A day in the life: social media for clinical practice and medical education

Social media and the tools that help us use it can facilitate both medical education and practice

There are many ways in which doctors can use social media at work. The case studies in Box 1 and Box 2 illustrate the potential to receive up-to-date information, and to connect with clinical and educational communities online to discuss application to practice. Many busy clinicians will simply be consumers of online educational content, and for this group the challenge is in being able to filter the vast array of resources for quality and relevance. This challenge is not new — it exists with traditional journal articles and media — but technology offers a new suite of tools to help, and social media is also a rich source of advice on how to use those tools.[1,2]

Perhaps the greatest addition of value for this same busy clinician is the curated content offered online. Many blogs and podcasts focus on reviewing the latest papers or evidence on a topic to produce a summary post or podcast, which is the equivalent of a literature review. The immediate nature of social media means that this content is available for rapid translation of knowledge, but it is also subject to immediate post-publication peer review through comments and discussion, either on the blog or podcast site itself or on discussion forums such as Twitter. New models of peer review (eg, "coached peer review") are emerging to enhance the rigor of online resources.[3]

A smaller group of practitioners will be creators or producers of online educational resources, either through publishing original research, or writing or recording commentary on primary resources. At this time, there are few barriers to entry into this group — publishing on websites and podcast recording are within easy reach in terms of technology and cost. Such democratisation of authorship supports diversity and global perspectives, but also requires blog post readers to have critical appraisal skills that are similar to those used for traditional journals, and to reconcile their sources of information.[4,5]

Individualised, democratised medical education

The case studies presented in Box 1 and Box 2 are those of practising generalist doctors with interests in education. Such "days in the life" vary by practitioner. Medical students and specialist trainees use online resources to provide content for formal curricula,[6] and communication between learners and teachers in medical schools[7] and specialist colleges (eg, the Australasian College for Emergency Medicine with @acemonline, the Royal Australian College of General Practitioners with @TheRACP) is frequently enhanced by the use of social media platforms.

Emergency medicine and critical care practitioners have been early adopters of online educational resources, with one 2013 review finding 141 blogs and 42 podcasts,[8] most

1 A day in the online and social media life of an academic emergency physician

I'm getting ready for work and decide to check *my Feedly* while I eat breakfast. I tap on the Feedly App on my iPad to see the latest posts from all the emergency medicine blogs I subscribe to, presented in a magazine-style format. There's a comprehensive post and review of a recent paper on *reversal of DOACs with Andexanet Alfa*, the Academic Life in Emergency Medicine (ALiEM) has posted another great Paucis Verbis reference on elbow injuries, and the latest from Ross Fisher on presentation skills, which is a personal interest area in medical education. I'm pleased to see the weekly *Research and Reviews* has just been posted by Life in the Fast Lane, with a series of highlights from the critical care literature. While driving to work, I listen to the excellent Papers of the Month podcast by *The Resus Room* team, to which I subscribe via ITunes.

I arrive at work and review a couple of cases from my clinical shift the evening before. The registrar and I were uncertain about keeping an elderly lady with a head laceration for further observation despite a normal computed tomography scan of her head, because she was on warfarin and might have a delayed bleed. I remembered that the topic and a relevant paper had been reviewed recently on the *Rebel EM blog*, and emailed the link to the registrar. I take a peek at Twitter and find some discussion about whether hard collars are of any benefit in suspected neck trauma, a link to a post on podcasting that I save for later reading, and a few retweets of my own Tweet linking to a blog post I wrote reviewing an article on simulation debriefing.

This afternoon, I'm facilitating at registrar teaching. The theme this week is mental health emergencies, and the registrars have been asked to read the *AIR (approved instructional resource) series* on this topic from ALiEM, as preparation for a case-based discussion during the session. As there seems to be a lot of interest in droperidol, I refer the group to Reuben Strayer's recent *smacc talk* on the topic for further viewing.

Later in the afternoon, I work on a blog post I'm writing for https://icenetblog.royalcollege.ca/, a Canadian clinical educators blog to which I contribute technology and simulation articles. This month, I'm reviewing options for audience polling in talks and educational sessions.

Time zone differences and global networks mean social media and FOAMed never sleep. Back at home, I do an evening podcast recording for *Simulcast*, produced with a colleague for a mainly simulation educator audience. Tonight we're interviewing an expert simulation educator from Chicago.

Note that readers can search Google for resources listed in this case study. ◆

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2 A day in the online and social media life of a rural general practice generalist

Having published my latest "clinical case" overnight, I awake to find insightful comments in my Wordpress inbox from emergency department doctors in the United Kingdom, United States, Scandinavia and Central America. The comments will continue throughout the day as peers across the globe share opinions and experience in the vastest virtual "hallway chat".

During my 5-minute commute to work, I listen to a brief "draft podcast" that colleagues in remote Canada have asked me to scrutinise as part of their pre-publication peer-review process. I suggest they include articles I had come across when reading Clay Smith's *EM Topics* site.

My first patient of the day has an inflamed appendix. I demonstrate a few tricks for "finding the appy" to my residents. Immediately, I tweet them links to excellent *US Podcast* and *US of the Week* videos on the topic. They can consolidate and repeat the lesson later. Off to theatre.

When I return to the emergency department (ED), it is quiet. I conduct an impromptu electrocardiogram (ECG) tutorial using the ECG of the week from the *Emergucate* blog. No preparation required; high-quality teaching material in a can!

