Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

NATIONAL SURVEY TO ASCERTAIN INCIDENT MANAGEMENT PROCEDURES IN RADIOTHERAPY CENTRES 2020

NATIONAL RADIATION PROTECTION OFFICE

ACUTE HOSPITAL OPERATIONS

HEALTH SERVICE EXECUTIVE

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BACKGROUND

Public hospitals which provide a radiotherapy service are required to report all incidents and near miss events on the National Incident Management System (NIMS) and manage these events in accordance with the Health Service Executive (HSE) Incident Management Framework (IMF)[1].

Analysis of the radiotherapy incidents reported on the NIMS in 2019 indicated that not all hospitals were compliant with the HSE dictate. This finding was presented to the National Radiation Protection Committee (NRPC) and National Cancer Control Programme for consideration. It was suggested that perhaps the NIMS categorisation and IMF guidance were too generic to capture the magnitude and risk of radiotherapy incidents and as a consequence, each practitioner may have had a different interpretation when it came to identifying an incident and if there was in fact a failure in process. Also, perhaps there was some confusion in relation to the dual requirement to report all incidents on the NIMS regardless of severity and to report only those incidents which met notifiable criteria to the regulator.

It was accepted that hospitals providing a radiotherapy service were compliant with the statutory requirement to report notifiable incidents to the regulator but it was not clear why some locations failed to report any radiotherapy events on the NIMS.

THE SURVEY

The NRPC aimed to standardise the identification, reporting and management of incidents in radiotherapy locations as far as reasonably possible, and in accordance with the HSE IMF, in order to improve reporting on the NIMS and promote a safety culture.

[1] There is also a statutory requirement to report radiation incidents involving staff or members of the public to the Environmental Protection Agency and incidents involving patients that meet particular notification criteria to the Health Information and Quality Authority.

As a scoping exercise to support the NRPC, the National Radiation Protection Office (NRPO) undertook a national survey to ascertain current practice in regards incident management in radiotherapy locations.

METHODOLOGY

A survey was developed by the NRPO, with the support of the NRPC, to identify current practice in radiotherapy departments in relation to the identification, reporting and management of incidents including near miss events and to determine if and how any learning from an event was shared. The survey questions are presented in the appendix.

The NRPO issued the survey in January 2020 to the seven public hospitals which manage the care of radiotherapy patients. The hospitals were the St. Luke's Radiation Oncology Network (SLRON) which includes Beaumont Hospital, St. James' Hospital and St. Luke's Hospital, and University Hospital Limerick, University Hospital Waterford, Cork University Hospital and University Hospital Galway.

FINDINGS

All radiotherapy departments responded to the NRPO survey.

The responses were collated and findings are presented hereunder.

1. Governance

All hospitals reported that they had a Radiation Safety Committee (RSC) which met several times a year and had, as a standing item on the agenda, a discussion pertaining to radiation safety incidents. The RSC typically comprised of senior hospital managers and relevant clinical and departmental leads, including representatives from the Quality and Risk department.

Within all radiotherapy departments, there was a local quality committee established to review practice, including incident management and issues identified here were escalated to the RSC, as appropriate. This local quality committee typically identified the incidents that were to be reported to the regulator. The committee held frequent meetings (weekly, fortnightly or monthly) and typically comprised of relevant professionals, namely the radiation therapist, radiation therapy service manager, medical physics expert, radiation safety officer and clinical lead. There was no Quality and Risk representative on this local committee. It was noted by one respondent that there

was confusion around the role of the hospital Quality and Risk officer in relation to the radiotherapy department and how communication should operate between both departments.

The SLRON reported that each hospital had a local multidisciplinary departmental committee established to assess processes and monitor incidents. This committee met on a fortnightly basis and escalated issues to the Network, as required. The Network Incident Learning Committee met monthly to discuss the issues raised, in particular, incidents and emergent risks. The Quality and Risk Manager attended these monthly network meetings and ensured that appropriate risk ratings were maintained on the hospitals' risk registers. The Network Incident Learning Committee reported to the RSC.

It was stated by two respondents that there was a service level agreement in place between the public hospital and a local private facility for the provision of radiotherapy services, specifically, University Hospital Limerick with the Mater Private; and University Hospital Waterford with the UPMC Hillman Cancer Centre. In both instances, the radiotherapy treatment was administered to the public patient in the private facility. Thus, any incident that may have occurred during the radiation exposure was not captured on the NIMS.

Given the statutory requirement to report radiation incidents to the regulator and the HSE mandate to report incidents on the NIMS, the NRPO sought assurance from both private radiotherapy facilities that incidents involving public patients were managed in accordance with HSE standards and reported to the regulator, as required.

Both private hospitals confirmed in writing that all radiation safety incidents were reviewed regularly by the relevant experts within the radiotherapy department and this review included input from the hospital quality and risk manager. All learning from incidents and subsequent quality improvement initiatives were shared with staff locally and within the respective hospital network to promote safe practice. Incidents were recorded electronically at the local level and reported to the regulator as required. There was no formal obligation to report incidents involving public patients to the referring hospital.

2. Reporting incidents on the NIMS

As explained previously, two hospitals outsourced radiation treatment to the private sector and as a consequence, did not report radiation exposure related incidents on the NIMS.

2.1 NIMS menu for reporting an incident

The remaining five hospitals were aware of the requirement to report incidents on the NIMS. Of these, only two considered the categories in the NIMS menu for describing radiotherapy incidents fit for purpose.

