

NSIR-RT BULLETIN

Welcome to the electronic bulletin for the National System for Incident Reporting - Radiation Treatment (NSIR-RT). This Bulletin supports continuous learning from incident data through the presentation of data trends and case studies. It will also provide system users with information on program developments and enhancements.

NSIR-RT By the Numbers

Incidents submitted: 4,354

Actual incidents: 2,712

Near miss: 1,293

Programmatic hazard: 349

Severity:

None (2,072)

Mild (586)

Moderate (48)

Severe (6)

A message of support from the Chair of CPQR

The Canadian radiation treatment community works hard to build reliable and safe systems for radiotherapy locally and across Canada. This is more important now than ever. Radiation treatment, like other areas of health care, is particularly vulnerable at times like this when overall capacity is stressed. The contributions of CPQR members, partners and the community will help keep Canadian programs running smoothly and our patients safe.

Thank you and stay well,

Michael Milosevic

Incident Reporting: Importance, Challenges and Opportunities

Incident reporting improves patient safety by preventing incident recurrence or propagation. However, the increasing burden and fiscal restraints on radiation treatment programs often present challenges for programs to prioritize reporting. Because of the many considerations associated with radiation treatment incidents, there is a need to support local quality improvement activities and shared learning. A core tenet of CPQR is to encourage pan-Canadian alignment and promote reporting of all incidents wherever possible. Nonetheless, it is recognized that there are limits to reporting and prioritizing incidents offering the greatest learnings to the pan-Canadian audience. Over the next two issues, CPQR will share examples of prioritization frameworks that programs may find useful when trying to optimize incident reporting within their programs while being mindful of competing priorities.

Part 1: Ontario Health—Cancer Care’s Radiation Incident Safety Committee (RISC)

Ontario’s Radiation Incident Safety Committee (RISC) consists of Radiation Incident Leads from each Ontario Cancer Centre and members from Ontario Health (Cancer Care Ontario) to advise and communicate on radiation incidents for improved safety and risk mitigation.

The committee has developed a guidance tree tool to aid centres with determining what incidents should be submitted to the Canadian Institute for Health Information (CIHI’s) National System for Incident Reporting – Radiation Therapy (NSIR-RT).



The tool helps ensure that cases of significant interest and/or with greatest learning potential at a national level are submitted to NSIR-RT.

The objective of the tool is to improve reporting consistency between centres, maintain and improve reporting volumes where appropriate, continue to identify incident reporting learning opportunities and to ensure that the database contains meaningful data and insights at provincial and national levels. The tool has been used on a trial basis for the past six months and will be finalized in the near future.

Should programs wish to follow-up on this framework in detail; the process behind the tool creation, how the tool has increased communication within the province and recommendations for adoption to other provinces across the country. Please contact Julie.Himmelman@cancercare.on.ca

If you want learn more about how to best characterize incidents or improve the role incident learning plays in your centre's quality improvement activities, check out these resources on the CPQR website: the NSIR-RT [Minimum Data Set \(MDS\)](#) and online [incident reporting and learning course](#).

Part 2 of this series will be continued in the next issue: A prioritization Framework for Incidents in Radiation Oncology.

NSIR-RT Case Study

Using volume trend analysis to reduce incident propagation

There are currently over 4,000 incidents in the NSIR-RT database which makes it a very powerful resource for incident analysis and learning. Within the system, analysis can be done at various levels from local to pan-Canadian and users have the option to view results at the All NSIR-RT level: by province, region, corporation or site, and even at the unit level. In this case study we demonstrate the value of analyzing volume-trends in NSIR-RT to identify process issues.

Patient Safety Issue

A centre noticed a marked rise above baseline in the total number of local incident reports submitted over a 3-month period. The centre's incident reporting group recommended further investigation.

Investigation

The local incident reporting group initially compared the frequency of *Problem Type* for the time frame in question, in order to determine if the rise in reports could be linked to a single problem type requiring further exploration. There appeared to be no significant difference in the frequencies reported between quarters, other than a small rise across numerous problem types.

How to run a frequency analytic in NSIR-RT

1. Login to NSIR-RT.
2. Click on Analyze tab then the Analytical Tool link.
3. In the new screen, click on the NSIR folder, then the Shared Reports folder, the RT Aggregate Reports folder, and finally the RT Single Variable Report folder.
4. Select "Problem Type – Primary" OR "Body Regions Treated" or "Radiation Treatment Technique" for the data element for the rows of the report.
5. Select "All NSIR" or "Facility" for the Organization Type of Interest. All NSIR will return a report aggregating all the incidents submitted by all participating sites. Selecting Facility will allow you to identify your facility in the next step.
6. Click on "Run Report" in the bottom left corner. If you selected "All NSIR" your report will generate.
7. If you selected "Facility", a new page will appear where you can select your facility. Click on "Run Report" and the report will be generated containing your facility's data only.

Because the rise in incidents could not be answered through analysis of a single *Problem Type*, the incident reporting group decided to take a step back given the potential for more latent failure to have resulted in varying incidents of differing *Problem Types*. Analytics were completed on the local incident data. Volume trends in *Body Region Treated* and *Radiation Treatment Technique* were each isolated.

A similar peak in the volume of incidents reported for brain and external beam photon radiotherapy – stereotactic body radiotherapy (SBRT) or stereotactic radiosurgery (SRS) was observed. This led the incident reporting group to investigate the cranial stereotactic program within their department.

Discovery

The team discovered that during the reported timeframe, new indications for cranial SRS/SBRT had been implemented within the department. The increase in the number of patients to the program resulted in increased oncologist, treatment planning, and simulator/treatment unit workload, and highlighted areas needing improvement within the standardized cranial stereotactic protocol. Thus, a small change in the program resulted in multiple near-miss events spread over different *Problem Types*.

Actions Taken

Information gathered through the analysis was submitted to the local cranial stereotactic group. Changes were made to the standardized protocol and accompanying interdisciplinary education sessions were delivered.

Result and Recommendation

The determination of a single latent programmatic issue was made possible by analyzing volume trend data separated by *Body Region Treated* and *Radiation Treatment Technique*. Following revisions to the standardized cranial stereotactic protocol and education, the baseline of reported events was re-established.

This case study shows the benefit of reporting all problem type errors to NSIR-RT. While the value of submitting each individual near miss is weighed against the level of effort required, a more complete picture of incidents and near misses occurring within a centre has incredible potential as a statistical analysis tool. If your centre isn't using NSIR-RT yet or you want more information on how to use the analytic tool [contact CIHI](#).

Vanessa's Law: Mandatory reporting of serious adverse effects

The Protecting Canadians from Unsafe Drugs Act is intended to increase drug and medical device safety in Canada by strengthening Health Canada's ability to collect information and respond swiftly and appropriately in response to serious health risks. The law came into effect in December 2019, making it mandatory for hospitals to report serious incidents to Health Canada. Health Canada has developed [Educational Support for Mandatory Reporting](#) that describes and promotes serious incident reporting and explains how Health Canada communicates safety findings.