App Revolution:
Avoiding the App Trap

Robin Robinson

The industry needs to create valuable apps that fill an unmet need and rise above the deluge of online services now available.

P ocket.md, a directory of mobile medical applications, lists more than 1,500 mobile apps that have been produced by biotechnology, pharmaceutical, and medical device companies. Out of those apps, fewer than 10% are for patients living with chronic diseases, while a majority target physicians.

This represents a gaping need in the industry, says Fabio Gratton, founder of Pocket.md.

"These numbers mean that of all the pharma companies across the globe that have treatments for patients living with chronic diseases, there have been only a few hundred apps developed to support them," he says. "Of all the thousands of apps being created, this is an infinitesimal number."

More evidence that there is room for growth in industry-based apps is represented in the results from a Manhattan Research study, which identified the top 10 conditions specific to adults who could benefit from a mobile app geared toward disease management. According to the report, cystic fibrosis is the No. 1 condition that could benefit from a pa-

tient focused app, but there is only one such app available — created by Novartis — in the United States, says Mr. Gratton, who is also the creator of the patient mobile research platform Truvio.

The Manhattan Research list included the disease states of cystic fibrosis, growth hormones, migraine, and hepatitis C. The growth hormone category is listed as the second highest need in the United States, yet there are no patient specific apps addressing this condition in the United States; however, there are two apps that exist outside of the United States. In the much larger migraine category, there are only four companies that have developed apps for those living with migraines — Novartis, GlaxoSmithKline, AstraZeneca, and Merck — but only one is a U.S.-based app and one is actually a disease tracker from Merck, each performing an almost identical function, tracking symptoms, according to Mr. Gratton's research.

"The industry should be looking to identify real unmet needs that an app supported by pharma could fill," Mr. Gratton says.

Healthcare reform will present new oppor-

tunities for mobile apps, as it is creating new needs and magnifying others, says Faruk Capan, CEO of Intouch Solutions. For example, Kaiser Family Foundation reports that the largest fraction of uninsured patients in the United States is young adults between the ages of 19 and 29.

"ACA will bring this empowered, tech-savvy generation into the treatment pool," Mr. Capan says. "This generation has entirely different expectations as to how companies should be communicating with them."

Mr. Capan says this generation expects personal, direct, and authentic access; if they are not being reached on multi-screens and multi-channels, they are not being reached at all.

"Pharmaceutical companies have an opportunity to provide them with value beyond the pill in the form of support, education, and ancillary services," he says.

Corey Ackerman, president and chief operating officer of the mobile health solutions company Happtique, says the needs of patients and providers will drive the design of future health apps. Helping patients and providers find the right app seems to be the

> " **Pharma has an opportunity through apps to provide value beyond the pill in the form of support, education, and ancillary services.** "
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> **FARUK CAPAN** / Intouch Solutions

A Selection of Health/Medical App Sources

iMedicalApps.com
iMedicalApps is an independent online medical publication written by a team of physicians and medical students who provide commentary and reviews of mobile medical technology and applications.
▼ *For more information, visit imedicalapps.com.*

MyHealthApps.net
The U.K.-based MyHealthApps.net site features 307 apps, which have been selected by 456 patient groups, disability groups, or consumers as their favorites. The apps appear in 47 languages and include 146 health specialties, and disease-oriented apps for monitoring, tracking, and supporting the management of symptoms. Featured apps are given a rating based on the extent to which they meet five consumer/patient needs: give people more control over their condition (or keep them healthy); ease of use; can be used regularly; allow networking with other people like them (or with people who understand them); and are trustworthy. The U.K.-based research firm PatientView, in partnership with GSK, Janssen, Novo Nordisk, and telecom companies O2/Telefonica Europe and Vodafone Foundation, launched the site. PatientView received assistance from NHS England's Library of Health Apps, UK government body KTN Connect, and the European Commission's Directorate General for Communications Networks, Content and Technology.
▼ *For more information, visit myhealthapps.net.*

