


THE 2015
CEO/INNOVATORS
ROUNDTABLE

Highlights from the Tenth CEO/Innovators Roundtable: June 4 – 5, 2015

By David G. Anderson, PhD, Barbara Anderman, MA, and Larry Vernaglia, JD, MPH

This past June, leaders from health systems, outpatient services companies, health insurers, IT and equipment suppliers, health retailers, home care providers, pharmaceutical companies, and investors gathered in Chicago for the 10th CEO/Innovators Roundtable. While the Roundtable has grown in size since it began seven years ago, the spirit remains the same, with senior executives and thought-leaders engaging in lively discussions, provocative debates, and energetic question-and-answer sessions about how they are participating in the transformation of healthcare across the country.

This year's Roundtable was organized around a central theme—Consumerism and Retail Healthcare—reflecting the large and growing role consumers are playing in healthcare today. As one participant remarked, healthcare is at a tipping point: "Patients" are becoming "consumers" of healthcare services, just as airline "passengers" became "customers" in the 1970s when airlines were deregulated. Yesterday's patients were passive. Diagnostics and procedures were done to patients, who then waited for doctors or other providers to communicate their condition and map out a plan of action. Today's consumers, on the other hand, are active. They choose health insurance

based on premium contributions and plan designs, and, when given choices, they choose health services based on their perceptions of quality and service, relative to the price they'll pay. Consumers' growing role in the healthcare sector is accelerating the transformation toward value-based care.

Price can play a significant role for consumers choosing among alternative diagnostic and treatment options. A recent survey by PriceWaterhouseCoopers found that consumers are ready to make big changes in how they consume and purchase healthcare.¹ When asked if they were "open to trying new, non-traditional ways of seeking medical attention and treatment," 64 percent of respondents said yes, as long as the price is right, while only 18 percent said they would try new options regardless of the price. (Another 18 percent ruled out trying new approaches altogether.) Price transparency also matters. A study published last year in JAMA showed that patients who searched a pricing website for lower priced services reduced their claims costs by 18 percent for lab tests, 19 percent for advanced imaging, and one percent for clinical office visits, relative to patients who didn't search, and this effect held even if they didn't share in the costs of these services.²

¹ PWC. "Healthcare's new entrants: Who will be the industry's Amazon.com?" <http://www.pwc.com/us/en/health-industries/healthcare-new-entrants/assets/pwc-hri-new-entrant-chart-pack-v3.pdf>.

² C. Whalley, J. Schneider-Chafen, S Pinkard, G Kellerman, D. Bravata, R. Kocher & N. Sood, "Association Between Availability of Health Service Prices and Payments for These Services," *JAMA*, 312(16): pp. 1670-1676, 2014.

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Consumers' price sensitivity and openness to new care delivery vehicles poses a serious challenge to traditional providers. Nearly half of PWC's survey respondents said they would be willing to have a wound treated at a retail store or pharmacy (\$800 million in traditional revenue potentially at risk). More than a third of respondents said they would have an MRI at an outpatient facility (\$11.6 billion in revenue to hospitals potentially at risk). Half the respondents said they would use a smartphone to check vital signs, talk with a physician, and scan for an ear infection (tens of billions of dollars in outpatient clinic and physician office visits potentially at risk).

Most Roundtable participants thought the principal factor driving consumerism is increased cost-sharing by private and public payers, including higher health insurance contributions and high-deductible plan designs, such as private consumer-directed health plans ("CDHPs") and the "metals" plans offered on the new public health insurance exchanges. Other factors—growing transparency of health outcomes, emphasis on wellness—also play a role. In any case, as the healthcare sector evolves, consumerism is becoming a self-reinforcing phenomenon. Consumers are getting involved in more healthcare decisions than ever before, regardless of who is paying the bill, whether they want to or not.

