Take-Home Question for COMM 6840: Interpersonal Health Communication:

How Communication Technologies Influence Healthcare

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**Abstract**

The focus of many new technologies has been to improve communication. In our society, we have many different technologies that could improve the way we communicate with our family, friends, and coworkers, and now it is changing how we communicate with our medical professionals and about our medical conditions. Facebook, TalkSpace Therapy, and the invention of virtual doctor appointments have changed the medical landscape as we know it. This paper details the emerging communication technologies in our society especially focused on the three listed above, and the threats and benefits that these technologies can have in the healthcare landscape now and in the future.

*Keywords:* Healthcare, Health Communication, Communication Technologies, Facebook, TalkSpace, virtual doctor appointment

How Communication Technologies Influence Healthcare

Technology continues to improve communication. We continue to make new ways to communicate with each other, and those technologies continue to get adapted into our work and personal life. High school teachers are using Facebook Groups, and Twitter accounts to keep their students working together even outside of the school. Universities are using Skype to bring experts into the classroom, as well as promoting distance learning. Now healthcare is joining the trend and begin to implement many of these communication technologies into their practices. For the last few years, these technologies have begun to be implemented in health communication. For this paper, health communication is defined as communications related to and focused on improving the health of an individual. This communication may come from medical professionals, non-profits, government organizations, or individuals, and directly relates to healthcare and health concerns. Technology will refer to communication technologies in our current society.

**The Impact of Communication Technologies**

In today’s society, we are surrounded by technology. Compared to a decade ago, more people have a cell phone in their pocket. We are immersed in technology and have adapted it to almost every part of our lives. Currently, healthcare seems to have adopted these new technologies into their processes as well. Physicians in many specialties, especially psychiatry, are increasingly using telemedicine to consult with patients and with this increase the attitudes towards telemedicine among physicians are also changing, especially among younger generations of physicians and medical students. (Yellowees et al. 2015). With the introduction of social media, organizations in crisis can rapidly convey information to stakeholders and assume a proactive approach that will allow them to frame the message as well as the crisis (DiStaso et al., 2015). This also allows doctors and hospitals to share health-related information in a way that is understandable. Social media creates support communities for people to connect with others facing the same illnesses. Finding a stable community has been proven to help people succeed with their health-related goals. Video calling has allowed doctors to send their experience to third-world countries, as well as train other doctors around the globe without extensive travel. Our technology has given access to care that many uninsured or uncomfortable people would not seek out if it meant going to a place in person. As Ndiaye et al. addressed “inadequate communication patterns, poor message choices, lack if intercultural competence and unequal access to information all contribute to disparities.” Morgan et al. (2011) discussed the impacts of new technologies like online focus groups, online discussion groups, health message tailoring, and serious gaming. These communication technologies and many others are changing the landscape of health. The technology continues to improve, individuals continue to get access, and with it, we will see both positive and negative impacts to our society and the way we manage health disparities and health communication as a whole.

**The future of technologies.**

New technologies continue to take our ability to communicate further and further. An example of this is virtual reality, though it is not brand new, it is continuing to develop into a more stable tool for communication. For example, Patel & Cardinali (1994) already began predicting virtual reality as a tool for business meetings. Another critical technology consideration is that of artificial intelligence. It has also successfully been used in treatment studies for anxiety, learning disorders, and brain injuries. In the last year, tools like Alexa have grown in popularity, and the rate of addition of smart cars and smartwatches far outpaced that of new smartphones (Gatherer, 2018). In the coming years, intelligent devices will lead the way of communication technology, and I believe that they will begin to combine data from devices like Fitbit and virtual reality in order to improve things like virtual doctor visits so that you can feel like you are in the doctor’s office, and they can see your heart rate, sleep, weight and other habits from your smart device to give you better health recommendations. NBC News put together a piece on VR for patient care, and it was shared on Facebook. Keller et al. (2017) studied the reaction to this video piece on Facebook and found that “1197 comments coded as expressing a positive perception about VR (74.16%), 251 coded as expressing a negative perception and/or concern (15.56%), and 560 coded as neutral (34.70%). Informants identified 20 use cases for VR in health care, including the use of VR for pain and stress reduction; bed-bound individuals; women during labor; and patients undergoing chemotherapy, dialysis, radiation, or imaging procedures.” This is an overwhelming majority who seemed to be willing to consider this possibility in the near future. The future can be limitless with the potential of these technologies combining to continue to serve the population.

