

By Taren Grom

20 YEARS IN THE MAKING

SPECIAL SECTION

From day one our goal has been to convene a community of experts who would be committed to our mission: read, think, and participate. And you have. PharmaVOICE is proud to celebrate the contributions of thousands of thought leaders and subject matter experts who have lent their insights on a wide range of topics from molecule to market over the past 20 years. From molecule to market, an unofficial tagline, has been

our calling card for two decades and we remain committed to uncovering the trends, challenges, and opportunities across a multitude of sectors that move the life-sciences industry forward. To celebrate you... we asked dozens of folks who have supported our mission over the years to provide us with the biggest milestones that have impacted the industry in general or their area of expertise specifically in the past 20 years and to look into their personal crystal

balls to identify the game-changing trend that will have the biggest future impact.

Thanks to all of you who have joined us in our experiment to create a magazine by the people and for the people — the forum for the industry executive. If you are interested in having your milestone and game changer featured in a future issue of PharmaVOICE, please send your participatory response to: tgrom@pharmavoices.com. Think about it!

SUNNY WHITE
CEO and Founder,
Xavier Creative

Milestone: Digital Transformation

The biggest game changer of the past 20 years is the digital transformation that makes patient-centric healthcare possible. The patient embrace has been augmented

by digital breakthroughs that give patients more control over their health than ever before. From electronic health records, telehealth visits, and pharmacies prompting prescriptions refills, to mobile apps for at-home health monitoring, now there is no turning back for patients who have witnessed the digital transformation.

Game Changer: Next-Generation of Healthcare Innovation

Early diagnosis, targeted therapies, and new access delivery

models will usher in the next generation of healthcare innovations. The broader integration of AI into data analysis for diagnostics and R&D, expansion of wearables transmitting vital signs, and rapidly evolving prescription delivery channels will become the norm. With innovative technologies in gene therapy, mRNA technology, and CAR T-cell therapy, treatments will become more individualized, and more patients will have access to the right care at the right time.

JOHN DONOVAN
President, Compas

Milestone: The Faster Pace of Change

Looking back, I would say, for better or worse, the pace of change is much faster.

At the same time, HCPs have been taking a more holistic approach to patient experiences — in the limited time they have

with them. Complementing that, people have had better access to information and are taking greater control of their health.

Game Changer: Personalized Healthcare

Looking ahead, with the steady increase in both adoption and innovation in wearables, the trend is leading to more widespread monitoring and managing of people's health. Additionally, precision medicine and precision marketing are leading to a more personalized healthcare approach, and better use of data is leading to more automation and innovation. A greater emphasis on AI — especially machine learning — is and will continue to make a major impact including bringing new, more specialized drugs to market more efficiently.

SAGAR ANISINGARAJU
Chief Strategy Officer,
Saama Technologies

Milestone: Digital Technologies

Transformative changes to clinical research involving leveraging digital technol-



Together we make
a difference in the
lives of patients.

We're honored to recognize PharmaVOICE for 20 years of elevating the voices of our industry's best and brightest. And we are proud to be a partner in the pursuit of better healthcare.

At Parexel, we keep patients and their insights at the heart of everything we do. That's the Parexel Promise. When you put patients first, they help lead the way to incredible outcomes.

Here's to achieving milestones, together.

With Heart

ogies, AI, and new user experiences created a paradigm shift in drug development. We have seen the impact of that digitization in the recent and successful development of COVID-19 vaccines.

Game Changer: Intelligent Applications

The next game changer will be the general availability of the digital innovations for shared use across pharma. Scientific learnings of the pandemic will be integrated with robust engineering to sustain and scale the clinical research advances achieved in the last decade. A new category of intelligent applications and infrastructure will emerge to enable biopharma to achieve scale, acceleration, and repeatability across therapeutic areas. Some specific advances would include: smart research to provide the reference framework and tools for sharing federated learnings across pharma and smart apps that are context-aware with humans-in-the-loop to continually exchange insights across clinical processes and studies.



ANSHAL PUROHIT
President, Purohit
Navigation Inc.,
Founder/CEO, Purohit
Ventures

Milestone: Rare Disease

One of the most significant shifts that we have seen has been the tremendous growth in the area of rare disease, both in terms of awareness and development. Notably, the definition of rare disease itself has expanded, and as diagnostic modalities have strengthened, it has also come to define sub-segments of previously common disease states, such as oncology and hematology. As a result, we have seen significant shifts in diagnostic, drug development, and product commercialization strategies and have had to develop and support much more intricate linkage to care strategies among HCPs and caregivers. What's most gratifying is that this trend has driven patient benefits throughout the industry, and ultimately improving awareness and outcomes.

Game Changer: Disease Modification

The focus on disease modification and intervention will continue to grow. While this dynamic has been in place for some time, the innovation in this area has increased dramatically, creating significant disruption upstream from diagnosis. The enhanced focus on early-stage intervention will require systems to change their approach to diagnostics and treatment, and will implicate development from clinical staging through to commercialization.



