

A Content Analysis of How Healthcare Workers Use TikTok

Consuelo Mendoza Bruno

Strategic Communications
Elon University

Submitted in partial fulfillment of the requirements in
an undergraduate senior capstone course in communications

Abstract

Advances in technology have changed the way in which healthcare professionals and consumers access and use health information. Although healthcare professionals have already taken to social media to share healthy messages or to promote their work, TikTok poses a new set of opportunities and challenges. TikTok is a mobile video creation/sharing application that has grabbed the attention of young audiences around the globe. This study focuses on how healthcare professionals are using TikTok and how healthcare information is being portrayed on the short-video platform. Findings of this study indicate that healthcare professionals are following current online trends and posting videos on TikTok that include humor, self-criticism, and specific health content in meme-like forms to develop messaging that is likely to resonate with younger audiences.

I. Introduction

Advances in technology have markedly changed the way in which healthcare professionals and consumers access and use information. Social media tools such as Facebook, Twitter, and YouTube have been used to train medical professionals, provide information to patients, and allow rapid communication in times of crises (Ventola, 2014). Although healthcare professionals have already taken to social media to share healthy messages or to promote their work, TikTok poses a new set of opportunities and challenges.

TikTok is a mobile video-creation/sharing application that has grabbed the attention of young audiences around the globe. TikTok has become the most downloaded Apple iOS video app, with youth ages 13-18 comprising half of the 500 million monthly users (Cheg, 2018). Healthcare professionals are now taking to the new platform to teach users about specific conditions and spread awareness on timely topics (Nied, 2020). Furthermore, physicians are leveraging the popularity of the platform among adolescents and young adults to enhance communication with their patients and share valuable health information (Hausmann, 2017).

TikTok's executives have welcomed the platform's uses for medical professionals. "It's been inspiring to see doctors and nurses take to TikTok in their scrubs to demystify the medical profession," said Gregory Justice, TikTok's head of content programming (Goldberg, 2020). Additionally, the President of the Association for Healthcare Social Media (AHSM) has stated, "TikTok is a space where doctors do belong. Because patients are exposed to or are seeking health knowledge on social media, healthcare providers should be present on social media to serve as accurate sources of medical information" (Nied, 2020).

Keywords: health communication, social media, TikTok, content analysis, teenagers
Email: cmendozabruno@elon.edu

This study analyzes how healthcare professionals are using TikTok to reach young audiences and how healthcare information is being portrayed on the short-video platform. It does so by content analyzing 100 recent TikTok videos produced and disseminated by healthcare professionals.

This topic is important because healthcare professionals can use TikTok to potentially improve health outcomes, develop a professional network, increase personal awareness of news and discoveries, motivate patients, and provide health information to the public (Nied, 2020). Similarly, TikTok has the potential to improve patients' access to healthcare information and other educational resources (Nied, 2020). In addition, mainstream media is starting to discuss this topic, making it relevant for a larger audience.

II. Literature Review

Since the start of social media in the late 1990s, these platforms have had a major influence on people's personal and professional lives, impacting the way in which they communicate, stay connected, and share information (Zhu, 2019). Not only has social media become integral to how people live their lives, but it has also started to play an increasing role in how they manage their health (Eytan, 2011). In the United States, eight in 10 Internet users search for health information online (Surani, 2017), and more than 40 percent of healthcare consumers utilize social media for their healthcare information needs (Ventola, 2014).

For healthcare professionals, social media become a primary means to interact with the public and attract new patients (Gandolf, 2015). Studies have shown that when healthcare professionals participate in social media, it directly impacts their reputation and it attracts more patients to their practices (Kotsenas, 2018).

Many social media tools are already available for these healthcare professionals, including social networking platforms, blogs, wikis, media-sharing sites, virtual reality, and gaming environments. These tools can be used to improve or enhance professional networking and education, organizational promotion, patient care, patient education, and public health programs. Furthermore, healthcare professionals can also take advantage of social media platforms to improve the care of their patients and ultimately their outcomes (Ventola, 2014). Studies have also shown that patients value educational, online interaction with healthcare providers (Kotsenas, 2018). Similarly, social media can be used to improve patient satisfaction by increasing the time spent communicating with and having questions answered by their physicians (Ventola, 2014). A survey of patients at an outpatient family practice clinic found that 56 percent wanted their healthcare providers to use social media for reminders, scheduling appointments, diagnostic test results, prescription notifications, and answering general questions. Social media can also improve patients' access to healthcare information and other educational resources (Ventola, 2014).

Healthcare professionals are in a position to become trusted sources of reliable medical information on social media platforms. Patients, families, and caregivers are inclined to use the Internet as a source of health information, but professionals have the ability to filter unreliable or biased information and to guide patients to reliable sources (Gandolf, 2015). Also, social media can empower healthcare professionals to promote and change health-related behaviors and issues, ultimately affecting population health (Lee, 2019).