For proactive consumers, a slate of well-funded companies is now emerging to serve them, including Fortune 500 companies, mature venture-backed organizations, and new start-ups, all aimed at disrupting the current healthcare marketplace. This includes companies like AT&T, Samsung, Google, Apple, Intel and Wal-Mart, all of which are trying to reach consumers with novel, convenient healthcare solutions. It also includes companies like Castlight Health, Zenefits, and Grand Rounds that are

**\$6.5
Billion**
Venture capital
invested in
health-focused
startups in the
U.S. last year.

providing enhanced information about cost and quality to consumers. The number of venture-backed health startups has never been higher. Last year, \$6.5 billion was invested in health startups, a 125 percent increase over 2013.³

Roundtable Panel Discussions

This year's CEO / Innovators Roundtable included five panels that took place over two days:

1. Consumer engagement and customer loyalty
2. Retail health delivery strategies
3. New consumerist purchasing models
4. Consumer-driven disruptive care delivery
5. Genomics and personalized medicine

Consumer Engagement and Customer Loyalty

- Lee Aase, Director, Mayo Clinic Center for Social Media
- Graham Atkinson, Former Chief Marketing Officer and Customer Experience Officer, Walgreens
- Rob Grant, Co-Founder, and Executive Vice President, Evariant, Inc.
- Angela Li, Marketing Director, Healthy Essentials, Johnson and Johnson Consumer, Inc.

Our panel discussion of consumer engagement initially focused on wellness behaviors and how to get consumers to change short-term behaviors to achieve long-term benefits. One participant described two marketing programs aimed at improving pre-natal care by helping consumers link their short-term actions with long-term effects. Another participant emphasized the power of giving people options, rather than preaching to them. Giving people choices is critical to getting them engaged, even if they don't always make good ones. A specialty drug manufacturer said that getting people to opt in to clinical trials engages them and increases their commitment, because they are making an affirmative choice to participate.

³ *Fortune*. Healthcare startups are booming. Here's what you need to succeed. February 9, 2015. <http://fortune.com/2015/02/19/healthcare-startups-succeed/>

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Several panelists described the concept of “earning the engagement” of consumers. One participant said their company needed to “earn the right to engage consumers” in order to be effective at improving medication adherence. Without a broad, holistic relationship with consumers, pill reminders and similar efforts to influence behavior are usually ignored.

Market Segmentation

All consumers value simplicity, convenience, and price transparency when purchasing services. Beyond these basics, however, different consumers can have vastly different preferences. To be successful in this highly differentiated world, health systems must design offerings that appeal to identifiable groups of consumers with similar preferences – i.e., different market segments.

One marketing executive described moving away from broad-based customer relationship management (“CRM”) systems that communicate the same messages to all customers toward segmented marketing and consumer engagement strategies. She described a new branding initiative that offers printable coupons, product information, and “tips & tools” to pregnant middle-class mothers. Another initiative provides health information via SMS text messages, and is targeted at lower income mothers with coverage through Medicaid and Health Insurance Exchanges.

A co-founder of a database company described how one of his health system clients uses the company’s database and tools to attract new patients. Five years ago, he said, the client had trouble documenting a return on investment from new marketing programs. By undertaking a targeted digital marketing campaign aimed at transplant patients and tracking the data, however, a year later the client was able to document 12 new transplant patients obtained through this program. Over the last few years, this client has initiated more than 100 digital campaigns and generated over \$200 million in new revenue to the health system.

Engagement Through Social Media

Healthcare has been late to the game in terms of social media and engagement, but this is changing. There was widespread agreement in this panel that digital and social media have a major role to play in creating “sticky” consumer engagement. The Mayo Clinic’s marketing budget is aimed almost entirely at digital marketing. Its web sites make extensive content available to their patients and anyone else who clicks in. Mayo is also actively engaged on social media, both in responding to consumer posts and comments, but also in proactive engagement in the form of videos and online interviews. In fact, Mayo feels a “moral imperative” to engage in social media: Its goal is to impact 200 million people directly or indirectly through digital media, mostly through Mayo Clinic Connect, the Clinic’s digital marketing and community-building web site.

Digital marketing is most effective when it is personal and intimate, which requires access to personal data. While HIPAA limits access to personal health information, there are many other sources of personal data that are not protected by HIPAA. One database company executive

emphasized the value of big consumer data sets. His company has profiles on 100 million people and use mobile apps to feed new information constantly into this database. The ability to experiment is another important benefit of digital marketing: Different messages can be tested rapidly to learn what works and what does not.

