Robin Robinson

DIGITAL PATIENTS: Disrupting the STATUS QUO

Patients have the power of digital technology to fuel their quest for better health, which is forcing the industry to keep pace with their digital needs.

Patients' prolific use of digital technologies to improve their health outcomes is driving other healthcare stakeholders — physicians, payers, and pharma companies — to create new strategies and tools for patient engagement and data collection all along the patient journey.

The pharma industry, although moving slowly, is beginning to innovate technology and services to better serve the patient and find ways to use its new access to patient data by designing tools and strategies to deliver better patient outcomes, conduct more efficient clinical trials, and find additional ways to collect and use patient data.

About 10 years behind other industries, pharma has struggled with adoption due to its restrictive regulatory processes and the risk-averse nature of the industry. But opportunities are emerging, and leveraging data as a way to join the dialogue with patients is key, says Justin Chadwick, director of analytics services and product marketing at Crossix Solutions.

"The industry's digital paralysis has largely stemmed from a general lack of understanding of and comfort with using data in the privacy-concerned world," he says.

The industry's conservative approach is understandable, says Gavin Johnston, group planning director of Intouch Solutions, but with a high concentration of patients becoming involved in their own treatment through digital technology, the industry is now being pushed to act.

"Going forward we are going to see more risk taking and innovation coming forward, and whichever company leads this movement will dominate any market it is in and have the most positive effects for patients," he says.

Along with the challenges, digital patient disruption brings great opportunities to pharma companies, allowing them to provide support, services, and tools to patients and, consequently, gain a bigger role in a patient's life. Pharma can also use these tools to build brand loyalty and trust. (See Brand Identity in a Consumer-Driven World in this issue.)

Innovation for Patient-Centered Outcomes

According to Cheryl Lubbert, CEO of Health Perspectives Group of Companies, the Care4Today mobile health manager apps developed by Janssen Healthcare Innovation (see sidebar) are great examples of a biopharma company enabling patients to connect and manage their health across conditions and medications.

"These powerful new mobile apps create reports to submit to providers and encourages users by making a donation to a selected charity for each day of medication adherence," Ms. Lubbert says. "This type of engagement matters to patients and can make a real difference for them."

Ms. Lubbert also suggests that the industry take a page from the consumer goods play book and work to build brand loyalty through both online tools and in-person programs such as mobile apps, advocate programs, peer-to-peer mentoring, and closed, compliant online communities.

"These programs can build true brand loyalty, established by a personal connection with patients," she says. "This engagement will enable the industry to impact patient-centered outcomes by aligning its messaging and solutions to meet the needs of the digital patient."

Consumer brands are learning from social media and online communications what matters most to consumers, then creating in-person connections to engage with their best customers and create lasting relationships. For example, Williams-Sonoma, a high-end culinary brand with a mail-order catalog as well as

> "Digital patient engagement will enable the industry to impact patient-centered outcomes by aligning its messaging and solutions with patient needs."

CHERYL LUBBERT
Health Perspectives Group of Companies

> "By leveraging smartphones and tablets that many study participants already have, companies can better engage patients, capturing information from them in real time to improve their education, adherence, and ultimately, outcomes."

ANNE ZIELINSKI / Medidata Solutions

> "New digital solutions will address large-scale problems as well as point-of-care challenges to change the way the industry operates."

RITESH PATEL
Ogilvy CommonHealth Worldwide

online and brick-and-mortar locations, has a significant online presence, but also offers cooking demos, lectures, and classes in its stores based on customer interests to make connections and build relationships. In fact, store managers e-mail customers directly about events and promotions to build a personal connection. With the right commitment and programs, biopharma companies can build this kind of brand loyalty with patients, using online and in-person channels.

"It's not just about seeing where they click or what they read — it's engaging them personally with the brand," Ms. Lubbert says. "For pharma, this loyalty can improve adherence, an important component of patient-centered outcomes."

