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M. A. Whiton  
*Skagit Valley Hospital Regional Cancer Care Center, Mt. Vernon, WA*

A. P. Dicker  
*Thomas Jefferson University*

E. J. Wuthrick  
*Thomas Jefferson University*

L. Doyle  
*Thomas Jefferson University*

A. S. Harrison  
*Thomas Jefferson University*

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M. A. Whiton*, A. P. Dicker, E. J. Wuthrick, L. Doyle, A. S. Harrison, Y. R. Lawrence
Jefferson Medical College of Thomas Jefferson University, Philadelphia, PA
Skagit Valley Hospital Regional Cancer Care Center, Mt. Vernon, WA*

PURPOSE
Recent reports of medical errors in radiation treatment delivery have emphasized the importance of quality assurance (QA) practices. Strict guidelines exist for medical physics QA, but not for QA procedures as applied to clinicians. We sought to document how clinical quality assurance (QA) meetings or “chart rounds” are performed across academic North American Radiation Oncology departments.

METHODS
We surveyed senior residents at academic institutions in US / Canada via an anonymous web-based survey. Questions addressed various aspects of clinical QA & departmental structure, such as patient throughput, the availability and evaluation of advanced technologies (reported as complexity score), and the frequency of treatment change recommendations made at QA conference.

RESULTS
59/91 (65%) of queried institutions responded.

Geographic Response to Survey

For more information, please contact:
michalwhiton@gmail.com
yaacovla@gmail.com

Treatment Modalities Reviewed
- Over 80% of institutions review all EBRT
- Rates are lower for other modalities:
  • SRS = 60%
  • Brachytherapy = 50%
  - 42% do not review prostate brachytherapy
  - 31% do not review gynecologic brachytherapy

Minor and Major Changes to Treatment Plans Based on QA Review
Minor changes to a tx plan after chart rounds was defined as a small MLC change/re-port-film
- 65% of institutions report minor changes after chart-rounds in < 10% of treatment plans
- 32% report minor changes to 10 - 30% of treatment plans
Major changes were defined as a dose prescription change or a re-plan with dosimetry recommendation
- 75% of institutions report < 10% of treatment plans require a major alteration
- 11% report major changes to 10 - 30% of treatment plans
14% of institutions never make major treatment plan alterations, while 2% never make minor alterations

Dosimetric Variables Considered
Pt history & Rx were reviewed in >79% of institutions
- Finer details of dosimetry (beams, wedges), 62%
- Isodose coverage, 59%
- Dose-volume histograms, 50%
- IMRT constraints, 40%
- Conebeam images were never reviewed in 51%

Complexity of Treatment and Time Spent Per Patient in QA

The practice of QA chart-rounds varies greatly across North American academic institutions. Surprisingly, despite the fact that chart rounds seldom review the full range of critical data available, changes are frequently made. Brachytherapy treatment plans and radiosurgical procedures are rarely reviewed. The potential effect of a more thorough QA review on patient outcomes is not known. The authors are currently drafting a guideline document.

CONCLUSION