

IR(ME)R annual report 2023/24

CQC is the competent authority in England for enforcement of the Ionising Radiation (Medical Exposure) Regulations 2017, known as IR(ME)R.

The regulations provide a regulatory framework to protect people against the dangers from exposure to ionising radiation as part of their diagnosis and treatment in healthcare settings. We receive and investigate notifications of radiation incidents where patients have received an accidental or unintended exposure, and we inspect IR(ME)R employers to ensure that they comply with the regulations.

Ionising radiation is fundamental to the diagnosis, surveillance, and treatment of a variety of health conditions and is an integral part of the majority of patient care pathways. It includes, for example, chest X-rays, CT scans and nuclear medicine examinations, to treatment of disease using nuclear medicine therapies and cancer treatments using external beam and brachytherapy.

The regulations state that every exposure needs to be justified and optimised to ensure that the benefit for the patient outweighs the risk.

In this report, we provide an update on what we have found from our inspections and the statutory notifications that we received of significant accidental and unintended exposures (SAUE). We share an overview of compliance with the regulations, and some examples of the actions that IR(ME)R employers have taken to improve the quality and safety of care, so that other employers, healthcare professionals and academic bodies can learn from them.

Total activity in 2023/24

To provide context regarding the number of errors that happen compared with the total number of imaging tests carried out in England, we look at the [Diagnostic Imaging Dataset from NHS England](#). This collects information about tests carried out on NHS patients in England.

[Data for 2023/24](#) shows that between March 2023 and February 2024, NHS services in England carried out 45.5 million imaging tests across all modalities used (43.5 million in 2022/23).

In this report, we only focus on those examinations that use ionising radiation. This includes plain film X-rays, CT, fluoroscopy, nuclear medicine, PET-CT and SPECT, as opposed to other types of tests such as ultrasound, MRI scans or medical photography

In 2023/24, 30.6 million diagnostic examinations used ionising radiation (29.2 in 2022/23).

We can also compare the number of notifiable errors with the Radiotherapy Dataset (RTDS), which is managed by the [National Disease Registration Service \(NDRS\)](#) from NHS England. It collects, curates and analyses data on all radiotherapy activity delivered in NHS hospitals in England.

In 2023/24, there were over 116,000 episodes of radiotherapy treatment in England.

Note: the completeness of radiotherapy activity data varies by NHS trust and trusts may submit historical data at a later date. Therefore, it is possible that some data may still be missing and that there may be changes to overall figures as the RTDS is updated over time.

