

Healthy discourse: How Canadian physicians use Twitter to communicate in healthcare

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ABSTRACT

Although several medical organizations predict that the Canadian healthcare landscape will undergo a significant shift resulting from increased use of social media by Canadian healthcare practitioners, little research exists in Canada about how and why Canadian physicians use social media. To address this research gap and establish a baseline for future Canadian research, this paper sought to examine how Canadian physicians perceive Twitter in relation to healthcare. By conducting interviews with 18 Canadian physicians of varying specialties and backgrounds from British Columbia, Alberta, Ontario, and Nova Scotia, this exploratory study has provided qualitative data that will aid an important and growing area of health communications research.

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Protocols ensuring the safe and ethical use of social media in clinical work and research exist for Canadian physicians. The Canadian Medical Association (CMA), the Canadian Medical Protective Association (CMPA), the Royal College of Physicians and Surgeons of Canada, and most federal and provincially-based medical and physician associations and colleges have developed useful and relevant guidelines and tools for physicians who engage online. Organizations such as the CMPA have also predicted that physicians in Canada will increasingly use social media channels to educate patients and peers, discuss innovations and knowledge, share health and clinical information, and provide patient and family support (Rich, 2015).

Yet the Canadian research community does not have any current data explaining how and why Canadian physicians use social media in their work. Though the Canadian Medical Association conducted a member survey in 2014 (Rich, 2014), given the prediction that millennials will comprise half of the Ca-

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nadian Medical Association's membership within the next decade (Rinaldi, 2015), current data would be useful in understanding online engagement by Canadian physicians.

In the United States, a breadth of research has demonstrated that a growing number of US-based physicians are engaging on social media to expand the scope of medical care (Bottles & Kim, 2014; Colbert & Lehmann, 2015; Sharma & Kaur, 2017), for crowdsourcing and crowd funding (Thompson, Majhail, Wood, Perales, & Chaboissier, 2015), to interact with patients (R. Micieli & J. Micieli, 2012), to network with a wider medical community, to disseminate research, to engage in advocacy activities and medical education, and for branding and marketing purposes (Panahi, Watson, & Partridge, 2016; Widmer, Engler, Geske, Klarich, & Timimi, 2016).

To add to a body of research still in its infancy in Canada and establish a baseline for future work, this paper has adapted exploratory research conducted in the United States by Alpert and Womble (2015) to examine how Canadian physicians who use Twitter perceive the platform and its influence on communication with their patient and healthcare communities. By conducting interviews with 18 Canadian physicians of varying specialties and backgrounds from British Columbia, Alberta, Ontario, and Nova Scotia, this exploratory research study has provided qualitative data that will prove useful in an important area of health communications research that will continue to grow.

Literature review

Alpert and Womble's study (2015) has examined the challenges and benefits faced by physicians who use Twitter for professional purposes, unearthing several key themes, which are replicated for examination in this study.

Professionalism

Physicians today face a "new normal" (Davis, 2009) in their work, with interactions via social media platforms becoming the norm (Thompson, Majhail, Wood, Perales, & Chaboissier, 2015). A significant portion of the current literature is focused on the debate over what constitutes acceptable information to share publicly (Jain et al., 2014) and on the ethical challenges around the use of social media (Adams, Van Veghel, & Dekker, 2015). Studies have shown that physicians and healthcare institutions consider the main chal-

lenges of adopting social media to be concern over the dissemination of erroneous information and issues of privacy and confidentiality (Bottles & Kim, 2014; Fuller & Allen, 2016; Grajales, Sheps, Novak-Lauscher, & Eysenbach, 2014). There are also questions about how to fact-check healthcare tweets to ensure that non-medical Twitter users who co-opt healthcare discussions are not given equal footing to licensed medical professionals (Choo et al., 2015).

