

Future Ready ™  
Healthcare

Prepare now. Lead the future.

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# The Pathways And Partnerships Key To Delivering On The Promise Of Precision Health



Amit Phadnis  
Chief Digital Officer  
GE Healthcare

Despite the advances in technology and investment that has gone into it, the healthcare ecosystem faces 3 key challenges that can be solved by precision health with the help of data and analytics and technology.

1. Despite \$7 to \$8 trillion being spent on healthcare annually, about 3.8 billion people across the globe still do not have access to basic healthcare. In the United States alone, wastage amounts to a trillion dollars and a recent report states that 20% of the healthcare spend in Europe is a waste.
2. A total of 78% of clinicians in the United States reported burnout. Burnout brings a real risk of errors. Over 3 million deaths are reported from medical errors every year in the United States. Clinicians are struggling against patient load and

scarcity of expertise. They are also struggling with an overload of data and information of which 95% is not in use at this point of time. If this data could be turned to precise insights, it would bring about a dramatical improvement to the clinicians' lives and to the targeted care.

3. Patient's outcome is improving, but is still not where it needs to be. Therapy needs to be targeted at the individual's condition rather than the disease state at a generic level.

Technology, digital data, artificial intelligence (AI), and analytics can all play a role in reducing wastage and making healthcare accessible and affordable. Over the last 15 to 18 months, the pandemic has provoked a change in the healthcare system. Changes that may have

otherwise taken 4 to 5 years were deployed in a matter of weeks. Many of these are here to stay as they drive greater efficiency while increasing access to healthcare. These changes relate to the virtualization and distribution of healthcare. The hospital is going beyond the 4 walls and is being distributed across geographies. And this virtualization needs the support of technology.

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AI will tell you what you have told AI. Better the ground truth of data, better the output of AI algorithms.

– Amit Phadnis

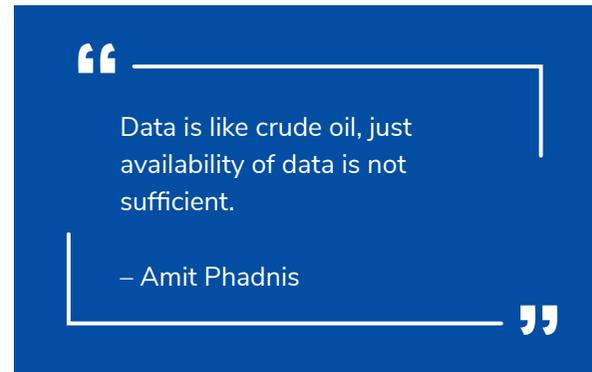
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Toward this, there are 2 key factors to understand and solve: healthcare data that will drive AI and data aggregation for improved diagnosis and therapy.

A lot of healthcare data are being generated. GE Healthcare has 4 million devices deployed currently, supporting 300,000 patients every day with imaging agents. However, data availability alone is insufficient to ensure that AI engines can make the right decisions in precision medicine. From a data fidelity perspective, quality of the data and quality of the ground truth of the data are important. However, just having quality data is not sufficient. The data should have a variety from different regions, genotypes, etc. There is also a lack of standardization from a data annotation perspective, which adds a layer of complexity and challenge to combing data from various sources. Lastly, data security and privacy issues result in federated learning. So, AI needs to be developed in a distributed fashion, and those distributed entities need to be brought together to develop a holistic AI algorithm.

There is a tremendous amount of information about a patient across the health system, siloed in different departments of the system. The clinician has to swivel chair between multiple applications, each of which caters to a particular data silo in the form of radiology images, laboratory information, or even genomic information. The onus of stitching the patient context is with the clinician. This is the root cause of many issues, including burnout. There is a clear need for aggregation of

applications and multimodal data sets to piece together a comprehensive longitudinal record of a patient.



In the absence of information aggregation, the AI solution is siloed to a particular type of information. This does not allow clinicians to reach the biomarkers with the level of accuracy needed to precisely identify the condition and therefore the therapies. By the time a particular disease state is identified, it is too late because the signals available earlier are very weak in the early stage of the disease.

With the multimodal data sets, even the weak signals can be combined and aggregated to get to a biomarker very early in the disease progression. This can dramatically influence a patient's outcome as therapy can be made available in the early stage of the disease. In oncology, for instance, even a few weeks can make a significant difference.

However, the aggregation of data to form a single comprehensive longitudinal record of a patient is not easy. There are demographic data, social

information, information coming from wearable devices, reports, images, laboratory information, genomics, digital pathology, etc.

All the above-mentioned data sets form individual and separate data pipelines. These raw data pipelines cannot be just aggregated into a patient's single longitudinal record. AI must be implemented to extract the right signals or metadata from these data pipelines. This, in turn, must be standardized at the patient level and represented in a patient's longitudinal record. The healthcare ecosystem comprises data producers who can play a crucial role by building and enriching this data pipeline.

Digital foundation needs to be multimodal and devices must be connected. And partnerships are the way forward to bridge diagnostics and therapeutics together. One company cannot solve the problem. There is a need to create an ecosystem comprising pharmacy companies, startups in technology and AI, and others that come together and solve some of these problems in healthcare. This may address the problems of access, wastage, and physician burnout. But most importantly, it may better impact patient outcomes, by identifying disease early and targeting therapy precisely.

SUCCESSFUL HEALTHCARE SYSTEMS WILL MERGE CLINICAL MEDICINE AND DATA SCIENCE



DIGITAL DATA, AI, ANALYTICS CAN PLAY A HUGE ROLE IN REDUCING WASTAGE IN HEALTHCARE ECOSYSTEM



THE ABILITY TO ORCHESTRATE THE ALGORITHM INTO THE CLINICIAN'S WORKFLOW IS PARAMOUNT



# KEYNOTE

THE PATHWAYS AND PARTNERSHIPS KEY TO DELIVERING ON THE PROMISE OF PRECISION HEALTH

95% DATA IS ACQUIRED BUT NEVER USED



PRECISION MEDICINE REQUIRES DEEP PARTNERSHIP THROUGHOUT THE ECOSYSTEM



AMIT S PHADNIS

CHIEF DIGITAL OFFICER,  
GE HEALTHCARE

# Let's Get Personal – “Know Me, Heal Me”



**Diana McKenzie**  
Former CIO  
Amgen And Workday

A number of digital-native companies are reshaping healthcare. Facebook released Oculus for medical teaching institutions last year; Apple has improved the health metrics that can be captured through the Apple Watch; Microsoft purchased Nuance, a conversational artificial intelligence (AI) platform for healthcare, and released the Microsoft Healthcare Cloud; and Amazon announced the launch of Amazon Care earlier this year that will ultimately allow employers to offer it to their employees. The pandemic exposed the gaps in the end-to-end ability of the healthcare industry to treat a patient from diagnosis to treatment and post treatment. Since technology companies are known to have a strong bias toward consumer focus, life sciences offers tremendous opportunity for disruption from technology players.

In fact, in the second quarter of 2021, close to \$32 billion was invested by venture capitalists in this space. It is clear that the healthcare industry

has to think like technology companies to hold up to the competition. Interestingly, both life sciences and technology companies share some similarities and differences.



## Culture of innovation

In life sciences, treating the patient on the basis of scientific methods is experimentation. In a technology company, the development of a minimally viable product is also an experiment. The difference is that iterations in healthcare take longer because of the nature of the business. It is important for healthcare companies to create

a culture of learning and incentivizing failure that results in learning.

## Product development

In both industries, product strategy teams are made of people with functional expertise in specific domains who work together to make the product commercialization vision a reality. With growing digital adoption, more product development elements from the software side will enter life sciences.

## Product renewal or business expansion

Technology companies strive to develop a deep understanding of their customers' journey and drive a great customer experience, as it is a foundational capability for the pursuit of renewal or expansion of subscription. Life sciences also pursue renewal in the form of adherence. However, the focus on patient's journey and experience has not been viewed as foundational competence; this is changing now.

## Agility

Life sciences come with Food & Drug Administration (FDA) regulations and compliance barriers, which software companies do not have to worry about. Their design-to-production cycles are much shorter and more agile than life sciences because of the simplicity of their business models (free of regulation). Despite the regulatory barriers, life sciences can and are adopting some of the software industry practices, such as agile methodology, across functions to improve speed and efficiency.

Diana's watchlist of technologies includes AI and ML (Machine Learning), IoT (Internet of Things), 5G, Edge computing, XaaS, Blockchain, Computer Vision, Augmented Reality, and Quantum Computing. Having offered a sneak peek into how technology will impact healthcare in the future, Diana shared 4 lessons toward enabling digital transformation.

## Leadership

Technology is clearly an important element, but change has to start at the top. Leadership and the company's culture must embrace technology. In the absence of leadership buy-in, digital transformation is harder, takes longer, and costs more. It also reduces the company's ability to deliver truly game changing outcomes that keep it competitive. Diana illustrated this with an example. Her company's technology team had developed an algorithm that would lead to oncologists either not prescribing one of their products or prescribing a lower dose. On one hand, deploying the algorithm

could increase physicians' and patients' trust and confidence in the company. On the other, it was likely to reduce revenues for that business unit. This is where leadership comes into focus as the decision-making, governance, and incentive systems become critical.

Traditionally, business units are incentivized to optimize their own performance. This model has to change if customers' journeys are to be prioritized and optimized. The only person who can drive this organizational change is the CEO, with the executive leadership.



There's no such thing as a digital strategy that stands on its own. It has to be encompassed in the company strategy.

– Diana McKenzie



## Talent/Partnerships

It is important to have the right talent who have worked in technology and operate at the pace of technology. Such talent is in short supply in the market. Organizations must capture this talent and leverage them to help healthcare's existing workforce. Also, organizations no longer have to build all the technology infrastructure themselves to be able to develop applications. Today, the availability of interoperable platforms and foundational infrastructures have made it possible to develop applications.

## Methodologies

With leadership driving the change, it is possible to embrace agile methodologies across the company. There are limitations in a highly regulated life sciences environment, and agile methodologies cannot be implemented at all junctures. But there are opportunities to implement agile to speed up static processes.

## Performance

The way to gauge proof of concept or outcome should be in terms of value that it is delivering to the patient, or value it is delivering to the company rather than project progress. There is plenty to learn from technology companies that have leveraged the concept of objectives and key results (OKR). This takes the bias away from actions and moves it toward outcomes. In life sciences, the final outcome could take years. But there are outcomes that can be measured, which is preferable to measuring and rewarding actions. Therefore, the OKR approach can be a huge enabler. Also, in life sciences, therapy only advances through clinical trials if it meets successful endpoints. The same logic can be applied to digital initiatives. Companies must identify the end points and allow the initiatives to grow only if they meet them.

The time has come for the life sciences industry to embrace digital change. The operating models have to change and companies have to think about working cross functionally instead of working in silos.

WE HAVE SEEN **TECHNOLOGY**  
ENTER A NUMBER OF INDUSTRIES  
AND **DISRUPT** THOSE INDUSTRIES



# KEYNOTE:

LET'S GET PERSONAL —  
"KNOW ME, HEAL ME"



**DIANA MCKENZIE**

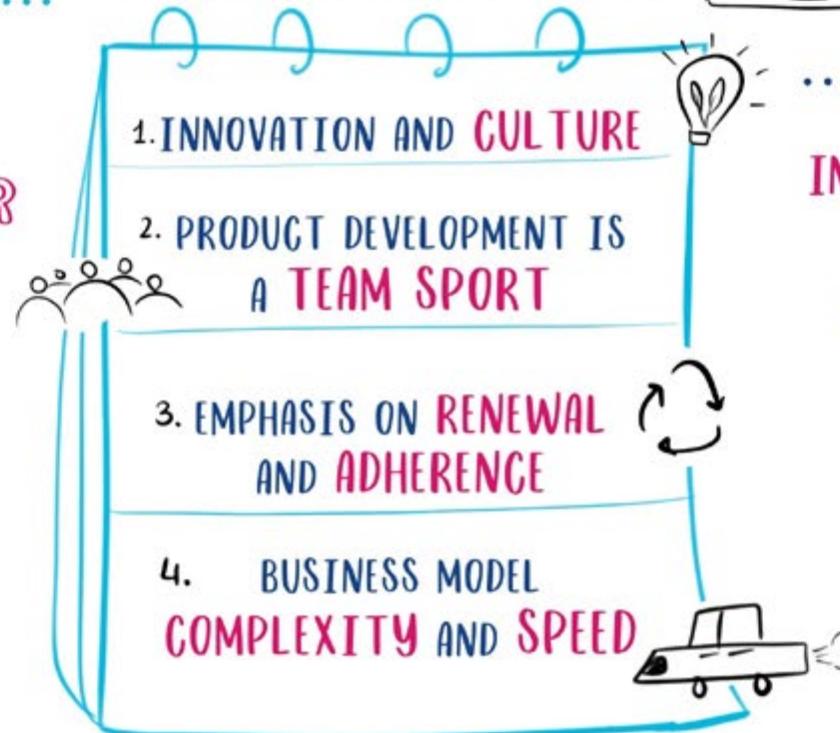
FORMER CIO  
AMGEN AND WORKDAY



SIMILARITIES AND DIFFERENCES  
BETWEEN LIFE SCIENCES AND SOFTWARE



LAST YEAR **EXPOSED OUR**  
**GAPS** TO SERVE OUR  
CUSTOMERS END TO END



IN ORDER FOR US TO COMPETE,  
WE HAVE TO THINK LIKE  
SOFTWARE COMPANIES



# Opportunities For The Pharmaceutical Industry From The Digitization Of Healthcare



**Troy Sarich**  
Chief Commercial Data  
Science Officer  
Janssen Pharmaceuticals

Troy's presentation covered insights on evidence generation, digital clinical evidence, and the digital health boom with a stronger focus on how pharma companies can effectively use randomized control trials (RCTs).

RCTs, although expensive and complex, are considered as the gold standard for evidence. Currently, real world evidence (RWE) is extensively used for regulatory purposes in rare diseases or where RCTs cannot be done or is unethical to conduct. The aspiration should be to allow RCT and RWE to coexist. Reproducing RCTs using RWE is challenging and we need more trial emulations to understand how RWE findings match RCT. The methodology is getting better but data matching is not quite there yet.

As the proliferation of data increases, the role of RWE in pre and post launch into commercialization will become more widespread. It is important to note that the data available

from the healthcare system, which is currently in raw form, is difficult to use. There is substantial data engineering effort required to curate that data, and make it useful for generating insights and evidence. Despite these challenges, RWE is attracting huge investments given the opportunities it presents for the pharma industry. A McKinsey study showed that since 2015, this area has seen a 5x increase in VC funding with 74 FDA-approved analytics applications and an almost 50% YOY increase in public research around AI and ML.

Delving deeper into making data more accessible and useable, Troy spoke of companies like OM1 have built an engine that uses machine learning (ML) to convert unstructured data to structured data that is research ready and clinically meaningful. The real value that such companies bring is to link structured data to other data sources from patients, thus providing information on a continuous longitudinal journey for patients.

This helps providers understand how a patient's disease initiates, progresses, treatment necessary, and outcome.

“

The technology world is moving so fast that we would probably be short sighted to try to do it all on our own... Partnerships are going to be the solution in the end.

– Troy Sarich

”

Troy also highlighted the impact of technological developments in increasing pharma companies' ability to process huge volume of data from various sources in order to generate insights. Biomedical literature is expanding and we've long surpassed the ability for the human brain to manage all this information and make sense of it. Companies like Inference have built extremely

powerful analytics engines that not only combine rich data from academic medical centers, as seen in their partnership with Mayo Clinic, but also combine those search engine capabilities with biomedical literature and RWE from outside that medical center, other Omics data and importantly, pharmaceutical companies' internal information.



We've flipped from the traditional HCP centric model of 'the patient goes to care' and now 'care goes to the patient.'

– Troy Sarich



However, for extensive analysis of data, companies must have access to information and algorithms are developed by pooling data together. In the pharma industry, this is restricted due to various security and compliance reasons. To overcome this challenge, companies like Owkin has built models using Federated Learning within the healthcare systems. Under Federated Learning, algorithms can be trained remotely. This preserves the security and privacy of distributed data but allows for insights without that information ever leaving its secure and compliant location. OHDSI (Observational Health Data Sciences and Informatics) has developed an international network of data and curated it into a Common Data Model (CDM). They have data from over 70 countries around the world. 330 databases have adopted the OMOP

(Observational Medical Outcomes Partnership) CDM. A billion unique patient records are represented in this platform. The power to generate insights is phenomenal. Within Europe, where OHDSI has partnered with EH DEN (European Health Data and Evidence Network project), they have 98 data partners across 23 countries and 450 million patient records.

Another opportunity for pharma is in clinical trials. Troy shared insights from a study done to identify undiagnosed atrial fibrillation, a condition that affects 3 million people and increases risk of stroke. To recruit patients for this study, over 50,000 emails were sent.

The team tested different messaging approaches and found that technology was a strong motivation for a favorable response. Another insight was that blanketing an audience with a single message is not as effective as targeted messages. 2,600 people consented to be a part of the study which led to a threefold increase in the detection of atrial fibrillation. In the context of understanding audience and communicating effectively, Troy shared the example of J&J's partnership with Apple on Heartline™, a clinical study to determine if the Apple watch and a heart health program can improve health outcomes. Before Covid vaccines were available, J&J posed the question of vaccine hesitancy to the 9,000+ program participants, all over the age of 65. They saw an 81.3% response rate indicating a high engagement with the app. 91.3% of their participants were willing to be vaccinated. When

concerns about vaccine safety and efficacy were met, the others came around. Knowing one's audience and communicating right matters.

This points to the need for players to ensure that they are responsible and thoughtful in their communication strategies, especially on platforms such as health apps. Critical information especially pertaining to diagnosis and treatment of a specific condition must be communicated carefully as it can negatively impact the relationship with patients. As technology evolves and consumers grow more tech savvy, it is important for players in the healthcare industry to understand that patient journey is extremely different as compared with customer journeys elsewhere. The FDA has created the Digital Health Center of Excellence to manage digital health technology so that patients are benefited and protected. The Center connects and builds partnerships to share knowledge and innovate regulatory approaches for this space.

Pharma companies must move beyond HCP centric model and adopt a framework where care goes to the patient. Here, telemedicine is playing a huge role, with the pandemic accelerating its application. These interactions are not perfect as physicians find it difficult to understand what's going on with the patient. This is where technological innovations such as digital biomarkers are creating a huge impact. The healthcare industry should continue to explore these digitization opportunities as they can greatly benefit the players but also raise the bar to deliver better health outcomes to patients.



TROY SARICH

CHIEF COMMERCIAL DATA SCIENCE OFFICER  
JANSSEN PHARMACEUTICALS, J&J

# KEYNOTE

OPPORTUNITIES FOR THE PHARMACEUTICAL  
INDUSTRY FROM THE DIGITIZATION OF HEALTHCARE

## THE PHARMACEUTICAL INDUSTRY IS REINVENTING ITSELF



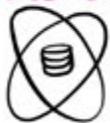
INCREASED ACCESS TO DATA WILL LEAD  
TO BETTER INSIGHTS AND EVIDENCE



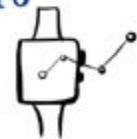
RCT RULES AND RWE WILL SUBSTANTIALLY  
AMPLIFY INSIGHTS AND EVIDENCE



DATA SCIENCE NEEDED FOR INCREASINGLY  
COMPLEX DATA SOURCES



DIGITAL HEALTH IMPACT IS  
ACCELERATING



PRODUCING HIGH QUALITY INSIGHTS  
AND EVIDENCE AND BEING ABLE TO  
EFFECTIVELY COMMUNICATE IT  
IS THE WINNING FORMULA



THE PHARMACEUTICAL INDUSTRY HAS AN  
IMPORTANT OPPORTUNITY TO DRIVE POSITIVE  
CHANGE FOR PATIENTS AND THE ENTIRE  
HEALTHCARE SYSTEM

# The New Health Reality – Moderna’s Unique Perspective On A New Paradigm For The Post-Pandemic World



Corinne Le Goff  
Chief Commercial Officer  
Moderna

Covid-19 brought radical changes to the way the healthcare industry operates. Although there have been significant challenges that the industry had to overcome, the silver lining is an accelerated adoption of digital and technology, increased focus on information and data, better care coordination, and greater health consciousness and self-care. More people have died globally from Covid-19 than from all wars in the 21st century put together. In the US, the death toll surpassed that of the 1918 Spanish flu. The International Monetary Fund (IMF) estimates global Covid-19 costs at about \$28 trillion in lost output. The consequences of Covid are far-reaching and the aftereffects are likely to be long-lasting. Another disruption traced to the pandemic is the rise of obesity. A new report by the Centers for Disease Control and Prevention (CDC) concludes that the monthly rate of Body Mass Index (BMI) increased in children and teenagers almost twice as fast

as it was before. The pandemic has served as a stress test of our weaknesses and vulnerabilities. Corinne focused on 3 profound changes that have resulted from the pandemic.

“

The crisis has served as a catalyst for positive changes in a few areas, from public health to medicine and even engineering

– Corinne Le Goff

”

## Delivery of new care models

Healthcare systems were overwhelmed and placed under undue stress, and had to find new ways to cope. Telemedicine became a key tool for preliminary Covid screening as well as

nonurgent care and consultations. Care teams and patients were better connected by data and digital technologies, which helped bridge the physical separation between them. These were steps to unify a system of care that is still very fragmented. Healthcare providers will embrace the concept of moving information and not moving patients. A good internet connection, home monitoring, and secure teleconsultation technology will enable many patients to receive hospital-quality care at home. These indicate a future of outpatient services built around digitally-enabled care models.

