

## MEDICINE AND SOCIETY

Debra Malina, Ph.D., *Editor***Social Media and Advancement of Women Physicians**

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As a new generation advances through medicine, the number of physicians who use social media and online networks as primary vehicles for communication is growing.<sup>1</sup> Of course, the young physician workforce was brought up with online networks, but more and more mid- and late-career physicians in academic medicine and beyond are also communicating with one another through these platforms.<sup>2</sup> Social media can both facilitate near-instantaneous communication across states and continents and help support trainees and physicians of all genders, races, cultures, specialties, and institutional affiliations.

Female physicians have been vocal on social media about many aspects of their professional lives, including work–life balance. Their virtual discussions have led to an increase in awareness of issues related to gender parity in medicine. In 2017, for the first time, women accounted for more than half (50.7%) of incoming U.S. medical students,<sup>3</sup> and social media may play a role in supporting these female students, just as it has begun to support women physicians at all career stages, helping them overcome traditional barriers to professional development.

Women physicians discuss a range of issues on virtual platforms, including sensitive topics that historically would have been shared only privately. More than a decade ago, Robinson described stereotyping of female physicians as complainers or “overly sensitive” if they voiced concerns, particularly about issues that were unique to them (e.g., lactation rooms at medical conferences) or that disproportionately affected them (e.g., slow rates of promotion).<sup>4</sup> Robinson described stressors specific to women physicians, including workplace discrimination, lack of role models and mentors, lower compensation and fewer resources than their male counterparts were

given, and role conflict between motherhood and professional roles — issues that remain relevant today.

In 2016, Jagsi et al. found that in a sample of clinician researchers, 30% of women and 4% of men reported experiencing sexual harassment.<sup>5</sup> In her recent related Perspective article, Jagsi noted that after the study was published none of the women who reached out to tell her about harassment they’d experienced had reported those incidents to any leader in their organization: “They speak of challenging institutional cultures, with workplaces dominated by men who openly engage in lewd ‘locker-room conversation’ or exclude them from all-male social events, leaving them without allies in whom to confide after suffering an indignity or a crime.”<sup>6</sup>

We believe that virtual communities may offer women physicians additional coping mechanisms, provide new avenues for sharing information, and perhaps reduce stigma associated with sexual harassment, burnout, and workplace culture by allowing experiences to be shared and validated, perhaps lessening social isolation and feelings of loneliness or even self-blame.

## CURRENT SOCIAL MEDIA USE

Twitter, Facebook, Instagram, and LinkedIn are increasingly used by the medical workforce. Some studies suggest that both male and female physicians use online platforms for personal and professional purposes.<sup>1,7</sup> A leader in this area, the Association of American Medical Colleges has been encouraging medical students and physicians to use social media for education and advocacy.<sup>8</sup> One survey revealed, not surprisingly, that medical students have the highest rate of use (93.5%), but about 40% of practicing physi-

cians also use these platforms.<sup>7</sup> Logghe et al. have described surgeons' "mass adoption" of Twitter, but more specifically, social media platforms are reportedly valuable for enhancing the mentorship of female surgeons, who may lack female mentors at their own institutions.<sup>9</sup>

In "virtual doctors' lounges," women physicians can have group discussions with their colleagues. People who start groups on Facebook have "administrator" status and can control access to the group and to its conversations — for example, to practicing physicians only — and female Facebook users tend to be both more concerned than male users about privacy and more likely to participate in support groups.<sup>10</sup> Women may therefore be more likely to use a private or closed Facebook group than a public platform such as Twitter to ask questions about sensitive topics such as maternity leave policies, nursing an infant while on call, or where to seek new employment. Physician Moms Group (PMG), a private Facebook group for female medical students, residents, and physicians, has more than 71,000 members. A search for "women physicians" in Facebook groups identified more than 100 other groups, ranging from subspecialty groups to groups with similar interests (e.g., Women Physician Writers) to those focused specifically on women's leadership in medicine. The popularity of such focused online groups for female physicians suggests that communities of women in medicine may be providing coping strategies for overcoming barriers and navigating roadblocks to professional advancement, including gender discrimination. As women physicians build community with like-minded professionals who share similar experiences, it will be important to study the ability of such communities to remove gender barriers in medicine.

Since social media are available 24/7, women can connect at their convenience. These virtual connections often evolve into live friendships, and many groups that have formed online have later convened in person at medical conferences to support members' professional development. Indeed, there are even examples of live conferences dedicated entirely to supporting women in medicine that have evolved from online communities such as those sponsored by the PMG and Females in Emergency Medicine (FemInEM).

Beyond the small group of people who dis-

cuss a particular topic on social media, there is usually a much larger group "listening in." In this case, the listeners may be trainees, who can thereby gain early insights about problems encountered by women in medicine, or they may be leaders or researchers whose work can be informed by the online discussions. Indeed, women physicians have already begun using virtual communities to conduct research on gender parity and to engage colleagues in advocacy for gender equity. Advocacy stemming from virtual interactions has similarly begun to make its mark; for example, a conversation about greater inclusion of female speakers that began with tweets from the 2017 annual meeting of the American Society of Anesthesiology has led to grassroots efforts to make representation at future meetings more equitable.

