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## When Medicine Is Becoming Collaborative: Social Networking Among Health-Care Professionals

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### 7.1 Introduction

Staying informed on the newest evidence-based practices is necessary for health-care professionals (HPCs) and plays a critical role in the quality of care provided (Archambault et al. 2013). However, remaining up-to-date is becoming more and more of a challenge for HCPs as health-care knowledge changes and expands rapidly (McGowan et al. 2012). Tacit knowledge (clinical experiences, skills, and know-how) is of particular importance to enhancing the quality of medical diagnosis and decisions (Panahi 2014).

With the development of the Internet, arrays of online resources for health-care professionals looking for scientific knowledge and best practices have emerged. Among them, are specialized medical websites such as Medscape, QuantiaMD, and iMedExchange. Online information can be

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accessed in different ways (Labrecque et Beaupré 2013). The passive approach (push) consists in registering on various websites to receive email alerts on medical topics such as critical reviews or better practice suggestions. The second method is active (pull), the user retrieves information on demand. The third, which we focus on in this chapter, is interactive and calls for a discussion of information with colleagues using various tools such as Wikis, blogs, open social networking platforms (e.g., Twitter or Facebook), and online professional networks. Use of these resources for information sharing as a part of continuing educational activities or discussing clinical issues is growing (Georges et al. 2013). Informal communication among colleagues (oral or written) is not a new phenomenon; it is rooted in the medical culture (Kuo 1998). When looking for new medical developments or when caring for a patient with severe problems, clinicians will often turn to peers and colleagues (Haug 1997). Social media websites and web-based applications offer new potentials for supporting informal communication, allowing for the rapid dissemination of information to a broad audience (Ellison and Boyd 2013). Understanding how everyday communication practices take place online is essential.

This chapter examines the professional use of social networking websites and applications in health-care practices. We outline the reasons HCPs use social media and examine the potential impacts on professional development, collaboration, mentoring, and patient outcomes. We then identify the factors that enable an active participation in these networks as well as ways to address identified use barriers. We conclude by suggesting future research directions.

## **7.2 How and Why Do Health-Care Professionals Use Social Media to Communicate with Peers?**

### **7.2.1 Professional Social Media Use Is on the Rise**

Social media use by health professionals has increased in the past decade (George et al. 2013; Hamm et al. 2013; Antheunis et al. 2013). Social Media websites and applications can be used for social or professional

networking (Facebook, Twitter, LinkedIn), media sharing (YouTube), content production (blogs), collaborative writing and knowledge aggregation (Wikis and Google Docs), and virtual reality and gaming environment interactions (George et al. 2013; Hamm et al. 2013; Antheunis et al. 2013). Health-care professionals can also access information and interact with peers on specialized professional online communities developed by health-care organizations, professional associations, health care and pharmaceutical companies, or as part of ongoing research projects. Such networks are commonly restricted to targeted professions (George et al. 2013; Hamm et al. 2013; Antheunis et al. 2013). Studies that evaluate the use of social media by HCPs are of variable quality. An online US survey of 4,000 connected physicians (with access to computers and mobile technology) conducted by QuantiaMD, found that more than 90% of the doctors surveyed use social media websites and web-based applications for personal purposes with Facebook topping the list of website use. Moreover, 65% of the physicians used some form of social media for professional purposes, chiefly online physician communities (28%), LinkedIn (17%), and Facebook (15%) (Modahl et al. 2011). Online media is now the preferred information source for health profession students whose rates of social media use are found to be over 90%, a fact not so surprising, as most of them have grown up in a technologically socially mediated world (Brown et al. 2014; Usher et al. 2014; Giordano et Giordano 2011; George et al. 2013). However, social media use varies widely among HCPs, between age cohorts and across practice settings (Adilman et al. 2016), but most studies have focused on physicians and nurses (Rolls et al. 2016). There are also national differences. A survey conducted in 2012 and involving 6,700 physicians in European countries, the USA, Japan, Brazil, India, China, and Russia showed that the use of social media and online physician communities for professional networking is much more developed in emerging countries, the UK, Germany, and the USA than it is in Italy or France (Cegedim Strategic Data 2012).

What motivates social media use by HCPs is also varied. A qualitative study conducted among 22 physicians around the world revealed six critical adoption factors: staying connected with colleagues, reaching out and networking with the wider community, sharing knowledge,

engaging in continued medical training, benchmarking, and branding (Panahi 2014). These motivations are examined in the following sections.

