



Placing Customer Centricity at the Heart of Healthcare

A look at how healthcare providers, pharmaceuticals, and health insurers are adapting to the changing customer landscape and evolving their patient experiences

Table of Contents:

An Eye on Healthcare’s Wearable Future.....	2	What the Net Neutrality Debate Means to Healthcare.....	17
Making Way for Consumerized Healthcare	5	Healthcare’s Cybersecurity Threat.....	19
Boosting Patient Outcomes with Big Data	7	United Healthcare Gives Behavioral Analytics a Seat at the Table.....	21
Healthcare Accountability: Sizing Up the Metrics for Delivering Value-Based Care	10	Meet Healthcare’s Newest Players	22
The Top Healthcare Tech Trends to Watch in 2015	12	Taking the Pulse of Customer Service	25
Balancing Act: How Population Health Impacts Individuals	15	A Prescription for Patient-Centric Healthcare.....	28
		Cigna Personalizes Its Approach to Healthcare Customer Service	31

An Eye on Healthcare's Wearable Future

Wearable devices and Big Data are on a collision course that could change the healthcare industry.

Imagine going for a run while wearing a smart watch that can track your pace as well as your calorie intake and activities. Later that day you receive a text message from your physician informing you that your glucose levels, as reported by your new contact lenses, are fine. You also receive an email from your health insurer notifying you that your co-pay has been reduced as a reward for meeting this month's fitness goals, based on an app's report.

Such a scenario could become a reality as advances in mobile technology usher in wearable devices that collect more data than ever about an individual's health. Data from wearable devices that can be shared with other people, like doctors, offer numerous benefits as well as implications for consumers.

Healthcare providers and insurers are examining connected devices for their potential to improve patient outcomes and lower treatment costs and premiums.

Access to such personal health data also gives rise to a host of questions about the value of the information, consumer privacy, and other issues that intersect Silicon Valley and the healthcare industry.

New Players

Wearable devices generated more than \$1.6 billion in sales last year and are expected to reach \$5 billion by 2016, according to Gartner. Data giants such as Google, Apple, Samsung, and Microsoft are betting on technology that collects biometric and other health data, which could draw in more users and grow their market share.

Google has already tried its hand at aggregating health data. In 2008, the company rolled out a project called Google Health that was designed to let users connect medical records that were stored in different places by different providers. The project did not catch on with users, however, and Google shuttered Google Health in January 2013.

Google is trying again, this time with a platform called Google Fit that it unveiled in June. The platform allows app developers to share data between other apps, such as other fitness trackers and monitors, to give users a fuller picture of their health and fitness levels. Several companies have pledged their support for the platform, including Nike, Adidas, HTC, LG, Motorola, Runtastic, and RunKeeper.

In addition, Google partnered with the pharmaceutical company Novartis in July to create contact lenses that connect to mobile devices to report the wearer's blood sugar levels in near-real-time.

Apple is also positioning itself as a health data hub. At its Worldwide Developers Conference in June, Apple rolled out HealthKit, a new function on iOS 8 that centralizes health and fitness data from various apps and monitors. Apple also partnered with the Mayo Clinic and Epic Systems, a large supplier of electronic medical record systems, on an initiative that would allow smartphone users to send healthcare providers data about their heart rate, blood pressure, and other vital statistics.

Samsung is making its own bid on health data. In June, the company debuted Simband, a monitor that looks like a wristwatch that can track biometrics like heart rate, blood pressure, and temperature. Microsoft is also getting into the health data game. The company registered a patent in May for a "wearable personal information system" that includes sensors for tracking calories and the user's heart rate.

Measuring the Value of Health Data

As more companies explore ways to collect, measure, and transmit health data to other systems, consumers may soon be able to share this information with doctors. Doctors for example, could monitor patients'



"Any products that are seeking to make a dent in the huge healthcare industry need the approval of three sets of individuals: physicians, patients, and payers."

—Niels Rosenquist, MD,
and co-founder of
Janys Analytics

conditions remotely and reduce doctor visits, points out Bill Fera, MD, Ernst & Young principal for the Americas Health Care Advisory.

“Many people are only incentivized to take care of their health when they visit a doctor and learn something is wrong,” Fera says. “It’s exciting to think of the immediate feedback that doctors can give to patients who are wearing these devices, instead of reminding patients to make an appointment every three months.”

In addition, the Patient Protection and Affordable Care Act (PPACA) is incentivizing hospitals and health systems to increase outpatient services, which could make health trackers appealing to healthcare providers and insurers.

The PPACA also allows insurers to increase wellness incentives (e.g., reductions on premiums) for healthy behavior such as exercising, which in turn could lead employers and insurers to encourage employees to use fitness trackers like Fitbit and other digital trackers.

Last year, Aetna began letting its employees incorporate information from wearable devices like Fitbit, JawBone, and MapMyFitness into the company’s wellness program. Approximately 27 percent of more than 24,000 participants in the wellness program have logged into their devices, according to the company.

“Encouraging people to track their progress and see how they compare with their friends and colleagues is one step to helping people stay healthy,” says Paul Coppola, Aetna’s head of wellness program and strategy. More employers are also starting to consider implementing health trackers into their wellness programs, adds Coppola. “We’ve seen about 5 to 10 percent [of Aetna’s employer customers] start to bring in health devices into their companies and that’s continuing to grow,” he says.

It is too soon, though, to determine how valuable these apps and devices are, comments Harry Greenspun, MD, senior advisor for Deloitte Center for Health Solutions. Companies are still “in the hype zone” when it comes to measuring the usefulness of health trackers, Greenspun notes.

“The app or device might be cool, but does it make me healthier? Does it improve my hemoglobin A1c? We don’t know yet if this data makes a difference,” he says. More contextual information and analytics need to be applied to the raw data to make it useful, Greenspun adds.

Niels Rosenquist, MD, and co-founder of Janys Analytics, agrees. “The challenge with wearable devices is making sense of the data,” Rosenquist says. “It’s not enough to say you walked 10,000 feet in one day, people want to know how that correlates with other aspects of their lives.”

In addition, physicians and payers need to approve of the data from wearable devices. “Any products that are seeking to make a dent in the huge healthcare industry need the approval of three sets of individuals: physicians, patients, and payers,” Rosenquist adds. “And the last thing most clinicians want is data that is not interpreted or integrated with the rest of a patient’s history.”

App developers must overcome numerous challenges before they can integrate data from a wearable device with a user’s medical history, however. One such obstacle is the Health Insurance Portability and Accountability Act (HIPAA), which restricts the collection, storage, and transference of medical data.

Companies that want to make data from a fitness monitor accessible to doctors, for example, are subject to HIPAA compliance rules. In addition, government organizations have only begun to examine issues related to health data generated from wearable devices.

The Federal Trade Commission held a seminar on consumer-generated and controlled health data in May and the Food and Drug Administration has begun laying out a framework for how smartphones and other devices can transmit medical data, but neither agency has announced a specific action yet.

Uncertainty around HIPAA regulations and a lack of standardization poses a challenge for developers to move forward with their products, says Jason Wang, CEO of the startup TrueVault, which offers a database-as-a-service for health app developers to store their user data in a way that is compliant with HIPAA regulations.

“Developers want to get their healthcare apps out there, but there’s no guidance on how they can be HIPAA compliant unless they’re audited,” he says. “It’s a muddy area.”

In addition more consumers need to use the devices to make it sustainable. Approximately one in 10 American adults own a fitness tracker, according to Endeavor Partners, a consulting firm for mobile technologies. “Many of the people who use fitness trackers are probably already focused on their health,” comments Rosenquist. “They’re not the people the health industry is worried about.”

Wearable Future

Despite the challenges, experts are bullish on the implementation of wearable devices into healthcare programs. “Just follow the money,” says KPMG partner Ash Shehata. “When a health insurance company or a hospital can tie the use of these devices to better financial measurements, those financial adoptions will drive adoption rates,” he says.

Shehata also notes that “established players” like pharmaceutical firms or health insurers who are accustomed to navigating compliance regulations will be able to push innovations in wearable devices further. “So far we haven’t seen anything beyond pilots, but once the healthcare industry embraces Google and Apple and startups, you’ll see a fast path to commercialization,” he predicts.

Making Way for Consumerized Healthcare

Demand for greater transparency in medical costs is giving rise to the consumerization of the healthcare industry.

Navigating the U.S. healthcare system to receive affordable care is a notoriously complicated process. But as consumers shoulder a growing portion of hospital costs and other health-related expenses, the stakes for healthcare organizations to become consumer-centric are rising.

High-cost patients, an uptick in spending for specialty drugs, and the cost of complying with the federal Affordable Care Act are some of the common causes that employers say are driving up healthcare expenses. As medical costs increase, a growing number of employers are passing the expenses to employees in the form of higher deductibles and co-payments.

In 2015, nearly one-third of employers indicated that they will only offer high-deductible plans (up from 22 percent in 2014 and 10 percent in 2010), according to a study by the National Business Group on Health (NBGH), which included 136 companies that collectively employ 7.5 million workers.

Under high-deductible health plans, consumers pay for medical services at the insurer's negotiated rate until they meet their deductibles. Afterwards, consumers often pay coinsurance, which is a percentage of each service until they reach the out-of-pocket maximum.

Making employees responsible for more of their care could motivate employees to comparison-shop for medical services, notes Dr. Cynthia Ambres, MD, an advisory principal at KPMG's Global Center of Excellence for Health.

"Consumers have been largely protected from medical costs and now a little less so," Ambres observes. "As consumers, we need to know more about the costs and as more patients come in with high-deductibles, the payers and health providers also need to provide information to the consumer around pricing."

Most consumers are in the dark when it comes to understanding healthcare costs, however. The lack of transparency in healthcare costs is an ongoing issue that is due to several factors, explains Will Hinde, healthcare practice director at consulting firm West Monroe Partners.

"In order to provide a member or subscriber with an accurate estimate for a procedure, you need access to a lot of information," Hinde says. "There are often numerous providers or physicians contributing a service to the surgery and they may have different network relationships. You also have to account for facility costs, coverage information, and other costs."

And while consumer-facing technology for understanding costs has "not kept up in healthcare as much as in other industries like retail and banking," this is changing, Hinde adds.

Shedding light on healthcare expenses is a lucrative space with startups offering various tools to calculate the costs. Companies like Healthsparq, Castlight, Practice Fusion, and ZocDoc have built technology that is designed to display information about doctors and medical procedures in a user-friendly interface to make it easier to find a health plan or doctor and compare costs.

"We're now seeing intelligence tools that guide you through the process of shopping for a health plan or doctor," Hinde says. "These apps are putting information at your fingertips as opposed to you calling a carrier... They're much more intuitive and similar to what you would find in the travel and retail industries."

There is an opportunity to "consumerize healthcare" and make it easier for people to compare medical costs, agrees Scott Matthews, vice president of product marketing at Castlight, which offers a cloud-based enterprise technology that enables employers to deliver information about benefits and provide medical professionals/health plans a merit-based market to showcase their services.

