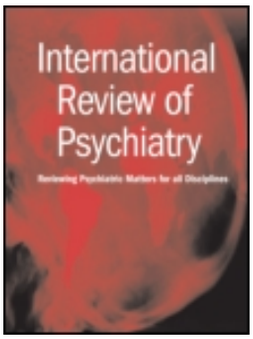

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A personal reflection on social media in medicine: I stand, no wiser than before

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Abstract
Social media has enabled information, communication and reach for health professionals. There are clear benefits to patients and consumers when health information is broadcast. But there are unanswered questions on professionalism, education, and the complex mentoring relationship between doctor and student. This personal perspective raises a number of questions: What is online medical professionalism? Can online medical professionalism be taught? Can online medical professionalism be enforced? Is an online presence necessary to achieve the highest level of clinical excellence? Is there evidence that social media is superior to traditional methods of teaching in medical education? Does social media encourage multitasking and impairment of the learning process? Are there downsides to the perfunctory laconic nature of social media? Does social media waste time that is better spent attaining clinical skills?

Introduction

As Faust, seated in his arched, Gothic chamber, begins his great tragedy, he is restless, confused and probably dispirited (von Goethe, 1808/2005). This is clear from his first words 'Scene 1. Night (Faust's Monologue)' sic:

> I've studied now Philosophy
> And Jurisprudence, Medicine,—
> And even, alas! Theology,—
> From end to end, with labor keen;
> And here, poor fool! with all my lore
> I stand, no wiser than before

This is how I feel despite many years devoted to social media and medicine. From the launch of my blog AllergyNet Australia in January 1998, almost certainly the first medical blog in the world, to the posting of over 10,000 tweets in six years, and culminating in a rigorous approach to studying this topic as a PhD student, I, like Faust, remain restless and confused about this topic.

Why?

How can a believer feel this way when Kevin Pho, founder of KevinMD.com, which *Forbes* hails as a 'must-read' blog, and whose opinion pieces appear in multiple traditional and online media sites, says 'We need to show our colleagues the value of social media'? (Pho, 2011).

How can we doubt the value of social media in healthcare when the Mayo Clinic offers social media residencies? (Mayo Clinic, 2014).

How can we disregard widespread advice, such as from the editor of the *Journal of the Kentucky Medical Association* that 'Social media can make you a better doctor'? (Mandrola, 2014).

There is no argument that the Internet is unsurpassed when it comes to information, communication and reach. But is public interaction via digital media, inherent in any definition of social media, necessary in medical practice? I feel that there are problems that the avid proponents of social media must solve. These involve overlapping problems of professionalism, education and tutorialism (Fig. 1).

Professionalism

While professionalism in medical practice is clearly important, I would go so far as to suggest it is the sine qua non of medical practice. But there are unanswered questions about professionalism even without introducing social media as an additional variable.

What is medical professionalism?

Medical professionalism, whether online or not, is impossible to define. Yet everyone seems to know

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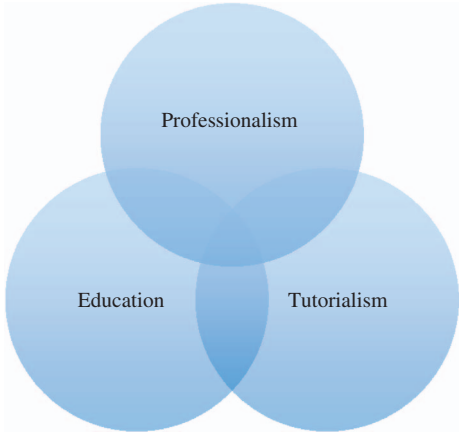

Fig. 1. Overlapping issues of concern in social media and medicine. Tutorialism: A traditional relationship between the doctor as guardian and the student as apprentice where the doctor transfers knowledge, skills and mentorship by ongoing often complex interactions (neologism – see text).

what it is. It is analogous to the definition of pornography that Justice Potter Stewart of the US Supreme Court described in 1964: 'I shall not today attempt further to define the kinds of material I understand to be embraced within that shorthand description [hard-core pornography], and perhaps I could never succeed in intelligibly doing so. But *I know it when I see it*' (Wikipedia, 2014).

The problem of defining professionalism is threefold. Firstly, inherent in assessing professionalism is an ethical construct. Secondly, this assessment varies with the cultural proclivities of the discussants. Finally, there are multiple domains of professionalism. Attempts to define professionalism, such as 'a general standard of all round proficiency and accountability' presuppose a clear understanding of the terms 'general standard', 'proficiency' and 'accountability' (Kerridge et al., 2013).