## Rapid implementation of new clinical decision support tools

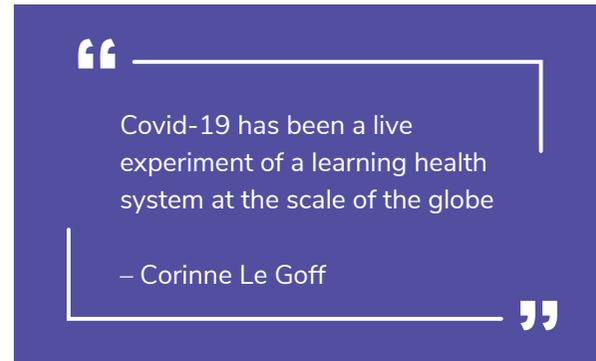
Covid has revealed our ingenuity and near-limitless capacity for innovation. We saw partnerships across industries that had never worked together before. Corinne offered some

examples of the extraordinary innovations that have resulted from the collaboration of technology partners with the Sheba Medical Center, Israel. Vocalis Health developed a diagnostic system that uses sensitive audio technology and Artificial Intelligence/Machine Learning (AI/ML) to detect a vocal indicator for Covid-19 by analyzing a patient's breathing and voice. NanoScent developed a device that can detect the presence and severity of Covid-19. It uses AI sensors to detect and digitize scents, and is based on the principle that the proliferation of virus cells in the nose of Covid-19 patients produces a distinctive odor. Personal robotic assistance has enabled doctors to monitor patients or administer medicines with zero physical contact.

#### Development of new consumer decision support tools

There are new opportunities in the field of preventative care. Covid has pushed the trend toward greater health consciousness and self-care. Currently, there are around 97,000 health and fitness apps available. During the lockdown, 90% of smartphone owners used a health app. The usability of the tools and its ability to refine users' behavior based on their preferences are improving. Current wellness apps focus on nutrition or physical activities with limited customized consultations. The next level will be active decision support, such as health informatics apps and dashboards for personal health data. Predictive wellness coaches may provide continuous advice to help people adopt customized healthy behavior, using life-long

patient data to prevent sickness. Consumers will come to expect this kind of tailored support, and consumer decision support tools will become increasingly important in the future.



The advancements in the development of consumer platforms points to a far superior way to engage, involve, and empower citizens to improve their health compared to the traditional patient-provider interaction. This is central to a preventative medicine paradigm.

Today, >90% of healthcare resources in the West are spent on providing care to those who are already sick rather than on maintaining or improving health. New tools with AI-enabled applications will allow individuals to assess their own health status and determine the need for preemptive medicine or intervention. Early detection will empower people to actively manage and mitigate pre-disease when it may well be reversible. Prediction algorithms, with the appropriate medical and data protection, may allow preventative and affordable interventions against most non-communicable diseases at a global scale.

Preventative medicine focuses on preserving and prolonging health rather than treating or managing sickness. Unlike population health management, which focuses on measures that apply to the entire society (e.g., smoking bans or nutritional guidance), preventative medicine is targeted at tightly defined groups or individuals segmented by risk and the detection of specific biomarkers.

AI has shown us that traditional point-of-care medicine is simply not proficient enough to capture the complexities of disease or wellness. A holistic view of patient is needed, which merges all data points throughout the course of wellness and a disease process, to understand the progression of pathology and discover novel biomarkers of a disease. Personalized preventative medicine requires the meaningful interpretation of terabytes of patient-level longitudinal data set containing both phenotypic and panomic data. Panomic data is generated from patient's tissue and fluid samples and will become more available over the next few years, as molecular biology technologies advance.

This massive transformation of medicine is anchored in the inevitable digital transformation of healthcare. Low quality of data, an inability to securely or conveniently access clinical data, low interoperability of systems, and fragmented care systems are challenges. Covid-19 highlighted some of them, but has also spurred healthcare enterprises to address them head-on.



CORINNE LE GOFF

CHIEF COMMERCIAL OFFICER  
MODERNA



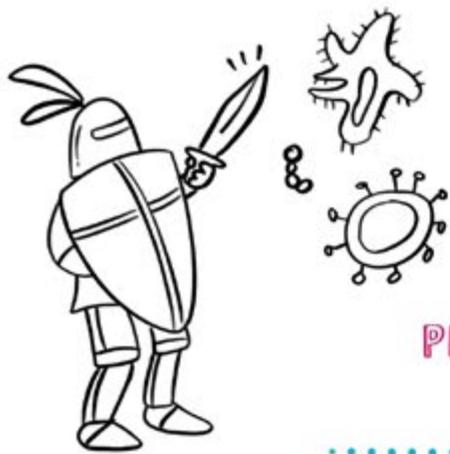
KEYNOTE

# THE NEW HEALTH REALITY - MODERNA'S UNIQUE PERSPECTIVE ON A NEW PARADIGM FOR THE POST-PANDEMIC WORLD



IMF ESTIMATES \$29 TRILLION IMPACT OF  
COVID-19 ON GLOBAL ECONOMY

## WE NEED TO PREEMPT THREATS TO OUR HEALTH



IT'S NOT ABOUT MINIMISING  
ILLNESS ANYMORE. IT'S ABOUT  
MAXIMISING HEALTH  
THROUGH THE USE OF  
PREVENTIVE  
PERSONALISED HEALTH CARE

## 3 THINGS THAT CHANGED:

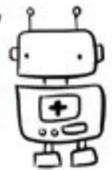
### 1. NEW CARE MODELS

MOVE INFORMATION, NOT PATIENTS



### 2. NEW CLINICAL DECISION SUPPORT TOOLS:

INNOVATIVE CROSSOVER OF AI TECH



### 3. NEW CONSUMER DECISION SUPPORT TOOLS -

TAILORED CUSTOMER SUPPORT



# Major Trends And Opportunities In Life Sciences And Med Tech



David Rhew M.D.  
Global Chief Medical Officer  
and VP of Healthcare  
Microsoft

David spoke on major trends and opportunities in life sciences and med tech such as health equity, consumerism, virtual care, and precision medicine. He also shared his thoughts on the technologies that enable these opportunities.

## Health equity

The pandemic highlighted disparities in care with higher mortality rates in underserved communities and vulnerable populations. Healthcare has to go beyond simply providing equal treatment and aspire to provide equitable treatment to everybody. The model of clinic and hospital care is convenient for a healthcare provider or hospital network. Thinking about community care pushes us to think about how we address individuals with special needs and how we take care to people in their communities and in understanding social determinants and other factors that are important.

“

We need to work with partners who are building capabilities that allow us to take advantage of what we know.

– David Rhew

”

Vaccine Equity Initiative is an example of community care driven by public-private partnerships. It was an opportunity to pull together a coalition of organizations to deliver vaccinations and essential health services to the underserved in communities with low access to care.

## Consumerism

Consumers are more engaged than ever with their health. Many studies have shown that if

an individual is more engaged with their own health information, their health outcomes are better, and show higher patient satisfaction. However, they do not just expect data but expect an information delivery mechanism. Information needs to be presented to them in forms that they are using every day. This is true of clinicians too. There has to be a process to understand information and present it back to a clinician or a consumer as an actionable insight. Data have to be understood in the context of the individual, their medical record, and all the other pieces that are being collected. Once different data sets are brought together and made understandable through interoperability standards, it is possible to put them together for actionable insights. Fast Healthcare Interoperability Resources (FHIR) has now become an industry standard initiating a push towards interoperability. Not far in the future, consumers will be empowered to pull data

from their medical records, from the claims data sets, onto the device of their choice.

### Virtual care

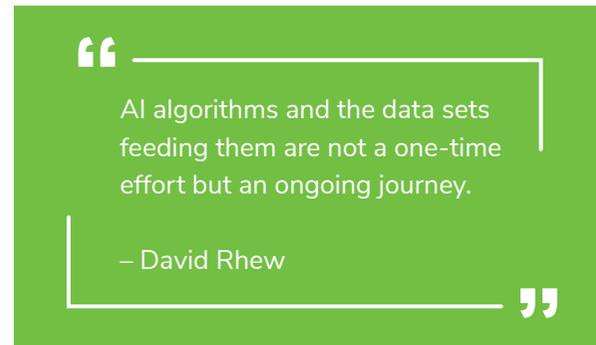
There is more to virtual care than just telehealth and there lies the opportunity for the industry. When we start to think about how healthcare data can be brought into different environments, specifically using FHIR, collaboration in new ways opens up. These are illustrated with some examples of AI in virtual care:

- i) AI applied to information data sets can aid decision making, as seen in the Microsoft AI and Jackson Lab partnership to triage cancer literature for medical teams.
- ii) Ambient Clinical Intelligence (ACI) can, within seconds, convert voice to text, understand the content, and organize it before integrating it directly into medical records.
- iii) Mixed reality within a virtual care setting can be used to support surgical procedure.
- iv) AI can aggregate data from various sources, such as wearables, and combine them with the information from medical literature to inform the clinician about key risk factors.

### Precision medicine

Precision medicine is about understanding individuals, where they are on their journey and how to better help them. Data, insights, and action allow us to provide a model for precision

medicine. Precision medicine also includes the precision supply chain and data pipelines with accurate data flow to be built, as seen with Car-T cell and other types of cell and gene therapies that need very specific types of drugs.



### Enabling technologies

Cloud technology has evolved over time. Organizations that are leveraging cloud only for storage and to compute are limited in capturing its full value. The real opportunity is in enabling AI, virtual care, and collaboration on cloud. Cloud services that offer capabilities beyond storage and computing, that help integrate multiple systems, and meet compliances standards are a better value proposition. It is also also important to ask these questions: How does the cloud service meet the company's needs? Do they monetize data? Do they provide capabilities that the companies can leverage as they build their own tech stack? Are they able to protect the data?

Visionary early adopters of cloud technologies in life sciences were not looking at projects to put their data on the cloud but instead at ways to transform their business through these

technologies. Cloud-enabled capabilities can improve efficiency from R&D to supply chain to customer engagement. Now, cloud vendors too have started thinking beyond storage and compute, of ways to enable collaboration and data sharing, and developing cloud-enabled capabilities where emerging opportunities lie.

In implementing AI, data must be unbiased and this calls for greater transparency in data collection. This in turn will improve the ability to measure outcomes after AI is deployed and retrospectively adjust the algorithm accordingly. Companies have to think from a regulatory standpoint too. Data security, privacy, and transparency in data collection are key factors for the regulators. Where data will reside and how data will be managed and/or monetized is important. The FDA is open to working with the industry in this space. They are proactive in collaborating with industry leaders to publish guidelines and thought leadership. Companies must engage the FDA early, in discussions related to AI/ML initiatives.

Smaller companies may not have all the technological capabilities to meet all the regulatory requirements. If they want to move globally, they have to partner with organizations that have already built the infrastructure to be able to handle the regulations around data interoperability, FHIR, and compliance standards in multiple countries.

# KEYNOTE:

MAJOR TRENDS AND OPPORTUNITIES  
IN LIFE SCIENCES AND MED TECH



DAVID RHEW M.D

GLOBAL CHIEF MEDICAL OFFICER  
AND VP OF HEALTHCARE  
MICROSOFT

## 4 MAJOR TRENDS :

1. HEALTH EQUITY
2. CONSUMERISM
3. VIRTUAL CARE, AI ML
4. PRECISION MEDICINE

## OPPORTUNITIES:

### 3 IMMEDIATE USE CASES OF AI IN VIRTUAL CARE:

1. CHATBOTS FOR HEALTHCARE
2. CLINICIAN TO CLINICIAN AND  
PATIENT CONSULTATIONS
3. AMBIENT CLINICAL INTELLIGENCE



### VACCINATION EQUITY



WE NEED TO THINK BEYOND 'EQUAL' TREATMENT  
FOR EVERYONE TO 'EQUITABLE' TREATMENT

"IT'S ABOUT GETTING THINGS DOWN TO  
1 NUMBER."

— PETER BRAND, MONEYBALL



TRANSPARENCY IS THE FIRST STEP  
TOWARDS AVOIDING AI BIASES



# Leadership Lessons For A Future Ready Commercial Healthcare Organization



**Arpa Garay**  
President, Global  
Pharmaceuticals, Commercial  
Analytics, Digital Marketing  
Merck

Arpa Garay shared critical insights and practical advice across 4 main focus areas of customer experience (CX) transformation, data and analytics, capability reorganization, and innovation.

## CX Transformation

To enable CX transformation, players in the healthcare industry should focus on achieving an ideal CX for patients, healthcare practitioners (HCPs) and payers.

With patients, companies should seek to achieve a scenario of easy and early diagnosis, access to treatment for all, and a healthcare system that offers more personalized choices. This is possible by leveraging data, technologies, and emerging models, such as telehealth that enables companies to create personalized affordable and accessible patient journeys.

For HCPs, pharma companies should make useful information and content available, in

various formats across channels and platforms, for better decisions and outcomes. New digital technologies and an increased focus on delivering a good omnichannel experience means that digital engagement plans should look at channel and content from the HCPs' point of view. They must cater to their specific needs to eventually help HCPs improve patient care. The efforts of companies should be in identifying what engages the HCPs and drives their behaviors in order to design and execute effective customer journeys. Lastly, from a payer's perspective, the relevant information is often about value demonstration and real world evidence to show which subsets of patients are going to benefit the most. Payers have to be enabled to make better decisions for their populations. Delivering accurate and quality data helps payers identify trends, determine affordability gaps to better manage payment risk, and identify opportunities to provide more personalized care. All these factors play an important role in building enhanced loyalty by

patients, especially as the industry recovers and rebuilds from the pandemic.

“

You have to pair new capabilities with existing business leaders who understand the complexity of the healthcare market.

– Arpa Garay

”

Although CX transformation is a high priority for the healthcare industry, from an execution standpoint, the industry still lags in implementing best-in-class initiatives and strategies to achieve it. Pharma can learn from industries such as financial services, also heavily regulated with multiple stakeholders. Many financial companies have gone through massive transformation by

leveraging data and digital technologies for better user experience and product development.

### Data and Analytics

Within healthcare, in addition to existing data, there is an explosion of new data coming from various sources. Regardless of the stakeholder, these data sources have to be assimilated for a deeper understanding of the customer base. From a data and analytics perspective, the industry understands that omnichannel is no longer at an experimentation phase and many companies are getting better at understanding and acquiring data sources from a variety of reputed companies. But, for data, insights, and technologies to work together to deliver business outcomes, a behavioral change is required, which makes culture and mindset the biggest barriers for pharma companies to overcome.

Companies are investing significant time and resources in building algorithms and predictive models. However, are they asking the right questions to extract the best results to solve a particular problem? And are they actually using the insights derived from those models or do they sideline them, relying on past experiences to take decisions that can have a huge impact on the business? There is some conservatism and risk aversion. So, while capabilities exist, the culture piece is going to be the biggest challenge. An example from Merck illustrates the success of data and analytics in delivering better health outcomes. During the pandemic, one of their anesthesia products showed an uptick in demand,

as hospitalizations increased globally. The teams worked with data scientists to build a predictive model with the supply chain for the regulatory requirements and packaging, by which they were able to meet real patient demand.

“

We spend a lot of time saying, what outcomes can this medicine provide to people. Where we need to go is how do we get them to that outcome.

– Arpa Garay

”

### Capability Reorganization

New capabilities need new talent. And culture is also a factor in the way how multinational companies add talent. Advice to companies is to pair new talent with existing business leaders who understand the complexity of the healthcare market. Mixing teams will help preserve culture, mission focus, and yet infuse new capabilities. Global companies have an advantage of trying different things. These learnings are captured, shared, and success celebrated. Companies, such as Merck, have invested in capabilities like next best engagement to help guide a lot of that work. They are limited by technology as not all of their global subsidiaries have the same capabilities. They continue to monitor this to see who is ready for that next rollout. Their solution is a mixed model to build capabilities, where the investment

to build a new capability has to come from the center because these are long-term bets, whereas the investment on getting the work done, such as creating an omnichannel experience, has to be with the countries and the business. This leads to joint ownership and joint collaboration.

### Innovation

The proliferation of data and technology has accelerated the pace of pharma industry's evolution. The industry is at an inflection point where companies can bring in innovation even by enabling a small improvement to a current process that can bring in efficiency and create value. The focus on innovation needs to shift towards helping patients and enabling pharma companies deliver better outcomes. Pharma's mindset about innovation has always been "first in class, best in class." When they do decide to innovate, they do not always have to be the inventor, but can be a fast follower. This provides an opportunity for incremental innovation at a lower risk, lower cost, and faster implementation.

Pharma may not be ready to create their own digital health apps or digital therapeutics. It's core competence is in inventing medicines and vaccines. At least in the short- to midterm, partnering with tech experts is a better choice than trying to bring those capabilities in-house. In the long-term if technology and healthcare really play out, some companies will be in a position to have broader offerings. Even then, the focus will be on medicine, but with the adjacencies to increase the value proposition of medicine.



**ARPA GARAY**

PRESIDENT, GLOBAL PHARMACEUTICALS,  
COMMERCIAL ANALYTICS,  
DIGITAL MARKETING  
MERCK



**IN THE REAL WORLD ,  
PEOPLE DON'T OPERATE  
UNDER CLINICAL  
CIRCUMSTANCES**

# KEYNOTE:

LEADERSHIP LESSONS FOR A **FUTURE READY**  
COMMERCIAL HEALTHCARE ORGANISATION

## IMAGINE A WORLD WHERE:

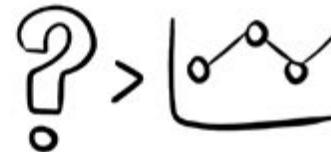
1. YOU COULD MORE **EASILY** AND **QUICKLY** DIAGNOSE DISEASES 
2. MAKE **PERSONALIZED** CHOICES 
3. **PREDICT** SIDE EFFECTS AND GET TO OUTCOMES
4. **ACCESS** DELIVERY AT HOME 

THE 2 INDUSTRIES LIFE SCIENCES CAN LEARN FROM :

1. **FINANCIAL SERVICES - HEAVILY REGULATED, VERY PERSONAL ENGAGEMENT, MULTIPLE STAKEHOLDERS** 
2. **SMALLER, ORPHAN DISEASE COMPANIES - EXPERIMENTS BETTER, SUPPORTS PATIENTS BETTER**



I AM LESS CONCERNED ABOUT BUILDING DATA MODELS.  
I AM MORE CONCERNED ABOUT WHETHER WE ARE  
**ASKING THE RIGHT QUESTIONS.**



# 10 Lessons From Washington To Prepare For The Future Of Healthcare



David Shulkin  
Ninth Secretary  
Us Dept. Of Veterans Affairs

Having run the country's largest healthcare system and with an insiders' view of Washington, DC, Secretary Shulkin shares his insights and lessons on how healthcare organizations can prepare for the major changes ahead.

The pandemic has re-emphasized the dominant role that healthcare plays in American politics, with 90% of Americans reporting being worried about the capacity of the healthcare system to address future pandemics, 88% reporting that Medicare has to be more aggressive on drug pricing, and 67% of customers reporting that healthcare costs as the primary reason for bankruptcy filings. An estimated 102 million American population have a pre-existing condition and only 40% of Americans have a \$1,000 contingency fund for a health emergency.

David highlighted affordability (whether people understand and can afford healthcare cost),

coverage (access), and quality/operations (how people interact with the healthcare system) as 3 key levers for evaluating health policies. To help organizations prepare for the future, he shared the following 10 lessons on major areas of health policy reform:



When in doubt, put the patient in the middle. The patient is the one that ultimately we're doing all this for.

– David Shulkin



## Payment reforms

One of the lasting consequences of the pandemic will be on payment reforms. Although the current government supports the Affordable Care Act, the issue of affordability in healthcare is not completely eliminated. There is going to be a need for additional ways of paying the

healthcare systems, such as through value-based models. During the pandemic, providers lost revenue as people opted out of elective surgeries. In contrast, payers made money for the same reason. In order to avoid such situations in future, providers and payers are looking at future contracting. Healthcare systems are looking at risk-based contracts or population-based health contracting. For example, Medicare is encouraging organizations to take risk by joining Accountable Care Organizations, and specialty providers are participating in bundled payment programs.

## Investments in public health infrastructure

The pandemic has highlighted the limited ability of healthcare systems to adapt along with the need for reforms in public health infrastructure. Health policies must facilitate continued and sustained investments in public healthcare infrastructure so that the system is better prepared to handle crisis in the future to avoid the loss of lives and damage to economy.

### Addressing the rise in healthcare costs

Medicare Part A, the hospital trust fund, is funded almost solely by employer and by taxes paid by employee. The pandemic brought a significant loss to the fund and a real threat of insolvency. One of the ways to address this is by increasing taxes. Price transparency also has a major impact on the industry. Hospitals will soon be required to publish the exact reimbursement that the insurance company pays them, which will be a potential game changer. Pricing of the prescription drug is also set to change if the infrastructure bill goes through.

### Telehealth

There was a 50% increase in telehealth adoption by Medicare beneficiaries during the pandemic. A total of 96% of self-insured employers plan to offer virtual services by 2023. This would have been in single digits to a maximum of 15% before the pandemic. There have been many waivers on the regulatory and reimbursement side that are likely to be permanent, further accelerating the adoption of virtual care.