**Social Media, Text Therapy, and Telemedicine**

Three of the major players in the dynamically changing field of health communication are social media, therapy through text message-based application, and telemedicine as a whole allowing patients to see a doctor without having to come to their office. Social media has become a key piece of our lives. According to new research, five new Facebook profiles are created every second ("Top 20 Facebook Statistics - Updated March 2019"). According to Adzharuddin & Ramly (2015), Facebook is aiding in the delivery of health promotion and capable of changing consumer attitudes. Because Facebook moves so quickly it can be used to promote a variety of health conditions such as promoting vaccination for children, the consequences of smoking and consumption of alcohol at a young age, unhealthy sexual practices and healthy diet among teens. It is also beneficial to all age groups as an inexpensive medium to reach groups of people. Cell phones have developed into miniature computers we use to access the internet at all times. Communication technologies continue to weave their way into our lives, more and more each year. Though technology has given us many benefits to our lives, there are still downsides that need to be considered. As people begin to rely heavily on technology, we lose the ability to work without it. In our current day, hospitals are heavily reliant on technological devices, including tablets to access patient charts, as well as devices to monitor the patient. If the technology were to go away, many people’s lives would be at risk because the skills needed to detect some health complications are not being used as heavily. Technology is not always a positive benefit but has to be weighed against all the potential outcomes to see what is useful, and what can be more harming.

**Facebook.**

One of the biggest social media platforms of today is Facebook. This social networking platform gets the most attention, but it is important to note that Facebook now owns Instagram and WhatsApp. According to Facebook’s data 2.7 billion people use Facebook, WhatsApp, Instagram, or Messenger each month and more than 2 billion people use at least one of the Facebook family of services every day on average ("Top 20 Facebook Statistics - Updated March 2019"). We are a plugged-in society. People turn to Facebook for advice, community, humor, and information. Facebook has replaced Google for many people because they feel their community could give them better answers to their questions. The Facebook group feature has grown to include support groups for a variety of conditions, diets, health issues, and lifestyles. This platform is a part of our culture, and children begin using it younger and younger. Though Facebook requires someone to be 13 to create a profile, parents often make profiles for their young children to share pictures with family, and to allow their children to use the Facebook Messenger application that is designed for children. Because of the importance, this social media platform has on society, and I chose to analyze the most significant benefits and threats to healthcare and health communication that Facebook provides.

***Benefit: Understanding health communication.***

One of the most significant barriers to health communication can be jargon. Over 77 million people in the U.S are unable to understand the current medical terminology, and because of this low literacy rate, the individual’s ability to follow treatment plans dramatically decreases resulting in more hospital stays and more severe complications. Social media can help avoid these literacy hurdles because social media can use communication strategies like infographics to demonstrate the meaning and improve patient comprehension. (Richins, 2015). Having medical information passed to the individual in a manner that they can understand will help reduce the need for re-admittance to hospitals and allow the individual to get healthier. Richins (2015) illustrated this point by highlighting a specific organization, the “Cleveland Clinic posts six times a day on Facebook, which is more than most of their competitors. Tests show that this schedule works as evidenced by the engagement numbers. The goal is to strike a balance between wellness and prevention and clinical treatment information.” The quality of posting needs to include appropriate blog topics as well as combinations of words, images, videos, and graphics to create engaging posts on each social platform. In this example, Cleveland Clinic uses Facebook, Twitter, and YouTube to disseminate this information.

***Benefit: Support groups.***

Facebook, though the center of many controversies, can also be a substantial benefit to people who are looking for support for their health concerns. Facebook has many different support groups that can give an individual a sense of community they need to manage their health restrictions or healthy lifestyle. The communities that Facebook encourages can make a difference between someone succeeding in making the lifestyle changes that are needed, and not being able to make the change and slipping back into old habits. A quick search on Facebook can find you a group for diabetics, a group for weight loss, a group for quitting smoking, a group for healthy pregnancies and even people facing terminal illnesses. Bousso (2015) is currently doing a study on the way’s adolescents requiring palliative care express themselves using the social network Facebook and are using this data to identify potentialities to improve adolescents’ palliative care by healthcare providers. Ahmed et al. (2013) looked at concussion Facebook groups in 2010 and found them to be good sources of community, but there was no moderation and no protection for incorrect information but since 2010 has increased dramatically, and they feel it is a valuable source of support and information for people trying to manage a concussion on their own without medical support or family support. Facebook can bring people together, to improve people’s lives, to bring support when people need it the most, especially if they are not getting it at home, and this will create more successful, and potentially more health individuals overall.

