Digital Health in Pharma: Exploring the Potential Impact
Industry experts discuss how digital health is poised to disrupt the pharmaceutical industry and revolutionize the clinical trial process and medication adherence.
Digital health – the use of wearables, sensors and applications to remotely collect valuable patient data – has the potential to entirely disrupt the pharmaceutical industry by providing new opportunities to leverage data in clinical trials; by helping companies bring a drug to market more efficiently and cost-effectively; and by improving patient care with enhanced medication adherence and compliance support.

The big question in pharma is: where does this disruption stand and where is it heading? That was the main topic of conversation during the Digital Health’s Disruption of Pharma panel discussion at the recent mHealth Summit. Moderated by Brian Dolan, editor of MobiHealthNews, the panel included Joe Dustin, principal of mobile health at Medidata—a technology company that serves the clinical trials industry; Jane Rhodes, senior director of new initiatives, Innovation Hub at Biogen—a biotechnology company that develops products for multiple sclerosis (MS) and other neurological conditions; and Drew Schiller, co-founder and chief technology officer at Validic—the leading platform for connecting healthcare companies with digital health apps, wearables and in-home medical devices.

Identifying the potential

Leveraging digital health in the pharmaceutical industry opens up many possibilities for both trial researchers and participants. To start, the use of wearables, sensors and mobile apps makes it possible for more patients to participate in clinical trials because of the increased flexibility and convenience remote monitoring offers. “There are 500 million iPhones in the world today and anyone can download an app for their particular condition to join a research study that they never had access to before,” Schiller said.

Not only can these mobile devices and apps be leveraged to increase the number of participants in clinical trials, they also can reduce costs. With data accessed remotely via mobile devices, such as smartphones and wearables, clinical trials are able to include more participants—and a more diverse subset of participants—without incurring the additional costs associated with managing multiple study sites in geographically dispersed locations. “There is a huge opportunity for digital tools to help streamline clinical trials to be much more effective and efficient,” Rhodes said. “For example, we have over 400 sites for our multiple sclerosis studies. And, some of these sites have only one, two or three patients each.”

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Jane Rhodes, Senior Director of New Initiatives, Innovation Hub, Biogen
With more participants in clinical research studies, there is the potential to “change the way clinical trials are fundamentally designed” and to “shorten the time it takes to get drugs to market,” Dustin said. However, he pointed out that there is a long road to traverse before fully realizing the potential of digital data.

Indisputably, these devices make it possible to collect data that previously was not accessible as part of the drug study mix. “We’ve never been able to accurately track actigraphy remotely. It was very reliant on patient recall and honesty to divulge that data to researchers. But now, we can monitor a patient using wearable devices and notice during one week there was a 40 percent drop in physical activity compared to the previous four weeks. We can discern that something is clearly going on there. Digital health data allows us to dig into what is happening with the patient outside of the clinical setting,” Schiller said.

Longitudinal data collected over an extended period of time can produce a more complete assessment of patient progress, compared to an isolated in-office measure. Access to such detailed patient information is a vast improvement over some of the data that is currently being collected and analyzed in clinical trials. “One of the tests that we talk about a lot is the six-minute walk test,” Dustin said, referring to a common in-clinic test that measures a patient’s physical abilities. “Why not just stick a tracker on the patient’s wrist and monitor the patient for 24 hours over a number of days as opposed to just six minutes in an office once a month? From a data perspective, it makes more sense.”

Real-world value

Recognizing the potential of digital health data is not the same as actually leveraging the data in real-world situations. To truly assess the value of digital health data, Biogen recently conducted a study with MS patients using fitness trackers. “Almost all MS patients have walking impairments of some degree through the course of their disease. And, we wanted to understand whether the distribution and deployment of these devices was of any use to patients and if they would generate data that had any hint of clinical meaningfulness,” Rhodes said. Sure enough, patients reported that the ability to quantify activity levels was helpful in the day-to-day management of their health.

Pharmaceutical companies adopting and integrating digital health devices and data into clinical trials will only increase as technology becomes more sophisticated and new data points become available. Dustin added that devices will move beyond common steps, sleep and heart-rate metrics to monitor a broader array of variables.
This will provide additional value to the clinical-trials process. “From a clinical-trial perspective, we’re looking for different types of measures so we don’t have to require participants to drive 50 miles to get to a clinic. Instead the participants can monitor more things remotely at home,” Dustin said. For example, continuous blood-glucose and blood pressure monitoring would be immensely valuable measures for many clinical trials.

**Early victories**

While digital health is only beginning to fulfill its potential in the clinical trials arena, the use of mobile health data is already helping track and verify medication compliance and adherence. In fact, moderator Dolan pointed out that pharmaceutical companies are leveraging “digital wraparounds” – where an app is paired with a specific medication to help improve patient behavior. “It’s probably the most obvious way that a pharmaceutical company could use digital-health technologies today,” he said. “The simple concept is you pair a medication with an app and around that app you wrap some services.”

Such apps enable patients to better comply with their medication routines. For example, an app could provide alerts to ensure that the patient takes prescribed drugs at the appropriate times. “There’s some pretty low-hanging fruit where it’s easy to make a pretty big impact around adherence, compliance and overall patient wellness,” Rhodes said.

In addition, these wraparound apps could help build patient communities. “Patients tend to develop a real connection with others who are dealing with the same condition. So, if you have an app that builds a community around a particular condition, you have opened up the opportunity to drive engagement even further,” Schiller said.

Admittedly, wraparounds are just scratching the surface of digital health’s potential, as these apps are making it possible to improve patients’ utilization of currently available medications. Proteus Digital Health also has a platform enabled for remote tracking of medication adherence through an embeddable sensor in prescriptions. Once the patient ingests the pill, the sensor signals a mobile app that the medication was successfully taken. That information is then accessible by physicians, researchers and caregivers to track prescription compliance.
In Conclusion

As digital health matures and becomes more accepted by the entire pharmaceutical community, data will be leveraged more than ever before to improve clinical trials and the drug discovery process. Ultimately, this allows pharmaceutical companies to more efficiently create the game-changing drugs that could have a significant impact on patient lives.

As remotely-collected patient data continues to become more vital to clinical trial operations, the access and integration of this data can be an un-expected burden on trial conductors. Fortunately, digital health platforms, like Validic, are enabling the easy integration of data from hundreds of digital health devices. Companies like Medidata, Quintiles and Amgen are using Validic to easily integrate participant data into their technology solutions and clinical trial programs.

Are you ready to explore the potential impact digital health data can have on your trials? Contact Validic at hello@validic.com or visit validic.com to learn more.
Validic provides the industry’s leading digital health platform connecting providers, pharmaceutical companies, payers, wellness companies and healthcare IT vendors to health data gathered from hundreds of in-home clinical devices, wearables and consumer healthcare applications. Reaching more than 223 million lives in 47 countries, its scalable, cloud-based solution offers one connection to a continuously-expanding ecosystem of consumer and clinical health data, delivering the standardized and actionable insight needed to drive better health outcomes and power improved population health, care coordination and patient engagement initiatives.

Validic was named to Gartner’s “Cool Vendors” list and received Frost & Sullivan’s “Best Practices and Best Value in Healthcare Information Interoperability” and “Top 10 Healthcare Disruptor” awards.

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