

The Case of the Technologically-Challenged Academic

Case by Dr. Daniel Ting

Case

Dr. Daniel Ting

Objectives / Questions:

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Expert Commentaries

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It was another busy Monday afternoon in the city's largest quaternary care emergency department. Luis had just finished his shift and anxiously walking down the hall of the hospital on his way to his semi-annual meeting with the departmental research chair, Soo-Jin. She was always supportive, but alluded to an added agenda for today's meeting, creating a sense of unease, without knowing what to expect.

Luis was recent graduate, now 5 years out from his board exams, and had completed additional training in clinical epidemiology with a particular interest in concussion medicine. He was well on his way in developing his academic portfolio as a budding clinician-scientist. Over the last few years he had earned success with several grants, published a few projects, presented at several conferences, and had already developed a strong reputation within his field.

Luis exchanged some pleasantries with Soo-Jin and then it was down to business. They reviewed his most recent accomplishments and academic activities over the last several months, all positive feedback. Soo-Jin then smiled and changed the tone of the conversation.

"Luis, I think you're doing really incredible work with your concussion research, but I fear that not many people in our group, let alone outside our institution, know about it. We need to take some steps to showcase your work and start generating some buzz within our emergency community and beyond. I think it would help if you created a Twitter account and started building a social media presence."

Luis laughs. "Well, I'm not really gifted when it comes to technology! I don't even have that Facebook thing. I also can't really see myself having time for that..."

Soo-Jin didn't press further. The conversation moved on, and they finished the meeting on a positive note.

Over the next few days, Luis found himself ruminating over the social media comment from his research chair. He remembered a moment from the last departmental retreat when everyone was raving about Jim's latest med ed research and Sandy's recent sepsis study. He reflected on a recent encounter with a fresh-faced medical student who had approached him in the department and was gushing about the incredible blog post Jim had written, and the encounter he had last Tuesday with a local news reporter who was in the hospital conducting an interview with Sandy based on a "twitter storm" surrounding her research.

Luis thought to himself, "Jim and Sandy seem to get all this credit, and I've actually published more research than they have." He performed a quick Google search of Jim and Sandy and was shocked at the various blogs, podcasts and social media accounts highlighting their numerous accomplishments. When he did the same for himself, he was presented with only the journal publications and little else.

Luis picked up his phone and texted Jim, a former residency colleague and now good friend. "Soo-Jin wants me to start creating a social media presence and get on this Twitter thing. I'll be honest, at first, I thought this was a going to be a total waste of time, but after a quick Google search, I see all the incredible things you and Sandy have done online and it certainly piqued my interest. Think you could help me start on Twitter? What is this Altmetric stuff? And where do I even start?"

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Questions for Discussion

1. In the context of academia and research, what are the benefits of using social media? Are there any pitfalls in using social media for this purpose?
2. Social media in medicine can be overwhelming. How should Luis get started?
3. Once Luis establishes an online presence, how can he quantify the online attention his research receives? Will this benefit him when applying for University/job promotion?

Competencies

ACGME	CanMEDS
Professional Values (PROF1)	Scholar Professional Communicator Collaborator

Intended Objectives of Case

1. Articulate the role of social media in academia in research.
2. List the benefits and risks of social media usage for researchers, clinicians, and educators.
3. List specific ways to quantify impact and presence.

Social Media as an Avenue for Research Impact and Career Advancement

by Eddy Lang MDCM, CCFP(EM)

Social media has transformed our world in a remarkably short time window. The impact of platforms such as Facebook and Twitter has led to politicians falling from grace and caused governments to topple. The disruptive power of social media cannot be under-estimated nor should its ability to build and strengthen connections around the planet be overlooked. At the risk of dating myself, I have childhood memories of a black and white television set with rabbit ear antennas that would only pick up reception from two grainy stations. The future of media was unimaginable only a decade ago and one could argue that the same uncertainty holds true for the future. The one thing that is certain is that we will not be reversing trends in the development of these technologies. Social media is not a passing fad, it is only the trajectory of its evolution that is unsure.