How Healthcare Professionals Are Using Social Media

Social media provides individuals the ability to quickly access information and communicate with others. Healthcare professionals are taking advantage of these tools to share information with patients in a variety of ways (University of Scranton, 2015). In a 2014 study, 60 percent of physicians favored interacting with patients through social media (Ventola, 2014). Additionally, unlike other health advice that patients may encounter online, physicians are using social media to develop messaging that patients are more likely to resonate with and act on. In fact, some physicians are using social media, including Twitter and Facebook, to enhance communication with their patients in a more personal way (Ventola, 2014).

Another effective use of social media is by collecting feedback from patients in order to better understand their preferences in healthcare (University of Scranton, 2015). There are many health conditions that respond equally to different types of treatments and it is hard for patients to come across well balanced information to assist them in their healthcare decisions (Kirby, 2007). In addition to sharing information with patients and evaluating patient preferences, healthcare professionals are also utilizing social media channels as part of their continuous medical education (University of Scranton, 2015).

How Health Information Is Portrayed Through Videos

During the last decade, videos have become an essential part of teaching, training and communicating with hospital employees, medical students, and administrators within the healthcare industry. Videos keep physicians and staff up to date with the latest information, methods, and practices. In fact, more than 66 percent of physicians are now using online videos to stay up to date with the latest clinical information (Panopto, 2019).

Additionally, on-demand videos have been shown to improve patient education and promote active patient participation in treatment decisions, while saving physicians' time associated with individual counseling (Panopto, 2019). In a similar way, medical subject-matter experts are regularly participating in Facebook Live sessions to discuss particular health topics and answer viewer questions (Kotsenas, 2018). Physicians showing in detail exactly how to work through an assessment or diagnosis, or an administrator sharing the right way to enter data in the institutional records, are both examples of how healthcare organizations are already using videos to ensure that they are tapping into the full expertise of their teams (Panopto, 2019).

TikTok and Its Growing Popularity Among Adolescents

Founded in 2017, TikTok is the fastest growing social media application in over 150 countries. It has more than 500 million active users with more than 1 billion downloads (Zhu, 2019). As of December 2019, 56.5 percent of users are female and 43.5 percent are male (Clement, 2019). The platform's mission is "to capture and present the world's creativity, knowledge, and precious life moments, directly from the mobile phone" (Mohsin, 2020). Ultimately, there is a vast market of people looking for micro-entertainment and distraction for a few minutes during the day, and TikTok is providing just that for these individuals (Daniel, 2020). Users spend an average of 52 minutes per day on the app. Additionally, 90 percent of all TikTok users access the app on a daily basis, and more than one million videos are viewed every day. TikTok has been particularly successful in engaging younger generations, as 41 percent of users are aged between 16 and 24 (Mohsin, 2020).

TikTok thrives on irreverence, and users can be found making fun of themselves in embarrassing ways in public, performing silly pranks or doing skits, creating a meme culture within the TikTok community (Mediakik, 2019). TikTok users are also strongly encouraged to engage with other users through "response" videos or by means of "duets," which increases users' overall engagement (Herrman, 2019). Trending songs and tags also act as prompts for users to attempt dance moves or create their own variation on a theme (Sehl, 2020).

It is crucial to understand that TikTok is an experience based solely on algorithmic observation and inference. When you open the app, the first thing you see is not a feed of your friends, but a page called "For You," which is an algorithmic feed based on videos you have interacted with, or watched. TikTok starts making assumptions the second you open the app, even before you have really given it anything to work with (Herrman, 2019). What really helps TikTok stand out among the competition is that it is more of an entertainment platform, instead of a lifestyle platform (Mohsin, 2020).

In regard to the platform's layout, there are several design and technology factors that make it extremely popular with this younger generation (Cheg, 2018). For example, individuals can post about anything — humor, hobbies, fitness, travel, music, photography, dance (Daniel, 2020). Young individuals are also attracted to the shape of the videos as they are tall, not square, like on Snapchat or Instagram stories. Similarly, these individuals enjoy the platform's ease of navigating through videos by scrolling up and down, like a feed, not by tapping or swiping side to side (Herrman, 2019). Lastly, young individuals enjoy the ease of adding text to their videos (Myers, 2020). The platform makes it easy for users to make their content fully accessible to viewers whether they are hearing impaired or just want to watch in silence without missing anything (Myers, 2020). Overall, young video creators enjoy how TikTok assertively answers their what should I watch and what should I post questions (Herrman, 2019).