Ms. Lubbert has seen first-hand that programs that enable consumers to engage personally with a brand are effective in building brand loyalty and trust. Health Advocacy Strategies, one of the Health Perspectives Group companies, has worked with the maker of a major medication for a chronic disease to build a patient advocacy program that enables patients to share their experiences with the disease and therapy with other consumers, elected officials and company employees. A patient whose doctor recommended changing him to a different therapy after several years was reluctant to leave behind the connection he had created with the brand and other patients on the product. The patient wrote a note to the company: "One of the biggest reasons I was reluctant to change from (Brand X) was because I have so thoroughly enjoyed participating in this (patient advocate) program. It came down to the disease, and I've now gone with the other product. But trust me, my brand loyalty is with (Brand X)."

Pharma's responsibility in adapting to these types of tools and programs and delivering compliant content is accelerated as they reach for a patient-centric model, says David Bennett, president, sales and marketing at Zinc Ahead.

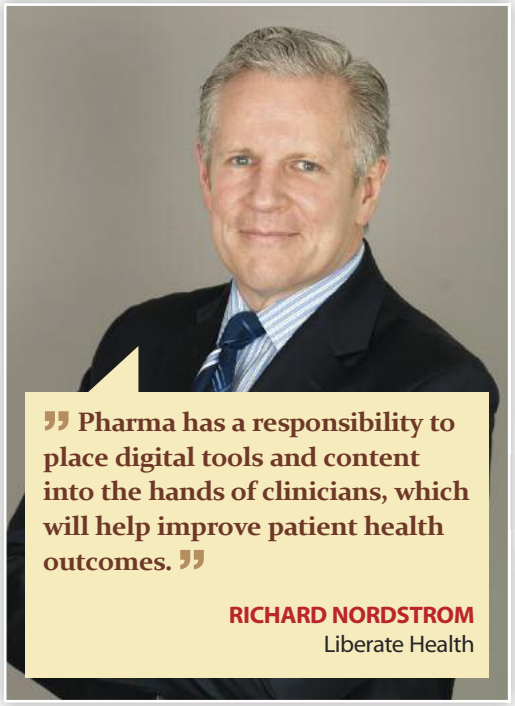
"Brands are becoming ever-focused on better health outcomes as a primary objective, and the route to this value requires the use of more

M2i2 Enabling Technologies and Research Partnerships

Merck established Merck Medical Information and Innovation (M2i2) in 2013 to build an ecosystem of strategic collaborations to enhance health IT and data-driven capabilities to advance science, improve public health and clinical care, and support patient engagement. This network of partnerships works toward the same goal of defining the possibilities of digital in the healthcare space. For example, according to multiple media reports and its own slide share, M2i2 has funded a research partnership that will look to identify patient phenotypes through patient use of social media and other technology. Additionally, a partnership with Boston Children's hospital seeks to analyze data from Twitter to create digital definitions for insomnia. Merck is also collecting and analyzing data from patient communities, such as PatientsLikeMe and Smart Patients.

- M2i2 is collaborating with Northwestern University, Alliance of Chicago, and Walgreens on a landmark health IT interventional study evaluating the impact of providing simplified and clear medication instructions. Currently, physician practices and pharmacies use different electronic record systems for writing prescriptions and translating them onto the medicine label.
- M2i2 is working with Boston Children's Hospital/Harvard, the premier computational epidemiology lab in the United States, on a unique study analyzing data from Twitter to create digital definitions for insomnia. This research also aims to contribute new and meaningful information to the scientific community on the predictors of sleep deprivation based on social media-related behaviors.
- M2i2 is accelerating care delivery innovation by partnering with Allscripts, a healthcare IT focused company and EMR provider. Merck and Allscripts are co-developing CDS content based on industry guidelines that would be accessible through the EMR at the point-of-care.
- Smart Patients is an online community where cancer patients and caregivers learn from each other about treatments, clinical trials, and scientific breakthroughs. Merck is leveraging real-world insights from the Smart Patients network to better understand patient, clinician, and caregiver voices and perspectives.

Source: Slideshare.net For more information, visit slideshare.net/M2i2/m2i2-2014-collaborations.