## 7.2.2 Using Social Media to Address Information Overload

Finding and sharing medical information online regarding issues relevant to their field and staying updated on evidence-based practice guidelines has become very popular, especially among the younger physicians (Almaiman et al. 2015). Online resources act as “apomediaries” helping users seek, filter, and select relevant information (Eysenbach 2008). Following what colleagues are sharing and discussing among themselves is likewise an effective way of addressing informational overload as well as being one of HCPs most popular activities on open and restricted social networks (Antheunis 2013). Through Twitter, for instance, health-care workers can quickly find peer-reviewed information (Panahi 2014). Social media also facilitates tacit and experiential information exchange such as clinical experiences or practical tips. They enable the sharing of information through stories that are “usually carriers of profound contextual understanding, knowledge, and experience that a person shares with other people in very simple language” (Panahi 2014). As Grindrod et al. (2014) point out; social media has reintroduced the power of patient stories and anecdotes that are included in the making of collective medical knowledge.

## 7.2.3 Social Media Use for Professional Education

Likewise, social media tools are increasingly used for educational purposes and, especially so, by medical students (George et al. 2013). In some US pharmacy programs, students are provided access to course material on Facebook, which seems to be their preferred option (Grindrod et al. 2014). Social media also offer access to information that complements those offered in the traditional medical school

curricula, and this knowledge has the benefit of being retrievable on demand (Cartledge et al. 2013). In a qualitative study on Twitter use by medical students, participants reported that the active use of Twitter provided them with access to corresponding information, enabling them to increase their learning opportunities through the sharing of articles and study techniques, while connecting, outside of the classroom, with students and instructors sharing similar interests (Chretien et al. 2015). These students were also able to reach experts they might not have been able to otherwise. However, such benefits were only observed among the active users of Twitter, which represented a minority in the study. Another qualitative study focusing on the use of collaborative writing applications such as Google Docs by medical residents cited that learning consolidation was the main advantage of using social media, but at the same time revealed that motivating residents to contribute to these platforms or applications was a challenge (Archambault et al. 2009). While feedback from users is positive, more evidence on the effectiveness of social media use for educational purposes is needed (Cartledge et al. 2013).

#### 7.2.4 Asking for Advice from Peers Online

Seeking medical advice at the point of care is another often-mentioned objective for utilizing social networking platforms and participating in specialized online communities. Health-care professionals are progressively turning to social media to connect with peers and colleagues when they have questions regarding diseases, diagnoses, or treatment options. Social media is especially useful as it provides the opportunity to exchange texts, photos, and videos. On restricted password protected networks intended for HCPs only, these contents can be exchanged securely.

Crowdsourced social networked answers to clinical questions likewise seem effective in providing expert advice rapidly. For particular health-care specialties, such as clinicians requiring information during infectious disease outbreaks, accessing information in real-time is critical (Goff et al. 2015). In addition to using their personal computer to

access information, many HCPs are now using their mobile devices. Studies conducted in emergency departments show that such devices enable HCPs to retrieve information in varying environments and times, while “fitting better” within the daily workflow (Curran and Abidi 2007). By providing exchange opportunities between organizations, social media use can also reduce the professional isolation experienced by HCPs working in rural areas (Rolls et al. 2014). It also updates HCPs on the various ways of practicing medicine around the world allowing them to benchmark the most efficient ones (Panahi 2014).

### **7.2.5 Collaborative Knowledge Development**

Collaborative platforms offer the opportunity to develop and apply knowledge embedded in use. This practice mirrors the concept of Communities of Practice where participants organized around a common purpose engage in a process of collaboration and reflective practice (Wenger 1998). In the health-care field, collaborative platforms and web-based writing applications such as Wikis allow users to create online content that can be accessed or edited by professionals within specific health departments or by anyone wanting to contribute if the Wiki is not restricted. Such tools show potential for updating evidence-based clinical practice guidelines and optimizing clinical practice (Archambault et al. 2013). For example, they can be used at the point of care to store and update protocols within emergency departments (Archambault et al. 2013). Social media can also facilitate health-care research project collaborations as well as enable access to study results. Platforms such as Twitter expand professional and scientific audiences, contributing to the dissemination of knowledge on a global scale (Goff et al. 2015).

### **7.2.6 Understanding the Broader Health-Care Context and the Patient’s Perspective**

Social media offers HCPs and students the opportunity to discuss controversial health-care issues, health policies, or health-care reforms

with other caregivers and health sector actors (including patients), developing a better understanding of the context in which they practice health care (Chretien et al. 2015).

Social media, especially health blogs, Twitter, or forums allow clinicians access to the patient's perspective, changing the way they see and do medicine (Chretien et al. 2015). Through blogs, chronic patients and family caregivers share their illnesses and everyday life experiences, including interactions with the health-care systems, giving meaning to their experiences. A patient's disease narrative is crucial to understanding and contextualizing the lived experience of being ill. This key health-care dimension can be very helpful in improving communication between HCPs and their patients, and, especially, in promoting reflective practices and empathy. It also helps clinicians better understand the way patients navigate the health-care system, enabling them to direct patients towards the best resources (Batt-Rawden et al. 2014).