How Adolescents Use Online Health Information

The Internet serves as a major source of information about health-related issues for adolescents (Ettel, 2012). In fact, according to a national study, 84 percent of United States teenagers ages 13 to 18 turn to the Internet and use digital tools for health information (Deardorff, 2015). Furthermore, a Northwestern study found that the top-four reasons teens search for health information is for school assignments, to take

better care of themselves, check symptoms or diagnose, or find information for family or friends (Deardorff, 2015).

While the reasoning for searching for health information varies among adolescents, an overwhelming majority specifically taps into online sources to learn more about puberty, drugs, sex, depression and other related issues (Deardorff, 2015). Similarly, in a study that surveyed 705 high-school students, teens were found to seek information related to skin care significantly more frequently than other topics, and a substantial proportion of students also sought information about birth control and sexually transmitted diseases (Ettel, 2012). Not only are adolescents turning to the Internet to read about health information, but teens have also admitted to changing their health behaviors and habits due to digital health information tools (Deardorff, 2015).

Doctors have the power to help teens understand topics related to healthy lifestyles, sexual development, and emotional problems. Healthcare professionals have the potential to serve as valuable online resources by answering questions and giving guidance during periods of physical and emotional changes (Gavin, 2019). The public often hears about the negative things young people do online, but teenagers are using the Internet to take care of themselves and others around them. The Internet is empowering teens to protect their health; therefore, healthcare professionals need to make sure they are equipped with the digital literacy skills to successfully navigate this online landscape (Deardorff, 2015).

Communication Between Healthcare Professionals and Adolescents

Healthcare professionals face several important challenges when it comes to communicating with adolescents. Adolescence is a crucial developmental stage where health-risk behaviors may begin and when individuals move from parental control to establishing their own separate relationship with health professionals. However, teens can be difficult to engage with when it comes to health care and health promotion, despite having access to more health information online (Skinner, 2003). One study found that youths would be open to increased interaction and support from health practitioners and saw them as reliable experts. However, teens also noted barriers to having timely access to these professionals (Skinner, 2003). This study demonstrates that both adolescents and healthcare professionals are interested in improving their communication between each other. Ultimately, communication between adolescents and healthcare professionals needs to reflect the unique nature of health care needs during developmental stages. When handled correctly, this can reduce the sense of uncertainty and enable young adults to take charge of their health and maintain stable relationships with their healthcare providers (Kim & White, 2018).

Existing Perceptions of Using TikTok to Portray Health Information

With many younger social media users now preferring to receive information via video content rather than written content, healthcare professionals are using TikTok to grow engagement levels, create content that is unique and personable, and extend the core values of healthcare providers. The platform is becoming an integral part of healthcare social media ecosystems, allowing healthcare professionals to interact with citizens on a more personal level (Zhu, 2019). As one example, a physician at the University of Minnesota Medical School said the platform provided her an enormous platform to share medical public service announcements. Additionally, she noted that in order to get attention and views on TikTok as a healthcare professional, it is essential that medical messaging is tailored to the app's irreverent form (Goldberg, 2020).

On the other hand, there are concerns that TikTok is tarnishing the perceptions of healthcare professionals (Nied, 2020). Some healthcare-themed TikToks that have gone viral have been widely scorned, and experts worry that these videos, shared far and wide, could spread the growing distrust in medical professionals. Sarah Mojarad, a science communications expert, said, "People are just posting content, they are not really thinking about their role as a medical professional and how that's going to impact the public's perceptions of medical professionals" (Andrews, 2020). Similarly, some physicians worry that TikTok's brief, playful clips are blurring the line between general education and patient-specific medical advice, making it difficult to reach the right audience with the correct healthcare information (Goldberg, 2020). In summary, there is a fine line that healthcare professionals are walking between trying to get a message out that will appeal to this younger generation and being perceived as inappropriate or unprofessional.

Multiple studies have shown that the use of social media in the healthcare space is increasing exponentially (Surani, 2017). For this reason, it is necessary to study the way in which healthcare

professionals and institutions are using these platforms, and particularly TikTok (Nied, 2020). It is of interest to understand how the platform is changing the ways in which health information is being portrayed and shared to individuals, especially among younger demographics. TikTok is such a new space and there is still uncertainty as to how healthcare professionals should be and are currently using the platform (Andrew, 2020). Therefore, an analysis of TikTok content posted by healthcare professionals is appropriate. This paper helps fill that gap by answering the following research questions:

RQ1: How are healthcare professionals using TikTok?

RQ2: How are healthcare professionals tailoring medical messaging on TikTok to attract younger demographics?

RQ3: What types of videos are being posted by healthcare professionals on TikTok?

RQ4: Do viral TikTok videos created by healthcare professionals give these individuals a negative or unprofessional connotation?