> Pharma has a responsibility to place digital tools and content into the hands of clinicians, which will help improve patient health outcomes.
>
> **RICHARD NORDSTROM**
> Liberate Health

> New approaches to messaging will be driven by innovative analyses fueled by the collection and use of data from an individual's digital footprint.
>
> **DR. KENT GROVES** / Merkle

> Scientific and technological advances have dramatically affected how biopharmaceutical researchers collect patient-centered outcomes data.
>
> **DR. JEFFREY LITWIN** / ERT

rich and complex media than in the past," he says. "Rich digital media content such as social media, videos, blogs, and interactive discussions clearly help facilitate communication in the patient-centric marketing model. They enable stakeholders to engage with the brand, understand the potential health and social outcomes of the treatment, and allow patients to have a role in their therapy."

Pharma also has the responsibility to place these digital tools and content into the hands of clinicians, which will help improve patient health outcomes.

"Digital is disrupting every aspect of the practice of medicine, empowering clinicians and patients alike," says Richard Nordstrom, president, Liberate Health. "Who better to help provide these meaningful services than the pharma industry that understand clinician workflow and patient engagement and has the marketing expertise and resources."

Innovation in Clinical Trials

Several studies have proven the effectiveness of using social media for patient trial recruitment, but there are other digital functions that can help maintain accurate data and expedite clinical trials.

According to Diego Miralles, M.D., global head, innovation, Janssen Pharmaceuticals, clinical trial performance is one area ripe for opportunity to incorporate digital platforms into the patient's journey.

"The number of uses for digital platforms in clinical trials is immense," Dr. Miralles says. "The clinical trial area is the perfect space to provide a much more intensive digital presence than we currently have today." Examples, he says, include medication reminders, reminders for patients visits, digital diaries that report side effects, and direct and real-time connectivity with clinical trial sites regarding potential toxicity side effects. Other examples include dosage changes and electronic informed consents that are living documents that can be updated on a regular basis.

Just this summer, data collection solution provider ERT earned FDA approval to market its wireless device for clinical trial patients to communicate key spirometry data during the clinical development of new respiratory treatments. Upon completion of a patient session, the AM3 GSM automatically sends and receives data using secure SMS text messages using the global GSM M2M network.

Scientific and technological advances such as this have dramatically affected the way researchers collect patient-centered outcomes data in development programs, says Jeffrey Litwin, M.D., president and CEO at ERT.

Janssen Innovative Organizations UseDigital Patient Data

Janssen Healthcare Innovation (JHI), an entrepreneurial group within Janssen Research & Development LLC, has developed Care4Today Mobile Health Manager, a free and secure mobile app and website designed to enable patients in the United States and UK to stay on track and in control of their medicines and treatments. The platform generates medication dosing and repeat prescription reminders with the aim of improving medicines adherence. It also provides family members and caregivers the opportunity to provide support through a digital network. Care4Today Mobile Health Manager can be used to monitor any medication by any manufacturer across any disease area, with more than 20,000 registered treatments pre-loaded and users able to add other medicines themselves. The manager is not just for pill reminders; it can also be used for reminders regarding taking vitamins and minerals supplements, contraceptives, allergy medicines, or performing activities such as taking a walk.

The Care4Today master brand represents outcomes-focused solutions that are designed to help deliver quality and customized healthcare when and where patients need it. There are currently four sub-branded solutions within Care4Today: heart health solutions, mental health solutions, mobile health manager, and orthopedic solutions.

In the clinical trial arena, Janssen Clinical Trial Innovation (CTI) was formed to investigate new technologies to improve the operations and efficiency of clinical trials, such as technologies that eliminate duplicative efforts, ease the site selection process, better engage patients and improve data collection. CTI is developing a way to track adherence in clinical trials and provide dosing updates to patients through an integrated system using a smartphone.

An app for iPads focuses on informed consent by introducing the patient to the study with a consumer-friendly animated video and an interactive feature allows patients to look up word definitions and mark sections they don't understand so they can get clarification from the site personnel.

