

## SCIENCE IN SOCIETY

# The (R)evolution of Social Media in Oncology: Engage, Enlighten, and Encourage



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**Summary:** Social media (SoMe) platforms have the ability to strengthen the oncology community, leading to intellectual connections that with time develop into friendships. SoMe has immense potential in all areas of medicine, and SoMe in oncology is proof of this, raising awareness about clinical trials, promoting cancer prevention techniques, amplifying oncology information, enabling diverse viewpoints into conversations, as well as educating colleagues regardless of geography.

*“Engage, Enlighten, Encourage and especially...just be yourself! Social media is a community effort, everyone is an asset.”* —Susan Cooper

## INTRODUCTION

Medical communication by social media (SoMe) has experienced exponential growth in the past decade, and oncology SoMe has seen expanding engagement from the cancer community with representation from clinicians, researchers, advocates, and scientists. Oncology, with its rapidly evolving science and standards of care, is especially well-suited to SoMe. However, SoMe was neither immediately adopted nor impactful when first introduced. According to survey analysis by the Pew Research Center on social networking usage from 2005 to 2015, in 2005 only 5% of U.S. adults used at least one SoMe platform; 10 years later, this number ballooned to 72%. In response to the growing reach of SoMe, the oncology community has adopted SoMe “in order to facilitate the creation and sharing of user generated content in a collaborative and social manner” (1). In medical SoMe, Twitter has become a major platform for information exchange among providers and the community, as well as reporters (2). LinkedIn and Facebook are also platforms of choice for many; however, the preference varies depending on geography. Twitter seems to be one of the most popular means of interaction for oncologists in North America and Western Europe, with the rest of the

world gaining ground daily. Much like their Western counterparts, colleagues worldwide are seeing that this is an effective multidirectional way to disseminate ideas, information, new data, and most importantly expand networks and create dialogue where in-person dialogue is not possible. Although the exchanges are simple, SoMe serves to effectively unite cancer stakeholders across the globe into think tanks that in turn accelerate progress.

## RESEARCH DISSEMINATION

One obvious value of SoMe in oncology is the dissemination of information (3). Research dissemination of novel findings (positive or negative results) is as equally important as the research conducted. Information shared includes the latest articles affecting clinical practice, results presented at congresses, opinion pieces and editorials, and “tweotorials” of other educational commentaries. Such presentation of real-time information generates real-time discussion, controversy, and interest. These discussions result in timely worldwide conversations in which some of the most expert voices in our field contribute alongside relative newcomers as well as patients and advocates. In this setting, individual researchers can contribute to the conversation, sharing views, opinions, data, and even their own research.

However, there are some negative factors that impede the fair dissemination of research. One example is the impact of paywalls on access to published data or the ability to attend conference presentations if one has not paid for this access. This has the potential to affect colleagues from low- and middle-income countries, trainees, and patient advocates a lot harder than their counterparts from high-income countries, as these financial hurdles impede them from participating and thus their voices are not heard on SoMe when it comes to research dissemination.

## ACADEMIC DISCUSSIONS

Any respectful academic discussion is a positive one; in this way, SoMe is paving the way to a new form of remote networking. In the past, only those attending in person benefited from networking at congresses; now anyone with a SoMe account can interact with colleagues and participate in the exchange of ideas. SoMe has given a voice to virtually

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anyone who is willing to use it and learn how to communicate through it. Because SoMe makes it possible to readily amplify messages regardless of their quality and veracity, it has the potential not only to be a tool for helpful education but also to cause major harm by spreading misinformation. The variety of ideas that are being shared is much broader than would be possible in one boardroom or meeting hall and brings people from different backgrounds, disciplines, and geographic settings to one virtual table. Networking becomes easier as SoMe brings some of the world's top oncologists within reach of those oncologists (and other health care workers) who would otherwise not have the opportunity, especially those living in low- and middle-income countries. Through SoMe, it is possible to poll colleagues throughout the world to solicit perspectives on challenging cases and interpretation of new and emerging research findings. Thanks to this virtual proximity, every single interaction has the potential to be a learning opportunity—asking questions, receiving feedback in real time, and giving the chance to discuss ideas, continue engaging, and develop new projects and ideas.

