RADIATION ONCOLOGY PEER REVIEW:

A Pan-Canadian Quality Improvement Initiative

CANADIAN PARTNERSHIP AGAINST CANCER

PARTENARIAT CANADIEN CONTRE LE CANCER

Queen's University

CPQR
Canadian Partnership for Quality Radiotherapy

PCQR
Partenariat canadien pour la qualité en radiothérapie

Peer Review in Review

What is "Peer Review"?

A radiation oncology program has many quality assurance processes, many of which involve one individual verifying the work done by another individual.

In the context of Radiation Oncology, peer review has been defined as "the evaluation of components of a radiation treatment plan by a second radiation oncologist".

- The evaluation may be a one-on-one process (for example, when a second radiation oncologist reviews a proposed treatment plan of a colleague). This approach is analogous to a radiologist reviewing the x-ray findings of a colleague.

- The evaluation may also involve multiple disciplines, where a group of colleagues in oncology, physics, dosimetry, and therapy collectively review a proposed plan. This approach is analogous to a multidisciplinary tumour board where collective opinions emerge.

- The common component of each approach is a second review by a Radiation Oncologist colleague.

Why is Peer Review Important?

Peer review has been shown to be effective in improving the quality of treatment by detecting deficiencies in a specific patient's proposed treatment plan, and correcting the plan prior to proceeding with treatment.

Evidence supporting the use of peer review in practice comes from a number of different sources including:

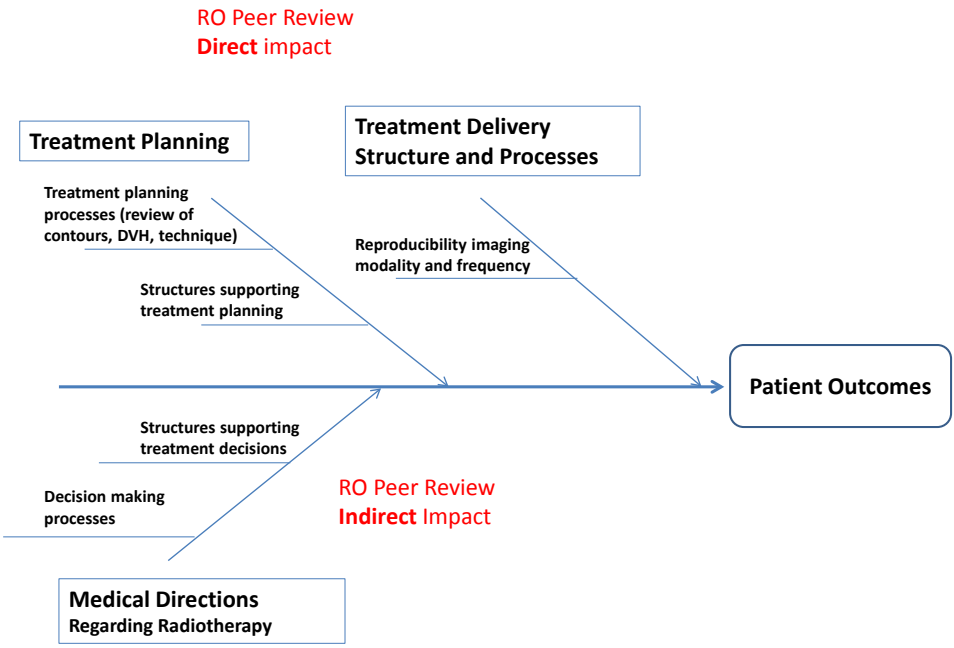
- Evidence of variation in contouring practices between individual Radiation Oncologists
- Descriptions of how treatment plans are improved by peer review processes
- Evidence from clinical trials illustrating that radiation quality assurance on treatment planning improves patient outcomes

Peer review has also been shown to be effective in improving departmental policy development and treatment planning processes, by reducing variation in practice, improving communication, providing continuous medical education, and increasing staff awareness of treatment processes.

Where Does Peer Review Fit in a Typical Radiation Oncology Program?

Fishbone diagrams like the one seen below are commonly used in industry to demonstrate cause and effect.

This "Cause and Effect" diagram illustrates the structures and processes of a radiation oncology program that support: a) medical decisions to employ radiotherapy, b) treatment planning, and c) treatment delivery. The illustrations highlight the direct and indirect impact of peer review on improved treatment plans, program treatment policies, and decision making for radiotherapy. This impact ultimately leads to improved patient outcomes.



What steps are required for a Radiation Oncology Program to implement peer review?

Cancer Care Ontario has some experience in this regard. Here is the CCO guidance document that you may find helpful as you implement peer-review processes.