In relation to the SLRON, adverse events were reported locally as incidents, near misses, non-conformances and concessions. Non-conformances and concessions were not logged on the NIMS. It was suggested that the NIMS categories were more applicable to diagnostic radiation procedures rather than radiotherapy and that perhaps including additional categories specific to radiotherapy processes would be beneficial. For example, the option used in the NIMS menu most frequently to describe the radiotherapy incident process or cause was cited as '*performing the procedure'* and *'wrong process/ treatment/procedure'*. It was proposed that this categorisation failed to reflect the true nature of the radiotherapy incident and that it differed from the incident categorisation and guidance issued by the regulator.

2.2 Uploading data to the NIMS

All respondents said that the radiotherapy staff reported incidents to the hospital Quality and Risk department which was tasked with logging the incident on the NIMS. Respondents reported that radiotherapy staff did not have direct access to NIMS and were not trained on how to use the system to generate reports. Two respondents noted that the inability to access the NIMS directly and generate specific radiotherapy reports was an inconvenience and often resulted in delayed identification of incident trends.

2.3 Awareness of what constituted an incident

The HSE IMF is available online and provides generic guidance to all healthcare staff on how to identify, assess and manage an adverse event. Two respondents reported that there were no local guidelines available to support staff in identifying a particular failure in process as a reportable event. One hospital reported that they used the guidelines for identifying radiotherapy incidents promulgated by the MERU[2] which, despite being obsolete, was considered easy to comprehend and conducive to promoting safe practice in regards incident reporting.

The three hospitals within the SLRON routinely reported radiotherapy incidents on the NIMS. Workflow processes were officially documented and maintained through the Network Quality

[2] The HSE Medical Exposure Radiation Unit (MERU) was the regulatory unit established within the HSE to ensure compliance with Statutory Instrument (SI) 478 (2002). The MERU was stood down in February 2019 with the enactment of SI 256 (2018).

Assurance in Radiotherapy (QART) group. The QART ensured that, at each site, various checks were in operation along the radiotherapy pathway to identify failures in process. Also, new procedures were subjected to a prospective risk assessment before being initiated. Radiotherapy staff were aware that a breach in procedure constituted an incident and they were encouraged to report it.

3. Outcome of incident reviews

Quality improvement plans were developed and initiated locally in all hospitals and within the SLRON, across the three sites, where appropriate. In all hospitals, progress was monitored closely by the local radiotherapy quality committee through regular audit and mitigation plans were modified, as required.

The SLRON noted that individual staff members were assigned responsibilities for implementing actions such as risk assessments or recommendations from incident reviews, which were required to be completed within specified timeframes. Also, the Quality and Risk department had an important role in monitoring progress.

All respondents noted that the outcome of incident reviews, including quality improvement initiatives, was routinely presented to staff working in the radiotherapy department and shared with the quality committees at local level and with the hospital RSC.

4. Sharing the learning

All respondents reported that the analysis of incident reports, including potential trends, was shared with the multidisciplinary team within the radiotherapy department. This was typically done through formal team meetings, the use of a 'huddle board' in the department, email notifications, short training sessions targeted at specific teams, review and revision of local protocols and by publishing reports.

In addition, the SLRON reported that learning was shared formally across the three sites via the monthly Network Incident Learning Committee and the publication of an annual report. A quarterly incident learning poster was presented to all staff which detailed the types of incidents which had occurred across the three sites and the quality improvement initiatives developed as a result of the incident reviews.

There was no indication from respondents that learning was shared nationally.

CONCLUSION

Close collaboration between the hospital Quality and Risk team and the radiotherapy department is fundamental to ensuring that radiotherapy incidents are identified appropriately and reported on the NIMS. This will also ensure that trending reports are made available to frontline radiotherapy staff in a timely fashion.

Establishing a national communication plan between radiotherapy locations will facilitate the sharing of information and quality improvement initiatives, thereby promoting best practice in radiation protection.

RECOMMENDATIONS

The actions hereunder are proposed to promote radiotherapy incident reporting on the NIMS:

1. Conduct a review of the NIMS menu for detailing a radiotherapy incident and amend, as required.
2. Include guidance specific to radiotherapy in the HSE IMF to support locations in identifying and reporting radiation safety incidents on the NIMS.
3. Develop and initiate a communication plan to share learning from incident reviews and quality improvement initiatives across all radiotherapy services.

APPENDIX

NRPO Survey

1. Governance

Is there a local Radiation Safety Committee, or other committee, where radiotherapy incidents are discussed?

Answer:

Are radiation safety incidents reviewed regularly?

Yes ☐

No ☐

If yes, by whom (for example, what disciplines) and how often?

Answer:

Is the Hospital Lead for Quality and Risk involved in this process?

Yes ☐

No ☐

Further Comments:

2. Reporting incidents on the NIMS

Is there a local guideline available to support staff in identifying a particular failure in process as an incident?

Answer:

Have staff who has responsibility for recording incidents on the NIMS received training to operate the system?

Yes ☐
No ☐

In your opinion, are the categories for describing radiotherapy incidents on the NIMS fit for purpose?

Yes ☐
No ☐

Further comments:

3. Outcome of reviews

Are quality improvement plans developed as a result of incident reviews?

Yes ☐
No ☐

What measures are taken to ensure recommendations have been implemented?
Answer:

Are these plans discussed at the local Radiation Safety Committee?

Yes ☐
No ☐

Further comments:

4. Share the learning

What measures are taken to share any learning derived from incident reviews?

Answer:

How are staff informed of quality improvement initiatives?

Answer:

Is the learning shared with other radiotherapy locations?

Answer:

Further comments:

The NRPO welcomes any suggestions you may have which could contribute to process improvement nationally.