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29.1 Introduction

Communication worldwide has been rapidly changing over the past 20–30 years. With the widespread adoption of email, the first step towards acceptance of digital correspondence was set. Particularly within the last 15 years, social media has become an integral part of the communication landscape.

Social media is a form of digital communication allowing for direct interaction between users. It differs from many other previous forms of communication in that there is, by design, often no intermediary between users, allowing for more direct communication. The sharing and consumption of content is governed by the unique features and rules inherent to each social media platform, which informs the best uses of each of these services.

Social media has become a required mode of communication in the business world. For businesses, the ability to reach and deliver content to consumers directly, large user bases, low start-up and maintenance costs, and ability to receive unadulterated feedback from consumers has proven to have great utility. While social media has clearly been embraced by the general public

and businesses, medicine has relatively lagged behind in adoption of this mode of communication [1–3].

Currently, many in the medical world are beginning to use social media on a wider scale. While the level of adoption varies widely by institution and individual, social media has become a tool worth considering and employing on both a personal and institutional level.

29.2 Participation

Participation in social media can be performed on both a personal and institutional level. Each has different goals and purposes that should be properly utilized by the user account.

On the personal level, most institutions do not place restrictions on their employees creating accounts. However, care must be taken to share content responsibly. If there are restrictions per your employer on what types of content can be posted, these guidelines should be considered when posting on social media. Potential specific uses on different networks will be discussed later.

On the institutional level, it is very important to understand your organization's marketing and social media policies. Many institutions may require explicit approval from legal or marketing departments to participate in social media apart from restrictions on types of content allowed to be posted.

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There are a few reasons for these types of restrictions by organizations, particularly in regard to the number of groups allowed to participate individually under the umbrella of an organization. First, organizations generally prefer a focused message to consumers and patients. The participation of multiple groups under the same organization can lead to garbling and dilution of the organizational message. Second, multiple groups raise the possibility of public blunders. Many organizations have made mistakes on social media requiring apologies after posting inappropriate content to their social media accounts. Last, regularly updated content is important to continue to stay relevant. Organizations aim to avoid orphaned accounts as they can demonstrate a lack of attention by the organization or even pose as a security risk due to targeting by hackers [4, 5].

Once an individual or group has decided to use social media, it's worthwhile to ask a few questions to guide their potential use. Who is the target audience? Which platform should be used? How often will content be propagated? Who will be in charge of both creating and managing content? What will content look like?

It's also very important to define how you or your organization will measure success. While each platform has its own specific metrics, some terms are important to know across platforms. For example, followers refer to individuals who have subscribed to your channel. Impressions measure the number of individuals who have seen your post. Engagement is a measure of how many people have interacted with a specific post. Many other metrics may be present which are more specific to a given platform.

29.3 Types of Platforms

In order to get a better understanding of how to use social media, it is beneficial to discuss some of the most popular platforms, their specific characteristics, and best uses.

29.3.1 Twitter

Twitter is a text and image-based social media platform based around interactions between users and followers via interactions called tweets (Fig. 29.1). As of February 2019, Twitter reported 321 million active monthly users [6]. Tweets are comprised of up to 240 characters with the ability to include embedded images, videos, and links. While these messages are brief, they can be posted in succession to form threads which can elicit deeper discussions. In addition, direct messages (DM) can be used to directly and privately communicate with individuals. Each user has a "handle," which is composed of a user name preceded by the "@" symbol. The main interactions on Twitter consist of tweets, replies to tweets, retweets (RT; reposting of another user's tweet), likes, and tags. Hashtags are words or phrases



Fig. 29.1 The feed on Twitter allows users to receive public posts from other users that they follow. Note the icons (message bubble, circular arrows, and heart) below the post which allow users to reply, retweet, and like, respectively

preceded by the “#” symbol which are used to emphasize a thought or categorize the tweet by a topic or trending discussion. For example, medical conferences often utilize hashtags to link tweets between attendees, such as #RSNA18 for the Radiological Society of North America 2018 Annual Meeting [7]. Anecdotally, Twitter is the most widely used social media platform for interactions between medical professionals in the United States.