RICHARD STAUB
President, Research & Development
Solutions, IQVIA

Milestone: Scientific Innovation Explosion

The explosion of scientific innovation and globalization has impacted how we design and execute trials. With patients increasingly taking a proactive role in managing their health, sponsors must consider how to better engage patients around the globe leveraging direct-to-patient approaches and technologies to improve their experience while reducing site burden. Thoughtful tech-enabled approaches can heighten patient centricity, shorten trial timelines, and improve data quality.

Game Changer: Personalized Medicine

Innovation is also resulting in the use of cell- and gene-based therapies and immune modulation to be developed for a patient's particular situation based upon genetics, co-morbidities, or disease stratification. We look at every trial aspect, from novel protocol design to patient recruitment, regulatory reviews, clinical processes, supply chain and technologies to determine how we can support sponsors to improve patient health.



DR. SUSAN DORFMAN
President,
CMI Media Group

Milestone: Interaction Acceleration

The combination of smartphones, social media, and data democratization are the big three that have not only changed how, when, and where people interact with life sciences and consumer brands in a more insightful, meaningful, and measurable way, but also how we — as humans — interact with each other regardless of location. Conversations, knowledge sharing, and proliferation of beliefs between people are significantly different today than they were 20 years ago. This is particularly true of health and disease journeys, where past discussions and opinions came steadily from close inner circles of friends and family and that of the healthcare professional have been rapidly enhanced with access to global opinion, in-

formation sharing, and conversations we would never have imagined.

Game Changer: Democratization of Health

As we move into our next 20 years, I believe that these three elements will remain key to life sciences with a big three that includes 5G+ connectedness, Internet of Things, and AI. Some of these are already making an impact on things like how people monitor their health or connect with their doctors. Technology has allowed people all over the globe to democratize health and remove stigma, and this is just the beginning.



VALARIE HIGGINS
President &
Managing Director,
Almac Clinical
Technologies

Milestone: Increased Efficiency and Agility

In recent years, key themes have emerged that have proven to disrupt the clinical trial landscape: significantly complex and costly compound development, rising adoption of complex and innovative trial designs — basket, umbrella, etc. — an increased focus on patient centricity, and of course, COVID-19. And while these factors are all different, they are all similar in how they have commanded the industry to become more efficient and nimble.

Game Changer: Flexible Solutions

Looking toward the future, solutions and strategies built with flexibility and efficiency in mind will continue to prove their value and allow for patients to get the novel treatments they need.



ELIZABETH GARGILL
Director, Public Relations
and Editorial Services,
BBK Worldwide

Milestone: Removing Barriers to Trial Participation

From a clinical research perspective, personalizing the patient experience has had a profound impact on removing barriers to clinical trial participation and enhancing access to care. By putting clinical trial participation within the context of a patient's entire life experience and investing in patient-centric solutions to relieve pressure points, the industry has not only helped patients integrate clinical trial participation into their lives but has made inroads into equalizing participation opportunities.



Step into healthcare's most innovative spaces with us.

Sparking health conversations, synergy, and growth. As a full-service media agency, CMI Media Group does more than engage—we create powerful conversations that inform, educate, and stimulate behaviors among healthcare consumers and healthcare professionals. By strengthening the way people connect with healthcare, we elevate quality of life for all.

REALIZE YOUR HEALTHCARE POSSIBILITIES. VISIT CMIMEDIAGROUP.COM FOR MORE INFO.

(c) PharmaLinx LLC. Rights do not include promotional use. For distribution or printing rights, contact mwais@pharmavoice.com

20

Game Changer: Engaging Underrepresented Populations

Looking to the future, I think that issues surrounding inclusiveness, social and racial injustice, diversity in medicine, and the underrepresentation of certain populations in clinical research will be among the strongest drivers of change. Already we've seen a growing emphasis on underrepresented populations in clinical research due to the disproportionate impact of COVID-19 on racial and ethnic minority groups. Engaging underrepresented populations will become a priority in an effort to ensure better health interventions for all in need.



AMIR MALKA
President and
Co-Founder,
Bioforum

Milestone: Curative Therapies

If we look back at the scientific breakthroughs over the last two decades, a picture of remarkable innovation emerges, one that is enabling the possibility of cures for diseases once thought untreatable. Driven by the use of new technologies, this incredible pace of change and advancement is a trend that continues to grow. Take discoveries in genetic engineering and immunotherapy, for example, which are helping us deliver on the promise of personalized medicine. More recently, since the outbreak of the COVID-19 pandemic, we're seeing this pace of transformation accelerate further. In less than a year's time and under unbelievable pressure, scientists have identified a novel virus, unlocked and sequenced its genetic code, developed new therapies and multiple safe, effective vaccines. It's extraordinary and the tremendous progress our industry is driving, around the world, is something to be incredibly proud of.

