OVERCOMING THE CHALLENGES THAT HINDER *INNOVATION*

PharmaVOICE 100 honorees discuss the challenges that the industry needs to overcome to support future innovation.

Between 2009 and 2014, the annual growth rate for the top 25 life-sciences companies slowed from the prior decade's double-digit average to only 1% annually, according to a recent report from KPMG. Big pharma's profitability has eroded, with operating income falling an average of 1% annually over the past five years. At the brand level, more than 70% of recent launches have underperformed analyst forecasts, many quite significantly.

"If we analyze the rate of introduction of novel medicine to the market for the past 50 years, we find that it is essentially unchanged," says Jean Pierre Wery, Ph.D., president of Crown Bioscience. "Despite many, much hyped, technological advances, we are not discovering drugs today faster or more efficiently than we did 50 years ago."

The re-engineering of the R&D model in large biopharma is still a work in progress, with increasing outsourcing of both the research and the development processes.

CHRIS PERKIN
Altasciences

Despite the recent struggles, most pharmaceutical companies have not yet embarked on broad transformations, particularly in their commercial organizations, KPMG leaders say. While pharmaceutical companies have made numerous strategic and operational adjustments — including narrowing areas of therapeutic focus, increasing reliance on external sources of innovation, outsourcing critical activities, consulting with health plans, and reducing the number of sales representatives — the business model transformations they have undertaken do not rival those in many other industries.

This needs to change, since a new business model will be critical for supporting the development of future innovation, industry leaders say.

Max Kanevsky, founder and CEO of Pinnacle 21, believes the pharmaceutical industry is currently in a transition period.

"The traditional methods of discovery and development that led to so many blockbusters in the 1980s and 1990s seem to have been exhausted as evident by the flat growth over the last decade," he says. "The industry has been trying to adjust, but it's been an uphill battle against a prevailing culture of risk aversion that stifles innovation. Instead of investing in new research methods and technologies, the pharmaceutical industry has focused on cutting costs through wholesale outsourcing and mergers."

Mr. Kanevsky says in the clinical development area the resistance to change is especially apparent in how slow the industry has been to adopt standards. He points out that the Clinical Data Interchange Standards Consortium (CDISC) was started in 1997 to develop industry standards for acquisition, exchange, and submission of research data.

"However, not until recently did CDISC finally started to gain traction, and only because both FDA and PMDA have mandated the use of standards for submission data starting in 2016," he says.

Mr. Kanevsky says successful implementation of the CDISC standards is critical.

"This success has been the most visible at FDA, which was able to leverage standardized data to enhance the efficiency of the review process as part of the JumpStart program," he says. "It's no coincidence that a number of recent drug approvals have been granted in record time. However, not all companies are seeing the benefits of standardization, but instead view it as another regulatory burden. One of my biggest challenges now is to change their perception. This

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ANDY PYFER
Fingerpaint

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Crown Bioscience

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WENDY WHITE
Dohmen Life Science Services

I'd love to see healthcare become much more personal and not the cookie-cutter approach we have now. Sometimes patients leave the doctor's office with more questions than when they went in.