On a personal level, Twitter can be used as a personal profile for interaction with others in your field online. An individual can share personal knowledge, accomplishments, events, and have discussions with colleagues. It can serve as a springboard for forming relationships with individuals that you may otherwise never have a chance to interact with. This can often serve as a bridge to in person interactions and new, beneficial professional relationships.

At the organizational level, Twitter can serve multiple purposes. First, it can serve as an organizational message board. Notable accomplishments, presentations, publications, profiles, and other items from members in the organization can be shared [8]. Interactions with other users on Twitter can also serve to establish the credibility of the organization with knowledgeable interactions with other

credible individuals and organizations. It’s important to determine the goals of your interaction and base your presence and voice around achieving those goals.

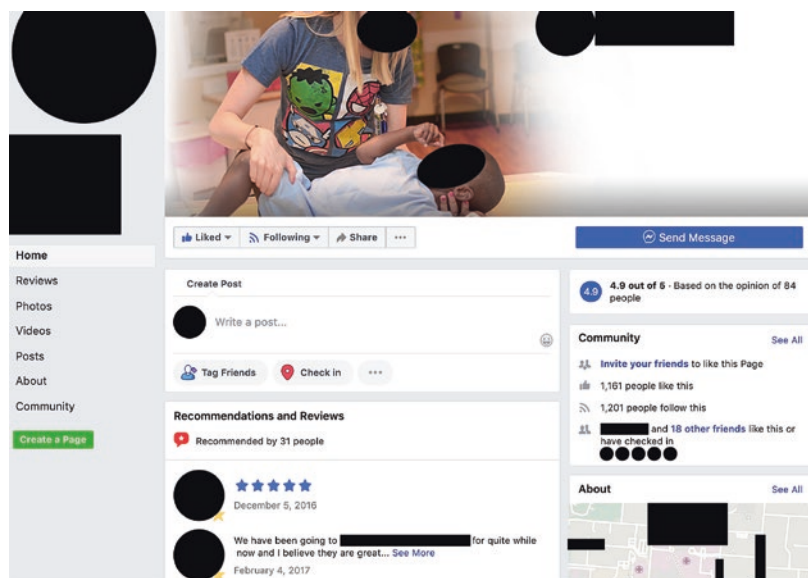
Metrics on Twitter are robust. Basic metrics include aforementioned universal metrics such as followers and impressions. In addition, platform-specific metrics include number of retweets, replies, and likes. Twitter provides access to these metrics and more advanced metrics within its analytics package [9].

29.3.2 Facebook

Facebook is a social media platform with the largest user base in the world, consisting of 2.38 billion monthly active users as of March 31, 2019 (Fig. 29.2) [10]. Facebook is a predominantly text and link-based platform with the ability to embed many different types of media within posts. It was among the first platforms to incorporate a specific platform for businesses rather than just individuals with analytics geared towards optimizing businesses.

On a personal level, the use of Facebook is somewhat limited in the medical space. Personal accounts generally remain geared towards family and friends rather than patients or customers.

Fig. 29.2 Business page on Facebook. Organizations can include any relevant information for their business and provide direct contact for customers, patients, and their families. Note that the public can also leave reviews and comments



On an organizational level, because of Facebook's large user base numbering in the billions, a presence is virtually necessary, if for no other reason than to serve as a landing page in such a widely used "directory." Business pages differ from personal pages in a number of ways, including organization, content, and how users subscribe to content. Unlike how personal accounts generally work through the "friend" concept requiring mutual agreement for content sharing, business accounts can be liked by users without explicit approval from the business, allowing the user to then receive content the business posts. General information such as location, hours of operation, addresses, phone numbers, and emails can also be included. Users are also able to "check-in" to let others in their network know that they have visited.