Transposing clinical professionalism to online professionalism magnifies the opportunity to divert from professionalism however defined. While not in itself an insurmountable block to social media engagement, it nevertheless is a source of anxiety from registration boards down to individual practitioners.

A further problem is the tendency to 'reinvent the wheel' during discussions on professionalism and social media. Whether it is Hippocrates or Osler or Facebook, the guidelines should be the same. But it is not seen that way by many.

For example, a joint initiative of the Australian Medical Association Council of Doctors-in-Training, the New Zealand Medical Association Doctors-in-Training Council, the New Zealand Medical Students' Association and the Australian Medical Students' Association has produced a document called 'Social media and the medical profession' (Mansfield et al., 2011). The advice includes, inter alia, this statement:

> Our perceptions and regulations regarding professional behaviour *must evolve to encompass these new forms of media*. (my italics)

I would argue that perceptions and regulations of professionalism, once properly espoused and documented, should be applied universally, in any day and age, and for any circumstance or technology. This is declared, for example, in the Royal Australian and New Zealand College of Psychiatrists Position Statement 'Psychiatry, online presence and social media' (RANZCP, 2012) where, although there are specific allusions to social media behaviour in the document, there is an over-riding clause that clearly states:

> they must ensure their social media use and Internet presence upholds the ethical and practice standards required for Fellowship of the College. (RANZCP, 2012)

Others argue that social media is somehow different. After all, it has immediacy and reach and permanency. I cannot accept that a smart, well-educated student who has achieved entry to medical school does not know these properties of social media.

Can medical professionalism be taught?

Many medical schools provide courses in medical professionalism, but there is a strong argument that it cannot be taught, only enforced (see below). Thomas Huddle has argued: 'As attractive as it may be to view professionalism as expertise or as a competence, I will contend that in asking for professionalism, that is, for just, altruistic, conscientious, and compassionate physicians and trainees, medical educators are asking for morality' p. 886 and he concludes 'although medical educators can teach professionalism, especially during internship and residency, we are mistaken to suppose that we can do so as readily as we teach clinical medicine' p. 890 (Huddle, 2005). I find Huddle's arguments persuasive.

The immediate corollary is that online professionalism may be as difficult to teach as clinical professionalism, if not impossible in some students. This will be of concern to many physicians.

Can medical professionalism be enforced?

Here the problem is different. Yes, in principle, rules and regulations are enforceable. But in this case we must admit that maintenance of the same standards on social media is more complex than in real life. Not by behaviour, or definitions, or standards, which are

the same in both spheres. But it is more complex because of publicity and reach.

Let me provide an example. In 2014, the Australian Health Practitioner Regulation Agency (AHPRA) attempted to introduce new social media guidelines that included:

> A practitioner must take reasonable steps to have any testimonials associated with their health service or business removed when they become aware of them, even if they appear on a website that is not directly associated and/or under the direct control or administration of that health practitioner. (TressCox, 2014)

The Australian health Twittersphere went into meltdown. Opponents of this proposed regulation, including myself, convinced AHPRA, because of publicity and reach, to modify and effectively reverse it.

While this can be seen as a good outcome in this instance, what if many experienced health professionals saw a proposed legislation as highly desirable, but the public and significant numbers of professionals opposed it. Can an outcome in this instance be democratic? Indeed, should an outcome be democratic?

The concepts of privacy are integral to procuring general agreement in the principles outlined above. Privacy boundaries are clear to physicians who were brought up in the pre-social media era, but are blurred in a significant number of current active users. A cross-sectional survey of the use of Facebook by recent medical graduates found a quarter of the doctors did not use the privacy options, allowing public access to the information they posted (MacDonald et al., 2010). Some of the posts included photographs or descriptions of offensive behaviour, drunkenness, or inappropriate personal information or views. Clearly, growing up with social media seems to produce a perception in a minority of supposedly intelligent and educated health professionals that privacy is in some way a restriction of freedom. I argue that this attitudinal change may be difficult to reverse. But breaches of privacy can certainly be enforced.

Is an online presence necessary to achieve the highest level of clinical excellence?

Clinical excellence, like medical professionalism, is difficult, perhaps impossible to define, yet many professional bodies have adopted criteria for excellence. Indeed, professionalism is usually included as one of the domains of excellence.

