

Evaluation of junior doctors' perceptions of social media as a tool for prevocational training and ongoing medical education

Executive Summary

This project was conducted in order to provide an evidence base for the incorporation of social media and sharing platforms into prevocational medical education curricula. A survey of junior doctors in Victoria across postgraduate year levels, hospitals and specialities aimed to elicit determinants of engagement in social media for personal and professional use and to gauge attitudes towards its integration into prevocational medical education.

It was postulated that the information gleaned from this survey might give the medical education community greater insight into the relevance of social media as a learning and teaching platform for junior doctors, and may aid in the generation of innovative platforms through which to educate Australia's next generation of healthcare professionals.

Background

A literature review was undertaken evaluating current attitudes among the international medical community towards social media and its use in medical education.

Research within Australia up until this point has focused predominantly on the challenges of social media and its use outside of medical education, relating specifically to professionalism standards and patient confidentiality.^{1,2} Investigations into the role of social media as a platform for rapid and ongoing communication of up to date information across geographical boundaries, among many other opportunities, have not been conducted by Australian academics thus far.

International studies have concluded that incorporating social media channels into medical education is necessary in order to engage adequately with the 'net generation'³ and that its value with regards to knowledge sharing, self-directed learning, networking and maintaining engagement in continued medical education should be embraced rather than avoided.⁴ Social media use among medical students in the United States has been reported at 93.4%⁵, with participants in a recent worldwide survey reporting overwhelmingly positive attitudes towards the use of social media as an educational tool as well as for professional development.⁶ This is supported by a 2013 systematic review reporting enhancement of student attendance, knowledge, feedback, professional development and cooperation with the integration of social media into prevocational medical education.⁷

Despite many international case studies, surveys and meta-analyses³⁻⁹, Australia's health care task force remains fairly uninformed regarding the many positive aspects of social media as an educational adjunct, likely due to inadequate evidence and exposure to the topic. This research project aims to contribute unbiased evidence to the social media debate in relation to medical education in an effort to encourage the integration of social media into the prevocational training curriculum in order to keep Australian doctors current.

Aims

The aims of this project were as follows:

- To quantify social media adoption rates among junior doctors for non-medical uses
- To gauge attitudes among junior doctors towards the potential for social media as an educational tool
- To assess awareness among junior doctors of existing social media tools for medical education (such as Twitter and the FOAMed hashtag)
- To expose barriers to junior doctors' engagement in continued medical education, and attitudes towards existing educational approaches
- To assess determinants of future engagement in social media specific to medical education and to refine junior doctor preferences regarding educational platforms and content delivery

Methodology

A set of proposed survey questions was constructed and presented to the Junior Medical Officer Forum for refinement. The final list of survey questions is as follows:

1. Which of the following social networking websites and online sharing platforms do you utilise or engage with for medical education purposes and information sharing (Twitter, LinkedIn, Facebook, Google +, Instagram, Tumblr, Other)
2. Do you share medical information/articles that interest you on any of the above social networking websites or online sharing platforms? (At least once per week/fortnight/month/year or Never)
3. Do you follow any doctors/medical journals/medical associations on any of the above platforms? (None, Less than 5, More than 5)
4. Do you read/watch medical information shared by doctors/medical journals/associations on any of the above platforms? (At least once per week/fortnight/month/year or Never)
5. Are you aware of the FOAMed (Free Open Access Medical Education) hashtag? (Yes, No)
6. If so, how frequently do you use it? (At least once per week/fortnight/month/year, Never or I am not aware of the hashtag)
7. Do you feel that your medical knowledge would improve if more doctors were sharing medical education material on the social networking websites or online sharing platforms that you use? (Significantly, Some, Not at all)
8. How educational have you found existing online e-learning modules with regards to your general medical education during prevocational training (Intern/HMO)? (Very, Moderately or Not educational)
9. How educational have you found weekly teaching sessions at your place of work with regards to your general medical education? (Very, Moderately or Not educational)
10. How frequently are you able to attend teaching sessions at your place of work? (At least once per week/fortnight/month/year or Never)
11. Which of the following would you consider barriers to incorporating social media and online

sharing platforms into medical education (Privacy issues, Inability to turn off/unplug, Poor understanding of how to use sharing platforms for education specifically, Poor understanding of resources available, Lack of awareness, Other)

12. Do you have any suggestions for incorporating social media and online sharing into the educational framework for prevocational doctors? (Yes – specify, No)

13. How many years out of medical school are you? (Intern, PGY2, PGY3, PGY4+)

A link to the survey (constructed through Survey Monkey) was distributed to junior doctors through individual Medical Workforce units at all major public teaching hospitals in Victoria. Due to privacy issues, doctors were not able to be contacted directly as ethics approval would be required in order to retrieve personal contact information.

