the exposure index, to compare image quality and to identify where optimisation is required. The inspectors deemed this project as a positive initiative, particularly the potential opportunity to incorporate the outcomes into clinical protocols.

Judgment: Compliant

Regulation 11: Diagnostic reference levels

Inspectors found that DRLs for radiodiagnostic examinations were established, regularly reviewed and used with reference to national DRLs. DRLs relevant to the medical exposures carried out were displayed in the Radiology Department and staff communicated how they were used in clinical practice.

Judgment: Compliant

Regulation 13: Procedures

Inspectors reviewed a number of radiation safety related audits carried out at the hospital. Good practice was evident in relation to the volume and types of audits carried out and how findings were communicated to the staff. Audits were carried out both proactively and in response to potential risks or issues identified. Examples were communicated to inspectors where audit had instigated quality improvement initiatives. Samples of audits reviewed by the inspectors included a review of radiopharmacy practices and emergency response evaluation, a review of imaging procedures for ankle pain and audits of the triple identification policy. Audit findings were discussed at the RSC meetings and were communicated to the multidisciplinary team through specific audit meetings.

Referral guidelines were available to referrers through an online resource. Staff articulated a clear knowledge of these guidelines and provided examples of how they were used in clinical practice.

Written protocols were available and in use in all clinical areas reviewed. However, inspectors noted an opportunity to improve the general X-ray procedures to incorporate acquisition parameters as per the other clinical areas. Written protocols can provide assurance to the undertaking that procedures are carried out in a consistent and safe manner.

Inspectors reviewed a sample of reports of medical radiological procedures and found that they did not contain information relating to the patient exposure as required by the regulations. Inspectors were informed that this non-compliance is being addressed by the undertaking and that a recent software upgrade had taken

place towards progressing a solution to come into compliance with Regulation 13(2).

Judgment: Substantially Compliant

Regulation 14: Equipment

Policies for quality assurance and performance testing were provided to inspectors in advance of the inspection. These outlined the responsibilities of MPEs and end users in performing testing of equipment and the frequency of such tests. An up-to-date inventory of medical radiological equipment was provided in advance of the inspection. Inspectors were informed that much of the equipment had been updated over the last few years, and that one outstanding piece of equipment in clinical use exceeded the nominal replacement date. In addition, one of the the CT scanners will reach its nominal replacement in 2022 and is the main CT scanner used in the hospital.

However, inspectors found that the strict surveillance of medical radiological equipment should be improved by the undertaking. Quality assurance by MPEs for all equipment was carried out in a timely manner, as per local policy, except for the two CT scanners. The two CT units had annual quality assurance completed outside the timelines indicated in local policy and for one scanner this was 15 months following on from the previous QA. Inspectors were informed that physics staff had difficultly accessing the equipment due to the busy clinical workload and constraints placed by COVID-19. However, to provide assurance around the safe delivery of medical exposures, QA should be prioritised by the undertaking, particularly given the age of some of this equipment and the busy service demands involved.

Judgment: Substantially Compliant

Regulation 16: Special protection during pregnancy and breastfeeding

Inspectors were satisfied that the requirements of this regulation were met from discussions with staff and samples of medical exposures reviewed. The processes in place for the protection of patients were outlined in the local *'Radiation Safety Procedures'*, including the process for determining pregnancy status and the process to be followed if pregnancy cannot be ruled out. Inspectors viewed a sample of written records documenting pregnancy inquiries made by practitioners.

In-house developed posters were observed in waiting rooms and public places to raise awareness in advance of medical exposures of the special protection required during pregnancy. These posters, in a variety of languages, alerted patients to inform staff of their pregnancy status.

