

Chronicles of Complementary, Alternative & Integrative Medicine



Review Article

Ward SG and Habusta SF Chronic Complement Altern Integra Med: CCAIM-100002

Physician Text Messaging as a Facilitator for Patient Care

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Citation: Habusta SF and Ward SG (2018) Physician Text Messaging as a Facilitator for Patient Care. Chronic Complement Altern Integra Med: CCAIM-100002

Received Date: 27 November, 2018; **Accepted Date:** 11 December, 2018; **Published Date:** 20 December, 2018

Abstract

Texting has become a common form of communication throughout the world. In addition to its use for social communication, texting has entered the work force as a valuable tool used for communication of patient care information. A survey was sent to physicians and post graduate learners via mass email. This included a link to an anonymous survey containing ten questions regarding their texting habits and how they perceived the usefulness of texting in different common medical scenarios. Data was collected by Google forms. A second email was sent out 3 months later to encourage additional participants in the survey. A total of 206 replied over a period of 3 months. Of the respondents, there were 8 attending physicians, 10 fellows, 27 PGY-5, 15 PGY-4, 46 PGY-3, 34 PGY-2, and 66 interns. The survey was ten questions that assessed physician texting usage, physician knowledge of HIPAA policy with regard to texting, and physician impressions of the effectiveness of texting with regard to medical care. Texting is an efficient way of communicating that physicians can learn to use as an effective tool to help them be more efficient and improve patient care in a safe and a secure manner. HIPAA compliance is crucial to keep patient information safe and the physician in line with protocol. With proper communication and attention to detail text messaging has the potential to improve quality of patient care, post graduate medical learning, patient satisfaction, and physician satisfaction.

Keywords: Communication; Encryption; Healthcare; HIPAA; Texting

Introduction

Over the past decade text messaging has quickly become a major form of communication among all age groups. As of 2011, 73% of Americans send regular text messages as a form of communication [1]. Originally, texting gained popularity in the teenage and young adult age groups, but its use has since extended to all age groups. In addition to texting for social reason, texting has become more widely used in the work place. Physicians and other health care professionals are no exception in this increase in usage. One poll has shown that 72% of physicians use texting as a form of communication with one another [2].

There are potential incredible benefits with texting between busy physicians. It is an instantaneous, direct, and convenient way for them to get messages to one another. It reduces wait time for

a response while freeing the physician to continue working, and therefore expediting patient care [3].

While many benefits have justified the adoption of text messaging among physicians, it is not without potential hazards. The first and foremost is protection of patient health information. The Health Insurance Portability and Accountability Act (HIPAA) has established rules that limit what can and cannot be sent via text messaging. With penalties of up to \$50,000 per violation, vigilance as to what is sent and received through text messaging must be a high priority for physicians.

Texting in Healthcare

Health care professionals are embracing text messaging at the same rate as the general public. As stated before, 73% of the general population was texting while 72% of physicians were texting one another about work [2].

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In addition to texting as a form of communication in their personal lives, physicians have found that text messaging can be used for communication within their professional activities. Texting is the fastest and most efficient way to send information while also eliminating factors such as background noise, poor wireless net work coverage, lack of an available computer, and multiple emails which dilute their in boxes [4]. The efficiency of text messaging is well documented. It has been shown that 90% of text messages are read within three minutes of their delivery, over 97% of text messages are opened, while only 22% of emails are opened, and the average person responds to a text message in 90 seconds, compared to 90 minutes for an email [5].

Texting improves communication between physicians, and it may also be able to improve the quality of healthcare delivery. The 2011 Joint Commission sent in eleventh report identified poor communication as the number one cause of delays in patient treatment as well as the second leading cause of operative and post operative complications [6]. Traditionally, contacting a physician has been facilitated by beeper and telephone systems which can be linked to delays in response time and interruptions that may compromise patient care [7]. Text messages allow for immediate delivery of messages to the recipient as well as an immediate response which can be crucial when life or limb saving measures are time dependent.

HIPAA Compliance

When it is used correctly, texting does not violate HIPAA regulations. Whether it is compliant or not depends on who the message is being sent to, the content of the message (does it contain protected health information), and the mechanisms put into place to protect the information.

HIPAA Security Rules have been established to help guide users on whether they are being compliant or not.