III. Methods

This study consists of a mixed quantitative/qualitative content analysis of 100 videos to better understand how healthcare professionals are using TikTok. A content analysis is a research method for “analyzing written, verbal, or visual communication” (Elo, 2014). It is a systematic process of describing and coding occurrences, which then allows a researcher to group words, phrases, and data into classified categories; suggesting that they all have something in common (Elo, 2014). Several studies have adopted this method to analyze videos and to design coding procedures. Furthermore, this method is widely used when analyzing video-based content, especially in healthcare communications (Zhu, 2019). In this study, a qualitative content analysis was used to describe the occurrence of different categories.

Because academic studies with coding schemes for videos produced on TikTok are still scarce, this study uses codes of common practice for video-based health communication. Additionally, this study adapts an existing coding method used in a recent study that analyzed TikTok accounts run by Chinese Provincial Health Committees (Zhu, 2019).

To select the sample of videos to be analyzed, the researcher first downloaded the TikTok app on Apple iOS and created a new account. As stated in the literature review, when a user first opens the app, the first thing they see is a page called “For You,” which is an algorithmic feed based on videos the user has searched for, interacted with, or just watched (Herrman, 2019). Therefore, the researcher used several tools on the platform to assist the app in creating a “For You” page comprised entirely of videos related to healthcare.

The researcher used the platform’s search tool to search for the following terms: “healthcare,” “health information,” “healthcare providers,” “healthcare professionals,” “doctors,” “nurses,” “diseases,” and “health.” Based on the search results, the researcher was presented with an initial number of videos. The researcher then used the options to “like” videos and “follow” accounts in order for TikTok to develop a more extensive “For You” page composed entirely of healthcare-related videos posted by an array of healthcare providers. Following this, the researcher randomly selected 100 videos from the “For You” page. Each video was then watched from beginning to end and coded using instruments developed by both the researcher and Zhu (2019).

A Microsoft Excel worksheet was constructed to store the data extracted from the TikTok videos. The final coding scheme consisted of four dimensions: Account Information, Quantified Impact, Video Content, and Video Form. Additionally, each of these dimensions had several sub-dimensions. All 21 coding categories are outlined in Table 1.

Table 1: Coding Categories

Account Information	
Username	Refers to the username of the TikTok account who posted the video
Official Verified Account	Refers to whether or not the TikTok account is verified, represented by a blue check mark (verified badge)
Credentials Listed in Bio	Refers to what credentials or name titles are listed on the TikTok account bio who posted the video
Website Link	Refers to whether the account has a link in their bio
Quantified Impact	
Number of Followers	Total number of Account Followers
Number of Likes	Total number of Likes the video received
Number of Comments	Total number of Comments left on the video
Number of Shares	Total number times the video was shared
Number of Views	Total number of Views the video obtained
Video Content	
Video Type	Refers to the different types of health communication, divided into six categories, including: cartoon, documentary, situation comedy, excerpt from TV program, excerpt from news report, self-recording, demonstration
Video Theme	Refers to the major topic involved in the video, encompassing disease knowledge, daily diet, health professionals' image, healthcare information, and health reforms
Emotion(s)	Refers to the major emotion involved; classified as excited, moved, humor or no specific emotion
Character(s)	Refers to the character(s) being shown in the video; divided into health professional, public figures and general public (with patients included)
Gender	Refers to the gender of the character(s) in the video
Setting	Refers to where the video is filmed (hospital, clinic, home, etc.)
Video Form	
Background Music	Refers to the background music used, including no music, music selected from the TikTok music library, and original music
Talking/No Talking/Lip Synching	Refers to whether the character(s) in the video were talking, not talking, or lip synching
Subtitles/Text	
Subtitle Colors	Refers to whether or not the subtitles were presented with color or black and white
Caption	Refers to caption posted with the video
Hashtags	Refers to the hashtags used by the uploader in the video's caption

When conducting a qualitative content analysis, many scholars suggest measuring either intercoder or intracoder reliability as a way to evaluate the reproducibility of the results (Van den Hoonaard, 2008). Intracoder reliability, in particular, refers to the consistent manner by which the researcher codes at different points (Van den Hoonaard, 2008). Since this study had only one coder, the researcher coded twenty percent of the videos twice, on separate days, and then measured the percent of agreement. In this case, the percentage of agreement between Coding Session 1 and Coding Session 2 was 93.7 percent.

IV. Findings

Account Information

Usernames play an important role in all social media platforms as they let other users know what kind of information the accounts are providing (Kumar, 2019). Of the 100 TikTok accounts that were analyzed, 56 included medical titles or abbreviations in their usernames. Several of the accounts included terms such as “dr,” “doc,” “md,” or “doctor” in their account usernames. Some examples include, @doctor.sina, @drleslie, @dr.mike_md, @doctor.jess, and @footdocdana. Creating a robust social username allows individuals to be discovered by others who could benefit from the association (Gartner_Inc, 2020). Evidently, healthcare professionals on TikTok are choosing to describe their medical backgrounds in their account usernames to improve their online reputation and increase their chances of being followed.

