Social Media in Healthcare

Matthew N. O. Sadiku[1], Nana K. Ampah[2], Sarhan M. Musa[1]
[1]Roy G. Perry College of Engineering, Prairie View A&M University, Prairie View, TX, USA
[2]Lone Star College, Kingwood, TX, USA

ABSTRACT

Social media are basically web-based tools used for computer-mediated communication.

It is a powerful tool that healthcare professionals can use to communicate and interact with patients. It has become an undeniable force that healthcare industry must reckon with. This paper provides a brief introduction on how, where, and why social media are being used in the health care sector.

Keywords: social media, Web 2.0, social network, healthcare

INTRODUCTION

The Internet now provides health information ranging from factsheet (on health-related information) to videos on how to perform a heart transplant [1]. It has empowered individuals to share health information and interact using social media. The social media (SM) have tremendously increased in popularity. Its use by hospitals and health professionals has grown significantly [2].

Social media (also called Web 2.0) refers to Internet-based and mobile-based tools that allow individuals to communicate and share ideas, personal messages, and images. Social media are computer-mediated communication tools that enable users to share and consume content through varied modalities such as text, image, and video [3]. Recently, the use of social media has been extended to the healthcare field. Healthcare professionals now use SM as part of their daily activities. They can use them to communicate directly with their patients. Social networking sites allow users to share ideas, activities, events, and interests. The majority of those who use social networking sites use them to form self-aggregated

interest groups for fundraising, awareness, marketing, and general support.

SM sites may include blogs, social networks, and wikis. Wikis are easy-to-publish websites; they can be quickly and easily edited by multiple users. Blogs are the oldest, most established, and evaluated form of social media. Social media platforms such as Facebook allow individuals to post photos and messages and share them with friends, relatives, and business partners all over the world. Media sharing sites comprise social media tools that are optimized for viewing and sharing. They are great resources for education, community building, and marketing, research. They have become encyclopedic resources.

A number of healthcare professional networking sites exist. These include Sermo, Asklepios, Doctors' Hangout, Ozmosis, Doc2Doc, ASHP Connect, and PharmQD. Social media provide healthcare professionals with tools to share information, to promote health behaviors, and to educate and interact with patients, caregivers, students, and colleagues.

POPULAR SOCIAL MEDIA

Social media is consumer-generated media that covers a variety of new sources of online information, created, and used by consumers with the intent on sharing information with others. It employs mobile and web-based technologies to create, share, discuss, and modify consumer-generated content. Consumers are most likely to leverage their power in social media to be more demanding of marketers [4]. The four most popular social media platforms are described here.

- **Facebook**: This is the most popular social media in the US and the rest of the world. It was launched on February 2004 by Mark Zuckerberg. Facebook can sensitize individuals (consumers) about many products and services. A company can use Facebook to communicate their core values to a wide range of customers.

- **Twitter**: Twitter was launched on July 2006 to provide a microblogging service. It allows individuals and companies to post short messages, share content, and have conversations with other Twitter users. Many Twitter posts (or "tweets") focus on the minutiae of everyday life.

- **LinkedIn**: This a networking website for the business community. It allows people to create professional profiles, post resumes, and communicate with other professionals. LinkedIn is where companies see the largest audiences.

- **YouTube**: YouTube has established itself as social media. It was launched in May 2005. It allows individuals to watch and share videos. YouTube may serve as home to aspiring filmmakers who might not have industry connections. YouTube can be both a blessing and a curse for some companies.

Other social media include Instagram, Reddit, Pinterest, Flickr, Snapchat, WeChat, and Vine Camera.

APPLICATIONS

Social media have been rapidly adopted as a means of providing medical care, research, and education. The application of social media in healthcare continues to expand. Examples of social media applications in health include [5]:

- Access to educational resources by clinicians and patients
- Evaluation and reporting of real-time flu trends
- Recruitment of patients to online studies and in clinical trials
- Use blogs for peer-to-peer communication and to foster reflective peer-to-peer learning
- Use of Twitter at conferences
- SM provides a way caregivers can help and support each other
- Hospitals use SM as communications and marketing to educate, publicize, and entertain.