### Buy American Act

This act was passed during the Great Depression in response to the economic slump. President Trump's final rule was to increase the domestic content of everything in the Buy America Act from 50% to 55%. President Biden has passed a further change, which is up for hearing, to increase domestic content to 65% in 2 years and 75% in 5 years. A new Made In America office allows the Office of Management

and Budget to negotiate with this change and publish the percentage of domestic equipment and internal components for every company.

### Health disparities and maternal health

All government policies and funding initiatives now include an emphasis on eliminating health disparities. It recognizes that the strongest predictor of health outcomes is where people live and socioeconomic status. These disparities have not improved over the past 20 years; addressing health inequities is going to be important.



Digital tools as part of a comprehensive approach can offer a dramatically improved model of care.

– David Shulkin



### Cybersecurity

Healthcare-related cyberattacks reportedly rose by 55% in 2021 and are the most expensive among all industries. President Biden issued an executive order on May 12, 2021, that addressed the National Institute for Standards and Technology to define what is required in software development to overcome the cyberattacks. They have called for industry collaboration, public private partnerships with some of the America's leading technology companies that focus on expanding multifactor authentication, initiating zero trust programs, and improving incident response systems.

### Scope of practice

There is a shortage of doctors and nurses at the moment, which in turn impacts the quality of care. David highlighted that wait times can be reduced and the quality of care can be improved by granting independent practice authority to nurses and pharmacists, similar to his experience with Veterans Affairs.

### Mental health and brain health

During the pandemic, 41% of Americans have suffered from a mental health condition. Drug overdose during this period was estimated to be at 24%. Mental health and brain health is an area that needs further study, greater funding, and requires more research going forward. The Biden administration has invested \$2.5 billion into mental health services and substance abuse. Even pediatric mental health has received additional funding.

### Digital therapeutics

The Food and Drug Administration (FDA) has established breakthrough pathways for digital health, much like what they have done with medications. A Digital Center for Excellence has been established and forty digital health applications have already received FDA approval. Real-world evidence (RWE) is a growing market that is expected to reach \$2.3 billion by 2026. Digital health is creating new data opportunities in RWE, and big technology will be a key part in the transformation.

1. PAYMENT REFORMS



2. INVESTMENTS IN PUBLIC HEALTH INFRASTRUCTURE



3. ADDRESSING THE RISE IN HEALTHCARE COSTS



4. TELEHEALTH POLICIES



# KEYNOTE

10 LESSONS FROM WASHINGTON TO PREPARE FOR THE FUTURE OF HEALTHCARE



DAVID SHULKIN

NINTH SECRETARY  
US DEPT. OF VETERANS AFFAIRS

5. BUY AMERICAN ACT



6. HEALTH DISPARITIES AND MATERNAL HEALTH



7. CYBER SECURITY



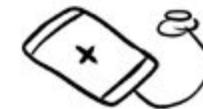
8. SCOPE OF PRACTICE



9. MENTAL HEALTH AND BRAIN HEALTH



10. DIGITAL THERAPEUTICS



# Beyond Reach And Frequency – Get On A Fast Lane To Rx



**Jeff S French**  
VP and  
Chief Digital Officer  
ViiV Healthcare



**Aaron Foster**  
VP, Customer  
Analytics & Insights  
Pfizer



**Thomas  
Thestrup-Terp**  
CVP  
Novo Nordisk



**Marc Valdiviezo**  
VP Strategy and Applied  
Digital Transformation  
Indegene

Life sciences commercial approach has traditionally been an efficiency play based on reach and frequency. It was predominantly driven by reps before the pandemic and the same volume driven strategy was extended to digital channels later on. This reach and frequency strategy manifested in digital metrics such as number of emails sent, number of media impressions, and so on. Currently, leading organizations are revisiting their commercial approach. They are trying to drive an effective customer journey instead of just optimizing the reach and frequency of the customer touchpoints. This is leading them to look at new cross-channel engagement metrics, experiential metrics, and even content metrics. The move from traditional metrics is as critical as the move from the traditional commercial approach.

Aaron called for experimentation and cited a case of an experimental engagement model that

was deployed recently by his organization. Here, the commercial reps engaged the healthcare providers (HCPs) first, then triaged them to medical teams in appropriate circumstances. The model demonstrated that even with lower overall reach and frequency, they were able to meet the customers' need better and drive better engagement. This, in turn, resulted in generating a positive impact for the business. This experiment clearly demonstrated that experience was more important than volume. It is critical to identify the experiences that are going to have a positive impact on the customer, and focus on driving those experiences and measuring them.

Leadership mindset and culture are 2 key factors in shifting toward the new approach. Most commercial leaders in the industry come from sales background, where reach and frequency drove their performance. These leaders must be educated that the collective engagement driven

“

It's not about who yells the loudest anymore. That does not work digitally.

– Thomas Thestrup-Terp

”

by the organization drives value to customer rather than the isolated engagements, and better experience metrics are required to prove this hypothesis. Focused qualitative measures such as Customer Experience Quotient (CXQ) will demonstrate the impact of driving overall experience better than the broad metrics such as Net Promoter Score (NPS). These metrics would influence leadership thinking in the new direction and if executed right, can positively impact the culture of the organization. Initially, establishing and defining the objectives of customer

experience, and then building metrics around the objectives brings clarity to the leadership, and helps driving the mindset change.

Establishing the frameworks of common experience metrics globally is important. However, not all the local markets are at the same place. When handing over common frameworks of metrics to local markets, permitting agility for markets to tweak it as per local market's need and report back to the business is also important.

Advanced analytics is at the core of this shift. The old foundations of data collection do not support the advanced AI/ML-based analytics models because it does not enable connected data collection from various channels. They also do not support unstructured and non-traditional data collection. A modern data collection foundation needs to be laid. Data collection from non-traditional sources is increasingly becoming critical to understand the attitudes and beliefs of the customers. Social data is necessary to understand what the customers actually think about the products and their experiences with the products vis-à-vis what they are reporting through solicited sources such as surveys. Social data also helps identify unmet customers' needs. Customer records are no longer not only limited to who they are but encompass all instances of engagements that they have had with the organization. Having a 360-degree customer view lets the organization see how customers respond to their experiences.

In the context of customer experience management, it is imperative to look at both qualitative and quantitative data. Modern thinking calls for pulling the qualitative data together collectively from granted and ungranted sources. Analyzing qualitative data and reacting to it in real time is even more critical. Where physical congresses were once an important but siloed source of data, the new virtual and hybrid formats allow for integrating these data to customer journey data ecosystem.

“  
When setting up advanced analytics, the underlying data part is often not attractive but foundational to the change.  
– Aaron Foster  
”

It is also critical to build a local execution layer to interpret that data and turn it into simple actions and day-to-day decision-making. Not only building stronger platforms to collect data but having digestible dashboards and recommendations, especially for reps to orchestrate engagements is necessary. Following data and analytics, comes the need to leverage it to optimize the experience at an individual customer level. One way to do that is to deploy more robust AI and build the right technology stack to deploy the AI through. However, it is necessary to conceptualize how AI-driven

automation can be translated to actions before setting up the automation infrastructure. When AI is deployed to orchestrate experiences, it is important to link it to the brand objectives and strategy too. However, AI engines are not yet at a stage where they can be deployed at scale, and commercial teams are not yet ready to embark on this approach. It is important to integrate advanced data and analytics insights capabilities into the commercial ecosystem. Data and analytics functions must not work in a silo and feed insights to commercial functions but need to become a part of day-to-day decision-making.

This may seem daunting to organizations that are yet to explore this approach. Hiring people from outside of pharma who may not know of pharma marketing but bringing in expertise in other aspects of marketing automation is recommended. The industry needs marketers who can operate in a data automation driven environment. The sales rep who succeeded in the past may not be the one who will succeed in the future. Reps will be assessed on their ability to triage the customers to other parts of the engagement ecosystem, their ability to orchestrate hybrid engagements, and their ability to use recommendation engines rather than on just their contribution toward reach and frequency.



**JEFF S FRENCH**

VP AND CDO  
ViiV HEALTHCARE

BAKE IN  
**QUALITATIVE  
FACTORS**  
IN YOUR METRICS



**AARON FOSTER,**

VP, CUSTOMER ANALYTICS & INSIGHTS  
PFIZER

**2/3** RDS OF YOUR TIME IS  
SPENT ON BUILDING THE  
**FOUNDATION** TO GET A  
**360** VIEW OF YOUR  
CUSTOMER ...

**DON'T IGNORE THE  
INVESTMENT IN  
THAT FOUNDATION**

BEYOND **REACH**  
**AND** **FREQUENCY** :

GET ON A FAST LANE TO **Rx**



**TO WHAT END ARE YOU ORCHESTRATING YOUR  
CUSTOMER EXPERIENCE? ALIGN IT WITH  
YOUR BRAND STRATEGY**



**3P's**: PLATFORM  
PROCESSES  
PEOPLE

**IT'S NOT ABOUT WHO YELLS  
THE LOUDEST ANYMORE**



**THOMAS THESTRUP-TERP**

CORPORATE VP  
NOVO NORDISK



**QUALITY SHARE  
OF VOICE,  
NOT SHARE  
OF NOISE**



**MARC VALDIVIEZO**

VP STRATEGY AND DIGITAL TRANSFORMATION  
INDEGENE

# Closing The Aspirations–Actuality Gap To Deliver A Great Customer Experience



Mary Alice Dwyer  
Vice President  
Synetic Life Sciences



Kay Uttech  
VP  
Indegene



Abhijit Barve  
Chief Medical Officer  
Viatris



Maureen Feeney  
VP Medical and Scientific  
Communications  
Takeda  
bluebird bio



Sameer Lal  
Sr VP  
Indegene

Medical Affairs is taking a more central role in driving customer centricity and leading the change through strategic transformation and digital initiatives. However, significant gaps still exist between digital aspirations and the current state of implementation. The panelists shared their experience and insights on what organizations need to do to improve their digital capabilities and shift from a reactive to a proactive model to deliver a great customer experience.

The Medical Affairs Digital Strategy Council, a Future Ready Healthcare initiative by Indegene published a whitepaper in 2021 titled “Aspiration vs Actuality—Assessing the Progress of Digital Excellence in Medical Affairs.” The paper explored digital evolution through the lens of Medical Affairs. 15 companies were part of the survey that covered 12 capabilities where digital processes and activities were employed. These were virtual

events, multichannel/omnichannel medical strategy, field medical – interactive electronic tools, field medical - remote interactions, Customer Relationship Management tools, mobile applications, medical information and medical website, customer engagement analytics/insights tools, content creation, contact centers, Medical Legal Regulatory review process, and touchpoint integration. The survey evaluated where these capabilities had been implemented and the best practices aligned to each capability. From this, a Digital Excellence (DX) score was calculated. Around 67% of the respondents thought that their organization had ambitious digital plans, but only 47% were somewhat satisfied with the progress. The panel discussed 3 of the 12 capabilities covered in the paper, field medical, medical information and medical website, and multichannel/omnichannel strategy.

“

A lot of companies are implementing digital practices, there is still a lot to do, and maybe an anxiousness to go a little faster.

– Mary Alice Dwyer

”

## Field Medical – Interactive Electronic Tools

This received a high DX score of 60, but only 5 respondents had implemented it as part of their digital capabilities, while 6 said they wanted to add it. Some best practices shared by the companies implementing field medical interactive content included creating and managing content, collecting input and feedback to optimize it, and having sessions to define content objectives

based on the needs of healthcare professionals (HCPs). The most challenging best practice to implement was to change the course of discussion and sequence of information based on real-time dialogue and feedback.

In the United States, there is a move towards greater interactive content, where HCPs can be in the field and interact with the content, and at a later time, pick up from where they left off, on the medical web portal. The objective remains to recognize their questions, educate them and close the gaps quickly. This is harder to achieve globally as regulatory and compliance requirements and digital maturity differs by country and greatly influences the implementation processes. Pre-pandemic, HCPs met with Medical Science Liaisons (MSLs) in person during lunchtimes or between appointments. The preference of HCPs to have these meetings over various virtual channels is now shifting. Maureen spoke about how they are exploring ways to break these barriers and replicate the in-person meeting experience.



We need to get to the 3-dimensional discussion with our HCPs and not just show up with a bunch of slides.

– Maureen Feeney



### Medical Information and Medical Website

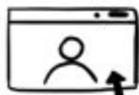
This is gaining more traction with 9 (60%) respondents having a medical or medical information website that they are actively managing, whereas 4 (~26%) respondents planned to set it up. The DX score was among the lowest, at 43, for the overall implementation of the best practices where medical information or a medical website had been implemented. All panelists agreed that a website by itself is passive and needs to be maintained with regular updates. It has to stay current and engage HCPs with content they are interested in. People should be able to access the medical website easily, find useful and relevant content that they can trust. It is extremely important to understand who is the audience for the website. Contrary to popular belief, Maureen said that the Key Opinion Leaders are not the primary audience as they are already in touch with the company and know where to source or find the information they are seeking. It should be the support staff, nurse practitioners, physician assistants etc. A medical website can offer a lot of data, which in turn can provide feedback on the quality and the type of content to work with. A medical website is also easier to implement for an organization with presence in a single region, unlike one with a global presence where the content has to be tweaked for every product and every region.

### Multichannel/Omnichannel Medical Strategy

The DX score for multichannel/omnichannel medical strategy was 50. Multichannel is about tactics to go across various formats,

but omnichannel is preferable because it puts customers at the center, and helps companies provide a unified and personalized experience. Omnichannel holds together all the other capabilities and looks at it as a coordinated strategy. While only 4 respondents have implemented it, 11 stated that they have plans for executing it in the near future. The challenges with omnichannel adoption range from tool selection and software integration to evolving measurement processes. There were 2 best practices that were challenging to implement: mapping customer preferences by channel and by interests, and aligning offline and online efforts to offer a seamless experience.

Going forward, organizations must overcome 3 key barriers to achieve the desired level of customer experience: I) Lack of critical resources such as money, skills, and capabilities. II) Determine customers priorities in a rapidly transforming environment to know where to begin. III) Shed perceived biases about what customers want. The industry has always done things one way but needs to be comfortable with change now.



**FIELD MEDICAL INTERACTIVE CONTENT:**  
ONLY A THIRD OF THE COMPANIES SURVEYED  
IMPLEMENTED THIS DIGITAL CAPABILITY

**60% OF THE TEAMS HAVE A MEDICAL  
INFORMATION WEBSITE**



**KAY UTECH**

VP  
INDEGENE

**OMNI CHANNEL IS THE OVERALL GOAL.**  
IT PULLS TOGETHER SOME OF THE OTHER  
CAPABILITIES AND LOOKS AT IT AS A  
COORDINATED STRATEGY



**4 OUT OF THE 15 COMPANIES SURVEYED HAVE STARTED  
WORKING ON THEIR OMNI CHANNEL STRATEGY.**



**MARY ALICE DWYER**

VICE PRESIDENT  
SYNETHIC LIFE SCIENCES

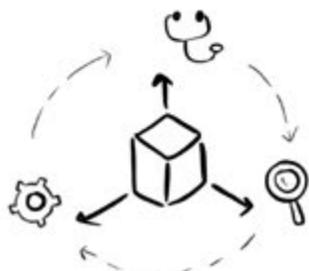
**CLOSING THE ASPIRATIONS - ACTUALITY  
GAP TO DELIVER A GREAT CUSTOMER EXPERIENCE**

**THE CHALLENGE IS HOW DO WE MEET THE CUSTOMER WHERE THEY ARE AND  
IMPLEMENT SOME OF THESE UPSKILLED PRACTISES AROUND CONTENT, AND  
THEN GET THE INFORMATION BACK FOR BETTER INSIGHTS....  
HOW DO WE HAVE A 3 DIMENSIONAL DISCUSSION WITH HCPS**



**ABHIJIT BARVE**

CHIEF MEDICAL OFFICER  
VIATRIS



**SAMEER LAL**

SENIOR VP, INDEGENE



**MAUREEN FEENEY**

VP, MEDICAL AND SCIENTIFIC COMMUNICATIONS  
TAKEDA

# Digital Transformation to Drive Quadruple Aim in Medtech



**Laila Gurney**  
SVP, Chief Quality & Regulatory Officer  
GE Healthcare



**Manish Bharara**  
Director, Clinical Research  
Nevro



**Erin Rapallini**  
Sr. Director Strategy and Customer Experience  
Medtronic



**Marut Setia**  
SVP  
Indegene



**Terri Bresenham**  
Co-Founder  
Forte Health Advisors

Medtech organizations face significant challenges in optimizing their internal processes for building efficiency and improving external engagements with healthcare professionals (HCPs), which in turn could enable better and faster decisions to improve quality of care and patient outcomes. Digital enterprise solutions and data insights can help overcome these challenges and improve the internal collaboration and processes such as market access, regulatory clearance, and compliance, but also help achieve better outcomes. Similarly, engagement with sales channels, HCPs, and patients can be enhanced with effective digital channels. This session provided details on real-world examples and applications that Medtech organizations and leaders can consider for executing digital transformation strategies to fulfill their organizational needs and achieve desired outcomes in key areas.



The new strategic expectation is for both data and related infrastructure to support progressive integration of data to inform product portfolio strategy.

– Manish Bharara



Sharing his experience on enterprise digital solutions and impact of data insights, Manish highlighted that clinical research and research and development (R&D) are the 2 key areas where data have played a significant impact. Multiple data sources have enabled an overlay of medical lifecycle over product lifecycle so that clinical data can inform R&D while new market insights inform clinical pain points as well as

shape product portfolio strategy. There is a growing emphasis on cocreation and partnerships to offer comprehensive solutions that address the life cycle of a disease. These use data and analytics to make incremental choices that address economies of scale, patient centricity, and business model innovation. Furthermore, while data evolution has been taking place over the last few years, the focus is now shifting towards greater contextualization of the data to improve outcomes. Data and analytics are now being increasingly used to predict the next event or combine with other contextual data as opposed to using them only for improving an algorithm or performance of a device.

The challenges with data are related to the data themselves and their impact on business. Thus, quality, sufficiency, and relevancy of data become critical factors to achieve desired outcomes. All

panelists agree that one of the manageable goals to achieve in the near future would be to leverage data to optimize several processes like operations, workflow coordination, and asset management. At the same time, businesses need to define the various key performance indicators that drive referral pathways and product adoption.

Marut offered the example of how Indegene is using data to improve internal and external engagements. In the United States, they have created a lot of intellectual property using interaction data with HCPs, which accurately capture doctors' preferences regarding the content, format, timing and other parameters. He shared another example where an AI (artificial intelligence)-based model helped a leading pharma company reduce the overall pharmacovigilance reporting time by 60% for a COVID-19 vaccine they had developed.

“

Better customer experience begins with empathy... Think about people, their experiences and the problems you are trying to solve for them

– Erin Rapallini

”

As the speed of innovation has greatly increased, the need for agility comes into play. Software is no longer a stand-alone product; it is now part of the

medical device, and is integrated with AI/machine learning. Medical devices are regulated, where products are reviewed and cleared before going to market. Agility comes into focus to improve efficiencies in the regulatory environment. It has to balance speed ensuring that the products being passed are of high quality, safe, and effective. Current regulatory system cannot address the innovation that is expected in medical devices, where algorithms will not be locked anymore but will learn and adapt over time.

Marut drew from his experience to show the contrast between medical device industry and pharma industry and how each can learn from the other. While the medical device industry has taken a resource-intensive approach, pharma is taking the opposite route. Beyond its areas of expertise, it continuously leverages partnerships both inside and outside the industry to achieve its goals more efficiently and effectively. Another front where the pharma is ahead of the medical device industry is in its adoption of digital right from organization processes to overall market strategy. What pharma can learn from the medical device industry is the personalization it offers to its customers.

However, the panelists agreed that the Medtech industry is already in the process of making the shift to digital. Moving forward, data and AI along with partnership models with regulators and other stakeholders will play a crucial role. It is equally important for the allied sectors to be on the same page. But investments in digital transformation

must be a long-term strategy. Manish's advice is to prioritize business critical activities where digital transformation adds a competitive advantage and to be aware of potentially disrupting threats.

Even as organizations go through changes in their structure or processes, Erin highlighted the significance of customer experience. She shared an example of how friction can develop in field-based interactions due to a lack of understanding of how things work within the system. Sharing a success story from Medtronic, she talked about how Customer Success Teams can be set up to navigate internal frictions so that they are invisible to the customer. By understanding and mapping the customer journey, the moments that matter most can be identified.