Some literature suggests that as younger generations of physicians continue to make the use of social media the norm (Adilman et al., 2015) communication in the medical practice will become less formal (Lefebvre et al., 2016). The majority of current literature recommends that education about online privacy, professionalism, and patient confidentiality (Lefebvre, et al., 2016; Mostaghimi, & Crotty 2011), as well as adherence to guidelines and standards of conduct developed by academic institutions, hospitals, and medical organizations, may assist physicians in engaging on social media safely and ethically (Bottles & Kim, 2013a; Grajales, Sheps, Novak-Lauscher, & Eysenbach, 2014). Adherence of this kind will allow physicians to remain true to their oath to provide effective care to their patient communities (Colbert & Lehmann, 2015) and result in positive social media outcomes (Chretien, Azar, & Kind, 2011).

Advocacy

Alpert and Womble (2015) define the use of Twitter for advocacy purposes as using the platform to seek social change. Certainly there are relevant examples of Twitter-usage for advocacy or health policy purposes. The 2012 announcement of the US Preventive Services Task Force recommendations against prostate-specific antigen (PSA)-based screening for prostate cancer resulted in a reported 1,272 related tweets between urologists, journalists, and policy makers within a 20-hour period, reaching a total of 186,744 followers (Loeb et al., 2014).

In Canada, the Ontario Medical Association (OMA), which represents the province's 28,000 doctors in fee negotiations with the Ontario government, launched a social media campaign centred on the hashtag #CareNotCuts to give physicians and patients an online platform to voice concerns over the government's healthcare funding policies and cuts to patient care services (Collier, 2015). In England, Twitter has become an important platform for scrutiny of the UK government's reform of the National Health Service (NHS), with clear spikes in Twitter activity witnessed when the UK's Health and Social Care Bill became law in March 2012 (King et al., 2013).

Health literacy

In the area of health literacy, defined as “the ability to obtain, process, and act appropriately on health information” (“Health Literacy,” 1999), Alpert and Womble argue that Twitter has provided physicians the ability to connect with thought leaders around the world, allowing them to become thought leaders for their own followers. Given today’s rapid pace of medical research dissemination, the use of social networking sites by physicians as efficient communications tools to deliver important information may allow for emergency preparedness (Lim, 2016), to serve as an adjunct to traditional education methods (Nason, et al., 2015) and to provide educational opportunities to help people make decisions about their care (Eytan, Benabio, Golla, Parikh & Stein, 2011; Park, Rodgers, & Stemmler, 2013).

Recent studies have shown that health organizations in the United States and Canada are using Twitter for disease management education (Merolli, Gray, & Martin-Sanchez 2013; Robillard, Johnson, Hennessey, Beattie, & Illes 2013), and to deliver more “personalized” forms of educational content to patients, the hospital community, and the public at large (Prabhu & Rosenkrantz, 2015). In these instances, health literacy tweets were often retweeted by other Twitter users, with nonprofit organizations and community groups engaging in health information tweets more regularly than health business corporations, educational institutions, and government agencies (Park, Rodgers, & Stemmler, 2013). Physicians and medical centres have also used Twitter and Facebook to lower resistance for patients who might otherwise have faced stigma and therefore struggled to obtain healthcare and information, such as the LGBT community. These online efforts have demonstrated an increase in patient response and engagement, and an opportunity for healthcare providers to offer personalized support (Kumar et al., 2016).

Social media has also influenced the way doctors and medical institutions communicate information during health crises (Merchant et al., as cited in Lim, 2016), with evidence suggesting that the use of social media increases during times of catastrophe, in an effort to meet public demand for immediate information (Fraustino et al., as cited in Lim, 2016). In public health crisis situations, Twitter can also be used for real-time content analysis, thereby allowing health authorities to immediately respond to public concerns and correct false information (Morris, 2011).

In the context of health literacy, little academic literature exists about whether the use of social media platforms actually improves knowledge or

public health outcomes (Ranney & Daya, 2013). Nor does comprehensive research exist around perceptions of merit in the Twittersphere; in certain instances, participants on Twitter who have authored or amplified a greater number of tweets have wielded a greater influence regardless of authority. In other words, we cannot assume physicians on Twitter are the most influential members of a Twitter community (Desai, Patwardhan, & Coore, 2014). In instances where the dissemination of information is crucial, engagement by physicians with influential Twitter account members, such as media outlets, may produce better results. However, with a growing number of new journals trying to imitate established medical journals along with the rise of online “fake news” websites, social media sites that deliberately publish hoaxes and disinformation to drive web traffic, there is an increasing need for physicians on Twitter to help their online followers understand the difference between scientific fact and fiction (Lee, 2016). There is also a need for health professionals to closely monitor sources during Twitter health campaigns to ensure the exchange of valid health information.