"A savvy consumer can apply the same principles for purchasing a car or book to the healthcare market," Matthews says. "We partner with insurers to have access to claims and other sources of data to let people shop for healthcare services by having cost and quality information on a dashboard."

Castlight issued an IPO in March and its client roster includes CVS Caremark, Tesla, and Liberty Mutual. The



"As consumers, we need to know more about the costs and as more patients come in with high-deductibles, the payers and health providers also need to provide information to the consumer around pricing."

—Dr. Cynthia Ambres, MD, an advisory principal at KPMG's Global Center of Excellence for Health.

company faces competition from other tech companies, though, as well as insurers who are creating their own pricing tools.

The nonprofit Health Care Cost Institute (HCCI), for example, is creating an online portal in a partnership with Aetna, Humana, and United Healthcare that will provide consumers with estimated costs for medical procedures. HCCI integrated claims data from all three insurers into one database, and it has divided the information into two tiers, explains HCCI Executive Director David Newman.

The first tier, which will be launched in December, will be a free website in which consumers can search for the average prices for procedures. “The site will ask you for your zip code and using natural language, you can enter terms like ‘upper respiratory tract infection,’” Newman explains. “And we’ll give you an average price for that bundle of related services.”

The second tier is scheduled to be launched next year and it will be available only to subscribers whose insurer is participating in HCCI’s transparency tool. After registering, users will receive detailed price information that is based on their health plans and their deductible statuses. The advantage of the paid tier is “that hopefully in the future you won’t need to get used to a new website every time you change insurance companies, because they will be on the same URL and all your information will already be there,” Newman says. HCCI will be announcing additional insurers who have joined the portal in coming weeks, he adds.

Offering price and quality transparency tools has become critical as “transparency moves to the forefront of healthcare,” observes Chris Riedl, executive director of national business strategy and product management at Aetna. “Healthcare is one of the last areas where you struggle to get cost information in advance of a service being rendered, but now it has become table stakes.”

As healthcare organizations roll out more transparency tools, another challenge is making consumers aware of these tools and helping them leverage them, notes James Nastri, Cigna’s vice president for cost and quality transparency.

The insurer, for example, launched the mobile app version of its website, MyCigna, which provides physician and facility quality and pricing information, six months ago, and has been downloaded more than 600,000 times since it was rolled out. While the app is still new, the majority of Cigna’s 14 million US customers (the company has 70 million customers worldwide) have yet to use the app. About half of Cigna’s US subscriber base are registered on MyCigna, which was launched in 2012.

“People have been led to believe that insurance companies don’t want to share this kind of information and there are still customers who don’t know about these tools,” Nastri says. “There’s a trust issue between insurance companies and the customer, and this has created a large barrier that we need to overcome.”

In addition, patients and providers still need to become more sensitive to healthcare costs, points out Dr. David Rosen, MD, an anesthesiologist at Advocate Lutheran General Hospital.

“People on the frontlines like physicians and nurses still seem very detached from prices,” Rosen says. “People come to the emergency room with mild abdominal pains and they’ll get a CAT scan or a nurse will throw out a stapler that was just opened because it was the wrong one and now it’s contaminated. There’s a lot of waste in the trenches.”

Healthcare providers need more reasons to become more efficient and price sensitive, according to Rosen. “Unless people have an incentive to do things differently,” Rosen notes, “I don’t see how this will change.”

KPMG’s Ambres estimates that the healthcare industry has accomplished “about 15 percent of what is needed in educating patients and making things transparent.” Allowing consumers to compare prices for procedures or visits is not enough. “We may know what the cost is,” Ambres notes, “but we still don’t know if it’s reasonable and what the incremental costs are that add up to a service bundle.”

More resources and education is still needed to help consumers understand the true cost of their medical treatment, Ambres continues. People who struggle to navigate websites and mobile devices may not be able to take advantage of these new transparency tools or there may be a language barrier.

At the same time, the healthcare industry is slowly improving the customer experience. “Payers offering prices on different procedures is new and we are making progress,” she says. “These changes are happening, but it’s a very long road.”

Boosting Patient Outcomes with Big Data

Leveraging data to gain insights into customer behaviors and provide better services is the cornerstone of the retail and marketing industries, but healthcare is still catching up to these strategies.

Data mining, predictive analytics, and trends analyses for improving patient outcomes are some of the technologies that are beginning to take hold in healthcare.

And even though healthcare companies are only beginning to catch up to companies in other industries in leveraging data, it's already a crowded space, notes Munzoor Shaikh, a senior manager at consulting firm West Monroe Partners.

"There are a lot of players out there, everybody's experimenting, everybody's trying something; everybody's got a success story," Shaikh says. "What we find in the midst of this chaos...strategy is key. That's the first thing that we ask people to do. The other thing is it takes time because there's lots of historical data that you need to be able to prove out."

Bringing a solution to market, even with a strategy, is a complicated process that can leave companies in limbo. Three years ago, Chris Poulin, principal partner at predictive analytics provider Patterns and Predictions, set out to develop a tool that could identify U.S. veterans who were likely to be suicidal using text-mining and predictive analytics.

In 2010, Poulin founded the Durkheim Project with funding from the Defense Advanced Research Agency (DARPA). He also brought together medical and artificial intelligence experts from Dartmouth Engineering, Dartmouth Medical School, and the U.S. Veterans Administration to develop the research.

The project's first goal was to prove that text-mining methods could provide statistically significant predictions of suicidal tendencies. Working with a control group of about 100 veterans, the researchers developed linguistics-driven prediction models to estimate suicide risk, based on unstructured clinical notes.

In 2011, Patterns and Predictions began building out the foundational infrastructure and predictive modeling that would support the project's extensive data collection and analysis with enterprise analytic data management provider Cloudera. The researchers trained the system by feeding it keyword combinations, patterns, and other linguistic clues based on data analyzed from a variety of veterans' database sources. Once trained, the machine learning could identify useful clues in real data, and establish a risk "score."

In early 2013, the platform achieved a 65 percent accuracy rate in predicting suicide risk among the veteran control group. The next goal was to scale the project by testing it with at least 100,000 veterans who opt into the project and receive a unique Facebook app that is designed to capture posts, Tweets, mobile uploads, and location data. Additional profile data was captured as well, such as physician information and clinical notes.

However, the project has stalled, according to Poulin, as he looks for a clinical group to sponsor the research and provide feedback. "Many groups have expressed interest in testing the system in a clinical field study, but we're not sure who's going to ultimately pay for it," he says. "Maybe we need to compensate clinical groups on integration and technical support, but this experience has been eye-opening; I would have thought there's more flexibility."

Timing may also be in an issue. After the Facebook debacle in which the social network was severely criticized by the media for using users as unknowing test subjects, Poulin says he has had to draw clear distinctions between his project and Facebook's own tests.

"There has been some confusion about whether Facebook is using my academic team to do social-engineering research," Poulin notes. "We are only doing clinical research; we're not using the data for marketing at all." For other companies that are considering launching their own research, it is critical to "maintain a high degree of transparency," Poulin adds. "You need to be clear about who's doing what and why."



"We have oceans of data and in order for us to deliver better health, better care, and lower costs, we have to get smarter about the way we use all that data."

—Dr. Tim Buchman,
founding director of
the Emory Critical Care
Center

Reducing wait times in emergency rooms and providing care more efficiently are other challenges that companies are trying to solve. In 2013, Emory University Hospital partnered with IBM on a research project to advance predictive care for critical patients in the ICU. The experimental system uses IBM's streaming analytics platform with Excel Medical Electronics' bedside monitor data aggregation application to collect and analyze more than 100,000 real-time data points per patient per second. The software then identifies patterns that could indicate serious complications like sepsis, heart failure, or pneumonia, to provide real-time medical insights to clinicians.

"We have oceans of data," says Dr. Tim Buchman, founding director of the Emory Critical Care Center, "and in order for us to deliver better health, better care, and lower costs, we have to get smarter about the way we use all that data."

IBM's technology provides a visual display of patterns in a patient's vital signs and other data points that serves as an advanced "air traffic control view of patients in an ICU" and alerts providers to critical changes in a patient's condition and allows them to be more efficient in allocating their attention, Dr. Buchman notes.

"By using the data wisely and foreseeing Big Data analyzed in real time, we can actually do a better allocation of our human resource so that at any given moment, we've got the right people at the right bed," he says.

When asked about the impact of the research, Dr. Buchman demurred, noting that the research is ongoing and it's too early to measure the value of the technology and its effect on patient outcomes. But more tools and research are needed, Dr. Buchman added, as the needs of aging baby boomers and other patients outpace the ability of providers to give adequate care.

"The fact of the matter is we're running out of doctors and healthcare is very late to the game in harvesting data in real time and using analytics and predictive modeling to figure out what's going to happen next," Dr. Buchman says. "So we have to rearrange the labor force and use appropriate technologies that are going to enable people to deliver the best care today and tomorrow."

Dr. Gilanthy Ungab, a cardiac electrophysiologist who practices in National City, Calif., agrees that data mining tools offer opportunities to better serve patients. People who have pacemakers and defibrillators, for example, must wait for a vendor or trained representative to collect the data and produce a report about the device's status during an examination. This process can be time-consuming, especially if the reports must be printed or faxed and can be easily misplaced, according to Dr. Ungab.

After observing the long wait periods in emergency rooms, three years ago Dr. Ungab teamed up with the CEO of a healthcare product design firm to develop a platform for managing data from cardiac devices.

They founded Geneva Healthcare, which offers a cloud-based solution that collects and standardizes a patient's cardiac device data according to guidelines established by the Heart Rhythm Society. The Geneva Healthcare Suite then organizes the data on a dashboard.

When a patient enters an emergency room, for example, a nurse or technicians collects the device data by waving a wand over the implant site. The data is entered in the platform and clinicians can review the condition of the device and the patient remotely or within a provider's electronic medical record and/or a health information exchange in the hospital. "We're using real-time physiological data and allowing clinicians to make decisions quickly," Dr. Ungab says.

The UCSD Medical Center has been using the Geneva Healthcare Suite in its Hillcrest and Thornton Emergency Departments since September 2012. Since it implemented the platform, the UCSD Medical Center has reduced waiting periods in its emergency rooms by 92 minutes, according to a study published in the *Academic Emergency Medicine Journal*.

Sharp Healthcare, a non-profit healthcare delivery system based in San Diego, is in the process of implementing the Geneva Healthcare Suite across its hospitals. And Paradise Valley Hospital, a subsidiary of Prime Healthcare Service, is launching a pilot program of Geneva's technology.

"Using Geneva's technology platform we have been able to quickly train our emergency department staff on how to collect information about a patient's device regardless of the device manufacturer or type of device. We

do not have to rely on each manufacturer's device representative or on different proprietary reporting systems," comments Dr. Theodore Chan, UCSD Chair of the Emergency Medicine, in a statement.

Other healthcare players see opportunities in using data to address health conditions before they flare up. Dr. Scott Rifkin is certified in internal medicine and is the founder and CEO of Mid-Atlantic Health Care, a provider of nursing care and post-acute services. Dr. Rifkin oversees the operations of 18 nursing homes in Maryland, Delaware, and Pennsylvania. He also founded Real-Time Medical Solutions, a company that offers data mining software that detects warning signs in nursing home patients' electronic medical records and alerts nurses to check on patients.