So what might this mean for Luis and his early career as faculty and a clinician-scientist in emergency medicine? Soo-Jin, his research chair has a fairly uncommon perspective that consists both of admonishing him for not using Twitter to raise the profile of his research and encouraging him to increase his presence. An interpretation of her comments is that she wants Luis to engage in what might be considered self-promotion by tweeting his accomplishments to the Twitterverse and as a result raising the digital footprint of his academic work-product. This may seem somewhat egocentric and self-serving if not developed as part of a more comprehensive strategy of leveraging social media to educate and advocate for issues related to Luis's areas of interest. If this case narrative would have allowed Soo-Jin more time to elaborate, she might have provided a far-more in-depth and sound argument for why engaging with and through social media is important.

Limitations of the current model for achieving academic impact

Publication in peer-reviewed literature is likely to have only a limited impact on practice change and what the Canadian Institute of Health Research defines as Knowledge Translation.¹ This has opened the door to the possibility that other modes of engagement and communication may be more impactful.

Traditional academic metrics of accomplishment and academic success revolve around peer-reviewed publications in high-impact journals and research funding from a competitive source. This will hold true, for better or for worse, for the foreseeable future. At times, however, these accomplishments may seem wanting when the real mission of academic medicine is to

improve healthcare delivery and have a meaningful impact on the outcomes of patients. Similarly academic success represents more than an h-index and an article count as demonstrated through a PubMed search; it points to a reputation and trustworthiness in perspective and the ability to demonstrate a refined expertise over a given subject matter.

The Potential of Social Media as an Avenue for Research Impact and Career Advancement

The reach of social media has recently been demonstrated by Dr. David Juurlink, a well-established clinical pharmacologist in Ontario with 22K followers on Twitter. On January 23rd, 2018 he tweeted the following: "I'm about to speak to a group of scientists on "Why every scientist should be on Twitter". Can I get a few RTs in the next 60 minutes to show them its reach?" In response to this experiment he generated 13 000 retweets; most issued in the requisite timeframe. This result was a powerful attestation as to the influence and reach of a high profile twitter voice.

Influential profiles can be found in academic emergency medicine with a number of individuals and platforms carrying impressive followships on Social Media. These profiles have developed through a number of trajectories. Some had established academic track records and were known for their contributions and leadership e.g. Drs. Ian Stiell, Ali Raja and Jeff Kline come to mind. Others have created a presence largely by leveraging social media and other electronic platforms such as podcasts and FOAMed e.g. Drs. Brent Thoma and Scott Weingart. This dichotomy suggests that some academic emergency physicians can achieve prominent social media profiles by creating it through the creation of educational content and a savvy use of platforms like Twitter. Increasingly, social media presence will translate into a direct measure of ones' accomplishment, reputation and perspective and is already being used by the academic world to seek out public speakers and enhance connections in both educational and research endeavors.

The debate over the value of the role of social media in academia and as a driver in practice change was covered recently in a debate series in the Canadian Journal of Emergency Medicine. Both sides made compelling cases for why social media can be a powerful change agent while the importance of including checks and balances was highlighted to ensure that the driving force is original, balanced with high-fidelity content and not driven by the entertainment value of posts. In the ideal

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world, an academic's twitter presence would grow organically and synergistically alongside more formally peer-reviewed contributions to knowledge.

The Risks of Social Media as a Vehicle for Research Impact and Academic Advancement

Like all social media engagement, there are potential risks associated with an investment in creating an online presence through Twitter. The first consideration would be that building followers requires a significant amount of time spent scanning posts and putting thought into the format and content of any professionally-linked posts. This effort could potentially detract from time that might be better placed on managing one's personal and professional life. There is also a risk associated with Tweet content that may be invariably linked to making it more appealing and impactful. Statements and graphic enhancements using GIFs can be perceived as hyperbole, dogma or as a clear conflict of interest to some readers. This phenomena relates to the simple fact that Twitter allows one to "publish" content without the formal benefits of pre-posting peer review.

A Measured Way Forward for Luis

It is very likely that journals and academic institutions will be looking to the online world as a means of publishing content and measuring impact of academic work. This is also likely to be integrated into consideration for promotion and career opportunities and advancement. As such Luis would be wise to heed Soo-Jin's advice in the following ways:

- 1) Connect with an existing Twitter user and explore Twitter educational materials such as YouTube videos to learn how to create a best-suited and optimized handle and homepage.
- 2) Establish goals for your Twitter engagement. What are you trying to achieve? In time, these can be refined and deal with specifics such as how many followers, likes and retweets you'd like to achieve on a regular interval - all information that can be achieved through Twitter analytics.

