



**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

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| Name of Medical Radiological Installation:    | HSE Dental Clinic Birr                             |
| Undertaking Name:                             | Health Service Executive                           |
| Address of Ionising Radiation Installation:   | Birr Health Centre, St Johns Terrace, Birr, Offaly |
| Type of inspection:                           | Announced  |
| Date of inspection:                           | 21 November 2023                                   |
| Medical Radiological Installation Service ID: | OSV-0007692  |
| Fieldwork ID:                                 | MON-0041408  |

## About the medical radiological installation:

The Health Service Executive (HSE) Dental Clinic in Birr, Co. Offaly is situated in Birr's Old Health Centre on the grounds of the Old District Hospital. Birr's HSE Dental Clinic is a two surgery unit, with one dental surgeon and one hygienist operating on a part-time basis. The intra-oral X-ray unit and digital scanner are situated in Surgery 2.

HSE Dental Clinic Birr mainly treats a paediatric population (0-16 years) for dental assessment and treatment. The HSE dental services locally provides dental emergency services for patients up to 16 years, and children and adults with special needs. The clinic also provides targeted screening of 6th class students for assessment and comprehensive dental intervention. In addition the clinic provides emergency cover for general medical services (GMS) scheme adult patients who may be seen in accordance with acceptance criteria for HSE dental services. There are no external radiograph referrals to this clinic.

## 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<sup>1</sup> reviewed all information about this medical radiological installation<sup>2</sup>. This includes any previous inspection findings, information submitted by the undertaking, undertaking representative or designated manager to HIQA<sup>3</sup> and any unsolicited information since the last inspection.

As part of our inspection, where possible, we:

- talk with staff to find out how they plan, deliver and monitor the services that are provided to service users
- speak with service users<sup>4</sup> 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 doing, we describe the overall effectiveness of an undertaking in ensuring the quality and safe conduct of medical exposures. It examines how the undertaking provides the technical systems and processes so service users only undergo medical exposures to ionising radiation where the potential benefits outweigh any potential

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<sup>1</sup> 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.

<sup>2</sup> A medical radiological installation means a facility where medical radiological procedures are performed.

<sup>3</sup> HIQA refers to the Health Information and Quality Authority as defined in Section 2 of S.I. No. 256 of 2018.

<sup>4</sup> Service users include patients, asymptomatic individuals, carers and comforters and volunteers in medical or biomedical research.

risks and such exposures are kept as low as reasonably possible in order to meet the objectives of the medical exposure.

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 |
|-----------------------------|-------------------------|-----------------|------|
| Tuesday 21<br>November 2023 | 12:00hrs to<br>14:40hrs | Kirsten O'Brien | Lead |

## Summary of findings

An inspection of HSE Dental Clinic Birr was carried out by an inspector on the 21 November 2023 to assess compliance with the regulations. As part of this inspection, the inspector spoke with people working at the clinic, reviewed documentation and visited the room where X-rays were conducted at the clinic.

On the day of inspection, the inspector found that clear lines of oversight and management were in place at the clinic. The designated managers were the principal dentist for the service and the chief officer for the Community Healthcare Organisation (CHO) Area 8. The governance arrangements for the clinic were described to the inspector who also reviewed documentation relating to the allocation of responsibility for the radiation protection of service users. A local radiation safety committee (RSC) was established with reporting relationships in place with the HSE's National Radiation Protection Committee and the National Oral Health Office.

The inspector was satisfied from evidence reviewed that roles and responsibilities were appropriately allocated to individuals defined in the regulations, in particular the allocation of clinical responsibility to a practitioner and the involvement of an MPE at the clinic. The inspector found evidence that justification in advance was carried out and appropriately documented by a practitioner.

Additionally, the inspector found evidence of compliance with the optimisation requirements as per the regulations which included an appropriate quality assurance (QA) programme for the dental radiological equipment. Techniques involved in conducting the practical aspects of dental exposures for children and patients with special needs were also described to the inspector.

