# Article ⎆

## Essay 🔖

# How can African medical researchers use social media to their advantage?-Pearls and pitfalls

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## Abstract

*African researchers face multiple challenges, and some of these challenges can be solved with social media. Social media can be used in data collection, recruitment of participants, project administration, and dissemination of findings. One aspect in which social media is essential is scientific communication. The dissemination of unverified or fake information regarding public health and research in Africa is a*

*common occurrence. This practice is often perpetrated by non-African researchers or Africans who are not medical researchers through social media. There has been an increase in internet penetration and social media use in Africa, yet, the African scientific community is still to take advantage of social media. To control the narrative, African researchers must leverage social media platforms. Safe utilization of social media requires that users follow guidelines and that they develop a set of skills. Effective use of social media by African academics can bolster medical research on the continent. In this essay, the authors describe the pearls and pitfalls of using social media (Twitter, ResearchGate, WhatsApp, and Instagram) as a researcher or an academic institution.*

## Essay

Social media facilitate the sharing of ideas and information in real-time and across geographic limits [1]. We must note, however, that the use of social media is not without inconveniences. A significant disadvantage of social media is the propagation of unverified and, in some cases, false information [2]. Unverified and fake information that appeals to emotion and satisfy the curiosity of readers tend to propagate faster [3]. Similarly, information that fits stereotypes tends to be shared more readily. One reason for this is the lack of vetting by users [2]. People often read information without questioning its source or credibility. Moreover, *social media influence* has gradually become a measure of authenticity such that the more a post is shared or liked, the more people believe the information is accurate. This phenomenon leads to *infodemics* (a portmanteau of the terms *information* and *pandemic)* that can adversely impact public health, the economy, and public safety [2,3]. The current COVID-19 pandemic has generated its share of false information. False information on the causes, mechanisms, treatments, and impact of COVID-19 has spread like wildfire [3]. Among the unverified information about COVID-19, some focused on Africa's (in) ability to deal with the pandemic. Many articles on

COVID-19 in Africa have analyzed the continent as a monolith and wrongly extrapolated observations from a few African cities to the entire continent [4,5]. These articles have often failed to recognize the efforts of African governments, scientists, and people in the fight against COVID-19. Fewer articles have focused on timely action by the Africa Center for Diseases Control, excellent coordination by the Ghanaian government, innovation by Senegalese researchers, or scientific discoveries by Nigerian scientists [6-8]. One reason for this is that success stories do not fit the *poverty porn* narrative. The other reason is, we, African medical researchers do not participate enough in scientific communication. As a result, these false narratives dominate the media, overshadowing our successes and perpetuating the narrative of a hopeless Africa. *Until the lion tells his side of the story, the tale of the hunt will always glorify the hunter.*

We, African researchers, have a role to play in the fight against false and unverified information on public health and research in Africa. Social media is already a cornerstone of scientific communication in high-income countries [9]. African researchers must learn to use social media efficiently because social media is indispensable for controlling the narrative but equally for data collection, recruitment, and dissemination of research [9]. Social media substantially increases manuscript reads and citations [10]. Altmetrics quantify the impact of research by analyzing article citations and mentions in social media, online news media, and reference managers [11]. Altmetrics are considered a proxy of the social impact of an article. The more an article is shared on social media, the more likely it is to be read, and the more likely it is to impact practice or policies [12]. Even though internet penetration has increased over the past two decades, mobile devices are cheaper, and more Africans use social media [13,14] few researchers and academic institutions have active accounts on the major social media platforms. Moreover, only a handful of active institutional accounts have an experienced social media management team. One reason for the general inertia is the fear of

committing a mistake and being viewed as unprofessional. Some rules guide the use of social media by healthcare professionals, but most African researchers and institutions are still to be trained in social media etiquette. Social media use guidelines are meant to avoid errors and maximize efficiency. In this essay, we discuss the dos and don'ts of social media as well as ways to increase online productivity and efficiency.