Over lunch I check my Twitter feed to see that the debate from last night's case has moved onto Twitter. Some of the best minds in the FOAMed community have sent tweets to add subtle depth to the case's learning points.

Another pocket buzz heralds the latest email between a small group of emergency doctors from three continents, all of whom are interested in the concept of "clinical Gestalt". We hope our dialogue will soon emerge as an article for publication, either in a traditional medical journal or on one of our blogs.

The afternoon session in the ED has a "general practice" theme. One patient's rash is perplexing. I know I have seen it before but just cannot name it… No problem — with the patient's consent, we post an anonymised photo of the rash with the clinical context onto the "GPs Down Under" Facebook group. Within minutes, I have the answer — seven of the 3500 GPs on the group have returned the same answer – pityriasis versicolour. The patient is impressed with receiving eight opinions.

After work is family time. Once my boys are asleep and the blazing sun is down, I can go for a run and listen to the latest *ERCast* episode on managing suicidal patients.

I have scheduled an *Ultrasound Leadership Academy* Google Hangout session with a colleague in rural Guatemala. We discuss the logistics of diagnostic ultrasound in remote hospitals and learn from one another.

The stack of papers on my desk reminds me I have some serious reading to do before the scheduled *BroomeDocs Journal Club* recording session with Justin Morgenstern. The FOAMed community has provided many exciting opportunities for clinicians like myself who are otherwise isolated from academic circles.

Note that readers can search Google for resources listed in this case study. ◆

available feely in the ethos of Free Open Access Medical education (#FOAMed).[9] Surgery,[10] paediatrics,[11] general practice,[12] radiology[13] and other specialties are also developing vibrant online professional communities and resources.

Do practitioners really access this material? Do they use it in practice?

More than 90% of Canadian emergency medicine residents were found to use blogs, podcasts and other online educational resources (OER) for their training, with both residents and their program directors reporting that OERs increased the amount of peer-reviewed literature they read.[14] Residents used OER for both real-time clinical decision support and for ongoing study and exam preparation. This finding supports the notion that online education and discussion should complement and be reconciled with more traditional sources of information.[4]

A critical feature of social media's role in education and practice is global connectivity — enabling peer discussion for health professionals. These "digital communities of practice" can involve millions of interactions over just months, with contemporary analytical tools providing information about the number and nature of these interactions.[15]

Is this material any good?

The fact that "anyone can write anything on the internet" is frequently cited as a concern by social media sceptics, and supports the call to include skills in critical appraisal of these resources in contemporary education. There are developing frameworks for indicators of quality for blogs and podcasts, inclusive of, but not limited to, popularity.[5,16] Practical checklists for critical appraisal have been proposed.[17]

The Free Open Access Meducation (FOAM) movement[8] has developed a largely non-commercial ethos. Sponsorship and input from pharmaceutical and device manufacturers is somewhat taboo within the community. Discussion and critiques of evidence are impartial, whereas there is frequent potential bias in traditional publication.

Perils and pitfalls

Maintaining professionalism online is similar to doing so in any discussion that takes place in any public forum; thus similar on Twitter, in the staff lounge, or in a four-bed patient room. The basic principles are well summarised by the Mayo Clinic's 12-word social media policy: "Don't Lie, Don't Pry, Don't Cheat, Can't Delete, Don't Steal, Don't Reveal".[18] Codes of online professional behaviour are now the norm for professional organisations[19] and academic institutions.

The most common breaches of professional behaviour involve accidental sharing of patient information, and engaging in interpersonal conflicts on public domains. Such undesirable behaviour is not unique to doctors — it is well recognised that people are more likely to engage in antisocial behaviour or bullying when online.[20] There are

3 Getting started with online resources and social media for practice and education

There are myriad possible strategies for using online educational resources effectively. We offer a brief list of selected resources, recognising that our list will have limitations and that some of those resources will quickly become outdated.

Platforms

- Twitter — https://support.twitter.com/articles/215585
- Feedly (an RSS [Rich Site Summary or Really Simple Syndication] aggregator) — https://feedly.com
- QxMD — http://www.qxmd.com/
- FOAMed Reddit — https://www.reddit.com/r/Foamed/

Strategies for dealing with information overload

- http://rebelem.com/got-foam/
- http://stemlynsblog.org/information-overload-rcem15/ ◆

legal ramifications and employment consequences online as there are in the "real" world.

Social media in medical education as scholarly work

There is increasing recognition that creators of online educational resources and social media outputs are engaging in scholarly work.[21] Institutions such as the Mayo Clinic are recognising this work in their criteria for academic advancement.[22]

Getting started?

There are many ways to engage effectively with social media and online educational resources for professional benefits. Advice from more experienced colleagues can be helpful. Box 3 provides some links and practical advice for doctors who are new to social media.

Future directions

Online resources and social media platforms provide opportunities to enhance the transfer of knowledge to practice, and for easy access to quality medical educational content. This trend has implications for the future of medical publishing[23] by enhancing the dissemination of knowledge and by engaging a much wider audience in postpublication peer review and critique. The lines drawn between traditional journals and online publishing are likely to blur.[24]

Medical education continues to evolve as learners and teachers incorporate technology, including online resources and social media participation, into learning. Assessment is likely to become critical as the educational process becomes distributed and personal.

The emerging research agenda in online education and social media platforms for practice and education offers a disciplined way forward to realise opportunities and reduce risks.

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