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Dear Medical Students: It's Time to Join the #Twitterverse

Neal Shah, BA, Jeffers K. Nguyen, BA, Darel E. Heitkamp, MD, Amy K. Patel, MD, Yasha Gupta, MD

Social media (SoMe) has gained tremendous traction among medical professionals in recent years. In particular, Twitter (Twitter, San Francisco, California) has been embraced by physicians and trainees for its high level of engagement and ease of use, conferring numerous career benefits that typically require years of participation and relationship building in traditional academic endeavors. The platform also promotes diversity of thought and flattening of the academic hierarchy, features important for encouraging medical students and residents to join the online conversation with health care leaders [1].

Twitter provides value to medical students in many ways. It is a primary source for radiology education and information related to residency training and the radiology match. It also provides opportunities for student involvement in radiology advocacy, organizational leadership, networking, academic collaboration, mentorship, and cultivation of a personal brand [2]. With the coronavirus disease 2019 pandemic halting radiology away rotations and in-person interviews during the 2020-2021 interview season, Twitter has become a vital tool to allow students to gain valuable program information and interact with program directors (PDs), trainees, and educators. To this end, we feel that all

medical students interested in radiology should have an active Twitter presence.

Twitter is the only SoMe platform discussed in this article. Although other platforms have their own advantages, Twitter is likely the most helpful for students seeking to match into specific specialties. However, students must also be aware of the negative consequences associated with SoMe use, including violation of patient protected health information, unprofessional behavior, and the dangers of unvetted, inaccurate educational content [3]. Before opening a professional SoMe account, one should be sure to review all institutional policies governing SoMe use.

The same high degree of professionalism students maintain in person should also be exercised online. Twitter etiquette includes thoughtfully navigating controversial topics and negative interactions, as well as maintaining a boundary between professional and personal use. It is important to remember that SoMe content is public and permanent and that by participating, students represent not only themselves but also their institutions. Refer to Miles and Patel's guide to Twitter for tips on getting started, good habits to practice, and common pitfalls to avoid [1].

EDUCATION AND RADIOLOGY AWARENESS

Twitter has become a popular platform for educators to share their material with the global learning community. With few barriers to entry and no cost to use, Twitter enables educators to reach large audiences with less effort than traditional teaching methods. Many types of educational resources are used on Twitter to help medical students learn about radiology and get involved in the specialty at both the local and national levels.

Twitter's success as a learning tool for medical students derives mainly from its expanding collection of free open-access radiology education content [4]. Experts within all subspecialty areas of radiology, as well as other important accessory domains of medicine, regularly share their expertise with the radiology Twitter community, allowing instant curation of similar content through the use of hyperlinked hashtags. The character and image limits imposed on tweets help make learning efficient, encouraging educators to deliver high-yield, bite-sized content that can be consumed in just minutes.

Twitter has given rise to other teaching innovations, such as Tweektorials and TweetChats, as well as Twitter lists, curated groups of Twitter accounts whose content can be

streamed among list subscribers [1,3-5]. This is an effective way for students to collect and share the accounts of PDs, residents, educators, training programs, and radiology organizations. The platform is also an effective tool for students to get information about other important educational content, such as webinars or national radiology conferences. Twitter also amplifies student service opportunities within our national organizations, such as the ACR Resident and Fellow Section, the Society of Interventional Radiology Medical Student Council, and the RSNA Medical Student Task Force. Additionally, there are Twitter accounts for students, such as Future Radiology Residents (@futureradres), that assist with guidance of students throughout the difficult match process.

NETWORKING AND COLLABORATION

Most students lack exposure to radiology in their medical schools' required core curricula. Students interested in radiology must be assertive in seeking avenues for clinical exposure, mentorship, networking, and collaboration on research projects. Twitter provides students the opportunity to network with thousands of radiologists and trainees outside of their local networks. The semi-anonymous nature of the platform eliminates much of the anxiety students can experience when networking during live, in-person events [1].