Source: Janssen. For more information, visit janssenhealthcareinnovation.com; janssenhealthcareinnovation.com/cti/about-us

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IBM's Watson and Healthcare

Just a few years after its appearance on Jeopardy!, IBM's Watson has changed dramatically. Today, Watson's power is delivered from the cloud, it is 24 times faster, smarter with a 2,400% improvement in performance, and 90% smaller; IBM has shrunk Watson from the size of a master bedroom to three stacked pizza boxes.

IBM has partnered with a range of healthcare organizations to transform how medicine is practiced, paid for, and taught, via Watson-powered solutions. This includes collaborations with Memorial Sloan-Kettering Cancer Center, WellPoint, the University of Texas MD Anderson Cancer Center, and Cleveland Clinic Lerner College of Medicine of Case Western Reserve University.

New cloud-delivered services from Watson include:

- **IBM Watson Discovery Advisor** aims to revolutionize how industries conduct research. Representing a giant leap from existing research tools that churn out thousands of search results their users must wade through, the Watson Discovery Advisor will delve into the influx of data-driven content today's researchers face, and uncover connections that can speed up and strengthen their work.
- **IBM Watson Analytics** allows users to explore big data insights through visual representations, without the need for advanced analytics training. The service removes common impediments in the data discovery process, enabling business users to quickly and independently uncover new insights in their data. Guided by sophisticated analytics and a natural language interface, Watson Analytics automatically prepares the data, surfaces the most important relationships, and presents the results in an easy to interpret interactive visual format.
- **IBM Watson Explorer** is designed to help users across the enterprise uncover and share data-driven insights more easily, while helping organizations launch big data initiatives more quickly. Watson Explorer provides users with a unified view displaying all of their data-driven information.

Source: IBM Watson Group. For more information, visit ibm.com.

> "The clinical trial area is the perfect space to provide a much more intensive digital presence than we currently have today."
>
> **DR. DIEGO MIRALLES** / Janssen

> "The industry's digital paralysis has largely stemmed from a general lack of understanding of and comfort with using data in the privacy-concerned world."
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> **JUSTIN CHADWICK**
> Crossix Solutions

> "There will be more risk-taking and innovation in digital by the industry, and whatever company is in the lead will dominate any market it is in."
>
> **GAVIN JOHNSTON** / Intouch Solutions
> @GavinJohnston

Another example is the bring your own device (BYOD) approach to electronic clinical outcome assessment (eCOA) data collection, in which patients use their own smartphones and tablets to provide data on the safety and efficacy of new products during clinical trials.

"By incorporating a BYOD model, trial sponsors can better meet patient needs, simplify the data submission process, and enable them to provide important perspectives of their experiences via the familiarity of their own devices," Dr. Litwin says.

Another example is the growing interest in machine-to-machine (M2M) strategies of collecting data directly in the patients' home from interconnected devices such as glucometers and activity and blood pressure monitors.

"These innovative approaches to eCOA data collection and home monitoring not only put the patient at the heart of clinical research but also help to ease the burden and remove barriers that often prevent patients and caregivers from participating in and/or staying in clinical trials," Dr. Litwin says.

Anne Zielinski, global lead, patient cloud, at Medidata Solutions, agrees that digital technologies can and will transform patients' experience in clinical trials by capturing patient-direct data and helping participants stay involved and compliant with protocols.

"Given that 70% of eligible study participants live more than two hours away from an investigative site, there is tremendous opportunity for digital technologies to ease the burden on patients and reach those who would otherwise elect not to participate in a trial," she says. "Enabling assessments to be done remotely, when appropriate, can help reduce the number of patient site visits. This, coupled with data received directly from patients, allows sponsors to streamline costly processes such as source document verification and decrease study budgets."

She adds that by leveraging smartphones and tablets that many study participants already have, companies can better engage patients, capturing information from them in real time to improve their education, adherence and, ultimately, outcomes.

On the clinical research side, one of the more complex areas is the integration of genomic data with multi-dimensional longitudinal clinical data to build truly personalized approaches to patient care. New approaches can effectively integrate data to allow practicing physicians to better see, query, and understand data that will allow them to more effectively define personalized patient treatment plans.