Game Changer: Collaboration

As an industry, we have the opportunity to leverage vast amounts of data available across the healthcare spectrum and turn them into insights that drive better outcomes and experiences for patients. To extract value from these data assets, we need the right combination of processes, technology and, most important, people, all operating within a nimble, collaborative culture. Ultimately, it's teams, not

technology, who drive success and change the game.



JULIE KAMPF
CEO, JBK Associates
International,
Board Director, Marizyme
Inc.

Milestone: Technology Advances

Over the past 20 years, we can see how technology has played an incredible part of the advances the life-sciences industry has made, in turn, providing new treatments and even cures for certain diseases. Case in point, the vaccine ramp-up for COVID-19 was clearly a game changer because the mRNA technology had been in play for some time, and the pivot to the coronavirus was amazing.

Game Changer: AI

It is my belief that AI and technologies will continue to fuel the industry even further for cures and ways to combat future epidemics, and heighten the abilities for genomics/personalized medicine to be the way we proceed in medicine for a better quality of life and treatment for disease. I am also hopeful and optimistic that certain technologies, which are in their early stages today, will support the ability to eliminate certain genetic mutations, wiping out the diseases they cause for all future generations.



CARI KNIOLA
Director, Corporate
Strategy,
Aperio Clinical
Outcomes

Milestone: Data Revolution

I started my clinical research career in 1997, and I think the way we look at data has revolutionized how we do research. It started with EDC, and while we realized efficiencies, we still looked at the data the same way — waiting until the end for the big picture, often finding endpoint quality issues that could have been avoided. After the advent of risk-based quality management (RBQM), however, we have seen we don't have to wait until the study is over to identify and address trends. With data analytics, we can see a big picture view of endpoints, from the first patient enrolled, and address risks in real time. We can use the same data to evaluate site health and proactively mediate issues, instead of catching them at a monitoring visit after it's too late. And RBQM is just one example of

how the use of data has changed. The industry is realizing there is a whole universe at our fingertips. We see data being used to streamline site selection, better predict enrollment and safety, even create synthetic control arms. For someone who started her career with three-part NCR CRFs and maps to my sites printed off of MapQuest, the efficiencies and advances are incredibly exciting.

Game Changer: Decentralized Trials

I think all of us are excited to see where decentralized trials take us. Healthcare in general is moving toward greater accessibility with telehealth, wearables, etc. It's only natural that clinical research follows suit. Obviously, COVID pushed us there faster than we would have gotten on our own — we aren't known for moving toward change quickly. But as patients begin to realize clinical trial participation doesn't necessarily mean they have to take multiple days off from work for site visits, and as industry sees the benefits of increased recruitment, retention, and diversity, we'll see incorporating aspects of decentralization more often than not.




AMY DUROSS
Co-founder and CEO, Vineti

Milestone: Personalized Medicine

To me, the most significant trend is the rise of true personalized medicine, in the form of personalized therapeutics such as cell and gene therapies. We're seeing patients with late-stage cancer now stay in remission for years at a time, and patients with severe genetic disorders now able to live their lives without debilitating symptoms or disruptive lifelong treatments. These therapies are enormously complex, but also enormously promising. It's a really exciting time.

Game Changer: Gene Editing

The next game changer will come with even further advances in gene-modified therapies and gene editing. Just look at what is happening with CRISPR. And our enabling infrastructure will need to keep pace in maturity and sophistication. We need digital solutions, and bespoke systems that can't scale just won't work. We need scalable digital platforms to



**JBK Associates International
congratulates **PharmaVOICE** on
20 years of thought leadership,
innovation, and bringing the
life-sciences community together!**

THE LEADERS IN DIVERSITY TALENT ACQUISITION—LIFE SCIENCES

JBK Associates International is a woman-owned, global executive search firm that is a leader in the recruitment and retention of diverse talent across the spectrum of industries and functionalities.



LC. Rights do not include promotional use.
printing rights, contact mwals@pharmavoic.com



**CONNECTING GREAT LEADERS TO GREAT COMPANIES...
ADVANCING THE WORLD TOGETHER!**

JBKASSOCIATES.NET



Forbes



support this new personalized medicine paradigm.



STEVE HAMBURG

Managing Partner, Chief Creative Officer, Calcium

Milestone: Precision Medicine

Until relatively recently, most diseases had to be managed with a blunt, one-size-fits-all approach. However, the revolution in precision medicine, which came to fruition over the past 20 years, has changed all that immeasurably. For the better. Our ability to create more precise, targeted therapies has come as the result of our vastly deeper understanding of the biological mechanisms of disease. And this has been fueled by a colossal increase in our digital technological prowess, where cutting-edge tools such as artificial intelligence and machine learning have improved our ability to decode diseases on molecular and genomic levels.

Game Changer: Unique Drug Therapies

The targeted revolution has been especially impactful in cancer treatment, where it has joined forces with another transformative idea — immunotherapy — to literally save millions more lives than was ever thought possible. In the coming years, it's not unconceivable that drug therapies could become as unique and individualized as one's fingerprint. Nothing is beyond our reach.