MELISSA EASY
DrugDev

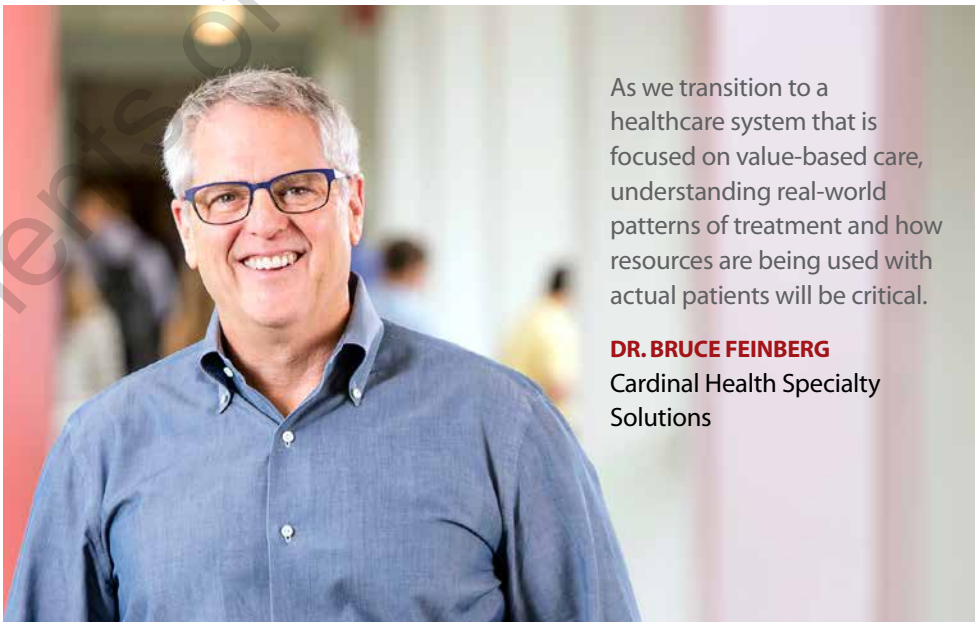
is why over the last year we have hosted multiple OpenCDISC Live events and webinars to provide education and raise awareness."

The JumpStart program is an effort by the FDA's Center for Drug Evaluation and Research (CDER). The program provides CDER's new drug review teams with clinical trial data analyses early in the review process when they assess quality, data composition, exploratory analyses, and tools for the analyses. It gives the reviewers a "jump start" on their review providing the information on the quality of the submission as well as analyses to support an effective and efficient evaluation of the medical product submission.

By leveraging the right technologies to make this happen, these analyses are completed and their findings are provided within two weeks of the receipt of a new submission. This gives reviewers ample time to clarify issues or make requests of the submitting organization before proceeding in the review process.

There is still a tribal mentality in life sciences that is not breaking fast enough, says Richie Etwaru, chief digital officer at IMS Health.

"As the pace of change continues to accelerate, and the concurrency of paradigms that are shifting increases, we need diversity of thought and expertise from those who have dealt with similar problems in other industries and geographies," he says. "The idea that 'pharma is a very small circle' has been broken, and more and more we are adding new talent and perspectives to the industry, but we are not doing it fast enough."



As we transition to a healthcare system that is focused on value-based care, understanding real-world patterns of treatment and how resources are being used with actual patients will be critical.

DR. BRUCE FEINBERG
Cardinal Health Specialty Solutions

The industry has moved from a design of answers to a design of evidence, Mr. Etwaru says.

"By this I mean the demand side of the industry — patients — has moved from having questions to having evidence through the democratization of health information," he says. "As a result, the supply side of the industry — pharma companies and providers — must move from providing content to offering insight. Insight requires context and precision, especially since the 'evidence' from the patient

Ensuring that patients have access to clinical trials and registries that may improve their outcomes means that we need to engage technology at a higher level, while ensuring that the process is managed well and that the data are of the highest quality.

SANDRA LOTTES
United BioSource Corp.

is often filled with misinformation. We have the data to drive both context and precision; but we are not being efficient in taking advantage of the various data sources."

The industry is going through two major transformations, says Boris Kushkuley, Ph.D., executive VP, at Intouch Solutions. First, the world of marketing has completely changed.

"Customers no longer rely on information that is spoon-fed to them," he says. "They can instantly access a wealth of credible information and peer reviews about product or treatment options. This requires us to abandon the old and proven reach-and-frequency model and shift to true customer service. Other industries, such as banking or insurance, have recognized this change and successfully adopted their communication and marketing efforts. Seamless omni-channel experience becomes the new norm."

