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iHealth, The New Change Agent for Healthcare?

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The ripple effect of the iPhone and its application ecosystem has swept, in ever-widening circles, into almost every aspect of modern life.

The smartphone adoption rate among professional healthcare providers exceeded 50% in 2008, and the available iPhone applications related to health and wellness run the gamut, from dietary and recreational fitness tracking to chronic disease management tools. However, if medical practitioners are to use these tools professionally, it is not enough that smartphone technology is already in their pocket. Mobile applications must earn their position in a healthcare provider's practice. They must bring something of value into the equation.

Mobile applications and devices targeted for the medical industry are not new. As early as 1998, prescription, drug interaction, disease, and treatment databases were available via PDAs and other mobile devices. Device limitations such as short battery life, low memory capacity, and minimal interactivity, combined with connectivity obstacles such as the lack of Wi-Fi access within the healthcare environment, limited the initial adoption of mobile medical applications. However, as mobile devices and technologies have become more advanced, their utility has improved. They combine mobility with vital clinical support tools, thereby untethering physicians from their computer screens and giving them immediate data access and increased workflow efficiency.

As a result, the number and variety of the applications designed for medical professionals have substantially increased, making iPhone applications increasingly important tools. The American healthcare system is progressing toward a more efficient, patient-inclusive care model. Both consumer- and industry-targeted mobile applications are positioned to thrive within this system by expanding the patient-provider communications channel and facilitating better consumer choice of care.

Given that the primary functions of the iPhone and other smart mobile devices are to provide enhanced communication and greater connectivity, it does not take a grand visionary leap to see how they were able to integrate into the patient-doctor communications channel. iPhone applications have grown beyond entertainment and convenience options. A growing number of lifestyle, health, and wellness tools have entered the marketplace through the iPhone app store. Many of these solutions are well suited to support information sharing among doctors and patients or to encourage consumers to make important behavioral changes regarding their health.

An early market entrant, Epocrates, offers free access to a database of over 3,500 prescription monographs to medical professionals and consumers through its Epocrates Rx iPhone application. The company also offers a premium version of the app to physicians. This premium version updates automatically and includes an advanced drug interaction (including OTC), disease information, and alternate medicine database for an annual cost of \$159 (or \$269 for a two-year service plan).

For physicians, Epocrates aides them in prescribing appropriate drug dosages and identifying any potential adverse drug reactions. It can also help them communicate drug safety information to their patients during office visits. For consumers, the free Rx application gives them access to up-to-date drug information, interaction warnings, and potential side effects or risks. Some consumers have also used the app to identify unlabeled mystery pills in their medicine cabinets, helping them to avoid potentially harmful medications.

Another consumer-focused iPhone application, iTriage (free), combines basic health and medical information, including prescription drug data, symptom assessments, and emergency medical care, with a geo-locator tool capable of finding and contacting local emergency healthcare facilities. The application recently added a function that estimates the wait time at critical care centers, helping potential patients make better decisions about where to go in an emergency. This last function, if widely used, could help manage patient traffic at overloaded facilities by offering alternatives to those seeking urgent medical attention in their vicinity.

The BloodWise Glucose Tracker application (\$1.99) is a consumer-targeted app designed to simplify the daily recording and tracking of blood sugar levels. As a diabetes management tool, the app provides recent measurement data and long-term trends as well as a statistical overview of the average daily glucose levels in a format that can be sent, via e-mail, to a physician or other care specialist or to a home computer for personal health record integration. The BloodWise Glucose Tracker and similar apps enable diabetics to self-monitor between medical office visits while at the same time creating an accurate, retrievable record that their physician can reference when making care decisions.





Personal Health Records (PHR) and Electronic Medical Records (EMR) are also emerging as iPhone apps. These digital records are valuable to members of the medical community because they aggregate information from numerous care system silos into one comprehensive form and enable practitioners to share that information across the care spectrum. iPhone applications such as the Epic Haiku and the Allscripts Remote, which provide mobile access to a practice's EMR system, help keep physicians linked to patient data even while they are away from their computer terminals.

By providing a comprehensive and integrated view of patient-generated health information, PHRs, including those created through EMR patient portals, offer a single patient-centric resource for tracking important health-related data, issues, and trends. For individuals, the PHR represents an opportunity to maintain better control over their personal health information. For physicians and other healthcare providers, PHRs can offer convenient access to a complete patient history, including past and present medical conditions, allergies, and prescription information. For both, it is a communication tool: a medium for collecting and sharing vital health information.

Although there are a few consumer-centric, Internet-based, iPhone application-enabled PHRs on the market, Google Health is a big-name industry standout. Cloud PHR, the free, third-party iPhone application developed by Ford Parsons and linked to Google Health, creates an API portal on patients' iPhones where they can view their PHR in a summary format using Continuity of Care Record (CCR) standards. Although it is not possible to interact with the records, the ability to remotely access health information stored in a PHR during routine medical office visits or in an emergency situation could help prevent errors due to incorrect or missing patient health information.

And, while the iPhone is the most popular platform, its app developers are not the only ones building new health and wellness tools out of the convergence of mobile technology. Blackberry Appworld offers more than 145 health and wellness apps, and the list on the Android Market is growing as well. As communication, mobility, and consumer self-care tools converge, the connected care industry is blessed with a new growth area that covers multiple platforms and functions.

Parks Associates expects more of these mobile health applications will emerge and they will continue to improve at a rapid pace. Consumer adoption will foster the behavioral changes that are the cornerstone of a new care delivery model based on prevention instead of intervention. As medical professionals incorporate mobile apps into their day-to-day work flow, it will trigger changes in how they practice medicine. Staying connected with patients and providing timely advice and treatment may become the new norm that both the patients and the entire healthcare industry will appreciate.

About Parks Associates Digital Health Research

Parks Associates is an internationally recognized market research and consulting company specializing in emerging consumer technology products and services. Parks Associates envisions pervasive adoption of digital technology within the global health care system and a drastic transformation of how healthcare and wellness aids are delivered to consumers in the future.

Our research clarifies the opportunities and challenges for technology vendors, healthcare providers, and companies considering entering this changing market. Parks Associates' expertise includes new media, digital entertainment and gaming, home networks, Internet and television services, digital health, mobile applications and services, consumer electronics, and home control systems and security.

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About the Author

Harry Wang studies the consumer electronics and entertainment service industries with a focus on portable CE hardware, software, and associated applications and services. He is also the lead analyst for Parks Associates' digital health research program. Harry has presented his research in numerous industry events including CES, Digital Hollywood, Photo Marketing Association Annual Show, American Telemedicine Association Annual Show, World Health Congress, and at Parks Associates' CONNECTIONS™, and Fall Focus conferences

Harry earned his MS degree in marketing research from the University of Texas at Arlington. He also holds an MBA degree in finance from Texas Christian University and a BA degree in international business from Guangdong University of Foreign Studies, P.R. China.

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