The Miller-Coulson Academy (Johns Hopkins Centre for Innovative Medicine, 2014) has developed strong domains with which to judge clinical excellence: communication and interpersonal skills, professionalism and humanism, diagnostic acumen, skilful negotiation of the healthcare system, knowledge, scholarly approach to clinical practice, passion for clinical medicine, and reputation for clinical excellence. An online presence may contribute to any of these domains, especially to communication, but is not essential. Of course, I cannot discount the possibility that, when clinical excellence is analysed in a similar way in the future, an effective social media presence might be considered a marker per se of clinical excellence. Currently, however, there is no evidence that a good virtual doctor is a good real doctor.

Education

Kirkpatrick's four-level model of criteria to assess learning outcomes, as adapted by Praslova, provides a validated tool to study education in higher institutions (Praslova, 2010). Briefly, these criteria are reaction (students' affective reaction to learning), learning (direct measures of learning outcomes), behaviour (evidence that students use knowledge and skills), and results (career success and service to society). Many equate the first criterion (reaction) with success in education. When students are happy, excited, involved, and, critically, 'not bored' by teaching using social media, the teacher might well be satisfied. But the other three criteria must also be fulfilled to determine educational success, and important questions remain to be answered.

Is there evidence that social media is superior to traditional methods of teaching in medical education?

Social media allows access to knowledge. But does it make you think? Is thinking important in clinical practice?

I recently enjoyed watching a lecture by Samuel Gershon, a clinician well-known to readers of this journal (Australian National University, 2010) At the time he was receiving the Curtin Medal for Excellence in Medical Research at the Australian National University on 16 August 2010. He was then the Emeritus Professor of Psychiatry at the University of Pittsburgh. I enjoyed his relaxed presentation of research in Melbourne during the 1950s. He alluded to John Cade's discovery of lithium, and discussed his own collaboration with Edward Troutner of measurement of lithium levels. I pricked up my ears when he revealed that the research was done in the laboratories of Roy Douglas Wright, a brilliant, ambitious and passionate researcher and teacher. I was fortunate to receive lectures from Professor Wright as a second-year medical student in 1967. Wright espoused the Oxford tutorial approach (Oxford Learning Institute, 2014). Today this would be called

the inverted or flipped classroom. Several thousand years ago it was a Socratic debate. The flipped classroom is excitedly called a revolution in teaching. It is not.

That is the first problem when analysing social media for teaching – does a change in technology actually mean a different outcome to teaching? Is a YouTube lecture actually intrinsically different from a 'live' lecture? Does online interaction between students actually differ in attaining knowledge and understanding compared to a feisty discussion over beer and pizza? Yes, I understand about communication and reach, but I argue that new technology is not the same as better teaching. We need evidence, not just by a demonstration of better marks, but over a generation of these 'new' doctors.

The first systematic review of social media for medical education analysed 14 studies through September 2011 (Cheston et al., 2013). While most studies were heterogeneous and not of high quality, the authors noted 'it is encouraging to see that several relatively rigorous studies have emerged so early' p. 896 and that 'this systematic review offers a foundation for future research and guidance for incorporating social media tools into medical curricula.' p. 897

My disquiet therefore occurs because, while the academic community slowly collects rigorous data, many online proponents confuse technology with teaching, social media with skills, and access to knowledge with the ability to think.

Does social media encourage multitasking and impairment of the learning process?

Media multitasking is the consumption of more than one item or stream of content at the same time. Heavy media multitaskers are more susceptible to interference from irrelevant environmental stimuli and from irrelevant representations in memory (Ophir et al., 2009). Many studies have examined this and other phenomena. Even when laptops are used solely to take notes, thus not fulfilling the criterion of media multitasking, they may still be impairing learning because their use results in shallower processing (Mueller & Oppenheimer, 2014).

As both a teacher, and recently as a student again, I view the inexorable march to device-driven rather than brain-driven learning with concern. The former results in the inefficient accumulation of facts, the latter promotes analysis and understanding.

Tutorialism

I have used this term for many years but I admit that it is a neologism, albeit I would argue a useful one. The term has appeared in occasional blogs, though not in the manner in which I use it, and remains officially undefined. A definition would involve concepts of guardianship, protection and teaching, but in a specific medical sense. It might be the consultant and registrar, or the attending and the resident, or the senior consultant and the junior consultant, but the interaction is always the same. It is frank but nurturing, instructive but caring, and is often complex and difficult. I would define tutorialism thus: 'A traditional relationship between the doctor as guardian and the student as apprentice where the doctor transfers knowledge, skills and mentorship by ongoing often complex interactions.' Can social media provide tutorialism? This question does need to be teased out.