PATTY FRITZ

VP of Corporate Affairs, UCB

Milestone: Curative Therapies

I continue to be amazed at the incredible advances the industry has made in science. Diseases that were once a death sentence now have life-changing therapies and cures. Gene therapy is a reality, not science fiction. And we have continued to

improve in fast-tracking novel therapies and innovating in trial design.

Game Changer: Digital Transformation

One of the other major transformers over the last 20 years will continue to be a game changer in the years to come: digital transformation. I think back to 1999 and sending an NDA to FDA in semi-truck trailers and paper boxes and now we transfer files digitally. I look forward to continuing to leverage digital technologies and behaviors in new and more efficient ways. From candidate selection and R&D, to use of data and how we engage healthcare professionals, and importantly, patients, we're finding new ways to accelerate innovation to the patients that need them. I look forward to ways digital transformation will fuel greater collaboration across the industry, address health inequities, and better society now and in the future.



MARY COSTELLO

Head of Site and Investigator Network, Medable

Milestone: Biologics

The biggest advancement is the ascendance of biotechnology and the concomitant changes it has brought to how we conduct research. Twenty years ago, small molecules dominated the industry and dictated how we thought about our trial strategies; this meant we could over-produce as medication was inexpensive, and enrollment challenges were often overcome by over-enrollment. Biologics brought new promise and harnessed the power of gene therapy. The cost, storage conditions, and administration of biologics meant old approaches weren't feasible anymore. Biologics ushered in precision and more thoughtful strategies to conducting clinical trials, and even changed how pharmaceutical companies thought about R&D.

Game Changer: Post-Pandemic Technologies

Perhaps it's a reflection of the moment, but I predict that the COVID-19 pandemic will be the impetus for a whole-scale shake-up of how drugs are developed, tested, and monitored. We will emerge from this crisis with new models for getting through the approval process quicker, thanks to new technologies like decentralized research platforms. Additionally, the overwhelming amount of data we're getting from this period will prove invaluable if we combine it and mine it efficiently. Artificial intelligence and other technologies applied to this data will give us enormous insight and lead us to a closer relationship between public

health and drug development, enabling both groups to learn and improve together. The boundaries between healthcare and research will start to disappear as we deploy the same technologies and tools in both settings to reach diverse populations of patients.



JAY CARTER

Executive VP, Chief Strategy Officer, AbelsonTaylor

Milestone: Patient Engagement

The biggest milestone of the last 20 years is the concept and execution of patient engagement in the life sciences. So many factors contribute to this, but the key ones are the genericization of primary care medicines, the emergence of EHR as a tool for patients, the growth and reliance on oncology and rare disease from an R&D standpoint, and the growth of mobile technology. What has emerged is a strong desire by customers to engage with pharma to learn more, and a need to understand the personal effects of medications on oneself.

Game Changer: Gene and Cell Therapy

We are on the cusp of multiple diseases being managed for the long term, or fully cured, by gene and cell therapy. We are on the cusp of cancer being a disease you live with. It's a bright new world.



OLIVIER CHATEAU

Co-founder and CEO, Health Union

Milestone: Patient Knowledge and Empowerment

The most consequential trend in the life-sciences industry over the past 20 years has been the growth in patient knowledge and empowerment. It has disrupted the healthcare status quo. This shift has given people the confidence to become more engaged and advocate for themselves not just with their healthcare professionals, but with their family, friends, and co-workers. A positive result that is starting to emerge is better health outcomes.

Game Changer: Biopharma Collaboration

The next game changer will likely be continued biopharma collaboration, in conjunction with advances in technology, to accelerate research and discovery and make even more dramatic scientific progress. There are three key areas where I think we'll see the fruits of

Gender Parity

Join the first industry consortium dedicated to **accelerating results.**

C O L L A B O R A T I V E

ENGAGE WITH HBA'S GENDER PARITY COLLABORATIVE

and join forces with **senior executives** from these 16 prominent global healthcare organizations committed to accelerating workplace gender parity.



COLLABORATIVE COMPANIES EMPLOY

12% more women on average across all staff levels including better female representation at all three senior leadership levels: VP, SVP and C-suite

THAN THE 307 OTHER COMPANIES IN THE MCKINSEY WOMEN IN THE WORKPLACE 2019 SURVEY.

FOR MORE INFORMATION
 VISIT GENDERPARITY.HBANET.ORG
 EMAIL GENDERPARITY@HBANET.ORG



(c) PharmaLinx LLC. Rights do not include promotional use. For distribution or printing rights, contact mwalsh@pharmavoice.com

20

this approach. The first is how clinical trials are conducted, which hasn't changed much in two decades. Second, I believe we'll see innovation rewarded in a way that will hopefully lead to lower treatment prices. Finally, I think we'll see an increasing amount of solutions that will help mitigate the impact of chronic conditions, such as cancer and Alzheimer's disease, that are big research targets.