Judgment: Compliant

Regulation 17: Accidental and unintended exposures and significant events

Inspectors were satisfied that UHW had arrangements in place to minimise the probability and magnitude of accidental and unintended exposures. Staff consistently reported the mechanism in place to report a near misses or incident. Management informed inspectors that increasing numbers of near misses were being reported and this was seen to reflect a positive reporting culture. An example was outlined how the analysis of potential incidents indicated a trend in relation to incorrect laterality, for example left wrist instead of right wrist on referrals, which were corrected by staff in advance of the procedures. Management informed inspectors how feedback was provided to referrers to reduce such potential events recurring.

The hospital had processes in place to ensure that significant events were reported to HIQA within the required time frame. Inspectors were informed how a previous incident which was reported to HIQA was followed up and how changes to practices had been put in place to minimise the probability of this type of event taking place. Inspectors were informed that these changes in practice were audited regularly to ensure compliance with the local procedures.

Judgment: Compliant

Appendix 1 – Summary table of regulations considered in this report

This inspection was carried out to assess compliance with the European Union (Basic Safety Standards for Protection against Dangers Arising from Medical Exposure to Ionising Radiation) Regulations 2018 and 2019. The regulations considered on this inspection were:

Regulation Title	Judgment
Governance and management arrangements for medical exposures	
Regulation 4: Referrers	Compliant
Regulation 5: Practitioners	Compliant
Regulation 6: Undertaking	Substantially Compliant
Regulation 10: Responsibilities	Compliant
Regulation 19: Recognition of medical physics experts	Compliant
Regulation 20: Responsibilities of medical physics experts	Compliant
Regulation 21: Involvement of medical physics experts in medical radiological practices	Compliant
Safe Delivery of Medical Exposures	
Regulation 8: Justification of medical exposures	Substantially Compliant
Regulation 9: Optimisation	Compliant
Regulation 11: Diagnostic reference levels	Compliant
Regulation 13: Procedures	Substantially Compliant
Regulation 14: Equipment	Substantially Compliant
Regulation 16: Special protection during pregnancy and breastfeeding	Compliant
Regulation 17: Accidental and unintended exposures and significant events	Compliant

Compliance Plan for University Hospital Waterford OSV-0007381

Inspection ID: MON-0031222

Date of inspection: 04/05/2022

Introduction and instruction
This document sets out the regulations where it has been assessed that the undertaking is not compliant with the European Union (Basic Safety Standards for Protection against Dangers Arising from Medical Exposure to Ionising Radiation) Regulations 2018 and 2019.

This document is divided into two sections:

Section 1 is the compliance plan. It outlines which regulations the undertaking must take action on to comply. In this section the undertaking must consider the overall regulation when responding and not just the individual non compliances as listed in section 2.

Section 2 is the list of all regulations where it has been assessed the undertaking is not compliant. Each regulation is risk assessed as to the impact of the non-compliance on the safety, health and welfare of service users.

A finding of:

- **Substantially compliant -** A judgment of substantially compliant means that the undertaking or other person has generally met the requirements of the regulation but some action is required to be fully compliant. This finding will have a risk rating of yellow which is low risk.

- **Not compliant -** A judgment of not compliant means the undertaking or other person has not complied with a regulation and considerable action is required to come into compliance. Continued non-compliance — or where the non-compliance poses a significant risk to the safety, health and welfare of service users — will be risk rated red (high risk) and the inspector will identify the date by which the undertaking must comply. Where the non-compliance does not pose a risk to the safety, health and welfare of service users, it is risk rated orange (moderate risk) and the undertaking must take action *within a reasonable timeframe to* come into compliance.

Section 1

The undertaking is required to set out what action they have taken or intend to take to comply with the regulation in order to bring the medical radiological installation back into compliance. The plan should be **SMART** in nature. **S**pecific to that regulation, **M**easurable so that they can monitor progress, **A**chievable and **R**ealistic, and **T**ime bound. The response must consider the details and risk rating of each regulation set out in section 2 when making the response. It is the undertaking's responsibility to ensure they implement the actions within the timeframe.