Patient relationship

Unlike the physician-controlled, one-way information exchange, patient-centred care emphasizes open, two-way forms of communication between patient and provider (Von Friederichs-Fitzwater & Gilgun, as cited in Alpert & Womble, 2015). Research has shown that a significant number of physicians view interactions with their patients via social media platforms as beneficial, resulting in an entirely new, patient-centric model of healthcare practice (Lim, 2016; Queen & Harding, 2014; Read & Giustini, as cited in Lim, 2016). Close to 60% of doctors questioned in a US-based survey said they believed that social media improved quality of care for their patients (Queen & Harding, 2014). In the psychiatric arena, dozens of medical centres in the United States are leveraging social media to trigger alerts to mental health professionals that an intervention may be warranted, thereby allowing psychiatrists to defuse crisis situations with their patients (Peek, 2014). Some health care professionals have even expressed a belief that by not using social media they are running the risk of losing patients to those physicians who actively engage on platforms such as Twitter (Fitzhugh, 2012). Other relevant studies outlining why physicians support the use of social media in their patient interactions are outlined in Table 1.

Table 1: Why physicians use social media in patient-centric care.

Study	Research Results
Lewis & Dicker, 2015 McEvenue, Copeland, Devon, & Semple, 2016	To establish trustworthiness To impart medical knowledge
Lewis & Dicker, 2015	To collaborate with patients or caregivers on clinical trial design and accrual
Lewis & Dicker, 2015	To build relationships with disease-specific patient communities
Peek, 2014	To advocate for patients
Merolli, Gray, & Martin-Sanchez, 2013	To support chronic disease sufferers
Antheunis & Nieboerb, 2013	To help patients manage their own health
Eytan, Benabio, Golla, Parikh, & Stein, 2011	To enable trust for their institutions
Steele et al., 2015	To communicate with patients about medical updates specific to their disease

Education and thought leadership

There exists an anticipation that the strategic use of Twitter will continue to grow as a means to augment traditional research dissemination methods and to access new audiences (Schnitzler, Davies, Ross, & Harris, 2016). Twitter has become a respected source for information and is now being published by peer-reviewed health and social science journals (Kim, et al., 2013). It is also serving as a strong platform for post-publication peer review (Chatterjee & Biswas, 2011).

Social media platforms can also enable knowledge-sharing between doctors and medical communities (Bullock, 2014; George 2011), the tracking of information in real-time about health issues (George, 2011), and the development of virtual communities to facilitate networking (Rolls, Hansen, Jackson, & Elliott, 2016). Social media platforms such as Twitter have also allowed for the globalization of health care research and fostered worldwide online discussion between thought leaders about cutting-edge content, as demonstrated by the International Urology Journal Club, the world’s first international journal club, moderated by the Twitter account @iurojc (Thangasamy et al., 2014). Professional medical societies are using social media platforms such as Twitter to expand the reach of scientific communications and to bring crucial information shared at medical conferences to a global audience (Wilkinson, Basto, Perovic, Lawrentschuk, & Murphy, 2015). Finally, Twitter learning