Pocket.md
Pocket.md is a free online service focused exclusively on providing a comprehensive directory of mobile applications created by healthcare companies for medical professionals, patients, caregivers, and consumers.
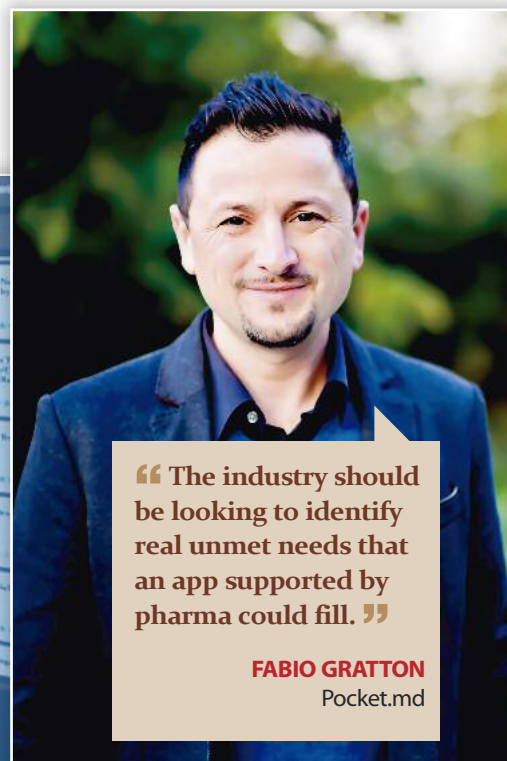▼ *For more information, visit pocket.md.*

Wellocracy.com
Partners HealthCare's Center for Connected Health launched Wellocracy to help consumers evaluate personal self-health technologies, such as health and fitness trackers and mobile apps to find the right tools that will enhance their health for their lifestyle. In addition, Wellocracy conducted a study with Harris Interactive on the use of activity trackers, mobile apps, and other tools to monitor health and wellness. According to the report results posted on the Wellocracy site, 48% of respondents reported that it is difficult to stay motivated to live a healthy life, and only 22% were very confident in their ability to keep track of their own health.
▼ *For more information, visit wellocracy.com.*

big challenge, after all there are more than 40,000 health-related apps available. As better health outcomes become the end goal for both patients and providers, the industry will turn to developing apps to manage more conditions.

"The intention will be about creating the right app for the physician and the patient, and not so much about creating an app for the sake of an app," he says.

While pharma has traditionally focused on developing apps that help people manage a specific condition, there could be more uptake in creating apps in broader categories such as health and wellness, Mr. Ackerman adds.

Donna Thomas, VP, client development at NXLevel Solutions, believes that as app development grows, the industry needs to increase its focus on developing apps that are the most beneficial for patients.

"There are a number of apps that provide medical and nutritional information and they vary greatly in quality," she says. "But there are few that focus on improving the physician/patient relationship by making it more robust and efficient."

Pharma companies can fill a need by providing apps that assist physicians in the care and treatment of patients in relation to approved treatments by designing patient-focused apps that provide patients with the ability to interact with healthcare providers virtually, she says.

Brian Longo, general manager of commercial products for Veeva Systems, agrees that the interaction between patient and physician is an unmet need for apps.

"Patient services and adherence applications that enable cross communication between patients, their physicians, and any other resources needed to provide better care is one important unmet need in the industry," Mr. Longo says.

A report published in the Journal of Medical Internet Research might shed some light on an unmet need in the cancer treatment field. While there are hundreds of cancer-focused apps designed to promote behavior change, to monitor a host of symptoms and physiological indicators of disease, and to provide real-time supportive interventions, there is a lack of evidence on their utility, effectiveness, and safety. Only 11 of the 295 apps studied supported disease management.

Mr. Gratton notes that caregivers are another neglected audience in the health app environment.

"Caregivers are overlooked," he says. "This is a big opportunity; perhaps the largest of all audiences — yet 99% of apps are not designed for them."

Identifying App Need

The changing regulatory landscape in the pharmaceutical industry has also created a need for apps that expand the dialogue between healthcare providers and customer-facing employees, Ms. Thomas adds.

"While apps offer pharma companies a natural opportunity to deliver compliance policies and best practices where employees need it most — in the field and at their fingertips — they also hold the potential to foster stronger, data-sharing relationships between physicians and the industry," she says. "Physicians are confused and concerned about the implementation of legislation such as the recently en-

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> **COREY ACKERMAN** / Happtique

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> **FABIO GRATTON**
> Pocket.md

acted Sunshine Act and there is a need for apps that effectively communicate the details of the law, along with the data related to what transactions are being reported and why."

To determine other potential app opportunities, pharma professionals should survey or poll patients and physicians through product or disease websites; non-branded websites; and surveys at physician offices or medical facilities and kiosks, Ms. Thomas says. Questions should vary based on the target audience — physicians or the public — and the subject matter.

"In addition, they can research currently available apps, read comments on these products, and engage in focus groups to find out what works best and what could be improved," she says.

Mr. Longo says as with all software solutions, needs are identified by market opportunities and underserved areas within the industry.

"In the life sciences, this is best identified by understanding the customer in terms of his or her needs, behavior trends, and usage models in conjunction with an analysis of existing solutions on the market," he says. "However, defining a need for an app is only the initial step; driving adoption, utilization, and proving ongoing value in an application is the ul-

timate driver as to whether the app will be successful."