https://www.cancercare.on.ca/common/pages/UserFile.aspx?fileId=299876

Cancer Care Ontario
Action Cancer Ontario

Radiation Oncology Peer Review Guidance Document	
Definition of Radiation Oncology Peer Review	• The evaluation of components of a radiation treatment plan by a second radiation oncologist.
Qualifying Statements	
Organizational Culture	• Peer review requires an organizational culture that allows and encourages review of physician decisions. However, responsibility of care remains with the attending oncologist and recommendations from peer review will be implemented at his/her discretion. • All members of the team have a role in informing the peer review process. • The peer review process is enhanced when it occurs in a multi-disciplinary setting with participation from radiation therapists and medical physicists.
Functions of Peer Review	• Peer review ensures the treatment plan is appropriate from both safety and effectiveness perspectives through the evaluation of: clinical decision, contours (target, OARs), and dosimetry. For the purpose of this document, review of the clinical decision alone (e.g. at a multidisciplinary case conference) is not sufficient for meeting the criteria for radiation oncology peer-review. • Secondary functions of peer review include: continuing education, process development and reduction in practice variation, improved outcomes, communication, collaboration, quality improvement, team building.
Case Selection for Peer Review	• All radiation treatment plans administered with adjuvant or curative intent. • All radiation treatment plans where there is a significant potential for adverse patient outcome if tumour targets and/or normal structures are treated inappropriately including: conventionally fractionated treatment plans, high dose single fraction plans, brachytherapy plans, and plans with a palliative intent. • All radiation treatment plans where a specific concern is identified at any point in the planning or treatment process.
Timing of Peer Review	• Peer review occurs before the start of treatment, but in all cases before 25% of the total prescribed dose has been delivered. • Additional peer review may occur at any point during treatment as issues/concerns are identified (i.e., CBCT review).
Documentation and Communication of Peer Review	• The peer review process includes communication of recommendations to the attending oncologist. • Documentation of peer review may include: that peer review has occurred, recommended changes, outcome of recommendations (i.e., plan changed or plan not changed) • Documentation may occur in the medical record, the treatment record, or off-line.

The Canadian Partnership for Quality Radiotherapy (CPQR) Quality Assurance Guidelines for Radiation Oncology Programs includes quality indicators for Peer Review.

Guideline 6.11 states that:

"All radiation treatment plans administered with adjuvant or curative intent, and other plans where there is a significant potential for adverse patient outcome if tumour targets and/or normal structures are treated inappropriately, undergo Radiation Oncologist peer review of volumes and dosimetry ideally before the start of treatment in all cases, or if not possible, before 25 % of the total prescribed dose has been delivered. This includes conventionally fractionated or hypofractionated treatment plans, high dose single fraction plans, stereotactic, and brachytherapy plans."

Key Quality Indicators #33, 34, 35	Indicator Measure
Percentage of adjuvant or curative radiotherapy treatment plans that undergo Radiation Oncologist peer review prior to the start of treatment.	0-100 %
Percentage of adjuvant or curative radiotherapy treatment plans that undergo Radiation Oncologist peer review before 25 % of the prescribed dose has been administered.	0-100 %
Percentage of adjuvant or curative radiotherapy treatment plans that undergo Radiation Oncologist peer review at any point in time.	0-100 %

Here's the link to the complete document. http://www.caro-acro.ca/Assets/CPQR.pdf

The Pan-Canadian Peer Review Initiative

This Pan-Canadian initiative, which is **funded by the Canadian Partnership against Cancer (CPAC)**, comprises a pan-Canadian strategy to improve the quality of radiotherapy (RT) in Canada by accelerating the uptake of peer review in radiotherapy programs.

The initiative is directly aligned with one of the strategic priorities of the Canadian Partnership against Cancer (CPAC), namely, facilitating actions to enhance the quality of clinical care across multiple jurisdictions. Enhancing peer review processes in Canadian cancer centres further aligns with CPAC strategic goals by increasing the likelihood of desired health outcomes within the context of practices consistent with current professional knowledge.

You can be a part of this

Why Accelerate the Dissemination of Peer Review Processes in Radiation Oncology in your Province?

Peer review is endorsed internationally, nationally, and provincially by Ontario clinics experienced in its use. In Ontario, uptake was accelerated by a coordinated provincial plan aimed at promoting, guiding, and evaluating the effective implementation of peer review. Use of this important QA process in your provincial cancer centres will ultimately help to optimize individual treatment plans and departmental policies. These outcomes will, in turn, translate to improved rates of disease control and fewer adverse outcomes for Canadians receiving radiotherapy.

The Summary Data Required for Participation in the Pan-Canadian Peer Review Initiative

The data required for participation in the Pan-Canadian Peer Review Initiative are provincial-level summary data. In other words the data will be sent to the national co-ordinating centre at Queen's in an aggregate form. Individual cancer centres will not be identified nor will specific physicians. There will be no patient identifiers attached to the data.

The focus of the data collection nationally is at the level of the CPQR quality indicators for peer review, that is percent of cases reviewed and the percent of cases requiring change.

Implementation Support

We're here to support you in implementing Peer Review

We are happy to share with you the experiences, tips and tools for data collection from Ontario's peer review pilot project.

The Ontario experience has provided a model for implementation, illustrated a number of potential problems to avoid, and built a bank of answers to frequently asked questions.

To find these frequently asked questions and answers, please go to the following link: http://qcri.queensu.ca/cancer_care_epidemiology/cce_resources/peer_review_faq

For a more direct and customized response to your questions, please contact the Peer Review Initiative team directly by writing to peerreview.initiative@queensu.ca

Useful References

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CONTACT US

PRINCIPAL INVESTIGATOR

Dr. Michael Brundage, MSc, FRCPC, MD
Director of Cancer Care and Epidemiology, Cancer Research Institute, Queen's University
Radiation Oncologist, Cancer Centre of Southeastern Ontario

Project Coordinator

Jennifer O'Donnell
Cancer Care and Epidemiology, Cancer Research Institute, Queen's University

Address:

Cancer Care and Epidemiology, Cancer Research Institute, Queen's University
Kingston, ON
K7L3N6

Phone: 613-533-6895
Email: peerreview.initiative@queensu.ca

Commonly Asked Questions and Answers Website
http://qcri.queensu.ca/cancer_care_epidemiology/cce_resources/peer_review_faq

Please send any comments or questions you may have to peerreview.initiative@queensu.ca and we'll get right back to you