communities have become increasingly popular, with the American Societies of Clinical Oncology and Nephrology (ASCO and ASN respectively) undertaking annual Twitter learning events to accompany their annual scientific meetings (Desai, Patwardhan, & Coore, 2014). By enabling interaction and bringing up-to-date perspectives on breaking data between physicians present at a conference with peers not in attendance, the conference experience is enhanced (Chaudhry, Glode, Gillman, & Miller, 2012). This form of Twitter communication was evidenced at the 61st Annual Scientific Meeting at the Cardiac Society of Australia and New Zealand (Ferguson et al., 2014), the 2013 World Congress of Endourology (WCE) annual meeting (Canvasser, et al., 2014), the 2011 ASCO Meeting (Chaudhry, Glode, Gillman, & Miller, 2012), and the 2013 Academic Surgical Congress 2013 meeting (Cochran, Kao, Gusani, Suliburk, & Nwomeh, 2013). Furthermore, while live Tweeting of professional meetings has grown as a method for physicians to communicate with peers not present, the platform has also allowed doctors who live in remote regions to stay up to date on current research in real time and to connect and develop professional relationships that are crucial to physicians living in isolated regions (McPhee, 2016).

Research questions

In the Alpert and Womble study (2015), interviews with physicians were conducted to answer the following three research questions (p. 826):

RQ1: What led physicians to join Twitter, and upon joining, what challenges were encountered?

RQ2: What are the most beneficial aspects of using Twitter as a physician?

RQ3: How has Twitter influenced the way physicians practice medicine and/or interact with patients?

In this study, the research questions were adapted to reflect Canada's universal healthcare system, where health coverage is publicly funded and administered on a provincial or territorial basis, within guidelines set by the federal government (Government of Canada, 2016). As a result of Canada's socialized system, interactions between Canadian physicians and public payers and policy makers are equally as significant as the interactions that occur with their patients. In order to reflect the potential influence that other health-

care stakeholders have on the motivations of Canadian physicians who use Twitter, the third research question was therefore adapted;

RQ3: How has Twitter influenced the way physicians practice medicine and/or interact with patients or other healthcare stakeholders (such as other physicians, healthcare policy makers, and/or healthcare decision makers).

Methods

Sample population

All components of this study were approved by the McMaster University Research Ethics Board. The researcher interviewed Canadian physicians who use Twitter at least once per week for professional purposes. To find participants, a list of 112 Canadian physician Twitter users was developed by consulting followers of publicly available Twitter accounts, such as @CMA_Docs (the Canadian Medical Association), @OntariosDoctors (the Ontario Medical Association), @JanePhilpott, and Canadian hospitals and Medical Schools. Potential participants were then randomly selected from the master list, using an Excel sorting tool. The author then visited selected physicians' Twitter pages, looking for contact information. When no contact information was available, the author sent a tweet to the physician's Twitter handle, asking if the physician would like to participate, or conducted a Google search for contact information. An email invitation was then sent asking whether that physician would like to participate. A total of 102 requests were sent, from which the researchers completed 18 interviews. Five physicians interviewed were referred by participants of the study. One physician interviewed has retired from clinical practice.

Procedure

The researcher conducted eighteen semi-structured telephone interviews, averaging 20 minutes in length. Participants gave verbal informed consent before the interview began and were promised anonymity. A standard questionnaire was used, but the researcher occasionally interjected with follow-up questions based on a physician's specific approach to Twitter and his or her overall experience using the platform (Alpert & Womble, 2015).

Demographics

The study included physicians of assorted medical backgrounds and levels of experience. Specialties included family medicine, emergency medicine, neurology, anesthesiology, palliative care, and community and public health medicine. The physician with the most medical experience was between 50 and 60 years of age and the youngest between 20 and 29 years. Five provinces were represented: Nova Scotia, Ontario, Alberta, Saskatchewan, and British Columbia. A cross section of rural and urban physicians were interviewed. Seven participants identified as female, and 11 identified as male.

Analytical process

As was the case in the original study, the goal of the interviews was “to explore participants’ experiences and viewpoints to develop an understanding of how they make sense of their world” (Lindlof & Taylor, as cited in Alpert & Womble, 2015). Once interviews were conducted and transcribed, the constant comparative method (Glaser, as cited in Alpert & Womble, 2015) was used to analyze the data, whereby each interview was separately coded by research and interview question. Once all the interviews were coded, the author reviewed the data to synthesize recurring concepts developed from the literature review (Creswell, as cited in Alpert & Womble, 2015), thereby revealing emergent categories and themes. Codes were then winnowed down, reorganized, and standardized according to a set of key themes reflected consistently across all interviews. A second analysis was then conducted to aggregate the themes developed during the first round of coding (Alpert & Womble, 2015), resulting in the emergence of additional insights (Charmaz, as cited in Alpert & Womble, 2015) germane to the research.