TIMMY GARDE
Chief Innovation Leader
LevLane

Game Changer: The Merger of Technology and Therapeutics

Plain and simple, I have been privileged to witness true innovation in many different ways. But the merging of technology and therapeutic solutions has exploded and that partnership is only getting stronger. That little mobile device in your pocket originally introduced for talking, then the next iteration introduced texting. That tiny supercomputer today, that started as a simple phone, has become entrenched in our lives in all aspects, including researching health and wellness topics and concerns. Such digital technological advances have enabled consumers and patients alike to take control of their well-being and health from tools to manage diabetes, track respiratory or cardiac issues, to concerns with weight gain. The quality of digital tools and accessible platforms available today have allowed consumers to experience better health outcomes. Going forward, the next normal will be filled with continuous improvements in digital therapeutics, growth of approachable personal telehealth engagements, applicable use of AI in surgical techniques, and explosion of subscription-based distribution opportunities. Ask me this question again in 20 years.



DR. JOANNE SANTOMAURO
CEO and Founder,
Ancillare

Game Changer: Global Supply Chains

The COVID-19 pandemic changed suddenly our lives, our families, our businesses, and radically transformed the definition of strategic clinical trial ancillary supply chain (CTASC) management. As life-sciences professionals, pre-COVID-19 assurances of supply with emphasis of the right product, in the right place, at the right time were easily

attainable goals. CTASC leaders must understand that strategic and operational approaches to success are essential for the future of global supply chains, and they must take an external and internal approach to address numerous disruptions. We must look outside to understand the impact on global manufacturers and take an internal approach and develop innovative ways to prioritize, streamline, and flex their core capabilities to mitigate all risk and deliver as required. Of course, the successful CTASC organization must be backed by innovative technologies integrated in day-to-day CTASC operations. A global pandemic changed our world, but innovations will deliver us to a better future.



FARUK CAPAN
CEO,
Intouch Group

Milestone: Digital Transformation

The biggest trend, no doubt, has been the tremendous influence of technology. Twenty years ago, the digital channel was just an afterthought. Pharmaceutical company product websites were barely more than glorified brochures. Now, digital transformation is happening everywhere within pharma — spurred on even more by the pandemic.

Game Changer: Personalized Exchanges

Customers have high expectations — they want their needs to be anticipated, they expect personalized exchanges, and they crave immediate gratification. Other industries are already providing that level of service, thereby raising the stakes for pharma. Pharma needs to learn to address these needs and technology is the engine that makes it all happen. When all of the planets align to truly provide this level of service to pharma's customers, this will be the future game-changer.



KENT THIELKE
Executive VP and Chief
Scientific Officer,
PRA Health Sciences

Milestone: Digital Health

Advancements in digital health have revolutionized the industry for the better, improving the way clinical trials are conducted and how patients receive their healthcare.

Starting in the early 2000s with electronic health records and electronic data capture and progressing to today's models such as decentralized trials, remote patient monitoring, and telehealth, these applications help the industry be more efficient, precise, nimble, and accessible.

Game Changer: Vision of Good Science

As the industry continues to adopt these approaches, access to healthcare options will continue to expand for all. This is the vision of good science — one that broadens access for patients, regardless of their condition, ethnicity, or gender, and creates the greatest opportunities for all patients' health. Also, continued innovation with advanced analytics, artificial intelligence, machine learning, and other technologies will enable the industry to move closer to truly personalized medicine.



ANDREA HESLIN SMILEY
President and CEO,
VMS BioMarketing

Milestone: Behavioral Science

The implications of medication non-adherence are far-reaching. However, the advancements in the field of behavioral science have provided life-sciences companies an evidence-based approach to designing patient-centric support programs to better address this issue. By understanding the multitude of psychological, environmental, social and demographic factors that contribute to patient behavior and behavior change, we are doing a better job today in equipping patients to start and stay on therapies successfully. Our knowledge of when to intervene, how to intervene and what to do when intervening has allowed us to further the efficacy of the services being provided.

Game Changer: Personalization

Personalization will be the next frontier. Everything from the therapeutics to the services being provided will be more individualized to the patient. This will largely be driven by innovation in technology and data solutions and will allow us to deliver a patient experience that truly maximizes impact on health outcomes.



HERE'S TO
**TWENTY YEARS
OF LOVE.**

Before we liked anything on Facebook. Before we tweeted anything on Twitter. And before we did whatever it was we used to do on Myspace and Friendster, we loved PharmaVOICE. As other pubs have come and gone, you've been a reliable, go-to resource for the past twenty years, and we're happy we could share the ride with you.

Here's to at least twenty more.

FIND OUT WHO LOVES YA.

TALK TO TIMMY GARDE
LEVLANE LIFE SCIENCES
M: 215.815.0075
TGARDE@LEVLANE.COM
LEVLANE.COM

levlane
who loves ya?



