The good, the Bad, and the Ugly of Smartphone Usage in Healthcare

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Two recent MHA graduates (Brook McGennis and Natasha Capps) and I collaborated to co-author an article accepted for publication in the *Health Informatics Journal*. In this article, we explore how smartphones have changed our healthcare system, focusing on present usage and future need for smartphones within healthcare facility settings. I would like to look at this now from a different perspective, by examining the good, the bad and the ugly of smartphone usage in healthcare.

Let's start first with what is **good**. Over the past decade, the use of smartphones has exponentially grown, making it hard to imagine life without them. According to the latest forecasts from ABI Research, a market intelligence company specializing in global technology markets, by the end of 2013, the number of smartphones around the world will total 1.4 billion [1].

Smartphones continue to evolve depending on user needs – from receiving or making calls, receiving or sending email and text messages, to mapping the location of a medical provider or hospital, searching for medical information, and even sending data from a medical device over short distances.

In 2009, $2.4 billion was spent purchasing iPhone applications (apps) nationwide. This number tripled in 2012 [5], and we can foresee an even larger number by the end of 2013. Physicians and healthcare professionals who regularly use smartphones for work-related tasks are able to diagnose and treat patients more effectively because they are more confident at what they do [6].

Smartphones also help significantly reduce the amount of time it takes to complete administrative tasks, help increase collaboration among professionals, and have the potential to eliminate between 11-30 percent of office visits through the use of mobile health technologies such as remote monitoring, email, or text messaging with patients [6].

The **bad** part of this is that while the smartphones and their apps can provide great educational tools, one might be tempted to use them in place of a trained medical professional. At the same time, professionals using mobile devices still must obey not only organizational policies, but also state and federal mandates regarding electronic protected health information.

The **ugly** aspect of smartphone use in healthcare is – without a doubt – security. Many devices are lost or stolen. Nearly 89 percent of U.S. healthcare workers use their personal smartphones for work purposes [7]. However, when it comes to security, a study found that 41 percent of health care employees' personal devices are not password protected, and that 53 percent of healthcare employees access unsecured Wi-Fi networks with their smartphones [7].

Nonetheless, we should be encouraged by advancements in mobile healthcare technology. Apple, for example, has recently implemented a new two-step verification service for iCloud and Apple ID users. This functionality greatly enhances the security of Apple accounts because it requires users to use a trusted device and an extra security code [8]. The company is also planning to improve the security of iPhones and iPads by using image recognition or response to unlock the devices. The proposed system will require users to either identify one of their contacts, or it could be set up to display images that users associate with specific responses [9].

I hope you will agree with me that when it comes to smartphone use in healthcare, there is good, there is bad, and there is ugly. However, considering the skyrocketing technological advances in mobile devices, I am convinced that smartphones, if used appropriately, have the potential to fundamentally change healthcare in America.

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