Results

Interviews examined why physicians chose to join Twitter, what obstacles they faced upon joining, how they overcame those obstacles, and what they viewed as the most beneficial aspect of using Twitter professionally. Physicians were also asked to describe their overall experience of using Twitter for their research, clinical work, or policy work and to describe how Twitter has influenced the way they practice medicine in context of their interactions

with patients and/or other healthcare stakeholders.

Results demonstrated that Canadian physicians who use Twitter do so for professional development, to influence health policy, and to raise health awareness (health literacy). Physicians successfully overcome obstacles by establishing parameters for using and managing the platform. Nine of the participants stated that Twitter has had an impact on their patient interactions, while nine physicians said Twitter has allowed more robust communication with other healthcare stakeholders. Aggregate results have been outlined in Tables 2 and 3.

RQ1: What led physicians to join Twitter, and upon joining, what challenges were encountered?

Unlike their American counterparts, the Canadian physicians interviewed did not join Twitter as a means to extend the reach of their practice with patients, nor as a means to develop relationships with patients “on a new level that goes beyond the typical office visit” (Alpert & Womble, 2015, p. 827). Physicians interviewed for this paper joined Twitter because they were curious about the platform or because they were mandated to do so by their health organizations.

Two physicians joined Twitter because they wanted to follow and track conversations through a hashtag at medical conferences. Half of the physicians interviewed said they joined Twitter because they wanted to educate themselves, grow their careers, or engage in some form of direct communication with experts in their field, influencers, the media, health policy decision makers, or mentors.

In describing the obstacles they faced when joining Twitter, physicians outlined privacy and confidentiality issues, character space limitations, difficulty with over or under-communicating, issues with managing the time required to interact effectively on Twitter, self-doubt or the “imposter syndrome” (questioning the relevance or value of their content), and underestimating the impact of their Tweets as examples of obstacles. One Nova Scotia-based physician, upon Tweeting about a provincial regulatory policy, received a reprimand from a colleague who then reported the Tweet to her supervisor. A physician from Ontario, a long-time Twitter user, reported as his main obstacle an inflammatory follower who, on several occasions, verbally and angrily attacked him online. One physician reported the lack of a social media policy in the workplace as an obstacle to her ability to communicate freely on Twitter, while three other participants stated that workplace social

media policies were hindering their ability to communicate in a genuine way. Finally, six of the physicians interviewed for this paper stated that they did not face privacy or confidentiality obstacles as described by physicians in the US study.

In describing how to overcome the obstacles discussed during the interviews, all the physicians were unanimous in the opinion that solutions can be found to enable the effective use of social media, and solutions can be created where they do not exist. Potential solutions explored by participants included un-blurring the line between professional and personal use of social media; ensuring that physicians refuse to engage with internet trolls; ensuring that physicians stay within the safe bounds of non-speculative, evidence-based content when Tweeting; maintaining authenticity and self-awareness when using Twitter; and accepting that mistakes will be made and that damage control will be necessary. Finally, physicians were unanimous in stating the need to establish personal mandates to remain authentic and ethical when using social media for professional purposes.

RQ2: What are the most beneficial aspects of using Twitter as a physician?

The majority of physicians interviewed stated that they have benefited from using Twitter, with the platform allowing them to expand their circle of peers and enhance their ability to share information, influence health policies, and raise awareness of health issues (health literacy). Where Canadian physicians differ from participants in the US study is in the fact that the majority of Canadian physicians joined Twitter for networking purposes, with enhanced patient engagement coming as a positive byproduct. In the US study, participants joined Twitter to “reach potential patients or fiddle with a new technology” (Alpert & Womble, 2015, p. 828), with networking benefits coming as a secondary outcome. Where similarities exist between the two studies is in the fact that Twitter has enabled physicians in both countries to benefit from opening “an entire world of knowledge and discovery” (Alpert & Womble, 2015, p. 827) and from gaining a better understanding of the patient voice. Both studies also demonstrate that Twitter has become “a powerful communication tool” (Alpert & Womble, 2015, p. 830) enabling physicians who advocate for issues they support to share their views publicly. Finally, both studies have demonstrated that physicians in Canada and the United States face similar challenges when using Twitter. These include patient privacy, professionalism, inappropriate follower discourse, content constraints resulting from professional affiliations, and time management. However, a concern