JOHN HUDAK
President and Founder,
Criterium Inc.

Milestone: EDC and IVR

Electronic data capture (EDC) and interactive voice response (IVR) are the most consistent improvements to clinical data capture in trials in the last 20 years. EDC companies are now providing ePRO or eCOA applications in their platforms so that clinical data from sites and patients can be integrated more easily. Sites started to enter data into the clinical research database and EDC platforms became more sophisticated and user friendly.

Game Changer: Unifying Clinical Technologies

The next game changer integrates EDC, IxR, telemedicine, personal monitoring devices, treatment dispensing, and regulations into a unified process. This allows us to conduct clinical studies virtually by expediting patient screening with online questionnaires. Patients can provide consent remotely, enter symptoms and safety information from home, and attend their study visits online. Responses to treatment are measured automatically by personal devices. Patients can also receive their next regimen of drug or device from their local pharmacy, or have it delivered to their home, rather than traveling hours to visit a clinical treatment site.

and precision medicine; a competitive shift towards mastery of data; and dramatically improved techniques in gene therapy and implant and wearable devices. And it will remain our mission to keep the patient at the center of it all.



FRED BASSETT
Head of Consulting,
Fishawack Health

Milestone: Customer Centricity

The move from a product-centric model to a customer-centric model transformed how we commercialize therapies during the last two decades. Traditionally, commercial strategy focused solely on the relative strengths of the asset. However, as markets have become hyper-competitive, greater emphasis has been placed on customer needs and expectations. The clinical needs are still paramount. However, by addressing broader pain points in the clinical or patient journey, manufacturers can build partnerships that help transform care.

Game Changer: Rich Data Sets

We're excited about the convergence of three trends — empowered patients, precision medicine, and longitudinal clinical data. Patients have access to more information than ever before. Meanwhile, the industry is using genomic and other data sources to create more precise therapies. The intersection of these trends will transform care pathways. Additionally, digital monitoring will create rich, longitudinal datasets that enable us to create a positive feedback loop accelerating both patient understanding and the precise application of therapies. These are exciting times.

their brand journey. This was done, in part, by tapping into the power of artificial intelligence and machine learning.

Game Changer: Gene and Cell Therapies

Looking ahead, gene and cell therapies have the opportunity to revolutionize healthcare and help pave the way toward more mainstream personalized medicines. But for advanced therapeutics to make as big of an impact as they have the potential to, the cost barriers will have to be addressed. Making sure patients have access to these treatments must be a priority.



JILL LESIAK
Executive VP, Executive
Creative Director,
Mosaic Group, an
FCB Health Network
company

Milestone: Digital

The last 20 years of the life-science industry have been life-changing. Digital and the emergence of digital health records is the biggest trend. Electronic health records and meaningful use of the technology is leading to long-lasting, widespread change. It's improving healthcare quality and patient safety across all diseases and optimizing care for all. Providing accurate, up-to-date and complete information about patients at the point of care offers real-time data to clinicians, allowing for more informed decisions. This seamless flow of healthcare data is transforming population health and the way care is delivered.

Game Changer: Genomic Technologies

The next major milestone will also likely be related to data. Genomic medicine has the potential to drastically alter the way medicine is practiced. By advancing genomic technologies and applying genomic medicine to how patients are treated, we can exponentially impact clinical care, improving therapeutic response to treatment and, ultimately, patient health outcomes.

PharmaLinx LLC. Rights do not include promotional use. For distribution or printing rights, contact mw@pharmavoices.com



BRENDA SNOW
Founder and CEO,
Snow Companies

Milestone: Patient Engagement

Snow and PharmaVOICE are both celebrating 20 years of existence — congratulations and a heartfelt thank you to all those who have worked by our side over these last two decades. Throughout this time we have played a part in major changes in healthcare: patient engagement and involvement throughout the product life-cycle has become the new benchmark; the competitive landscape has shifted to the fields of rare disease; CRISPR and gene therapy methods have made previously untreatable diseases treatable.

Game Changer: Personalized Medicine

Over the next two decades, I would expect a strong trend into personalized

ED MITZEN
Founder, Fingerprint



Milestone: Digital Marketing

Advancements in technology over the past 20 years have led the way for giant leaps in digital marketing. Embracing the use of data has been a game-changer for the life-sciences industry. It opened the door for one-to-one personalized messaging and making sure the right message is getting to the right people at the right time in



