

Behavioral Marketing

Tools that effectively channel first-person experience and tap into human psychology are deepening connections with patients













Inside

Are You **Experienced?**

By Deborah Stoll



At its most basic, behavioral marketing and behavioral economics can be leveraged to tap into what a consumer desires, say, a Coke and a smile. At its most elevated, it can help marketers drill far deeper into habits and activities than they did a few years ago and, in so doing, empower healthcare workers and patients to more deeply engage in their care and treatment plan.

Leveraging behavioral science can help healthcare marketers move beyond peppering campaigns with zeitgeist-y terminology and into active research and results based on human behavior and psychology. Companies such as Noom, whose program is centered around a popular weight-loss app, utilizes a mix of human coaching, artificial intelligence and evidence-based guidelines of physiology, psychology and cognitive behavioral therapy to teach patients behavioral and lifestyle changes that allow them to be healthier at scale.

AI — including virtual and augmented reality — while fairly new to the medical education space, has fast gained traction during COVID-19 and the demand for touchless experiences. As more and more in-person patient appointments, rep visits and medical conferences are postponed, healthcare marketing is pursuing more efficient, effective, intuitive ways of driving patient and HCP engagement. Immersive experiences via virtual and augmented reality allow users to explore every aspect of the healthcare journey from every participant's point of view — from the doctor, to the patient, to the drug itself.

If it's true what they say — that there is no better teacher than experience — than walking a mile in your target audience's shoes is basically the equivalent of getting a Ph.D. in life.

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Two Behavioral Marketing Campaigns Illustrate Challenges Resonating with Patients

BY PHILLIP PANTUSO

All marketing relies, to some extent, on behavioral insights. Once you're in the business of ascertaining motivation and influencing behavior, you're in the realm of psychology, whether you're trying to get a consumer to buy a Coke or to quit smoking.

But for the past few years, "behavioral marketing" has ranked among the medical marketing world's favorite buzzwords. This is happening because people are generating more measurable data than ever before, which promises more accurate, detailed insights. At the same time, the pop psychology of habit, bias and other cognitive processes has filtered into the mainstream from sources such as TED Talks and Malcolm Gladwell. It's easier than ever to sound smart by peppering conversation or campaigns with scientific jargon.

It's one thing to talk the talk about behavioral marketing, but the strategies and results have often failed to live up to the hype. According to Brian Dunn, chief behavioral officer at Concentric

Health Experience, marketers are all too willing to throw around the term without understanding how hard — and expensive — it is to build out the scientific capabilities necessary to do rigorous research and analysis of behavior and psychology.

"A few years ago, it almost seemed like other agencies were manufacturing a department because they knew clients were gravitating to the behavioral side," says Will Stewart, a group account director at MicroMass Communications. "Now when I come across agencies that have a behavioral department, their behaviorists have graduate degrees in public health, psychology and social work."

Stewart says the industry isn't yet "all the way there" with behavioral marketing, but it has clearly changed the way agencies operate. Here are two campaigns that successfully used cognitive science techniques to glean behavioral insights and shape messaging and strategy.



Pharmacyclics and Janssen/MicroMass **Communications, Know Your CLL**

Chronic lymphocytic leukemia (CLL) is a slow-growing blood cancer that patients can live with for years without knowing they have it. Because it develops slowly and can be asymptomatic in its early stages, initial treatment usually isn't necessary, which means doctors often classify it as "good," as far as cancers go.

This isn't wrong, from a purely clinical perspective. But what a patient usually hears is that they've just been diagnosed with cancer and that they should wait, maybe years more, before doing anything. Since CLL specialization remains a rarity, many HCPs don't know how to adequately address the emotional toll that this watch-and-wait period can take on patients.

Pharmacyclics and Janssen, makers of a B cell cancer treatment, engaged MicroMass to re-evaluate the CLL patient experience and come up with a new, more active campaign. The goal: empower patients to more deeply engage in their care and treatment plan.

"Our behavioral analysis confirmed that there is a huge unmet need in the watch-and-wait audience — or, in what some patients call the 'watch-and-worry' period," Stewart explains.