## RESEARCH IMPACT

SoMe also enhances conventional measures of scientific impact. Journals with a SoMe presence get more citations than those that do not (4). A prospective randomized trial on tweet activity in thoracic surgery demonstrated that tweeting results led to “significantly more article citations over time, highlighting the durable scholarly impact of social media activity” (5). Accordingly, tweeting benefits not only the scientific journals but also the authors whose career development and personal advancement in academic oncology are facilitated by the broader reach of their work (6). In addition, this gives individual researchers the possibility to promote their own research or ideas, whether it be from a published article or a poster presented at a congress (virtual or in person). SoMe also amplifies the exposure to publications and research, as it is impossible for anyone to keep up with all publications in their field or area of interest. Findings can now be amplified effectively across different networks, all from the comfort of home. This is where the importance of a strong supportive network comes in, as a network with similar interests that knows the user would find the information worth amplifying and give these ideas fuel to reach more people they would otherwise not have. This is the very cornerstone of academics—the propagation of new findings that will lead us to the next question. Particularly as networks become larger, SoMe provides an opportunity to exchange ideas and practice patterns from a broader range of institutions and stakeholders, thereby broadening mindsets that would otherwise be exposed only to those with whom a researcher has regular and direct contact (7). The researcher on SoMe has much to gain, as such exposure enables important networking critical to career development. Increasingly, institutions recognize the value of this exposure as well, viewing these discussions as welcome visibility.

## COVID-19, CANCER, AND SoMe

The impacts of the COVID-19 pandemic on the way we learn, network, and communicate cannot be underestimated.

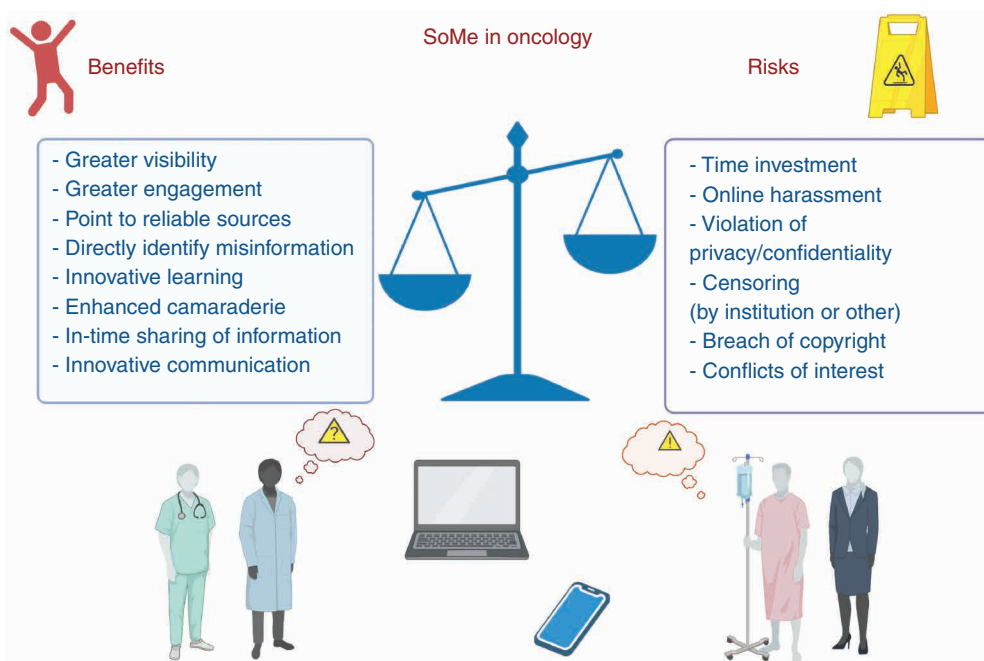
A recent survey directed toward oncologists examining the views toward SoMe during the pandemic saw that “social media has a useful role in supporting cancer care and professional engagement in oncology. Although one-third of respondents reported reduced use of social media due to stress during the COVID-19 pandemic, the majority found social media useful to keep up to date and were satisfied with the role social media was playing during the pandemic” (8). The fact that so many colleagues have embraced SoMe during the pandemic, in many aspects, has served as a “great equalizer” when it comes to oncology education. SoMe has been one platform where this education has been delivered and has also acted as a great promotional platform for educational opportunities during a time when travel was not an option. The incorporation of SoMe has the potential to help any oncologist regardless of geography, facilitating the opportunity to listen to some of the most influential leaders in the field and equalizing to offer the same advantages as those in richer countries. With in-person collaborations, conferences, and gatherings not possible, a virtual meeting place has been key. Although virtual meetings are not considered SoMe, they are intertwined and serve as a great opportunity to network. As a result of the COVID-19 pandemic, societies were forced to adapt to virtual meetings, and the medical community had to find alternate ways of communicating and networking, and SoMe was a perfect place. Tools like videoconferencing during virtual meetings have facilitated these SoMe collaborations and networking, as they could be held in real time during meetings (9). This, along with the development of independent colleague-driven networks like OncoAlert, found mainly in SoMe incorporating physicians, scientists, nurses, and patient advocates, facilitates communication, education, and amplification so that any cancer stakeholder in the world has the opportunity to find mentors worldwide and engage in international collaborations.

