It is time to improve the quality of medical information distributed to students across social media

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Abstract: The ubiquitous nature of social media has meant that its effects on fields outside of social communication have begun to be felt. The generation undergoing medical education are of the generation referred to as “digital natives”, and as such routinely incorporate social media into their education. Social media’s incorporation into medical education includes its use as a platform to distribute information to the public (“distributive education”) and as a platform to provide information to a specific audience (“push education”). These functions have proved beneficial in many regards, such as enabling constant access to the subject matter, other learners, and educators. However, the usefulness of using social media as part of medical education is limited by the vast quantities of poor quality information and the time required to find information of sufficient quality and relevance, a problem confounded by many student’s preoccupation with “efficient” learning. In this Perspective, the authors discuss whether social media has proved useful as a tool for medical education. The current growth in the use of social media as a tool for medical education seems to be principally supported by students’ desire for efficient learning rather than by the efficacy of social media as a resource for medical education. Therefore, improvements in the quality of information required to maximize the impact of social media as a tool for medical education are required. Suggested improvements include an increase in the amount of educational content distributed on social media produced by academic institutions, such as universities and journals.

Keywords: social media, medical education, push education, distributive education

Perspective

The central role that social media plays in the lives of many young people and students means that its utilization for medical education provides a unique opportunity to provide the efficient form of learning that so many students desire. However, it is not only the efficiency of social media-based education that makes it useful but also the increased degree of accessibility to information; the provision of information in innovative ways, including the use of multimedia presentations; and facilitating collaboration through group messaging.¹² On the other hand, the potential benefit that social media may have is limited by the credibility of the information³ as well as the time required to find good-quality information.

This Perspective will, therefore, aim to consider to what degree the incorporation of social media into medical education helps students, and the improvements required to maximize its benefit. The functions of social media discussed are those that educators may have a key role in improving, specifically its function to distribute information to
a general audience (“distributive education”), and its ability to
direct information at a specific audience (“push education”).

**Distributive education**

Social media websites and applications are online environ-
ments or communities where users explore content primarily
generated by fellow users. An advantage of this is that the
content is likely to be relevant to the users as well as being
easy to access. Although peer-review is by no means a per-
fect process, and is prone to bias, the lack of it in regulating
information on social media means that the reliability of such
information is uncertain. It is likely that students are aware of
the possible shortcomings of user generated content. Despite
this, the use of social media for the purposes of education
continues to grow, with some reports suggesting up to 52% of
health profession students use online media as their primary
source of information. Therefore, consideration of both the
factors that continue to drive student use of these platforms is
warranted along with strategies to remedy its shortcomings.

Wikipedia, an open access source of user-generated infor-
mation, has been suggested to be used by students for quickly
“finding background information”. However, a review of
40 English respiratory articles on Wikipedia suggested that
many were brief or incomplete in key areas, challenging
their suitability as a learning resource for medical students.
Students awareness of the limitations of user-generated
content indicates that Wikipedia offers something to stu-
dents that renders the possibility of incomplete information
worthwhile. As stated above, efficiency and ease of access are
strong driving factors for the use of online media; however,
the frequency with which Wikipedia is used might indicate
that it offers something unique to the learning experience of
students. Perhaps, the strict formatting of medically related
articles on Wikipedia provides a consistent framework in
which students can process information.

You Tube certainly has a unique ability to provide educa-
tion in an innovative form, such as multimedia presentations.
It is, therefore, unsurprising that students are attracted to
the use of this platform as a learning resource, particularly
when the information pertains to topics in which visual
presentation may aid the understanding of conceptually
challenging topics. However, many videos are found to be
wanting in educational value, due to poor image quality or
due to the inclusion of serious errors in the content. A further
problem is that the low percentage of good-quality videos
may mean that students have to spend excess time finding
educational resources of good quality, therefore detracting
from the efficacy of social media-based learning. However,
the content produced by academic-journals and institutions
constitutes a large proportion of the videos that are considered
good quality. It is possible that the reliability of content
produced by academic institutions and journals stems from
the role they play in the peer-review process, indicating that
the lack of this process in user-generated content may be
limiting its suitability for students.

The lack of a peer-review system for online media
published for the purposes of medical education has the
dual effect of reducing the average quality of resources for
medical education, compared to their traditional counter-
parts, while also to providing a smoke screen of sub-par
resources that mask the resources that may be of use.
Despite these obvious problems, the use of social media as
a learning resource is growing, potentially signifying that
students appreciate the ease of access of information and
also perceive it as an “efficient” tool for learning. However,
more can be done to increase the reliability, and suitability
for students, of information on these platforms. As user-
generated content is incompatible with a peer-review system,
a possible solution would be to increase the proportion of
sources of online information provided by academic institu-
tions and journals. This would serve both to render online
media more useful to students, while also drawing positive
attention to themselves as a source of reliable information
resources for students.

**Push education**

Institutions such as universities have made use of “Push”
technologies on social media for medical education with
some success. “Push” technology involves signing up to a
service, such as a WhatsApp group or a Twitter feed, and
then receiving information through information transactions
initiated by the publisher (or the educator) as opposed to
the user. Students seem to enjoy the use of these tools, with
viewing these tools favorably being positively correlated
with frequency of use. It is likely the enablement of “on-
the-go” learning that these tools provide drives students
positive views toward it, with students specifically praising
the high yield of information obtained from subscribing to an
educational Twitter feed. Despite this, the use of the tool was
not found to influence engagement on the clinical placement
nor was it found to influence exam results. It is possible that
more could have been made of the tool if, in addition to the
push aspect, it was used as a platform for group discussion
and collaborative education, thereby capitalizing not only
with the educator’s connectivity to the students but also with the students’ connectivity with each other. Herein lies the potential benefit of social media applications with broad ranging capabilities, like Facebook. Students can follow pages or people which can frequently “push” educational content to learners while also incorporating discussion boards that facilitate collaborative education.

**Synthesis and future implications**

Seemingly, there is a disconnect between what students and educators think of as a useful resource for students. Despite the fact that a large proportion of the resources on platforms used for “distributive education” are found to be inadequate or inappropriate for students and the fact that the use of Push technologies to educate students may not help achieve better results, the use of social media for medical education is still growing substantially. It is likely that this is occurring for a number of reasons. It is possible that students value efficiency in learning sufficiently to be willing to risk accessing subpar resources. It is also possible that the current generation undergoing medical education’s familiarity with social media and online resources means that they are simply more comfortable using these platforms than more traditional ones. Regardless, responsibility now falls on educators to improve the quality of the information distributed across social media to students. Furthermore, teaching students how to critically appraise social media sources will lead to a reduction in use of poor-quality sources perpetuating false or incomplete information. This would enable students to take greater responsibility for their own learning.

However, as discussed above, a significant change that must occur is the increased production of educational content for use on social media by academic institutions and journals, with the aim of building channels known by students for reputable content. The creation of online discussion boards to facilitate collaboration between learners could serve to improve the content’s quality by providing corrections and feedback. In this way, user-generated content could undergo a form of user-generated peer review.

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