Improving radiology resident training for independent call

Radiology residents at many teaching hospitals have a relatively short period to acquire the substantial amount of information necessary to safely interpret studies independently. Independent call is important for a radiologist to develop properly. However, preparing radiology residents for this duty is a daunting task given the scope and variety of potential pathologies likely to be encountered during call, says an article in the Journal of the American College of Radiology.

"To maintain the highest-quality patient care while training the next generation of radiologists, academic medical centres and residency training programmes must continually improve systems to prepare trainees for their experiences on call," the article points out. "Such systems help foster an atmosphere of continuous improvement and are accomplished via consistent resident feedback and education both at the individual and group levels."

The article is published by Bryce A. Merritt, MD, and colleagues at the Department of Radiology and Biomedical Imaging, University of California - San Francisco. Although all programmes have dedicated didactic educational curricula, the authors say reviewing on-call performance generally falls under the rubric of quality improvement (QI). Commonly employed QI mechanisms related to ensuring high-quality on-call performance include teaching files, one-on-one case discussions, and group conferences.

However, the authors say many QI conferences that are focused on on-call discrepancies fail to present aggregated data to teach macrotrends. They note: "As the fields of 'big data' and neural networks have taught us, much can be learned from observing overarching patterns. Additionally, prior work has suggested that resident leadership in QI conferences results in a higher perception of educational value among attendees."

To improve the resident on-call QI process at their institution, the authors created a series of structured resident-led conferences presenting aggregated data and an analysis of overall trends. One of the primary responsibilities of the QI resident leaders is to organise and run a 1-hour educational conference every 4 weeks. The format of the conference is flexible, allowing for experimentation and optimisation. For the 2017 to 2018 academic year, it was elected to structure the monthly conferences around aggregated data of past discrepancies with the aim of highlighting the most commonly misinterpreted cases.

"The ultimate goal of this endeavour is to create a series of 'common discrepancies' lists, one for each modality in each subspeciality (e.g., chest radiographs, chest CT studies, neurologic CT studies) to provide residents with a focused summary of pathologies that have been repeatedly misinterpreted by prior residents," the authors explain.

For the pilot intervention, the authors say, initial QI efforts were focused on reviewing commonly misinterpreted cardiothoracic CT cases over the preceding 10 years from July 2007 to July 2017. The institution's preliminary read module was queried to yield all cases in which either a minor or major discrepancy was documented involving a cardiothoracic CT case preliminarily interpreted by a resident or fellow during independent call. All discrepancies (major and minor) and their corresponding images were reviewed. The review did not re-evaluate the categorisation of major versus minor, but rather was focused on the type of pathology in each case that led to the discrepancy.

"The case conference was well received with overall positive comments from all in attendance; on a 1 to 10 scale, the conference was rated 8.6 (10 = excellent). Text-based feedback indicated that residents felt the conference format would be amendable to interactivity via an anonymous audience response system, which will be trialled in future sessions," according to the authors.

This project hopes to provide residents with a wider scope of understanding into how specific pathologies have the tendency to present a recurring challenge to trainees taking independent call. Based on the initial positive feedback, the authors plan to expand beyond this pilot to other modalities and subspecialities.

Source: Journal of the American College of Radiology
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