**MANISH BHARARA**

DIRECTOR, CLINICAL RESEARCH  
NEURO



DATA IS IMPORTANT, BUT THE **QUALITY, SUFFICIENCY**  
AND **RELEVANCE** OF DATA IS SUPER IMPORTANT

A SIGNIFICANT DETERMINANT OF EXECUTION QUALITY AND  
AGILITY FOR DIGITAL TRANSFORMATION IS OUR **ACCESS**  
TO **TALENT POOLS** AND **TECHNOLOGY CLUSTERS**



**LAILA GURNEY**

SVP, CHIEF QUALITY &  
REGULATORY OFFICER  
GE HEALTHCARE

## DIGITAL TRANSFORMATION TO DRIVE QUADRUPLE AIM IN MEDTECH

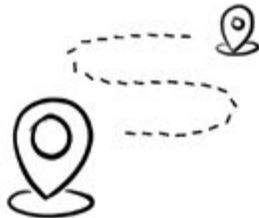
DON'T INVEST IN SHORT TERM  
DIGITAL INITIATIVES, INVEST  
IN LONGER HORIZONS



**ERIN RAPALLINI**

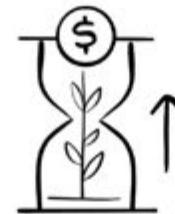
SR. DIRECTOR STRATEGY AND  
CUSTOMER EXPERIENCE  
MEDTRONIC

UNDERSTAND THE CUSTOMER  
JOURNEY AND FOCUS ON THE  
MOMENTS THAT MATTER



**TERRI BRESENHAM**

CO-FOUNDER  
FORTE HEALTH ADVISORS



**MARUT SETIA**

SVP  
INDEGENE

# Accelerating Submission Approvals Through AI



**Kristie Gauntt**  
Head of J&J  
Regulatory Operations  
Johnson & Johnson



**Jennifer Dudinak**  
SVP, Global  
Regulatory Strategy  
& Policy Bristol Myers  
Squibb



**Sanjana Paranjpe**  
IT Head, Strategic  
Business Partnering  
Regulatory & Medical  
Novartis



**Scott Cleve**  
VP, Regulatory  
Operations and  
Compliance  
bluebird bio



**Vladimir Penkrat**  
Associate Vice  
President  
Indegene

Industry leaders are constantly looking at ways to not just improve the effectiveness of regulatory submissions, but also accelerate the overall process and drive sustainable internal changes. The complexity and challenges across the industry to assimilate market competitive health authority (HA) intelligence has traditionally been a low technology approach to understand the expectations of HA leading to delays and potentially inefficient submission strategies. This session focused on how advancements in artificial intelligence (AI) can help accelerate submission approvals within the regulatory landscape.

Jennifer highlighted that AI has implications across all stages of a medicine lifecycle, from target validation to identification of biomarkers, annotation and analysis of clinical trial data, pharmacovigilance, and clinical use optimization. It can help in preclinical development (to achieve

desirable property and synthesis reaction plans), in clinical development (by providing decisions to support systems), in regulatory applications (dossier preparation, extracting data, and pre-filling forms), and in a post-marketing setting (processing adverse event reports). The key to applying AI is in preparing an organization's culture and business process to accept AI insights while also applying it to well-defined use-cases that present strategic value to a business's end goal. AI is a high interest area that everyone is still learning and adapting to, and it will take a collective effort between industry, academia, and HAs to realize its full benefits.

Pharmaceutical applications of AI have not yet reached the maturity of other industries, and a lot can be learned by following the example of others. A starting point can be a Regulatory Information Management system (RIMs) that is configured to

“

I would say it's a journey, it's pretty much in the initial stage. It's hard to point out one example where you see complete value of AI.

– Sanjana Paranjpe

”

store structured data, which can be queried. HAs have begun to expect more granular data, which allows them to aggregate and trend product data and derive key insights. Regulatory affairs must also move from mainly tracking submission dates to serving as a data aggregator. Once this data has been aggregated, it also falls under regulatory affairs to decide what to do with

it. An example is tracking the inquiries of HA in a structured database to generate insights about the HAs interests.

The current technology landscape presents a plethora of options to organizations that are looking at ways to better handle these data. These could range from building a data lake to creating an interface to a RIM system. A key consideration in deciding which approach to take is the number of products being managed. A larger company may get more mileage out of investing in a more advanced technology than one with a few products. The health inquiry database allows applying insights across countries and HAs. AI presents a tremendous value proposition in fast-tracking the preparation of good quality submissions for regulatory agencies. It also has the potential to de-silo big companies to transfer knowledge across therapeutic areas. To handle the technology that enables these results, regulatory affairs' can take this 2-step approach:

(i) Upskilling existing regulatory personnel. As an organization becomes more data-driven, staff must become comfortable thinking about technology and data from a customer-centric perspective. It is also important to integrate technology-based insights into business processes without shaking peoples' trust in those processes.

(ii) Hiring additional data and computer science experts to guide organizations through the adoption of new technologies and act as data stewards. This ensures that there is someone who

understands the meaning behind the data and its potential value to the business. Staff are eager to develop these skill sets, particularly in predictive analytics. As technology becomes more ingrained in businesses, IT organizations are going to have to develop more business knowledge, and business organizations will need more IT expertise. Regulatory affairs' embrace of AI gives rise to the concept of regulatory intelligence, which describes systems that synthesize internal, external, and regulatory information sources. This means interpreting not only guidelines and legislation but also data about other products within a class and internally available information.



As the volume of these data grows, it is important to have automated systems that can distill it to consumable chunks, which can be used for decision-making and strategy building. The creation of such systems remains an ongoing effort. One big challenge is the need to process a dynamic external environment. As regulations and guidelines continue to evolve, AI systems must keep up and even act as a lead indicator of

regulatory changes that might occur later in the product development cycle. Another issue that regulatory intelligence faces is the data quality. Historically, regulatory data have been stored in unstructured portal document formats (PDFs). This needs to be structured for AI to process it. This is best done by starting with small data sets for targeted proofs of concepts and pilots and over time grown into a larger data system.

The panelists discussed predicting a submission's probability of success and how AI can drive more global approaches to fit products to regulatory markets. Current algorithms for predicting probability of success can be bolstered by additional real-time data. The industry may even move toward an industry-wide standard for these predictions. There is the notion of partnering with HAs other than the US FDA for accelerated regulatory approval in other markets. AI can help apply insights from one submission process to another and encourage thinking about the global picture earlier in the product's development to do more for patients worldwide. The key to supporting this is ensuring buy-in from a global team.

Digging deeper into the idea of building intelligence in submission content, the panelists discussed submission-based authoring. Instead of creating a submission sequentially, building it on blocks of information speeds up the gathering of data, but also results in better data quality. This modular approach better enables reusing data globally.



**KRISTIE GAUNT**

HEAD OF J&J REGULATORY OPERATIONS  
JOHNSON & JOHNSON

WHEN YOU SEE AN  
EXTERNAL ENVIRONMENT  
THAT IS SO **DYNAMIC**,  
YOU HAVE TO  
**ANTICIPATE THE TRENDS**



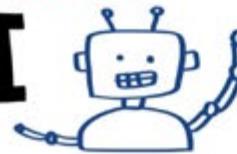
**BRINGING INSIGHTS  
INTERNALLY AND EXTERNALLY  
CAN HELP US CHANGE THE  
GLOBAL MINDSET.  
IT'S A GLOBAL TEAMWORK**



**JENNIFER DUDINAK**

SVP, GLOBAL REGULATORY STRATEGY  
& POLICY  
BRISTOL MYERS SQUIBB

## ACCELERATING SUBMISSION APPROVALS THROUGH AI



**SCOTT CLEVE**

VP, REGULATORY OPERATIONS  
AND COMPLIANCE  
BLUEBIRD BIO

EVERYBODY HAS THEIR PET SPREADSHEET  
AND WE NEED TO BUILD THE SAME  
**TRUST** INTO OUR DIGITAL SYSTEM

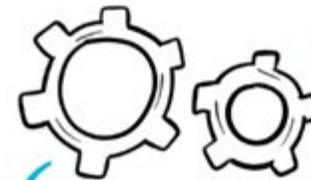


**SANJANA PARANJPE**

IT HEAD, STRATEGIC BUSINESS PARTNERING  
REGULATORY & MEDICAL,  
NOVARTIS



**REGULATORY INTEL USED TO BE TYPICALLY  
ABOUT EXTERNAL INSIGHTS. BUT THERE  
IS A WEALTH OF INFORMATION INTERNALLY  
THAT CAN BE MINED FOR FUTURE SUBMISSIONS**



**VLADIMIR PENKRAT**

AVP - GLOBAL HEAD OF SAFETY  
& REGULATORY AFFAIRS  
INDEGENE

**IN THE PAST IT AND BUSINESS USED  
TO BE DISTINCT FUNCTIONS.  
THEY ARE INTEGRATING BETTER NOW**

# When Your Customers Are Dynamic, Why Is Your Content Strategy Static?



**Julie Richards**  
Head of Creative and Digital  
Novartis



**Cristina Carlis**  
VP, Global Marketing-Digital & Innovation  
Gilead



**Amanda Baccarini**  
VP, Global Marketing & Strategic Innovation,  
Pharmaceutical Systems  
Becton Dickinson



**Matthew Tarnowski**  
Content Strategy Manager  
GSK



**Marc Valdiviezo**  
VP Strategy and Applied Digital Transformation  
Indegene

The pandemic has altered the customer's journey and experience forever. Moving from static to dynamic content is not a choice anymore. Shifting mindset remains a significant challenge to adopting a dynamic content strategy that is based on personalized customer journeys.

As an industry, content in the pharma industry has been heavily rep-centric. They would often curate the content as per the individual customer's needs on the fly. Now that digital and omnichannel are added to the mix, content strategy needs to evolve to meet the change. Omnichannel content needs to have the same impact that the rep-created content had, consistently across all channels. This can only be done with the help of data. The focus should be on creating high-quality, dynamic, and personalized content that is easily accessible

across the customers' preferred channels. It is important to shift the mindset of marketers to move away from using customer journey maps as a tool to validate their content strategy to a truly data-based content strategy, where data from the customer journeys inform their content strategy. When shifting toward formulating a data-based content strategy, it is imperative to keep the end goal in mind. The end goal is to drive behavioral and attitudinal change in customers, and to ensure that the content delivers on driving the change in customers. This reduces the possibility of getting lost in data or waiting for data to lead the way. Having clear goals right from the beginning adds much-needed velocity to the process.

To lead effectively with content, Matthew spoke of prioritizing empathy first and iteration next.

“

Customer journey maps are an empathy tool that help in finding the right message at the right moment for our customers.

– Matthew Tarnowski

”

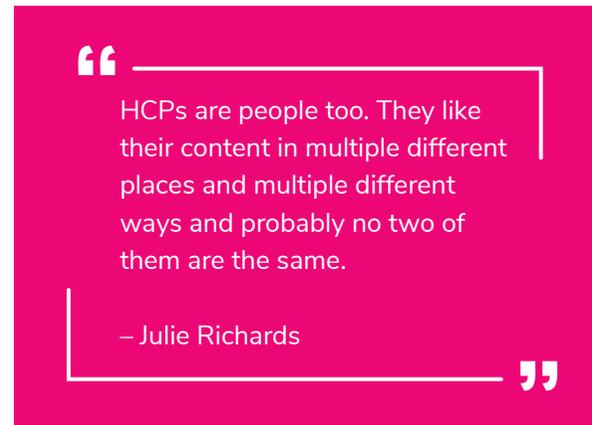
He views optimization of content through the layer of substance first, followed by semantics and structure of content. Customer journey maps are essentially an empathy tool to help create content that focuses on substance. They can be used to pry the organization away from a channel-first mindset to a substance-first mindset. Relevant and contextual content adds value, beyond just keywords.

Empathetic content can be created by co-creating it with the customers. Cristina illustrated this with an example of a successful pilot where her company co-created content with their healthcare providers (HCPs) for campaigns that were targeted at patients. This co-created content resonated better with patients, led to better feedback, and was, overall, better embraced. From a co-creation perspective, she also underscored the importance of building internal partnerships with medical, regulatory, and legal teams. Offering a greater visibility into content planning, such as an editorial calendar, for the stakeholders is critical to the durability of such partnerships.

Listening is an important step to gather authentic feedback. Various sources, such as social listening or peer reviews, can be helpful to this end. Cristina shared an interesting example of social listening to capture patient voice. The insights that they were able to glean from the body art of patients who had PROS disease was an eye-opener for her. Their body art symbolized their journey and reminded them of their struggle. She called social listening as a useful and cost-effective tool and hoped to incorporate more of these in her strategy.

Integrating local market insights into their global content strategy is critical. Panelists suggested a “Glocal” model, where global strategy addresses 80%, leaving the rest for local teams to refine and localize. Amanda talked about the importance of interlocking the goals and priorities between global and local teams, not just at the beginning

of the year at the planning cycle stage but throughout the campaigns as well. She reiterated the need for accountability. Regional marketing teams should be responsible for the accounts and sharing local insights with the global team.



The discussion ended with what each panelist expects to tackle next as part of their content strategy. Julie spoke of the ongoing change management. For Cristina, it was to pursue partnerships, both internally and externally with customers, for content co-creation. For Mathew, it was to embrace the tools that help understand the customer journey better and maintain an outsider’s view. And for Amanda, it was to stay persistent, as the change was not going to happen overnight.



**CRISTINA CARLIS**

VP, GLOBAL MARKETING -  
DIGITAL & INNOVATION  
GILEAD

**PARTNERSHIPS** ARE KEY: INTERNALLY  
FOR PLANNING CONTENT, WITH  
REGULATORY LEGAL MEDICAL AFFAIRS, WITH  
CUSTOMERS IN THE COCREATION PROCESS



**EMPATHY** FIRST,  
ITERATION NEXT



**MATTHEW TARNOWSKI**

CONTENT STRATEGY MANAGER  
GSK

FROM CHANNEL FIRST TO  
SUBSTANCE FIRST MENTALITY



WHEN YOUR CUSTOMERS ARE **DYNAMIC**,  
WHY IS YOUR **CONTENT STRATEGY** STATIC?



**AMANDA BACCARINI**

VP GLOBAL MARKETING &  
STRATEGIC INNOVATION,  
PHARMACEUTICAL SYSTEMS  
BECTON DICKINSON

AS CONTENT GETS MORE  
SOPHISTICATED, IT ALSO  
REQUIRES A HIGHER DEGREE OF  
KNOWLEDGE FROM THE  
**SALES AND REGIONAL  
MARKETING  
ORGANIZATIONS**



**MARC VALDIVIEZO**

VP STRATEGY AND DIGITAL TRANSFORMATION  
INDEGENE

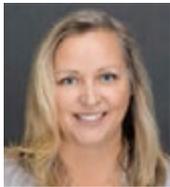
FINDING THE BALANCE BETWEEN  
WHAT THE BRAND WANTS TO  
SAY AND WHAT THE CUSTOMER  
WANTS TO HEAR IS THE  
**MINDSET CHANGE** WE NEED



**JULIE RICHARDS**

GLOBAL HEAD OF CREATIVE & DIGITAL  
INSIGHTS & COMMERCIAL SOLUTIONS  
NOVARTIS

# Atomize And Automate Your Content To Drive Personalization At Scale



**Tara Stewart**  
Former VP,  
Bristol Myers Squibb



**Michael Kurr**  
Global Head of  
GTM Services  
Boehringer Ingelheim



**Cecil Lee**  
Content Strategy  
Advisor, Content  
Intelligence Team  
Eli Lilly



**Parker Richardson**  
VP, Omnichannel  
Operations  
Astellas Pharma US



**Marc Valdiviezo**  
VP, Strategy and  
Applied Digital  
Transformation  
Indegene

The pandemic has accelerated the move toward hyper-personalization. The question that follows is can modular content be leveraged as a tool to automate the content supply chain and drive personalization at scale and eventually impact the commercial model?

First, there is a clear need to define modular content and contextualize what it means for the industry. Modular content is not about modularly designing and modifying the aesthetics of a content piece but about modularly designing the words that are being used to bring a message to life.

The challenges in transitioning toward automated modular content are primarily in ensuring that the organization is aligned with the meaning and impact of creating modular

content. Because this will impact the entire content supply chain, from understanding target segments, engagement planning to final delivery. It is a journey and companies must accept that this journey takes time and there will be learnings along the way. Companies, such as BMS, that have adopted it have seen better customer engagement along with higher script volume and revenues as a consequence.



Modular content is new to life sciences but not new in general. We are all benefactors of modular content in our everyday life.

– Parker Richardson



However, a change of mindset is needed. At Eli Lilly, for instance, their journey started with an assessment of their current state of content. They realized that they were not sufficiently equipped to personalize content at scale for omnichannel. The existing content ecosystem posed major challenges related to content identification, reuse, and approval. In their move toward a new content ecosystem, they set up a new digital asset management platform last year. Setting up this sound foundation first has allowed them to focus on automation aspects such as intelligent content and the use of machines for analysis, auto formatting etc. this year.

In its current state of maturity, Artificial Intelligence and Machine Learning (AI/ML) cannot drive automated content creation and distribution. The role of AI/ML is limited to empowering

modular content rather than driving it. Data plays a critical role in the modular content ecosystem, and AI/ML is helping accelerate the processes in the data space. AI/ML is currently being used to apply metadata to a large quantum of content that would be impossible for humans to tag. Although AI/ML is not currently being used to develop business rules related to content assembly, there are aspirations to leverage AI/ML in this space. Cecil alluded to the usage of other technologies to progress from free-text business rules to machine-readable business rules, which can be auto-applied while content modules are being assembled.

Asset approval still presents a major barrier to the advancement of modular content in the short term. Even though the content modules are preapproved and business rules are established, composite assets are still reviewed in the traditional way. However, in the mid-long term Medical Legal Regulatory (MLR) review functions will become more comfortable in reviewing the content in a modular state. This will pave the way for quicker content production. Michael even imagines a future state where modular content is created, assembled, approved, and distributed in an automated way, and current content production ecosystems will have a limited role to play.

Modular content also impacts content reuse. Traditionally, content reuse is measured in terms of the reuse of the final content asset. With modular content, reuse can be measured at

modular level. With this approach, not only does the accuracy of measurement improve significantly but also the rate of reuse improves. This is because, modules can be reused better across geographies than the final asset. This also enables marketers to drill deeper and find out what messages resonate better with the customers, as the modules with the higher reuse rates reflect the messages that resonate better.



“ The whole production model is going to change drastically, especially as you start to templatize and have global templates at scale. ”

– Tara Stewart

As content evolves into a modular state, the supporting ecosystem will need to evolve. Currently, creative agencies are not structured to create content modules. Tara believes that they will become more strategic and play in the brand strategy and global branding space, and move away from content creation in the future. Content creation, then, will have to be brought in-house. Growing and developing creative talent will become a challenge for healthcare organizations. The panelists also predict that the gap between the strategic component and operational

component of marketing will further expand and the division of labor would become clearer with the evolution of modular content.

Leaders driving the adoption of modular content within their organizations must understand the need for different user groups to be able to motivate users to embrace this change. They need to conceptually familiarize the organization with modular content and its benefits before introducing technologies to implement it. When the technology and the platforms are implemented, they must be user friendly to drive better adoption.

The objective of personalizing content at speed and scale has always been an aspiration for the industry, and modular content promises in delivering on that objective. This transformation needs to be tackled in a phased manner rather than all at once, as it impacts the entire breadth and depth of an organization. Life sciences can draw inspiration from other industries that have not only implemented modular content but are in a more mature state of this journey. A takeaway for leaders who are driving modular content within their organizations is to go slow where it is necessary and respect the pace at which their own organization moves.



TARA STEWART

FORMER VP, WORLDWIDE ENGAGEMENT  
PLANNING & CONTENT CAPABILITIES,  
BRISTOL MYERS SQUIBB



MARC VALDIVIEZO

VP STRATEGY AND DIGITAL TRANSFORMATION  
INDEGENE

MARKETING WILL  
BECOME MORE  
STRATEGIC



CECIL LEE

CONTENT STRATEGY ADVISOR,  
CONTENT INTELLIGENCE TEAM  
ELI LILLY



AI-ML IS ABOUT PUTTING  
METADATA INTO THE CONTENT,  
RATHER THAN THINKING ABOUT  
CONTENT ITSELF

AS WE ARE BUILDING THE  
ECOSYSTEM, WE ALSO NEED TO  
MAKE IT EASY TO USE

YOU NEED TO HAVE AN  
EVOLUTIONARY MINDSET.  
DON'T JUMP IN AND MODULARIZE  
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IT'S NOT A PLUG AND PLAY MODEL. IT  
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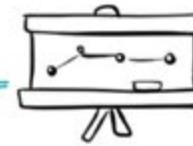
# ATOMIZE & AUTOMATE YOUR CONTENT TO DRIVE PERSONALIZATION @ SCALE



PARKER RICHARDSON

VP, OMNICHANNEL OPERATIONS  
ASTELLAS PHARMA US

WE MODULARLY DESIGN  
WORDS (NOT AESTHETICS) THAT  
BRING MESSAGES TO LIFE



IN THE SHORT TERM, CONTENT  
PLANNING AND  
DEVELOPMENT IS  
IMPORTANT.



MICHAEL KURR

GLOBAL HEAD OF GO-TO-MARKET  
SERVICES,  
BOEHRINGER-INGELHEIM

# Predicting The Next Best Action In Patient Engagement



**Christine Yeh**  
VP, Customer  
Experience  
AbbVie



**Anurag Thakore**  
Senior Director-  
Digital Operations  
Bayer



**Murray Brozinsky**  
CEO  
Conversa Health



**Daniel Keene**  
Director,  
PSS Innovation  
Novartis



**Nitin Raizada**  
VP, Commercial  
Innovation  
Indegene

Patient experience has become a key goal and an important focus for various stakeholders in the healthcare industry to measure the outcomes they aspire to achieve. The growth in data sources and ease of data collection have enabled these stakeholders to better understand the patient flow and patient journey. This has helped in not just building a greater understanding of patient behavior and their personas but to take the next best action in patient engagement. The industry still needs to address and overcome key challenges such as data privacy, data control, and regulations, as organizations go about building their capabilities in this area. This panel shared their experiences and views on how digital technologies and platforms can help in improving patient experience.

