

# Are We Ready for the Apps Culture?

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**S**martphone use continues to escalate with the rapid evolution of mobile phone technology in recent years. Latest market reports indicate that nearly 30% of US mobile phone users have a smartphone,<sup>1</sup> with the projected use crossing 50% by the end of 2011.<sup>2</sup> These smartphones offer mobile applications, or apps, which provide the users with information and other utilities on the move. Apps come at no or low cost which, coupled with the numerous choice and ease of availability, make them a part of our changing lifestyle.



With estimated market sales of \$84 million in 2010,<sup>3</sup> medical apps are hot, and we can be certain that this is only the beginning and that these sales numbers will grow by leaps and bounds in the coming years. Market reports forecast that more than 500 million people will use medical apps by 2015.<sup>4</sup> These apps are here to stay and probably will take still-unthought-of directions. It is clear that this increased medical-app use would have an impact on clinical practice.

## APPS FOR DOCTOR AND FOR PATIENT

Medical apps can be broadly classified into 2 categories: those that target health care professionals and those that are for the general public consumption. It is easier to embrace the apps from the former category, which for us practicing physicians simplifies the paper work, cuts cost, saves time, helps in remote monitoring and diagnosis, and brings about expert advice at the touch of our fingertips—thereby serving as an excellent research, reference, and diagnostic tool. Every medical student and practitioner should be encouraged to take advantage of these readily accessible references and expert opinions.

Medical book apps and development of training apps for medical students are certainly the need of the day. The definitive reference in orthopedics—Campbell's Operative Orthopedics, now available as an iPhone® (Apple Inc., Cupertino, California) app with numerous embedded videos<sup>5</sup>—is certainly a boon to the orthopedic community. Even though we have such Web-based resources as the *Video Journal of Orthopedics* (<http://www.vjortho.com>), the time has come to create a mobile interface. The sooner we jump onto

the bandwagon, the easier it will be to keep pace with the technology. The consequence of all this ease of availability is the progress of medicine through knowledge-sharing and discussion. Even amongst health care professionals, care must be taken to maintain the privacy and security of the patient information. In this scenario, it becomes important to have rules and guidelines regarding the communication of such information.

## APP OVERSIGHT

The second category of medical apps, those targeted to the general population, is fraught with a few serious doubts, despite its numerous advantages. There is no question that the availability of health care-related information has equipped patients with a greater health care understanding and allowed for patient/provider cooperation. It helps the persons seeking new treatment to identify the options available and helps them to find a provider easily. It also gives them an opportunity to discuss their concerns and opinions in related forums and to seek expert advice easily. The concern is the authenticity of such apps and, with the human tendency to invest more in the printed word (immaterial if it is on paper or screen) compared with verbal opinions, frustrating outcomes can ensue. The Internet boom in the past decade has allowed strong opinions on all sides of health care debates to be heard and for these opinions to permeate the patient landscape. With the vaccination debate, for example, the availability of some extremely opinionated articles on the Internet may have influenced some patients to be strongly prejudiced against vaccination in spite of the lack of scientific evidence. All said, we have to remember that patients still come to their physicians for a personalized diagnosis and treatment. Therefore, if we have a regulating agency giving approval to medical apps, the path becomes clearer for the patients as well as the health care professionals.

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*Am J Orthop.* 2011;40(7):E141-E142. Copyright Quadrant HealthCom Inc. 2011. All rights reserved.

The concern regarding app authenticity deepens when we consider the next generation of apps. We already have apps monitoring a patient's blood pressure, cardiac output, etc, providing real-time updates. This certainly is advantageous for the doctor to remotely provide expert opinion based on the shared data. This results in a speedier diagnosis and consequent treatment time and reduces complications. However, the question is, how reliable are these apps in the long run? Are there appropriate quality checks? Who bears the cost of glitches in apps that monitor patients' vital signs? Clinical devices have to get US Food and Drug Administration (FDA) approval before they are commercialized. When the apps start behaving like clinical devices, it is time for some regulation.

## CROSSING INTO NEW TERRITORY

The potential for "clinical-device" apps is actually enormous, and I have no doubt that the health care we provide to our patients would progress much better with the availability of such apps. Very recently, the FDA signaled its intention to step into the regulation of medical apps.<sup>6</sup> It is a step in the right direction, in spite of the lack of a clear path. We are at the beginning of a technological revolution that will have a huge impact on the health care industry, and we need to be alert enough to steer it in the right path, as the time demands.

### REFERENCES

1. Mobile Snapshot: Smartphones Now 28% of U.S. Cellphone Market. Nielsen Wire Web site. [http://blog.nielsen.com/nielsenwire/online\\_mobile/mobile-snapshot-smartphones-now-28-of-u-s-cellphone-market](http://blog.nielsen.com/nielsenwire/online_mobile/mobile-snapshot-smartphones-now-28-of-u-s-cellphone-market). Published November 1, 2010. Accessed June 30, 2011.
2. Roger Entner. Smartphones to Overtake Feature Phones in U.S. by 2011. Nielsen Wire Web site. <http://blog.nielsen.com/nielsenwire/consumer/smartphones-to-overtake-feature-phones-in-u-s-by-2011>. Published March 26, 2010. Accessed June 30, 2011.
3. Brian Dolan. Medical app revenues total \$84.1M in 2010. Mobihealthnews Web site. <http://mobihealthnews.com/9845/medical-app-revenues-total-84-1m-in-2010>. Published January 5, 2011. Accessed June 30, 2011.
4. Cutting-edge health tech you can use at home. CBS News Web site. <http://www.cbsnews.com/stories/2011/04/13/earlyshow/health/main20053421.shtml>. Published April 13, 2011. Accessed June 30, 2011.
5. Campbell's Operative Orthopaedics e-dition, 11th Edition. Elsevier Web site. <http://www.us.elsevierhealth.com/Medicine/Orthopaedics/book/9780323044493/Campbells-Operative-Orthopaedics-edition>. Accessed June 30, 2011.
6. Pamela Lewis Dolan. FDA signals it will regulate medical apps. American Medical News Web site. <http://www.ama-assn.org/amednews/2011/05/30/bica0530.htm>. Published May 30, 2011. Accessed June 30, 2011.