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Special Article

Enhancing the role of case-oriented peer review to improve quality and safety in radiation oncology: Executive summary

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Abstract This report is part of a series of white papers commissioned for the American Society for Radiation Oncology (ASTRO) Board of Directors as part of ASTRO's Target Safely Campaign, focusing on the role of peer review as an important component of a broad safety/quality assurance (QA) program. Peer review is one of the most effective means for assuring the quality of qualitative, and potentially controversial, patient-specific decisions in radiation oncology. This report summarizes many of the areas throughout radiation therapy that may benefit from the application of peer review. Each radiation oncology facility should evaluate the issues raised and develop improved ways to apply the concept of peer review to its individual process and workflow. This might consist of a daily multidisciplinary (eg, physicians, dosimetrists, physicists, therapists) meeting to review patients being considered for, or undergoing planning for, radiation therapy (eg, intention to treat and target delineation), as well as meetings to review patients already under treatment (eg, adequacy of image guidance). This report is intended to clarify and broaden the

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Conflicts of interest: Before initiation of this white paper, all members of the White Paper Task Group were required to complete disclosure statements. These statements are maintained at the American Society for Radiation Oncology (ASTRO) Headquarters in Fairfax, VA, and pertinent disclosures are published with the report. The ASTRO Conflict of Interests Disclosure Statement seeks to provide a broad disclosure of outside interests. Where a potential conflict is detected, remedial measures to address any potential conflict are taken and will be noted in the disclosure statement. Dr Benedick Fraass has received travel and consulting funding from Varian Oncology Systems as part of the Varian Patient Safety Council. Dr Lawrence Marks and his department receive grant support from Accuray and Elekta. Dr Todd Pawlicki has received travel and honoraria funding from Varian Medical Systems and is a partner at TreatSafely. The Task Group Chair as well as the Chair of the Multidisciplinary Quality Assurance (QA) Subcommittee reviewed these disclosures and determined that they do not present a conflict with respect to these Task Group members' work on this white paper.

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understanding of radiation oncology professionals regarding the meaning, roles, benefits, and targets for peer review as a routine quality assurance tool. It is hoped that this work will be a catalyst for further investigation, development, and study of the efficacy of peer review techniques and how these efforts can help improve the safety and quality of our treatments.

Outline of the full report (available online only at www.practicalradonc.org).

White papers on patient safety in RT

The full report is part of a series of white papers addressing patient safety commissioned by the American Society for Radiation Oncology (ASTRO) Board of Directors as part of ASTRO's Target Safely Campaign. The full length document was approved by the ASTRO Board of Directors on September 11, 2012 and has been endorsed by the American Association of Physicists in Medicine, American Association of Medical Dosimetrists, and the American Society of Radiologic Technologists. The document has also been reviewed and accepted by the American College of Radiology's Commission on Radiation Oncology. These organizations have a long history of supporting efforts toward improving patient safety in the United States.

This report is related to other published reports of the ASTRO white paper series on patient safety, including those on intensity modulated radiation therapy (IMRT) and stereotactic body radiation therapy (SBRT), and those still in preparation. There are sections of this report that defer to guidance in these reports.

1.0 Introduction

Peer review, also known as audit and feedback, is a valuable tool central to quality management or quality assurance (QA) programs.[1]

While peer review has been accepted as an important aspect of quality efforts (especially of physicians' decisions) in radiation oncology for many years, there is currently little specific guidance and limited published literature. The goals of this report are to:

a. provide a summary of current recommendations;
b. review potential peer review targets and to discuss prioritization and rationale; and
c. propose improvements in processes or technology that may facilitate or improve peer review, and acknowledge associated challenges.

1.1 Current peer review recommendations within radiation oncology

Available only at www.practicalradonc.org.

1.2 Prior work on peer review in radiation oncology

Brundage et al[2] assessed the real-time pretreatment review of 3052 treatment plans over 8 years. They found that such pre-radiation therapy peer review was feasible, and that plan modifications were recommended in