- 3) Consider creating your first few Tweets offline and give them to a more experienced Twitter user for feedback and refinements.
- 4) What to tweet about? These will align with your goals but in Luis's case he may wish to highlight cutting-edge developments in the head injury literature or achievements by other members of his research team.
- 5) Place limits on the amount of time spent tweeting and be cautious about tweeting during times when your attention should really be placed on other personal or professional matters. Once comfortable with the format, tweets can be created during the invariable lulls we encounter on a daily basis be it during travel or at the end of a shift waiting for a final set of labs to come in before signing over.

Closing thoughts

While social media is here to stay, its evolution and alignment with academic medicine is still to be determined. If Luis thinks of his Twitter presence as an opportunity to share important information and insight as well as a venue for learning from others he trusts and admires, he will likely reap more likes and retweets than un-likes and unfollows.

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About the Expert

Dr. Eddy Lang (@EddyLang1) is the Academic and Clinical Department Head and Professor of Emergency Medicine in Calgary. His areas of interest are knowledge translation, evidence-based medicine and operations research. Dr. Lang is a member of the GRADE working group and has led the development of GRADE-based clinical practice guidelines in pre-hospital care in the US as well as with the International Liaison Committee for Resuscitation. He also serves as Senior Editor for the Canadian Journal of Emergency Medicine and is a member of the Canadian Task Force for Preventive Healthcare.

Welcome to the Social Age of Knowledge Dissemination

by Simon Carley MD, FRCEM

The experience of Luis will be familiar to many researchers who are yet to engage with social media as a tool to disseminate and promote their activity.

In an age where social media increasingly appears to connect everyone and everything it is unsurprising that its potential to assist in the development and sharing of academic activities is increasingly recognized. Modern technologies permit us to communicate more freely and widely than at any time in history. That connectivity is changing the way that we learn and interact as communication is disrupted, democratised and devolved away from traditional structures and organisations(1). We are now in what some academics refer to as the social age where knowledge dissemination is easy and communities, rather than institutions, increasingly determine the importance of information. Luis has clearly begun to explore this as he compares the impact of his research by traditional means such as journal publications and impact factors as compared to the 'buzz' advocated by his supervisor.

Social Media gives the opportunity for researchers to connect directly with those who might use and in some cases operationalize their activities(2,3). This speaks to the fundamental purpose of research in making a difference. If research does not reach those who can use it, then what is its purpose? This, arguably more than anything else, is a powerful argument for researchers to not only publish in traditional journals but to also speak directly to a wider audience. Additionally, Social Media is faster and more agile to respond to comments and ideas generated by end users than traditional print publishing.

As a disruptive technology, social media is changing the way that information flows from traditional print through to the digitally enabled and social world we live in today(4). We know that there are significant concerns about the length of time it takes for information to flow from research findings through to the bedside, and that delays to new knowledge means that patients may continue to be exposed to treatments that are potentially harmful or ineffective(5). There are clearly opportunities for academia to engage with new dissemination techniques in order to improve the delays that are regularly described in the literature. This must be as an adjunct to traditional models of publication as it would be foolish to think that Social Media enabled learning, or any single strategy for that matter(6), will be a panacea for the knowledge translation gap.

Our experience with St. Emlyn's in using Social Media to amplify our local research program output has, in our opinion, been highly successful. Co-publishing blogs and podcasts has contributed to invitations to speak at international conferences,

to engage with other researchers across the world and to create metrics that can be used in academic appraisal to demonstrate the impact of our work. Co-publication permits us to talk about research in a way that is more accessible, narrative and engaging than traditional publication. These opportunities are being missed by Luis if he chooses not to develop a social media presence.

Is there a cost for Luis in creating a Social Media presence?