**Rules of engagement:** the first step in using social media is the creation of an account. The social media accounts of researchers and institutions must be professional [15,16]. Usernames should not be nicknames but first and last names. Also, profile pictures should be clear, well-lit, and an accurate representation of the individual or institution. For individuals, we recommend a picture in formal attire, while for institutions, the logo is preferred (preferably PNG or TIFF file format). We equally recommend that individuals mention their qualifications, affiliations, and Google Scholar/ResearchGate profile links on their bio. Once the account has been created, the focus is shifted to the content of the posts. All posts must respect confidentiality and privacy. Respecting these rules can be challenging, given the dichotomy between social media and medicine. The culture of medicine is centered around privacy, confidentiality, and professionalism, while in social media, the culture is one of sharing, transparency, and informality. For the medical researcher, this discordance can be confusing. African health professionals should learn to strike a balance between the two milieus because medicine and social media are part of today's reality. Moreover, social media users should be cautious of the stories/posts/comments that they share, comment, or like since these interactions may be considered as endorsements [17]. The same concept applies to accounts that the handler chooses to follow. The social media accounts of individuals are an extension of the individual and the institutions they are affiliated with. It goes without saying, but posting and sharing of offensive content can be detrimental to the reputation and future of the

account handler [18]. More than three-quarters of recruiters carry out online searches and check the social media accounts of applicants [17]. Similarly, most residency program directors consider the online activity of applicants because they believe that the information shared on social media reflects a person's ability to be a good trainee [19]. It is common practice to post a disclaimer saying that activities on the researcher's account do not represent the policies of their institutions; however, this disclaimer is not a license to post unprofessional content. Users should, therefore, make sure all their posts and interactions are respectful of medical deontology and institutional policies.

**Social media analytics and how to create engaging posts:** social media analytics is the process of gathering and analyzing data from a social media platform [20]. Social media analytics help users assess their engagement with the audience. The use of analytics results in a more efficient dissemination of information through the description and analysis of content volumes, interactions, reach, and the geospatial distribution of the audience [21]. Each social network has an inbuilt analytics tool that users should familiarize themselves with. Most of these tools are available for free, but users can purchase extra analytics features from third-parties [21]. Social media engagement quantifies interactions (clicks, views, shares, retweets, likes, and favorites). Higher engagement implies that the user is captivating the audience's attention and can be an indicator of mastery [20]. Users who master social media metrics can adapt their posts and habits to gain their audience's attention. The mastery of analytics is critical to controlling the narrative on African medical research because it will increase the visibility of African research and researchers both nationally and internationally.

Journals and academic institutions have social media teams often composed of young researchers, residents, and trainees. These teams are charged with creating and organizing activities on social media handles. The teams monitor

engagement, interact with the audience, and work with traditional media and blogs to control the narrative. To meet these goals, social media editors check the accounts multiple times each day, post on recent and notable events, and liaise with the leadership to make sure the posts are in line with the organization's vision. Posts are often drafted and scheduled to foster consistent posting and give time for the posts to be reviewed and edited. These teams are an opportunity for trainees and students to be involved in research activities, and for journals, they represent an opportunity to reach a new target audience. Social media editor teams should be created in African journals and integrated into the editorial team. Graphics Interchange Format or GIFs, videos, and images generate the most interactions. An image commonly used to disseminate research findings is the visual abstract. A visual abstract is a representation of the key results and, sometimes, the methodology of a study [22,23]. Visual abstracts take advantage of our ability to assimilate visual data quickly. While it takes readers an average of 6 seconds to read 20 words, the meaning of a symbol is established in 1 second [22]. It is understandable, then, why researchers should exploit this advantage. Visual abstracts were introduced by Annals of surgery in July 2016, and less than a year later, more than 20 journals and institutions had adopted visual abstracts in their dissemination strategy [22]. Posts containing visual abstracts get more interactions than posts without visual abstracts [24]. Not only do visual abstracts improve the dissemination of research articles, they equally generate deeper engagement, interest, and impact [22]. African medical research would benefit from the increased visibility afforded to them by visual abstracts.