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> "New technologies create innovative ways to effectively use normalized data from disparate sources to enhance clinical care."
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> Oracle Health Sciences

> "Rich digital content such as social media, videos, blogs, and interactive discussion help facilitate communications in patient-centric digital marketing."
>
> **DAVID BENNETT** / Zinc Ahead

In addition, these same tools can be used to enhance capabilities to conduct exploratory analyses to test innovative hypotheses and/or conduct targeted clinical research projects.

"These technologies create innovative ways to effectively use normalized data from disparate sources to enhance clinical care," says Jonathan Sheldon, Ph.D., global VP at Oracle Health Sciences.

He says enabling technologies such as patient portals and wearables also afford patients greater access to their own clinical and lifestyle data, which in turn allows them to become more engaged in their own care.

Innovation in Data Collection

In 2013, IBM, WellPoint, and Memorial Sloan Kettering Cancer Center partnered to develop the first Watson-based cognitive computing innovation for oncology.

Human clinicians taught Watson how to process, analyze, and interpret the meaning of complex clinical information using natural language processing. Reported as a "landmark collaboration" that will change the way in which healthcare is practiced, the breakthrough capability exemplifies the value of applying big data and analytics and cognitive computing to tackle the industry's most pressing challenges. Watson has ingested more than 600,000 pieces of medical evidence, and 2 million pages of text from 42 medical journals and clinical trials in the area of oncology research. Watson has the power to sift through 1.5 million patient records representing decades of cancer treatment history, such as medical records and patient outcomes, and provide physicians evidence-based treatment options all in a matter of seconds.

"This type of application will be one of the biggest areas of focus in the future," says Ritesh Patel, executive VP, chief digital officer at Ogilvy CommonHealth Worldwide. "IBM is probably the most advanced pioneer in the use of data to change the industry with its Watson solution and applying the artificial intelligence technology to oncology."

On the commercialization side, companies are developing marketing solutions that provide the industry with a digital platform of knowledge that helps them more effectively market to physicians and patients by providing insight into behaviors.

"These types of solutions will attack both large-scale problems as well as point-of-care issues to change the way the industry operates," Mr. Patel says.

According to Kent Groves, Ph.D., VP, life sciences practice, Merkle, these new approaches to messaging are going to be driven by broad reaching, innovative analyses fueled by the collection and use of traditional and evolving data, such as an individual's digital footprint. This will in turn allow pharmaceutical organizations to better predict therapeutic impact and associated outcomes. As patients take a greater interest in tracking key metrics associated with their health using wearables, the accuracy and scope of the data will improve.

"Then we will see a convergence of traditional evaluation, personal monitoring, and predictive analysis using correlation and regression," Dr. Groves says. "This has the potential to reduce healthcare costs among certain populations, thereby enabling better preventive care."

Eventually, he adds, individuals will see their self-tracked data incorporated into real-time algorithms supported by insurers, HCPs, and pharma. In the near future, this analysis will produce customized prescriptions and therapeutic recommendations based on individual data, compared with broader representative samples of the population.

While the technologies and tools required to deliver such personalization of data, content, or messaging are becoming increasingly available, until the pharma industry embraces them, a full-scale evolution will not take place, Mr. Bennett says.

"For an innovative industry, sadly pharma has failed to change its flex to embrace the benefits that digital will bring," he says. "It is almost easier to produce a personalized medicine for a patient than it is to deliver personalized content where and when they need it."

The contradiction between the use of the Internet by the general public to research diseases and the reticence to embrace it by the pharmaceutical industry results from a combination of big management structures, global frameworks, intensive approval processes, conservatism, and unclear regulations.

"However, the fact remains that faster and improved access to personalized content is required to meet changing patient expectations and the tools are increasingly in place to facilitate such compliant but engaging content," Mr. Bennett says. "To succeed, the industry needs to look at the way it reviews and approves content to have an impact on productivity and efficiency, and the ability to provide patients with timely, dynamic, personalized information."