The software compares information from patients' medical records against 130 questions about their vital signs, daily activities (did the patient walk today, move his or her bowels, etc.), and other data points to identify changes in the patients' health and behavior.

"Every hour of every day we run 130 questions against our data to decide if there are critical issues where if we intervene today, the patient is less likely to go to the hospital," Dr. Rifkin says. The RTMS data mining technology was implemented across the Mid-Atlantic Health Care facilities nearly three years ago and has contributed to a two-third reduction in hospital readmission rates among nursing home patients, according to Dr. Rifkin. More than 50 other nursing homes across the U.S. have also implemented the RTMS software.

More work is needed to better understand a patient's conditions, Dr. Rifkin adds. "There's still a lot of room for improvement," he notes, "Even in terms of communications between the physician and nursing facility and an out-patient and provider, but this is a start."

Healthcare Accountability: Sizing Up the Metrics for Delivering Value-Based Care

As the healthcare industry moves toward performance-based care, more challenges emerge in efforts to measure the quality of accountable care.

The Patient Protection and Affordable Care Act's reform-oriented imperatives have brought healthcare accountability to the fore, leading hospitals, providers, and payers to grapple with ways to measure and deliver more cost-efficient, quality care. But challenges remain as the healthcare industry moves from a fee-based payments system to value-based care, note experts.

Accountable Care Organizations

Introduced in the Patient Protection and Affordable Care Act, Accountable Care Organizations (ACO) are networks of physicians, hospitals, and specialists that choose to share financial and medical responsibilities to provide coordinated care for patients.

The goal of coordinated care is to deliver the right care to patients at the right time, while reducing duplicate tests and procedures and other inefficiencies, which often occur when patients go to separate providers and caregivers. ACOs are jointly accountable for the health of their patients and those that save money while meeting quality benchmarks keep a portion of the savings.

About 520 ACOs were serving approximately 17 percent of the U.S. population in April, up from 370 ACOs in September 2013, according to consulting firm Oliver Wyman. The first group of ACOs were aimed at Medicare patients but have expanded to other patient groups. There are approximately 155 non-Medicare ACOs operating across the country, a 14 percent increase from 135 in July 2013. Participating in an ACO is voluntary and patients may see doctors of their choice outside the network without paying higher fees.

Banner Health, a nonprofit healthcare organization based in Phoenix, Arizona, is an example of a successful ACO. In 2011, the organization brought together Banner Health-affiliated physicians, 13 acute-care Banner hospitals and other Banner services in Arizona to provide acute care, home care, nursing registries and residential care under Banner Health Network using the ACO model.

In its first year, Banner Health Network saved \$19 million in shared savings, according to a report by Hospitals in Pursuit of Excellence, a subsidiary of the American Hospital Association. In addition, Banner Health Network saw hospital admissions decrease by 8.9 percent; 6 percent fewer hospital readmissions, and a 14.4 percent reduction in average length of hospital stay. In addition, it achieved a 6.7 percent drop in use of X-rays, MRIs, and other imaging services.

But not all providers and hospitals realize financial benefits from adopting the ACO model, notes J.B. Silvers, a professor of healthcare finance at the Weatherhead School of Management at Case Western Reserve University.

"ACOs are basically geared towards taking populations that are not well managed, that are using excessive services, and improving them," he says. "If you're already doing a good job, there's not much to change and you're probably not going to make more money."

Additionally, ACOs have to seamlessly share information, which is a challenge for many organizations with various data systems. Although most accountable care organizations have the health information technology to improve the quality of clinical care, poor interoperability across systems and providers remains a barrier, according to a survey conducted by Premier, Inc., a data analytics firm that helps companies adopt ACO models, and eHealth Initiative, a nonprofit research firm.

From a survey of 62 ACOs, 88 percent of the respondents indicated that they face significant obstacles in integrating data from disparate sources, and 83 percent report challenges integrating technology analytics into workflows.



"Integrating information systems is difficult especially when there are a variety of systems out there and everyone is in different paces of change so much of this will take time to fully deploy."

—Dr. Ken Anderson,
chief operating officer
of The Health Research
& Educational Trust

“Integrating information systems is difficult especially when there are a variety of systems out there and everyone is in different paces of change so much of this will take time to fully deploy,” notes Dr. Ken Anderson, chief operating officer of The Health Research & Educational Trust, an affiliate of the American Hospital Association.

Regardless, even large hospital-based systems may decide to enroll in an ACO for “defensive reasons,” Silvers adds. “They know the world’s changing...and if this is the way payment systems are going to go,” he notes, “they’ve got to learn how to manage at the population level, rather than at the individual service level, so I think most organizations are getting into it thinking it’s a learning process that’s going to help them for where the world is going to be.”

There are fears though, that by forming integrated health systems under ACOs, there will be fewer independent physicians and specialists, limiting patient choices ultimately driving up health costs. As hospitals position themselves within integrated systems that could lead to “prices going up because they’ve formed monopolies,” notes Dr. Marc Berg, principal and head of healthcare strategy and transformation for KPMG US. “If that’s the case, ACOs may not be the best model.”

Another possible downside to ACOs is “if the ACO becomes the single provider for all those physicians,” Dr. Berg adds, “are we going to have different groups of providers that excel at what they’re doing, such as hip replacements, knee replacements, diabetic care...or will they focus on total population care?”

Patient Accountability

Even as the debate continues about how to hold physicians and hospitals accountable for quality care, more attention needs to be paid to patient accountability, argues Jed Batchelder, an independent healthcare IT advisor. “There’s definitely been lots of talk of how physicians are being held more accountable, but, at the same time, it’s really a two-way street,” Batchelder says. To illustrate his point, Batchelder cited a report from The Robert Wood Johnson Foundation which claimed that only 20 percent of a patient’s health is impacted by clinical care. The rest is determined by behavior (30 percent), socio-economic factors (40 percent), and physical environment (10 percent).

“That was a pretty eye-opening statistic,” Batchelder remarks. “It really got me thinking about the difference between physician accountability and patient accountability and that both can be improved dramatically.”

Patient engagement tools and metrics can help patients take a more active role in their care. For example, some hospitals and physicians are urging patients to review information about their appointments and health-related information on online portals. Such tools are “still very much in early stages, but that’s a great way to start by having the patients see the health information themselves,” Batchelder notes.

And despite the challenges, the healthcare industry is on the right path, remarks Dr. Anderson. “As with any culture change we probably won’t see the results for quite a while,” he notes. “Things in culture have a tendency to change over years rather than over weeks, but I do find that there’s a tremendous amount of interest in hospitals and health systems looking for improvements.”

The Top Healthcare Tech Trends to Watch in 2015

Healthcare turns up the heat on digital channels and more.

The healthcare landscape is undergoing massive changes as payers, providers, and other health organizations respond to pressures to provide more agile and cost-effective care. As health organizations reassess their business models, wearable devices, cloud computing, and predictive analytics are just some of the innovations that are helping healthcare professionals offer faster and more efficient patient care.

As we enter 2015, here are some of the biggest innovations in healthcare technology with far-reaching impacts:

Nearly one-third of employers said they will only offer high-deductible plans in 2015, up from 22 percent in 2014 and 10 percent in 2010, according to a study by the National Business Group on Health (NBGH). As consumers shoulder a growing portion of health expenses, the pressure for payers, providers, and other healthcare organizations to become consumer-centric continues to rise.

There are numerous opportunities for insurers and other healthcare organizations to help consumers make informed decisions as they shop for health plans, observes Munzoor Shaikh, a senior manager in consulting firm West Monroe Partners' healthcare practice. "We [consumers] don't know how to select the right amount of healthcare services at the right time," he says. "It's not that we don't have access, we just aren't educated, and so there's a whole slew of companies that are coming out that are focused on educating people on how to make wiser healthcare decisions."

The healthcare digital landscape in particular, will continue to mature as insurers and providers build consumer-centric journeys that are modeled after best practices from retail industries. "Whether it's online enrollment, healthcare personal financial tools, or improved engagement and care coordination, retail customer journeys will begin moving beyond experimentation to digital delivery products and services for mass adoption," notes Forrester Research analyst Peter Mueller in his report, "Predictions 2015: Healthcare Retail Goes Live."

Cigna is one such insurer that has rolled out comprehensive tools like the MyCigna app that lets users review deductibles, claims, and directories, among other functions. In January the insurer will launch a new digital health coaching program called Cigna Health Matters that offers a suite of mobile tools, social media engagement and incentives to help its members meet their health goals.

"The healthcare space is complex and customers are looking for ways to make it simpler and connect with Cigna at their convenience," notes Cigna Vice President of Product Development Eric Herbek. "We're focused on creating a retail-like customer experience to make it easier for our members, which you see in the look and feel of our tools like Cigna Health Matters."

The Health Matters program begins with a survey to assess the member's health based on information like weight, cholesterol level, blood pressure, behavior, and family history. The Health Matters program uses the survey to create a score on an ascending scale of 0 to 100 that evolves based on your health situation. As you complete exercises, your score will rise and you receive rewards like deposits into a health savings account or a gift card (if your employer offers them). During tests, the health survey's completion rate jumped from about 30 percent to 90 percent when it was presented as a game, according to Cigna.

Cigna also added its GoYou Marketplace, a curated health, wellness and fitness app store, to the Health Matters program and renamed it Apps & Activities. "There are already more than 100,000 health apps on Apple's App Store and we've whittled it to about 30 of the best health related apps so our customers know the brands they're choosing are trusted and are clinically relevant," Herbek says. "We try to follow consumer trends so some of the most popular apps like Fitbit and Jawbone are in our marketplace because we also want people to get credit for devices or apps that they're already using."



"We [consumers] don't know how to select the right amount of healthcare services at the right time. "It's not that we don't have access, we just aren't educated, and so there's a whole slew of companies that are coming out that are focused on educating people on how to make wiser healthcare decisions."

—Munzoor Shaikh, a senior manager in consulting firm West Monroe Partners' healthcare practice.

Mobile Health

Health solutions need to match consumer behaviors and given the rise in mobile usage, we can expect to see more advances in mobile-focused health apps, notes Paul Slavin, executive vice president and chief operational officer for the media company Everyday Health. “The tools and the content are there, we just need to get it into the hands of more people,” he says.

As an example, Slavin points to a partnership between Everyday Health and the University of Notre Dame to collaborate on research aimed at helping women have healthier pregnancies and babies. The research is focused on women with a high incidence of low birth weights, premature births, and infant mortality to provide them with timely digital information and tools.

Everyday Health and Notre Dame combined their data and technology assets to provide personalized digital content and tools as a supplemental intervention to improve prenatal care of mothers. Women at various stages of pregnancy are linked through an application on their smart phones that provides them with specific information relating to each woman’s pregnancy and lifestyle. As they proceed through the program, the participants receive personalized content that encourages healthy choices and frequent prenatal care visits.

“We believe providing moms with direct access to personalized information that they can get at any time can ultimately help them have healthier babies,” Slavin says. “And if the data supports that, we can build tools for other situations, like outpatients, by providing personalized information that can save them time and money.”