## SoMe AND ENGAGEMENT AROUND CONFERENCES

The use of SoMe in oncology is more than just a concept; this has become our reality here and now! For example, research presented at the 2021 American Society of Clinical Oncology (ASCO) Annual Meeting, focusing on ASCO conferences, evaluated patterns of engagement of ASCO meetings over the past 5 years by tracking the meeting hashtag. This analysis showed “that the cumulative number of impressions for #ASCO16 was 468.2 million, compared with approximately 1.12 billion for #ASCO20.” As SoMe use continues to expand in the oncology community, stakeholders have turned to their digital voice to express views and opinions. The impact of impressions versus absolute number of tweets will continue to grow with a stakeholder's follower count, thus building on the digital presence in oncology (10). This drastic increase in impressions is proof that the cancer care community and particularly oncologists are embracing this mode of communication within our professional field.

## SoMe AND EDUCATION

There is great value in the ability to reach a broad audience, and SoMe with its power of dissemination allows for



**Figure 1.** The benefits and risk of SoMe in oncology. Engagement in SoMe has benefits and risks that come with its use. This figure illustrates 14 benefits and risks that we consider to be the most important in having a SoMe presence. (Figure created using software from BioRender.)

education to reach beyond traditional networks. In medicine, SoMe plays an important role in education efforts such as the availability of continuing medical education (CME) as well as the formation of digital tumor boards. These methods aid in the education of oncologists and allow for the accrual of CME points that many need to keep a professional license active. Not all of the education in SoMe has to be formatted and formalized; many colleagues have taken the role of educators when they tweet and formulate their information as a “tweertorial,” which is a series of tweets that guides the reader into different aspects of the trial or findings and offers a more complete understanding of that which is being presented. This is often presented by world leaders in the field and serves as a source for valued commentary when a new article is released or new trial results presented at congresses. These serve as a great source for education and information, and some SoMe services are also even providing CME points upon participation. Oftentimes conversations in SoMe are multidisciplinary and bring many voices and medical opinions to the discussion, including that of the patient advocate. Although a large part of the focus has been on the education of colleagues, we cannot overlook the impact of educating the general public on SoMe. This kind of education comes in the form of generalized information, public service announcements, risk reduction information, or simply fighting misinformation. There are of course challenges in reaching such a diverse audience, as language matters and when communicating with the general public the simplicity and clearness of the writing is just as important as the message. However, SoMe is a great forum that lends itself to this kind of interaction, not only bringing different voices into the conversation but also allowing us to take the conversation to the masses.