These technologies will facilitate the industry's ability to simplify processes to accelerate content to market; comply with the regulatory burden by enabling the relationship between assets and workflow steps, including comments and asset versions, to be permanently captured; and assemble dynamic content that suits a patient's requirements and earn more of a role in the digital patient journey.

According to Mr. Johnston, today's digital patient technology has potential way beyond patient adherence and medication reminders. From smart textiles that can monitor heart rates and glucose levels, for example, to smart watches, wristbands, glasses, and other devices, these tools put power at the fingertips of consumers and, in turn, provide the industry with an incredible amount of patient data.

"The potential is unlimited and the companies that embrace digital technologies will not just be selling medications at that point but they will be selling a brand," he says.

Mr. Patel says before a full-scale adoption can happen, a lot of time and effort will be required to reengineer pharma internally and integrate departments. But, the short-term disruption may be worth the long-term gain. PV

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Pharma's Evolving Role in THE PATIENT JOURNEY

Several drivers are influencing pharma to become a patient partner, providing value far beyond the pill.

THE IMPACT OF DIGITAL PATIENTS ON THE INDUSTRY

According to a report by Strategy& (formerly Booz & Company) pharmaceutical companies have a clear opportunity to play a greater role in delivering a better experience for patients, improving clinical outcomes, and reducing the total cost of care. The key is digital health technology, which can increase patient activation and engagement through a patient engagement platform. The right application of digital technology can also create new opportunities for pharma companies to revamp their business model. Our experts discuss how pharma can create a more vital role in the lives of digital patients as they progress along their journey.

JUSTIN CHADWICK, Director of Analytics Services and Product Marketing Director, Crossix Solutions

One way for pharma to earn more of a vital role within patients' digital lives is by demonstrating tangible, measurable patient value. Simply claiming to improve the digital patient experience through innovation only goes so far — pharma needs to actually show that it's driving value for patients in consistent and meaningful ways. Measuring digital programs, having the numbers to back up claims, and more broadly communicating successes is imperative.

However, while validation through measurement is important, it's only half of the equation. Ultimately, pharma must nurture a genuine commitment to understanding all of the different ways it can and should add value throughout the digital ecosystem, in both the short and longer terms.

KENT GROVES, PH.D., VP, Life Sciences Practice, Merkle

Despite the exponential societal adoption of all things digital and the associated interpretation of how to leverage these new channels of communication, the biggest challenge facing healthcare and pharma today is the increasing cost burden on government and payers in general. As the industry continues to evaluate profit models — reduce field force, mergers, pipeline purchase, alignment with Accountable Care Organizations (ACOs), and Integrated Delivery Networks (IDNs) to name a few — the real opportunity will be via strategic partnerships. Partnering with patients, HCPs, insurers, and employers, pharma can play a leading role in helping patients achieve better reported outcomes (PROs), that in-turn reduce insurer payouts, length of time on therapy, and risk of readmission.

Moving beyond simply participating in a therapeutic recommendation — supplying the medication — to truly helping manage, measure, and support the patient and the caregiver throughout their relationship with a given disease state will broaden pharma's role and turn the industry into an indispensable digital partner for not just the patient, but all parties involved.

GAVIN JOHNSTON, Group Planning Director, Intouch Solutions

Knowing the consumer and what he or she needs within the context of the disease will help pharma more effectively develop a valuable role in the patient journey. What the pharma industry has to do has nothing to do with new technology; it needs to better understand who its patients are and the practical realities of how the treatment system works. I say this because companies tend to focus just on the patient and the doctor but in many diseases, such as Parkinson's disease, it's not just about the patient, it's about everyone else in that household who is also affected.

It is understood that in this changing digital landscape, the context in which purchasers make buying decisions influences what messages are delivered and how marketers deliver them. But rarely is context defined. It is one thing to design a usable app that conforms to human factors and cognitive requirements, but it is quite another to design a stage in an environment when there are innumerable semi-autonomous devices mediating in a swirl of information.

Advancement in technology will drive how quickly marketers analyze and pull insights from future trends. Without a means to categorize context, marketers will miss identifying trends that matter most.