In addition to creating robust usernames, some healthcare professionals use their TikTok accounts to further promote personal websites and YouTube channels. In fact, 43 of the 100 videos included a link in their account bios. Links ranged from personal websites, to healthcare information websites, to other social media accounts. Additionally, 20 of the 100 TikTok accounts included links to YouTube channels, providing further evidence that healthcare professionals are taking advantage of these tools to share information with patients in a variety of ways.

Of the 100 TikTok accounts that were analyzed, only four did not list any credentials in their bios. The five most common healthcare credentials/titles that were listed on these accounts included OB-GYN, Labor and Delivery Doctor, Plastic Surgeon, Nurse, and Pediatrician/Family Doctor. These specialties cover healthcare questions and interests commonly addressed by younger demographics. As stated in the literature review, healthcare professionals are turning to TikTok with the purpose of providing health education to TikTok’s predominantly teen demographic (Andrews, 2020). The study also found that 21 of the 100 accounts included the titles “Medical Student,” “Medical Resident,” or “Nursing Student” in their bios. This suggests that young healthcare trainees may be using this platform to cultivate followers, who could in turn become prospective clients.

TikTok provides verified badges to help users make informed choices about the accounts they choose to follow. A verified badge means that TikTok has confirmed that the account belongs to the user it represents. Of the 100 TikTok accounts that were analyzed, only four contained blue check marks and were therefore verified. It is unclear why such a small number of accounts were verified. This brings up the question of whether healthcare professionals on TikTok should pursue verification as a means of establishing credibility.

Quantified Impact

The Quantified Impact dimension provided findings regarding these TikTok accounts’ influence and engagement levels. Specifically, the total number of likes of all videos analyzed was more than 14 million; one video had received only eight likes at the time of coding, while another had 2 million likes.

The total number of comments received were 170,295, with zero being the lowest and 41,000 the highest. Twenty-four videos received 1,000 comments or more; on average, each video received 1,702 comments. These high numbers of comments may indicate that the public considers health communication via TikTok as a two-way conversation. The total number of shares was 510,917, with zero being the lowest and 95,800 the highest. Additionally, 32 videos had been shared at least 1,000 times. Clearly, many of these videos being posted on TikTok by healthcare professionals are being vastly shared (Table 2).

Table 2: Quantified Impact

	Number of Followers	Number of Views	Number of Shares	Number of Likes	Number of Comments
Minimum	601	251	0	8	0
Maximum	4,400,000	19,600,000	95,800	2,000,000	41,000
Median	78,850	244,400	464.5	16,200	216
Average	206,622	1,435,184	5,109	147,464	1,702
Sum	20,662,214	142,083,175	510,917	14,746,483	170,295

Video Content

The Video Content dimension provided information regarding the types of videos being posted by healthcare professionals, the common themes among these videos, and the specific characters and settings of these videos.

In terms of video type, self-recordings took the lead (87 of 100). Forty-two of these videos also fell in the category of situational comedy, often with healthcare professionals as the main subject either dancing or standing in the video frame. For example, a blood and cancer doctor with the username @thetikdoc posted a video of himself mocking doctors being late to see patients. Another example is from a resident with the username @doctor.jess, who posted a video listing off ways to prevent mononucleosis, but in a comical way. Both of these show how some healthcare professionals are using the platform in a humorous manner. As stated in the literature review, unlike other platforms, TikTok thrives on its irreverence, distinguishing itself as a platform where users can be found making fun of themselves in embarrassing ways in public (Mediakik, 2019). Few videos fell in the cartoon, documentary, excerpt from TV program, and excerpt from news report video types. These results suggest that healthcare professionals are using the platform to humanize their professions, avoiding rigid hierarchies between doctor and patient.

The third most common video type was demonstration (27 of 100). Videos included in this category featured healthcare professionals demonstrating clinical skills or explanations of common medical interventions. For example, a foot and ankle surgeon with the username @toppodiatry posted a video of himself demonstrating different exercises one can do for plantar fasciitis (which causes heel pain). Another example was a physical therapist with the username @dr.carlosgamero who posted a video demonstrating what dry needling is like.

The most common video theme was the healthcare professional's image, with 43 of the 100 videos displaying this topic. Videos within this category featured healthcare professionals either explaining or showing their daily life routines, talking about the number of hours and training it took to get to where they are, or mocking themselves and other healthcare professionals about things that occur in their professions. As indicated in the literature review, there have been professionalism concerns that TikTok is tarnishing the perceptions of healthcare professionals (Nied, 2020). The present study highlights that some healthcare professionals are choosing to use the app as a way to show their daily lives and the "hectic lifestyle" they deal with every day, but not necessarily in the most serious tone. Furthermore, this study indicates that some healthcare professionals are simply posting content and not really thinking about how these lighthearted portrayals may impact the public's perception of them. In some cases, videos go beyond talking about what one does as a healthcare provider and instead mocks someone, or what someone was experiencing. Nineteen of the 43 videos in this category could be perceived as negative reflections upon the medical profession. On the other hand, these results also show that some healthcare professionals present information in a serious manner and do not refer to specific patient experiences. These results suggest that healthcare professionals are using TikTok to establish and extend their digital persona and reputation, but both negatively and positively.