### 7.2.7 Building a Meaningful Professional Identity

Sharing a profile on social media is, furthermore, used for "personal branding" reasons serving to establish one's professional status and credibility while developing partnership opportunities and interprofessional collaborations (Panahi 2014). Social networking platforms offer spaces where HCPs can discuss with peers about their practice experiences (Lagu et al. 2008). Blogs are especially popular. These types of online publications are easy to produce, and the information published is more inviting and accessible than those found in academic journals. Additionally, they allow HCPs to communicate their stories and to express their views and feelings in alternative manners. They can address the doubts, fears, and frustrations experienced in their daily practice (Vartabedian et al. 2011). Participation on open networking platforms such as Twitter also contributes to a professional sense of meaning and community (Chretien et al. 2015) and promotes interest and passion for patient care (Batt-Rawden et al. 2014).

Health-care professionals differ in their use of social media, but a common outcome is a noticeable change in the way they interact and

learn. While the reasons HCPs use social media vary, the main benefits seem to be a widening of knowledge networks, access to expertise from colleagues and peers, and the provision of emotional support (Pereira et al. 2015). Active social media use can enhance professional practice and judgment and provide better patient care.

## **7.3 Barriers to Social Media Use for Health-Care Professionals**

While social media use among HCPs is growing, studies have reported several barriers to their adoption. HCPs face several social media adoption challenges (Panahi 2014), and regular professional use of social media is still limited especially for microblogging platforms such as Twitter and Wikis (Chretien and Kind 2013).

### **7.3.1 Privacy Issues and Liability and Litigation Concerns**

Privacy issues and concerns about liability and litigation are some of the main obstacles. Posting information, photos, or videos on a social networking website can be a breach of patient confidentiality and could result in legal actions taken against the HCP or his employer (Ventola 2014). This legal obstacle explains in part the lack of support given to social media use from regulating bodies and medical schools whose discourse has mainly focused on the risks and ethical issues that are associated with its practice (George et al. 2013; Grindrod et al. 2014). Anonymization of personal health information shared on the Internet is one way to minimize risks, but it can sometimes prove difficult. Information provided in a particular case, even if anonymous, could still allow for patient identification within the health-care community (Ventola 2014). Communicating through password-restricted communities might be helpful, but HCP participation in specialized online communities is still limited. Changes in the open social networking platforms that many HCPs use personally, for example, Facebook's private groups offer potential avenues for addressing these



privacy issues (George et al. 2013). Another recommendation from regulating bodies is that HCPs draw a strict line between their personal and professional identities when dealing with patients and peers online by using separate social media profiles. Although the line between social and professional use is easily blurred: if I blog on my nursing practice, is it professional or personal? Some applications (such as Google+ for instance) allow users to tailor their profile information to different audiences (George et al. 2013). Users might find, nonetheless, that establishing clear personal/professional profile boundaries is not always the best thing to do. A 2015 study by Chretien et al. (2013) on Twitter use among medical students showed that participants preferred using their personal Twitter account to exchange medical and scientific information with colleagues, emphasizing the importance of being authentic as it proved useful to develop one's professional network (Chretien et al. 2013). Concerns over privacy are also an issue in the classroom as "friending" colleagues or students on Facebook could be considered a violation of age and gender boundaries (Grindrod et al. 2014).

### 7.3.2 Concerns with the Quality of Information on Social Media

The scientific quality of the information resources available on social media is also of concern among HCPs as these platforms facilitate fast dissemination of information from varying sources (Panahi 2014). Sufficient participation on social media platforms improves the quality of the information offered as incorrect information is flagged, but trust and identifying whom to follow is a chief concern for many HCPs. In Panahi's (2014) study, conducted among twenty-two active social media user physicians, participants reported establishing trusted online relations first by connecting with people they knew offline, then by using peer recommended resources, through authenticity, and by relying on professional standing, and engaging in consistent communication, and lastly, by favoring non-anonymous posting and moderated websites (Panahi 2014). Reliability of information is also an issue on collaborative writing applications because of the lack of traditional authorship (Archambault et al. 2009).