Diseases have become more complex to diagnose and to treat, patient journeys have become more

complex, and access to care has become more complex. Moreover, with patients having greater access to information than ever before, the risk of patient misinformation is high. Industry can no longer just push information but needs to listen to consumers and understand what they are going through in order to deliver them the appropriate information.



Content is key. We keep forgetting that consumers could be in all these different platforms but they will only gravitate to things that are of interest and offer value.

– Anurag Thakore



There is a need to educate patients. In 2010, 15% of patients were insured on high deductible health plans and that has gone up to nearly 50% now. This translates to higher out-of-pocket costs and patients do not know how to navigate the access journey. With rise in complex therapies, more rare diseases, and tighter regulations, pharma's work has grown in importance.

Against these challenges, patient engagement was discussed. This is a 3-step journey that begins with getting to know where consumers are, understanding their interests and hobbies as well as data such as demographics and other indicators. Two, engaging customers on platforms where they are already present, through content based on their preferences, at a time of their choice. Three, inviting them to participate in the organization's own ecosystem and driving conversations. This will allow healthcare to

replicate the success that other industries, such as banking and retail, have achieved in meeting consumer expectations.

Rich content is the key to patient engagement because customers only gravitate toward things that provide value. Healthcare companies must have a strong online presence and provide content, which is clear and easy to understand for the patients and helps them identify the single source of truth. Offering easy and seamless content on owned channels is not enough, and companies must ensure that the right content is easily accessible on channels that consumers already trust. Misinformation is a problem that arises when there is no single trusted place that customers can go to get information. Christine referred to it as a “single voice of truth” that customers can turn to for answers about a product, through both its own web presence and social media. As a platform, social media enables listening to customers and understanding where else they may be accessing information. Partnering with these channels to ensure that customers always receive accurate and high-quality information can help stem the flow of misinformation. It is difficult for misinformation to compete with personalized, contextualized communication. When patients are engaged, companies have access to patient wisdom that has all the data they carry with them. Technology can then collect, analyze, and use these data to help make informed decisions. These point to the need for a new patient marketing construct. Data collection is a sensitive area in the pharma

space. Lead generation by itself is not really valuable. Companies have to be purposeful in data collection. As consent is important in pharma industry, it should be offered in a clean and precise language; customers should know what they are consenting to. Understanding channel preferences and using data and analytics to shape communication and improve on it can lead to better patient outcomes, better education, and better awareness of the product. The ability to shape messaging based on data can help shift customer’s behaviors. Adherence to treatment on the patient journey was discussed. Here, an important barrier is access. One in 5 prescriptions is left in the pharmacy or never picked up. Closing that barrier is important before patients proceed with their therapy.

“ Often we see much better engagement when your services or what you’re trying to achieve is embedded in something the patient is already using today. — Daniel Keene ”

There is a tendency to assume there is a generic patient journey. Barriers to healthcare are not static. The more frequently we ask the patient about their barriers, the more successful we can be at determining the next best action. Murray offered the example of a program to reduce

cancellation and no-show rates for colorectal cancer. About 30% of patients do not show up for the procedure for a long list of reasons, including fear of the procedure. The no-show is not good for the patient or for the care provider, as it is a loss of revenue and blocks a slot that could have gone to other appointments. By identifying the root cause, leveraging data and promoting behavioral change using a combination of people and automation, and measuring outcomes to optimize the feedback loop, the no-show rate was reduced by 60% in the program.

Christine reminded everyone of the patient’s right and not break their trust or discount their communication preferences. Having their permission to engage with them in the right way can lead to improved outcomes. Ultimately patients will benefit from better synergies between healthcare professionals (HCP) and patient outreach. Digital platforms, besides providing tools to patients and practitioners individually, can also help. HCP education can be proactive (provide messaging to them that in turn can be used to help their patients) or reactive (collecting patient data and stitching them with resources from the HCP). HCPs stand to benefit if presented with overall patient trends because the right predictive analytics can allow them to forecast roadblocks to patient care and navigate around them. This calls for a new ecosystem that connects pharma, HCPs, and patients



IT'S NOT JUST ABOUT PUSHING INFORMATION. WE MUST LISTEN TOO, AND UNDERSTAND THE CONSUMER LANDSCAPE AND THEIR JOURNEY



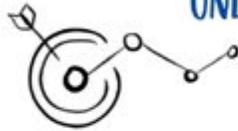
**ANURAG THAKORE**

SENIOR DIRECTOR-DIGITAL OPERATIONS  
BAYER

**CHRISTINE YEH**

VP, CUSTOMER EXPERIENCE  
AbbVie

WHEN YOU DO DATA COLLECTION, BE PURPOSEFUL. UNDERSTAND WHAT YOU WANT FROM IT AND HOW WILL YOU USE IT TO DRIVE CUSTOMER ENGAGEMENT



## PREDICTING THE NEXT BEST ACTION IN PATIENT ENGAGEMENT



**DANIEL KEENE**

DIRECTOR, PSS INNOVATION  
NOVARTIS

ACCESS IS ONE OF THE MOST IMPORTANT BARRIERS THAT LIMITS PATIENT TREATMENT

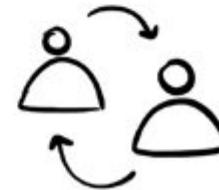


THE TRICK IS TO INCREASE THE VARIABILITY OF ENGAGEMENT AND REDUCE VARIABILITY OF CARE



**NITIN RAIZADA**

VP, COMMERCIAL INNOVATION  
INDEGENE



**MURRAY BROZINSKY**

CEO  
CONVERSA HEALTH

# Enhancing The Experience Of Patient Access Programs



**Bill Krause**  
Chief Strategy &  
Growth Officer  
Solis Mammography



**Maria Lopes**  
Chief Medical Officer  
AOL



**Myla Maloney**  
Chief Commercial Officer  
Premier Applied Sciences



**Nitin Raizada**  
VP, Commercial  
Innovation  
Indegene

With the emergence of specialty pharma, rare drugs, orphan drugs, and other increasingly specialized and novel therapies in the market, boosting customer experience has gained more importance. Among factors to drive CX, the focus to improve patient access is very high given its equal importance to all stakeholders of the healthcare industry. On one hand, consumers, whether they are HCPs, caregivers or patients, expect a great customer experience. On the other, there are heavy regulations and there is also a digital transformation underway. The healthcare community has expanded to include patient communities, digital platforms, and wellness organizations. Against this, how can expectations be met within the patient-provider workflow? Three key points were discussed.

## Collaborations between stakeholders

There is a need for key stakeholders such as hospitals, payers, and life sciences to merge their

patient access platforms and services. The question is if this was actually possible. While the panelists agreed that the desired integration is a while away, they are hopeful of greater collaboration for the benefit of the patient. They agreed that it comes with challenges. For the provider community, efficiency, productivity and performance overshadow the ability to adopt programs. There are several advantages to working together, and one area of impact is patient care, as it would help with affordability, convenience, and ease of access. Given that Covid has shown the home to be the third locus of care, it can also provide solutions to administer complex treatment at home. Providers are also struggling with the volume of information being given to them. This also offers an opportunity for hub services to connect providers to share meaningful and actionable information.

“

Affordability is starting to be a bigger challenge and that reflects on benefit designs and challenges around patient, co pays and coinsurance.

– Maria Lopes

”

## Access to data

To enable integration for improving patient access, payers can deliver value in the form of clinical differentiation which is combining efficacy and safety of an offering. With newer, more complex therapies, this calculation becomes more difficult. The story of how a product will impact the patient journey, how it will impact other cost offsets, and how it's improving patient quality of

life is needed. And this requires strong data ready to go at launch. This challenge can be overcome by using factors such as The 21st Century Cures Act, which makes patient data digitally available to payers and providers.

### Changing role of pharma

Pharma companies are providing more patient services. Patient-reported outcome data can provide actionable insights that offer value, which can be beneficial in some diseases, especially chronic conditions like rheumatoid arthritis and inflammatory bowel disease. Another opportunity for innovation is the integration of digital therapeutics to supplement and substitute for other treatments. Regardless of area, stepping into a bigger role requires pharmaceutical companies to be cognizant of the health system's perspective. This means embedding and integrating into the hospital and healthcare provider's existing workflow and resisting the temptation to roll a brand-new platform. Further, adding new stakeholders to the ecosystem who are playing a more central role in consumer care, and who are empowered with data will change the landscape of healthcare in the coming months.

On the role of digital technology around patient access and patient affordability, social determinants came up as a factor that impacts patient affordability and adherence. Factors such as regulatory push towards price transparency, will reflect the actual contract and negotiated rate. This is a major step forward as consumers want to understand their financial responsibility

before choosing a treatment. The role of providers in the financial health of patients is expanding, especially for the segment of patients who start treatment for a certain condition but may soon abandon it mainly due to lack of adequate patient support. This means that lower cost drugs without patient support may see a higher cost than higher cost drugs. With a lot of data residing in provider and payer systems that are necessary for workflows and programs, this is an area that's ripe for innovation which can help providers overcome this challenge. Another tip was to stay flexible with data so that integration is possible with a wide range of platforms. The key is interoperability along with the opportunity to provide value with predictive analytics tools that can sit on top of data that can lead to more successful outcomes.

“

You have to have a way that the system can actually use your product, convert to it, figure out where it fits and identify patients to give it to.

– Myla Maloney

”

The panel also examined how hubs are driving outcome-based contracts. Outcome-based contracts present many challenges, key among them is how to define success, particularly with

one-time treatments such as gene therapies and CAR-T treatments. The operational challenge is of handling the volume of payer contracts. From the provider standpoint, Myla spoke of value-based contracts being contemplated or executed. She shared a conversation with a subject expert who said if they implemented every value-based contract that came to them that reduced length of stay, they'd have nobody in the hospital. The answer, the panel felt, lies in a paradigm that measures what is important from a patient standpoint but includes what is reasonable to be implemented from a health system standpoint.

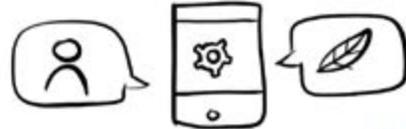
The increasing role of digital native companies who know how to appeal and streamline consumer's experience in the healthcare ecosystem will play an important in reshaping patient access programs for the better. Further, as part of the digital transformation strategy, it is important for stakeholders to explore and extensively leverage appropriate tools and technologies to discover risk factors for different diseases, predict patient adherence and medicine efficacy, with an objective to increase access to professionals, and for patients to be able to access services at home.



**MYLA MALONEY**

CHIEF COMMERCIAL OFFICER,  
PREMIER APPLIED SCIENCES

I AM EXCITED ABOUT  
**TECHNOLOGY'S** ROLE IN  
ALIGNING THE RIGHT PATIENTS  
WITH THE RIGHT THERAPY



# ENHANCING THE EXPERIENCE OF PATIENT ACCESS PROGRAMS

VALUE-BASED CONTRACTS  
REQUIRE MEASURING WHAT IS  
**IMPORTANT** FROM A  
PATIENT'S STANDPOINT, BUT  
ALSO **REASONABLE** FROM A  
SERVICE PROVIDER STANDPOINT



I AM EXCITED ABOUT TECHNOLOGY'S  
POTENTIAL TO ADDRESS  
BEHAVIORAL HEALTH AND  
NETWORK ACCESS CHALLENGES



**MARIA LOPES**

CHIEF MEDICAL OFFICER,  
GHI

THE ROLE OF HEALTHCARE PROVIDERS  
IN THE **FINANCIAL HEALTH** OF THEIR  
PATIENTS IS INCREASING



**BILL KRAUSE**

CHIEF STRATEGY & GROWTH OFFICER-  
SOLIS MAMMOGRAPHY



**NITIN RAIZADA**

VP, COMMERCIAL INNOVATION  
INDEGENE

# Realizing Emerging Biotech's True Revenue Potential



**Matt Lasmanis**  
Chief Technology and  
Innovation Officer  
Sage Therapeutics



**Victor M. Clavelli**  
Chief Commercial  
Officer  
Optinose



**Kate Hermans**  
Founder / CEO  
Hermans International



**Tim Moore**  
SVP  
Indegene

Emerging biotech companies now have more alternatives to either licensing their product or being acquired. This leads to a need for expertise as they move from development toward commercialization, one that is capital efficient, unique, and relevant to their needs.



The talent and the culture decisions you make as a leadership team are going to drive the success of your company.

– Victor M. Clavelli



When launching a product, much of the challenge lies in working out how it plugs into the existing healthcare machine and predicting where the market is going. In emerging biotech

specifically, there is also an additional emphasis on building foundational infrastructure that can scale, whereas in large pharmaceutical companies, the challenge lies in repurposing existing infrastructure. The lack of this existing infrastructure means a lot of new work also needs to be done around obtaining things like distribution licenses. These need to be handled while making an organizational shift from a clinical to commercialization mindset. In the preapproval phase, biotech suffers from the absence of insight into regulators' resource allocation and strategy. One reason for this is that these companies are less likely to have other products that have been through the approval process. Emerging biotech companies tend to be focused on 1 asset, which requires a slightly different perspective with respect to the shift to commercialization mentioned previously. However, a single asset can be thought of as an advantage and not a limitation. The focus on driving value at a specific

customer segment, being closer to the customers and focusing on their needs rather than speeding through the approval process can be considered as the intangible advantage of an emerging biotech or even a business unit in a large pharma.

The panelists were asked how they make decisions with the information gaps that were previously mentioned. A part of this is addressed by the organizational shift toward commercialization. As the burn rate accelerates closer to the launch, the company needs to focus its investment decisions on things that are immediately most valuable, tabling long-term and extraneous concerns. Another recommendation was to streamline the decision-making processes. Small organizations tend to be agile, which should be leveraged in decision-making. It is also beneficial to try and preserve that through the shift. Victor shared his experience at Optinose and their One Mission culture, where they focus and

prioritize the top drivers of success. This helped in focusing on priorities of a given program and deprioritizing what is merely nice to have.

The gears shifted to how build versus buy analyses have changed over the last 5 to 10 years. The panel stressed the importance of assembling an ecosystem to address business problems over building things from scratch. This calls for the right partners.

“

I think that the emerging biotech is more naturally going to gravitate towards 'Buy' versus 'Build it'; they just don't have the resources.

– Kate Hermans

”

Emerging biotech firms can afford to investigate the cutting edge as they are unburdened by old infrastructure. They also tend to lack resources to build in-house, often leading them to buying solutions. They can leapfrog big pharmaceutical companies that want to build their own end to end ecosystems and have a larger capital base of infrastructure, who do not look to leverage innovative ideas achieved by smaller companies.

The biggest shift over the last 5 years has been the move from getting “boots on the ground” to reach customers, and creating a digital

engagement infrastructure. Victor talked about how since the beginning of the pandemic, they have expanded the number of customers, that each of their territory managers oversees, by 50%. This was achieved partially from technology to strategically target customers instead of the traditional reach and frequency approach.

On the pandemic and its lasting impact, there is no need for organizations to choose between digital and physical infrastructure. The panel predict both will continue to exist, with the former augmenting and directing the latter toward customer needs. Omnichannel is primarily about learning how the customer is gathering information and meeting them there. Beyond this, there is not a one-size-fits-all solution. The trend toward digital analytics has existed for the last 10 to 15 years, and the pandemic only accelerated what was already there. However, people may choose to persist with some virtual experiences they have grown accustomed to during the pandemic. Patients have also enjoyed having a greater voice in driving their own healthcare, and it is important to continue to allow that.

One big impact of artificial intelligence is that it grants companies the freedom not to have all the right answers at the launch, since it enables learning customer needs and engagement patterns post launch. This pivots from the pharmaceutical industry's previous prescriptive and definitive models to ones that align communication with learned audience preferences. These changes enable organizational

agility and rapid decision-making with a fail-fast culture. Ultimately, the major factor to driving this is leadership vision. This means setting the expectation that it is okay to try things as long as mistakes are used as learning opportunities and not repeated. Budgeting for experimentation and empowering people to follow through on well-thought-out but untested ideas are also key. Given the scientific nature of the pharmaceutical industry, it helps to borrow the language from scientific thinking to reframe business problems. With more capital available to emerging biotech companies investor scrutiny has increased. They not only ask about clinical aspects of the asset, but also details of the commercialization plan.

The panel concluded with key trends that will impact emerging biotech businesses in the future. For Victor, it is the shift in disseminating expert information to facilitate a conversation about the product solutions. Matt spoke of the convergence of healthcare and technology into digital health and its evolution in the next 12 months. Kate hopes to see organizations integrating technology to augment how they address the voice of the customer, whether it is a healthcare professional, patient or payer.



**KATE HERMANS**

FOUNDER/ CEO  
HERMANS INTERNATIONAL

EMERGING BIOTECHS HAVE AN OPPORTUNITY TO  
KEEP THE CULTURE OF RAPID DECISION MAKING  
AND TESTING AND LEARNING



**VICTOR M. CLAVELLI**

CHIEF COMMERCIAL OFFICER,  
OPTINOSE

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THE TALENT AND CULTURE DECISIONS  
YOU MAKE AS THE LEADERSHIP WILL DRIVE  
THE SUCCESS OF YOUR COMPANY

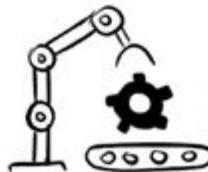


## REALIZING EMERGING BIOTECH'S TRUE REVENUE POTENTIAL



**TIM MOORE**

SVP, INDEGENE



-----  
A LOT OF THE POWER COMES FROM NOT NOVEL  
CONSTRUCTION, BUT FROM THE ASSEMBLY OF AN  
ECOSYSTEM TO DRIVE YOUR STRATEGIC GOALS



**MATT LASMANIS**

CHIEF TECHNOLOGY AND  
INNOVATION OFFICER  
SAGE THERAPEUTICS

# A Road Map For Building A CX-Centric Organization



**Nerissa Gomes**  
Executive Director,  
Global Customer  
Capabilities  
Amgen



**Debraj Dasgupta**  
Founder & CEO  
Hdrive Consulting



**Kenneth Coyle**  
VP, Business  
Operations  
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**John McCarthy**  
Principal Consultant  
DT Consulting

As business models shift from a traditional brand-centric approach to a customer-centric one, the organization's structure and roles must also evolve. Borrowing lessons from Amgen, there are 3 focus areas:

1. Building a customer-focused thinking across the organization so that teams keep customers at the center of their strategy planning.
2. Removing redundant layers between the product that companies build and how customers experience it.
3. Creating a global customer capabilities team that centralizes data, analytics, digital capabilities, and so on to provide a uniform experience to customers, across regions, channels, and brands.

Greater customer centricity has also meant redefining roles and creating new roles. Where earlier there were brand teams and sales

teams, today it is more complex. For instance, as marketing tech stacks have become more complicated, new roles of platform managers have been created, who sit at the interface of marketing and IT to provide governance. There are customer experience designers, content teams who interact with marketing teams, and data scientists who work alongside traditional primary market researchers. Even the role of a sales rep is changing to hybrid sales rep and remote sales rep. These changes are driving and shaping the transformation. However, it is not just about the creation of new roles but also how they work together. All these point to how the model has moved from "selling" to compliantly supporting customer needs.

In the coming 3 to 5 years, marketing teams in pharma are more likely to resemble FMCG, with advanced analysts, content managers, and traditional brand managers working together.

Marketers are being recognized as consumers themselves, and this too has prompted change in the way of working. The marketing team must be equipped with the tools and skills they will need to operate in the new omnichannel and data-driven environment. Those in customer-facing roles must learn to leverage data and insights generated by partner teams. As new roles are added, people will need to be trained to build the competencies required.

“

We're seeing a lot of roles being born at the interfaces of functions, and these will play an important role in driving and shaping the overall transformation.

– Debraj Dasgupta

”

The evolving roles do not supplant face-to-face interactions. Those remain critical and relevant. What the reps have now is a powerful set of tools and more channels of communication, in addition to face-to-face interactions. These tools could be emails, content on websites, webinars and so on. Debraj shared data on how rep-driven channels have consistently delivered the highest engagement. According to an internal survey by a life sciences organizations, the open rate of an email sent by a rep was 60% to 70%, followed by an open rate of 10% for a company-driven email and 3% for a third-party email. And this, even with the same content across all 3 channels. The better outcome came from the relationship and trust built via face-to-face interactions. Despite the remote interactions in the past 18 months, the panelists felt that face-to-face interaction will still be critical and relevant and must remain a focus area for growth in the future.



We are blessed with a lot of data, but that also means it takes a lot to find the insights that the customer-oriented teams can action upon.

– Nerissa Gomes



Debraj felt that the organizations have to evolve their incentives model and arrive at a

way to incentivize reps for digital interactions. Organizations often find it difficult to link the incentive models of head office-based and field-based roles and align it to shared objectives. Nerissa argued that the incentive structure should be unique to each role and tied to action rather than a shared objective, because it risks becoming too broad if it is tied to the latter. There is a need for experimentation in this space, and organizations need to move away from a one-size-fits-all incentive structure.

Companies can help customer-facing teams implement the change by

1. Equipping teams with the right data and tools and building easy-to-use tools
2. Helping the teams realize the value and reason behind the shift
3. Getting the teams to understand the new interconnected journey across multiple touchpoints, while reinforcing the importance of their roles

Companies will need data connection and integration, insight generation, and leverage AI and automation to drive machine-learning actions for better customer experience. There is a growing realization of the role of content analytics. Content is important as a communication message, but it is also important to learn how customers are interacting with that content. Evidently, there is a need for integration among systems, platforms, functions, and, most importantly, teams. The

brand plans need to be co-owned not only by marketing, medical, and market access but also by sales teams.