The second most common theme was healthcare information, with 32 out of 100 videos displaying this topic. Videos within this category featured healthcare professionals explaining symptoms, diagnoses, procedures, and outcomes. For example, a primary care naturopathic doctor with the username @drgracechang posted a video explaining which lab results could explain low-energy levels. Another example was a family medicine doctor with the username @DrLeslie who posted a video explaining what a pap smear

will actually be like. Additionally, 15 videos in this theme offered insights into health issues that impact teens, ranging from how to talk to doctors about birth control, why it is a bad idea for a group of friends to share a drink, and what some common symptoms of depression are. Nine videos contained health information about women's health, and five contained health information about skincare, further indicating that healthcare professionals are addressing health concerns of younger patients.

The third most common video theme was healthcare education, with 10 of the 100 videos displaying this topic. Videos within this category featured healthcare professionals teaching medical skills. For example, a labor and delivery doctor with the username @romi_joy posted a video on how to look for a good vein for an IV. Another example was a foot and ankle surgeon with the username @prescriber, who posted a video showing how to do a zip line suture.

In terms of characters, 91 of the 100 analyzed videos featured healthcare professionals, while only seven featured the general public, with patients included. This low number of patients involved in videos is most likely due to the Health Insurance Portability and Accountability Act (HIPAA), which prohibits physicians from releasing information about a patient's treatment and health status (Greevy, 2017). Protecting the privacy of patients is crucial, therefore these results indicate that healthcare professionals are choosing to abide by these regulations when using this platform.

It is also important to note that 52 of the 100 videos featured female healthcare professionals, while only 36 featured male healthcare professionals. In terms of setting, 51 of the analyzed videos were filmed at a hospital, 29 at home and 20 in unknown locations. These results suggest that healthcare professionals recognize the convenience of the platform and can post videos on the go, at the hospital, the clinic, or from home.

In terms of emotions, humor was included in 33 of 100 videos. Happiness was portrayed in 15 videos, and six videos were highly serious. Evidently, healthcare professionals are following the trends of TikTok, making their videos entertaining and humorous to appealing to the nature of the platform.

Video Form

The Video Form dimension revealed information regarding the format in which these 100 videos were presented. Eighty-two out of the 100 videos were accompanied by various types of music; 28 included original music, while 72 included music from TikTok's library. Young individuals are drawn to trending TikTok challenges, which typically involve a popular song or hashtags, so it comes as little surprise that healthcare professionals employ music on the platform as well. Eighty-five of the videos included no talking; 15 of those videos included lip-synching. Messages are often produced in short clips that almost always include no talking and often feature lip-synching.

In terms of hashtags, 95 of the videos included at least one. The most common hashtags used among these videos were, #fyp, #tiktokdoc, #docsontiktok, #doctor, and #foryoupage. As described previously, TikTok is an experience based on algorithmic observation and inference. Hashtags play a role in this algorithm, which selects personalized content for individual users. The results from this study suggest that healthcare professionals are aware of this algorithm and are using trending hashtags to draw a greater audience to their content.

V. Conclusion

This study suggests that healthcare professionals are using TikTok to develop messaging that is likely to resonate with patients in younger demographics. Healthcare professionals are posting videos that include humor, self-criticism, and specific health content in meme-like forms. Therefore, the platform is becoming an integral part of healthcare social media ecosystems, allowing healthcare professionals to interact with young people on a personal level.

Healthcare professionals are using distinctive usernames to easily notify other users that their accounts are health-related. Additionally, they are using the platform to further promote personal websites and YouTube channels by including these links on account bios. Only a few of these professionals have verified accounts on TikTok. These professionals are receiving a large amount of comments on their videos, indicating that the public treats health communication via TikTok as two-way communication. Often,

healthcare professionals use trending songs and challenges to draw in younger users, and employ other popular platform trends such as subtitles and trending hashtags to gain followers. They most often employ self-recordings and demonstrations in their videos, and tend to focus on aspects of the professional's image, healthcare information, and healthcare education.

As with any health information or message that is being shared across social media, it is important to make sure the content is professional and accurate. However, humor can help humanize healthcare professionals. Watching these professionals being, cheesy, humorous, and having a little fun during a hectic workday may appeal to younger users on the platform. When reaching teens, it is important to meet them where they are and, at this point, that space is social media, in general, and TikTok, in particular.