Dr. Kushkuley says the second trend is that the world of healthcare continues to dramatically evolve. With the growth of organized customers and restricted market access, the industry needs to reconsider who the customers are and what the value proposition is.

"Adapting to these changes and reinventing ourselves will not be easy for pharmaceutical manufacturers or agencies," he says. "This will require strong leaders with a vision and courage to challenge the status quo."

Dr. Kushkuley says the complete transformation of the way our industry operates will require very different skillsets.

"Unfortunately most marketers in pharmaceutical companies and marketing agencies grew up mastering a few well-defined channels," he says. "The new reality will require a very dynamic, analytical, insight- and data-driven approach. Customer centricity and a service-based model achieved predominantly through nonpersonal channels will push the abilities of our marketers to the limit. The biggest challenge will be ensuring we have talent that can deliver on this. Rapid education coupled with significant staffing changes

Key Pharmaceutical Issues

1. MARKET RECONFIGURATION AND CONSOLIDATION

Expiring patents, shorter product life cycles, formulary coverage challenges, changing commercial practices, growth in new markets, and value-based reimbursements are all driving the need for organizations to reassess strategies, reconfigure business models, and explore potential mergers and acquisitions (M&A) opportunities.

2. PRICING PRESSURES

Companies will have to revisit the types of data they are generating from their clinical trials and competitive comparisons to ensure they are providing the evidence needed to demonstrate the types of value that align with each stakeholder's expectations. For example, collecting and analyzing data that show how a medical technology outperforms its competitors in increasing hospital revenue, improving quality of care, or reducing overall health care system costs can be extremely valuable.

3. HEALTH REFORM AND THE SHIFT TO VALUE

U.S. health reform is shining a spotlight on the shift from volume- to value-based care. In response, the life-sciences industry will increasingly need to use real-world evidence and emphasize a product's clinical, safety, and economic impact (e.g., comparative effectiveness) to better demonstrate and communicate drug and device prices with respect to their true value. That value should be compared to the next-best alternative inclusive of effectiveness rates, side effects, tolerability, and adjunct services such as programs to support better adherence.

4. R&D PRODUCTIVITY

A recent Deloitte and Thomson Reuters study of 12 large global life-sciences companies found that their expected return on late-stage pipeline projects has declined across four years, to 4.8% in 2013 from 10.5% in 2010. Along with that, the cost to develop and launch a new medicine has increased 18%, to $1.3 billion.

5. DISRUPTIVE TECHNOLOGIES

Life-sciences companies should look to other industries and nontraditional players for disruptive technologies that could be applied to healthcare and foster product innovation, market expansion, and revenue growth. The proliferation of digital technology has dramatically increased the amount of information available to patients, putting more power in their hands.

6. RISK, REGULATIONS, AND COMPLIANCE

U.S. life-sciences companies operating in today's global marketplace are at increasing risk of product safety issues, security and privacy breaches, IP disputes, whistleblower complaints, and corruption incidents, each of which may result in financial and reputational damage. Among important developments are calls for greater transparency in life-sciences companies' business and clinical operations — executive pay, financial information accuracy, manufacturing processes, transfers of value to healthcare practitioners and institutions as well as clinical trial quality.

Source: Deloitte

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Intouch Solutions

to marketing departments is the only way to stay relevant."

But a critical challenge facing the industry today is making sure it still supports innovation while keeping costs in line and prioritizing rationally what to pay attention to, says Wendy White, senior VP, Dohmen Life Science Services.

"Working in the rare disease space, where innovation is happening every day, we are constantly challenged with the high price of some of our therapies," she says. "Innovation happens at the margins and the investment we are making in the rare disease space is exactly what we need to think about as we move down the road toward precision medicine. Precision medicine was born in the rare disease space and what we learn from solving these complex medical issues for mostly children born with mutations helps drive scientific and behavioral innovation that will ultimately improve patient outcomes faster for everyone."