Are there downsides to the perfunctory laconic nature of social media?

Information on social media is usually fast and short. This is terrific for letting the world know about an impending disaster. But is speed and brevity conducive to tutorialism? I would argue that it is not.

The social media platforms that could mount a difficult or long argument usually engage in censorship with respect to length. We are told that people get bored with a blog that is over 300–600 words (Bunting, 2014) and the ideal length for a video (with few exceptions) should be 90 s to 3 min (Camp, 2013). Nevertheless, one or two useful facts can be broadcast in that way. I find that useful. But can a complex scenario be discussed in any meaningful way using public comments after the piece? The brevity that is inherent in social media breeds dogmatic and angry responses. In my blog, 80% of comments were insulting, abusive, or motherhood statements, or computer-generated. I finally deleted the ability to comment. You only need to google this problem to realize its extent.

On the other hand, a long and complex blog piece will drive cyber-bullies away but may bore readers silly, because there is no to and fro during the piece, but only comments and replies at the end. Social media is by definition interactive, but not in the tutorialism sense. Tutorialism is a conversation, not a lecture followed by comments and questions. This is a contentious issue, and if this paper were an online blog, the comments section would indeed be long and angry.

Let us examine the common and much-lauded social media activity of live tweeting from a medical conference (Symplur, 2014). Its popularity is engagement. Physicians might feel happy because the snippets that go around the world are comforting in their familiarity. Health consumers might enjoy the headlining fragments about their particular ailment. But this is not tutorialism, and not education. I argue that a physician cannot improve their knowledge from

reading a live tweet stream. A physician needs to read papers in detail, discuss issues at length with colleagues, learn or improve skills with practice. I argue that a health consumer cannot improve their well-being by reading a live tweet stream. They are merely a source of insubstantive fragmented news of doubtful significance. Others have aired similar opinions (Skeptical Scalpel, 2014). I would extend this argument to all online discussion groups. They are great for networking, some, such as Reddit, are very good for information, but discussions (as opposed to broadcasts with links) on a platform such as Twitter are generally very unsatisfactory.

In summary, social media, because of brevity and inability to discuss complex issues, certainly does not lend itself to any form of tutorialism, and has limitations with the transfer of knowledge with understanding.

Does social media waste time that is better spent attaining clinical skills?

I raise this point because it is the most frequent criticism I hear from other physicians who are not using social media. A broad debate entitled 'Social media: the way forward or a waste of time for physicians?' is just that – a debate offering two opposing viewpoints (HCSM, 2013) Elsewhere Drummond writes as a comment to his own blog piece on why social media may not be worth it for doctors: 'On your death bed, what do you think your biggest regret will be? ... that you didn't TWEET ENOUGH?' (Drummond, 2012).

There is no replacement for clinical skills. Social media can waste a lot of time. The judicious use of social media is a fine art. I have reduced my volume of social media by 50% in the last 12 months. I see 'waste of time' as a legitimate criticism for excessive interaction. That time is usually better spent in a tutorialism relationship.

Different platforms do complement each other. A tweet can point to a post that can link to a Facebook page. This is useful if broadcasting only. It all depends on why a physician spends time on social media. Multiple platforms promote reach, one platform allows a large amount of interaction, if so desired, and a specialized platform, such as ResearchGate, supports occasional yet effective use. I feel that physicians should be highly selective. I disapprove of those who criticize 'lurkers', a term for those who follow or join but do not interact. Also, those who criticize physicians who are not on social media unsettle me.

Conclusion

What do patients actually want in their physician? Patients want eye contact, partnership, communication, and time (Stone, 2003). I would add reflection not precipitancy, knowledge not guesswork, and skills not ineptness. The jury is still out on whether patients need, rather than want, their physician to be on social media.

As an early adopter, my personal reflection on social media is finely balanced. The benefits of knowledge, communication and reach are clear. But the areas of professionalism, clinical excellence, content, time, distractions and need remain nebulous. And I do not see a role of social media in what I have defined as tutorialism. I admit it may be an age-thing. In my 67th year, I do understand, like Faust 'Tis vain, this empty brooding here' 'Scene 1. Night (Faust's Monologue)' sic, but I am optimistic that some, perhaps not all, of the questions I posed may be answered in the next generation.

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