This study has certain limitations. First, this study only consisted of one coder, and while intracoder reliability was measured in a systemic way, having a second coder could help in the process of refining the instrument. Second, the number of likes, comments, shares, and followers may not sufficiently be measured in only one session, as they change daily. Further studies should include additional coding sessions to reflect the dynamics of this new social media platform. Third, although a content analysis is widely used method in video analysis, it may still have limitations when coding the special features of videos of short duration. Specific coding schemes for videos produced on TikTok are scarce.

These limitations open opportunities and rich avenues for further research. For example, while 100 TikTok accounts is a significant number for a qualitative research study, conducting a quantitative content analysis with a bigger sample could add nuance to the results obtained here. Furthermore, this study focused on what healthcare professionals are doing on TikTok, but not on the reasons why users follow these accounts, or the effects of using these sources of information. Research that studies the reasons for TikTok adoption and its usage, particularly related to healthcare-related content, is needed.

More study is also needed on how often teens are using online health tools, how much information they receive, what topics they are most concerned with, how satisfied they are with the information, what sources they trust, and whether they have changed their health behaviors as a result. All this research could then help government and private entities target healthcare information to younger clients. A long-term research agenda in this area is required and full of opportunities to expand knowledge in this field.

References

- Andrew, S. (2020, January 18). Nurses and doctors are flocking to TikTok to crack jokes and lip sync. But are they eroding patients' trust?" Retrieved from www.cnn.com/2020/01/18/us/tiktok-doctors-nurses-trnd/index.html.
- Bellard, K. (2019, April 2). It may be TikTok for U.S. health tech. Retrieved from tincture.io/it-may-be-tiktok-for-u-s-health-tech-3d97202e68bf.
- Cheg. (2020, February 22). 1 intensified play: Cinematic study of TikTok mobile app. Retrieved from tik-t0k.com/2020/02/22/1-intensified-play-cinematic-study-of-tiktok-mobile-app/.
- Clement, J. (2020, February 11). U.S. TikTok users by gender 2020. Retrieved from www.statista.com/statistics/1095201/tiktok-users-gender-usa/.
- Daniel. (2020, February 14). What is Tik Tok used for, and why is it so popular? Retrieved from brandastic.com/blog/what-is-tiktok-and-why-is-it-so-popular/.
- DeSalvo, K., & Samuels, J. (2016, June 2). Empowering patients. Retrieved from www.healthit.gov/buzz-blog/consumer/empowering-patients-videos-promote-access-electronic-health-information.
- Deardorff, J. (2015, June 2). Teens turn to Internet to cope with health challenges. Retrieved from news.northwestern.edu/stories/2015/06/teens-turn-to-internet-to-cope-with-health-challenges/.
-

- Drozd, B., Couvillon, E., & Suarez, A. (2018). Medical YouTube videos and methods of evaluation: Literature review. *JMIR Medical Education*, 4(1). Retrieved from <https://mededu.jmir.org/2018/1/e3>
- Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative content analysis: A focus on trustworthiness. *SAGE Open*. <https://doi.org/10.1177/2158244014522633>
- Ettel, G. (2012). How do adolescents access health information? And do they ask their physicians? *The Permanente Journal*, 16(1). <https://doi.org/10.7812/TPP/11-125>
- Eytan, T. (2011). Social media and the health system. *The Permanente Journal*, 15(1). <https://doi.org/10.7812/TPP/10-154>
- Gandolf, S. (2015, October 13). Social media is changing healthcare. Retrieved from healthcaresuccess.com/blog/doctor-marketing/social-media-is-changing-healthcare.html.
- Gartner_Inc. Social profiles. Retrieved from www.gartner.com/en/information-technology/glossary/social-profiles.
- Gavin, M. (2019, June). Medical care and your 13- to 18-year-old (for parents). Retrieved from kidshealth.org/en/parents/medical-care-13-18.html.
- Goldberg, E. (2020, January 31). Doctors on TikTok try to go viral. Retrieved from www.nytimes.com/2020/01/31/health/tiktok-doctors-sex-ed.html.
- Greevy, H. (2019, April 14). What is HIPAA? Or is it HIPPA? Retrieved from www.paubox.com/blog/what-is-hipaa/.
- Hausmann, J. S., Touloumtzis, C., White, M. T., Colbert, J. A., & Gooding, H. C. (2017). Adolescent and young adult use of social media for health and its implications. *Journal of Adolescent Health*, 60(6), 714–719. <https://doi.org/10.1016/j.jadohealth.2016.12.025>
- Herrman, J. (2019, March 10). How TikTok is rewriting the world. Retrieved from www.nytimes.com/2019/03/10/style/what-is-tik-tok.html.
- Sehl, K. (2020, March 3). Everything brands need to know about TikTok in 2020. Retrieved from blog.hootsuite.com/what-is-tiktok/.
- Skinner, H., Biscope, S., Poland, B., & Goldberg, E. (2003). How adolescents use technology for health information: Implications for health professionals from focus group studies. *Journal of Medical Internet Research*, 5(4), e32. <https://doi.org/10.2196/jmir.5.4.e32>
- Kim, B., & White, K. (2018). How can health professionals enhance interpersonal communication with adolescents and young adults to improve health care outcomes?: Systematic literature review. *International Journal of Adolescence and Youth*, 23(2), 198–218. <https://doi.org/10.1080/02673843.2017.1330696>
- Kirby, R. (undated). Supply-sensitive care. Retrieved from https://www.dartmouthatlas.org/downloads/reports/supply_sensitive.pdf.
- Korda, H., & Itani, Z. (2013). Harnessing social media for health promotion and behavior change. *Health Promotion Practice*, 14(1), 15–23. Retrieved from www.jstor.org/stable/26740853.
- Kotsenas, A. L., Arce, M., Aase, L., Timimi, F. K., Young, C., & Wald, J. T. (2018). The strategic imperative for the use of social media in health care. *Journal of the American College of Radiology*, 15(1), 155–161. <https://doi.org/10.1016/j.jacr.2017.09.027>
-