***Threat: Online bullying and misinformation.***

50% of 18-24-year-olds go on Facebook when they wake up ("Top 20 Facebook Statistics - Updated March 2019"). This means that over half of that age range is so invested in Facebook that it is what they start the day with. Many children younger than 18 are actively using Facebook, and this addiction will continue to grow as they age. Facebook can have some negative side effects. When looking at communication and the effect on health, we have to look at a communication negative, the idea of cyberbullying. With the increase in online communication, we have to confront the major danger of cyberbullying. Bullying has always been a concern in society, but before the digital landscape, you could return home and feel safe. Now, with the advent of social media, and cyberbullying, the cruelty can follow you home. As suicide rates increase for our children, especially those from age 5 to age 12, we can see the negative impact of how our digital society is affecting them. According to a study, children in a first-grade class did not know the meaning of "suicide," but they did know what "killing yourself" meant. Having the power of Google at the fingertips of young children means that they can learn things before they are ready, but it also means that children can intentionally target their classmates, and let the bullying follow them home. Bullying is the leading cause of suicide among children under 18. As we look at our society, especially during difficult political climates, the large amount of misinformation on social networking sites like Facebook is startling and very dangerous. Spreading misinformation about health can lead to more health concerns in the future, like the dangers America is facing now with lack of vaccinations. In the last year, Facebook has instituted a "fact checking" addition to many posts that highlights the need for further research, but many people will choose to ignore this and believe the false information and make potentially dangerous decisions for their health and the health of those around them.

***Threat: Social isolation***

One major concern that comes of all this digital healthcare is the likelihood of social isolation. Our society has begun to cater to this idea of social isolation, and the medical field is now joining the process. We have applications for our phones, like DoorDash and PostMates which will bring us food, liquor, and products to our door. Amazon has begun the same day delivery of many products for areas near their warehouses. Our streaming services like Netflix and Hulu make it, so we do not need to leave to house to get entertainment, and even fitness applications like Peloton will bring you into digital spinning, boxing and running classes from your home. Now with the addition of therapy on an app, and a Skype visit with your doctor. Why would you need to leave home? The appeal of going out to socialize has dramatically been reduced with the creation of social media platforms like Facebook, Instagram, SnapChat and YouTube. You can socialize behind your computer monitor, but does that replace the idea of in-person socialization? Many experts believe that even with all these communication technologies, people can still experience social isolation, and impact their overall health and wellbeing. Social isolation has been shown to have adverse effects on the overall health and wellbeing of individuals. Individuals who do not get social interaction are more likely to get ill, and less able to fight the illness. Social activity has been shown to have a dramatic effect on our overall cognitive ability, especially among the elderly in society. If we continue to use applications in place of social interaction, we will be creating generations who have even more cognitive issues as older adults. Therapy aims to build a bond between you and your therapist so that you feel willing to confide in them and trust their guidance. With a text message-based therapy, it does not seem possible to build the same connections as you would with an in-person doctor or therapist.

**TalkSpace therapy application.**

When you picture therapy, you picture laying on a couch talking about your parents, but now you can have therapy on the road, from the bed, or while waiting for class to start. TalkSpace therapy is a text message-based therapy service that you pay for. The basic plan is called Unlimited Messaging Therapy Plus™ and costs the user $49 a week. This package includes Text, video, and audio messaging. The therapist responds daily, five days/week. This basic package does not include any live sessions with a therapist, but there are two other packages, $59 and $79 a week respectively, and these include live sessions. The $59 package includes a live session once a month, and the $79 package includes four live sessions a month. You can take a quiz to match with a therapist that fits your needs, but you can choose to change at any time if you feel uncomfortable or do not connect with your therapist. Though this application is somewhat new, it is growing in popularity, and insurances are beginning to cover it as an option.

