Radiation Incident Safety Committee: Improving Quality and Safety within Radiation Treatment

Simniceanu C[1], Gutierrez E[1], Murray E[1], Ang M[1], Lockhart E[1], Medlam G[2], Liszewski B[3], Hunt J[4], Ross S[4], Brown E[5], Warde P[1,6], Angers C[7]

[1]RADIATION TREATMENT PROGRAM, CANCER CARE ONTARIO, [2]PEEL REGIONAL CANCER CENTRE, [3]ODETTE CANCER CENTRE, [4]CANADIAN INSTITUTE FOR HEALTH INFORMATION, [5]CANADIAN PARTNERSHIP FOR QUALITY RADIOTHERAPY, [6]PRINCESS MARGARET CANCER CENTRE, [7]OTTAWA HOSPITAL REGIONAL CANCER CENTRE

Purpose

The Radiation Treatment Program (RTP) at Cancer Care Ontario (CCO) established the Radiation Incident Safety Committee (RISC) in 2006 to disseminate radiation incidents and support the knowledge sharing of incident safety information across provincial radiation programs. The committee consists of Radiation Incident Leads (RILs) from each regional cancer program. The RILs' responsibilities include:

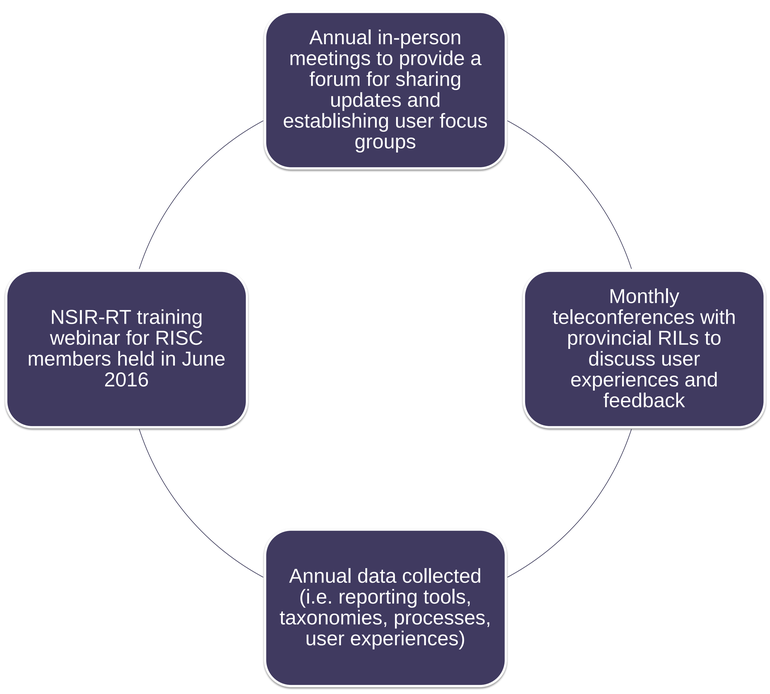
- Participating in quarterly teleconferences in order to share incident information
- Attending annual face-to-face committee meetings to share and discuss key centre updates
- Supporting the dissemination of critical and non-critical incidents
- Partaking in knowledge sharing activities such as webinars, as well as poster and/or oral presentations

The National System for Incident Reporting-Radiation Treatment (NSIR-RT) is a national incident reporting and learning system for radiation treatment (RT) incidents, developed and implemented by the Canadian Partnership for Quality Radiotherapy (CPQR) and hosted by the Canadian Institute for Health Information (CIHI). CIHI and CPQR developed a NSIR-RT pilot project that was conducted for one year in order to beta test issues with the taxonomy, data entry and functionality. RISC played a pivotal role in evaluating the pilot program using a health technology assessment (HTA) framework.

Methods

The HTA of the NSIR-RT pilot by RISC evaluated whether the system improves quality and safety in RT. The NSIR-RT pilot ran from December 2015 to December 2016 and 13 out of 14 Ontario regional cancer centres that are represented within RISC registered for the pilot. The assessment was facilitated through several ways as highlighted by the diagram below **(Figure 1**):

Figure 1. RISC's HTA of NSIR-RT Pilot



Results

Following the completion of the NSIR-RT pilot, RISC provided feedback to CIHI and CPQR. The 14 Regional Cancer Centres were surveyed following the completion of the pilot and in advance of the annual in-person committee meeting in February 2017. An overview of key survey responses are highlighted below **(Figure 2)**:

Figure 2. Overview of annual in-person meeting survey results (n=14)

Use of NSIR-RT

- **46%** entered incidents into the system

Information Entered in NSIR-RT to Date

- **23%** entered several incidents
- **31%** entered 50 or more cases
- **15%** entered all incidents into the system

Barriers Encountered by System Users

- **67%** noted that entry takes a long time
- **67%** cited a lack of compatibility between their local system and NSIR-RT
- **44%** noted difficulty with internal permission levels, access and passwords
- **44%** noted difficulty with poorly structured fields (i.e. limiting problem types)
- **33%** identified the system as "not user friendly"
- **33%** cited a lack of resources as a barrier to incident entry within the system

Local Systems Used

- **46%** use a local in-house reporting system

NSIR-RT Use Strategy

- **23%** plan to use NSIR-RT for CCO reporting purposes
- **15%** plan to use NSIR-RT to replace their local system
- **15%** plan to use NSIR-RT to enter all incidents

Results

Based on their experience with NSIR-RT, RISC and all system users provided feedback to CIHI which helped inform the following three changes **(Figure 3).**

Figure 3. Changes in the process of being incorporated by CIHI following RISC and all-user feedback

1. Establishment of a framework to support improved understanding and utilization of NSIR-RT
2. Improvement to NSIR-RT user access levels
3. Adjustments to the minimum data set to improve reporting accuracy and enhance learning opportunities

Conclusions

Although the scope of RISC's initiatives have typically been provincial, RISC has effectively collaborated with CIHI and CPQR around a national initiative to achieve safety, system and quality improvements in RT. The HTA of the NSIR-RT pilot by RISC has focused on mitigating barriers and system usage in order to improve the safety and quality of RT for patients in Ontario.

Future work will focus on supporting CPQR and CIHI around the formalization of NSIR-RT to ensure that the system is in-line with the needs of regional cancer centres'. Furthermore, RISC will continue to develop its' relationship with key national stakeholders in order to ensure that RT is not only of the highest quality and safety within Ontario, but also across Canada.

References

1. Cancer Care Ontario. Summarized Roundtable Survey Data: RISC In-person meeting, 2017.
2. Cancer Care Ontario. Annual RISC In-person meeting presentation, 2017.
3. Canadian Institute for Health Information. Overview of NSIR-RT Survey Data, 2017.