Compliance plan undertaking response:

Regulation Heading	**Judgment**
Regulation 6: Undertaking	Substantially Compliant
Outline how you are going to come into compliance with Regulation 6: Undertaking: The Justification Policy will be completed and this will clearly define all roles and responsibilities throughout the department. The Radiation Safety Procedures, Section 6.7.2, have been amended to reflect day to day clinical practice and clearly delineate the allocation of responsibility in areas where there are multiple practitioners present. Parts of this section were legacy issues from SI 478 and have been amended accordingly.	
Regulation 8: Justification of medical exposures	Substantially Compliant
Outline how you are going to come into compliance with Regulation 8: Justification of medical exposures: We will introduce a new system for proving that the process of Justification has been undertaken. This will involve scanning all NIMIS generated Triple ID forms into the patient record and using the Justification 'Tick box' as a means of proof that justification has been completed. During on call hours instead of extra printing, there will be a combination of the Triple ID form and the patient presentation sheet. To this end a new set of stamps has been ordered for the department which will document both Triple ID and Justification compliance. These will be used when a patient presents from the emergency department with their patient slip. They will have a tick box section for both ID and justification and they will have a signature and CORU registration number space for radiographer identification.	

Regulation 13: Procedures	Substantially Compliant

Outline how you are going to come into compliance with Regulation 13: Procedures:
The written protocols for the general area will be improved with the addition of exposure charts for each item of equipment. This will include every model of general room and portable machine. These exposure charts will detail relevant exposure factors such as kV, mAs and AEC (or not). These charts will ensure that there is exposure consistency in the procedures that are being carried out in each room.

The issue recording of patient exposure data is under review nationally pending further consultation with the Faculty of Radiologists and other key stakeholders in the coming months. Recording of patient dose will be implemented immediately once guidance is issued.

Regulation 14: Equipment	Substantially Compliant

Outline how you are going to come into compliance with Regulation 14: Equipment:
With regard to the surveillance of medical radiological equipment, a stricter adherence to the timelines of the QA program will be introduced. Special attention will be given to the higher dose modalities to ensure that QA is completed within surveillance timelines. The QA program will be prioritised within the department to ensure that testing is carried out as per schedule.

Section 2:

Regulations to be complied with

The undertaking and designated manager must consider the details and risk rating of the following regulations when completing the compliance plan in section 1. Where a regulation has been risk rated red (high risk) the inspector has set out the date by which the undertaking and designated manager must comply. Where a regulation has been risk rated yellow (low risk) or orange (moderate risk) the undertaking must include a date (DD Month YY) of when they will be compliant.

The undertaking has failed to comply with the following regulation(s).

Regulation	Regulatory requirement	Judgment	Risk rating	Date to be complied with
Regulation 6(3)	An undertaking shall provide for a clear allocation of responsibilities for the protection of patients, asymptomatic individuals, carers and comforters, and volunteers in medical or biomedical research from medical exposure to ionising radiation, and shall provide evidence of such allocation to the Authority on request, in such form and manner as may be prescribed by the Authority from time to time.	Substantially Compliant	Yellow	01/07/2022
Regulation 8(15)	An undertaking shall retain records evidencing compliance with this Regulation for a period of five years from the date of the medical	Substantially Compliant	Yellow	13/06/2022

	exposure, and shall provide such records to the Authority on request.			
Regulation 13(1)	An undertaking shall ensure that written protocols for every type of standard medical radiological procedure are established for each type of equipment for relevant categories of patients.	Substantially Compliant	Yellow	31/08/2022
Regulation 13(2)	An undertaking shall ensure that information relating to patient exposure forms part of the report of the medical radiological procedure.	Not Compliant	Orange	31/08/2022
Regulation 14(1)	An undertaking shall ensure that all medical radiological equipment in use by it is kept under strict surveillance regarding radiation protection.	Substantially Compliant	Yellow	28/04/2023
Regulation 14(2)(a)	An undertaking shall implement and maintain appropriate quality assurance programmes, and	Substantially Compliant	Yellow	28/04/2023