Development Challenges

Chris Perkin, CEO of Altasciences, says managing the cost of drug development in a climate where the consumer demands greater safety and reduced risk is a challenge all companies face.

"The re-engineering of the R&D model in large biopharma is still a work in progress, with increasing outsourcing of both the research and the development processes," Mr. Perkin says. "The drive to reduce the attrition rate in late-stage clinical evaluation has placed more emphasis on the design and conduct of both preclinical and early clinical proof-of-concept studies, often testing in patients much earlier than in the past. The full impact of all these changes has still not been seen, and the proof that the new model works will only be seen in a few years based on new drug approvals. Challenges are also facing the generic drugs industry, as the blockbuster drugs come off patent. And although there are still many drugs available for generics to develop they are increasingly more difficult or complex. The move toward combining different drugs into a single dose formulation or changing the route of administration to improve pharmacokinetics requires different development and clinical testing approaches."

He says one of the biggest concerns in early clinical testing business is ensuring participant safety as trials become more complex, and new drug classes are introduced. It is a continual balance of growth with safety and ensuring that the welfare of the thousands of voluntary participants.

Patrick Hughes, chief commercial officer, at CluePoints, says clinical trial protocols are still developed on the basis of what was done previously.

"The mantra seems to be, 'Nobody got fired for doing it this way last time, so let's start with that,'" he says. "The focus on initiatives such as risk-based monitoring (RBM) and data quality oversight gives us the opportunity to turn traditional working practices upside down. For example, instead of starting with 100% SDV and seeing how much we can shave off that inefficient, ineffective, and antiquated process, the ability exists right now to start with 0% SDV and only conduct SDV and on-site monitoring on those sites that are problematic in some way. It wouldn't take much to move the needle either, just a desire to do things better and engage and inspire people to make it happen. We can continue to hide behind how different our industry is compared with others in terms of safety and regulatory constraint but we are really no different to any other vertical that has quality and safety at its core."

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MAX KANEVSKY
Pinnacle 21

Mr. Hughes says monitoring is a great example and is a crucial part of site engagement and the relationships between sponsor, CRO, site, and patient that can make a huge difference to any trial.

"But, dictating that a significant proportion of a monitor or CRA's time is spent checking data at a site is worse than useless,"

he says. "Computers can do the job much better than any human being — even if they had enough time to do the job properly — and humans don't find the real issues in the data anyway. Let's embrace the challenges that face the industry and move faster to make the changes, not least of all because these straightforward concepts can save millions of R&D dollars, euros, and pounds that could be better invested in new compounds."

Sandra Lottes, VP, global clinical development and operations, United BioSource Corp. (UBC), says the competition to identify appropriate patients to participate in clinical programs is intensifying with the development pipeline of innovative drugs expanding.

"Ensuring that patients have access to clinical trials and registries that may improve their outcomes means that we need to engage technology at a higher level, while ensuring that the process is managed well and that the data are of the highest quality," she says.

Michael Pietrack, executive VP of TMAC Direct, says the challenges that third-party recruiting services face is that the biggest competitors aren't other search firms anymore.

"The very clients who hire us have become our competitors," he says. "The mindset that they can fill positions without the use of executive search assistance is the real competition in the market. Firms that don't provide a world-class service and consistently bring extra value in time will fall into the dreaded commodity zone."

