

Pathology informatics selected abstracts

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Challenges facing Twitter as a tool for pathology and laboratory medicine education

March 2022—Over the past decade, the field of pathology has increasingly been using Twitter for educational purposes, due in part to the ease with which one can share images for review on the social media platform. However, not all pathologists use Twitter, and only a portion of those who do use it employ the platform for educational purposes. To identify the challenges of using Twitter to create educational posts, the authors created a short multiple-choice Likert scale survey using Google Forms and distributed it through Twitter. The survey was divided into the categories of user demographics—work setting, job role, and history of posting educational content on Twitter; the biggest obstacle to creating educational content; and further exploration of the challenges faced when posting content to Twitter. One hundred and seventy-four medical professionals responded to the survey, of which pathology residents and fellows ($n = 68$; 39.1 percent) and practicing pathologists ($n = 60$; 34.5 percent) composed the largest groups. Eighty-one percent ($n = 141$) of all participants worked in an academic setting. Of note, the greatest number of respondents (39.1 percent) were in their first three years of practice, followed by medical students (22.4 percent), those in mid-practice (4–6 years, 16.7 percent), and those considered seniors in their field (more than 10 years, 15.5 percent). The respondents indicated that the two largest obstacles to creating educational pathology content were procuring the content (36.2 percent) and social media inertia (23 percent), defined as the inability to gain additional followers or reach many users. Additional respondent concerns, for which the authors suggested potential solutions, centered on institutional policies for social media use (involving, for example, HIPAA and copyright), video-audio editing and archiving content on Twitter, judgement by peers and browbeating by experts, lack of response to tweets/posts, and social shyness when using social media platforms. The authors concluded that despite the multiple challenges of using Twitter as an educational tool in pathology, the benefits of tapping into a worldwide set of experts and users far outweigh the drawbacks.

Tushir A, Nguyen TD, Biehl C, et al. Challenges and opportunities in using Twitter as a pedagogical tool in pathology and laboratory medicine education. *Am J Clin Pathol*. 2022. <https://doi.org/10.1093/ajcp/aqab219>.

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Potential quality pitfalls of digitized WSIs of breast pathology in routine practice

Many publications have reported on the clinical and nonclinical applications for whole slide images over more than two decades. The vast majority of the literature has focused on successful validation studies instead of the challenges of implementing digital pathology systems. However, pathologists need to be aware of the numerous issues they could encounter with whole slide imaging. To this end, the authors analyzed potential quality pitfalls of digitized whole slide images (WSIs) of breast pathology in routine practice. They examined 40,160 breast WSIs of resections and biopsies and compared them with corresponding glass slides. Most of their cases comprised H&E slides. The slides were scanned at 40× magnification using the Philips Intellisite Ultra Fast scanner, Leica Biosystems Aperio AT2 scanner, and 3DHistech Panoramic 250 Flash III 2.0 scanner. The frequency of missing tissue in the authors' digital slides ranged from two to 19 percent. However, none of the core needle biopsy specimens ($n = 185$) revealed missed tissue when compared to the corresponding glass slides. Of note, the missing tissue was, in most cases, peripherally located on the slide. Fatty tissue, which is less dense and of a pale nature, was the tissue most often missed by scanner tissue-detection systems. The frequency of missing tissue was higher for WSIs of immunohistochemistry-stained sections than for WSIs of H&E-stained sections. The authors also demonstrated a significant negative linear correlation between the frequency of missing tissue and scanning time

and image file size. They introduced quality control measures that improved image quality and lessened WSI failure rates. Among these measures were manual macro-evaluation of pre-analytic slide artifacts and post-scan review of image thumbnails to ensure all tissue on the slide was scanned. Fortunately, their observation had little clinical consequence as none of the WSIs with missing tissue led to a change in final diagnosis. The authors recommended that pathology laboratories conduct their own risk assessments and implement quality measures to mitigate this potential pitfall of poor quality digital slides of breast tissue.

Atallah NM, Toss MS, Verrill C, et al. Potential quality pitfalls of digitalized whole slide image of breast pathology in routine practice. *Mod Pathol*. 2021. <https://doi.org/10.1038/s41379-021-01000-8>.

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