Overall, the inspector was satisfied that the undertaking, the Health Service Executive (HSE), had systems in place to ensure the safe and effective delivery of medical radiological exposures at HSE Dental Clinic Birr.

### Regulation 4: Referrers

On the day of inspection, the inspector was satisfied that only referrals for dental exposures from registered dentists were carried out at the clinic.

Judgment: Compliant

## Regulation 5: Practitioners

Only dentists who were entitled to act as practitioners for dental exposures were found to take clinical responsibility for dental exposures at the HSE Dental Clinic Birr.

Judgment: Compliant

## Regulation 6: Undertaking

The inspector spoke with management and reviewed documentation and a sample of patient records. Allocation of governance and management arrangements for the radiation protection of service users was provided jointly through line management and committee structures.

HSE Dental Clinic Birr sits under the governance of CHO Area 8. The principal dental surgeon for the clinic was the designated manager in conjunction with the Chief Officer of the CHO. Dentists working at the clinic reported to the principal dentist who in turn reported to the Chief Officer. A local RSC for CHO's 6, 7, 8 and 9 was in place which had representation from principal dental surgeons, consultant orthodontists, senior dental surgeons and MPEs. The local RSC reports and liaises with the HSE's National Radiation Protection Committee and National Oral Health Office through the Chief Officer. The inspector noted from a review of recent local RSC minutes that the shared RSC offered an opportunity for shared learning across all the clinics operating within the four CHO areas which was found to be an area of good practice as it offers opportunities to improve the quality and safety of dental exposures (X-rays).

On the day of inspection, the inspector found that clinical responsibility was appropriately allocated to dentists registered with the Dental Council and entitled to act as practitioners for the conduct of dental X-rays. Only internal referrals for X-rays from dentists working at the clinic in Birr were carried out. Arrangements were also in place to ensure the continuity and appropriate involvement of MPEs at the clinic.

Overall, the inspector was satisfied that a clear allocation of responsibility for the radiation protection of service users attending the clinic was in place.

Judgment: Compliant

## Regulation 8: Justification of medical exposures

On the day of inspection, posters were present in the waiting room and clinical room

where dental X-rays are carried out to provide information relating to the risks and benefits associated with dental exposures to patients and their representatives. A sample of records of X-rays were also reviewed during the on-site inspection and the inspector also spoke with staff involved in the conduct of X-rays.

Inspectors found that a dentist, registered with the Dental Council, took clinical responsibility for justifying all individual procedures. The referrals reviewed were all in writing and contained information about the reason for requesting the dental X-ray. In cases where a carer or comforter was involved as part of the dental X-ray, a record was retained by the dentist carrying out the X-ray in electronic and hard copy. The recording of this information in a comprehensive manner was noted by the inspector as good practice.

Judgment: Compliant

### Regulation 9: Optimisation

On the day of inspection, the inspector spoke with staff and reviewed documentation and other records related to the optimisation of dental X-rays at the clinic. Overall, the inspector was satisfied from the evidence reviewed that arrangements were in place to ensure that all X-rays were kept as low as reasonably achievable in line with obtaining the required diagnostic information at the clinic.

Dental radiological equipment at the clinic was kept under strict surveillance as discussed in Regulation 14. The inspector found evidence that patient doses were recorded and DRLs were established. Dentists who spoke with the inspector described how exposure parameters were optimised according to individual patient characteristics, such as patient size. The individualised approaches to practical aspects for imaging paediatric and patients with special needs were also described to the inspector. Some of these good practices included arranging a suitable appointment time for the patient dependent on their needs, providing them and their guardians with information and adapting to each individual patients preferences.