Mr. Gratton agrees that a solid review of the marketplace is crucial to identifying a place where an app can be most beneficial. He advises looking closely at what the competitors are doing, and analyzing their efforts: what is the competition doing; are they doing it well; is there anything you can add to improve on what they are doing?

"These are all questions a company must ask itself before deciding to build an app," he says.

A report from the IMS Institute for Healthcare Informatics found that the overwhelming majority of healthcare apps in iTunes' store have limited functionality. According to the report, more than 90% of health apps reviewed by the IMS Institute scored less than 40 out of a possible 100 points for functionality, based on 25 screening factors.

For pharma companies, there are many restrictions on the types of information and functionality they can provide on their apps, so if a company finds that it cannot provide value or the features that patients and physicians may want due to regulations, then it should not proceed with building an app that does not fill the bill. Features and functionality must be meaningful to the user or the app will fail.

Canadian Study of Cancer Apps

The University Health Network in Canada conducted a study of 295 medical apps relating to cancer available for use by the general public. The results were published in the Journal of Medical Internet Research. According to the report, there are hundreds of cancer-focused apps with the potential to enhance efforts to promote behavior change, to monitor a host of symptoms and physiological indicators of disease, and to provide real-time supportive interventions, conveniently and at low cost. However, there is a lack of evidence on their utility, effectiveness, and safety.

Future efforts should focus on improving and consolidating the evidence base into a list for public consumption.

Of the 295 apps studied:

» 138 targeted breast cancer
» 95 were designed to raise awareness about cancer
» 84 targeted cancer in general
» 78 supported education about the disease
» 38 supported fundraising efforts
» 34 assisted in early detection
» 30 promoted a charitable organization
» 11 were designed for disease management
» 6 concerned cancer prevention
» 3 provided social support

Source: For more information, visit jmir.org or uhn.ca.

> **❝ Patient services and adherence apps that enable cross communication between all stakeholders is one important unmet need in the industry. ❞**
>
> **BRIAN LONGO** / Veeva Systems

> **❝ There are very few apps that focus on improving the physician/patient relationship by making it more robust and efficient. ❞**
>
> **DONNA THOMAS**
> NXLevel Solutions
> @dthomasnx

"This is where one of the biggest mistakes in app design is made," Mr. Gratton says. "Secondary market research will show there is a huge need, and that people want to be able to perform certain tasks, like ping their doctor or connect with others on social networks. But once pharma has checked off the few things it can do, it doesn't have much to offer."

To avoid creating an app that won't be used, the industry will want to drill down further in its research and talk to patients and physicians who are dealing with these conditions on a daily basis.

"Companies need to ask patients what would make coping with the disease easier for them," Mr. Gratton says. "Patients have good ideas and unique insights none of us will ever have and it's critical that pharma reach out to them."

Mr. Capan agrees that with regard to app design, pharma needs to move away from the traditional testing of ideas after-the-fact via staid market research and instead, dig deeper and earlier.

"Companies should actually talk to their patients, healthcare professionals, payers, and reps," he says. "They should leverage their communications channels, such as social media, to ask customers what they want and need to make their daily lives easier. If they listen closely enough and look hard enough, they will find that sweet spot where customer needs and brand objectives intersect."

According to Mr. Ackerman, the largest needs are usually represented by the largest costs. Areas of chronic disease prevention and management — diabetes, obesity, heart health — continue to present problems for consumers, clinicians, and the healthcare system in general.

"Care management and compliance are major challenges, so apps that compel users to successfully address those issues could gain a lot of traction," he says.

To App or Not to App

Before embarking on the process of building an app, the industry needs to determine if its business objective aligns with app architecture. In other words, Ms. Thomas says, the industry needs to consider if delivering information in an app format provides value to the target audience beyond what other delivery platforms offer.

She recommends these two questions as a starting point: How will the app architecture make the information more accessible, easier to understand, and more relevant to the physician or the patient? And, will the app demonstrate the desired information in a manner that clearly educates the target audience and fosters the desired outcome?

"An app is most useful if it can serve as a continuing source of critical information for the end user, especially if it offers advice and the ability to capture or track information that is meaningful," she says.

The most popular apps appear to be focused on a disease area, such as diabetes; or nutrition, weight loss/meal planning; tracking, monthly cycles, or daily medications and blood pressure, Ms. Thomas adds.

Mr. Capan says it's critical to ensure the brand objective is in line with app architecture, but also that app architecture is in line with customer needs and expectations. With

Relevant Apps and Best Practices in Design

Thought leaders present their ideas of a relevant and meaningful use of an app and best practices in designing them.

