The iPad: Gadget or Medical Godsend?

by ERIC BERGER
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A pple evangelists, geeks, and early adopters waited in long lines April 3, the date when Apple released its new iPad tablet computer with a bright, 9.7-inch screen designed for Internet browsing and media consumption. But among the technophiles snapping up the new device, with its base price of $499, were a number of physicians like Claudio Palma, MD, a surgeon at Spinal Diagnostics and Treatment Center in Daly City, CA. After returning from a 3-hour wait, he immediately began using the device in his operating room to tap through patient data and drug information.

On the iPad’s release, a debate began almost immediately in the medical community: is the iPad a high-end toy for gadget enthusiasts or the vanguard of portable computing that will one day rule the clinical setting? Maybe, but the 3 key benefits of the iPad, price, light weight, and long battery life, may not be enough to start a revolution.

As is often the case with Apple products, the debate began months before its release. In a January story outlining 9 iPad flaws from a physician’s perspective, including lack of a swappable battery and its relative fragility, editor Brian Dolan wrote on the Web site MobiHealthNews that “Apple positioned the device as a new platform at the intersection of the ‘liberal arts and technology’—a clear indication that the health care industry was not its top of mind use case.” Still, he conceded, there will undoubtedly be plenty of medical applications developed for the iPad during the coming year.

Others, however, are more effusive about its potential. “I definitely think it will change medicine,” said Harvey Castro, MD, an emergency physician who practices at Las Colinas Medical Center in Irving, TX. “As a physician, I see this as something that’s really going to take off.”

Many physicians already carry an iPhone or other type of smart phone in their pocket. With more than 2,000 medical applications, or “apps,” available for download in Apple’s App Store, physicians use the iPhone as a portable medical dictionary, disease image library, drug interaction checker, code finder, and more. With its much larger, brilliantly lit screen, the iPad has the promise of being a more comprehensive device, pushing physicians away from their desktop computers, where they may eventually be able to perform many of their desktop applications on a mobile computer, everything from viewing radiographs to ECGs.

“There is a lot of potential for this device in all areas of medicine, including the emergency department [ED],” said Iltifat Husain, a fourth-year MD/MPH student at Wake Forest University School of Medicine, who also is the founder and editor of iMedicalApps.com. Husain envisions 3 ways in which the iPad may find wide use in the clinic or ED. The first is similar to the way physicians already use the iPhone as a reference, with popular apps such as Epocrates. For this use, the iPhone has the advantage of being smaller and more portable, Husain said, but textbooks are much easier to read on the iPad, making it more attractive to medical students.

A second way physicians might use the iPad is for patient education, Husain said, with its user-friendly interface and large screen. A physician might show patients with an ear infection, for example, what is happening in their body with a video or graphic and explain how a treatment will address the problem. In terms of images and videos to explain diseases, Husain said, “Some of the apps we’ve seen for the iPad just look gorgeous.”

MED RECORD INTERFACE

The final way in which Husain sees the iPad being used, and easily the most transformative, is as a means for physicians to view and update patient records. Already there are tablet devices made for the medical industry, but they generally are more expensive; Motion Computing’s C5 Mobile Clinical Assistant device has a manufacturer’s suggested retail price of $2,199, for example. Although these devices are generally more rugged than the iPad, Husain sees Apple’s device overtaking them because of the iPad’s long, 10-hour battery life, portability, and a bright screen that allows for physicians to view radiology and other medical images. Additionally, he said, a company called Citrix makes an application that allows an iPad user to remotely access applications on a desktop computer.

Emergency physician Nicholas Genes, MD, also sees this potential for the iPad. “It has a bigger screen, so it would be easy to say the iPad is just a bigger iPhone,” said Dr. Genes, an informatics fellow in the Department of Emergency Medicine at the Mount Sinai School of Medicine. “But in reality I think the
bigger screen makes a huge difference. The screen is now large enough to view a patient chart. For the iPhone, there were apps out there to help with scheduling or to review lab reports, but you couldn’t enter information into a chart. I think you will be able to on the iPad.”

The ED at Mt. Sinai where Dr. Genes works is already paperless, he said, with electronic orders and prescription writing. The problem is that the information can’t be input into the computer at the bedside, so physicians end up having to run back and forth from the bedside to the computer and back to the patient. “If you step back and watch it, it’s kind of a ridiculous ballet that’s going on,” he said. “Having this tablet at the bedside, I can imagine this being really revolutionary because we’re taking the power of the computer to the bedside.”

One of the big questions is how serious Apple is about making the iPad a go-to device for physicians. There are rampant rumors in the portable device community about the often-secretive company from Cupertino, CA, meeting with hospitals, medical centers, and medical schools to test the iPad in clinical settings so that Apple can optimize later iterations of the device for clinical use.

IMEDICINE?

Dr. Castro, the Texas emergency physician, sees a day coming soon when younger physicians won’t know how to practice untethered medicine. Medical students are already accustomed to carrying mobile technology into classes, and with e-books on the iPad, they no longer are likely to be carrying a backpack weighing 20 or 30 pounds to class. “There will be a demand for this kind of technology to be pervasive in medicine from the next generation of doctors,” Dr. Castro said. “I think Apple gets this, and we’re just at the beginning of the revolution.”

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The Most Good for the Most People

Emergency Physicians Lead Push for Creating “Crisis Standards of Care” in Tough Political Climate

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A long-standing need in US medicine—establishing standards for how care is delivered in crises—is being hampered by the need to engage the US public just when health care has become the most contentious topic around. If the effort were successful, promulgating agreed-on “crisis standards of care” could improve preparation for disasters and, as a side benefit, illuminate some of the decisionmaking made every day in overstressed emergency departments (EDs). But in the wake of a health care reform battle that began with former Alaska Governor Sarah Palin’s claim of “death panels” and ended with bricks thrown through Congressional offices’ windows, the chances of open debate on the issue—and the appetite for bringing it forward—both seem slim.1,2

“A lot of people feel that, at this moment, public engagement on this issue is a very necessary thing,” said Darren P. Mareiniss, MD, JD, who is the Legal Medicine Fellow in the Department of Emergency Medicine at Johns Hopkins School of Medicine and author of an unpublished article on legal issues in crisis standards of care. Dr. Mareiniss, who presented on that topic at a Department of Homeland Security summit in March 2010, added, “But not everyone is clear on how to get that done.”

The impulse toward clearly delineated crisis standards dates back to the World Trade Center and anthrax-letter attacks of 2001 and to the fears of an avian flu pandemic stoked by that pathogen’s movement across Asia and into Europe in 2004. It was first elucidated in a 2005 report issued by the Agency for Healthcare Research and Quality and the Office of the Assistant Secretary for Preparedness and Response of the Department of Health and Human Services. That report, which summarized the consensus of an August 2004 meeting of bioethicists, attorneys, health policy experts, and spokespersons for emergency medicine and health administration, warned that “[t]he goal of the health and medical response to a mass casualty event is to save as many lives as possible . . . . To achieve this goal, health and medical care will have to be delivered in a manner that differs from the standards of care that apply under normal circumstances. This issue is not addressed in a comprehensive manner in many preparedness plans.”

KATRINA MAKES WARNING COME TRUE

That hypothetical warning, published in April 2005, abruptly became real only months later, when hospitals in New Orleans lost both main and backup power to the floodwaters let into the city by levee breaks caused by Hurricane Katrina. The choices made by one set of health care workers as they evacuated critical care patients from Memorial Medical Center would subsequently trigger their arrests