Mobile social media has emerged as the combination of social networking and mobile technologies. It is mediated by mobile devices such as smartphones, tablets, or laptop computers [6]. The use of mobile social media for healthcare purposes is growing. With this growth come new opportunities for deploying new services for healthcare. Big data is driving the development in biomedical and healthcare informatics because big data has unlimited potential for storing, processing, and analyzing medical data. Factors influencing social media and healthcare big data is shown in Figure 1 [7]

BENEFITS

Using social media allows the patients to have two-way communication with other patients and healthcare providers. It can connect individuals around the globe who share the same health conditions [8]. Since social media can provide healthcare professionals with a wealth of information about a patient, it can be used in a positive way to aid clinical care and disseminate health related information. In 2010, the American Medical Association (AMA) released official guidelines to guide physicians in their ethical use of social media. In 2011, the National Council of State Boards of Nursing (NCSBN) issued similar guidelines for nurses. Hospitals can communicate and educate their patients using social media platforms such as Facebook and Twitter. SM can facilitate disease surveillance, mass communication, health education, knowledge translation, and collaboration among healthcare providers [9]. The use of SM allows doctors in the same area to be constant touch with each other.

They are being used by nurses, doctors, and other healthcare professional on a daily basis. Healthcare organizations, including hospitals, health systems, and pharmacy are using social media for many purposes. Typical uses include interacting with patients online, education, marketing, promotions of products and services, and fund-raising.

CHALLENGES

In spite of the benefits, challenges persist in the world of social media in healthcare. Several questions in terms of governance, ethics, professionalism, privacy, and confidentiality remain unanswered. An important issue is the degree of privacy and security available in the medium. Confidentiality is a basic patient right which must be respected [10]. Another issue is

whether a health care provider should be held liable for health-related recommendations provided through social media. Another question is whether legal frameworks from telemedicine can be adapted to social media since the Internet transcends geographical boundaries. The widespread use of social media has introduced new legal problems.

The fear of the unknown seems to be a major barrier against the adoption of social media in healthcare. This is due to the conservative nature of healthcare professionals. Unlike physicians, pharmacists have been reluctant in adopting social media. Although most healthcare professionals use social media in a safe and ethical manner, some physicians violate privacy and confidentiality regulations. The incorporation of social media into clinical education has met with mixed acceptance. Misuse of social media could threaten the trust needed for a strong patient–physician relationship. There continues to be conflict between the values of healthcare providers and those of social media. The main challenges preventing physicians from adopting social media are: maintain confidentiality, lack of active participation, finding time, lack of trust, workplace acceptance and support, and information anarchy [11].

CONCLUSION
Although social media is still evolving, it has made a profound impact on the healthcare industry. Social media has gone beyond a tool for sharing photos and messages to fostering serious discussion on health and business. They have infiltrated our lives, personally and professionally. They are rapidly transforming the nature of healthcare interaction. There are great opportunities and advantages for social media to improve healthcare. More work is yet to be done in understanding the impact of social media on patient-professional relationship. Social media is here to stay as a game changer.

REFERENCES
[1] L. Campbell, "Social media use by physicians: A qualitative study of the new frontier of medicine," *Master's Thesis*, University of Washington, 2015.

[2] M. L. Antheunis, K. Tates, and T. E. Nieboer, "Patients' and health professionals' use of social media in health care: Motives, barriers and expectations," *Patient Education and Counseling*, vol. 92, 2013, pp. 426-431.

[3] M. N. O. Sadiku, M. Tembely, and S.M. Musa, "Social media for beginners," *International Journal of Advanced Research in Computer Science and Software Engineering*, vol. 8, no. 3, March 2018, pp. 24-26.

[4] C. Kohli, R. Surib, and A. Kapoor, "Will social media kill branding?" *Business Horizons*, 2015, vol. 58, pp. 35-44.

[5] "Social media: A review and tutorial of applications in medicine and health care," *Journal of Medical Internet Research*, vol. 16, no. 2, Feb. 2014.

[6] M. N. O. Sadiku, P. O. Adebo, and S.M. Musa, "Mobile social media," *International Journal of Advanced Research in Computer Science and Software Engineering*, vol. 8, no. 3, March 2018, pp. 8-10.

[7] S. Mgudlwa and T. Iyamu, "Integration of social media with heathcare big data for improved service delivery," *South African Journal of Information Management*, vol. 20, no. 1, 2018.

[8] M. S. Alhaddad, "The use of social media among Saudi residents for medicines related information," *Saudi Pharmaceutical Journal,* 2018.

[9] E. Hagg, V. S. Dahinten, and L. M. Currie, "The emerging use of social media for health-related purposes in low and middle-income countries: A scoping review," *International Journal of Medical Informatics*, vol. 115, 2018, pp. 92-105.

[10] K. M. Lambert, P. Barry, and G. Stokes, "Risk management and legal issues with the use of social media in the healthcare setting," *Journal of Healthcare Risk Management*, vol. 31, no. 4, 2012, pp. 41-47.