One panelist concluded by observing that health systems have many potentially important marketing assets, including:

- Powerful brands
- Deep clinical and functional expertise
- Physical and technology assets
- Access to capital
- Access to an enormous amount of data (de-identified or not)

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However, he admitted that most health systems haven't put these pieces together in ways that effectively engage their consumers.

Retail Health Delivery Strategies

- Terry Carroll, PhD, Chief Innovation Officer, Dartmouth-Hitchcock
- Scott Powder, Senior Vice President and Chief Strategy Officer, Advocate Healthcare
- Chris Stenzel, Vice President, Business Development and Innovation, Kaiser Permanente
- Andrew J. Sussman, MD, President, MinuteClinic; Senior Vice President and Associate Chief Medical Officer, CVS Health.

Nothing reflects the shift from "patient" to "consumer" better than the lowly flu shot. A decade ago, less than 7% of adults received flu shots at neighborhood pharmacies, big-box retailer, and grocery stores. During the last flu season, however, more than 22 percent of adults went to retail clinics for their flu shots (as well as a number of other vaccines). Retail outlets offer convenience in the form of convenient locations and extended hours, plus transparent and inexpensive pricing.

Retail healthcare is alien territory for most health systems. As one health system executive stated:

"We don't understand the consumer – how they came to us or why they came to us. We don't understand how price-sensitive they are, so we don't know how to price. We are product-centric, not customer-centric. We know how to build different kinds of settings, but in the past we never asked people what they wanted. We don't understand what motivates the consumer. We need a totally different business model."

Fortunately, several Roundtable panel members are national leaders in retail healthcare, and they provided useful perspectives about how they view and treat consumers. One described his retail clinic business as follows:

- 40-50% of clinic patients don't have regular doctors
- Half of all visits occur on nights or week-ends
- 25% of the business is non-acute
- Costs are 40-80% below traditional medical care costs

Standardization is a high priority for retail clinics. Providers use best practice care guidelines and protocols, and most chains are accredited by the Joint Commission or other accrediting bodies.

One of the concerns employers have about retail healthcare, according to one participant, is lack of integration with other providers. However, this situation may not last long. "Seamless integration" with other providers is a priority for several retail clinic chains. One company has installed EPIC across its system to exchange data with other EPIC-based providers. Clinic practitioners in this chain have established lists of primary care physicians—mostly highly capable patient-centered medical homes—where they refer patients. (They don't refer to specialists.)

One health system executive said his system considers a retail clinic chain as part of its pluralistic provider network. System physicians serve as Medical Directors of local retail clinics, and they share data with clinics through their EHRs. In fact, 40% of the retail clinic patients in one large region have electronic health records at the health system. In a fragmented healthcare world, this is a high level of integration across a broad geography.

Re-Engineering Primary Care

The growth of retail healthcare has important implications for primary care. One health system executive said he believes 70% of his system's primary care business could be replaced by retail clinics. He described a patient he knew who moved to a new community, tried to find a PCP, and was told he had to wait six weeks for an appointment. Rather than wait, he visited an urgent care center down the street and described his experience as follows:

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“Instead of waiting six weeks, I got in immediately. There was plenty of parking. I paid \$70 instead of \$150. They took care of my acute issue. I got a list of referral doctors I can pick from instead of being referred to my doctor’s best buddies. I’m done with your traditional primary care.”

The growing shortage of PCPs across the country is likely to accelerate this shift from primary to retail care. According to one participant, large employers also believe primary care needs radical re-engineering. One health system executive compared traditional primary care to Sears stores – “caught in the middle” of a changing marketplace.

Digital technology is beginning to have major effects on how primary care services are delivered. One large integrated health system is embracing technology and digital healthcare with its members: Its online consumer portal allows patients to schedule in-person visits, e-visits, and phone visits with doctors. (“We can even schedule a time for a doctor to call you.”) Video appointments with physicians and nurse practitioners are also becoming popular.