COREY ACKERMAN
President and Chief Operating Officer, Happtique

The true measure of an app is getting people to use it — not just download it. So I would consider relevant and meaningful use when the app becomes part of that patient's regular care management toolbox.

Best practices:

» **Address a real problem.** Make sure the app solves an actual, sizeable challenge.

» **Keep it simple.** An easy-to-use, engaging design helps create a winning product.

» **Privacy is paramount.** Having a good privacy policy in place that describes data collection and usage is key.

FARUK CAPAN
CEO, Intouch Solutions

In the context of healthcare, apps have the potential to be truly life-changing for patients and clinicians: to diagnose new conditions, to help properly treat diseases, to help manage chronic diseases, and perhaps even to prevent illness in the first place. The apps that are the most useful are the ones that have a clear purpose, provide clear value, and elegantly deliver against their promise.

Best practices:

» **Positive user experience.** The app must be intuitive, providing a great user experience.

» **Ambient data collection.** Wherever possible, apps should collect data passively. That is, data are collected and processed without the user even having to think about it.

» **Feedback.** Although some pharma companies may shy away from asking users for input, apps should always provide a simple, easy-to-use feedback mechanism.

BRIAN LONGO
General Manager, Commercial Products, Veeva Systems

Applications should be focused on improving communication between the pharmaceutical company and the physician, as well as improving efficiency and compliance to provide significant value in educating the physician audience in a compliant way, while improving the overall efficiency of the marketing and sales organization.

Best practices:

» **Consumer ease of use.** If it is not simple to use, it will not be used.

» **Ongoing investment.** The lifetime of the usefulness of an application is typically short unless it continues to evolve and add value.

» **Platform design.** The model of develop once, and deploy across platforms creates applications that do not leverage the benefits of their mobile platform and perform at lower standards. You must design applications natively for each platform to maximize performance.

DONNA THOMAS
VP, Client Development, NXLevel Solutions

An app is most meaningful when it provides the individual with the specific information he or she is looking for, and it is structured to be a continuing source of data.

Best practices:

» **Availability.** Companies must take an agnostic approach to app development. An app is not going to be of great use if it is only available on one platform, for example the Android; or only one format or device, such as cell phone, iPad, or other tablet. There are ways to develop an app for all devices simultaneously, while also developing for other desktop modes. As the "bring-your-own-device" approach takes hold in the workplace, apps need to be available across multiple platforms and devices.

» **Information design.** Don't try to create the Swiss Army Knife of apps. Understand the reasons why you are creating an app and focus on meeting those needs. Don't provide too much to your end user. Poorly designed apps often miss their mark because the designers did not understand this basic principle.

» **Delivery.** How will your app be delivered, and by extension, controlled on all devices? Are you creating for the iOS store, Google Play, Web delivery, or a private solution? How will you drive traffic to these solutions and how will you support users of your app? At its core, an app is a piece of software and will need maintenance and support — be prepared.

ACA, brands must communicate with and prove value to an entirely new constellation of influencers.

"Each of these new influencers has differing concepts of value and what pharma should do for them," he says. "But determining the most important audience for an app really depends upon the brand's objectives. Marketers should be wary of having a tactic — an app — without a strategy. Sometimes the right answer for what a company is trying to achieve is an app; sometimes it's not."

Intouch Solutions has been building app prototypes in real-time in its Innovation Lab, with the brand teams, the end-users, and the designers and developers, which allows for the identification of disconnects early on and finding solutions faster, he says.

Apps are designed for quick access and relative ease of use, providing a streamlined engagement for the end users so not all objectives and strategies align with this application model, Mr. Longo says.

Mr. Gratton suggests that marketers looking to build an app should shy away from the low-hanging fruit.

"When looking for unmet needs, marketers should target products that have a high level of non-adherence due to complicated administration or a disease that has a high level of emotional complexity or requires a strong support network, such as those that effect younger children and their parents," he says. "All of these complicated therapeutic areas are opportunities to help educate and support."

Mr. Gratton says he would not develop an

app for "the easy stuff," not because there is no value but because there are so many apps on the market already.

A diabetes product that has many complexities in terms of its administration should focus on one single purpose that the app can really differentiate and deliver on, rather than providing general information about diet and exercise, for instance.

"The one core thing for marketers to remember about developing an app is to observe what patients are doing and listen to what they're saying, and then build functionality derived from those insights into the core functionality of the app," Mr. Gratton says. "If a pharmaceutical company does that one thing well, the patient community will know that the company heard them." **PV**