

Knowledge@Wharton – Wipro

Future of Industry: Patient Centricity

Technology Increasingly Key to Better Patient Outcomes



Knowledge@Wharton – Wipro

Future of Industry: Patient Centricity

Technology Increasingly Key to Better Patient Outcomes

Amid a broad push for affordable and accessible care, the life sciences industry is focusing on the patient as the core of its business strategies. A key element: hospitals, drug makers and medical devices firms are increasingly using technologies such as mobility, digital channels, wearable sensors and data analytics to improve outcomes for patients. Sangita Singh, who heads Wipro Technologies' health care and life sciences business unit, and Patricia Danzon, a Wharton professor of health care management, discuss the advances in patient centricity in this Future of Industry series white paper, produced by Knowledge@Wharton and sponsored by Wipro.

A chip in a pill sends data from inside a patient's body to a web portal where physicians track treatment progress. Similarly, an electrocardiogram necklace (or a fetal monitoring device) sends data on critical health metrics to physicians who can remotely monitor cardiac patients (or women with high-risk pregnancies), and start diagnoses before patients reach a hospital. Such technologies are important for health care providers as, increasingly, they get paid for the quality of treatments — not for every admission or procedure. These are a few of the effects of a broad push towards so-called patient centricity.

How Centricity Plays Out

Sangita Singh, chief executive of the health care and life sciences business unit at Wipro Technologies, thinks that Obamacare (the Patient Protection and Affordable Care Act of 2010) capsulizes the concept of patient

centricity with its emphasis on affordable, accessible care. "Health care firms are realizing that the industry is moving towards more consumer (patient) orientation, and leveraging technology to make health care affordable and accessible."

In fact, a new organization — the Patient-Centered Outcomes Research Institute — has been created under the Affordable Care Act to provide research that can help patients make informed health care decisions. "The Affordable Care Act is working to make health care more affordable, accessible and of a higher quality," says the U.S. Department of Health & Human Services, citing "a new wave of powerful evidence."

Pharmaceutical companies, meantime, "are moving beyond the pill," says Singh. "They want to own patient outcomes." Using common retailers' tools, pharmaceutical

"Pharmaceutical companies want to own patient outcomes."

— Sangita Singh

companies harness demographic profiling to segment patients based on food habits, age and lifestyle, and proactively engage them on wellness and related topics.

“Becoming patient centric is crucial for pharma companies today, much like embracing green technologies and alternative fuels was for the auto and energy industry, respectively,” adds Singh. They need to significantly increase direct interaction with patients to gain real insights to create new solutions and sell them directly to patients.

Patricia Danzon, Wharton professor of health care management, identifies three major aspects of patient centricity. The first focuses on long-term treatment outcomes. In the past, health care providers have received reimbursements from insurers based on their claims for patient admissions and medical procedures. But that is a flawed system because it does not consider treatment outcomes, especially for chronic diseases over long periods of care.

“The focus should shift from looking at the claims-based patient encounter to looking at the longer-term effects for patients, with respect to outcomes and costs,” says Danzon. A focus on costs will exert more scrutiny on whether a particular test or treatment is necessary. “When it is just claims-focused, you don’t care — it is just billable units.”

Conflicts on the Way

The second aspect of patient centricity Danzon identifies: a conflict that arises while considering the individual patient versus aggregated patients. On the one hand, payers determine treatment outcomes by aggregating patients who received a drug

or device compared to those who did not. But individual patients may have different clinical conditions and preferences that need to be considered, and that could mean higher costs. “We can’t be advocating for a system that is outcomes-based and value-based [or cost-based], and at the same time insist that the system be totally patient centric,” she says. “Those two are incompatible.”

The third aspect involves drug and device makers focusing marketing efforts not just on providers and payers, but also on patients. “The notion of patient centricity has emphasized patient choice as against payers control on what they will pay for.”

Technology as an Enabler

Singh notes that technology is enabling the drive and emphasis on patient centricity. Analytics helps prioritize the diseases they must target. Text messaging, mobile alerts and social media help in patient awareness campaigns. And medical sensors and wearable devices track patients’ health statistics and transmit them to doctors via multiple digital channels.