**Twitter:** twitter is the biggest microblogging platform on Earth. More than 2000 American healthcare workers have accounts on Twitter, and they have 300 followers on average [25]. Twitter is a significant part of modern medicine because of the benefits it can provide and how it increases active engagement among health professionals and trainees [9,25]. Twitter users communicate with short public messages called *tweets*. Tweets can be composed of at most 280 characters or a combination of text with photos, polls, and videos. Another way users can interact is through replies to tweets or by reposting tweets on their account (*retweeting*). Characters preceded by the pound sign or *hashtags* denote a topic around which users focus their discussions. Hashtags promote groups of tweets about the same topic [25]. Hashtags are useful for increasing engagement and focusing interactions. For example, in 2013, the American College of Chest physicians launched a twitter hashtag (#pulmcc) to facilitate education and conversation. This hashtag generated over 1 million impressions on Twitter [9]. African medical researchers should sign up for Twitter and engage with the scientific community at large. All research-related activities should have a Twitter hashtag and should be reported live on the platform.

**Research Gate:** research Gate is a social media platform for academics. Academics on ResearchGate can share their ideas and publications free of charge, network, disseminate research findings, and gain the respect of their peers. With 7 million users and the fastest-growing rates among researcher networking platforms, ResearchGate is the largest social media platform for academics [26]. To register, authors must have an institutional email address, proof of academic activity (grants, peer-reviewed manuscripts, or books), or a recommendation from a current ResearchGate user [27]. Researchers who do not have an institutional email address can write an email to ResearchGate detailing their research experience, interests, and research outputs. A key feature of ResearchGate is the Questions and Answers (Q&A). Users engage in conversations on and about research methods, findings, career advancement, and opportunities [27]. Questions should be concise, precise, preferably illustrated, written in clear English, and professional. Q&A is excellent for learning, networking, and teaching. The more a researcher participates in Q&A, the more visible they become. Another feature of ResearchGate is the ResearchGate score. The ResearchGate score is a measure of the user's

contributions to the platform. The score is calculated from research output and user interactions. No one outside ResearchGate knows how the scoring algorithm works; however, we do know that it integrates bibliometrics and altmetrics [26]. Other than for researchers, the ResearchGate score is calculated for academic institutions and countries. Hence, African institutions and countries can use their ResearchGate score to monitor their research progress and how they fare against other institutions or nations.

**Whatsapp and Instagram stories:** whatsapp is an instant messaging application with more than a billion active users in 180 countries. As of December 2017, it was the most popular instant messaging application in Africa [28]. It remains a popular tool because it works despite the poor quality of the internet network. Its use for medical research has been met with resistance. Opponents state concerns about unprofessional conduct and the quality of the evidence supporting the benefits of WhatsApp [28]. The application proposes several functionalities, some of which have proven to be particularly interesting in sharing information to a vast community. *WhatsApp groups* can be used for data collection and administration of research projects. Another functionality, *WhatsApp stories*, allows users to share a post with their contacts for less than 24 hours, renewable at will. It is a powerful tool to redirect users to the point of interest, like the links to a publication, participant recruitment, or a survey [28]. A similar functionality, *Instagram stories*, exists on Instagram. Instagram stories differs from WhatsApp stories in that it offers the possibility to tag other users, thus further expanding the target population. Both Whatsapp and Instagram stories are free, and posts on the platforms can be shared by other users. This sharing feature increases their potential reach. The two platforms are handy in a limited-resource setting and should be part of the African medical researcher's toolbox.

## Conclusion

Social media platforms have become a complement to traditional research tools. They are useful in almost every aspect of the research cycle and are excellent tools for African medical researchers. They help bridge the gaps related to insufficient economic resources and facilitate communication between investigators, study participants, and the general public. The use of social media must be responsible and informed by scientific evidence. The African research community should acknowledge social media as an essential tool and formalize its use.

## Competing interests

The authors declare no competing interests.

## Authors' contributions

USK: Conceptualization, Project administration, Supervision, Writing - original draft, Writing - review and editing. RT, YZ, NG, SN, DD, GE and FT: Writing - original draft, Writing - review and editing.

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