- Access to PHI (Patient Health Information) must be limited to authorized users who require the information to do their jobs.
- A system must be implemented to monitor the activity of authorized users when accessing PHI.
- Those with authorization to access PHI must authenticate their identities with a unique, centrally-issued username and PIN.
- Policies and procedures must be introduced to prevent PHI from being inappropriately altered or destroyed.
- Data transmitted beyond an organization's internal firewall should be encrypted to make it unusable if it is intercepted in transit [4].

Standard text messaging when used incorrectly, can fail on any or all of these accounts. Violations also include sending the message the wrong number, forwarding the message to another unauthorized recipient, and message interception in transit [8].

Method

The objective of this study was to evaluate the way health care professionals use text messaging in their jobs, the benefits they see from it, their knowledge of HIPAA rules and restrictions, and how they see the future of text messaging in health care. A survey of ten questions was created using Survey Monkey and distributed through a mass email to attending physicians and post graduate learners of the LECOM Health consortium. IRB exemption was obtained prior to collection of the data. Participants voluntarily completed the anonymous survey. No identifiers of participants were recognized including Internet Protocol (IP) addresses. After a span of three months, data was collected through Survey Monkey from 206 participating physicians.

The ten questions surveyed of the participants were:

- I. What is your position in healthcare?
- II. What smart phone do you use?
- III. How is your phone secured?
- IV. What information have you received or sent to other healthcare professionals via text?
- V. Do you use texting as a mode of "sign out"?
- VI. Do you feel sending pictures of X-rays or clinical pictures of patients is helpful in communicating?
- VII. Are you familiar with your institutional policy regarding texting?
- VIII. Have you experienced poor communication with texting that resulted in a misunderstanding, wrong decision, or sentinel event?
- IX. Do you find it helpful to reference back to text messages for patient care?
- X. In the future, healthcare communications via texting will _____?

Results

Of the respondents, there were 8 attending (3.9%), 10 fellows (4.9%), 27 PGY-5 (13.1%), 15 PGY-4 (7.3%), 46 PGY-3 (22.3%), 34 PGY-2 (16.5%), and 66 interns (32%). Of those 147 (71.4%) use an Apple phone, 37 (18.0%) use a Samsung, 10 (4.9%) use a Google phone, 4 (1.9%) use an LG, 3 (1.5%) use a Blackberry, and 1 (0.5%) uses a Microsoft phone. 1 responder does not own a smart phone.

In terms of securing the smart phone, 163 use a security pass code, 130 use a finger print scanner, 36 use facial identification, and 7 use a retina scanner. Of the responders, 13 do not secure their cell phone in any way. 129 (62.6%) responders use two or more of these methods to secure their phones.

Of the participants, only 9.7% have not sent any patient information through text messages. The most common use of text messaging was to send patient location (158 responders, 76.7%) closely followed by patient diagnosis (155 responders, 75.2%). Patient history (139 responders, 67.5%) and photo documentation of a patient's body part (109 responders, 52.9%) were also commonly sent in text messages. Only 104 (50.5%) physicians sent a patient's name through text messaging.

Texting was used as a mode of "sign out" by 68 (33%) responding physicians. 52 (25.2%) of them felt that it is an adequate and helpful way of signing out, while 16 (7.8%) felt that it is not adequate or helpful. Of those that do not use texting to "sign out," 77 (37.4%) do not feel that it is adequate, 32 (15.5%) say it is against the rules where they work, and 29 (14.1%) feel that it takes too much time.

Texting patient photos were highly valued among doctors. 148 (71.8%) of the respondents felt that this very helpful, and 23 (11.2%) feeling that it is helpful but not necessary. Of those that do not send pictures, 15 (7.3%) do not think it is helpful, 18 (8.7%) say it is against the rules, and 2 (1.0%) do not send pictures because their patients do not want them to.

When asked about familiarization within situational policy on texting 141 (68.4%) were familiar with their institution's policy and 65 (31.6%) admitted that they were not familiar with institutional policies regarding texting. Of those that were familiar, 16 (7.8%) said text messaging is allowed, 107 (51.9%) say it is only allowed through a secure third party application or device, and 18 (8.7%) said their institution does not allow it. Of those that were not familiar with their institution's policy, 56 (27.2%) said they were simply not familiar with it and 9 (4.4%) said their institution did not have a policy.

Regarding experiences of poor communication through text messaging, 38 (18.4%) had experienced at least one instance of poor communication and 168 (81.6%) had not experienced any poor communication. Of those that had a miscommunication, 4 had a sent in event, 24 had an event that was cleared up through texting without harm to the patient, and 29 had an event that was cleared up with a phone call without harm to the patient.