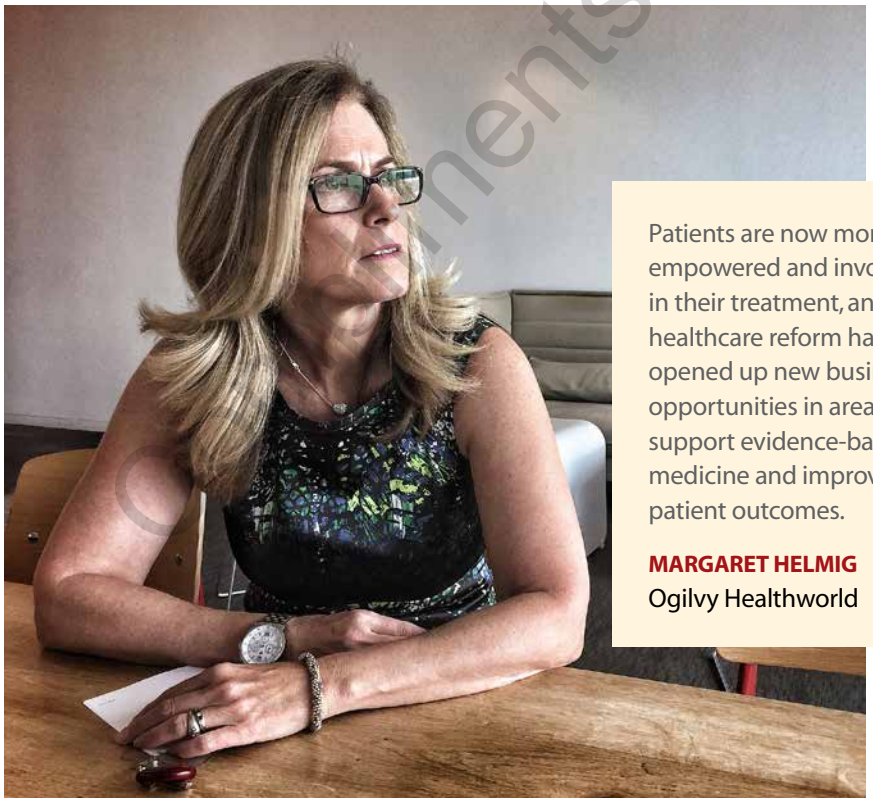
Sponsor companies may outsource to several different types of contract research organizations (CROs) for a single clinical trial, according to Cutting Edge Information. In fact, 75% of teams at top 10 and top 50 companies contract with patient recruitment organizations. Another 25% employ site management organizations (SMOs).

Sponsors may turn to one of these specialty CROs to conduct a particular part of the clinical trial while maintaining core operations in-house.

Other teams, either independently of or in conjunction with patient recruitment organizations (PROs), have increased their presence on social media. An estimated 33% of teams at surveyed pharmaceutical and device companies report using social media to recruit patients, according to Cutting Edge Information.

As a society, I hope that we will develop a better understanding that we also need to dedicate more resources to pediatric research because a very large portion of the treatments for children are off-label use.

DR. MARTINE DEHLINGER-KREMER
SynteractHCR



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MARGARET HELMIG
Ogilvy Healthworld

Payer Concerns

The concerns of costs and pricing of prescription drugs have made the news recently, especially as newer, more innovative therapies come to market now and in the future. Americans pay more for prescription drugs than consumers in any other country, according to a recent report from Deloitte. U.S. health plans are increasing their efforts to contain pharmaceutical costs, using a variety of methods, including formularies and tiered co-payment schemes that require consumers to pay more out-of-pocket for brand-name drugs than for generics.

Andrew Zupnick, Ph.D., senior director, oncology division at Novella Clinical, a Quintiles company, says there are some highly effective treatments such as immunotherapies that are costing more than $100,000 for a course of therapy.

"Combinations are showing even more promise, and we're now easily talking about heavily taxing our reimbursement infrastructure and/or bankrupting individual patients," he says. "How to address this while retaining an incentive for the industry to innovate will be a challenge."

Stella Blackburn, VP, global head of risk management, real world and late phase research, at Quintiles, says increasing attempts by payers of all hues to reduce costs must eventually lead to the industry deciding to develop fewer drugs.

