



WellDoc Offers Tips for Mobile Health Apps

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By John Moore

Mobile apps have taken the health care segment by storm. But the way forward has been unsettled at times, as the personal health record (PHR) space has demonstrated.

Health care may be a difficult category for which to build apps. But Demir Bingol, vice president of commercial marketing and commercial development at [WellDoc](#), has a few observations on how to design apps for an increasingly health-conscious public. WellDoc's flagship [DiabetesManager](#) app, which helps coordinate diabetes care and has approval from the Food and Drug Administration, has seen a particular amount of success. Here, Bingol gives his thoughts on building a successful health care app.

Health apps for consumers, in general, seem difficult to pull off -- slow adoption of PHRs and the demise of Google Health provide some evidence of that. What lessons have you taken away from those examples? And how do you engage consumers?

Demir Bingol: When it comes to helping patients manage their chronic diseases, there's no app for that. App developers almost always approach the development of their products from a technology perspective versus from a medical perspective. What most app developers don't understand is that chronic disease management is a patient-centric activity that requires coordination of many stakeholders and clinical and behavioral expertise in order to deliver a relevant and credible patient experience. It is the ability to deliver such an experience that engages patients over the long haul.

General health and wellness apps always lack one or more key elements that constitute a meaningful patient health experience. Usually focused on simple tasks -- like log books for tracking blood glucose readings -- and a creative UI, these apps miss the bigger picture of clinical credibility, patient connectivity and data analytics. These three elements must seamlessly work together to create an integrated system that is rooted in good clinical practice.

Of course one's system can, and should, be enhanced by other elements, such as a stellar UI, EMR integration, PHRs, etc., to keep patients appropriately engaged. Finally, patient engagement is maximized when the system also engages their physician by providing them with timely and clinically relevant information through clinical decision support systems.

How important is an iterative development process in creating mobile health apps for consumers? Did you do formal focus group testing or obtain informal feedback from users?

DB: The iterative process is very important in developing an integrated system. One cannot know for sure how well a particular feature will be received by patients without taking the time to conduct appropriate voices of the customer research.

The ultimate validation of one's product is to submit it to the rigors of a clinical trial to see if the product actually provides the intended clinical benefit. Such is the case with WellDoc's DiabetesManager. WellDoc published the results of a cluster-randomized study of a mobile diabetes coaching intervention using the DiabetesManager system.

Importantly, clinical trials also provide a more sophisticated view of how the product will potentially be used by all stakeholders in the system: patients, prescribers, case managers, etc. This type of clinically based patient feedback is critical to the product development process and cannot be achieved via traditional qualitative or quantitative methods.

How do you go about distilling something as complicated as health care -- in WellDoc's case diabetes management -- into a mobile app? What are the technical challenges in doing so?

DB: One cannot expect developers to grasp all of the nuances of a particular disease or all of the motivational factors that influence patients to use a chronic disease system. The ability to distill complicated health care information into a mobile-integrated system starts with having deep expert knowledge of the clinical and behavioral science of the therapeutic area. The real challenge is to create an integrated system that is patient-friendly yet clinically robust, both of which are necessary elements for a successful patient experience.

To accomplish this, the patient experience needs to go beyond the construct of good UI design and simple personalization. It requires the integration of an automated expert analytic engine that uniquely learns about each patient based on their self-reported personal, clinical and behavioral information, and responds to them on an individual basis.

Any tips for amateur developers looking into the mobile health care app area?

DB: If one's intent is to truly help patients manage their chronic diseases, then consider building an integrated system, not just an app. Successfully developing an integrated system for chronic disease will likely require FDA clearance given the agency's draft guidance issued in July 2011. Developers wishing to enter this new and ever-changing regulated market should ask themselves a few basic questions first:

- Do I have the technical, clinical and behavioral expertise to create a robust integrated system that will be deemed safe and effective by the FDA's standards?
- Will I be able to maintain the appropriate quality systems to support an FDA-cleared product on an ongoing basis?
- Do I have the ability to build and maintain all of the key components of an integrated system, including a patient coach, CDS for physicians and an automated expert analytic engine?

If the answer to any of these questions is no, perhaps further evaluation is necessary prior to embarking on the development of a mobile health app.