**Benefit: *Breaking down barriers to care.***

Many of these doctor visit appointments are less costly than a traditional office visit and can be paid right away. Instead of paying $20 up front for your doctor, and then having your insurance billed hundreds of dollars for the care, you can pay $30 for your 15-minute appointment and move on. The financial costs associated with care, especially in America prevent many people from seeking care for small level medical conditions that can grow into something very costly for both the individual and the medical institution as well. In America, according to Forbes, there rate of uninsured people has risen to 15.5%, up from 12.7% two years ago. That is an increase of about four million uninsured people nationwide. uninsured people, and many doctors will not accept uninsured patients, so their choice is to go to the hospital and incur a massive bill, or to go to an urgent care clinic with high up-front prices, or to deal with the sickness at home. These more affordable quick appointments could be a game-changer for the uninsured population in America, which could reduce sky rocking health care costs associated with care for the uninsured. It should be noted that TalkSpace is only therapy and cannot provide prescriptions for patients.

Another significant benefit to this application is the instant access to support during a crisis. Dealing with mental health issues is an ongoing battle and does not just hold off for your monthly or weekly appointment with your therapist. Though we have hotlines for emergencies, TalkSpace enables the individual to reach out to their therapist when a crisis strikes, and get immediate feedback, as long as that crisis is during the week. Once you have built a connection with your therapist, it can be very beneficial to have them in your pocket when life gets challenging. If someone who is struggling with depression experiences a death in their family, they could instantly reach out to their therapist to get help through this challenging time. This is one example where instant gratification could be very important and life-changing.

***Threat: Privacy concerns and data breaches***

Privacy is a significant concern with therapy apps and crosses over into the other two technologies as well. Sharing private information in an online setting can be nerve-wracking for people because they are worried about what this data may be used for in the future. Could researchers pull the chat logs between a patient and their therapist without the patient's permission? The topic of privacy and data leakage is one that is being examined currently due to these new medical technologies. As Martinez-Martin & Kreitmair (2018) address therapy involves sharing of deeply personal and sensitive information from a patient because behavioral health information is shared, stored, and potentially sold to third parties in the consumer domain, outside of HIPAA or the health care institutions that traditionally protect health information. These potential outcomes are still being studied, but they are a potential threat.

Let us look at a specific example, our beloved step trackers. Fitbit and Apple Watches are very popular with people, but there is an issue here. As Richins (2015) discussed people sign up for data storage on devices like Fitbit or Apple Watch. Currently, data storage is private and not being used for any study. However, now that Apple (HealthKit) rolled out their healthcare platforms, people will want to study it for trends. The privacy question will arise as to who owns the data. Do the companies own the data that can be used for public health planning or does the individual own it and control how it is used?

**Dr. OnDemand and Video Appointments**

For some people, going to the doctor's office is a significant struggle. People living with mental health issues can struggle to get outside the house or dealing with people who are sick. Now, you can get a virtual doctor appointment from an in-network virtual doctor every 15 minutes. These doctors can assist you with your healthcare needs and send a prescription to your closest pharmacy. If you have a cold but are trying to continue working full time, taking care of a family, going to school or something in between a virtual doctor’s appointment can happen around your schedule in 15 minutes. There are countless platforms, like Dr. OnDemand, Carefree MD, Doctor On Demand, Freedom Telemedicine and many more. Dr. OnDemand claims the ability to be in-network for UnitedHealthcare, BlueCross BlueShield, Anthem, Cigna, and Aetna, but also accept non-insured individuals. According to Dr. Ateev Mehrotra, an internist and a Harvard Medical School researcher, virtual visits with a doctor are vetted. Most of the time they are assigned to you based on where you live, they are licensed in your state, are board-certified, carry malpractice insurance, and can even order tests and prescriptions for the patient, but they cannot do a lot of required testing. They cannot check your throat or lymph nodes, cannot listen to breathing or take blood pressure readings. These visits are useful for some conditions, but not all conditions are best treated virtually.

***Benefit: Wider access to care.***

Emerging communication technologies are connecting people from all over the globe, and the advancements in medical communication technology are allowing doctors to reach people in third world countries to provide medical education. One of the biggest struggles in these developing countries is the lack of medical support. With Skype and virtual doctor visits, doctors in the developed world can reach out to people in the third world countries and train them to handle fundamental medical issues without having to fly the doctor out to that country. Doctors Without Borders is a very worthwhile program, but many experienced doctors cannot commit to that length of time and travel, but they could commit to skype training the medical personnel in other countries. This also means that the top heart surgeon in the world could use communication technology to treat cardiovascular surgeons all over the world in the newest techniques, which would enable them to save more lives. Access to care is a significant barrier for healthcare, and as our technologies continue to improve, we will be able to get health education and care to more people around the world.