- Kumar, D., & YaYeet. (2020, April 12). 3214+ best TikTok names+username ideas: February 2020 for boys and girls. Retrieved from tiktoktip.com/tiktok-username/.
- Lee, J., Kim, J., Hong, Y. J., Piao, M., Byun, A., Song, H., & Lee, H. S. (2019). Health information technology trends in social media: Using Twitter data. *Healthcare Informatics Research*, 25(2), 99-105. <https://doi.org/10.4258/hir.2019.25.2.99>
- Martin, P. (2015, March 2). Show, don't tell: How health education videos engage patients. Retrieved from www.thewellnessnetwork.net/health-news-and-insights/news/show-dont-tell-health-education-videos-engage-patients/.
- Mediakix. (2020, January 29). The 10 most popular TikTok trends to follow in 2019. Retrieved from mediakix.com/blog/tik-tok-trends/.
- Mohsin, M. (2020, April 3). 10 TikTok statistics that you need to know in 2020 [Infographic]. Retrieved from www.oberlo.com/blog/tiktok-statistics.
- Myers, E. (2020, April 12). How to add closed captions and subtitles to TikTok clips. Retrieved from www.rev.com/blog/how-to-add-closed-captions-and-subtitles-to-tiktok-clips.
- Neiger, B. L., Thackeray, R., Van Wagenen, S. A., Hanson, C. L., West, J. H., Barnes, M. D., & Fagen, M. C. (2012). Use of social media in health promotion: Purposes, key performance indicators, and evaluation metrics. *Health Promotion Practice*, 13(2), 159–164. Retrieved from www.jstor.org/stable/26739545.
- Nied, J. (2020, February 7). Doctors are taking over TikTok to dish out important health information. Retrieved from www.shape.com/lifestyle/mind-and-body/doctors-on-tiktok.
- Panopto. (2019, December 17). Healthcare providers are using video for elearning & communications. Retrieved from www.panopto.com/blog/how-todays-healthcare-providers-are-using-video/.
- Surani, Z., Hirani, R., Elias, A., Quisenberry, L., Varon, J., Surani, S., & Surani, S. (2017). Social media usage among health care providers. *BMC Research Notes*, 10(1), 654. <https://doi.org/10.1186/s13104-017-2993-y>
- TikTok. (2019, August 16). How to tell if an account is verified on TikTok. Retrieved from newsroom.tiktok.com/en-us/how-to-tell-if-an-account-is-verified-on-tiktok.
- University of Scranton. (2015, September 8). Top 5 ways social media is used by healthcare professionals. Retrieved from elearning.scranton.edu/resource/business-leadership/top-5-ways-social-media-is-used-by-healthcare-professionals.
- Van den Hoonaard, W. C. (2008). Inter-and intracoder reliability. In L.M. Given (Ed.) *The SAGE encyclopedia of qualitative research methods* (pp. 445-446). Thousand Oaks, CA: SAGE Publications, Inc. doi: 10.4135/9781412963909
- Ventola C. L. (2014). Social media and health care professionals: benefits, risks, and best practices. *P & T : A peer-reviewed journal for formulary management*, 39(7), 491–520. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/25083128/>.
- Zhu, C., Xu, X., Zhang, W., Chen, J., & Evans, R. (2019). How health communication via Tik Tok makes a difference: A content analysis of Tik Tok accounts run by Chinese provincial health committees. *International Journal of Environmental Research and Public Health*, 17(1), 192. <https://doi.org/10.3390/ijerph17010192>
-