One threat posed by consumerism and retail healthcare, of course, is substantially lower prices. One participant said he believes the cost of home monitoring and other consumer-based services will come down by $\frac{2}{3}$. A retail healthcare executive said his company believes the price point for pure digital interactions is \$0. As he put it, “We expect to monetize these tools through increased customer loyalty.” This disruptive vision may not be very attractive to health systems delivering traditional health services with high fixed costs.

New Consumerist Purchasing Models

- Sachin Jain, MD, Chief Medical Officer, CareMore Health System/Anthem
- David Lansky, PhD, President and Chief Executive Officer, Pacific Business Group on Health
- Jarod Moss, Chief Strategy Officer, United Surgical Partners International, Inc.

- Ian Steinberg, Strategy & Transformation Leaders, Health & Well Being, IBM

One panelist launched this discussion by summarizing what large employers think about healthcare providers and healthcare costs:

- Most employers accept the National Academies’ Institute of Medicine estimate that 30 percent of healthcare spending is wasted on unnecessary procedures and excessive administrative costs.⁴
- Employers don’t think health plans can solve the cost problem on their own, and they don’t believe providers are working hard enough on the problem.
- Employers believe that promoting wellness is the right thing to do, even if it doesn’t clearly reduce costs or generate an ROI.

Most important, while employers believe costs can come down, they don’t believe in one “magic bullet.” In particular, most don’t see cost-sharing with consumers alone as the solution to the healthcare cost problem. Only 20-25% of large employers are in the “full consumerist” camp, relying entirely on private exchanges, reference pricing, price transparency, and other consumer-directed tools to control healthcare costs. Serious cost reduction will require a variety of new approaches, including:

- Integrated efforts by payers and providers
- New benefit designs
- Informed consumer choice
- Disruptive technologies

A health plan executive regretted the lack of institutional structures to support real consumerism. Echoing others’ emphasis on market segmentation, he said that monolithic views of patients often gloss over significant differences in consumer preferences and behavior. He also noted that many people don’t want to become “empowered.” Growing deductibles and co-pays are forcing them to make more choices, but they don’t necessarily like it. An executive from a large corporation agreed that many healthcare consumers

⁴ Institute of Medicine. Press release: Transformation of Health System Needed to Improve Care and Reduce Costs. <http://iom.nationalacademies.org/Reports/2012/Best-Care-at-Lower-Cost-The-Path-to-Continuously-Learning-Health-Care-in-America/Press-Release.aspx>

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don't think of themselves as consumers, and, as a result, don't make good choices, whether they relate to lifestyle decisions, choice of doctors, or choice of a new piece of durable medical equipment. His conclusion: People need extensive navigation and coaching to turn them into better healthcare consumers. Interestingly, people will often share personal information more readily with a computer than with another human being, he thinks artificial intelligence systems may hold promise as future digital coaches.

Several participants commented on the movement to arm consumers with better data to make decisions. By and large, the opinion of most participants is that the quality and utility of these data is still poor. As he said:

“We have lots of quality data. The problem is making it useful for consumers. We're trying to shift payments to 'value' without agreement on what value we're going to reward.”

To address this problem, one company is developing tools for consumers to use in evaluating provider performance. At the same time, it is also assessing how alternative payment models (including bundled payments) affect provider behavior. Another participant agreed that we don't use the data we have effectively, calling for a “revolution” in how we use data. A third participant wondered whether health systems shouldn't hire “data czars” to improve the way they use data.

An executive from an outpatient service provider described how his company was working with local providers to shift patients away from high-cost settings. (In some markets, this strategy is called “location management.”) While the company hasn't reached out to consumers yet, this will change if (when?) health plans begin passing through savings to employees and dependents and giving them direct incentives to make cost-conscious choices.

One participant asked an obvious question: Is it a mistake for the industry to focus on active, engaged, tech-wise, consumer-savvy individuals who are not the

big drivers of costs? Some argued that taking lessons from this active group and applying them to the rest of the population creates the greatest opportunity for change. Others, however, wondered how relevant they will be for retiring baby-boomers over the next decade.