Senior leadership buy-in is critical for the evolution of roles. Senior marketing and sales leadership should become champions of transformation, while digital and commercial operations assume a supporting role. Reverse mentoring (where a young digital native is assigned to a senior leader to bring the latter up to speed with digital tools) and importing talent from outside the industry can bridge the gap.

Customers are changing faster than the companies are. Although it is expected that customers always evolve forward, there could be chances of customer pivoting back to what they used to prefer before the pandemic. Debraj cited a survey that supported this behavioral roll back. It necessitates having the data and analytics capability to track these shifts in real time.

Part of the challenge in moving forward comes from the variability in customer needs that the pandemic has revealed and catching up with systems and capabilities to serve the customer needs. Even as companies try to catch up with their systems and capabilities, geographical variability must be factored. Companies must be able to pivot to different commercial models across various geographies to navigate through these challenges.



**NERISSA GOMES**

DIRECTOR, MARKETING & LIFECYCLE  
MANAGEMENT (INFLAMMATION)  
AMGEN

INTEGRATING FACE TO FACE INTERACTION WITH THE  
SURROUND SOUND THAT DIGITAL AND VIRTUAL  
INTERACTIONS PROVIDE, WILL HAVE A POSITIVE  
IMPACT ON DRIVING CUSTOMER EXPERIENCE



IN ORDER FOR US TO MAXIMISE THE VALUE OF  
ANALYTICS AND PREDICTIVE WORK WE NEED  
TO HAVE THE BUY IN ACROSS THE BOARD



**KENNETH COYLE**

VP- BUSINESS OPERATIONS  
INCYTE

## A ROADMAP FOR BUILDING A CX CENTRIC ORGANISATION



**JOHN MCCARTHY**

PRINCIPAL CONSULTANT  
DT CONSULTING



ANALYTICS IS BREAD AND BUTTER FOR  
EVERY ROLE. EVERYONE HAS TO BECOME A PART OF  
THE DATA DRIVEN MARKETING MACHINE TO LEARN  
HOW THE CUSTOMERS ARE INTERACTING WITH YOU



**DEBRAJ DASGUPTA**

FOUNDER AND CEO  
HDRIVE CONSULTING

# Technology Shaping Enterprise Business Agility



Joyce Lee  
CIO  
Johnson & Johnson



Vishu Chittibabu  
CIO  
Abbott Diabetes Care



Giuseppe Firenze  
VP, Global Chief  
Information Officer,  
Business Units  
Eli Lilly



Subrato Majumdar  
Vice President  
Indegene

In the last year, technology has greatly shaped businesses, shifting mindset toward greater tech adoption and prioritizing customers. In this discussion, panelists comprising CIOs of large pharma companies shared insights on what the last 18 months have been like for their businesses.

Companies saw an acceleration in digitization and automation to drive better productivity. Data became a key asset and differentiator. Some organizations even started transforming their “content as data” to deliver deeper insights. However, digitization has also rendered healthcare companies more vulnerable to cyberattacks, both for personal data and intellectual property data. On the positive side, the mindset toward digital culture has changed, necessitating the need to upskill the workforce.

It was customers who drove the change, directing where they wanted to meet the organizations.

They pushed for a more seamless integration in telehealth between the doctors’ offices and pharmacies to ensure that prescriptions could be fulfilled. Technology had to be scaled to achieve this. Investments made in foundations such as Software as a Service (SaaS) based tools and cloud infrastructure paid off, allowing the scaling of technologies such as remote working and collaboration tools.

Everyone’s journey was different, and the challenges to be addressed were distinct from one another. Giuseppe shared his experience of HCP journeys, where they had to enable more than one platform to gain access to HCPs. He also talked about Medical Affairs channels, which was another area of focus. This is an area usually not prioritized, but proved significant during the pandemic.

Another fallout of the pandemic-induced change was the speed with which the omnichannel

content was delivered. Prior to the pandemic, pharmaceutical companies were behind in omni-channel marketing, but the lesson learned over the last year was to benchmark not just against pharma but also against other industries. Content creation has to be faster and Medical, Legal, and Regulatory (MLR) process has to keep up with it, or as Giuseppe called it, the need to “industrialize MLR”.

“

Let’s no longer invest in technology projects, invest in business roadmaps.

– Joyce Lee

”

The focus on return on investment (ROI) has intensified with greater need to differentiate in the marketplace. If data is considered as an asset, the conversations are shifting toward assigning a measurable currency to it and monetize it. Companies have to move away from investing in technology projects and instead start investing in business roadmaps, because digital at scale and data at scale require continued investments in foundational infrastructure over a long period of time. Giuseppe shared that CIOs are no longer presenting standalone business cases for technology investments, but instead are presenting business capability roadmaps alongside their business counterparts. CIOs and CDOs are expected to address the measurability and monetizability of product outcomes now. Business units in return are showing a greater appetite to experiment, as evidenced by increased collaborations with startups and academia to channel innovation.

Talent must also be upskilled to meet the change. Joyce spoke of updates to their digital skills taxonomy by bringing domain experts to validate the skillsets needed, not just for the present but also for the future. Her company used an AI-driven talent assessment engine to predict the talent requirement for the future. Organizations are becoming more data-driven and are trying to instill analytical skills in not just marketers but the entire workforce. Remote working has also removed some of the barriers that existed around access to talent. Technology workforce need to learn more about their business and

business workforce need to learn more about methodologies such as agile and design thinking. Design thinking should be the center piece of customer experience design, not technology.

(KPIs) should also be CX-focused. In addition to the usual metrics, adopting qualitative CX-based KPIs would include scores to measure quality, satisfaction, and loyalty.

“ Consumers aren't going to wait 18-24 months for product-partnership integration. Companies must build an ecosystem that anticipates future partnerships. – Vishu Chittibabu ”

Emerging Machine Learning trends are typically targeted at specific areas of an organization. However, upskilling current talent with data and analytics skills helps move toward a data-driven organization. This has the added benefit of making marketing teams more analytical savvy. Data democratization programs also help in upskilling nontechnical staff. Now that remote work has become more prevalent, it makes it possible to find talent in other geographic areas who previously may not have been willing to relocate. The pandemic has also brought greater

virtual learning opportunities, making it the perfect time to learn new things, not just in technology but in leadership, in business, and even in understanding competition better.

Rather than relying entirely on internal talent, there is now an opportunity to form strategic alliances. Good partners are innovative, willing to start small, and eager to make an impact. However, agility is important, consumers are not going to wait 18 to 24 months for products and partnerships to be integrated. This calls for seamless and quick transfer of data within the systems. Application Programming Interfaces (APIs) need to be built beforehand to make data integration seamless. This underscores the need for a skilled IT team. In conclusion, enterprises should focus on building these technological “muscles” toward future ready healthcare, and the technology needs to understand the vision, the business problem, and the purpose.

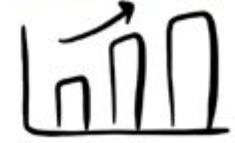
# TECHNOLOGY SHAPING ENTERPRISE BUSINESS AGILITY



**JOYCE LEE**

CIO  
JOHNSON & JOHNSON

IN J&J ITSELF, WE SAW A 30% GROWTH IN DATA



YOU NEED TO INVEST IN BOTH-PERFORM AND TRANSFORM

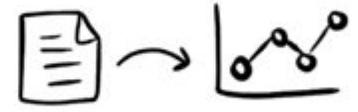


LET'S NOT INVEST IN PROJECTS, LET'S INVEST IN



ONE OF THE IMPORTANT ASPECTS FOR US WAS HOW DO WE TRANSFORM CONTENT INTO DATA

WE ARE REFRESHING OUR DIGITAL TAXONOMY GIVEN THE SHORTAGE OF TALENT



IF YOU DEMOCRATIZE DATA, YOU NEED TO BUILD THE SKILLS TO LEVERAGE THE ASSET



**SUBRATO MAJUMDAR**

VICE PRESIDENT  
INDEGENE



**VISHU CHITTIBABU**  
CIO- ABBOTT DIABETES CARE

THE CUSTOMER DICTATED HOW THEY WANT THE EXPERIENCE.



IN ADDITION TO DIGITISATION, ACCELERATION OF PRODUCT DEVELOPMENT HAS HAPPENED



THE CHALLENGE GIVEN TO CIOS IS WHAT THE NEXT GEN OPERATING MODEL LOOKS LIKE



**GIUSEPPE FIRENZE**

VP, GLOBAL CHIEF INFORMATION OFFICER,  
BUSINESS UNITS  
ELI LILLY

# Has Digital Acceleration Damaged Your Customers' Experience?



**Marc Schwartz**  
Global Head of Omnichannel  
Sanofi



**Anuj Maheshwari**  
VP, HCP and Patient Marketing Enablement  
Pfizer



**Robin Kamen**  
Global Lead, Omnichannel and Customer Experience  
Galderma



**Rorik van Welij**  
Worldwide Omni-channel Capability Lead  
Bristol Myers Squibb



**Hannah Price**  
Director of CX  
DT Consulting

Covid-19 greatly increased the adoption of digital and virtual interactions among healthcare professionals (HCPs). While many still wish to return to the face-to-face model, the majority are embracing digital due to its flexibility, responsiveness, and the lack of geographic constraints. This points to the reality that these changes are here to stay even beyond the pandemic.

To set the context, unlike other industries such as fast-moving consumer goods (FMCG), pharma was just getting started with digitization. The pandemic brought an urgency to evolve, and what had begun with email and website had now propelled to multiple channels with various digital touchpoints helping deliver a great customer experience (CX).

However, many organizations focused on internal capabilities for delivering virtual and

digital interactions without paying much attention to the interconnected interactions. Rapid solutions built by teams working in silos can produce broken experiences, and many pharma organizations soon found themselves facing significant challenges when it came to building and delivering a comprehensive customer-centric strategy while leveraging the new set of digital channels that they had at their disposal.



When technology gets ahead of the process, it gets ahead of the strategy. That is a dangerous sign.

– Anuj Maheshwari



There are 4 potential ways through which one can recognize a broken experience.

## Customer understanding

Teams across the organization should clearly understand the HCPs' evolving needs and preferences. For example, if the representative is aware of an email that is relevant to the HCPs, but does not reach out to them, it leads to a broken experience.

## Content development

The traditional approach to content strategy has been largely focused on brand and relied on single or limited channels. Today, if an HCP cannot find the content in the preferred channel, then it will lead to a broken experience.

## Experience design

Digital teams are currently driven by quantity rather than quality, which often leads to

engagement fatigue. If an HCP receives content from multiple teams without a clear engagement plan that all teams are following and can track, then the experience is broken.

#### Experience enablement

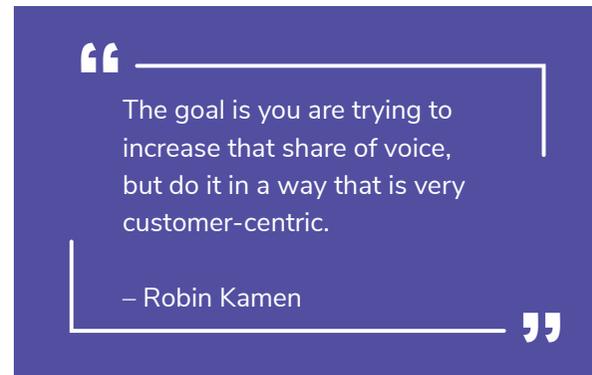
Tools and solutions built in silos result in fragmented experiences. If an HCP has looked into a pharma portal, asked the question on chatbot, and has had to ring up a call center to ask that question again, it will definitely lead to a bad experience.

#### Pharma can draw correlations from other industries

where CX has been jeopardized by digital acceleration. CX is impacted when there is a lack of effective change management or when this change has not been adopted across the organization. Telehealth, for instance, was pushed to the forefront because of the pandemic but the CX did not keep up with the corresponding growth in technology. A non-healthcare example is of Walmart, which had to transform itself rapidly to hold out to Amazon. While the organization succeeded in creating an easy purchase experience, the CX was left wanting. This underlines the risk of wanting to cover too much ground too fast. It is a dangerous sign when the technology gets ahead of process and strategy.

For a seamless CX, key performance indicators (KPIs) should also be CX-focused. In addition to the usual metrics, adopting qualitative CX-based

KPIs would include scores to measure quality, satisfaction, and loyalty.



Digital acceleration calls for change management to address some risk to CX. Pilots are 1 way to overcome it. Robin suggested change management pilots that help identify what is working or not working. Pharma, like other industries, is showing a willingness to start with pilots, that come with a clear goal of what to achieve. These are being seen in oncology, for instance, where email is sent first followed by sending the representative for a more in-depth conversation when the time is right. Even as companies push for digital adoption, they can help employees and colleagues acclimatize to the change. Processes can be broken into smaller actionable sprints, which offer more effective end solutions. Teams can codevelop solutions which can result in less damage to the CX.

Ultimately, customer 360 is the holy grail, and the goal is to increase share of voice in a way that is very customer centric. To transition to digital, is not merely about plugging CX into every step,

but to embed it into all activities and to foster a culture of CX measurement. Customer centricity combined with data can help. Organizations can gain more insights by tracking not just reach, but also acceptance of the messages by HCPs. An invaluable resource for insights is field representatives to better understand what can be done differently on digital channels to improve the customer engagement. Although digital channels have not matched the engagement experience that comes with the field interactions, the digital share will increase in the overall communication mix in the future. All the channels must be well orchestrated to offer a seamless exchange.



**ANUJ MAHESHWARI**

VP, HCP AND PATIENT MARKETING  
ENABLEMENT  
PFIZER



MEASURE YOUR CUSTOMER  
EXPERIENCE, WHILE KEEPING IN  
MIND THAT **NOT ALL**  
**INTERACTIONS ARE EQUAL**

**GET VOICE OF EMPLOYEE RIGHT,  
LISTEN AND CONTINUOUSLY ADAPT TO  
THE VOICE OF YOUR CUSTOMER AND VOICE  
OF THE BUSINESS WILL FOLLOW**



**RORIK VAN WELIJ**

WORLDWIDE OMNI-CHANNEL  
CAPABILITY LEAD  
BRISTOL MYERS-SQUIBB

## HAS DIGITAL ACCELERATION **DAMAGED** YOUR CUSTOMERS' EXPERIENCE?

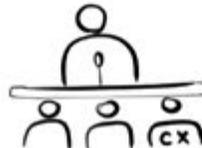


CX SHOULD NEVER BE A **BUILT ON**.  
WHEN THE BRANDS ARE DOING THEIR  
PROJECTILES, IMPERATIVES, CX  
NEEDS TO HAVE A SEAT AT THE TABLE.



**MARC SCHWARTZ**

GLOBAL HEAD OF OMNICHANNEL  
SANOFI



**SOMETIMES EVALUATING WHICH CUSTOMERS  
ARE PRIORITY FOR WHICH PRODUCTS, AND  
ORGANISING THAT AS YOU CREATE AND  
DISTRIBUTE YOUR CONTENT**



**HANNAH PRICE**

DIRECTOR OF CX  
DT CONSULTING



**ROBIN KAMEN**

GLOBAL LEAD, OMNICHANNEL AND  
CUSTOMER EXPERIENCE  
GALDERMA

# Leveraging AI Solutions to Enable HCPs Make Better Prescription Recommendations



**Arvind Balasundaram**  
Executive Director,  
Commercial Insights  
and Analytics  
Regeneron Pharma



**Ranjit Kumble**  
VP, Scientific/Clinical  
Analytics and  
Analytic Innovation  
Pfizer



**Fernando Schwartz**  
AVP and Global Head  
of Data Science  
Merck



**Ashish Sharma**  
Executive Director, Data  
& Platform: Commercial  
Effectiveness: US Pharma  
Novartis



**Vinod Badami**  
VP Data &  
Analytics  
Indegene

Over the last 18 months, life sciences companies have had to upend their traditional models and make way for new technology that replaced face-to-face contact. Advanced technologies such as artificial intelligence (AI) and predictive and learning solutions came into focus and their promise was put to the test. These technologies are being leveraged to enable better health outcomes as they can deliver targeted insights.



Change and uncertainty in itself has become random and faster. This has impacted the expectation of data and AI/ML.

– Arvind Balasundaram



Covid-19 has impacted businesses' expectations of AI and machine learning (ML) to project not only what is probable but also what is possible. Arvind talked about the shift from traditional steady-state probabilistic models to more modern counterfactual logic approaches. Technology is moving quite fast, but as the panel noted, although AI technology is old, its commercialization is new. This means that platform configuration, data collection, and feature extraction at an industrial scale still demand serious investment. The panel also noted the potential of lead indicators to become more valuable and causal inference technologies to help adapt data to multiple regulatory agencies' requirements.

Ashish addressed the value of AI and advanced technologies in various industries such as finance, anti-terrorism consulting, etc. In the

pharmaceutical industry, AI and ML adoption have picked up in the last 5 to 6 years. So far, AI has been delivering on its promise in these industries. In pharmaceuticals, the use cases have started off small, focusing on data management and auto stewardship. Covid-19 has encouraged more application to social media around noise filtering. Customer conversion and dynamic targeting are also successful, depending on the expectations as solutions take up to 2 years to train to reach reasonable accuracy.

The panel also discussed longitudinal patient data that link directly to stitching disparate pieces of data together. However, this brings up major concerns around data privacy, which pharmaceutical companies are ill-prepared to handle at scale. Evidently, it is a problem that has to be solved, because access to data comes with many benefits. Ashish spoke of his experience

on a project where Electronic Health Record (EHR) data on breast cancer were used to identify patterns based on the key phrases and words that came up in the nurses' notes that connected to the diagnosis. This was used on an undiagnosed population to flag risks of cancer. To mitigate legal and compliance issues, the multiple data sets that were used were siloed. That is, commercial, patient, and medical data were brought together on the same data fabric. However, he added that scaling this requires time and investment and there has not been much progress here.

“

What you do today as a next best action suggestion takes 18 to 20 weeks before you start to see a lift in your engagement or revenue.

– Ashish Sharma

”

There is also the issue of disparities in data sets that make them nonrepresentative. Equitable implementation of AI requires identifying these representation gaps. The upside is the ability to take a large-scale multivariate view of data, which makes these problems worth tackling. It is also expected that AI can be applied beyond text, to rich media and images.

One big barrier to AI adoption is the need to place AI insights in the right context for them to

be actionable. This requires significant domain expertise to be infused into the development process. For machine intelligence capabilities to mature, they also must be standardized and scaled. Across all the industries, the future evolution of AI requires open-mindedness to new talent and financial requirements. In pharma specifically, the big barrier is expectations. Expectations have been calibrated to companies like Google and Facebook, which have had great success in applying AI to advertising. Healthcare is a harder problem due to the longer view it must take on data. The mindset for reasoning about AI and ML initiatives' return on investment (ROI) also needs to be fundamentally altered. Unlike other industries, it takes several months to see the impact of pharmaceutical AI. Hence, it is important to present a calibrated expectation of ROI to business as a roadmap.

How can pharma companies plan a road map to implement data science? Fernando spoke about the conjunction of technology readiness, data, and the right people that is happening in pharma right now. He suggested 2 approaches: to try out small cases and see where things work and to break down the strategic and tactical components of the roadmap. Strategically, a big question is how to prepare organizations for these technical challenges. This links to the role of data. From an organizational point of view, data science requires strong partnerships between business, IT, and legal departments. It also requires recruiting and identifying data science talent. Fernando spoke about the need to be specific about understanding

the talent that is needed to get ahead with this. The next best action represents a good start to what is clearly a long journey. These solutions promote continuous learning and refinement while helping to localize strategy. They represent a big behavior change in pharma industry, particularly toward thinking about personalization. To be effective, the next best action recommendations must be trusted by the consuming party, which depends on how well the AI solution can be trained as well as the quality of the feedback loop surrounding its deployment. Trust also requires context and explaining ability. Once this technology has matured, it has the potential to provide a lot of value simply due to the amount of decision-making it might handle.



**FERNANDO SCHWARTZ**

AVP AND GLOBAL HEAD OF DATA SCIENCE, MERCK

THERE'S ALWAYS A BATTLE BETWEEN UTILITY AND PRIVACY OF DATA. IN ORDER TO STITCH DATA TOGETHER AND GET A LONGITUDINAL VIEW, WE HAVE TO OVERCOME LEGAL BARRIERS



CONSIDER CALCULATING AI ML ROI THROUGH A VERY CALIBRATED EXPECTATION.