At the outset of any project, MicroMass' behaviorists compile what they call a "behavioral primer," sifting through decades of scientific literature on a condition to collate specific, actionable insights and building outward. Although CLL is a rare disease, the emotions and behavior of people living with it have been well-documented, according to Kei Alegria-Flores, a behaviorist

who worked on the campaign. The team also looked at related fields, such as blood cancer and oral anticancer agents. To supplement this archival research, MicroMass turned to the patients themselves, most of whom are 65-plus males, and interviewed them about their needs.

"The evidence tells us that patients' reaction to diagnosis and the watch-and-wait period is complex," Alegria-Flores says. "During this time, patients often struggle with lack of information, anxiety and a perceived loss of autonomy."

MicroMass' unbranded Know Your CLL campaign, which launched in June, was designed to address those concerns. Phase one was a relationship marketing campaign with email and print materials, but the primary component was an unbranded patient experience that sought to educate patients on CLL and redefine that anxious waiting period as a watch-and-act one.

To pull that dual purpose off, MicroMass created a custom behavioral approach with three components - acknowledge, communicate, track (ACT) — containing messaging and tools. The agency is planning to launch a social phase of the campaign later this year.

According to Stewart, the unbranded program connected because MicroMass was able to show patients something they had never seen before but badly needed. While the methodology seems simple, MicroMass was only able to surface insights by grounding their research in rigorous behavioral science — and only then letting patient experience inform the materials.

It's a template other agencies can follow. "When we went through this process, it would've been easy to make judgments," Stewart says. "You can pull from so many different experiences and have conscious or unconscious bias, but there's never a better source than patients themselves."



MicroMass' Know Your CLL campaign addresses patients' anxiety and lack of information after they get diagnosed with chronic lymphocytic leukemia, a rare disease that is very slow-moving.

Novo Nordisk/Concentric Health Experience, Same Will, New Way

People in obesity marketing materials are typically represented as hyperself-aware individuals wearing workout clothes and exercising alone. The message is clear: With enough discipline and willpower, overweight individuals can exercise more, control their diets and lose weight.

Concentric Health Experience's Dunn says this is an inaccurate and unfair view. "Weight management is not a function of some single character trait that's unmovable, but people think that way," he explains. "Physicians, too."

This fundamental attribution error is at the root of the complex environment of misinformation, stigma and bias in which many people who struggle with obesity reside. According to the CDC, obesity affects nearly 40% of U.S. adults. The prevalence of the condition and the stigma around it mean it is not often seen as chronic, even though it's linked to serious conditions such as heart disease and type 2 diabetes.

Executives at Novo Nordisk knew that this amounted to a behavioral problem; what they needed was marketing to address it. To that end, Concentric put together Same Will, New Way, a de-biasing campaign for Saxenda, a prescription injection that helps obese patients keep weight off.

"The notion that you need some fundamental character or logic transformation to lose weight is really damaging," Dunn says. "The campaign goes right after that to say and show that it just doesn't work that way. It's bad psychology, it's not empirically true and it has negative consequences for public health."

Concentric identified the attribution error and patient/HCP misalignment early in its research, and took an omnichannel approach to reach both parties. Patients saw videos and ads that portrayed them empathetically: disciplined, engaged and active, but also helping others, living their lives and dealing with weight gain/loss as a cycle. HCPs were targeted with a nonpersonal multichannel mix that sought to better align them to patients' needs.

Dunn notes the agency tapped into scientific literature and researchers on staff for psychological insights, but also applied cutting-edge vision and attention neuroscience to tune and deploy the materials. Techniques such as saccadic eye movement tracking and machine-learning models informed by computational linguistics helped Concentric compile a set of correlates and predictors for patient behavior that were psychographic and demographic.

ioral insights, it's only as good as the additional executions, which also should have an empirical basis," Dunn explains.