### 7.3.3 Limited Time and Lack of Social Media Skills

Other barriers and challenges that HCPs experience when using social media include the lack of skills and self-efficacy to exploit these online resources efficiently and to deal with information overload and anarchy (Antheunis et al. 2013; Pereira et al. 2015). Finding time to follow health-care issues and topics and post information can also be a problem and some HCPs have limited access to social media in their place of work. Finally, a lack of understanding of the benefits that social media use can provide HCPs and a feeling that professional engagement on these platforms is a waste of time limits their use, especially with older and established HCPs (George et al. 2013).

## 7.4 Addressing Social Media Use Barriers

To improve the potential of social media use, researchers have identified several ways to address the barriers to their use and to foster HCPs participation and engagement on these platforms.

### 7.4.1 Guiding Social Media Practice

There is a need to provide HCPs and medical students with directives and clear guidelines to help them develop the best possible social media practices (Househ 2013). Faculty should address e-professionalism and encourage students to reflect on their use of social media (Grindrod et al. 2014). Professional organizations and regulation bodies should also focus less on social media misuse and instead develop strategies to use these platforms effectively to communicate with patients and peers (George et al. 2013). University curricula, as well as continuing education programs, should include workshops on HCP social media strategies and provide institutional credits for participation. One way this could be done is by reaching out and partnering with non-medical disciplines such as Communication Studies (George et al. 2013).

## 7.4.2 Encouraging Active Social Media Users to Act as Mentors

Active professional participation on social networks is equally an issue. Compensating established HCPs leaders for sharing information and for engaging on these platforms (for example, by providing continuing education credits) would be very useful as the available time HCPs have to participate on social media is limiting. Their experience can serve as best practice examples for students and other professionals (George et al. 2013). Social media can also be used to strengthen mentoring activities especially for HCPs who subspecialize (Ventola 2014) as well as encouraging the positive use of these platforms (George et al. 2013).

## 7.4.3 Using Social Media Will Make You a Better Health-Care Professional

Incorporating social media use into health-care training should target enhancing HCPs' reflective practice. Patients' presence on these platforms is increasing, and this is changing the way they deal with their health issues as well as the way they interact with HCPs (Thoër 2013; Grindrod et al. 2014). HCPs should take advantage of these patient-focused networks to gain insights on patient experience and on ways to manage treatments better so that patients can easily adopt them. Social media also offers great interaction enhancing potential between patients and various professionals. Because medical knowledge is no longer within the exclusive control of medical experts on social media, it is crucial that HCPs participate on these platforms (Thoër 2013; Grindrod et al. 2014). HCPs engagement on social networks is critical to improving the quality of health information provided to the community through the Internet (Ventola 2014).

## 7.5 Conclusion

Social media use by health-care professionals is on the rise, but its use is still limited and varies according to specific professions and practice settings. This relatively slow appropriation of social media by HCPs

can be explained in part by the fact that regulation bodies, medical training centers, and schools and health-care organizations have not encouraged their use. Moreover, these practices may be seen as contrary to the prevailing medical culture, which prioritizes individual and face-to-face communication, confidentiality, and the formal production and movement of knowledge (Brown et al. 2014; George and Green 2012). Practices are rapidly changing, and the younger generations are more apt to adopt social media. Several organizations and schools are now promoting efficient and active use of social media.

The literature suggests that there are several benefits to social media use by HCPs. Among them, they enhance the sharing of evidence-based and tacit knowledge. Accordingly, their use could facilitate and accelerate the exchange of informal information that is at the heart of HCPs practices. Also, as social media can expand connections and networks of relationships as one of their key features, an increased use by HCPs may foster the development of new contacts and partnerships between HCPs within a professional domain as well as between domains. There are, however, legitimate concerns regarding confidentiality, private/public boundaries, and the accuracy of online information. Further research will be needed to understand exactly how it is that social media use contributes to improved knowledge, skills, and quality of care outcomes as well as health-care professionals' satisfaction (Batt-Rawden et al. 2014; McGowan et al. 2012). So far, research on social media and HCPs has focused mainly on documenting uses with a marked preference on doctor-patient communication practices. Examining how and in what contexts the use of social media transforms communication practices among health-care professionals will be essential in understanding and evaluating the impacts of social media use by HCPs. It will also be necessary to document how health professionals, other than doctors, use these platforms for peer interactions. These traces will help identify successful social networking strategies and those that should be shared as well as promoted among clinicians (George et al. 2013).

As such, further research is needed to develop, implement, and evaluate the training strategies that would encourage the appropriation of social media in clinical practice, for patient communication, but also among colleagues and peers. In general, communication between HCPs

occupies little space in most training programs (Galarneau, et al. 2016). The increase in social media use by patients, as well as by HCPs, offers researchers not only the opportunity to reflect on professional health communication practices but also an occasion to reconsider and rethink these practices. While professional social media use is still limited, we believe that it will become an essential tool for everyday medical practice.

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