

Short Communication

Smart Use of Smartphone or Tablets: Making Immediate Clinical Consultations at a Distance

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Abstract

It is in the nature of things that technology changes cultural dogmas and social common behavior. The fast expanding technology is undeniable very useful in medicine, and smartphone in medical practice have been successfully used because image files can be included in the message, and the consultant can see the images in few seconds from home or where she/he is, and consequently medical opinions can be delivered to the resident or colleague in a remote hospital without hesitation and urgent need to reach the hospital.

Although there is a variable and probably nonsensical embargo on mobile phone usage in some hospitals, we believe that such form of communication will become a routine component of the complex health care delivery because the multifactorial evident advantages for patients, resident, consultant, hospital management, family life and environment.

The positive extra care obtainable to remote patients where there is not a specialist thoracic service is far more important than the financial saving for the healthcare system. In conclusion, smartphone and tablet computers are not only influencing and helping Healthcare, but are also contributing for a better future of all of us.

Keywords: Education; Thoracic unit; Technology

It is in the nature of things that technology changes cultural dogmas and social common behavior. The fast expanding technology is undeniable very useful in medicine, and smartphone in medical practice have been successfully used to change healthcare delivery. The mobile technologies are actually very compatible with doctors who are essentially a mobile workforce because they are constantly moving about. High resolution devices such as tablet computers and smartphone enhance clinical care, playing an increasingly important clinical role involving both physicians and patients.

For example, because image files (x-rays, CT-scan, angiography etc.) can be included in the message, the consultant can see the images in few seconds from home or where she/he is, and consequently medical opinions can be delivered to the resident without hesitation and without needing to reach the hospital [1,2].

Another example of using mobile technology arrives from Texas, where a set of applications delivering critical patient information, including virtual real-time waveform data to remotely monitor fetal heart rates, go directly from the patient's place to a doctor's mobile tool. Moreover, a number of tests for patients with Parkinson's disease and similar motor disorders have been developed. These tests can be seen on the tablet, so patients can take them on their own tablets without having to travel to hospitals. However, although the use of tablet is getting more attention in healthcare, the way in which these devices can be a financial resource for the complex healthcare system is still not clear [3,4]. A third example is necessary. During a year 34 postoperative images chest- x-rays have been forwarded to a doctor tablet computer by a resident. After reviewing the chest-x-rays the doctor went to the hospital to perform a surgical procedure on

patients only twice. The other 32 times the images were considered as "normal" postoperative x-rays, and each case was discussed by phone with the resident. Practically, it was avoided to go to the hospital to see the images 32 times. Furthermore, the advantage for resident's learning curve can be summarized in the fact that the consultant still teaches by distance while the resident achieve much more self confidence in routinely clinical practice. In fact, the "physical" absence of the consultant in the hospital lets the resident to develop independent clinical judgment about patient's condition in such a way that the best therapeutic strategy is chosen quickly by reporting the clinical data to the consultant before the right decision is taken. This form of communication is routinely used in our unit with great benefit for patients and the team [1].

It is therefore clear that the doctor on call with his own tablet does not need to travel to hospital to see radiological images, reducing in this way his "on-call" costs. In USA a recent internal survey of more than 2,000 Texas Health-affiliated physicians found that 80% of them have smartphone and 50% have tablets [4]. Moreover, fewer kilometers travelled by car to reach the hospital and return home will translate in less fuel consumption and less gas emission. Finally, there will be also a better quality of life because the encouraging work life balance issue in favor of the possibility to spend more time with the Family. Theoretically the dispute that could arise is double fold: a) the large use of "smart" communication could change human and professional relationship between colleagues and b) a possible challenge to patient privacy and medico-legal issues can arise. These points of view need expansion.

Table 1: Evidence table of the multiple advantages of using smartphone or tablets in the hospital.

Who get the advantages Type of benefit	
Patients	Faster decision even if the consultant is not in the hospital
Consultant	Can give an advice on any type of images from home or where she/he is
Education	Resident can receive an opinion immediately
Family life	Consultant can spend more time with the family
Hospital Management	Save hospital cost
Remote Hospitals	Extra care obtainable to patients where there is not a <i>thoracic</i> specialist service
Consultant – finance	Less travelling to the hospital will translate in less fuel consumption
Environment	Less travelling will translate in less gas emission from cars and less pollution

In the near future, although there is a variable and probably nonsensical embargo on mobile phone usage in some hospitals, we believe that such form of communication will become a routine component of the complex health care delivery because the multifactorial evident advantages for patients, resident, consultant, hospital management, family life and nature (Table 1). Moreover it will be important to clarify the value of instant messaging service

applications to simultaneously inform all components of the team regarding the clinical situation and decision taken about every single patient in the unit. On the whole, the positive extra care obtainable to remote patients where there is not a thoracic service is far more important than the financial saving for the healthcare system which could be enormous.

In conclusion, smartphone and tablet computers are not only influencing and helping Healthcare, but are contributing for a better future of all of us.

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