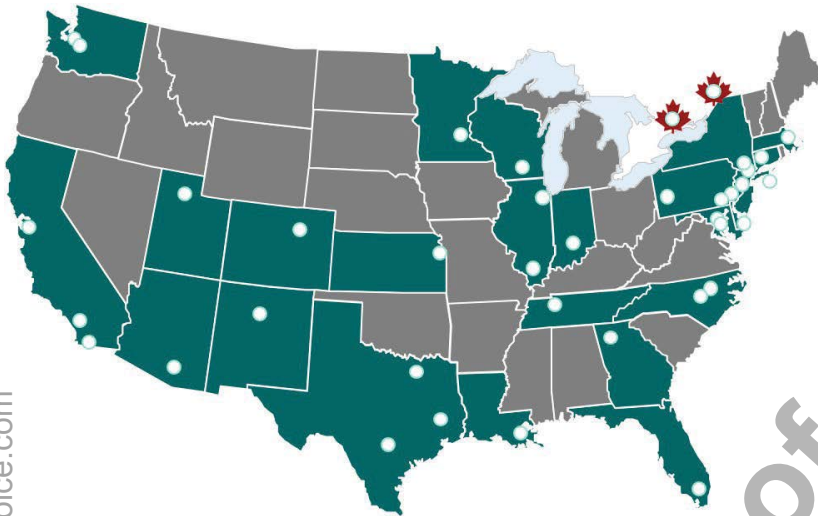
STACEY DEZIEL
Executive VP, Director of Activation &
Planning,
Solve(d), an FCB Health Network company

Oncology Consortia

Collaboration & Innovation in Cancer Research



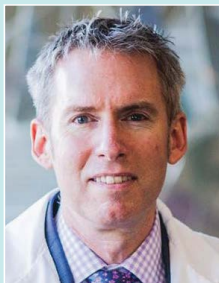
The Oncology Consortia of Criterium, which is a collaboration of outstanding cancer research physicians who deliver innovative research and unparalleled expertise, is **one of its key differentiators as a CRO**, engaging some of the industry's **most respected key opinion leaders** across the U.S. and Canada to streamline clinical cancer research and development.



John Hudak
President & Founder
Criterium, Inc.

Over the past 30 years, Criterium's mission has been to provide all our stakeholders — clients, staff, consultants, sites — with an extraordinary experience. Our proven formula for clinical trial success is based on the dedication of our executive management and project management teams. And our Criterium Oncology Consortia stands apart from other networks by offering exceptional therapeutic and targeted expertise in developing advanced clinical trial models **better suited to adapt to changes in cancer drug development**.

CRITERIUM'S ONCOLOGY CONSORTIA



D. Ross Camidge, MD, PhD
University of Colorado
ATOMIC Director

"We created ATOMIC to bring together experts in different centers to work together to design and run the best possible clinical trials in thoracic oncology working more closely with the sponsor to transform clinical trials."



Peter Kabos, MD
University of Colorado
ABRCC Director

"ABRCC is an academic consortium for a new era of trial design and implementation. Our goal is to rapidly translate advances in breast cancer research into targeted therapies that will benefit our patients."

The four members of the consortia are:

- The Academic GI Cancer Consortium (**AGICC**), launched in 2008
- The Academic Myeloma Cancer Consortium (**AMyC**), launched in 2010
- The Academic Thoracic Oncology Medical Investigators Consortium (**ATOMIC**), launched in 2013
- The Academic Breast Cancer Consortium (**ABRCC**), launched in 2014

Criterium's Oncology Consortia, in conjunction with major universities and nationally recognized institutions, **makes Criterium the definitive research network in the United States and Canada**, with premier qualified sites available instantly for recruitment. In addition, the Consortia provides an experienced centralized network that integrates coordinated project, contract, and grant management.

For more information about Criterium or the Oncology Consortia, please visit www.criteriuminc.com

20

Milestone: Technology Advancements

In the past 20 years, like most industries, life sciences have been impacted by technology, which has accelerated medical advancements, created opportunities for companies to collaboratively innovate, and has empowered the consumer in their healthcare, condition, and treatment journeys. Digital transformation within the life-sciences industry has been accelerated by COVID, with the rise of mainstream use of online assessments, telemedicine/telepractice and patients adapting to virtual visits. Recently, e-Marketer reported telehealth adoption increased three times between January and August 2020. This trend will likely continue allowing for hyper-convenient care once we are past the pandemic. Advances in the use of digital tools to help patients and physicians manage chronic conditions and defray treatment costs are also on the rise and wearables continue to be encouraged by employers and physicians as higher activity levels can potentially improve health as well as reduce medical costs. And for more than two decades, the internet has and continues to drive patient empowerment creating informed, proactive

consumers who are better prepared for physician dialogue about what is best in addressing large and small health issues.

Game Changer: Genetics

Looking ahead, it seems natural that advancements in DNA and genetics is creating more personalized medicine, and from a marketing perspective, we should be driving toward greater personalization as well. In a HIPAA-compliant way, we need to begin to shift away from one-size-fits-all consumer messages. With a prevalence of available data signals and the multitude of data-driven targeting options, media and creative teams must partner even more closely to evolve message diversity and personalization. Using technology to enable nimble execution of more dynamic and situational executions will likely drive even greater relevance and impact for consumers and their health.