Results

Fifty junior doctors completed the survey – 19 (38%) Interns, 8 (16%) postgraduate year level (PGY) 2, 12 (24%) PGY 3 and 11 (22%) PGY 4 and higher.

Facebook was the most utilised platform for medical education purposes and information sharing, with 89.8% of respondents reporting active engagement. Twitter followed at 28.57%, Instagram at 24.49%, LinkedIn at 22.45%, Google + at 16.33% and Tumblr at 10.2%. Other platforms noted in the responses were WhatsApp, Dropbox and Reddit.

Most respondents (40%) reported never sharing medical information that interested them on social networking platforms, though 10% reported sharing at least once per week, 16% at least once per fortnight, another 16% at least once per month, and 18% at least once per year.

Despite a general lack of contribution to the medical knowledge sharing pool, 74% of respondents reported following at least 1 doctor, medical association or medical journal on social media (38% less than 5, 36% more than 5). Further to this, 40% of the junior doctors that completed the survey reported reading or watching medical content shared on social media at least once per week, with 26% engaging at least once per fortnight, 16% at least once per month, 14% at least once per year, and 4% never.

Fifty-eight percent of respondents were not aware of the internationally popularised FOAMed hashtag, though 18% of those who were aware of it reported never using it. Four percent reported using the hashtag at least once per week, another 4% at least once per fortnight, 10% at least once per month and 6% at least once per year.

Ninety-two percent of the junior doctors felt that their medical knowledge would improve if more doctors were engaged in knowledge sharing through social media platforms (34% felt this improvement would be significant).

Most respondents (61.22%) reported existing online e-learning modules to be moderately educational, with 24.49% finding them not to be beneficial. Fifty-six percent found weekly at-hospital teaching sessions moderately educational, with 12% finding them not to be beneficial and 6.12% reporting never to be able to attend these sessions (18.37% at least once per week, 24.49% at least once per fortnight, 40.82% at least once per month and 10.2% at least once per year).

Privacy issues were perceived to be the primary barrier to incorporation of social media platforms into medical education (54% of respondents), followed by lack of user understanding (42%), lack of awareness (40%), poor understanding of resources available (36%) and inability to “turn off” or “unplug” (28%). Other issues identified were the lack of quality appraisal of information shared on social media platforms, and that in-person education sessions may be more engaging.

Suggestions for incorporation of social media into the prevocational educational framework included the following:

- ‘Only include very high-quality content, only release content once a week at a specified time so that people are expectant, alert and interested in the posts’
- ‘Information on safe use of social media for medical education purposes’
- ‘Specific education about professional versus personal/social profiles online. Many junior doctors combine the two with potentially career-ending consequences.’

Conclusion

Despite the high overall use of social media platforms among junior doctors as well as a general optimism towards the integration of social media into prevocational training, hesitancy towards contribution to the online medical knowledge pool is still apparent at an individual level.^{10,11} In the literature, confidentiality and professionalism standards have been at the forefront of concerns regarding the use of social media as an adjunct to medical education.¹¹ This was confirmed in our results, with privacy breach concerns, a lack of understanding and awareness of the functionality of social media platforms as knowledge sharing tools, and a perceived inability to curate content in order to ensure credibility were the primary factors limiting engagement in online sharing amongst clinicians. It is important, however, that this preoccupation with risk aversion does not overshadow the long list of potential benefits provided by online knowledge sharing platforms.¹²

Higher levels of engagement with medical knowledge sharing over online social networks could give students and clinicians highly accessible insight into interesting cases, groundbreaking research and even research or employment opportunities. Social media should not be purely seen as a communication tool, but as a freely accessible platform for clinicians and educators to share curated and evidence-based content across geographical boundaries free of charge.¹³

The Free Open Access Medical Education (FOAMed) movement, as well as Social Media and Critical Care (SMACC) conferences in the United States, have already begun to change the way we educate and connect medical professionals.¹³ European clinicians have also begun to utilise forms of social media in an educational capacity.¹⁰ In Australia, however, evidence-based information regarding attitudes towards social media as a medical educational tool is currently fairly unavailable and unexplored.