Advances in Wearable Technology

Fitness tracking apps and other types of wearable devices are still in the infancy stage, but they offer a growing number of ways to help providers administer better patient care and outcomes as technology advances. Surgeons, for example, have used Google Glass to stream their operations online, place medical images in their field of view, and consult with colleagues remotely as they operate.

“Yes, we all agree that Google Glass is not perfect, in fact, it is far from it, writes Dr. Rafael Grossmann, one of the first surgeons to use Google Glass in an operation, in a blog post. “[But] Glass has awakened the imagination and creativity of the technologic community, the industry and the geeks out there.”

Wearable devices generated more than \$1.6 billion in sales last year and are expected to reach \$5 billion by 2016, according to Gartner. Huge enterprises like Google, Apple, IBM, and Microsoft are also investing in wearable technology that collects biometric and other health data and leading to advances in telemedicine.

The “next frontier” in fitness trackers is the ability to provide data from the devices as a service to physicians and translate it into actionable information, notes Herbek. “On the horizon, I see that there’s going to be a movement in using wearable devices for tracking chronic illnesses,” he says. “For example, we have a pilot with a national employer for diabetes management using a remote wireless glucometer to assist people in learning how to track activities associated with diabetes.”

Dr. Henry Wei, senior medical director of clinical innovation at Aetna Innovation Labs, agrees that wearable devices are promising, but the devices need to be more widely used. “We’re seeing some great strides in wearables and telemedicine but we don’t want wearables to be a luxury good,” he notes. “Wearables like GoogleGlass and others have a lot of potential but we also have to look at the broad ecosystem in terms of what people already have, like smartphones.”

Looking ahead, Wei also hinted at more partnerships between consumer tech companies and healthcare organizations. As healthcare organizations adopt consumer-oriented approaches it is likely that they will team up with companies that already have the experience and technology for meeting consumer needs.

Last month, Samsung named Aetna, Cigna, and Cleveland Clinic as partners in the Samsung Digital Health Platform, which includes an SDK, API, algorithms, and analytics for building health-related apps. Other partners include Nike, Stanford University, and the University of California San Francisco Medical Center.

“I’d look for partnerships rather than competition to happen between some of these entities that you might not think about as being in the health realm but are making a strong push into this space,” Wei says. “We have more to gain by cooperating and coming up with novel partnerships than being competitors.”

Enhanced Contact Centers

The adoption of electronic medical records has had a seismic effect on the healthcare industry, but more work needs to be done in streamlining the many data points and records that hospitals, providers, and insurers have about a patient. Healthcare companies are increasingly looking to cloud-based solutions to help them manage their clinical, operational, and financial records.

Indeed, siloed contact centers can undermine customer journeys, suggests Forrester’s Mueller. “As retail healthcare models move to scale, standalone contact center capabilities will not be enough to preserve customer relationships,” he maintains. “Contact centers that are not digitally integrated with the rest of the organization will struggle to handle increased volume and to effectively resolve member issues.” Digitally integrated contact centers, according to Mueller, will need cloud-based business process management platforms, preference management, unified desktops, and co-browsing capabilities.

Last month, Carenet Healthcare Services, a provider of healthcare support services and care management programs, turned to cloud-based customer experience management (CEM) provider Kana Software to improve its customer service initiatives. Carenet agents interact with the members of commercial health plans, hospital systems, and employer groups. Using Kana’s CEM platform, Carenet agents will be able to provide more comprehensive answers and build stronger relationships with callers, says Carenet Healthcare Services Chief Operating Officer Vikie Spulak. Carenet chose Kana as its CRM provider to give agents “a 360-degree view of members across channels,” and provide that “omnichannel experience,” she adds.

“Let’s say a patient reached out and wanted information about the Ebola virus,” Spulak says. “One of our nurses can answer the patient’s question and if the client provided us with his or her CRM information, the nurse can also tell the caller that he or she is eligible for a free mammogram or a checkup because all that information is right in front of her.”

Balancing Act: How Population Health Impacts Individuals

Physicians and health experts weigh in on the Affordable Care Act's emphasis on population-based care.

Brands and marketers are masters at mass customization. Companies are increasingly adept at delivering personalized messages at scale via automated systems and other technology. In healthcare, the push for mass customization is far more complicated. As patients, we expect our doctors to provide individualized care but the debate continues on how to provide as many patients as possible with the most effective treatments and services.

Under the Affordable Care Act, physicians' and hospitals' payments are increasingly tied to quality standards in an effort to improve patient outcomes while reducing costs. But are the individual needs of patients being undermined by a focus on meeting population-based quality metrics?

"Contracts for medical care that incorporate 'pay for performance' direct physicians to meet strict metrics for testing and treatment," write Pamela Hartzband and Jerome Groopman, physicians on the faculty of Harvard Medical School, in an op-ed published in *The New York Times*. "These metrics are population-based and generic, and do not take into account the individual characteristics and preferences of the patient or differing expert opinions on optimal practice."

By rewarding physicians for meeting testing and treatment metrics, Hartzband and Groopman argue, there is a risk that doctors will focus on goals that are not necessarily in the patient's best interest. For example, doctors are "rewarded for keeping their patients' cholesterol and blood pressure below certain target levels. For some patients, this is good medicine, but for others the benefits may not outweigh the risks," they note. Hartzband and Groopman did not immediately respond to a request for comments at the time of publication.

Other doctors acknowledged the potential downside of a pay-for-performance model, but argued the benefits outweigh the disadvantages.

"Quality metrics is an extremely positive trend in healthcare, but no trend is perfect," notes Dr. Jonathan P. Weiner, professor of health policy and management at Johns Hopkins University. "As we have more monitoring, sometimes people have to jump through more hoops and sometimes they don't get the services as quickly as they should."

Under the fee-for-services model, patients may have had easier access to tests and services, Weiner adds, but it led to a wasteful system in which doctors often ordered unnecessary services. The advantage of a pay-for-performance model that uses population health metrics is "it tries to balance efficiency with access, although it's a delicate process," he says.

Additionally, there is a misconception that population health is a "one-size-fits all approach, when in fact, population health is really based on doing the right thing based upon evidence," says Dr. Harry Greenspun, director of the Center for Health Solutions at Deloitte. The more information providers and hospitals have about patient outcomes increases their ability to provide more accurate treatments and services. Weiner agrees. "If I have a choice between well-done quality metrics, or just the doctor's judgment, I'll take the well-done guidelines," he says. "But no guidelines are perfect, and a combination of well-done guidelines and the doctor's judgment is superior to a doctor's judgment by itself."

Implementing quality-based metrics was already occurring in healthcare before the ACA brought it to the forefront, notes Dr. Timothy Carey, an active clinician and director of the Cecil Sheps Center for Health Services Research in the University of North Carolina. But even as the ACA accelerates the move toward quality-based incentives, the impact has been minimal, he says.



"Quality metrics is an extremely positive trend in healthcare, but no trend is perfect."

—Dr. Jonathan P. Weiner,
professor of health
policy and manage-
ment at Johns Hopkins
University.

“In terms of patients who need specialized care in my own practice, I have not seen all that much difference yet,” Carey comments. “We’re seeing a somewhat greater need for pre-authorizations, but has it gotten in the way of patient care? Not that much.”

At the same time, formularies (lists of medications that are approved by insurance policies to be prescribed) are becoming “more restrictive as part of the negotiations between payers, pharmaceutical companies, and the delivery systems,” Carey adds. “Where we used to have three or four drug options, it’s often down to one or two and that leads to more time on the phone with the payer or pharmacy intermediary, which increases providers’ overhead.”

One example is the tug-of-war that is taking place over new hepatitis C drugs that come with hefty price tags. Gilead Sciences developed two hepatitis C drugs, Harvoni and Sovaldi, and priced them at \$95,500 and \$84,000, respectively. The drugmaker’s rival, AbbVie, then struck a deal with pharmacy benefit manager Express Scripts to offer its own hepatitis C treatment, Viekira Pak, at a slight discount to Express Scripts members. The catch is that Viekira is the only hepatitis C treatment that can be offered to Express Script members. Gilead Sciences reportedly struck a similar deal with CVS Health.

The hepatitis C drugs are “causing sticker shock to every payer,” Carey notes and forces him to “work out ways to negotiate with the payers so we can actually get the right drugs to the patients that need them most.”

But Carey is optimistic that drug costs will be manageable. “If we’re going to be a market-based economy, there are two sides to the market,” he notes “and we’re beginning to see consumers, both patients and healthcare systems, push back against high charges for some of these specialized treatments.”

Carey also disagrees with the argument that incentives to meet general quality metrics put the specialized needs of patients at risk. “Studies have shown that giving providers appropriate prompts and reminders benefits patients,” he says. “And reminders to check what proportion of my patients’ blood pressure and diabetes is under adequate control and who has had a colorectal screening are good reminders.”

Additionally, he acknowledges that physicians receive a bonus for meeting these requirements, but notes that it is a physician’s job to ensure that each patient receives the necessary care to ensure the best possible outcome. Ultimately, “many guidelines are just that—guides—and are not hard and fast rules,” says Carey. “And it’s not as if I’ve felt the hot breath of regulation breathing down my neck.”

Aggregating and analyzing more patient data through population health measurements is also important for generating insights that can be applied to subsets of patients by disease, gender, age or other categories, Carey adds. However, numerous challenges remain before providers can leverage insights from aggregated patient data. One problem is the uneven adoption of electronic health records (EHR). Even though the Centers for Medicare and Medicaid Services has offered nearly \$27 billion in EHR incentive payments, nearly two-thirds of doctors have complained of poor functionality and high costs in digitizing patient records, according to a survey conducted by marketing and research firm MPI Group and Medical Economics.

Balancing patient demands with appropriate care is another challenge, notes Greenspun. “The customer is always right in retail, but not necessarily in healthcare,” he says. “There’s a fine line between giving people what they want and helping them understand what the better choices are for them.” Greenspun points to cancer therapy as an example. Whereas one patient might prefer an aggressive procedure that treats the cancer, someone else might prioritize quality of life with less medical intervention. “It’s still a struggle to create a system that balances individual choices and effective treatments,” he says.

However, Greenspun is bullish that a paid-for-performance model and population health measurements will “open the door to innovation.” On the surface, “we’re dealing with population data, but...other industries have been successful at the mass customization of approaches and healthcare can learn a lot from these industries,” he says. “I think we’ll see some interesting things in healthcare in the coming years.”

What the Net Neutrality Debate Means to Healthcare

Healthcare providers and patients have a lot at stake in the fight for Internet access.

Electronic health records, mobile medical apps, and telemedicine—these innovations and others are transforming patient care by making it more accessible, affordable, and effective. But while digital health solutions are gaining traction, the debate about whether to charge users for faster Internet speeds could impede progress in the healthcare space. As the net neutrality debate rolls on, here's what's at stake for healthcare providers, patients, and vendors.

Network neutrality puts forth the idea that Internet Service Providers (ISPs) should not be allowed to degrade access to certain websites or services, or create a “fast lane” that allows content favored by the ISP to load more quickly than other content. But as Internet usage continues to grow, someone has to pay for the infrastructure required to provide the connectivity, say ISPs.