The inspector also reviewed clinical audits which had been carried out to evaluate the image quality of a sample of X-rays to ensure the consistent production of adequate diagnostic information. An image quality grade was recorded on each patient's record. Where an image had to be retaken, the reason for this retake was also documented. The availability of this information provided a good resource to allow on-going assessment of image quality and staff explained to the inspector how this information was used to ensure that timely corrective actions were implemented if necessary to ensure continued optimisation.

Judgment: Compliant

## Regulation 10: Responsibilities

Only practitioners carried out the practical aspects of dental X-rays at HSE Dental Clinic Birr. Similarly, records reviewed on inspection, demonstrated that a dentist registered with the Dental Council, acted as the referrer and the practitioner for individual X-rays which was the same individual in most cases. The inspector was satisfied that an appropriate person was involved in the justification process for each dental X-ray conducted as required by the regulations. Staff spoken with communicated how practitioners and an MPE were involved in the optimisation process for all X-rays.

Judgment: Compliant

## Regulation 11: Diagnostic reference levels

DRLs were found to be established for adult and paediatric X-ray procedures conducted at the clinic. These were observed on display in the room where X-rays are conducted in the clinic. These local DRLs had been compared with national DRL values for adult patients, however, no national DRLs are currently available for paediatric dental X-rays to allow a similar comparison.

Judgment: Compliant

## Regulation 13: Procedures

Written procedures for common dental X-rays performed at the clinic were found to be established for both paediatric and adult patients. Additionally, the inspector reviewed a sample of patient records and found that information relating to the patient exposure formed part of the report of the dental X-ray.

Judgment: Compliant

## Regulation 14: Equipment

The dental radiological equipment at HSE Dental Clinic Birr was found to be kept under strict surveillance regarding radiation protection. A QA programme was established and maintained at the clinic. This included QA testing by an MPE, and regular surveillance by the equipment manufacturer and staff at the clinic. The inspector also found that a review of the current QA programme was being carried

out at the time of inspection with a view to identify and implement potential areas of improvement. This was further evidence of the strict surveillance of medical radiological equipment in place at the clinic.

Judgment: Compliant

### Regulation 17: Accidental and unintended exposures and significant events

A policy which outlined the reporting process for accidental and unintended exposures which may occur at the clinic was reviewed by the inspector who also spoke with staff on the day. The inspector was satisfied that an appropriate system was in place to record events involving, or potentially involving, accidental or unintended exposures to ionising radiation. In addition a process to ensure that HIQA is notified of any significant event, if required, was also established.

Judgment: Compliant

### Regulation 19: Recognition of medical physics experts

Arrangements were found to be in place to ensure the continuity of medical physics expertise at the clinic. Documentation, including a service level agreement, was reviewed by the inspector as part of the inspection process.

Judgment: Compliant

### Regulation 20: Responsibilities of medical physics experts

From speaking with staff and reviewing documentation and other records, the inspector was satisfied that an MPE was found to act and give specialist advice, as appropriate, at HSE Dental Clinic Birr. For example, an MPE was involved in the the establishment and review of DRLs, the provision of advice on dental radiological equipment, and the definition and performance of QA of dental radiological equipment. The inspector also found evidence of MPE contribution to staff training, including involvement in a training subcommittee of the local RSC.

Judgment: Compliant

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

HSE Dental Clinic Birr had the appropriate involvement of an MPE to provide consultation and advice as required by the regulations.

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  |
|---|-----------|
| <b>Summary of findings</b>  |           |
| Regulation 4: Referrers   | Compliant |
| Regulation 5: Practitioners   | Compliant |
| Regulation 6: Undertaking   | Compliant |
| Regulation 8: Justification of medical exposures  | Compliant |
| Regulation 9: Optimisation  | Compliant |
| Regulation 10: Responsibilities   | Compliant |
| Regulation 11: Diagnostic reference levels  | Compliant |
| Regulation 13: Procedures   | Compliant |
| Regulation 14: Equipment  | Compliant |
| Regulation 17: Accidental and unintended exposures and significant events               | 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 |