As platforms, Facebook and Twitter differ in a few ways. First, Facebook does not enforce a small character limit like Twitter, allowing for much longer and more detailed posts. Often, these posts are accompanied by links or other media, in order to better capture users' attention. Second, the manner in which content is distributed differs. Facebook offers differing levels of privacy for posts, while Twitter content is available either publicly or specifically only for followers [11].

Examples of uses for Facebook include making announcements, sharing content from other social media channels, and responding to user feedback and complaints.

Metrics on Facebook are among the most robust available on social media platforms. While basic metrics such as followers, likes, impressions, and engagement are available, advanced analytics through the Insights platform are also available.

29.3.3 Instagram

Instagram is an image-based social media platform with over 1 billion active monthly users (Fig. 29.3) [12]. The Instagram app is designed to be used exclusively on a mobile platform. It allows users to perform a variety of functions including editing images with filters and creating



Fig. 29.3 Instagram post. Note the image with relevant caption below the image. The icons (heart, message bubble, paper airplane) allow users to like, reply to, and send the post to another user, respectively

descriptive captions with hashtags. While Instagram initially gained rapid popularity due to unique features such as square aspect ratio for images, filters, and mobile experience, Instagram has continually expanded its features and now allows posting in several forms. Traditional posts are viewed within the feed and consist of a mix of images and/or videos in each post with an accompanying caption. A newer feature called "Stories" allows users to post temporary images/videos which disappear after 24 h. One of the newest features, "IG TV," allows users to post videos of lengths greater than 1 min. The proliferation of these new features has anecdotally substantially changed the manner in which users have interacted, but generally interactions continue to occur mainly between users and their followers with additional interactions occurring secondary to categorization via hashtags [13–16].

Wilson, B. (2014). *The Nerdy Nurse's Guide to Technology*. Sigma Theta Tau International.
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Siegmund, L. A. (2019). "Like Us on Facebook®": Nursing in a World of Social Media. *Journal of Radiology Nursing*, 38(30), 183-187.

Fig. 29.4 Additional resources on social media and nursing

While the reliance on the mobile experience works well for personal uses, it may be suboptimal for education, a large focus in the radiology community. The reasons for this are as follows. First, mobile image capture has traditionally been the focus of Instagram. However, in the realm of radiology education and with imaging contained within PACS on desktop workstations, mobile capture of images is likely not the most effective manner of obtaining high-quality images. There are methods to get around this important limitation. Specialized screen capture applications can be used to copy these images in high quality. However, even after obtaining a high-quality image, another limitation of Instagram is that there is no official way to upload these images from the desktop/web to Instagram. Images are required to be sent in some manner to a mobile device to be uploaded. This can be achieved via email, text, or other services such as Dropbox™. Last, there are limited options for scheduling content within the app, though online services are available which skirt around these restrictions.

Despite these multiple limitations, the image-based focus of Instagram is well suited for a visible field such as radiology, particularly for education. With the ability to create posts via a multitude of methods using both images and videos, Instagram offers a robust platform for radiology focused users. However, prior to sharing images, it's important to consider the legal and institutional policies in your organization. Avoiding using identifiers such as age, gender, and specific clinical or social information can help to protect patients whose images are shared for educational purposes. In addition, newsworthy cases should also generally be avoided.

Instagram metrics are relatively basic but have become more robust over time. Basic metrics such as number of followers and number of likes in a post are easily accessible. Other more advanced metrics such as impressions, unique views, and more can be obtained by using a business account.

29.4 Conclusion

Social media has grown to become one of the most powerful media of communication. With its ability to reach large audiences directly using a number of different platforms with varying strengths, weaknesses, and demographics, individuals or organizations can connect with audiences within the radiology community (medical professionals) or outside of it (patients and families.) While the use of social media for and within medicine is in its relative infancy [17], the power of this form of communication is apparent and use will only continue to grow over time. See Fig. 29.4 for additional resources on social media and nursing.

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