[11] S. Panahi, J. Watson, and H. Partridge, "Social media and physicians: Exploring the benefits and challenges," *Health Informatics Journal*, vol. 22, no. 2, 2016, pp. 99-112.

AUTHORS
Matthew N. O. Sadiku is a professor in the Department of Electrical and Computer Engineering at Prairie View A&M University, Prairie View, Texas. He is the author of several books and papers. His areas of research interests include computational electromagnetics and computer networks. He is a fellow of IEEE.

Nana K. Ampah is an adjunct faculty at Lone Star College, Kingwood, Texas. His research interests include enterprise network security, power optimization, smart grid, and renewable energy. He is a member of IEEE.

Sarhan M. Musa is a professor in the Department of Engineering Technology at Prairie View A&M University, Texas. He has been the director of Prairie View Networking Academy, Texas, since 2004. He is an LTD Sprint and Boeing Welliver Fellow.
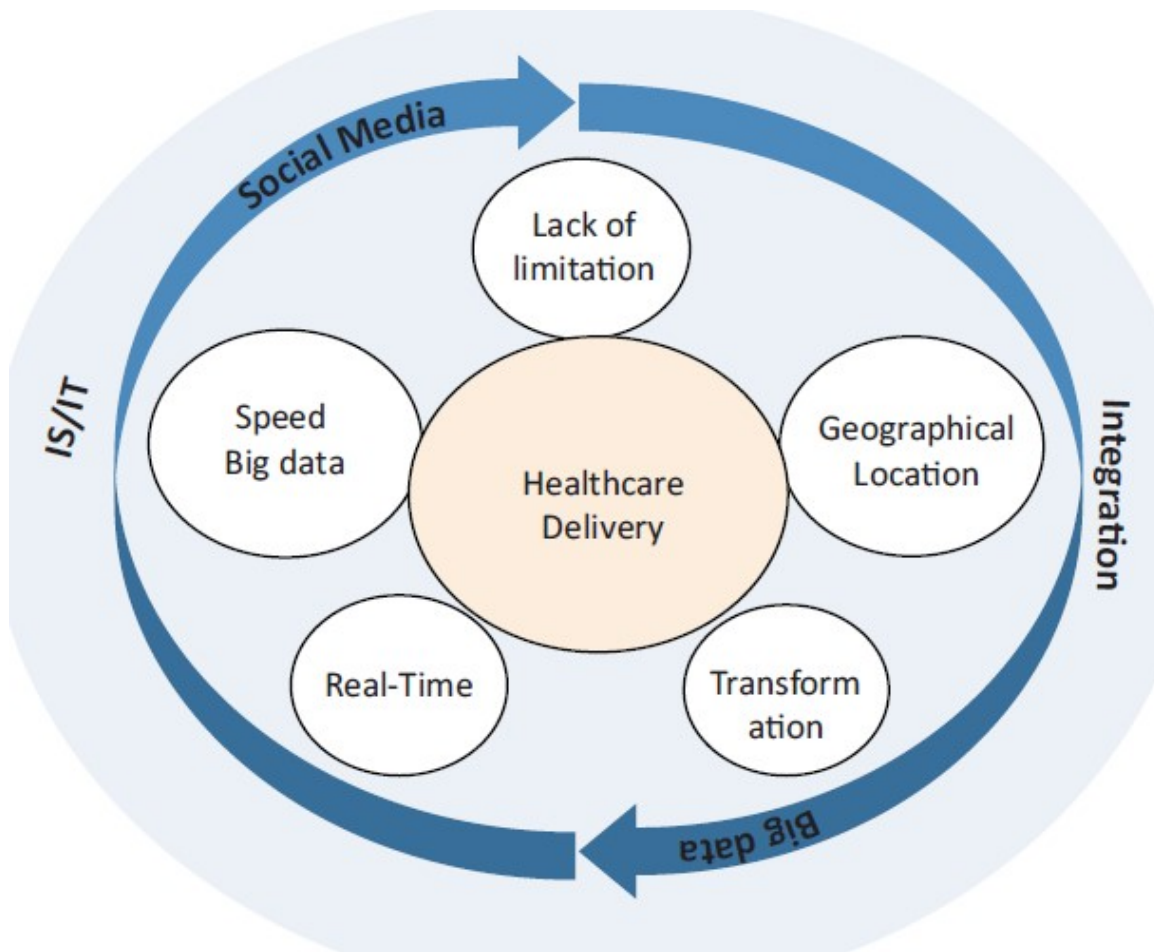
Figure 1 Factors influencing social media and healthcare big data [7].