



2016 The Year Ahead

A series of major forces are creating the climate for dramatic and drastic change in the life-sciences industry.

For this special issue — the Year in Preview: 2016 — we identified 10 major trends that are expected to continue to disrupt the industry in new and different ways. There were a multitude of industry drivers from a multitude of industry sources to consider. We identified these 10 trends — that span from the clinic to commercialization and beyond — based on feedback during the year from you, our readers, and the predictions of the industry’s top analysts.

Overwhelmingly, the major driver that threads through each of the trends is centered around value. Value calculations based on outcomes, pricing, R&D, patient adherence, and so on will continue to drive the industry. The shift to value is critical for patient engagement, the supply chain, M&A, etc.

Accenture’s Brags Srinivasan, managing director, global life sciences technology, recently noted the change as the “We Economy,” and described five a trends that will impact the year to come: the Internet of me, outcome economy, platform (r)evolution, intelligent enterprise, and a workforce reimagined.

Analysts at PwC concur that the environment in which pharmaceutical and life-sciences companies operate is increasingly challenging, being driven by a more and more demanding healthcare agenda. The global need for innovative, cost-effective medicines contin-

ues to rise while regulators, payers, healthcare providers and patients are demanding greater value for money, proven effectiveness of products, and more transparency and access to information. To meet these demands companies are seeking ways to improve R&D productivity, increase the efficiency of their operations, rationalize spending on sales and marketing, and enhance financial performance.

10 Trends to Watch

1. The Brain



The National Institutes of Health announced its second wave of grants to support the goals of the BRAIN Initiative, bringing the NIH investment to \$85 million in fiscal year 2015. Sixty-seven new awards, totaling more than \$38 million, will go to 131 investigators working at 125 institutions in the United States and eight other countries. These awards expand NIH’s efforts to develop new tools and technologies to understand neural circuit function and capture a dynamic view of the brain in action. Projects include proposals to develop soft self-driving electrodes, ultrasound methods for measuring brain activity and the use of deep brain stimulation to treat traumatic brain injuries. Last

year NIH awarded \$46 million to BRAIN Initiative research.

2. 21st Century Cures Act



In a rare display of bipartisanship in politically polarized Washington, 344 members of the House of Representatives voted in July to pass the 21st Century Cures Act.

If passed, the Act promises to promote the development and hasten the approval of new drugs and devices, especially treatments for cancer and rare diseases. It puts the view of the patient in the center of drug discovery, development, and delivery, balanced by insights derived from data analytics, clinical science, and a more flexible approval process. Clinical research provisions minimize unnecessary and duplicative administrative requirements, and to promote the broad availability of clinical research data, with adequate security and privacy measures, to advance medical product innovation.

3. Precision Medicine



Almost 75% of the late-stage pipeline is either potentially associated with a known biomarker, a biomarker strategy being pursued

along with therapy development, or could benefit from a personalized medicine strategy. With a \$215 million investment in President Obama's 2016 budget, the Precision Medicine Initiative aims to develop a new model of patient-powered research that promises to accelerate biomedical discoveries and provide clinicians with new tools, knowledge, and therapies to select which treatments will work best for which patients.

4. Patient/Caregiver Empowerment



According to the World Health Organization, the United States spent more on healthcare per capita (\$8,608), and more on healthcare as a percentage of GDP (17.9%) than any other nation in 2011. In spite of all this investment, the Commonwealth Fund ranked the United States last in the quality of healthcare among similar countries. Patient empowerment is creating a shift in not only marketing but also clinical strategies for the industry.

As patients take more control of their healthcare decisions and needs, they are inadvertently forcing the healthcare environment around them to change. As physicians evolve their approach to focus more on meeting the demands of information from digital savvy patients, and the demand for quality patient outcomes from payers, the life-sciences industry has started to follow suit. In the years to come, a focus on customer experience and engagement will become an increasingly larger portion of the value proposition for products and brands. To provide this value, the industry will need to up its game in terms of relationships, communication, and developing strategies that address the needs and expectations of today's patients, as well as caregivers, providers, and payers.

5. Analytics-Driven Approaches to Marketing



Nearly one in four direct salesforce interactions have been replaced with digital interactions for targeting doctors, providers, payers,

and patients over the last two years. In 2016 and beyond, analytics-driven strategies will shape the industry's marketing and sales in a more efficient and cost-effective way. The accessibility of consumer data, combined with tools that can quickly mine that data, will pave the way for more targeted and effective tactics. From physician profiling to programmatic buying, big data is the future of pharmaceutical marketing.

6. Mobile Optimization



The number of global smartphone users will surpass 2 billion in the year 2016, and that number is projected to grow to 2.56 billion by 2018. Many of those users are millennials, a population that is absolutely never without its phone. These more than 2 billion always-on users are potential healthcare information seekers and patients, and to reach them the industry must be prepared for a future that keeps mobile front and center of its marketing and sales plans. And whether the end user is a patient or a physician, the information must be available in every screen format, be user-friendly, and fit easily into the flow of the user's decision-making process.

7. Smart Medical Technologies



A recent survey found that 22% of respondents used technology to access, store, and transmit health records in the last year, up from 13% in 2013. Use was higher for those with major chronic conditions: 32% compared with 19% in 2013. Progress in technology, coupled with medical and scientific advances, is expected to significantly change the healthcare environment. Technology companies, healthcare companies, medical device companies, and others are capitalizing on emerging technologies to provide novel healthcare solutions using mHealth, sensors, data analytics, bioinformatics, and advanced software.

The result will be a medical environment that takes advantage of "smart" technologies for improved healthcare decision-making and better patient outcomes.

8. Reputation Management



There is no denying that the pharmaceutical industry has a reputation problem. The industry continues to field questions about its pricing, off-label prescribing, and salesforce practices. Despite results from a 2015 survey in which 61% of respondents said they would be inclined to trust a pharmaceutical company, up from 53% in 2009, U.S. patient groups rate the multinational pharmaceutical industry's corporate reputation as second-lowest out of eight healthcare industries, higher only than for-profit health insurers.

9. Healthcare Disrupters



According to EY's Progressions 3.0 report, 92% of respondents believe new entrants will enter the Pharma 3.0 ecosystem, with e-health, mobile-health, and new medical technology firms being the most likely new entrants.

The traditional boundaries between industries and companies' areas of specialization continue to blur. Some of this is being driven by the rise of the Internet of Things and the Internet of Medical Things, as dozens of companies such as Apple, DuPont, General Electric, Google, IBM, and Samsung are shaking up the life-sciences industry.

10. New Health Economy



The revenue opportunity in the New Health Economy is greater than \$2.8 trillion. In one survey by PwC's Health Research Institute (HRI), consumers indicated they are willing to spend collectively up to \$13.6 billion a year of their own money on medical products such as health-related video games and ratings services. A couple of years ago, analysts at PwC noted that the healthcare industry has been slow to deliver customer-centered value. But the ground is shifting rapidly. The New Health Economy represents the most significant re-engineering of the U.S. health system since employers began covering workers in the 1930s. ^{PV}