**ASHISH SHARMA**

EXECUTIVE DIRECTOR, DATA & PLATFORM, COMMERCIAL EFFECTIVENESS: US PHARMA NOVARTIS

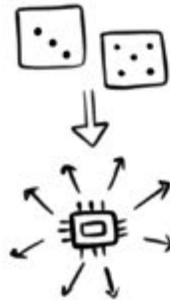
LEVERAGING AI SOLUTIONS TO ENABLE HCPs MAKE BETTER PRESCRIPTION RECOMMENDATIONS

WE ARE MOVING NOW FROM AN ERA OF PROBABILITIES TO AN ERA OF CONSTRUCTING FUTURE POSSIBILITIES. AI ML CAN HELP US ADDRESS THIS



**ARVIND BALASUNDARAM**

EXECUTIVE DIRECTOR, COMMERCIAL INSIGHTS & ANALYTICS REGENERON PHARMACEUTICALS



**VINOD BADAMI**

VP, DATA & ANALYTICS INDEGENE



AS WE SET UP PREDICTIVE ALGORITHMS, NEEDING TO KNOW EXACTLY WHERE THE REPRESENTATIVE GAPS ARE IN DATA SETS BECOMES CRITICAL FOR EQUITABLE IMPLEMENTATION OF SOLUTIONS



**RANJIT KUMBLE**

VP, SCIENTIFIC/CLINICAL ANALYTICS AND ANALYTIC INNOVATION PFIZER

# What Agile Can And Can't Do For The Biopharma Industry



**Jeff S French**  
VP and Chief Digital  
Officer  
ViiV Healthcare



**Lisa Tollman**  
VP, Strategy and  
Business  
Development  
Exo



**Brian Cantwell**  
VP, Digital Strategy  
& Operations  
Bayer



**Chad LaCrosse**  
VP, Head of US  
Commercial Brand  
and Commercial  
Operations IT  
Abbvie



**Marc Valdiviezo**  
VP, Strategy and  
Applied Digital  
Transformation  
Indegene

Doctors and patients have increased expectations in terms of personalization because of which they experience as consumers in other industries. Keeping up with this expectation while remaining cost effective requires teams to work in Agile ways. It is important to note that Agile in this context is not merely about being flexible or being faster, but applying the rigorous principles of Agile methodology to marketing operations. Currently, working in situations such as a product launch or an unplanned label update would feel like working in an emergency. Agile ways of working is needed to ease the pressures off the teams.

Lisa outlined 4 key ways that the organizations should shift, and these are the fundamental principles that underpin Agile methodologies — moving from being product focused to customer focused, having better integrated cross-functional

teams, moving from long development cycles oriented on perfection to an iterative test-learn-incorporate approach, and prioritizing what is important now.

“

A globally operated Agile team is not going to operate at the required level of customer relevance. They have to be local.

– Brian Cantwell

”

The current process of turning insights to outcomes, for the most part, takes the full calendar year. It is really hard to test and learn

as part of an annual plan where a test may take 6 months and the results are recorded at the end of the year. Agile offers, what Brian calls, the flashlight model. Here, you shine a light specifically on the customer insight, and a set of activities to be done in a 2- to 3-week sprint cycle, that is going to drive impact. Once it is done, the flashlight turns to focus on another task.

The Agile marketing model in this context does not replace the annual planning process. It allows the teams to focus on a specific customer insight that needs to be actioned upon, execute a test, and produce outcomes within a short duration of time, which is not possible in an annual cyclical way of working. Agile model can be implemented at an organizational level leveraging its key principles and at a functional level that entails deploying Agile teams.

Monotasking enables one to move faster and more effectively. Having a fully deployed Agile team facilitates monotasking. Lisa recommends a purpose-assembled core cross-functional team of 5–9 people, made up of people from marketing, research, market access, data and analytics, medical, and sales. The extended team can include subject matter experts and key players who could be pulled in as required. The two roles that will help this Agile team to function seamlessly are Product Owner and Scrum Master. These need not be standalone roles but can be combined with other roles to form part of the team. The Scrum Master is the process owner, whereas the Product Owner would be the overall team coordinator and decision maker, bringing everything together.



The objective of Agile is to take what feels like working in an emergency and make that the normal.

– Chad LaCrosse



The role of Product Owner requires the individual to be broad in terms of their cross-functional understanding and also to be deep in their subject matter expertise. Since such talent is hard to find, Agile teams have to be built around individuals in the company who can take on that accountability.

The Product Owner has to be someone who is responsible for making decisions on behalf of the brand team that the Agile group is serving; hence, the individual should come from local or regional brand teams.

The traditional annual cycle involves several coordinator types of roles. The Agile model of working moves needs more doers than coordinators. This changes roles and responsibilities, job descriptions and, therefore, the talent mix. The Agile model depends on having dedicated talent within an Agile working group. Since Agile groups cannot rely on agencies for dedicated talent, companies need to develop the right type of in-house creative talent to support the model.

Agile transformation requires commitment from both global and local leadership. Although global leadership can provide executive sponsorship, local leadership has to own the model. The Agile teams operating at a local level may partner with global teams for the capabilities and platforms that enable speed and reap benefits from the economies of scale.

Agile transformation also presents one of the biggest change management challenges to the leaders who are driving it. It requires tearing apart so many institutionalized processes, systems, and reward mechanisms. It calls for a fundamental change in how companies plan and budget. In some cases, it requires re-architecting shared services, which are currently structured

to drive efficiency for siloed functions. It requires differentiated in-house capabilities that currently do not exist in companies. Different resourcing structures are needed from the perspective of medical, legal, and regulatory functions, as they are required to be part of Agile teams and co-create with the marketers.

Leaders who are driving this change need to convince the cross-functional leadership of its benefits through pilots. Even before getting the pilots off the ground, cross-functional leadership must be convinced that Agile is not an add-on project but a reorganization of ways of working.

Agile is not a new concept. There are companies outside of the industry that have completely shifted to this kind of model that can offer real-world lessons. Status quo needs to be challenged. If we have learned anything from the last 18 months, it is that we are resilient and can respond to the challenges of status quo.



**LISA TOLLMAN**

VICE PRESIDENT STRATEGY AND BUSINESS  
EXO

THE OPPORTUNITIES THAT COME  
OUT OF AGILE ARE LARGE AND  
PROPORTIONATE TO THE  
COMMITMENT MADE TO IT



**MARC VALDIVIEZO**

VP STRATEGY AND DIGITAL TRANSFORMATION  
INDEGENE



AGILE'S IMMEDIATE IMPACT IS  
IN BUILDING A  
TEST AND LEARN  
MENTALITY



**BRIAN CANTWELL**

VP, DIGITAL STRATEGY & OPERATIONS  
BAYER

AGILE IS ALMOST IMPOSSIBLE  
WITHOUT LEADERSHIP  
COMMITMENT AND  
CHAMPIONSHIP



## WHAT AGILE CAN AND CAN'T DO FOR THE BIOPHARMA INDUSTRY



AGILE BRINGS IN A  
FLASHLIGHT MODEL  
TO FOCUS ON THE PROBLEM  
STATEMENT VERSUS THE  
KITCHEN SINK MODEL  
PHARMA IS USED TO

✓ AGILE-JUST DO IT!



AGILE NEEDS PEOPLE WHO  
WORK COLLECTIVELY  
NOT JUST WITHIN THEIR  
FUNCTION, BUT ACROSS  
FUNCTIONS



**JEFF S FRENCH**

VP AND CDO  
VIV HEALTHCARE

3 VALUE LEVERS TO BUILD A BUSINESS  
CASE FOR AGILE :



1. SAVE COSTS,
2. DEEPEN CUSTOMER  
UNDERSTANDING TO DRIVE  
ENGAGEMENT AND OUTCOMES, AND
3. MORE ENGAGED EMPLOYEES



**CHAD LACROSSE**

VP, HEAD OF US COMMERCIAL BRAND  
AND COMMERCIAL OPERATIONS BTS  
AbbVie



# Scalable MarTech To Drive Customer Experiences



**Chad LaCrosse**  
VP, Head of US  
Commercial Brand  
and Commercial  
Operations IT  
Abbvie



**Giuseppe Firenze**  
VP, Global Chief  
Information Officer,  
Business Units  
Eli Lilly



**Christian Stuppy**  
Global Head of Business  
Partnering, Solutions &  
Projects, Commercial IT  
Merck KGaA



**Indu Somayajula**  
AVP, Sales  
Indegene

Most companies today are aiming for marketing excellence to generate meaningful customer experiences. How can businesses stay agile while evolving their capabilities as businesses move to customer-based or outcome-based solutions? And what is the role of marketing technology in this?

The 3 focus areas in driving customer engagement are scaling personalized content cost-effectively, reducing the lead time in Medical Legal Regulatory (MLR) processes, and omnichannel integration including data enablement. These can be achieved with synergies between marketing and medical teams. There is an increasing focus on personalization across all the industries, not just pharma, and it could be a key differentiating factor in the future. For instance, content lies at the core of the MarTech strategy at AbbVie. However, creating customized content at scale is challenging. The

traditional research and segmentation approach is not fast enough for today's environment. Leveraging data and analytics and adopting a fail-fast, learn fast mindset can help reduce the time in creating relevant content.

“

Do not hesitate to challenge yourself. There is a lot to learn from other industries.

– Giuseppe Firenze

”

The content lifecycle is divided into 3 sections with the need of the hour for each: content development, which needs faster collaboration across teams; promotional material review, which

could use more agility to help reduce time and efforts; and digital publishing processes, which can be made more effective.

Christian used the analogy of a house to emphasize the need for strong foundational elements. The 3 foundational elements for customer engagement are customer relationship management, asset or content management, and data strategy. Along with technology, people and processes are also key factors, not to be forgotten. The solution lies in having an overall strategy with cross-platform architecture that costs across data engagement, activation, content, and analytics. So how can teams keep up and stay abreast of what is happening? Giuseppe turns to other industries, especially fast-moving consumer goods (FMCG) and hospitality that are constantly solving the evolving customer experience challenges in unique ways. Often, their solutions are beyond the norm for a highly regulated industry like pharma,

but they do offer a learning opportunity. AbbVie benchmarks its performance against the financial services industry, another highly regulated industry that is also going through digital transformation and exploring personalization at scale for its varied offerings.

“

Make sure that you stay on top of what is coming, what the roadmap looks like and have a clear process to how to adopt that and make it a part of your solutions.

– Christian Stuppy

”

The advice was to not get stuck on what the organization or the industry is doing or can do and instead, to have an open mind. It could include partnerships. Merck KGaA, for instance, participated in a design thinking program where 15 graduate students interacted with their stakeholders to offer fresh, unbiased perspectives that questioned the status quo. Other ways of learning include events that facilitate interactions with other industry colleagues and even looking within the industry but across the geographies because innovative solutions employed locally often can work well at scale.

In building a MarTech ecosystem, between a beautifully designed and fully integrated architecture and balancing speed, there will come the question of buy versus build for technology platforms. Rather than building from scratch, advice to companies is to see how they leverage technology platforms to create solutions that offer a competitive edge. A decision to buy in the past may not be the right decision in the future. Technology is not a cure-all but must be integrated with agility, effective execution, and content. It would be wise to stay abreast of all major enhancements created by the leading technology players who are making immense progress on this front and also of innovations across other geographical and local companies.

So where does automation fit in with MarTech? Indeed, there are areas where automation and AI can add value. Content automation can have templates to scale content, the resource-intensive MLR process can be automated, and data can be mined for insights and reports. But the reality is that automation at scale is currently a work in progress.

How is the return on investment (ROI) to be measured for the technology investments? Chad mentioned that in his experience, the marketing analytics and business insights teams have to come together to create a measurement process that does not just look into ROI but also other metrics, such as solving patients' needs and similar success criteria.



**CHRISTIAN SIUPPY**

GLOBAL HEAD OF BUSINESS PARTNERING,  
SOLUTIONS & PROJECTS, COMMERCIAL IT  
MERCK KGaA

SPOT PATTERNS THAT WORK  
IN SOME COUNTRIES AND  
APPLY THE UNDERSTANDING  
TO OTHER REGIONS



I ALWAYS USE LEARNINGS FROM  
OTHER INDUSTRIES TO  
CHALLENGE INTERNAL SYSTEMS



CHANNEL IS THE QUEEN,  
CONTENT IS THE KING



**GIUSEPPE FIRENZE**

VP, GLOBAL CHIEF INFORMATION OFFICER,  
BUSINESS UNITS  
Eli Lilly

FOR A SUCCESSFUL CAREER IN IT, YOU  
HAVE TO CONTINUOUSLY LEARN



SCALABLE MarTech TO  
DRIVE CUSTOMER EXPERIENCES



3 OPPORTUNITY AREAS TO FREE  
MARKETER BANDWIDTH:

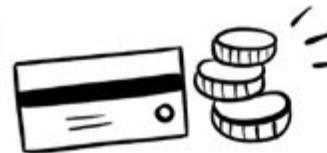
1. CONTENT AUTHORIZING
2. MLR PROCESSES
3. AUTOMATION OF DATA AGGREGATION



**CHAD LACROSSE**

VP, HEAD OF US COMMERCIAL BRAND  
AND COMMERCIAL OPERATIONS IT  
AbbVie

FINANCIAL SERVICES FOUND A WAY TO  
TRANSFORM THEIR BUSINESS AND  
PERSONALIZE IT, DESPITE BEING REGULATED



**INDU SOMAYAJULA**

AVP, DIGITAL AND INTELLIGENT SOLUTIONS SALES,  
INDEGENE

# Learnings from the State of Customer Experience, 2020, HCP Interactions



Aneta Geistova  
Senior Consultant  
Customer  
Experience  
DT Consulting

For the fourth year running, DT Consulting did a study to measure the HCP perceptions on their interaction with pharma companies. The study is based on the core traits of relevance, simplicity and trust. The sample size was over 2,000 physicians in seven speciality areas (GPs, Endocrinologists, Oncologists, Rheumatologists, Gastroenterologists, Pulmonologists, Cardiologists) across seven countries, surveyed for 21 content types and 21 interaction types.



Poor CX doesn't equate to a massive negative change in perceptions, excellent CX enhances positive customer perceptions.

– Aneta Geistova



The four key findings from the report were

1. Customer experience matters and continues to drive business performance
2. The quality of commercial and medical content that HCPs search for and receive doesn't align with expectations
3. HCPs received poor quality experience across both digital and non-digital channels
4. There are no clear leaders who would achieve high scores across all three CX metrics consistently

Year on year, DT Consulting's research continues to show that delivering excellent customer experiences makes HCPs take further action. This year too, the data shows that customers who are satisfied with their interactions are more likely

to save material about the product or service for future use, and are three times more likely to share information that they receive from others and the company. In contrast, delivering a bad customer experience doesn't make customers do anything. Customers can be forgiving when it comes to receiving a bad customer experience, however, most companies can't achieve key business results like reputation or product positioning from mediocre customer experiences. It was also seen that poor customer experience doesn't equate to a significant negative change in perceptions. However, excellent customer experience further enhances positive perceptions of pharma companies, their products and therapies, their belief that the company understands the HCP's challenges and is responding with practical support.

As for quality of content, the HCPs scored all the content types at 'below fair' on the CXQ

scoring methodology. The study looked at the top five most visible types of content that HCPs searched for or received for disease information, drug information, and clinical data. But even the most important types of content have received a CXQ score of 'below fair,' meaning that they don't perform very high across the relevance, simplicity and trust metrics. This could mean that the content and information HCPs received were not targeted to their needs or that the quality of the information was mediocre. It could also be that there is no clear prioritization on the content being delivered to HCPs to ensure that the most important pieces of content are easy to understand, are relevant, trustworthy and can ultimately create a differentiated experience.

“

To deliver great customer experience, focus on all three key customer experience traits: relevance, simplicity and trust.

– Aneta Geistova

”

Insights on digital vs. non-digital channels showed that pharma companies are not delivering quality experiences across both the channels. The industry as a whole, on average, performed poorly across both the channels. No company hit the mark when it came to channel performance. Moving down the ranking in terms of CXQ score,

there was a gap between digital and non-digital interactions. There was also a gap between preferred customer channels and channels that pharma companies use to engage with HCPs. Customers largely prefer virtual channels, such as emails, live videos, online meetings and, sometimes, telephone conversations. But pharma companies primarily reached out via non-digital channels, such as face-to-face meetings. An orchestrated omni-channel marketing along with consistency in channel delivery is key for CX performance. Companies must engage customers by using the right channel mix.

The final finding was that there are no clear leaders in the industry that would be achieving top scores across all three CXQ metrics of relevance, simplicity and trust. Across each metric, the top five companies scored less than the average score of 65. Three companies, Novo Nordisk, Eli Lilly, and Roche, featured in all three metrics. However, none of them achieved top scores. This points to the gaps and opportunities for CX improvement for all firms. HCPs expect pharma organizations to deliver across all three elements. From their perspective, it is not enough to have relevant and trustworthy content if it's not easy to use or easy to understand. Consistency across both digital and non-digital channels is important because every interaction matters.

During the pandemic many companies jumped on the virtual and digital platforms quickly. However, HCP participation in digital initiatives declined as there was an overload of activity.

HCPs themselves had a lot going on and had to prioritize their time. If the experience wasn't meeting their expectations, they just did not engage. The quality of interactions was low, pointing to the need for more work in channel planning, content planning and delivery.

Digital maturity is still a work in progress and companies sometimes delivered in an ad hoc manner, offering HCPs a disjointed experience. The advice to companies thinking about customer perceptions is to choose between an external market research team or an internal one. With the former, companies go to market and ask customers about their perceptions, content, and interactions to get an objective view of the whole experience. With the internal approach, companies can measure this at different touchpoints. A combination of both these can bring insights from two different perspectives, offering a more holistic view to a company's customer experience.

# PRESENTATION : LEARNINGS FROM THE STATE OF CUSTOMER EXPERIENCE, 2020, HCP INTERACTIONS



ANETA GEISTOVA

SENIOR CONSULTANT  
CUSTOMER EXPERIENCE  
DT CONSULTING

## KEY FINDINGS:

CUSTOMER EXPERIENCE MATTERS AND CONTINUES TO DRIVE BUSINESS PERFORMANCE



QUALITY OF CONTENT THAT HCPS RECEIVE DOESN'T ALIGN WITH THEIR EXPECTATIONS



POOR QUALITY EXPERIENCES ARE BEING DELIVERED ACROSS BOTH DIGITAL AND NON DIGITAL CHANNELS



NO CLEAR LEADER IS ACHIEVING TOP SCORES ACROSS ALL THREE CXQ METRICS CONSISTENTLY



## TAKEAWAYS:

DELIVERING GREAT CX DRIVES POSITIVE CUSTOMER SENTIMENTS ABOUT YOUR BUSINESS AND MAKES HCPS TAKE ACTION



CUSTOMER ENGAGEMENT PLANNING REQUIRES CUSTOMER DATA FOR GOOD EXECUTION



OMNICHANNEL ORCHESTRATION IS AN INTEGRAL PART OF PLANNING AND FIRMS REQUIRE MORE CONSISTENCY ACROSS ALL CHANNELS



FIRMS NEED TO FOCUS ON DELIVERING AGAINST ALL THREE KEY CX TRAITS TO ACHIEVE GREAT CUSTOMER PERCEPTION



# Journey From “Share Of Voice” To “Share Of Engagement”



Thomas Thestrup-Terp  
CVP  
Novo Nordisk

Commercial models are pivoting from being entirely reliant on field force to being equally supported by the digital ecosystem for local execution. Share of voice, once deemed as a gold standard measurement for promotion effectiveness, no longer retains its gravitas in the new commercial approach. Contrarily, optimizing digital engagements for share of voice may yield a negative impact, and result in customers’ disengaging and opting out. Instead, organizations should focus on the relevancy of content and messaging to optimize “share of engagement” to drive effective customer journeys. In this case study presentation, Thomas shared Novo Nordisk’s journey from “share of voice” to “share of engagement.”

Thomas divided customer engagement into pre-Covid, during Covid, and post-Covid era. Of the various channels used for engagement, such as digital, Face-to-face (F2F) Congress

and Meetings, F2F Medical Science Liaison (MSLs), F2F Rep/Key Account Management (KAMs), the pre-Covid era was dominated by field engagements, whereas digital was lower in the priority. During Covid, the priority shifted to digital engagement as everyone was scrambling toward a digital-only approach. In the post-Covid era, the focus will shift toward identifying the right level of engagement that will be needed from among the various available channels. This will be based on the response observed over each type of channel.

Although there is definitely more digital now, Thomas warned that it is not necessarily about making more noise and sending more emails but about orchestrating the right type of content and channels for a better customer experience. The traditional customer engagement model is evolving and Thomas presented the 7 areas where this change is seen:

“

Are we there yet? Obviously, not. But we are there with some of the more mature markets, where we started years ago.

– Thomas Thestrup-Terp

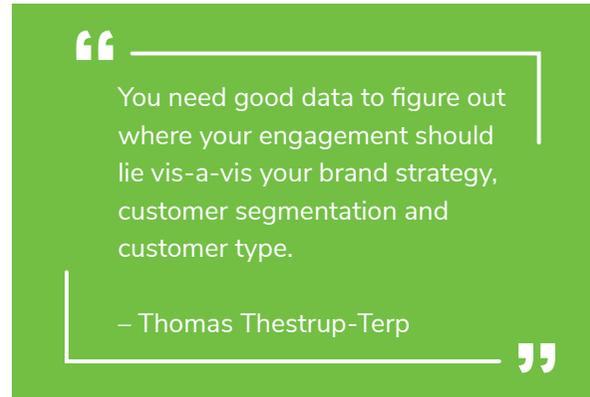
”

1. From nonaligned planning to integrated planning
2. From brand centricity to customer-centric engagement
3. From point-in-time blasts to customer journeys
4. From sales force excellence to customer experience excellence
5. From traditional value-based targeting to advanced segmentation and training

6. From nondedicated to dedicated resourcing
7. From disparate systems and data to Multi/Omnichannel enabling technology backbone

Thomas also advised that before a company changes its customer engagement model, it is important to look at its brand and customer strategy to figure out the right one for both the brand and the customer. Covid continues to drive changes in customer preferences and patterns. He asks, “What’s your sweet spot in terms of a personal push engagement and a customer-led digital pull engagement?” Good data is needed to answer this question, he added. Companies should use customer needs, content, channels, and the various transition trigger points as a guide to plan their customer engagement. With customer needs, timely, relevant and educational content on channels is recommended. The concept of digital hand-raisers came up at transitional trigger points. These are customers being engaged through a digital pull who show higher levels of engagement. . By following customers’ digital footprints, companies can transition them into a much more frontline engagement. Measuring engagement can inform if a customer is increasing their engagement because of relevant content or disengaging because of content.