expressed by American physicians about the challenges of reimbursement and time spent online without compensation (Alpert & Womble, 2015, p. 828) was not raised by Canadian physicians. The advantages and disadvantages of using Twitter, as expressed by study participants, are outlined in Table 2.

Table 2: Perceived benefits and obstacles of social media uses in healthcare.

Perceived Benefits	Advocacy	Professional development	Health literacy	Social media literacy
Obstacles	No obstacles	Technical difficulties	Self-management	Social media policies; underestimating impact of Tweets
Solutions	Use only evidence-based content	Refuse confrontational interactions	Maintain authentic voice; establish mandate	Separate professional and personal accounts

RQ3: How has Twitter influenced the way physicians practice medicine and/or interact with patients or other healthcare stakeholders (such as other physicians, healthcare policy makers and/or healthcare decision makers).

The majority of physicians interviewed (13) said Twitter has influenced the way they practice medicine. Five participants stated that Twitter has not influenced the way they practice medicine at all, though three of those participants admitted that Twitter had opened up other avenues indirectly related to their practice, including the possibility of communicating ideas with the general public, the development of more robust communication with other healthcare stakeholders, and the development of more robust communication around health advocacy work.

Healthcare stakeholder interactions

Nine physicians said that Twitter has allowed them to develop more robust relationships with other healthcare stakeholders, while one physician said that Twitter has had a more important effect on his interactions with the general public than with his peers or other stakeholders. In the areas of stakeholder relationship-development, physicians listed the following items as Twitter influences: the sharing of news around health policy or advocacy work, the ability to connect with colleagues when based in remote locations, opening doors to new professional relationships locally and internationally, connecting with thought leaders in their fields, and understanding the activi-

ties of federal, provincial, and local health organizations.

Patient interactions

Nine physicians stated that Twitter has had either a direct or indirect impact on their patient interactions. In citing indirect influences, physicians described the ability to share health information and research with the general public via Tweets and the application of knowledge they have gleaned from Twitter to their day-to-day operations in their practice. In outlining how Twitter has influenced their patient interactions directly, physicians cited as beneficial the ability to direct patients to other health resources, widening conversation topics during office visits, and allowing them to address health issues their patients may have seen in the media. Several physicians also suggested that seeing patient content on Twitter has opened their eyes to understanding what patients are seeing online and therefore strengthened their respect for patient-oriented concerns and the patient voice.

Where the Canadian study differs from its US counterpart is in the fact that Twitter is used by Canadians far less, if at all, for personalized communication, whereas the US participants said they used Twitter as a promotional tool to attract new or “youthful, digital-minded patients” (Alpert & Womble, 2015, p. 829) or to offer potential patients an overview of their leadership or area of expertise.

Discussion

This study has explored the use of Twitter by Canadian physicians. By examining how physicians who use Twitter perceive the platform and its influence on communication with their patient and healthcare communities, this study has sought to provide new insights into a form of communication that will continue to grow in importance in the Canadian healthcare landscape.

Findings demonstrate that Canadian physicians who use Twitter for professional purposes can overcome issues of professionalism, such as privacy and confidentiality concerns. They do so by adhering to their own personal mandates about professionalism and by relying on social media guidelines developed by their academic or professional institutions. In instances where organizational social media guidelines hinder a physician’s level of engagement, physicians have, for the most part, applied rules of common sense and reasonability to the communication to maintain standards of professionalism. Physicians also like to apply the rule that they not cross any lines in their digital interactions that they would not want to cross in an in-person interac-

tion. Physicians also seemingly err on the side of caution while also holding a certain expectation that something will go awry, and they prepare for this.