Companies arguing against net neutrality assert that ISPs or broadband providers will be able to provide a better Internet experience by negotiating deals with major content providers. Critics have pointed out that a tiered system could allow broadband providers to limit or block websites of companies that did not pay up. It's against this backdrop that net neutrality has turned into an explosive issue.

A tiered payment system for accessing the Internet would have a detrimental effect on independent practitioners, maintains Dr. Antonio Pizarro, MD, who runs a private practice in Shreveport, LA. Pizarro specializes in obstetrics and gynecology, as well as reconstructive surgery. “Both physicians who are part of powerful, large groups or health systems and I rely equally on Internet access to provide patient care,” he notes. “I should have equal ability to care for my patients as they do.”

If vendors that provide electronic health records for example, must negotiate deals with ISPs, that will ultimately harm business, Pizarro continues. “The online data of a potentially preferred system should not get better service than that of its competitors for reasons dictated by ISPs,” he says.

Additionally, patients increasingly access their medical records and lab reports online and physicians interact with patients through emails and video. Billing systems also rely on fast Internet access.

About 90 percent of his billing procedure relies on the Internet, according to Pizarro and sending a bill on a slow connection would disrupt his workflow.

Pizarro says he is in favor of net neutrality to “maintain a level playing field” with larger players in the health industry. Otherwise Pizarro says he will most likely be forced to join a health system, which he hopes to avoid. “I don't want the number of patients that I treat or the care that I provide dictated to me,” he says. “But independent practitioners are a dying breed and if my ability to provide meaningful care is disrupted, I won't be able to overcome that.”

Federal Communications Commission Chairman Tom Wheeler has been deliberating how to ensure an open Internet. The FCC could reclassify wired and wireless broadband connections as a Title II telecommunications service or common carrier, thereby allowing the agency to enact strong network neutrality regulations. This idea gained momentum in November, when President Obama urged the FCC to adopt the “strongest possible rules to protect net neutrality.”

But some organizations argue that doing so would subject content providers to a wide variety of rate, quality, and privacy regulations that inhibit innovation. “Imposing public utility regulations on the broadband market will create years of uncertainty, legal challenges, and lost innovation,” says Joel White, executive director of special interest group Health IT Now Coalition. “That will clearly distract us from what's really at stake—ensuring that broadband technology continues to enable new innovations in healthcare to enhance patient care, reduce disparities, and lower costs.”



“Both physicians who are part of powerful, large groups or health systems and I rely equally on Internet access to provide patient care. I should have equal ability to care for my patients as they do.”

—Dr. Antonio Pizarro, MD, who runs a private practice in Shreveport, LA.

In January, three healthcare-focused trade groups, Wireless-Life Sciences Alliance, mHealth Regulatory Coalition, and Health IT Now Coalition, sent a letter to the FCC asking it not to apply these regulations to mobile broadband services.

“Regulatory and economic factors dictate against the imposition of a one-size-fits-all Title II common carrier regime on competitive and diverse mobile broadband services,” the organizations write. “An arcane utility-style regulatory approach is inconsistent with and harmful to innovation in mobile health.”

For several decades, high-speed cellular Internet access has been largely exempt from regulations aimed at preventing ISPs from slowing down websites and applications in net neutrality rules. But in an op-ed that was published in *Wired* in early February, Wheeler writes that he is submitting to his colleagues, “the strongest open Internet protections ever proposed by the FCC.” The rules, which cover mobile broadband, are designed to “ban paid prioritization and the blocking and throttling of lawful content and services.” Other F.C.C. commissioners are reviewing Wheeler’s proposal which will be subject for a vote by the full commission on February 26.

Few healthcare organizations have taken an official stance on the issue of net neutrality, though. White says he is not aware of other healthcare organizations that have addressed the issue. And Pizarro says he was “puzzled” when he couldn’t find information about the American Medical Association’s (AMA) position on net neutrality. The AMA and the College of Healthcare Information Management Executives did not immediately respond to requests for comments.

Tech companies, however, are examining net neutrality’s impact on their business. Stuart Bracken, chief executive officer and co-founder of Bioscape Digital, is tracking the development of the net neutrality debate. Headquartered in Atlanta, GA., Bioscape Digital provides a tablet-based platform that allows health systems to capture patient data and deliver targeted information and transaction information to patients.

Bioscape’s contract with customers includes service level agreements that mandate the speed and quality at which the company delivers its platform. Changing the Internet’s regulation structure could “adversely affect our ability to deliver our platform, though only to a small degree,” Bracken maintains. The platform’s core content comes pre-installed on the device, so the negative impact would mainly be felt in the company’s ability to quickly provide software updates.

Relying on offline content is not an ideal business and Bracken is hopeful that a competitor will develop a solution that provides unfettered access to the Internet. “My personal belief is the free market results in the most consistent, best delivery of technologies,” he says. “But we do have contingencies in place to ensure we are able to deliver the best service possible to our customers.”

Rob Dhoble, the chief executive officer of Adherent Health, which offers mobile app-based services like medication management and mobile health diaries, also hopes that an alternative solution will surface. A dangerous situation would be for carriers to propose “free Internet service and make money in gain-share agreements with its monopolistic franchise partners,” Dhoble maintains.

Such an approach may attract a price-conscious audience that’s willing to trade quality for a free service. “Free could be the Trojan horse,” Dhoble says. [But] “my hope and bet is that the free market will rule, Wi-Fi will encroach upon the wireless carriers’ stranglehold, [and] smart senators of both parties will step up and propose legislation that preserves...interests of many existing at-risk businesses.”

Healthcare's Cybersecurity Threat

The digitization of healthcare opens the door to better patient experiences—and security risks.

When health insurer Anthem Inc. announced last month that it was the target of a sophisticated cyber security attack, putting 80 million users at risk for potential data theft, the news exposed more than health records; it shined a spotlight on the industry's data vulnerabilities and the growing threat of cyberattacks.

From electronic medical records to wearable devices and telemedicine, the healthcare industry is undergoing a digital transformation. But these innovations also carry greater security risks if organizations lag in their ability to protect data wherever it's stored or used, for medical records contain valuable personal information such as social security numbers, birth dates, medical histories, and billing information, making them a gold mine for hackers.

In fact, about 43 percent of all data breaches reported in 2014 occurred in the healthcare industry, according to the Identity Theft Resource Center Breach Report. And according to a study by the Ponemon Institute, 90 percent of healthcare organizations reported at least one data breach between 2012 and 2014. More than one-third—38 percent—reported more than five.

Why healthcare data is being targeted

The rise in medical identity theft is a case of supply and demand, experts say. Compared to credit card numbers, medical identity theft is much more lucrative. Stolen credit card numbers can be quickly cancelled by banks, whereas medical fraud is more difficult to detect, notes Greg Porter, founder of Allegheny Digital, an information security consultancy.

"The spectrum of medical fraud-based opportunities are only limited by the criminal's creativity," Porter says. "And this is reflected in the black market where credit card numbers sell for pennies but patient medical records can go for thousands of dollars or more."

The Anthem breach where records containing Social Security numbers, names, employment information, birth dates, and more were hacked, and last year's attack at hospital operator Community Health Systems (CHS), which compromised about 4.5 million records, have been described by cybersecurity experts as sophisticated attacks.

In both case hackers looked for vulnerabilities such as the Heartbleed computer bug (associated with CHS) and they also used employee credentials to access networks and upload malware that was undetected, among other tactics. Healthcare organizations are hardly blameless though in a data breach.

There are numerous holes and employee practices that organizations must address, says Barbara Filkins, senior analyst and healthcare specialist at SANS Institute, a company that specializes in information security and cybersecurity training.

"The healthcare industry is still faced with a lot of legacy problems like making sure you're not using default passwords and that's before we even get to multiuser authentication," Filkins comments.

In a study sponsored by cybersecurity firm Norse, Filkins analyzed the cybersecurity threats of medical organizations including clearinghouses, health plans, and pharmaceutical companies. The study found the largest categories of risk were security devices themselves and connected devices that were categorized as part of the Internet-of-Things (IoT).

"Connected medical devices, applications, and software used by healthcare organizations providing everything from online health monitoring to radiology devices to video-oriented services are fast becoming targets of choice for nefarious hackers taking advantage of the IoT to carry out all manner of illicit transactions, data theft, and attacks," Filkins writes. "This is especially true because securing common devices, such as network-attached printers, faxes, and surveillance cameras, is often overlooked. The devices themselves are not thought of as being available attack surfaces by healthcare organizations that are focused on their more prominent information systems."



"The healthcare industry is still faced with a lot of legacy problems like making sure you're not using default passwords and that's before we even get to multiuser authentication."

—Barbara Filkins, senior analyst and healthcare specialist at SANS Institute

Balancing Security with Innovation

IT and security professionals working within healthcare organizations are increasingly tasked with providing data protection without impeding healthcare professionals' and patients' ability to access information on demand and other digital innovations.

"Clearly it's a challenge to strike a balance between sharing with our customers the information they need to help them improve their health, wellbeing, and sense of security and at the same time protect that information from the bad guys," comments Cigna Director of Public Relations Joe Mondy. Mondy declined to provide details about the health insurer's data protection efforts beyond a statement that the company released soon after the Anthem breach.

In the statement, Cigna says it "conducts regular assessments both in-house and with respected third party assessors. We track all identified medium and high risk vulnerabilities through to closure by the vulnerability management team. Cigna has also been CyberTrust certified for the last 12 years, a third party validation consisting of multiple tests, policy reviews, and physical data center audits. We have multiple system products that detect, log, and alert us to suspicious traffic. And Cigna computers have security software installed, and can only connect to our network when they're running the latest anti-virus software and definitions."

Cigna and other healthcare organizations must also adhere to regulations designed to safeguard patients' health information under the Health Insurance Portability and Accountability Act (HIPAA) but the federal rules should not be an end point.

"HIPAA compliance isn't something companies should be aspiring to—that's the bare minimum of security levels that companies should be offering," maintains Sam Masiello, chief information security officer at TeleTech. Indeed, experts are calling for stricter HIPAA regulations. Insurers, for example, are not required to encrypt members' data, an omission that was called out in the Anthem breach.

Mark Ford, life sciences and health care cyber risk services leader for Deloitte & Touche, agrees that satisfying HIPAA regulations is a good first step in protecting member data but it's not enough. Data protection strategies should be designed as a multi-tiered approach focused on "security, vigilance, and resilience," Ford says. "Companies need a thorough understanding of the security measures that are already in place and their risk tolerance in terms of the value of the data."

Healthcare leaders, Ford adds, should make data protection a priority and enable security professionals to identify and prevent new vulnerabilities. "Hackers are probing for vulnerabilities every day, which is why it's critical for companies to consistently monitor for changes and have a plan for quickly responding to an attack."

Making sure that proper security procedures are being followed is important, but companies should also attempt to think like hackers and identify potential holes in their systems, says Mike Garvin, senior manager of product management at Symantec's cybersecurity services division.

