

FOAMed and social media – innovation or disruption?

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FOAMed – A DISRUPTIVE INNOVATION

Free Open Access Medical Education (FOAMed) is an all-encompassing term that incorporates medical blogs, podcasts, infographics, and is a globally accessible, crowd-sourced, educational adjunct providing content to augment traditional educational principles, especially in the fields of emergency medicine (EM) and critical care.¹ FOAMed has become an increasingly disruptive medical innovation, with exponential growth in the number of blogs and podcasts distributing content in the past decade.² In addition to this, the vast majority of EM residency training streams in Canada report significant utilization of FOAMed resources.³ As this technology expands and continues to become engrained within the fabric of medical education, it becomes natural that novel innovations within this field will attempt to further enhance knowledge translation (KT) and dissemination. The paper by Huang et al. provides an excellent demonstration of this, illustrating that infographics may enhance altmetric scores and abstract views for papers compared with those without an infographic.⁴ It is worth noting, however, that the infographics did not lead to an increase in viewership of the parent article, which highlights one of the key criticisms of FOAMed – that it may often lack the critical appraisal of traditional journal articles and the primary literature.

KNOWLEDGE TRANSLATION

FOAMed may be created in one of two ways: the dissemination of opinion or novel concepts, and via the KT of existing primary literature. One of the earliest (and perhaps best cited) examples of the influence of

social media on KT was the dissemination and uptake of passive apneic oxygenation following an editorial-based publication by Weingart et al.⁵ The influence of social media significantly decreased the KT window in this paper, and it became widely adopted in rapid fashion by emergency care providers. A subsequent randomized controlled trial demonstrated no benefit to passive apneic oxygenation.⁶ Most would argue that apneic oxygenation provides no harm to the patient and may potentially be beneficial, so the uptake of this technique is of no detriment to patients or providers but raises an interesting question on the utilization of medical concepts presented and disseminated in this fashion. How does the consumer of FOAMed know when to become an early adopter of novel concepts?

Similarly, FOAMed that highlights existing primary literature is based on the interpretation by another individual. This tends to be done in an engaging or abridged fashion, to cater to the short form of social media communication. Practice patterns are unique and differ from physician to physician, so it would seem incumbent upon one to evaluate the primary literature himself or herself prior to incorporating something into practice. Another relevant question that arises is how does one critically appraise FOAMed literature, much like we have learned to critically appraise the classic forms of EM literature?

CRITICISMS

This concern regarding quality assurance of FOAMed and social media has previously been addressed by Lin et al.⁷ during a Social Media Summit at the International Conference on Residency Education. The working group identified 13 quality indicators when evaluating

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FOAMed literature, separated into domains of credibility ($n=8$), content ($n=4$), and design ($n=1$). The importance of this is in providing a novel way to evaluate FOAMed literature in a critical fashion to ensure that it is of a robust quality. Similar research efforts are critical, because they provide a means by which to scientifically appraise FOAMed to assess quality.

EVALUATING FOAMed

It is evident that FOAMed is here to stay and will likely continue to be consumed in an increasing fashion, so it is therefore important to ensure that it is being created, presented, and absorbed with standard metrics of quality. Given this, it seems incumbent upon medical schools and residency programs to incorporate the evaluation of FOAMed literature into their training streams. Most learners are typically taught the means to appraise primary literature, and we feel that these programs should now also add the means to assess FOAMed literature.

Established researchers should be afforded the opportunity to incorporate FOAMed into their portfolios to use, study, promote, and educate around this form of literature. Using their knowledge base and expertise, they may be suited to be excellent advisors on critically appraising FOAMed, and ensuring that the parent literature is appropriately consumed. While innovations like infographics may enhance the distribution of new research, we feel that it is imperative for readers to ultimately consume the parent literature and to be well informed on how to appropriately critique FOAMed scholarship.

The integration of FOAMed into medical schools and residency training streams may be accomplished through a multitude of ways. The Department of Emergency Medicine at the University of Ottawa has made it mandatory for residents to write a blogpost to disseminate with each grand rounds presentation they do. This illustrates to them how to appropriately write a referenced, evidence-based post that is subsequently peer reviewed. They are provided feedback, and this coaching helps contribute to their knowledge base regarding the creation of FOAMed content.

FOAMed may also be incorporated in a more regimented fashion, with curriculum objectives to be covered through academic sessions, or independent learning. Additionally, learners should be provided FOAMed resources considered to be high quality (as

documented by the Social Media Index), to ensure that they are using peer-reviewed FOAMed literature.⁸

FUTURE DIRECTIONS

For academic and departmental growth, most institutions do not yet recognize FOAMed output as scholarly. However, with its pervasiveness, this may soon change, thus again enhancing the importance of maintaining literature that is high quality. With this emphasis, it is becoming clear that future FOAMed work should be peer reviewed and of high quality, as outlined by Lin et al.⁷ What remains to be answered is whether these domains can be used by academic leaders and researchers to assess the quality of FOAMed literature.

OUR CHALLENGES TO THE EM COMMUNITY

Given the possible immense impact of FOAMed on learning and medical education, we propose three challenges to our colleagues in the EM community, as follows:

- 1) To residents: learn to consume FOAMed in a responsible fashion, using critical appraisal tools and the advice of more senior colleagues to ensure the quality of the content and appropriate clinical application.
- 2) To program directors: incorporate FOAMed into part of the curriculum provided for residents and provide them with education on how to access high quality content.
- 3) To researchers: continue to explore novel ways of appraising FOAMed content, assess its effectiveness as a KT tool, and encourage the use of FOAMed for knowledge dissemination.

Keywords: FOAM, FOAMed, Free Open Access Medical Education, MedEd, Medical Education, Social Media

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