"This is less of an issue at the moment in the United States, but in Europe there are already some drugs authorized that are simply not available in some countries because of cost," Ms. Blackburn says. "Regulators and the public have high expectations regarding

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CHERYL LUBBERT
Health Perspectives Group

safety so research continues after authorization, sometimes for the lifetime of the drug. At the same time there are continued pressures to reduce the price of medicines. At some stage there has to be a recognition that the industry needs to make a profit to continue developing the drugs we all want and need. This is particularly true for rare diseases."

According to Accenture, payers and governments will continue to seek greater savings from generics, since their drug spending as a proportion of total health spending is already creeping up.

But reimbursement is continuing to shift to those new products that differentiate most clearly on patient health and economic outcomes, as payers seek to further control drug spending growth.

Accenture executives believe high-performing pharmaceutical companies will bring a portfolio of flexibly priced products tailored to specific patient segment needs. They also carefully plan their development strategies to yield robust outcomes data clearly differentiating their health economic value in defined patient segments relative to the current standard of care. On top of this, they provide a range of patient services that help patients and healthcare professionals realize these outcomes in practice and at scale.

Deloitte researchers say U.S. health reform is shining a spotlight on the shift from volume- to value-based care. In response, the life-sciences industry will increasingly need to use real-world evidence and emphasize a product's clinical, safety, and economic impact, for example, comparative effectiveness, to better demonstrate and communicate drug and device prices with respect to their true value.

New survey research from EY finds that the majority of payers in the United States and Europe believe that drug adherence solutions and data that pharma companies possess are vital to lowering healthcare costs and improving outcomes. But lingering mistrust of the pharma industry is likely to stymie efforts by pharma companies to engage with payers in these areas without a fundamental change from current approaches.

EY researchers say payers are focused on cost containment and budgetary predictability over outcomes-based approaches.

While prescription drugs only account for about 10% of healthcare expenditures, payers see curbing rising drug costs as a more important business challenge than non-drug costs. Eighty-eight percent of payers strongly or somewhat agreed that drug prices are a major driver of healthcare cost increases, while only 42% of pharma respondents did the same.

Patient Access

Many PharmaVOICE 100 honorees say one of the biggest challenges is ensuring that all patients have access to the safe and effective treatments they need that are affordable.

Everyone should have access to healthcare, says Willie Muehlhausen, D.V.M., head of

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STELLA BLACKBURN
Quintiles

innovation at ICON.

"Technology can help to make this access possible in even the remotest areas of this world," he says. "Small changes and investments can make a huge difference. I hope that we all will make these changes happen and use our resources to bring a minimum level of healthcare to everyone in this world."

Mr. Perkin agrees, and he hopes healthcare will become more universal and independent of personal financial circumstances for access to the most effective drugs.

"This applies to the West, where the drive to reduce costs has led to two or three tiers of healthcare, as countries try to balance budgets," he says. "It also applies to the third-world countries where access to basic medical treatments is limited by politics and costs."

Melissa Easy, founder of DrugDev, says everyone in the world, and not just in developed countries, should have access to great doctors and healthcare and medicines.

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NICOLE HYLAND
Natrel

more personal and not the cookie-cutter approach we have now," she says. "Sometimes patients leave the doctor's office with more questions than when they went in."

But as Bruce Alan Feinberg, DO, VP, clinical affairs, chief medical officer, Cardinal Health Specialty Solutions, says, there is an absence of data to drive decision making and system fragmentation are among the leading issues.

"For example, we need more real-world patient data driving treatment decisions. Today, providers rely heavily on clinical trial data to guide their decisions, but the patients who participate in trials tend to be younger, healthier, and more committed to their treatment plans than patients in every day clinical practice," he says. "As we transition to a healthcare system that is focused on value-based care, understanding real-world patterns of treatment and how resources are being used with actual patients will be critical."

Michelle Keefe, president and CEO, of Publicis Touchpoint Solutions, says today, patients have to rely on what they are told by their physicians, payers, and healthcare institutions.

"We need much greater availability and transparency of information about patients' health options, outcomes, and cost," she says. "My hope for the future of healthcare is that we transform the system to allow patients to make truly informed decisions."