On using text messages to reference for patient care data, 147 (71.4%) doctors found that it was useful to have available. Of those, 134 (65.0%) find having the information as a reference useful and 13 (6.3%) find it useful for rounding and/or patient care. 59 (28.6%) responders did not find using text messages as a patient care reference necessary.

Finally, with regard to the future of text messaging in healthcare 187 (90.8%) doctors surveyed felt that texting is the way of the future and its use will continue to increase. 16 (7.8%) felt that the usefulness will stay the same and only 3 (1.5%) participants feel that it is a fad and the use will decrease in the future.

Discussion

The results show that 90.3% of physicians have used text messaging to send patient information. Text messaging provides a convenient method of getting information to colleagues, especially patient location and diagnosis. Only 50.4% of responders had sent a patient's name in a text message. The cause for this is some possible awareness of patient rights and/or knowledge of their institution's policy on patient privacy. However, over 30% are not aware of the texting privacy policy at their institution, and of those, 4.4% stated that there was no policy.

Assuring the awareness of patient rights to privacy and that sending certain patient information without encryption has become a HIPAA policy violation should be a priority of all institutions that allow texting of medical information. According to HIPAA, all forms of communication discussed are without violation as long as patient identifiers are not included. In cases where patient identifiers, such as patient name or history are used HIPAA Security Rules outline guidelines for encryption of that information.

These HIPAA guidelines can easily be followed with the use of a HIPAA compliant mobile application. 51.9% of responding physicians stated that text messaging was only allowed at their institution using one of these applications. Two commonly used HIPAA compliant applications are Tiger Text (TT) and My Doc. TT is a group messaging application for smart phones. It has been found that residents who use the application have improved satisfaction with communication and clinical situational awareness. Use of TT has also been linked to decreased communication-related detrimental effects on patient care [9].

When used for six weeks in an orthopedic department in Singapore for a trial run, My Doc was found to have excellent speed, quality of texts, and pictures. 92% of those involved in the study agreed or strongly agreed that the app should replace the current system of peer-to-peer communication at the hospital. My Doc users suggest that the application broadens its borders to include regional tele-consultations for specialist referral, clinical outreach in the trauma setting, and supervision in the operating room. It was found that all of these significantly improved the level of care [10]. Studies and applications like these are leading the way in making texting in health care safe, effective, and HIPAA compliant, all with the intention of improving the level of patient care.

Most physicians surveyed claim they did not have poor communication when texting. 81.6% stated they have had no issues. Of those that have experienced poor communication that could affect health care delivery, most communication problems were cleared up by a phone call without harm being caused to the patient. Many others cleared up the miscommunication with additional text messaging. However, 1.9% of responders stated that they had a sent in event that resulted in harm to a patient related to poor communication through texting. With improvements to applications and as physicians become more educated with text

messaging as a mode of communication, these incidences could become less frequent.

Many of the physicians found that having the text messages stored for reference is a valuable resource to refer back to when needed. All but one of the physicians surveyed owned a smart phone. Of all US mobile users 91% keep their phones within arm's reach at all times [5]. This behavior keeps the patient information and history available at all times if there was ever a need to reference it. Printing a patient list out to keep track of information is arguably less secure as lists of patient names, diagnosis and test results can be left out for others to see, is not secured by password or other security settings, can be easily lost, and requires disposal in a proper receptacle that is not always readily available.

Conclusion

Texting in health care has the benefit of being an efficient and expeditious way of communicating with other physicians. The majority of physicians surveyed believed that not only is it an effective and helpful tool to day, but it is the way of the future in healthcare communication. Physicians felt that sending clinical pictures or X-rays of patients was very beneficial when trying to communicate and could potentially clear up any discrepancies in language used in the different involved specialties. As the saying goes, "a picture is worth a thousand words".

Problems can exist in compliance with HIPAA while sending text messages about patient information. However, texting can be in complete compliance with HIPAA as long specific guidelines are met. Physicians and health care administrators must be aware of the rules and regulations and do what is required to protect patient health information. HIPAA compliant applications such as Tiger Text and My Doc are making compliance easier. As younger generations, who may be more comfortable with the technology

involved in mobile applications start to fill more leadership roles in health care the use of secure technology in healthcare communication and texting will likely become the state of the art. Physicians can learn to use texting as an effective tool to help them be more efficient and care for patients in a safe and secure manner. This new mode of communication must be explored with caution in regards to patient security and HIPAA compliance. It is more important than ever for hospital administration to educate themselves on the resources, such as mobile applications, available to assure patient privacy rights.

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