Platforms such as Twitter are also used for communicating key educational messages about research or other topics. Twitter use by physicians has grown dramatically over the past few years as a means of promoting education and linking physicians with common interests.<sup>11-13</sup> On Twitter, women physicians use various mechanisms to find one another and establish loosely affiliated virtual communities. For example, medical students often use the hashtag #GirlMedTwitter, and surgeons use #ILookLikeASurgeon<sup>14</sup>; these hashtags may be used in conjunction with specialty-related ones (e.g., #diabetes, #PlasticSurgery) or the Twitter handles of formal groups that support women physicians (e.g., @WomenSurgeons, @womenMDinanesth) to find like-minded or similarly situated colleagues with whom to share insights.

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#### WOMEN IN ACADEMIC MEDICINE

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Women physicians continue to face many barriers in promotion and compensation, speaking opportunities, recognition awards, and more.<sup>15-18</sup> Especially in aggregate, disparate treatment such as being hired into lower positions or being given less respect than male colleagues (e.g., being invited to give a lecture but not the plenary address) negatively affect women's careers.<sup>19-22</sup> Social media may provide female physicians with opportunities that previous generations lacked to express their opinions, insights, and vision for their specialty. Such platforms may also pro-

vide nontraditional but far-reaching avenues for disseminating their research, which may, in turn, lead to speaking invitations or other traditional career-enhancing opportunities. They may thus begin to level the playing field by offering increasing and evolving opportunities for women to build their professional reputations and disseminate their academic portfolios.

Social media dissemination of research may be of particular benefit to women, since it does not rely on mentorship or conference invitations — areas in which women tend to be disadvantaged.<sup>23,24</sup> A recent campaign in Australia, “Catch a Rising Star,” designed to inform the scientific community and the public about the work of women scientists, used online platforms to increase visibility for female researchers — and its tweets from 18 women scientists garnered 600,000 impressions in 1 week.<sup>25</sup>

Women who publish in medical journals now have opportunities to glean insights about the dissemination of their research through alternative metrics, which are growing in importance.<sup>26</sup> Using a journal article’s digital object identifier (DOI), such measures track the article’s reach online and provide real-time information about its dissemination. A company called Altmetrics calculates an overall “attention score,” the proportions of the overall attention gained on individual social media platforms, and numbers of mentions in conventional media and policy reports. Such alternative metrics complement conventional ones such as the H-index and citations, and there may be synergy between the two: interactive multimedia exposure of published manuscripts may lead to more overall citations and boost the impact of a journal article.<sup>27,28</sup> Medical journals are increasingly focusing on alternative metrics and are investing resources in disseminating research by social media (e.g., developing visual abstracts and short videos), and some specialty journals have used their Twitter accounts to highlight the diversity of the specialty’s physicians or the work of female specialists.<sup>29</sup> Interestingly, in 2016, the Mayo Clinic became one of the first academic medical centers to formally include social media scholarship in promotion criteria,<sup>30</sup> classifying it as low-, medium-, or high-impact, and has published a conceptual framework and guidelines for other institutions that seek to follow suit.<sup>31</sup>

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#### SOCIAL MEDIA’S DOWNSIDES

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For women physicians, there is reputational risk involved in publicly supporting gender equity or other diversity and inclusion efforts, and research suggests that female leaders who engage in “diversity-valuing” behavior may receive worse performance ratings, whereas men appear to avoid being penalized (in fact, their reputations may even be enhanced) if they engage in similar behavior.<sup>32</sup>

For better or for worse, social media also unflinchingly — and permanently — document unprofessional behavior, whether it’s public intoxication, use of profanity or discriminatory speech, or posting of confidential patient information.<sup>33,34</sup> Obviously, social media platforms do not cause such behavior, but they do provide a forum where many other people can witness it. Some sources advise physicians to be respectful on social media, to avoid swearing and arguing, and to “be nicer online than you are offline.”<sup>35</sup> Langenfeld et al. have recommended specific curriculum goals for teaching residents about professional behavior online.<sup>36</sup>

There is also a real risk of obtaining or spreading misinformation on these platforms.<sup>37</sup> Kotsenas et al., however, recently argued that the onus of monitoring and correcting false reports and inaccurate interpretations lies on professionals: “The question is whether medical professionals and health care organizations will allow misinformation and disinformation to prevail or whether they will intervene to provide trustworthy, scientifically valid perspectives.”<sup>30</sup> Online bullying, cyber stalking, and catfishing (luring someone into a relationship by means of a fictional online persona) may specifically target women physicians.<sup>38</sup>

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#### CONCLUSION

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Physicians of all ages are using social media, and many women are communicating on virtual platforms to connect with each other and with supportive male colleagues. The sheer number of women physicians participating and their robust engagement suggest that they value these online connections. Studies will be needed, however, if we are to determine whether social media will help to advance women in medicine.

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