JEFFREY LITWIN, M.D., President and CEO, ERT

There's no limit to how industry can leverage recent technological advances to improve the patient experience during the clinical development process. Researchers are already using multiple modes of patient data collection — Web, apps, and biometric devices — in an effort to better understand the complete patient experience during drug development. By following a patient-centric approach and adopting a new paradigm of innovative home monitoring and risk-based management tools, the industry can expand these efforts to improve the patient recruitment process and retain patients longer. By embracing the digital patient, the industry can better engage with patients from start to finish, which can produce more compliant and less burdened patients during the entire development life cycle.

CHERYL LUBBERT, CEO, Health Perspectives Group of Companies

The biopharma industry can expand its role in the digital patient journey by finding ways to engage with patients the way patients want to engage. The pharma industry can start this process by stepping back to see the bigger picture patients face. It's not about controlling the message; instead, companies need to put themselves in their customer's shoes, work to deeply understand their patients' journeys, and see how they can help.

One way biopharma can effectively help its customers is by enabling new ways for patients to connect with their providers and other patients. These

connections can facilitate the sharing of what has worked in their journey and also help patients learn and inspire each other. Biopharma needs to help patients navigate their health in all aspects, not just around one drug or one disease. Most people have more than one medical condition, and everyone is trying to get through each day successfully managing their health along with their relationships, their jobs, and more. Integrated digital support can add value to patients' lives.

RICHARD NORDSTROM, President, Liberate Health

We live in a connected world where digital touch points have the power to dominate the decision process, if conceived and executed intelligently and empathetically. The patient decision journey has a number of critical milestones that include willingness, awareness, education, evaluation, and participation. Each of these steps provides an opportunity for digital engagement with the connected patient who happens to have multiple devices such as computer, phone, tablet, and increasingly, iWear.

Different devices are used during the journey to gain awareness, to research, and compare and to participate. While patients may use three or more different devices, they expect the brand experience to be optimized and consistent across each device platform. They also want the brand to recognize them individually across each device. In this connected patient decision journey all screens are not created equally and brands must meet patient expectations, be present all along the patient journey, or risk falling behind.

RITESH PATEL, Executive VP, Chief Digital Officer, Ogilvy CommonHealth Worldwide

Patients are increasingly better educated in managing their health, with a plethora of devices, data, and online tools that allow them to be more informed and in control. Currently, pharma is viewed as just one component of the overall health and well-being of a patient, both by pharma itself and also the HCP/patient, whether the treatment is a pill or a device. However, with this change comes opportunity. By adopting a more holistic approach to the health and well-being of a patient, and thinking of the overall patient journey in a holistic manner, pharma could begin interacting with the patient with support, services, tools, etc., to become a bigger part of the patient's life.

A few have tried. GSK has the healthcoach4me program for health and wellness, and Merck has the MerckEngage program. Both are stand-alone initiatives and are not integrated with brands in a manner to engage the patient in the the overall patient journey and interaction. The emergence of mobile apps and EHR/EMR will solve some of this by enabling the ability to custom-tailor programs based on disease state and journey. For example, if a patient is newly diagnosed with diabetes, an HCP could prescribe an app and a program for diet, exercise, and weight loss, in addition to the drug. These things could be provided as a package by the pharma company that manufactures the drug.

JONATHAN SHELDON, PH.D., Global VP, Oracle Health Sciences

Interestingly, the pharmaceutical industry is already very engaged in the digital patient care journey via various social media outlets and disease and drug information Websites and portals, as well as through the development of patient-oriented programs to improve patient outcomes. Understandably, pharma companies are also constrained in some ways by the legal and regulatory requirements of what they can and cannot say about their products to ensure that any and all information that is presented is, in fact, accurate, valid, and effectively supported by data generated from their research programs. In addition, pharma companies are now collecting more and varied forms of patient-derived clinical data using various direct digital monitoring technologies to collect blood pressure, heart rate, blood glucose levels, and other vital signs. These data are often used to support clinical efficacy and safety outcome assessments and are being used as real-world data as part of their overall clinical development programs.