As an example, Garvin points to the company's internal Cyber War Games where employees are invited to participate in simulated environments, like a hospital, and "sabotage" the hospital's network to get a better understanding of the threats clients are facing. "Our intent was to educate our employees on security issues and spark ideas for additional solutions," Garvin explains. The training program has been so popular that the company is considering licensing it to customers.

Additionally, healthcare organizations should reduce the amount of sensitive data that they're collecting, notes Scott Walters, security director at iNetU, a cloud hosting company with clients in the healthcare, financial services, and retail industries. "A common rule in data security is only keep necessary data," Walters says. "Healthcare companies can reduce their risk of being hacked by not keeping so much valuable information like social security numbers."

Insurance companies like Aetna are in fact trying to reduce their data footprints. In a statement released about two weeks after the Anthem breach, Aetna outlined some of its data protection efforts, including removing social security numbers from reports and/or masking them.

Security experts agree though, that is impossible to completely eradicate security risks. While the digitization of healthcare is necessary for many reasons, it is also a double-edged sword. The takeaway from the recent data breaches is that healthcare organizations must prepare for an increase in cyber attacks and make data protection a priority.

United Healthcare Gives Behavioral Analytics a Seat at the Table

The payer uses analytics to improve the call experience, increase customer satisfaction by 8 percent, and capture \$47 million in savings.

It's no secret that health insurance representatives face numerous challenges in providing excellent customer experiences. Representatives often receive calls from members who are already irritated or concerned about a health condition, making it critical that agents provide efficient as well as compassionate services.

Health insurance companies also have access to reams of member and caller data that could help companies provide better services. The challenge is effectively leveraging the data and acting upon it. In an effort to differentiate its services, United Healthcare turned to behavioral analytics solutions provider Mattersight for help.

The caller experience is a crucial aspect of the health insurance business but it's fraught with challenges, notes Craig Howarth, senior director at Optum Consulting (a subsidiary of UnitedHealth Group). "Agents are dealing with callers who are going through a variety of emotions and we want to make sure members feel connected and comfortable with us when dealing with the complexity that is healthcare," Howarth says. "At the same time, agents need to be efficient, which can be difficult."

Prior to working at OptumInsight, Howarth led the implementation of Mattersight's Behavioral Analytics application at United Healthcare's contact centers for employer groups. In 2005, UHC began capturing and analyzing contact data to get insights into the performance style of agents and identify opportunities for improvement. Is an agent, for example, too rushed in speaking with members? After seeing positive results with a small test group of 20 agents, the application was rolled out to 3,000 agents nationwide in 2006.

Agents and their supervisors were aware that behavioral analytic technology was being used to analyze their performances, according to Howarth. "From a change management perspective, getting the agents involved to portray the message that this was a positive tool was crucial," Howarth says. "We gave several presentations and explained to supervisors why the technology was important."

Some supervisors were "a little apprehensive" about the data results, Howarth adds. While they were designed to improve the customer experience, such as by identifying low-performing agents, the results sometimes placed more pressure on supervisors to coach agents and resolve those issues. For example, if an agent continued to perform poorly, "I would wonder what was the supervisor doing about this?" Howarth explains. "The reports showed us that we were placing too much emphasis on meeting the metrics without making sure managers were also good coaches and this changed our hiring and training approach."

Within three years of using the behavioral analytics technology, United Healthcare saved \$47 million by reducing operational costs and improving the efficiency of agents in handling calls. The company also lifted customer satisfaction scores by about 8 percent. About 5,500 agents now use the technology.

Looking ahead, Howarth says the next goal is to merge data from UHC's various entities like billing and enrollment with benefits to provide a more consistent member experience. The company could also use its insights into state-specific call volumes and other analytics to identify states that are receiving a disproportionate number of calls and offer its assistance to the state-led health exchanges. "We can create a relationship with the states to say 'we're seeing this about the calls that are coming from your state. Is there anything we can do to alleviate some of those calls?'" Howarth says. "At the end of the day, it's all about using the data you have in a unique and smarter way."



"Agents are dealing with callers who are going through a variety of emotions and we want to make sure members feel connected and comfortable with us when dealing with the complexity that is healthcare. At the same time, agents need to be efficient, which can be difficult."

—Craig Howarth, senior director at Optum Consulting (a subsidiary of UnitedHealth Group).

Meet Healthcare's Newest Players

Companies like Google, Apple, and Amazon are poised to disrupt healthcare as we know it and create a rising tide of consumerism focused on new patient innovations.

Consumer-oriented technology and initiatives are transforming industries from retail to financial services and the same thing is happening across healthcare. The healthcare field has long struggled with inefficiencies that affect quality and access to care. However, new entrants ranging from consumer products businesses to startups and enterprise tech firms are joining the fray.

With millions of more consumers expected to enter the healthcare market over the coming years, numerous companies are eager to capture what Pricewaterhouse Coopers estimates is a \$2.8 trillion industry.

In fact, about two dozen companies in the Fortune 50 have recently begun targeting the healthcare sector, according to a PwC report, "Healthcare's New Entrants: Who will be the Industry's Amazon.com?" Those companies include retailers such as Walmart, Walgreens, and CVS/Caremark; and Ford, which is developing services for chronic condition management while driving.

And unsurprisingly, consumers are interested in more affordable and convenient care. Consumers want a healthcare experience that matches the convenience and transparency of their banking, retail, and other purchasing experiences. "People aren't necessarily comparing you to other health insurance companies; they're looking for that Amazon experience," notes Peter Atkins, director of market research and planning at health insurance provider Fallon Health.

New Players

Data giants like Google and Apple are two such companies that are filling gaps between consumer expectations and the healthcare field. Last year, Apple rolled out HealthKit, a new function on iOS 8 that centralizes health and fitness data from various apps and monitors. Apple also partnered with the Mayo Clinic and Epic Systems, a large supplier of electronic medical record systems, on an initiative that would allow smartphone users to send providers data about their heart rates, blood pressure, and other vital statistics.

And while Google Health, a project that was designed to let users connect medical records from different providers was shuttered in 2013, Google continues to build health-related products. In 2014, the company unveiled Google Fit, a platform that allows app developers to share data between other apps, such as other fitness trackers and monitors.

And in March this year, Google announced a partnership with Johnson & Johnson to develop new robotic tools and capabilities for surgeons that integrate medical device technology with robotic systems, imaging, and data analytics.

"The most salient thing on my radar is the new surgical robot being developed by Google partnering with Johnson & Johnson," says Dr. Antonio Pizarro, MD, a private practitioner who specializes in obstetrics, gynecology, and reconstructive surgery.

But while Google's partnership with Johnson & Johnson is compelling, healthcare faces "daunting challenges" to adopt consumer-oriented approaches, Pizarro adds. In healthcare, it is difficult "to replicate what consumers expect with regard to things like refunds, online care, discounts, and price competition."

And the growing expectation for customer-oriented patient care, Pizarro continues, "will manifest at a granular level: in the office. Soon enough, one or both of the following phenomena will typify the healthcare landscape: single-payer insurance and large system providers (Mayo, etc.) The dynamics and inner-workings of those two phenomena, good and bad, will determine the customer experience."

The growing shortage of physicians is another major challenge. In 2013, there were about 767,000 doctors practicing in the U.S., according to a report by the Association of American Medical Colleges (AAMC).



"People aren't necessarily comparing you to other health insurance companies; they're looking for that Amazon experience."

—Peter Atkins, director of market research and planning at health insurance provider Fallon Health.

But by 2025, the U.S. faces a shortage of as many as 90,000 physicians. “The facts are simple: Our population is aging. It is also growing. Demand for medical care is higher than ever—and in fact, medical schools have been expanding enrollment to meet this demand,” says the AAMC in a statement.

Even though medical school enrollment has increased, it is not keeping pace with the population’s needs. Companies from Walmart to startups recognize the gap as an area that’s ripe for disruption. Over the past year, Walmart has opened more than a dozen primary care clinics in Georgia, Texas, and South Carolina.

The clinics are located in Walmart Supercenters and offer services ranging from diagnosis and treatment of chronic and acute illnesses, as well as immunizations, health screenings, and physicals. “Our expanded scope of services enables us to be your primary medical provider,” the company claims on its website. While CVS and Walgreens offer similar services, Walmart is the only one marketing itself as a primary medical provider.

Entrepreneurs McKay Thomas and Jay Marcyes also saw an opportunity to connect consumers with physicians. Thomas and Marcyes built an app, First Opinion, which allows users to text health-related questions to doctors to determine if they need to seek medical help. Instead of waiting in a doctor’s office, members pay \$9 a month and receive a response within 5 minutes (or they can use the app for free and receive a response within 24 hours). The 2-year-old app recently passed more than 5,000 downloads and the company has raised \$8.6 million in funding.

The idea for the app stems from the growing expectation of on-demand services, explains Chief Operating Officer Dr. Vikram Bakhru, MD, who also has an MBA from the Wharton School of the University of Pennsylvania. “People are getting used to Uber’s fast services,” Bakhru notes. “And they expect the same from healthcare.”

From the payer’s side, First Opinion is not going to replace health insurers, but it reflects a move toward more direct relationships between consumers and providers. The physicians who staff the app go through a screening process to assess their skill level and bedside manner and they are paid as contractors. The majority of the physicians are based in India. More than 90 percent of the app’s users are in the U.S., though and the company is hoping to eventually hire more U.S.-based doctors, Bakhru says. First Opinion is headquartered in San Francisco.

Challenges Ahead

While retail clinics and healthcare startups are alleviating the demands for care, they can only do so much, points out Jed Batchelder, a healthcare IT advisor who consults on patient engagement and population health strategies. “One key challenge these new entrants will face is coordinating patient care in other settings, such as a surgery center or hospital,” Batchelder says. “The lack of care coordination is a challenge today and won’t automatically improve by the shifting of primary care to retail settings.”

Partnerships between consumer-oriented firms and healthcare organizations are not necessarily successful, either. Walgreens launched three accountable care organizations (ACOs) in 2013 through partnerships with physician groups and health systems. The purpose was to make more pharmacists available for services like personalizing a medication care plan.

“The way I like to describe it is as a physician-led plan where we’re an active partner,” Walgreens Senior Vice President Jeffrey Kang told The Washington Post in 2013. “They’re the quarterback who creates the treatment plan. We can be care extenders who help implement and execute the plan.”

But after launching the ACOs, Walgreens exited two of them at the end of 2014. Walgreens ended its partnerships with the Advocare Walgreens Well Network in New Jersey and the Texas-based Scott & White Healthcare Walgreens Well Network. Walgreens still has a partnership with The Diagnostic Clinic Walgreens Well Network in Illinois but did not immediately respond to a request for comments about its plans for maintaining the partnership.

For its part, Amazon has been quiet about whether it plans to pursue the healthcare space. There was

some buzz when Modern Healthcare reported Amazon officials met with FDA officials last summer but nothing has developed since then. It is not difficult though to imagine Amazon targeting the medical industry's sales and distribution models, such as by selling medical equipment to corporations as well as individuals.