Consumer-Driven Disruptive Care Delivery

- Jeff Kang, MD, Senior Vice President, Health and Wellness Solutions, Walgreens
- Kevin Petersen, President, AT&T Digital Life Services
- Jonathan Schaffer, MD, MBA, Managing Director, Distance Health, Cleveland Clinic

Retail health care is widely viewed as a highly disruptive force in the industry today. According to two panelists, Walgreen Company knows what it does well—commodity, high frequency transactions—and doesn't stray far from this. The company's value proposition is simplicity, ease, and convenience – an “in and out” consumer shopping experience. Walgreen stores refill prescriptions every two seconds, on average. Even the drugstore's partnership with Theranos, the fast-growing blood analyzer company, is based on Theranos' ability to conduct quick, frequent on-site lab tests that produce immediate results.

Walgreen's consumerist strategy includes a robust digital initiative, underpinned by a smartphone app that enables consumers to refill prescriptions in seconds, schedule an appointment at an in-store clinic, print photos for store pick-up, access coupons and other discounts, and earn loyalty points for future discounts. The company also believes it has the largest customer loyalty program in the nation.

Digital Empowerment for Care Givers

Retail clinics like Walgreen and CVS aren't the only vehicles consumers have for disrupting traditional healthcare services. One executive described how a suite of home monitoring services originally designed for the home security market and installed in 90 million homes, is now being utilized for home monitoring of health status to provide “living in place” solutions that help people stay in their homes instead of moving

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to assisted-living environments. This capability has evolved independent of traditional healthcare providers. Instead, companies in this space create networks of informal caregivers (family and friends), who can check in on an aging parent who lives alone. New technologies can enable an adult child, for example, to check a video feed to ensure a parent's home is safe, and also enable quick and easy video calls. If these informal caregivers detect a problem, they can quickly pick up the phone and call the parent, or, in more serious circumstances, alert doctors, or even emergency responders.

“Traditional Disruption”

Many providers are continuing to disrupt healthcare delivery with new models. One participant described a holistic, consumer-centric new protocol for hip replacement surgery developed by his health system that:

- Engages the family at the time of booking the surgery to educate them about pre-op and post-op care
- Encourages patients to stop smoking (Smokers have 6X the complication rate for hip replacement surgery.)
- Uses “preflight checklists” for patients and providers
- Sends patients home on day 1.8
- Calls and reminds them to exercise as soon as they return home
- Provides a home care visit the day after discharge
- Appoints a “GOYA” (Get Off Your Ass) caregiver, preferably an adult daughter, to encourage patients to ambulate

This system's latest innovation is morning video calls, which may be the strongest predictor yet of a successful outcome.

Another consumer-driven innovation is an on-line second opinion program developed by the Cleveland Clinic that enables consumers anywhere in the world to request a second opinion from system physicians on 1,200 different medical conditions. This service is sold to individuals, self-insured employers, and a few insurers. (Employers justify the service based on reducing absenteeism and “presenteeism,” the productivity

loss experienced when workers come to work sick.) Patients fill out an online application, which typically takes 30-60 minutes, and submit medical records and test results electronically, including MRIs and X-rays, if relevant. These data are reviewed by Clinic physicians, and a report is generated that includes a diagnosis, a review of treatment to date, and a recommendation for treatment. Results of this second opinion program have been “eye-opening”: 25% of the time, doctors modify the diagnosis the patient thought he or she had (12% of the time, the original diagnosis was simply wrong), and 63% of the time they recommend changes in the treatment regimen.

The Cleveland Clinic is innovating with other ways of bringing care closer to its consumers. To improve care for stroke patients, the system deployed a Mobile Stroke Unit to administer clot-busting drugs to stroke victims in Cuyahoga County. This \$1 million vehicle—called an “ER on wheels” by some—is outfitted with specialized staff, medications, and equipment designed for the express purpose of treating strokes. By reducing treatment time, the clinic is hoping to reduce \$60-80 million spent annually on stroke care.

