Smartphone Use in the Emergency Department

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ABSTRACT

Smartphones, belonging to patients and physicians, are increasingly prevalent in Emergency Departments. These phones have tremendous clinical and educational potential through the use of recording tools, clinical applications, and information search engines. When using smartphones in the Emergency Department, users must respect the privacy and confidentiality of those around them and refrain from disrupting others or spreading infection. Reviewing current policies and guidelines reveals no consensus regarding smartphone use in the Emergency Department. The Canadian Medical Protective Association offers suggestions regarding consent, documentation, and protection of information that are of substantial use to the clinician.

KEYWORDS: *health attitudes, cellular phone, hospital emergency services, mobile technology, hospital policy*

INTRODUCTION

"Whoa, that's a huge needle! Let me take a video of that," exclaimed a 15-year-old in a pediatric Emergency Department (ED). He reached for his smartphone just as I was about to inject anesthetic into his hand prior to suturing a laceration.

As a fourth year medical student, I have spent the past few months in various EDs across Canada. Throughout these rotations, I have become increasingly aware of the prevalence and use of smartphones in the ED by both physicians and patients. The aforementioned encounter prompted me to evaluate the use and potential impact of smartphones in this setting.

Issues Surrounding Smartphone Use in the Emergency Department

As I reviewed hospital policies regarding mobile device use in their EDs, I noted an abundance of websites stating "Please turn off your cellular phone,"[1] "Phones must be turned off while you are in the Emergency Department,"[2] "Do not use your cell phone in the hospital,"[3] and "Cell phone use is strictly prohibited in the hospital."[4] Clearly the use of mobile devices, including cell phones and smartphones, in some EDs across Canada has been discouraged. The rationale behind these policies includes the potential for breaches of confidentiality, spread of infection,[5] and interference with equipment.[6] However, there is ongoing debate about the significance of any interference.[7] Patients talking or using their phones can interrupt the interview and clinical exam, especially with the prevalence of phones in the ED.[8] In a department where confidentiality and privacy have long been scrutinized,[9,10] smartphone use can easily result in infringement on both counts and can negatively impact patient care.[11,12] Documenting case findings for educational or publication purposes has potential for legal ramifications if the correct steps are not undertaken to ensure that consent is provided and information is stored in a secure manner. A recent example of a detrimental effect of smartphone use occurred at a Lower Mainland Hospital, where a patient used a phone to livestream a video of the emergency team responding to a cardiac arrest, despite the drawn curtains.[13] This situation illustrates how a violation of privacy and confidentiality can occur and would likely result in significant emotional distress for those involved.

Patient Use of Smartphones in the Emergency Department

Patient use of smartphones, including camera and video functions, can be helpful in determining a diagnosis or management plan. Examples I have encountered include the following: one patient presenting with non-specific erythematous lesions showed a picture of lesions that began as a target shape, which ultimately led to the diagnosis of erythema multiforme; a parent with limited English language capabilities brought a video of her infant having an incidental brief tonic-clonic episode in the context of a documented fever, contributing to the diagnosis of a febrile seizure; multiple patients have taken photographs of their medical imaging to aid in follow-up care; and in one instance, a patient with short-term memory difficulties used his smartphone to record physician instructions. It has been found that mobile device discharge instructions improve communication with patients over paper instructions.[14] Smartphone use in this context is acceptable by patients without excess concern regarding privacy.[15]

Physician Use of Smartphones in the Emergency Department

Just as patient use of smartphones is becoming more apparent in the ED, so is that of physicians. I have witnessed many emergency physicians using smartphones in a manner that has notably contributed to my learning and to patient care.[16] As previously mentioned, documented case findings can be used to educate medical learners as well as the greater community through publications. Other utilities include sending medical imaging to off-site consultants for opinions,[17] using

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medical applications for references and medication doses,[18,19] and communicating with team members in different areas of the hospital.[20] With increasing acceptance of use,[21] some specialties have transitioned from communication via a paging system to smartphones[22] as this may increase productivity.[23]

Guidelines Surrounding Smartphone Use in the Emergency Department

In light of increased functionality of smartphones throughout hospitals and EDs, many hospitals have been revising their technology policies to allow for use within a set of guidelines,[24] with some even producing their own applications for smartphones.[25] Discussions about the legalities and ethicalities of these matters are ongoing,[26,27] and there are limited studies looking at the subject solely in the ED.

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Various associations have produced guidelines about the use of technology in health care, none of which address the possibility of spreading infection.[28] Currently, the American College of Emergency Physicians (ACEP) maintains its policy that cell phones and other recording devices are a significant confidentiality risk and should be regulated for the protection of patients and staff.[24] The U.S. Food and Drug Administration encourages the use of regulated mobile medical applications in health care delivery.[29] The Canadian Association of Emergency Physicians (CAEP) does not have a current policy in place regarding this matter. In contrast, the Canadian Medical Protective Association (CMPA) has produced multiple documents regarding technology use in health care. These include articles on privacy, encryption, medico-legal risk, online communication, and the use of photography and video for education.[30-34] For those affiliated with the University of British Columbia, there are professional standards,[35] which are similar to the CMPA guidelines.

CONCLUSION

Smartphones are useful instruments for both the health care practitioner and patient in the Emergency Department which contribute to diagnosis, management, productivity and medical education. Caution must be taken to ensure that the rights to privacy and confidentiality of all parties involved are respected and the devices are not vehicles for infection spreading. Appropriate patient use of smartphones may require education on current policies. The policies regarding the use of the phones in EDs vary between hospitals and governing bodies; thus for medico-legal implications, physicians should be aware of the policy that applies to them. If using phones for documenting information, physicians should follow guidelines for obtaining consent and ensure that the information is as secure as possible. The CMPA guidelines are quite comprehensive, and I recommend they be reviewed by anyone

using a smartphone in a clinical setting.

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