But the most difficult consumer experience for the healthcare industry to match is cost and quality transparency, maintains Will Hinde, senior director in consulting firm West Monroe Partner's healthcare practice. "The billing environment is extremely complex consisting of myriad fee schedules, networks, specialties, and physician-facility relationships," Hinde notes. "Simplifying this to provide an individual with an accurate, meaningful estimate for a particular service (beyond a simple office visit) will take a significant amount of work." Additionally, "providing quality transparency is a sticking point as physicians are sensitive to their quality being 'rated,' and insurers tend to avoid any activity that would upset their providers."

Indeed, simplifying the payment structure between payers, providers, and third-party vendors is critical to ushering in innovation, agrees J.B. Silvers, a professor of healthcare finance at the Weatherhead School of Management at Case Western Reserve University.

"The tipping point will be payments," Silvers says. "Right now, doctors have to produce billable hours or they'll get penalized. But new entrants are looking for ways to simplify the system and once that happens, things like telemedicine are going to explode."

Taking the Pulse of Customer Service

Can healthcare move past industry restrictions and age-old practices to engage with customers in the new omnichannel environment?

Can healthcare move past industry restrictions and age-old practices to engage with customers in the new omnichannel environment?

Cutthroat competition and increased choice have inflated customers' expectations of good service. Today's customers won't think twice about stopping doing business with an organization that doesn't provide them the level of service they expect.

This empowerment means that customers also presume the best from their health providers and health insurance companies. While changing a health insurer or switching to another doctor isn't as easy as moving to a new mobile phone operator, providing a positive experience is especially important at a potentially stressful time.

Of high importance to patients is the ability to easily and efficiently interact with healthcare organizations over their chosen channels. According to research by the NCR Corporation, 70 percent of Americans are likely to choose a healthcare provider that reduces frustration by providing them the flexibility to interact easily online, over a mobile phone, or through kiosks. Further, 54 percent of respondents welcome the flexibility to book appointments online, and obtain test results or follow-ups securely on the Internet. The NCR research found that 43 percent of patients want to manage their personal health information online.

Similarly, in a longitudinal study of healthcare consumers, The 2012 Survey of U.S. Health Care Consumers: Five-Year Look Back, conducted by Deloitte, stresses that as healthcare consumerism grows, consumers want greater and better choices and are showing interest in online tools that provide information on potential cost of care and insurance, quality, and performance information on both physicians and hospitals. "Many use online resources for information about treatments and medical conditions and growing numbers (younger generations in particular) look for technology based solutions such as monitoring devices, apps, and information from social media," Deloitte notes.

These numbers shouldn't come as a surprise. As we highlighted earlier this year, customers are increasingly looking for ways to self-serve. "As consumers, we have become comfortable with self-service, and, in fact, now expect to choose when, where, and how we make transactions," notes Putting the Patient in Control: Employing Technology Solutions to Empower Patients, a study by NCR and the now defunct Center for Health Transformation. "Healthcare must now respond to the major shift taking place to what is known as e-health or wireless healthcare, which involves electronic health information and mobile channels," notes Steve Francis, GMC Software Technology's president and general manager for North America.

But according to Lou Carbone, founder and CEO at Experience Engineering, much of the healthcare industry is still stuck in the past and not delivering the experience and service that customers expect and need. "They don't stitch the experience together, which is a handover from the industrial age when everything was still siloed," he notes. Carbone explains that most of the frameworks in healthcare are built around old-world thinking and business leaders are losing sight of patients' needs. "Many organizations are focused on managing the processes rather than the experience."

Multichannel health service

While patients' expectations are on the increase, the healthcare industry is being plagued by a shortage of doctors, apart from the shortage of nursing staff that has been a problem for several years. According to the Association of American Medical Colleges, nationwide doctor shortages are expected to continue growing, reaching a 90,000 deficit by 2020. Further, advances in medicine mean that people are living



"[Healthcare] doesn't stitch the experience together, which is a handover from the industrial age when everything was still siloed,"

—Lou Carbone, founder and CEO at Experience Engineering

longer and expecting a better level of care. Therefore, the fewer doctors have to deal with an increasing number of patients.

To further complicate matters, as with other industries, customers want to access healthcare across multiple channels. As Mark Pitts, director for data science, solutions and strategy at UnitedHealth Group, notes, the explosion of different modes of communication is one of the challenges faced by the healthcare industry. "People have different means of communication and part of the challenge is making sure that the signal comes across through the noise," he says. In fact, with so many interactions across different channels, it is at times difficult for organizations to understand exactly the message that customers are trying to deliver. "It can be a challenge to find the needle in the haystack," Pitts says.

As Deloitte points out, "multichannel information strategies will be necessary to reach consumers in a marketplace that is fragmented with multiple opportunities, resources, and information streams for consumers to use to access information and facilitate decision-making about the healthcare they consume." Further, different age groups have different media preferences and utilization behavior, making it necessary for healthcare organizations to take these differences into account. "Emerging media formats, tools, and apps offer consumers—particularly younger generational groups—considerable opportunities to use online resources and social media for motivation and health goal tracking, wellness, information gathering, support, and encouragement," Deloitte argues. And, as Ken Epstein, vice president of global sales and marketing at C3/ContactChannels, points out, older generations are becoming more accustomed to new service channels like email and mobile and are expecting organizations to facilitate such interactions. "The adoption of technology based services will increase because baby boomers are more comfortable with them," Epstein says.

John Sung Kim, CEO of DoctorBase, notes that patients are expecting to connect with their physicians in the same way they communicate with other organizations, with mobile communications leading the way and patients wanting to interact with physicians even via text messages. Dr. Adrienne Lara, who heads the Celebrating Women Center, has experienced this move first hand. "Most of my patients are now buried in their phones," she says, adding that they've also become less tolerant about getting answers to their health questions. "They expect immediacy," she notes. Lara was receiving multiple calls, emails, and even faxes from patients who needed their questions answered. Two years ago Lara implemented DoctorBase's mobile messaging, which allows patients to communicate with Lara over their mobile phones through short messages and allowing them to attach photos. By allowing patients to communicate with her over their preferred channels, Lara is able to respond to their questions in the way patients want.

The Mayo Clinic has also recognized the importance of leveraging mobile technology and last year launched a comprehensive health app to provide patients and consumers access to health information and management tips from Mayo's website and online publications as well as clinical trials and even links to request an appointment at several locations.

However, experts argue that much of the healthcare sector is still lagging behind when it comes to investing in new customer service channels. "It's difficult not to realize that customers are using multiple channels," notes Jeanne Bliss, founder of Customer Bliss. While healthcare business leaders understand this need for multichannel service because they encounter it in their lives, they are still finding it difficult to provide a seamless multichannel service. One challenge, Bliss explains, is that data wasn't originally built to be connected across different channels, giving a disconnected view of customers.

Another challenge affecting healthcare are the restrictions on operating amidst tight regulations and many organizations are apprehensive to be completely transparent with customers because of them. But Bliss notes that it's still possible to abide by regulations while at the same time focusing on improving patients' lives. She refers to the Mayo Clinic's app as a shining example. "The companies that are trying to make simple interactions are being heralded," she notes. GMC's Francis highlights the importance of providing patients with the opportunity to interact with healthcare organizations over the channel of their choice "assuming it meets compliance."

Preempting patient needs

Forward-thinking healthcare providers and insurers don't just react. Instead, these companies are taking a pivotal role in understanding patients' needs and trying to preempt problems and stop them from happening. UnitedHealth Group's Pitts notes that data is integral to understand members' needs and deliver the service and experience that they need over the channel of their choice. Blue Cross Blue Shield of North Carolina is one such organization that's leveraging data to gain a 360-degree view of patients, allowing the insurer to help healthcare institutions provide the best care for its members. Daryl Wansink, Ph.D., the insurer's director for health economics, notes that the organization is using a number of predictive models to determine the risk of adverse events, helping hospitals reduce the number of readmissions and helping patients lead a more healthy life.

One challenge that healthcare providers face is lack of data about their patients. If, for example, a patient has been admitted to another hospital recently or has seen a primary care physician shortly before admission, hospitals don't always have access to this information. Because Blue Cross Blue Shield of North Carolina has a more holistic view of patients, the insurer is able to give additional information to treating hospitals. "We are trying to determine the likelihood of people needing hospitalization in order to better coordinate with their doctors," Wansink says. The near real-time readmission models alert the insurer when a high-risk patient is receiving treatment, allowing the insurer to contact a nurse or case manager who will work with hospital staff to make sure the patient receives the care she needs. This is not only a victory for patients who receive the treatment they need, but also for hospitals that can avoid readmissions.

These advanced companies are the ones that are really understanding their patients and then building all their systems surrounding their patients' needs. "Start with understanding the customers' lives and then translate that into the different channels," Bliss says.

A Prescription for Patient-Centric Healthcare

Stephen Bonner, president and CEO, of Cancer Treatment Centers of America, shares some of his organization's strategies for fostering innovation throughout CTCA's network of hospitals.

Great healthcare doesn't happen by accident; it must be designed around the concept of providing the best care possible for patients. Rising costs and constricting regulations often stymie progress. Today, successfully implementing a patient-centric approach requires leadership who not only have innovative visions for their organizations, but who also have the tools, processes, and the environment in which to implement them.

When centered on innovation, healthcare providers anywhere in the world can operate successfully, exceed financial goals, and deliver patient expectations. Cancer Treatment Centers of America is one healthcare organization that has implemented several enterprisewide innovative practices for listening to its customers, empowering employees, and rewarding them for meeting customers' needs.

Here, Stephen Bonner, president and CEO, shares some of the strategies his organizations uses for fostering innovation throughout CTCA's network of hospitals.

1to1 Media: Cancer Treatment Centers of America has an innovative patient-centric approach to customer experience design based on listening to customers' needs. How did this strategy come about and why is this unique in the healthcare industry?

Stephen Bonner: CTCA was founded by Richard J. Stephenson after his own mother died following an unhappy, disempowering experience in healthcare. No one in healthcare was listening to her needs. And if they were, they certainly weren't responding. To fill the void, Richard created CTCA and he wired our DNA to think, "only and always about the patient."

CTCA stands apart from the crowd because of the extensive, fundamental structures and processes that focus on patient and caregiver needs, compared to the conventional approach that pushes the patient out of the decision-making process. If patients are not free to choose, all of the normal forces that drive quality up and prices down are unable to discipline the healthcare market. No wonder those forces are absent in most of healthcare today.

1to1 Media: Your company's network of six hospitals has established a doctrine at the core of its operations called Patient Empowered Medicine. The philosophy encourages physicians, clinicians, and all CTCA stakeholders (i.e. employees) to empower patients to take an active role in their treatment. How do you continuously refine your processes and services to meet patients' needs, expectations, and preferences?

SB: We listen to our patients and constantly recalibrate ourselves to what they want from their healthcare experience. Our overarching guidance for CTCA is to pursue the "Mother Standard of Care," a simple objective to provide what you would want your own mother to have in every patient experience. We know that cancer is a dynamic disease and the needs of our patients are constantly changing. We are voracious in our desire to hear from the people we serve. We never start a board meeting without having a patient tell us how we are doing; we conduct focus groups weekly with patients and caregivers in every CTCA hospital; and we conduct surveys on the patient experience in every hospital every day as well. All patient feedback is reported at the board level, including the action that was taken by our team to respond. It is amazing how much we learn by remembering that we are not the customer, and only they can really shape our business and our future. Those processes allow us then to clarify what each patient needs and wants and to give them the information they need to shape their care and to empower them to make the key decisions about their care.