### SoMe AND THE ACTIVE ROLE OF PATIENTS

One positive aspect of SoMe that has been long overdue is the increased focus on inequities, regardless if they are racial inequalities or global disparities. SoMe has brought these issues into the spotlight, and colleagues not only have been made aware of these issues but have also picked up the fight to balance these inequities in cancer care. One way that this discussion has become better and broader is with the inclusion of patient advocates in the conversation, who not only provide a nonmedical viewpoint, but share the concerns of the most important person in cancer care—the patient. Not only are these concerns and views valuable at a time when trials are completed and results are being shared, but they can also be helpful far earlier in the research process, including the steps of trial design, the recruitment process, as well as in details of practical issues such as planning treatment administration and financial consideration. Having patients involved not only simplifies the guesswork, but also gives us a complete view of cancer care. The patient advocate voice is strong in SoMe; however, there have been some reports that there has been a decrease in patient advocate engagement as compared with an increase in doctor engagement, and it has become our duty as physicians to strengthen the patient advocate voice.

### PITFALLS OF SoMe

In addition to the many great benefits from SoMe, there are some risks that come with engagement (Fig. 1). As with everything, there are negative aspects of SoMe that must be considered. It could be said that this platform leads to an unfair system in which the visibility of a researcher’s work



is dependent more on the strength of a researcher's social network than the quality of the research itself. However, having such a status should come with responsibility to highlight that which is relevant and innovative, not that which is popular and leads to its own benefit. The one obvious response from those starting in SoMe can be that they try to add as many followers as possible, not paying attention to who these followers are and expecting the same exposure as their more well-established colleagues on SoMe. However, one lesson that must be taught is that it is not the quantity of followers but the quality of the information and the engagement of our networks that will propel our ideas on SoMe forward. However, when wanting to reach a broader group, we have to be careful that oncology Twitter does not become an echo chamber, as most researchers have followers who are also researchers and the information does not reach other networks. However, this only holds true to those under 1,000 followers; those who surpass that have the possibility of reaching networks far beyond—primarily nonscientists (7). The secret recipe for this seems simple: Those who tweet more have more followers and are able to reach a broader audience, but this demands sustained online engagement.

There are certain aspects to consider as a doctor on SoMe, especially regarding medical advice. Although giving medical advice on SoMe is something that should be avoided, here the most important thing is to be conscious of any potential breach of confidentiality and to make sure to always keep patient confidentiality. Regarding this interaction with patients on SoMe, a great pitfall is that this method of communication is not accessible by all patients due to the “digital divide,” where those in lower income groups have less availability to this type of electronic communication and thus miss out on such interactions with experts (11).

Another individual aspect of SoMe is the disclosure of individual conflicts of interest and being as transparent as possible in order not to be accused of being biased on specific opinions. This is of course an ethical obligation of every physician, and of course if they know they have a conflict of interest with a specific post, they should simply refrain from posting or make sure to start their post with a declaration of their conflict of interest. However, through sincerity and transparency, SoMe can be a very effective tool for the modern-day physician/researcher/scientist/cancer stakeholder.

## CONCLUSION

All in all, SoMe platforms have the ability to strengthen the oncology community, leading to intellectual connections that with time develop into friendships. SoMe has immense potential in all areas of medicine, and SoMe in oncology is proof of this, raising awareness about clinical trials, promoting cancer prevention techniques, amplifying oncology information, enabling diverse viewpoints into conversations, as well as educating colleagues regardless of geography.

For many reasons, SoMe in oncology has become an essential role in our day-to-day professional lives to the extent that it has become paramount that our colleagues have the ability to communicate through these platforms in order to bring many voices together and strengthen the oncology

community to engage, enlighten, encourage—as SoMe is a community effort (in oncology), everyone is an asset!

## Authors' Disclosures

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