One question that Luis does need to address is whether the time required to set up and maintain a social media presence is worthwhile for him as an individual. Whilst advocates such as myself and his supervisor will argue that he can increase his research reach and opportunities in the future, there are only so many hours in a day and if he is tweeting and posting he is not doing something else. He also needs to consider whether he wants to build a personal presence as a researcher or whether he wishes to develop and contribute to a research group or topic profile. Both approaches have strengths and weaknesses. Group identities are easier to maintain as the workload can be distributed amongst a group of enthusiasts. Personal profiles require more individual effort and boundaries can blur between personal and academic life. However, they are more portable, independent and personally attributable to the individual. In academic careers portability is a very important attribute. Luis may not wish to build a departmental profile only to find that he moves posts in the next few years and has to start all over again.

Is it worth it?

Social Media is new and exciting, but Luis will work in an academic institution with its own traditions and culture. There is also the question of whether traditional scholars see a value in, or whether they can muster an enthusiasm for dissemination through non-traditional means and this may impact on Luis' decision. Although social media tools permit a broad reach and the ability to use new metrics to assess reach(7), they are not traditionally those that are valued by universities when assessing research impact(8). The best known measures of academic impact are the well-established Journal Impact Factor(9), which measures the impact of an individual publication, and the h-index, which amalgamates impact data over an individual researchers career(10). There is no direct link between social media activity and these traditional metrics, but times are changing with the advent of and increasing value placed on metrics such as the Altmetrics score (3). These newer metrics do measure the social media impact of journal publications and are increasingly likely to be used to quantify academic impact.

Expert Response

Whether busy researchers will themselves see the value in dissemination through blogs, podcasts, Twitter, video platforms, or as something that is simply good for research remains to be seen. My view is that research and funding organizations (like granting agencies or assessment/accreditation units) will be the most powerful driver of social media engagement in the future. If these organizations adopt social media based metrics then we will see a rapid expansion in their use and engagement with non-traditional dissemination strategies. If social media activities do not link to promotion and tenure, as is currently the case in many formal academic settings, then there will be less widespread engagement(11).

The next steps

Luis should look to his current and potential future employers to see how they value alternative metrics of research dissemination. If he finds that in his institution that there is an appetite for social media use then he would do well to find a colleague who has already established an online presence for advice. He should get a Twitter account, start following people and engaging in online conversations. He may decide to set up a personal blog, but that's a significant undertaking. He might be better served by initially contributing to established blogs to get feedback on his writing style and content (12).

Summary

Should Luis engage? Yes, of course! The world has changed and social media is increasingly pervading the academic world as it has in every other aspect of our lives. The question for Luis is how much, how often, with whom and for how long?

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About the Expert

Dr. Simon Carley (@EMManchester) is Professor of Emergency Medicine and co lead for the MSc in Emergency Medicine at Manchester Metropolitan University. He is a Consultant and works in both adult and pediatric emergency EM. He has published over 100 academic papers and has a passion for research and education. Dr. Carley is also an associate editor of the Emergency Medicine Journal with a special interest in social media and evidence based medicine. He strongly supports Meducation and #FOAMed. He co-developed BestBets, the virtual hospital at StEmlyns and the StEmlyns blog and podcast.

Curated Community Commentary

By Daniel Ting MD, FRCPC (candidate)

This week's case probed at the role of social media in disseminating research findings. By many measures, Luis is a successful early-career researcher. He has managed to win grants and publish his work in our increasingly competitive research environment—all the while making the clinical transition into a staff physician. When he meets with his research chair, Soo-Jin, he likely expects ongoing praise for his success, but is unexpectedly challenged to take steps to promote his work over social media. Luis is initially skeptical as he has not yet established a digital footprint and is a self-identified technophobe. After some further reflection, however, Luis identifies several benefits of a social media presence, and asks one of his technologically-savvy colleagues to help him get started. The audience was asked what the potential benefits and pitfalls are of social media in promoting research, as well as some ways Luis could get started. We were also asked to reflect on ways that scholarly work over social media can be "counted" during academic promotion. Several themes emerged.

Who owns research promotion?

The first theme discussed was whether or not the responsibility of promoting one's own research over social media should be up to the researcher or left up to departments. During his trajectory to become a clinician-scientist, Luis has mastered many skills, but has never been formally trained to use social media. Heather Murray pointed out that Luis was presumably hired to do research, and making him invest the time needed to develop social media expertise might detract from his research efforts. Her response touched on a common frustration among academics - that they are constantly asked to do "one more thing," often without compensation, that adds to their ever-growing list of demands. On the other hand, other discussion participants argued that we now exist in an environment where almost all learners and staff physicians in Emergency Medicine use social media (1,2), and knowing some of the basics can provide tangible benefits to researchers. For example, Seth Trueger referenced a commentary describing how to navigate Twitter and its potential benefits to networking and discussion-creation (3).