Singh shares examples of technology enabling patient centricity: One project in 2013 tested a “chip in a pill” for a cancer drug of a large European pharmaceutical company. The technology involved placing “ingestible event markers,” which are tiny, digestible sensors inside a pill made from food ingredients that become activated by stomach fluids after swallowing. Once activated, the marker sends an ultra low-power, digital signal through the body to a microelectronic receiver, a small bandage-style skin patch on the patient’s upper torso, and onward to a physician’s portal.

“Becoming patient centric is crucial for pharma companies today, much like embracing green technologies and alternative fuels was for the auto and energy industry.”

— Sangita Singh

Conducted on over 200 patients in Europe, the test successfully showed how markers can track prescription drug compliance.

Another project, now being designed, is for a maker of drug inhalers to monitor the dosage patients consume, especially for expensive drugs, says Singh. Elsewhere, a British pharmaceutical company is preparing a patient-centric program for cardiovascular diseases, focusing on monitoring vitals like blood pressure, weight, lifestyle and the like. Set for rollout this year, the company has identified five hospitals with some 2,500 patients in five European countries. Patients would be given wearable gadgets, information on disease education and management, and mobile applications for data transfer.

One large health care provider in India is using a device for fetal monitoring. Here, a continuous flow of data is remotely monitored, requiring a doctor's intervention only if some patient parameters cross specified thresholds, an approach that is becoming increasingly common in developing countries. In an example of post-treatment care, a large manufacturer of pacemakers uses bedside remote monitoring devices to capture patients' vital statistics.

Singh points out that in all these cases, technology companies not only create the devices or implant chips in pills, but are also building mobile gateways, software applications and multiple digital channels to carry, store and access the data.

These technologies are also helping life sciences companies and patients requiring personalized treatment with alerts on drug expiry dates and replenishment needs.

Patient Centricity Divides the Industry

The drive for patient centricity has divided the life sciences industry over who gets to make more money. "The pharmaceutical industry and makers of medical devices have emphasized patient centricity as a pushback against aggregation of outcomes," says Danzon. That is because less aggregation will lead to more sales of drugs and devices. "It will also lead to higher costs for payers to recognize all these patient idiosyncrasies." It is easier for the payers to deny reimbursement for care if patients are aggregated into fairly large groups.

Patient centricity is best achieved with a balance, Danzon adds. Measurable health outcomes will be good for patients "because it will mean care is delivered not just randomly but in a way that is conducive to improved health outcomes." Yet, patient idiosyncrasies have to be factored in, and drug and device makers must demonstrate the utility of their products to health care providers, because it is the individual doctor or hospital that decides on the care to be delivered.

Singh sees health outcomes getting better overall. "Life sciences companies are moving beyond the pill to provide services around the patient to keep them healthy, with a proactive and preventive approach."

"Life sciences companies are moving beyond the pill to provide services around the patient to keep them healthy, with a proactive and preventive approach."

— Sangita Singh

This article was produced by Knowledge@Wharton, the online business journal of The Wharton School of the University of Pennsylvania. The project was sponsored by Wipro Technologies.

Founded in 1881 as the first collegiate business school, the Wharton School of the University of Pennsylvania is recognized globally for intellectual leadership and ongoing innovation across every major discipline of business education. With a broad global community and one of the most published business school faculties, Wharton creates economic and social value around the world. The School has 5,000 undergraduate, MBA, executive MBA and doctoral students; more than 9,000 annual participants in executive education programs; and a powerful alumni network of 93,000 graduates.

About Knowledge@Wharton

Knowledge@Wharton is the online business analysis journal of the Wharton School of the University of Pennsylvania. The site, which is free, captures relevant knowledge generated at Wharton and beyond by offering articles and videos based on research, conferences, speakers, books and interviews with faculty and other experts on global business topics.

For more information, please visit knowledge.wharton.upenn.edu

About Wipro Ltd.

Wipro Ltd. (NYSE:WIT) is a leading Information Technology, Consulting and Business Process Services company that delivers solutions to enable its clients do business better. Wipro delivers winning business outcomes through its deep industry experience and a 360 degree view of “Business through Technology” — helping clients create successful and adaptive businesses. A company recognized globally for its comprehensive portfolio of services, a practitioner’s approach to delivering innovation, and an organization wide commitment to sustainability, Wipro has a workforce of over 140,000, serving clients in 175+ cities across six continents.

For more information, please visit www.wipro.com