Patient relationships

None of the physicians interviewed indicated a desire to use Twitter proactively or intentionally to build enhanced relationships with their patients. However, a positive byproduct resulting from physicians' presence on the Twittersphere has shown to be an enhanced understanding of the patient perspective, which in itself has led some physicians to bring more patient-focused care to their work.

Health literacy

Physicians are using Twitter and other social media platforms to interact directly with the public by channeling their social media content through traditional media and journalistic outlets. Interactions with the public seemingly centre on awareness around health literacy initiatives or the promotion of work at their healthcare organizations.

Education and thought leadership

Whether through self-education, the education of peers, information dissemination, networking with peers, or through the diversification and expansion of their healthcare stakeholder networks, physicians in Canada are using Twitter and social media, for the most part, to connect with each other. The benefits of those connections include access and expansion into a global forum of thought leadership, resulting in enhancement of physicians' own professional abilities.

Advocacy

Physicians in Canada are largely comfortable using social media platforms such as Twitter to shape and influence the Canadian health policy landscape. Physicians who choose Twitter for advocacy purposes have experienced "powerful" outcomes and generally do well in reaching the media and decision makers at a federal, provincial and local level. The fact that the pool of Canadian doctors using the platform remains small is a benefit for physi-

cian advocates, as their messages are not lost in a sea of users, but are instead reaching the right audiences.

Based on the interviews conducted for this study, it can be stated that physicians in Canada demonstrate a use of Twitter that is of benefit to the medical profession and to patients. The physicians interviewed are mindful of professionalism and thoughtful about their personal mandates around why they use Twitter and how they will engage on it. Canadian physicians are also benefiting from a worldwide forum of thought leadership via their Twitter networks. Some Canadian physicians are proactive in their advocacy efforts, and they hold themselves accountable by engaging in important interactions around healthcare policy. Physicians in Canada seemingly want to use Twitter to educate the public about health issues either directly or through the media.

Canadian physicians are learning more about the patient voice through their use of Twitter, and they are bringing that new level of understanding and empathy to their patient interactions. In summary, Canadian physicians are applying the Canadian Medical Association social media guidelines to their use of social media (2011); they are honouring patient confidentiality, retaining appropriate boundaries of the patient-physician relationship, and applying standards of professionalism. They understand the platforms they choose to use, and they demonstrate ethics and integrity in their online interactions.

Finally, in their use of Twitter, physicians have seemingly fully embraced the true nature of social media in its definition as a communications channel “dedicated to community-based input, interaction, content-sharing and collaboration” (What is Social Media, 2017).

Limitations

The most significant limitation of the study is the fact that all the physicians who were interviewed are avid Twitter users and supporters, thereby offering data skewed toward the positive. Other limitations include the fact that none of the doctors from Quebec who were approached to participate agreed to partake, resulting in data that neglects the cultural viewpoint of bilingual or French-speaking doctors in Quebec.

Conclusion

This study has explored the use of Twitter by Canadian physicians, con-

tributing qualitative data to a growing area of research in Canada and demonstrating that Twitter allows physicians to engage in health literacy, to contribute to shaping and influencing of the Canadian health policy landscape, to develop professionally, and to build their understanding of the patient perspective.

Given the lack of recent data about the number of Canadian doctors who are using social media, future research should poll members of the Canadian Medical Association to determine the average number of physicians who use social media platforms, thereby offering current data for Canadian researchers. Suggested future research studies include examining the use of social media in Canadian medical education as well as the influence of social media on the work of physicians who have recently entered practice. There are also numerous opportunities to conduct case studies looking at the impact of social media campaigns on healthcare policy.

Table 3: Influence of Twitter on physician interactions on patients/healthcare stakeholders

Activity	Influence on user	Influence on patients	Influence on stakeholders
Sharing health information	More robust engagement	Understanding the patient voice or patient concerns	No influence
Sharing news of health policy work	Connecting with colleagues in remote regions	Developing new professional relationships and finding thought leaders	Understanding activities of local, provincial or federal health organizations

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