FRANK SAIA
Managing Director,
Truth Serum NTKW

Milestone:
Virtual Medicine

By far the greatest change in the life-sciences industry is the democratization of virtual medicine. Institutionalized by the challenge of the COVID-19 pandemic, this trend was already in place on a much smaller scale with utilization in tele-radiology and virtual educational presentations on YouTube and branded/unbranded websites. Now, even after the pandemic winds down, virtual medicine is here to stay. Physicians and patients have begun to embrace the convenience and flexibility afforded by the platforms.

Game Changer: Care Delivery Ex-Office

Speaking of hands-on care, the next game-changer is taking off quickly: primary care delivered ex-office. Already entrenched in the administration of vaccines, the pharmacy will become one of the go-to resources for routine care. Likewise, the trend of walk-in services offered by primary care clinics will divert traffic from traditional offices. This is just one of the many examples of how corporate-owned practices are turning primary medical offerings from artistry to industry.



LORI GRANT
CEO,
Klick Health

Milestone:
Scientific Advances

Scientific advances over the past 20 years were massive. Carrying the most significant impact has been the ability to sequence the first human genome. First achieved in 2003 at a cost of \$2.7 billion, today this mapping can be done for just a few hundred dollars and a day or two of time. This advancement unlocked entire new levels of understanding, research, and innovation that are just bearing fruit today and will impact medical advancements for years to come, illustrated nowhere better than in the COVID vaccinations.

Just as impactful for the consumer/patient has been the introduction of Google and search. Founded in 1998, Google introduced search to the world and now the idea that you can search for a symptom, disease, or treatment and find meaningful, trusted content, seek out others with similar experiences and find a doctor is ubiquitous. It is hard to imagine any other advancement in the past 20 years that has impacted the consumer/patient as dramatically. Couple this with all digital infor-

Be celebrated.

Be here.

PharmaVOICE

THE FORUM FOR THE INDUSTRY EXECUTIVE

mation technologies that spurred a shift from paternalistic medicine to a world of patient empowerment greatly reducing information asymmetry resulting in instantaneous access to quality information, enabling patients to have a voice.

LEEROM SEGAL
Co-Founder and
Chairman,
Klick Health

**Game Changer:
Convergence of
Health Data**

The broad-based, sophisticated convergence and application of health data, artificial intelligence, digital therapeutics, and telemedicine are disrupting the

status quo. In some ways we're already seeing a shift from "on-demand healthcare" (seek it out when you get sick) to "always on" healthcare (part of our daily lives to keep well or act preemptively to signals that you may be sick). Digital biomarkers are part of this of course.

This is an emerging new field labeled "health assurance."

With AI, we are just scratching the surface of potential. The potential impact of pattern recognition, audience engagement and automation to increase speed, accuracy and effectiveness where it counts, in both health and business outcomes, is immense. Applications like drug candidate discovery for rare disease, clinical trial patient identification, clinical trial simulation, automated diagnostics, AI-assisted robotics for surgeries and personalization/optimization of marketing communications are but a few examples. Consider this along with the rise of quantum computing and the potential is infinite as hundreds of new treatments emerge and eliminate many diseases.

**LAURA
SCHEMBER**

Chief
Engagement
Officer,
Ogilvy Health

**Milestone:
DTC Advertising**

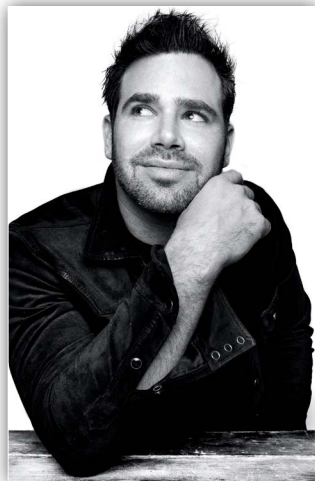
The FDA approval in 1997 of direct-to-con-

sumer advertising. While you can debate the positive and negative effects of direct-to-consumer advertising, it has had far-reaching effects on patient-centric communications and shared decision-making. Patient education materials are crafted in a way that improve patient comprehension, which helps to create better discussions between healthcare providers and patients. Providers work to better understand patient personal preferences and caregivers are more actively engaged. All this has helped to elevate care, the way care is provided, and improve patient outcomes.

**Game Changer: Digital Transformation of
Healthcare**

COVID-19 has forced a dramatic and rapid change in the way we engage with healthcare. No longer could we dip our toes in the water, we were thrown into the deep end without a life preserver. Treating patients virtually, on-demand healthcare, wearable medical devices, big data, predictive healthcare — the possibilities are exciting and will no doubt once again serve to elevate patient care and outcomes. **PV**

20



(c) PharmaLinx LLC. Rights do not include promotional use. For distribution or printing rights, contact mwaish@pharmavoice.com

W2O is proud to be named a
2021 Ad Age Best Place to Work!

We're making the world a healthier place. Join us.

go.w2ogroup.com/join

W2O