***Benefit: Remove the danger of contamination***

One of the most common issues is the germs that are contracted in a hospital or doctor's office. When you go to the doctor's office for a cough, and you are sitting by other people with other contagious issues, you have a high likelihood to contract additional germs. Individuals who struggle with immune disorders are even more profoundly at risk for this danger. This is where virtual doctor visits can be critical. When dealing with a chronic illness, individuals often need checkups, but the risk of waiting in a waiting room with other ill people can be too dangerous. A virtual checkup can avoid the dangers of contamination, as well as allow the doctor to keep the needed follow-ups. Though technology has not gotten to the point to allow tests at home, it can still make it easier for those people dealing with low immunity, or even germaphobia to avoid that trigger and still get support from their doctor.

***Benefit: Life-saving without the wait or the bill.***

Around the world, the length of wait time to see a doctor can vary, along with the amount of money it will cost you. In some countries, you have to wait months to get an appointment with your primary care doctor, and in others, you can call and have an appointment that same week. The vastly different standards in wait time around the world have caused people to have to change their health strategies. With virtual doctor visits, we can get more people into their primary care doctor than before because a consultation might take 10 minutes, but you could connect with any available doctor. With the digitalizing of medical records, any doctor could help treat your sinus infection and allow the in-person appointments for people with issues that need hands-on assistance. Not only could this improve the standard of care for in-person appointments because the office is not overloaded with appointments, but also this would reduce the financial cost as well. Between each appointment someone has to clean the examination room, and prepare it for the next person, with virtual appointments, you talk to the nurse or doctor, you explain your symptoms, you answer questions, and you get a prescription and advice. No one needs to clean up, which can also potentially lead to a new threat of job loss in the medical profession, but as virtual appointments are not the standard currently that risk is very low. There is less need for the administrative work because you have all of your information in your online portal.

***Threat: Lessened quality of care***

Currently, in America, the amount of time a doctor spends with a patient is quite low compared to the amount of time the patient actually waits to be seen. On average, a majority of doctors in America spend between 13 to 20 minutes with a patient according to Statista. The patient comes to the office, waits, gets processed by the nurse, only to get a short visit with the doctor, a prescription, and sent home. With virtual doctor appointments, you can stay at home, explain your symptoms, and get a prescription, but does that mean your quality goes up? Mair & Whitten (2000) attempted a study of patient satisfaction of telemedical activity which produced semi-positive responses on the care, but the data was not in-depth enough to give us a robust portrait of the true feelings about the new telemedicine options. Diagnosing some medical conditions can take time, but any illnesses that seem to be simple actually could be tied to a more significant condition that would only be noticed by trained professionals in person. Oudshoorn (2012)'s research in how place matters in telecare and should be implemented to make telemedicine more useful for the patients because they develop a better sense of place and associate that with their doctor visit. The virtual doctor visits also rely on complete patient honesty, and studies have shown that many patients are not completely honest with their medical practitioners, and incorrect information could mean the difference between a correct diagnosis and an incorrect one. Many details go into a correct diagnosis, and it is not all dependent on the doctor or the patient but how they work together. Using a skype call prevents the doctor or nurse from doing extra checks and making sure they get the right medicine. This also relates to the medical records, if the physical doctor's office did not keep a patient's records up to date, there could be issues with medicines prescribed conflicting with other medicines, especially if the patient did not remember names of all the current pills they are taking. The lack of information could be the difference between life and death for a patient.

**Conclusion**

Technology is not going away in society. If anything, technology is growing, and these technologies will most likely change and evolve throughout the next five years. The developments in virtual reality, artificial intelligence, and social networking continue to grow and could make a significant difference in the lives of people all over the world. In this paper, it has illustrated the potential downsides as well, and the reliance on technology our society has, but there is no denying that some of the benefits could outweigh the costs if implemented correctly. Will in-person doctor visits cease to exist? Probably not, but it is important to note the flexibility and accessibility that comes with these technologies. Mental health is an ever-changing game, but it is unlikely that a therapy appointment will align with a suicidal thought, or an anxiety attack every time, but it is possible that you could text your therapist the moment you are faced with a challenging situation to get the quickest help possible. Technology has given our society so much but can also take things away from us. There is no clear decision whether these technologies will improve your society, or they will harm us in the long run, but it seems a careful balance would be the best way to handle these technologies and the new ones that will be coming.

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