This survey indicates high personal social media use among junior doctors in Victoria that unfortunately has not translated to use for medical educational purposes despite overwhelmingly positive attitudes towards its role in educating Australia's next generation of medical consultants. Endorsement from seniors and administrative staff, and education surrounding safe and effective posting may give doctors the confidence to engage further with the use of social media as a platform

for education and knowledge sharing.

Further research is needed to determine the most effective way of curating the educational content posted on current social media channels, though there is a gap in the market for a medical social media platform with the sole function of sharing medical knowledge and peer reviewing content. It is hoped that information gleaned from this survey will give prevocational medical educators greater insight into the relevance of social media as a learning and teaching platform for junior doctors in Australia, and aid in informing those educational innovators hoping to create new platforms through which to engage with Australia's next generation of healthcare professionals.

Limitations

A relatively small sample size and narrow target audience limit this survey's ability to accurately extrapolate to predict attitudes of Australian clinicians nationally across levels of education and demographic groups. An inability to follow up survey participants, due to confidentiality specifications, in order to further clarify common responses was limiting. As well as this, response bias may have influenced results as the survey was distributed electronically.

References

- 1) Mansfield, S.J., Morrison, S.G., Stephens, H.O., Bonning, M.A., Wang, S.H., Withers, A.H.J., Olver, R.C. and Perry, A.W. (2011) 'Social media and the medical profession', *Medical Journal of Australia*, 194(12), pp. 642-644.
- 2) Barlow, C.J., Morrison, S., Stephens, H.O.N., Jenkins, E., Balley, M.J. and Pilcher, D. (2015) 'Unprofessional behaviour on social media by medical students', *Medical Journal of Australia*, 203(11), pp. 1-7.
- 3) Flynn, L., Jalali, L. and Moreau, K.A. (2015) 'Learning theory and its application to the use of social media in medical education', *British Medical Journal*, 91, pp. 556-560.
- 4) Panahi, S., Watson, J. and Partridge, H. (2014) 'Social media and physicians: Exploring the benefits and challenges', *Health Informatics Journal*, 22(2), pp. 99-112.
- 5) Avci, K., Celikden, S.G., Eren, S. and Aydenizoz, D. (2015) 'Assessment of medical students' attitudes on social media use in medicine: a cross-sectional study', *BMC Medical Education*, 15:18.
- 6) Maloney, S., Tunnecliff, J., Morgan, P., Gaida, J.E., Clearihan, L., Sadasivan, S., Davies, D., Ganesh, S., Mohanty, P., Weiner, J., Reynolds, J. and Ilic, D. (2015) 'Translating Evidence Into Practice via Social Media: A Mixed-Methods Study', *Journal of Medical Internet Research*, 17(10).
- 7) Cheston, C.C., Flickinger, T.E. and Chisolm, M.S. (2013) 'Social media use in medical education: a systematic review', *Academic Medicine*, 88(6), pp. 893-901.
- 8) Flynn, S., Hebert, P., Korenstein, D., Ryan, M., Jordan, W.B. and Keyhani, S. (2017) 'Leveraging Social Media to Promote Evidence Based Continuing Medical Education', *PLOS ONE*, 12(1).

- 9) Alsobayel, H. (2016) 'Use of Social Media for Professional Development by Health Care Professionals: A Cross-Sectional Web-Based Survey', *JMIR Medical Education*, 2(2).
- 10) Panahani, S., Watson, J. and Partridge, H. (2016) 'Social media and physicians: Exploring the benefits and challenges', *Health Informatics Journal*, 22(2).
- 11) Lefebvre, C., Mesner, J., Stopyra, J., O'Neill, J., Husain, I., Geer, C., Gerancher, K., Atkinson, H., Harper, E., Huang, W. and Cline, D.M. (2016) 'Social Media in Professional Medicine: New Resident Perceptions and Practices', *Journal of Medical Internet Research*, 18(6).
- 12) Fenwick, T. (2014) 'Social media and medical professionalism: rethinking the debate and the way forward', *Academic Medicine*, 89(10), pp. 1331-1334.
- 13) Cevik, A.A., Aksel, G., Akoglu, H., Eroglu, S.E., Dogan, N.O. and Altunci, Y.A. (2016) 'Social media, FOAMed in medical education and knowledge sharing: Local experiences with international perspective', *Turkish Journal of Emergency Medicine*, 16(3), pp. 112-117.