Genomics and Personalized Medicine

- John Doulis, MD, Chief Information Officer, MedCare Investment Funds
- Manuel Glynias, President and CEO, GenomOncology
- Antoinette Konski, Partner and Co-Chair, Life Science Industry Team, Foley & Lardner LLP.

A Roundtable on consumerism would not be complete without addressing the ultimate in consumer-directed healthcare – personalized or “precision” medicine based on genomic and proteomic science, resulting in diagnoses and/or treatments that are customized to an individual's unique genome. Precision medicine is in some ways the opposite of population medicine. Population medicine develops standardized diagnoses and treatments based on “best practice” or “evidence-based medicine,” while precision medicine develops customized diagnoses and treatments based on each individual's unique “me-ome.” In practice, this

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distinction will undoubtedly blur, as science develops generalizable approaches to addressing common differences in individual genomes.

One knowledgeable expert believes that precision medicine will enable some treatments to migrate back to community settings. Doctor's offices supplemented with genomic testing equipment will be able to track the progress of a patient's tumor genome. ("Has it come back yet? Do we need another round of chemo now, or a change in your dose, or should we wait a year?") The ability to hone in on a patient's genome through a simple blood test is also likely to attract more people into clinical trials and should accelerate the pace of scientific advance.

Another panelist agreed that precision medicine will eventually turn medicine on its head but believes it will take time to get there. High frequency gene sequencing produces lots of data, and though we're beginning to understand some of it, there are still many holes. The general problem is finding consistent relationships between genetic markers and polymorphisms. Instead of strong correlations, scientists discover many "GWAS-PheWAS" anomalies (GWAS = genome wide association studies; PheWAS = phenome wide association studies). Some genes such as BRCA-1 are highly predictive, but many others aren't. As a result, many GWAS studies aren't easily replicable. In other words, our knowledge of gene functions is still very incomplete.

Because of this gap, the FDA is trying to discipline the flow of genetic data to doctors and consumers. This was the intent of the cease and desist order FDA imposed on the company "23andMe" in 2013. The FDA found that 23andMe's interpretation of genetic data qualified it as a "device" requiring FDA approval, and the company had not complied with FDA marketing requirements. The FDA was concerned that "patients relying on such tests may begin to self-manage their treatments through dose changes or even abandon certain therapies depending on the outcome of the assessment."⁵

Despite issues like these, precision medicine is already making dramatic improvements in clinical care and having major impacts on medical research. One participant described major breakthroughs in cancer, cardiac care, and pharmacogenetics – how a drug's interactions with an individual's genome can affect its function and outcome. This person also believes that precision medicine is improving the scientific basis of medicine by discovering how genetic, biological, and social factors interact to determine health or disease.

Another participant described several areas where precision medicine is having major impacts on cancer care. Cancer is a disease of mutations caused by the failure of regulatory genes. According to this expert, we know 150 genes today that cause cancer, and we have engineered therapies for about 50 of them. It's now generally accepted that virtually every disease and ailment has a genetic base, and as the human genome becomes better understood, decoded, and unlocked, the opportunity to tailor and customize medications to treat cancers, diabetes, heart disease, and more will be nothing short of miraculous.

The first dramatic example of what this future may look like is Gleevec, which was designed to inhibit an altered enzyme produced by a fused version of two genes found in chronic myelogenous leukemia (CME).⁶ Treatment with Gleevec costs \$135,000 a year. However, its efficacy is astounding. Before Gleevec, the survival rate for people diagnosed with CME was five months, whereas with Gleevec, the survival rate is the same as it would be without the disease, turning a deadly cancer into a manageable chronic condition, albeit at a significant cost.

⁵ FDA, Letter to Ann Wojcicki, CEO of 23andMe, Inc. of November 22, 2013. <http://www.fda.gov/ICECI/EnforcementActions/WarningLetters/2013/ucm376296.htm>

⁶ The Cancer Genome Atlas: <http://cancergenome.nih.gov/cancergenomics/impact>.

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Precision medicine is changing cancer research as well as cancer therapies. The National Cancer Institute recently launched a large clinical trial called “NCI-MATCH” that groups patients based on whether they contain genetic abnormalities for which a targeted drug exists (“actionable mutations”), and then assigns treatment based on the abnormality.⁷ This methodology replaces grouping patients based on cancer site – breast, colon, melanoma, etc. – and reflects a sea-change in traditional cancer research methodologies.