Thomas illustrated Novo Nordisk’s customer engagement model with 3 use cases on reach, channels, content, and share of engagement with the customer:



**Uncover customer reach gaps and opportunities.**

The business question here is, “Am I reaching my customer? How am I reaching them? Actionable insights were on determining potential reach versus actual reach, the ratio of physical, digital, and blended reach for the target groups, actual reach of target customers in relation to brand strategy, and percentage of customers who have consented for digital reach.

**Identify the most impactful channels and most engaging content, using data.**

This will help companies redesign engagement plans to include channels that have the highest impact on their brand strategy and target customers.

**Identify customers with a high share of engagement and what drives that share of engagement.**

Identifying the journeys, channels, and content that drive the highest share of engagement and correlating it to Total Prescriptions (TRx), if

possible. This in turn will influence the design and plan of customer journeys that leverage channels and content that drive engagement.

Companies can look at doctors in a target group to see who are engaging the most and what is driving that engagement. He also recommends looking at doctors perceived as valuable and figuring out how to reach them in channels that drive a higher share of engagement for that customer type. With insights like these, it is important to design campaigns and shift resources to channels that matter. Thomas also added that to reach this level of maturity, the foundation has to be right. And for that, along with data and process change, marketing and sales team capabilities must also be upgraded.

Thomas’s view of the future is about being able to look at predictive metrics and an evolution of the commercial excellence function from what he calls the lagging metrics (insights to what has happened, patient flow of business performance, and historical views). As a roadmap for being future ready, he recommends a strong data foundation, changing existing processes to focus more on customer journeys, a capability upgrade for people in sales, marketing, and commercial operations, and a high level of execution. “If we don’t get that final step right, I’m afraid we will not succeed.”

# PRESENTATION: JOURNEY FROM "SHARE OF VOICE" TO "SHARE OF ENGAGEMENT"



THOMAS THESTRUP-TERP

CORPORATE VP  
NOVO NORDISK

TRADITIONAL ENGAGEMENT MODELS ARE CHANGING. BEFORE CHANGING YOUR MODEL, FIGURE OUT WHERE DOES YOUR ENGAGEMENT LIE VIS A VIS YOUR BRAND STRATEGY AND CUSTOMER SEGMENTATION



THE FIRST STEP IS TO GET THE DATA HOUSE IN ORDER  
THE PROCESS NEEDS TO BE CHANGED AND FOCUSED MORE ON JOURNEYS  
PEOPLE ACROSS DIFFERENT ROLES NEED A CAPABILITY UPGRADE AS WELL



SUCCESSFUL TRANSFORMATION OF CUSTOMER  
ENGAGEMENT MODEL REQUIRES GOOD, CLEAN DATA



# From Pilots to Adoption—Emerging Technologies That Enable Future Ready Healthcare



Tarun Mathur  
CTO  
Indegene

Recent developments in artificial intelligence (AI) and machine learning (ML) space bear a significant impact on healthcare. As healthcare organizations advance their digital transformation, they have to keep an eye out for some of the breakthroughs in this space that have come to the fore in the last 12 months. Tarun outlined the broad trendlines related to AI/ML adoption in the industry, the 3 major AI developments, and how these trends and developments are impacting Indegene's research and development (R&D) strategy and investments.

## Trends

There has been a substantial increase in the enterprise-wide adoption of AI/ML solutions since last year. Companies are moving past pilots and rolling out ML solutions in business critical applications. This adoption is signaled by the change in success metrics of these solutions—

once metrics were to evaluate performance and accuracy of the ML models, whereas now they revolve around the ROI and scale. There has also been a rise in the adoption of human-in-the-loop (HITL) workforces (where human subject matter experts curate training data and facilitate training machines). Companies are also restructuring their workforce to support and optimize HITL operations.

## Large language models

Large language models made the biggest news in the AI space last year. A language model is an algorithm used to predict the next word after a sequence of words. It presents umpteen use cases. The most impactful large language model in the past year was the Open AI's GPT-3, trained with 175 billion parameters (mathematical weights that are used in the algorithm), whereas the previous version,

GPT-2, was trained with 1.5 billion parameters. These are based on algorithms known as transformers that are state of the art in Natural Language Processing (NLP). However, large language models have their limitations in terms of applications. They were tested in the task of reliably constructing free-form text that is human-like and the results were suboptimal due to biases, inconsistencies, and incoherence over larger blocks of text.



We are a long way from true general AI. Some of the recent developments may look like general AI but they are just ML.

– Tarun Mathur



## Growth of Explainable and Interpretable AI

In a regulated environment, the decisions taken by the deep learning models need to be explained. Explainable AI and Interpretable AI are 2 approaches toward explaining how the model made its decision. Explainable AI tools create a visual explanation of how the model made its decision by using input and output data sets. It is essentially a model created to explain a deep learning model. Interpretable AI is where the deep learning model itself is built to explain how its own decisions are made. Although this is more desirable for healthcare, technology companies are not inclined to commercialize it since it reveals the underlying algorithms and nuances. Therefore, explainable AI will see better momentum in its development in the future. Healthcare organizations need to commit resources to build explainable AI to leverage deep learning models compliantly.

### Leveraging pre-trained models

Last year saw a growing utility of pretrained ML models for specific tasks. Here, organizations can leverage a pretrained learning model and tailor it to solve specific tasks without taking it through an exhaustive training process themselves, also known as Meta-Learning. This means a pretrained model such as GPT-3, using a very small set of data, can be tailored to solve the tasks at hand. In life sciences content classification, pretrained models have yielded surprising results in terms of their performance of tasks that they have not performed before. Once it used to take hundreds of thousands of training data sets to train the

model, whereas now it takes a few training examples to yield the same results. There is a growing marketplace for pretrained models lending themselves to become AI as a service.



### Indegene's R&D initiative

In one of the R&D initiatives, the Indegene team wanted to take source content (such as on original agency created asset) and create derivative content (such as variation of the source asset to serve a global audience in new channels and formats) leveraging a pretrained language model. Life sciences content generally tends to be templated, well defined, and rule based. The R&D team wanted to take advantage of these constraints and optimize the models. They found that content can be decomposed into smaller chunks, guided by the knowledge of these rules. The next step is to use pretrained large language models to classify and draw their prediction over these smaller chunks of content to construct meaningful outputs. Early indicators show some use cases with promising results. Over the next 12 months, with improvements

and commercial availability of these large language models combined with decomposing content, content generation in life sciences could be transformed. It would be even better if an explainable AI or an interpretable AI model could be built on top of this.

Being data ready is one of the prerequisites for organizations to adopt ML models. Digitally advanced organizations are better prepared to consume AI applications now by being more data ready—their enterprise data have been made available by the complete restructuring of enterprise data lakes or by setting up new APIs. There has also been a change in data compliance auditing, which allows the data to be stored in the cloud to run cloud-based ML models. For organizations, data readiness is one of the biggest barriers to enter into ML space. Some are not ready for even pilot programs because they have not been able to identify use cases. Although compliance adds constraints to development in this space, innovators and regulators are collaborating at all levels of growth to solve problems. There will be more changes to the regulatory framework to accommodate these new developments. Explainable AI and interpretable AI will go a long way in helping achieve harmony.

BENCHMARK TESTS BECOME OBSOLETE  
AND ARE GETTING RECONSTRUCTED QUICKLY



PRESENTATION : FROM PILOTS TO ADOPTION - EMERGING  
TECHNOLOGIES THAT ENABLE FUTURE READY HEALTHCARE

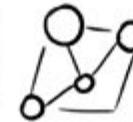


TARUN MATHUR

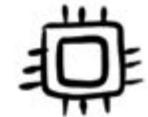
CTO , INDEGENE

THREE EMERGING TECHNOLOGIES -

1. LARGE LANGUAGE MODELS



2. EXPLAINABLE AND INTERPRETABLE AI: BLACK  
BOXES, GREY BOXES, WHITE BOXES



3. PRE-TRAINED MODELS: MORE OPTIONS  
FOR BUILDING AND USING MODELS



# Developing Go-To-Market Strategies For Emergency Use Authorization



**Ed Jordan**  
Chief Commercial Officer  
Humanigen

The Go-To-Market (GTM) strategies differ in scale between Emergency Use Authorization (EUA) and Biologics License Applications (BLA). In BLA, although digital marketing is used to augment the effectiveness of a promotional campaign here too, branded promotional campaigns can be supported with the field engagement team delivering specific messages. On the other hand, for EUA, digital marketing is important to drive broad awareness of the product. To communicate information on the disease, it still relies on market development supported by field engagement.

The EUA commercial model is based on the targeted and efficient use of resources. Specific key accounts, priority accounts, and collaborating with national Key Opinion Leaders (KOLs) are essential to promote awareness of the treatment. These key accounts can be engaged and supported by a focused team of National Account Directors (NADs) and Medical Science Liaisons

(MSLs). In addition to digital engagement and market development, EUA requires an efficient supply chain that can leverage established networks to deliver the product. Further, a focused field engagement is an essential part of market development. Of the total 5,200 hospitals in the United States, 150 handle 40% of the cases. These, therefore, can be treated as key accounts with the majority of the team's energy

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Teams should use high-tech, 'smart' digital engagement optimized by AI and ML to drive broad awareness.

– Ed Jordan

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and resources focused on them. Even so, it would take 30 teams of an MSL and NAD, each working on 5 of these accounts, to cover them.

As their mandate will be to drive education, awareness, and access about the newly authorized product, how can this be achieved digitally? Looking beyond banner advertisements and emails, GTM teams are advised to use artificial intelligence (AI)/machine language (ML)-based digital engagement methods to drive the goal, which is broad awareness. Data such as demographics, content and channel preferences, digital engagement insights should be used to deliver customized and engaging content that are directed specifically to individuals. Content has to be relevant, interactive, engaging, and captivating. There are several options to disseminate content, ranging from programmatic, webinars, KOL videos, social media marketing, emails, search engine optimization, and virtual interactions.

Each of these offer a different engagement and consequently show a different impact.

As an example, for 300K+ engagements from digital channels, the funnel assumes about 120K Physician Detail Equivalents. This, in turn, equals a 93-member sales team making 8 calls a day for 8 months. And this is where digital engagement offers its true advantages.

Customized, smart digital engagement can be far-reaching, and when done appropriately can be equivalent to a sizable digital sales force.

While executing the EUA strategy, Ed Jordan advised that companies should also start planning for the BLA because following authorization, BLA approval is the next step. This involves a shift in strategy as discussed at the beginning.

“ I would like to see the speed and agility of authorizations, which we as a commercial industry have never done before, be carried over to the future. — Ed Jordan ”

So, what are the learnings from EUA that can help get a running start to BLA? There is an opportunity to launch twice, once with EUA and

again with the BLA. This means that learnings from physicians can inform BLA strategy. Another opportunity is to integrate digital strategies into traditional modes, and one can feed the other. Digital engagement itself offers many learnings, especially about the content that has had the most engagement and most impact. Digital engagement offers a continuous learning opportunity with the wealth of insights it brings.

In the last year, the pandemic drove more EUAs in 1 year than across the last 2 decades. Many devices and therapeutics centered around Covid-19 have received EUA. This has been necessary, even as current numbers show 80,000 people hospitalized due to Covid-19 with someone dying from it every minute of every day. There is a need to get products safely and quickly to the market to help people in the hospitals. The advice to small biotech companies who lack the infrastructure is to leverage organizations that can provide end-to-end commercialization. We have tight timelines and a huge clinical need, and partnerships are a way forward.

# PRESENTATION: DEVELOPING GO-TO-MARKET STRATEGIES FOR EMERGENCY USE AUTHORIZATION

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EDWARD JORDAN

CHIEF COMMERCIAL OFFICER  
HUMANIGEN

EMERGENCY USE AUTHORIZATION DIFFERS FROM  
BIOLOGICAL LICENSE APPLICATION:

DIGITAL MARKETING : TO DRIVE BROAD AWARENESS

MARKET DEVELOPMENT : TO DRIVE AWARENESS  
ABOUT THE TREATMENT AND COMPANY



TARGETED FIELD ENGAGEMENT : FOCUSED FIELD  
TEAM, VIRTUAL AND IN-PERSON INTERACTIONS



# How A Bi-directional Data Flow Between Sales Force And Marketing Can Positively Impact A Product Launch?



**Mitchell Krassan**  
Chief Strategy &  
Performance Officer  
TherapeuticsMD

The far-reaching benefits of using data to create hyper-focused buyer persona clusters and enable the sales forces and marketing teams to create impactful, personalized customer journeys are well documented in most of the digitally savvy industries. Although integrating digital tools and data to strengthen sales and marketing efforts has been among the top priorities for the healthcare industry, the pandemic has accelerated the pace of its implementation. Mitchell Krassan presented an interesting and insightful case study on how a disciplined data approach coupled with innovative sales strategies helped his company, TherapeuticsMD, achieve tremendous success in launching one of their flagship products, IMVEXXY, for vaginal atrophy (VA).

A critical step toward creating a sustainable and realistic product plan is to have a deep and accurate understanding of the current

market conditions, especially for an undertreated health condition. Market research includes an understanding of the brands currently available along with the generics in the launch pipeline. However, it is also essential for healthcare companies to develop methodologies to get granular information on these factors. For instance, at TherapeuticsMD, when Mitchell and his team engaged with agencies to conduct traditional qualitative and quantitative primary market research on both healthcare professionals (HCPs) and patients to understand subscriber-level data and to improve the quality of data they extracted as part of the study, they implemented 2 additional factors. First, they added diagnosis codes that acted as a proxy to determine which doctors had the most opportunity to prescribe this product, and second, they used the salesforce data to map customer personas to generate the microtarget groups for launch and nonpersonal marketing.

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An important component of the programme was tracking and reporting results at every step. And as close to a real time basis as possible.

– Mitchell Krassan

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As part of the prelaunch, it is necessary for the sales forces to conduct surveys with targeted questions to gather data that will help them build metrics to test campaign performance. Mitchell and team derived 5 data points from the survey they conducted. They were access and office protocols, confirmation of market opportunity from doctors, soliciting the representatives' perspectives on how over or underutilized the

market was, the doctors' views on the treatment of the condition and its diagnosis, and lastly, the doctors' views on the products available and their satisfaction with it. These helped the company identify the right set of microtarget HCPs to create an impactful campaign.

Apart from this, another innovative strategy that helped TherapeuticsMD was to have a 2-step process at prelaunch, with signing up doctors on 1 visit and waiting for a pull through before delivering the kits allotted to them. Although this additional step worked for worked for IMVEXXY, it may not necessarily work for others, as seen in their experience. Since VA was an undertreated category, representatives spoke to doctors about whether or not they were treating this condition, the importance of treating it, followed by disease education and product information, which was mostly by email. The team also created education material for patients and followed up on patient support so that they stayed on therapy.

An important point to note about the survey is that, while choosing a small sample eases the execution and fastens the process, it is beneficial to see if the healthcare marketing teams can work with a larger sample size, as this enriches the data validity and provides more attributes while creating persona clusters. Also, as the campaign progresses, it helps to simplify the information gathered and present only critical metrics to representatives and senior management stakeholders.

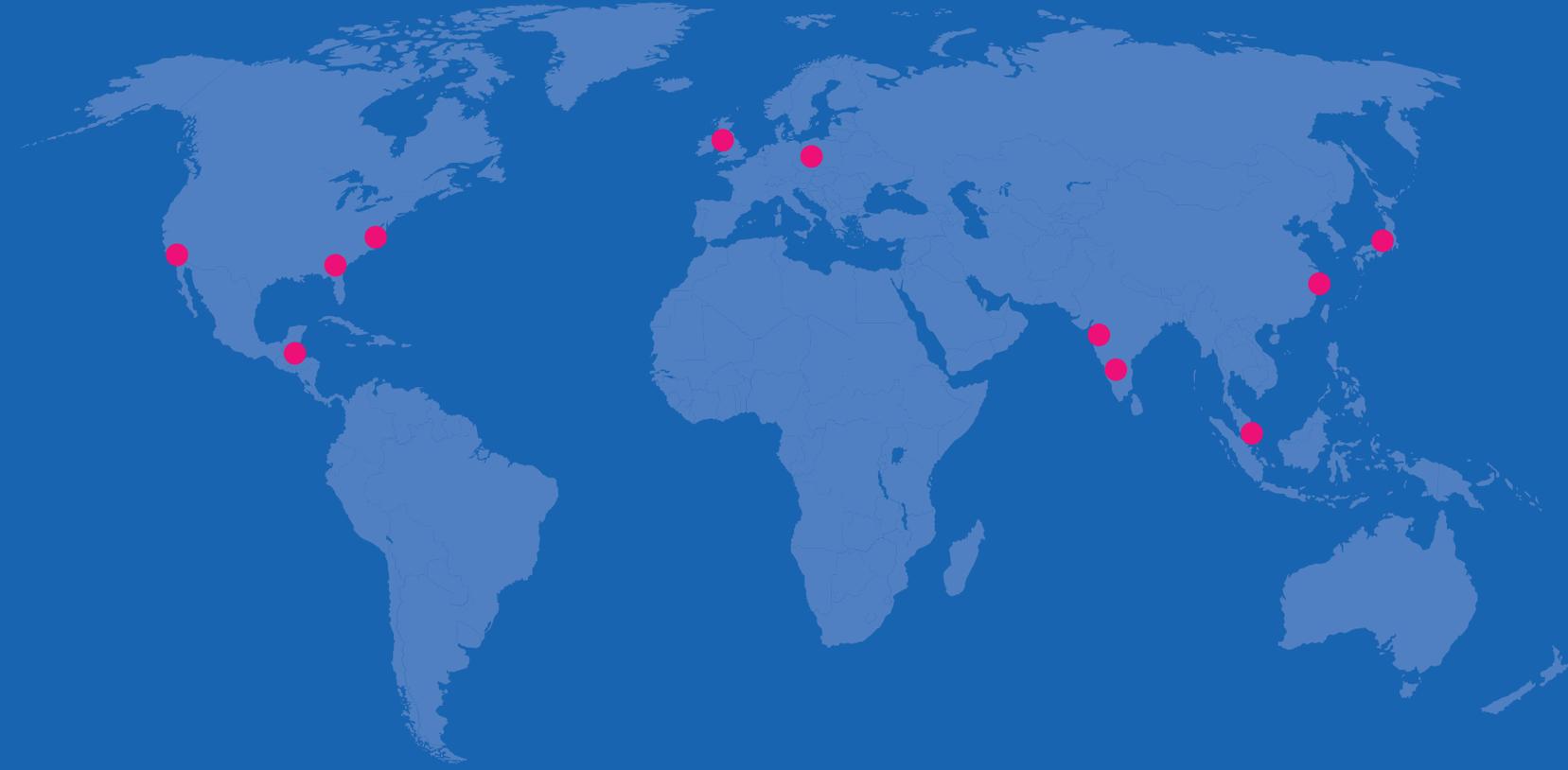
During the prelaunch campaign, at each stage, data were collected and tracked as close to a real-time basis as possible. Metrics derived from this data included the number of doctors subscribed to the program, the number of kits issued, the percentage of doctors who prescribed this product, the number of patients who had refilled their prescriptions with this kit, etc. An added advantage was that this motivated the representatives, provided them instant feedback and insights on how their message was resonating with the doctors.

“ Collecting data from the medical reps' mind and their interactions with the doctors into the data set for better personalized messaging is going to be key. ”  
– Mitchell Krassan

This wealth of information gathered from the data-driven approach can serve as the fundamental basis to create a cluster of HCP personas. In the case of TherapeuticsMD, the team came up with 5 personas, the most favorable being the Ready, Willing, and Able group, of doctors who treated their patients proactively for VA and were unsatisfied with the current products. The team devised 14 different types of emails to specifically reach out to the doctors in each of the personas with personalized

marketing messages. The complete database of doctors was sorted by persona before the campaigns were launched. For those doctors to whom data were informed by the representatives, the open rate of email was 17%. Where data were extrapolated, the open rate was 7%, which is still higher than the industry standards.

IMVEXXY did 200% to 300% better every month, compared with 2 competitor products launched 12 months earlier. Its launch mirrored the success of Vagifem, launched in 2002 when there were only 2 other products in the market. They established 10% of the market share within 12 months of launch and signed up 10,000 more doctors for the “Experience First” program. They have had a far better compliance rate for refills than other products in the category. A critical component that helped them achieve a high compliance rate was having an in-house customer service hub for prescription services, especially during the launch. This team was on alert to ensure that all patient issues were addressed in a smooth and quick manner. They helped patients sign up for copay assistance covered by their insurance, made sure it was available at the pharmacy they wanted it at, and also arranged for home delivery. This ensured that there were no complaints of low stocks and of doctors stopping prescriptions of it.



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