Peer Review in Radiology: A Resident and Fellow Perspective

Jeffrey Grenville, MD, David Doucette-Preville, MD, Paraskevi A. Vlachou, MD, Gevork N. Mnatzakanian, MD, Antony Raikhlin, MD, Errol Colak, MD

Abstract

Purpose: The purpose of this study was to explore Canadian radiology residents' and fellows' understanding, attitudes, opinions, and preferences toward peer review.

Methods: An Internet-based anonymous questionnaire designed to understand one's familiarity, attitudes, opinions, and preferences toward peer review was distributed to radiology residents and fellows across Canada. Data were analyzed using descriptive statistics, and answers were stratified by level of training.

Results: A total of 136 trainees responded to the survey with 92 completed survey responses available for descriptive statistics. Approximately half of respondents are familiar with peer review (49%), and 39% of trainees are involved in peer review. Most respondents (92%) expressed an interest in learning more about peer review; believe that it should be incorporated into the residency training curriculum (86%), be mandatory (72%), and that current participation will increase odds of future participation (91%). Most trainees (80%) are comfortable advising one another about errors, but less comfortable advising staff (21%).

Conclusions: Residents and fellows welcome the opportunity to learn more about peer review and believe it should be incorporated into the residency training curriculum. Understanding the attitudes and perceptions held by trainees regarding peer review is important, as a means to optimize education and maximize current and future participation in peer review.

Key Words: Peer review, quality assurance, residents, fellows

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INTRODUCTION

In response to the Institute of Medicine report *To Err Is Human* [1], quality assurance programs by means of peer review have become well established in many radiology departments across the United States [2]. Peer-review programs became more prevalent after maintenance-of-certification and accreditation requirements were put forward by the American Board of Specialties and the ABR, respectively [2,3]. Despite publication of the CAR Guide to Peer Review Systems in 2011, by the Canadian Association of Radiologists [4], peer review is not yet standard practice in most radiology departments in Canada. Partly as a result of recent medicolegal cases involving Canadian radiologists which garnered media attention, an increasing number of radiology departments are instituting and participating in formal peer-review programs. Consequently, Canadian residents and fellows are gaining exposure to the peer-review process during the course of their training.

Research on peer review in radiology has predominantly focused on diagnostic accuracy [5-11]. More recently, the attitudes and perceptions of practicing radiologists toward the peer-review process have been published [12,13]. A survey by Eisenberg et al [12] reported that almost half of radiologists participating in a RADPEER™ program believed that the program was valuable. However, nearly half of the respondents agreed that a program of this type is "a waste of time" and a majority believe that the peer-review program was intended to meet hospital and regulatory requirements. Loreto et al [13] reported that most staff radiologists shared concerns regarding the incorporation of a nonanonymous peer-review system including, medicolegal exposure, the

Department of Medical Imaging, St Michael's Hospital, University of Toronto, Toronto, Ontario, Canada.

Corresponding author and reprints: Errol Colak, MD, Department of Medical Imaging, St Michael's Hospital, University of Toronto, 30 Bond St, Toronto, Ontario, Canada M5B 1W8; e-mail: ColakE@smh.ca.

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potential for damaging relationships, and potential influence on job security.

The attitudes, perceptions, opinions, and preferences held by radiology residents and fellows toward peer review have yet to be explored. Clarifying views and concerns held by trainees is important, as it can provide insight to faculty and program directors that can be used to help implement and improve peer-review education and participation. The objective of our study was to investigate trainees' general knowledge, preferences, and concerns regarding peer review by means of an anonymous electronic survey. A secondary objective was to determine if attitudes and preferences vary with the level of training of respondents.

METHODS

An anonymous, 30-question, Internet-based questionnaire (SurveyGizmo, Boulder, Colorado [www.surveygizmo.com]) was designed to assess the familiarity, attitudes, opinions, and preferences of Canadian radiology residents and fellows toward peer review (Online Appendix 1). The residency and fellowship program administrators at the 16 Canadian universities that host postgraduate training programs in radiology were asked to forward an e-mail to trainees that contained an invitation to participate in the survey. Reports available through the Canadian Resident Matching Service website (CaRMS; carms.ca) indicate that 441 medical students were accepted into Canadian radiology residency programs between 2010 and 2014. Based on communication with fellowship program administrators, we estimate that 219 individuals are enrolled in radiology fellowship training programs each year in Canada. We therefore estimate a sample size of 660 trainees.

The survey was distributed at the beginning of March 2015, and trainees were given 30 days to respond to the survey. One reminder e-mail was distributed to program administrators one week before the completion of the time period allotted for the survey.

The survey consisted of three types of questions. The first type allowed respondents to answer "yes" or "no." The second type used a five-option level of agreement response system, such as "strongly agree" and "agree" (grouped as "agree" for analysis), "neutral", and "disagree" and "strongly disagree" (grouped as "disagree" for analysis). The third type allowed respondents to choose one or more answers from a list of options (Online Appendix 1). Data were analyzed using descriptive statistics, and responses were organized according to level of training, using SAS software (version 9.4; SAS Institute, Inc, Cary, North Carolina).

RESULTS

Survey Participation

A total of 136 trainees agreed to participate in the study. With an estimated sample size of 660 Canadian radiology trainees, the response rate was 20.6%. Ninety-two responses were included for analysis after 44 surveys that were incomplete or lacked a specified year of training were excluded. Trainees were stratified by level of training as follows: interns (postgraduate year [PGY]-1); junior residents (PGY-2 and PGY-3); senior residents (PGY-4 and PGY-5); and fellows (PGY-6 and PGY-7). Of the 92 trainees who completed surveys, 10 were interns, 29 were junior residents, 28 were senior residents, and 25 were fellows.

Current Knowledge and Participation in Peer Review

Forty-nine percent of trainees are familiar with peer review, with fellows and senior residents being more familiar than junior residents and interns (52% and 64% vs 38% and 30%) (Table 1). Fifty-two percent of residents and fellows train at institutions that conduct peer review, predominantly through discrepancy meetings (67%), workstation-integrated methods of peer review (26%), and comparison of reports to a reference standard, such as surgery or biopsy (17%). Thirty-nine percent train at institutions in which residents or fellows actively participate in the peer-review process.

Perceived Benefits and Motivating Factors

A majority of respondents believe that participating in peer review will benefit their professional and educational development (89%) and improve patient care (80%) (Table 2). Seventy percent of trainees believe that

Table 1. Respondent knowledge, participation, and preferences toward peer review

Question	Agree/Yes (%)
Familiar with peer review?	49
Conduct peer review at your institution?	52
Involved in the peer-review process?	39
Should peer review be mandatory?	72
Should peer review be incorporated into evaluations?	36