Today's medical students should be engaged on Twitter because many PDs, residents, and educators themselves are also active on this platform. Students can understand the issues PDs care enough to tweet about, the achievements they choose to highlight, and the innovations they are developing at their programs, all helping

them determine if they would be a good "fit" at their programs [2]. Residency program accounts often promote trainee social events, achievements, and department awards, broadcasting helpful information for medical students as they consider different programs at which to train. There is also potential to leverage the platform for engagement in direct conversation with PDs, residents, and educators at individual programs regarding their education missions and specific training issues [6]. Many of these discussions, whether occurring openly in a public thread or privately on Twitter's direct messaging platform, are helping compensate for the loss of away rotations and in-person interviews for the 2020-2021 interview season.

Twitter also provides opportunity for students to collaborate virtually on academic projects with radiology faculty members, residents, and other medical students from all over the world on a wide array of topics [7]. In many ways, the cognitive diversity found on the platform makes it faster and easier for students to find collaborators with similar research interests than it is by any other means [8]. Twitter is currently enabling networking and collaboration between students and radiologists during the pandemic, which has restricted most away rotation opportunities for students this year. In fact, this article is the product of networking and collaboration enabled by Twitter, a team of two fourth-year medical students, a third-year radiology resident, and two practicing radiologists, all located in different states.

PERSONAL BRANDING

Students can leverage Twitter to cultivate their own personal brands.

Like other members of the radiology Twitter community, students can determine their own areas of interest and then work to establish themselves as content experts within them. With time, this strategy builds name recognition and helps facilitate networking with other like-minded Twitter users. Success in brand building often leads to offers for collaboration on various projects, including co-moderating TweetChats, speaking at conferences, serving on radiology committees, and serving as coauthors on articles [1,2].

Twitter enables participants to achieve an impressive level of subject expertise without the need for tenure at an academic radiology institution. If users carefully define a narrow area of interest and focus on education and generation of quality content within that brand, they can, over time, become recognized as leaders in their subjects. Trainees have successfully established themselves as experts in their subject areas through the consistent sharing and critiquing of related articles, participation in relevant TweetChats, creation of Tweutorials, and generation of unique content based on their own ideas.

For students, a SoMe presence may be an important way to compensate for the loss of away rotations and in-person interviews in the 2020-2021 residency interview season. Reasons why students visit programs in the first place are the unique opportunities to present themselves in a positive light, interact with residents and faculty members, and stand out from other applicants. Twitter may give medical students the best opportunity to fill this void by providing a virtual platform to accomplish these same goals. In fact, a student's engagement on Twitter, over time, may provide programs with a better sense of a student's commitment to

radiology than a half-day interview could ever achieve.

CONCLUSIONS

There are many reasons why medical students interested in radiology should establish an active professional presence on Twitter: (1) it is a primary source for radiology education and awareness; (2) it enables networking, mentorship, and opportunities for academic collaboration; and (3) it can be used to cultivate a personal brand. In the current context of the virtual interview season due to the coronavirus disease 2019 pandemic, Twitter

may be among the most effective ways students can both learn about individual residency programs and market themselves to members of those programs.

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Neal Shah, BA, is from Department of Radiology, The Edward Via College of Osteopathic Medicine, Spartanburg, South Carolina. Jeffers K. Nguyen, BA, is from the Department of Radiology, Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, Hempstead, New York. Darel E. Heitkamp, MD, is from the Department of Radiology, AdventHealth Orlando, Orlando, Florida. Amy K. Patel, MD, is from the Department of Radiology, Liberty Hospital, University of Missouri–Kansas City School of Medicine, St. Louis, Missouri. Yasha Gupta, MD, is from the Department of Radiology, Mount Auburn Hospital, Cambridge, Massachusetts.

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Neal Shah, BA: Department of Radiology, The Edward Via College of Osteopathic Medicine, 350 Howard Street, Spartanburg, SC 29303; e-mail: nshah01@vcom.edu