"If patients are not free to choose, all of the normal forces that drive quality up and prices down are unable to discipline the healthcare market. No wonder those forces are absent in most of healthcare today."

—**Stephen Bonner,**
president and CEO,
of Cancer Treatment
Centers of America

1to1 Media: In your organization, all stakeholders—even housekeeping—are empowered to spend time with patients to build relationships with them and to listen to them during the course of their visit to ensure that CTCA is meeting their needs. Why is listening such a critical element to ensuring the delivery of optimal customer experiences and in what ways do your employees act on that information?

SB: One of our favorite concepts is “Wisdom Medicine,” a holistic and embracing model that acknowledges that cancer is so much more than a tumor. Cancer affects the entire life of the patient and also of their families and friends. Wisdom Medicine begins with listening. Listen to what the patient is telling you, as no one knows better than the patient about what they desire. Then act. There are so many amazing examples of CTCA stakeholders (what we call our employees) going above and beyond for our patients. This can be as simple as always remembering the extra blanket a patient prefers when getting their chemotherapy, or as extravagant as one of our stakeholders taking a blind patient who loved baseball but had never been to a game before, to a Philadelphia Phillies game and giving him the verbal play-by-play.

We call each interaction with a patient a “moment of truth.” A moment to show them we don’t just talk the talk, but truly care about them and offer them hope.

1to1 Media: Listening may be one of the keys for Patient Empowered Care to work effectively, but listening is nothing without the ability to act on the knowledge. All stakeholders at CTCA are empowered to do so through training and through a culture that rewards innovation and encourages development. What’s your advice to companies who fail to deliver performance reviews, reward positive behavior, or foster innovation?

SB: Do it! Or you’ll be forced out of the game. We believe our success is completely driven by the talent of the individuals we employ. In fact, great talent is probably the single most limiting factor to continued growth, particularly in a field like healthcare. You must recognize good talent wants to be a part of a culture where they are free to innovate, grow, make an impact, and encourage and recognize their contributions. They want to make a difference; they are closest to the patient at each Moment of Truth, and they will work with each patient to make the best decision and to implement it. That adds to speed, quality, patient loyalty, and to better outcomes.[]

1to1 Media: Does your culture of innovation come from the top down and if so, why is that important to the success of building a patient-centric environment?

SB: At CTCA innovation comes from everywhere—bottom up, top down, inside out, and outside in. We recently launched an “Ideas Marketplace,” which is an online tool where any CTCA stakeholder can submit an idea they think will improve the patient experience directly or indirectly help those who help our patients. Submitted ideas are vetted by an innovation committee and resources are allocated to support stakeholders to act on their proposals.

We also have an annual strategy review meeting with our executives where we identify three to five key strategic objectives to pursue. These objectives are then communicated to the enterprise, equipped with cross-functional teams, timelines, and resources. One key to success in innovation is having the ability to know that innovation can come from anywhere, and we empower individuals to make it happen with a lot of authority and accountability. This will move the culture forward most effectively. It will also create a great place to work, and it will put cancer on the run, since the culture and the talent will be more dynamic than the disease.

1to1 Media: In addition to training, it’s also important to ensure that the employees are following up on the information collected and they’re aligned with corporate in delivering on the brand promise. In keeping with that, each of your hospitals hosts a 15-minute daily alignment meeting that reiterates through

various themes the mission and values of the organization. How does this help all stakeholders in CTCA gain inspiration and to provide continuous value for patients?

SB: This daily interaction promotes a transparent culture and builds relationships as we share success stories, updates, and take a few moments to focus ourselves on our mission to serve cancer patients. It lets us review Mission, Vision, and Values each day with every Stakeholder. Our team does amazing work every day, and it's important to take the time to recognize our wins and celebrate them...quickly.

In addition to cultural alignment to the mission, CTCA also believes that efficiency measures should be tied to every process. Stakeholders from every department are offered the opportunity to attend Six Sigma classes and earn a green belt or black belt. They're then encouraged to adopt or launch a project or process in CTCA that supports CTCA's mission.

1to1 Media: This is very innovative. Can you explain the genesis of that idea and how the program has helped spawn innovations within CTCA?

SB: We know there is enormous waste in healthcare, and at CTCA we recognized that very early on. There were huge opportunities to increase efficiencies in our own system, but to try and implement that in a top-down strategy would never work. We knew that our stakeholders could better identify the opportunities to decrease waste, and we wanted to empower them to take on these initiatives themselves. So we implemented a Center for Learning, the only of its kind we know in healthcare, and encourage all stakeholders to attend Lean Six Sigma courses. These facilitated classes teach how to identify, measure, and eliminate waste from our system.

Since implementation, more than 1,900 CTCA stakeholders have been trained. That's nearly one of every two stakeholders. In the last year alone, 282 Lean projects were completed, 152,948 hours of patient wait time was eliminated, and more than \$76 million of total revenue impact was realized. That is \$76 million we can reinvest in patient care and innovation, and an infinitely wiser use of our scarce resources.

1to1 Media: CTCA's Net Promoter Scores of 95 or above are proof that the innovation model works; a score of 80 is considered to be world class. What do you attribute to your world-class score?

SB: It's our people and our continuous tuning of the culture to support them, all in the spirit of the Mother Standard of Care. CTCA has a very particular talent acquisition process for all levels of the organization. In fact, when we opened our most recent facility in Georgia we screened more than 20,000 applications for only 180 positions. Further, when we open a new center at least one-third of the team has to come from existing CTCA facilities to infuse our patient-centric culture. Talent will always be a key to success in a customer service organization.

1to1 Media: How do you plan to evolve the customer-focused strategies that are in place and to continue to foster innovations at CTCA?

SB: The patients will guide us and tell us what they value in their healthcare experience, and we will evolve to their demands. In fact, we are currently sponsoring a project through the National Patient Advocate Foundation to conduct seminal consumer research to create an index of what patients truly value in their oncology experiences. The ultimate goal is for all oncology providers to populate this index with their data, and once they do, consumers will have the JD Power of oncology care where they can go to compare providers when selecting where to treat. Actually, we are looking for partners who are interested in this research to join us and encourage anyone interested to reach out to us or the NPAF for more information.

Cigna Personalizes Its Approach to Healthcare Customer Service

Cigna aims to make healthcare a fun, relevant part of each person's everyday life by helping every customer reach their full potential.healthcare industry.

Doctors may no longer make house calls, but for Cigna, reviving the personalized approach for today's consumer has boosted engagement and instilled the sort of trust that has been absent from the industry in recent years.

In its move to connect consumers with customer service, Cigna instituted a social media strategy that has enabled it to engage with customers in a way that reaches them on their terms and through their channel of choice. By providing customers with an array of contact channels, Cigna also reinforces transparency in its customer interactions, as customer service professionals actively engage across platforms, including Facebook, Twitter, LinkedIn, Pinterest, Foursquare, Tumblr, podcasts, and YouTube. This online customer service optimization strategy, managed by Cigna's Internet Customer Service (iCSA) team, supports questions about the MyCigna.com site, monitors and responds to postings on social media sites 24/7/365, addresses all service related postings, and engages in other areas of the organization when additional support is needed.

"Cigna is committed to helping our customers improve their health, well-being, and sense of security," Eric Galvin, senior director of service operations at Cigna. "We recognize that to be a truly customer-centric company, we need to be where our customers are. By engaging with our customers through social media, we have the opportunity to show them we are listening and demonstrate we want to build a relationship of trust. We want to understand each customer's unique needs so we can deliver solutions relevant to their personal health."

By upholding its mission to care for the individual, Cigna has been able to tap into the opinions, concerns, likes, and dislikes customers frequently share on the Internet to earn their trust in an effort to cultivate brand ambassadors that will embrace and recommend the service to others. Social media also offers Cigna the unique opportunity to reach people who may not be current customers by presenting prospective and current consumers with health-related information, facts, and tips through Cigna's GO YOU! Facebook page, Twitter feed, and YouTube account.

While making health a fun and relevant part of each person's everyday life represents Cigna's primary goal, the GO YOU! brand also honors the individual, recognizing that each customer has their own needs. Cigna strives to help customers be true to themselves and reach their full potential, going beyond benefits coverage and insurance claims by offering health coaches who work with customers to set up personal plans that support their individual health goals. For Cigna, the GO YOU! brand represents the company's overarching mission to earn trust and build long-term, fulfilling customer relationships that inspire, encourage, and celebrate each unique individual.

Since implementing this personalized social strategy, Cigna has seen a 20 percent increase in its transactional NPS, while its GO YOU! Facebook page added 4,396 new "likes" in November 2012 alone. Cigna also set and surpassed its goal to respond to 90 percent of customer-related issues within 30 minutes of posting, often redirecting customers to more personalized service settings, such as phone or direct email when appropriate, to protect confidentiality. Public relations handles inquiries relating to industry criticism, healthcare reforms, and questions about products, with an overall goal to respond to all posts within two hours. However, in November 2012, Cigna exceeded its business goal by responding to more than 99 percent of customer posts within 30 minutes, exhibiting the company's core mission through action.



"Cigna is committed to helping our customers improve their health, well-being, and sense of security. We recognize that to be a truly customer-centric company, we need to be where our customers are."

—Eric Galvin, senior director of service operations at Cigna.



About 1to1 Media

1to1® Media is THE online destination for customer strategy resources to help organizations optimize their customer experience and realize the greatest value from their customers. 1to1 Media provides resources including in-depth articles, infographics, blogs, webinars, and whitepapers that help senior executives to drive change and make customer-based initiatives the centerpiece of their strategies.

1to1 Media's Weekly Digest delivers best practices, trends, and articles that highlight customer-focused initiatives to drive bottom-line impact. 1to1 Media's annual awards programs, The Gartner & 1to1 Media CRM Excellence Awards and the 1to1 Media Customer Champions, highlight excellence among organizations and individuals that take a customer-centric approach to improving their business.

Backed by Peppers & Rogers Group, a global leader in customer strategy and relationship marketing, 1to1 Media combines thought leadership, field experience, and editorial expertise to deliver actionable content to its audience of more than 130,000 decision-makers

For more information, visit www.1to1media.com



About TeleTech

TeleTech is a leading global provider of customer experience, engagement and growth solutions. Founded in 1982, the Company helps its clients acquire, retain, and grow profitable customer relationships. Using customer-centric strategy, technology, processes, and operations, TeleTech partners with business leadership across marketing, sales, and customer care to design and deliver a simple, more human customer experience across every interaction channel. Servicing over 80 countries, TeleTech's 46,000 employees live by a set of customer focused values that guide relationships with clients, their customers, and each other. To learn more about how TeleTech is bringing humanity to the customer experience visit TeleTech.com.

For more information, visit www.teletech.com