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Practice patterns for peer review in radiation oncology

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Abstract

Purpose: Physician peer review seeks to improve the quality of care through the evaluation of physician performance, specifically medical decision making and technical expertise. To establish current peer review practice patterns, evaluate interest in recommendations for peer review, and establish a framework for future recommendations, the American Society for Radiation Oncology (ASTRO) surveyed its physician members.

Methods and materials: A radiation oncology-specific peer review survey instrument was developed, formally tested, and found to meet established levels of reliability and validity. The final instrument was delivered using a web-based survey platform including reminders. All ASTRO physician-members and members-in-training worldwide were invited by email to participate.

Results: A total of 5674 physicians were contacted starting in January 2013. A total of 572 physicians participated (10%) yielding a ±4% margin of error. Those responding were split evenly between academic providers and private practice and others. The median time since training = 16 years, median number of new patients per year = 215, and median practice size = 6 physicians; 83% of

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respondents were involved in peer review and 75% were comfortable with their program. Of those involved, 65% report doing some review before radiation begins. Of patients treated by these physicians, 56% are reviewed before treatment. Peer review elements reviewed include overall treatment strategy (86%), dose and fractionation (89%), contouring (59%), and isodose or dose-volume histogram (75%). Ninety percent of physicians have changed radiation plans because of peer review. These providers make changes in 7%-10% of cases. Seventy-four percent of physicians agree that ASTRO should make formal peer review recommendations, with 7% in opposition.

Conclusions: This survey suggests that peer review in radiation oncology is common and leads to changes in management in a meaningful fraction of cases. There is much variation in the manner of conducting, and reported utility of, peer review. The majority of ASTRO physician members support formal recommendations and guidance on peer review.

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Introduction

Peer review is an important part of quality assurance.[1,2] The potential role of peer review to improve the quality of care through the evaluation of physician performance was recently highlighted in an American Society for Radiation Oncology (ASTRO)-sponsored Quality Assurance and Patient Safety White Paper.[3] While physics, dosimetry, and therapist peer review is important and merits future attention, this report focuses on physician peer review.

Despite high-risk decisions made daily in our specialty, and the role peer review may play in mitigating risk, there is little published research describing current peer review practices within radiation oncology.

Historically, peer review in radiation oncology has been identified with "chart rounds" and has included a mix of functions, some of which evaluate documentation while others focus on medical decision making. We recognize the value of documentation, but the focus of this project is on medical decision making and technical expertise.

In an effort to better understand current physician peer review practice patterns across our specialty, ASTRO conducted a survey of its members.

The objectives of this survey project were as follows:

(1) To describe the frequency and content of peer review activity among ASTRO physician members.
(2) To inquire about peer review functions directly evaluating medical decision making and technical expertise.
(3) To conduct an exploratory analysis of factors/demographics related to peer review activities.
(4) To describe ASTRO physician members' interest in additional guidance on peer review.

Methods and materials

This project was approved by the institutional review board of the governing institution. The use of subjects was compliant with the exemption requirements of 32 Code of Federal Regulations (CFR) Part 219 and Air force Instruction (AFI) 40-402.

Survey instrument development

A radiation oncology-specific peer review survey instrument was designed by members of the ASTRO Health Services Research Committee for use in this project. Content validity was established using an expert review strategy and a test-retest methodology was used to establish reliability as described in previous work.[4] Please see Appendices eI and eII for details (available online only as supplementary material at www.practicalradonc.org).

Deployment of the final survey instrument

The final survey instrument consisted of 8 demographic and 25 peer or practice review items (1 free-text and 32 multiple choice). The survey was deployed to all 5674 ASTRO physician-members and members-in-training worldwide in January 2013. Members were contacted using their email from the ASTRO database. The email included a hyperlink to a web-based survey platform (Qualtrics Survey Software, Provo UT) and information assuring that no individually identifiable information would be disseminated. No tangible incentives were offered.

Email reminders were provided to nonresponders on days 14, 28, 42, and 56 and the survey closed on day 60 with 572 respondents. We assumed that all emails were received by the study population and calculated a response rate of 10% based on the 2009 Response Rate 2 definition. The final margin of error was $<4\%$ for all items. The survey was designed to require 5 minutes and the actual time spent was median 9 minutes.

Statistical analysis

Descriptive statistics were computed for all survey variables. Logistic regression models were used to examine factors associated with response variables. Statistical significance was assessed at the level of alpha