The potential for precision medicine goes far beyond cancer. One participant described a brand-new application of precision medicine for newborns who “fail to thrive” after birth. When researchers at Children’s National Medical Center in Washington, DC conducted DNA tests on these children, they identified a mutilated gene in 70-80% of them. Identification of this genetic defect is a first step in finding a treatment.

There is no question that this area of healthcare is poised for explosive growth. President Obama recently announced a Precision Medicine initiative that will allocate over \$200 million to develop the science of genomics and precision medicine.⁸ Now that the cost of DNA sequencers has come down to \$50,000, one participant predicted that many AMCs will begin competing with gene sequencing pioneers like Foundation Medicine to develop genomic breakthroughs. At the same time, participants identified some serious obstacles the industry will have to deal with, including:

- Coverage. Insurers haven’t jumped into DNA sequencing for one obvious reason: biologic drugs are very expensive. However, the President’s initiative will probably force CMS to begin covering

DNA sequencing for some types of patients (e.g., advanced lung cancer patients), which will likely break the logjam for private insurers to begin covering gene sequencing for some patients, as well.

- Lack of “data liquidity”. Collecting genomic data is not routine. Most EHRs, for example, have no fields for genetic information. In general, the data interoperability needed to get a person’s DNA data to his or her PCP is not there yet.
- Ethical Issues. Like all breakthroughs, precision medicine will generate its own perplexing ethical issues. At the moment, for example, scientists have declared an informal moratorium on manipulating DNA in fertilized human embryos, because of the potential to create “synthetic humans.” However, it is difficult to imagine this moratorium holding for long. Movies and books have been written about the possibilities, and the science is developing quickly. How will a “Tiger Mom or Dad” feel about manipulating their son’s or daughter’s chromosomes to give him or her a better chance to succeed in life?

Other difficult issues will also need to be dealt with, including access to genomic information. One participant suggested that DNA sequencing may need to be treated like a public health issue, where government has access to peoples’ gene sequences in order to protect the public from targeted genetic diseases. Any proposal like this, of course, would raise major privacy concerns. Another participant wondered whether we might need regulations to prevent insurers from considering genes “pre-existing conditions,” enabling them to exclude people from medical insurance or raise their rates. (The ACA may already prevent this.) It would indeed be ironic if the growth of precision medicine resulted in greater institutional or government control over people’s individual genomes.

⁷ NCI’s description of NCI-MATCH [Molecular Analysis for Therapy Choice] trial. <http://www.cancer.gov/about-cancer/treatment/clinical-trials/nci-supported/nci-match>.

⁸ \$130 million of these funds will be used by NIH to fund studies of how genes, environment, and lifestyle interact to influence health, \$70 million will go to the NCI for DNA-driven cancer research, and \$10 million will fund the FDA to study how genome tests should be regulated. A. Regalado, “U.S. to Develop DNA Study of One Million People,” MIT Technology Review, 1/30/15, <http://www.technologyreview.com/news/534591/us-to-develop-dna-study-of-one-million-people>.

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Conclusion

This year's CEO / Innovators Roundtable explored the elephant of consumerism from many sides, and panelists and participants poked and prodded to determine how its different limbs were working and gauge where the beast is headed. Almost certainly, consumer decision-making will become more important in all areas of healthcare. As the forces of digital technology, consumer behavior, molecular biology, and genomics evolve, health systems will need to modify their structures, systems, staff, and cultures to meet these new demands. Those who guess right and move quickly will thrive. And, while there are many blind alleys and pitfalls, moving too slowly into this future may result in worse outcomes than moving fast.

One truism in business is that the closer you are to your customer, the better your chances of success, and many of the observations participants made in this Roundtable reflect this perspective. We believe this is the most important takeaway from these panels for most health systems: Understanding your customers and solving their problems is likely to be a low risk, high return strategy, regardless of how the health sector transforms itself over the next few years.