Martine Dehlinger-Kremer, Ph.D., global VP, medical and regulatory affairs, SynteractHCR, says her hope is that there will be fewer monetary constraints for the development of new drugs.

"As a society, I hope that we will develop a better understanding that we also need to dedicate more resources to pediatric research because a very large portion of the treatments for children are off-label use," she says.

Margaret Helmig, executive VP, global brand lead, at Ogilvy Healthworld, says patients are now more empowered and involved in their treatment, and healthcare reform has opened up new business opportunities in areas that support evidence-based medicine and improving patient outcomes.

"However, I am very concerned that financial responsibility has shifted to consumers who are ill prepared to understand fully what they are purchasing," she says. "I feel it is a cop out for payers who haven't been able to manage the cost of care on their own to shift costs to the most vulnerable population."

Deloitte researchers say patients are and will continue to demand more information and data to help them understand treatment options. Patients, they say, are becoming more like consumers

Immunotherapies and combination therapies are showing promise, and we're now easily talking about heavily taxing our reimbursement infrastructure and/or bankrupting individual patients; how to address this while retaining an incentive for the industry to innovate will be a challenge.

DR. ANDREW ZUPNICK
Novella Clinical,
a Quintiles company

Andy Pyfer, co-founder and managing partner at Fingerpaint, says one of the biggest challenges marketers face today is cutting through the clutter of information patients are bombarded with online.

"Patients are smarter and better informed than ever, but connecting with them in a meaningful way isn't always easy," he says. "Cutting through the clutter starts with empathy and results in offering something the customer sees as truly valuable, which more often than not isn't hard-hitting brand messaging about efficacy and safety. It's often disease- or treatment-related information and support, or providing the ability for patients to dialogue and learn from their peers.

He continues: "Investing in the customer in this way can sometimes be a challenge for marketers to sell into an organization or senior leadership because it's often viewed as the 'extra stuff' you can do rather than the essential

things you must do to provide a full brand experience that allows the customer to establish a meaningful relationship with the brand. The best brands add value to their patients' lives and create real brand relationships."

Those at Accenture say high-performing companies will demonstrate mastery of new channels geared toward the changing needs and behavior of healthcare professionals and patients. Technology-enabled healthcare professionals increasingly require on-demand information and support to accompany their patient interactions and prescribing decisions. Similarly, patients' appetite for information and support is almost insatiable — for example, disease information, access to online communities and support groups, financial assistance, and medication adherence advice.

Cheryl Lubbert, president and CEO of Health Perspectives Group, says she hopes health literacy increases.

"When we, as health consumers, are making informed choices not only will the system be healthier, but so will all of us," she says.

Health literacy is a key component of effective patient communication, and comprehension, reading level and clarity in content is a science in itself, says Nicole Hyland, chief marketing officer at Natrel.

"We have to effectively learn how to harness the power of patients and care partners to increase self-efficacy," she says. "We are slowly improving at where and when to reach these important audiences, but we still need to optimize content, particularly how we speak to them."

Shifting the conversation from company to customer is a start and helps move from a top-down model to a patient-centric model.

"We need to build trust, loyalty and two-way dialogue with health consumers and partner with them on what matters most, trial design, drug development, disease education and product support," Ms. Hyland says. "We need to change the way we view our relationships with patients and, ultimately, the way we create value and provide solutions."

Ms. Keefe says patient adherence is one of the greatest challenges faced by our industry today.

"As the Affordable Care Act (ACA) shifts the focus in healthcare from disease treatment to prevention and toward improving health outcomes, we will see even greater emphasis on patient adherence," she says. "Touchpoint's most recent 'What Physicians Want! Survey' shows that this issue is critically important to physicians as well. The physicians surveyed were interested in receiving help with educating and supporting their patients, as well as assisting patients with access to the medications that they need." PV

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