Just like most things in medicine, there likely is a joint responsibility between the individual and the institution in promoting research, with many collaborative opportunities. Loice Swisher suggested that the onus to exist on social media should be left to the individual researcher, who can then be supported by his or her institution on developing an online brand and identity. Steps to exist can include: (a) recognizing the importance of one's digital footprint by Google searching oneself; (b) mentorship from a more experienced colleague who has benefitted from social media, and; (c) watching some helpful videos geared towards taking the viewer through the basics (examples, [here](#) and [here](#)). Loice also suggested that learning how to use social media should be a faculty development issue, alluding to broader department support for an issue that impacts all physicians, regardless of whether they do research or not.

Contributors

Thanks to the participants (in alphabetical order) for all of their input:

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How can departments empower knowledge translation?

In addition to demanding significant time investment, promotion of one's own work over social media can seem vain. Heather Murray pointed out that self-promotion can devolve into a competition for the "flashiest" and "coolest" promotional techniques, instead of letting the research quality speak for itself. Discussion participants were asked to place themselves in Soo-Jin's shoes, and ask what were the best ways for research chairs or institutions to support their members in promoting research.

Recently, a commentary in the Canadian Journal of Emergency Medicine called for new practice milieu online where critical clinicians, translational teachers and interactive investigators collaborate in knowledge translation (4). Translational teachers are individuals who use modern techniques such as blogging, podcasting and social media platforms to work with other researchers to promote their work. Hans Rosenberg shared his experience as a translational teacher, directing the new Digital Scholarship and Knowledge Dissemination Program at the University of Ottawa. This program has a dedicated goal to "promote the outstanding research and achievements of the Department of Emergency Medicine" and is financially supported by the department. This program includes a website and a Twitter presence, and offloads the work from less technologically-savvy individuals. One example of his success has been in further promoting the work of his esteemed research colleague, Jeff Perry, who does not exist on social media. (To find out more about this program's approach, check out their blog post [here](#).)

An informal Twitter poll during this discussion showed that respondents identified the University of Ottawa to be a leader in this category, with other programs continuing to rely on small numbers of volunteers to run their social media accounts and online presences. Discussion participants identified two keys to potential success: change champions and financial support. Teresa Chan pointed out that change champions often need to

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come first, before funding can follow. She will soon be taking on a funded role as a translational teacher at McMaster University, after years of promoting research within the social media world on a volunteer basis. Ultimately, funding is important to motivate and maintain sustainability.

How can we appropriately attribute value to scholarly work on social media?

A third theme arose around recognizing translational teachers and the education scholarship achieved over social media. Despite various efforts to measure the impact of online resources (5), the gold standard for researchers remains publication in a peer-reviewed journal. Ben Symon chimed in and suggested that others in his group do not recognize or understand novel measures like Altmetrics, which is likely the case for many physician and academic groups and is a source of potential exasperation for educators. A recent article in *Medical Education* calls for more holistic recognition of education scholarship, which can appear in less traditional forms than the scholarship of discovery (6). In addition to financial measures, academic recognition is another important step in making sure that education scholars can be appropriately rewarded and recognized for their efforts.

With respect to our case, Soo-Jin could provide a stronger commitment to recognizing Luis's work on social media and, as research chair, push for an internal commitment to adopt a broader definition of scholarship for the purposes of academic promotion. She can also advocate for administrative and financial support from her department to hire individuals who are responsible for translating the research of her department members.

The Curator's Personal Perspective

During the curation of this month's case, I was inspired by the discourse around knowledge translation, and the recognition that institutions should have a role in this process. Despite massive

investments in research and article publication happening at a record pace, one of the most consistent findings in the literature continues to be a failure to translate research into practice (7). With its free access and near-universal uptake, social media is one of the easiest ways of narrowing the knowledge translation gap. We cannot continue to rely on individuals to move the proverbial needle— institutions need to incentivize a culture change that embraces knowledge translation.

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