He credits the campaign's success to Concentric having resources and time to listen to and analyze patients in a way that HCPs cannot, plus the right approach. "The best results come when we drop suppositions, use modelfree statistics, and let the data speak for themselves," he continues. "People engage in uninformed psychological explanations all the time. That has to be carefully undone as a habit for marketers. We need to use the best methods possible in part because we know we don't know."





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Choose Your Own Adventure

The game-changing behavior-changers of virtual and augmented reality By Deborah Stoll

Virtual reality – a 3-D-generated experience that immerses users in a 360-degree environment via a headset, smartphone or tablet - and augmented reality - a mixture of virtual reality and the real world experienced using a smartphone or tablet — may seem like radical, newfangled technologies. In fact, according to myriad sources including Entrepreneur and the inexhaustible Dummies series, these concepts have been around since 1838 when Charles Wheatstone introduced the stereoscope — a device that allowed users to look through different holes for each eye and see two images that collectively appeared larger and three-dimensional. The purpose, as Wheatstone explained in his explicitly titled article, "Contributions to the Physiology of Vision — Part the First. On some remarkable, and hitherto unobserved, Phenomena of Binocular Vision," was to investigate binocular vision.

Not long after in 1891, Thomas Edison and William Dickson invented the kinetoscope. In it, a strip of film was passed rapidly between a lens and an electric light bulb while the viewer peered through a peephole, creating a lifelike representation of persons and objects in motion. This was the forerunner to the motion-picture film projector.

The following century in 1929, Edwin Link's Link Trainer flight simulator became an integral part of pilot training and was used to prepare airmen for WWII. In 1960, the cinematographer Morton Heilig patented the telesphere mask - the first-ever head-mounted display which provided ste-



XR has gained traction with the rise of touchless experiences.

reoscopic 3-D visuals and stereo sound. And in 2010, a tech entrepreneur named Palmer Luckey began a Kickstarter campaign for Oculus Rift - a low-cost, lowlatency, large-field-of-view headset. He raised \$2.4 million for the project, causing interest in consumer-facing virtual reality to skyrocket.

Since 2017, VR and AR (collectively called extended reality, or XR) have predominantly been used to enhance video games, wow trade show attendees and compel kids (and some adults) to race blindly through the streets in pursuit of Pokémon Go characters. Basically, a form of bells and whistles.

That is, until the pandemic hit.

Since March 2020, XR has gained exponential traction concurrent with the rise of telemedicine and demand for touchless experiences. The technology's ability to place users in simulated situations has accelerated education for healthcare practitioners, treatment for patients unable to see doctors in-person and knowledge for pharma reps eager to keep up with the latest COVID-19 treatments.

THE VIRTUAL VIEW

At Tipping Point Media, a virtual training and digital marketing company that specializes in XR simulations, the key to holistic healthcare is empathy. XR's immersive experiences allow pharma, medical device companies and caregivers to actually explore what patients are experiencing — a key component to choosing the proper therapies and making compelling arguments for the use of a specific product or drug.

If behavioral mining demands anything of its advocates, it's being able to walk a mile in someone else's shoes; the more you know about something, the more adept you are at marketing it.

"Virtual and augmented reality have the unique capability of allowing users to experience any situation from any point of view," explained William Garner, president and chief creative officer of Tipping Point Media. "It gives healthcare experts the ability to walk in the shoes of the patient, providing a deeper understanding and forging a better emotional connection to the patient."



William Garner Tipping Point

"[XR] capability allows users to experience any situation from any point of view."

If behavioral mining demands anything of its advocates, it's being able to walk a mile in someone else's shoes; the more you know about something, the more adept you are at marketing it. XR offers marketers a three-dimensional, educational opportunity that swaps out the pages of dense textbook cases and passive video viewing, for real world simulations. For instance, a pharma rep can use XR to become a patient suffering from rheumatoid arthritis. Their hands become those of a patient stirring a pot. By virtually shaking the controller, it becomes harder for the patient to hold the spatula. Add to that flashing red lights and a haptic feedback and frustration mounts, creating a genuinely visceral and physical experience of what that patient is feeling.

Switching roles, the user can become a drug used to treat the disease, traveling through the patient's bloodstream and exploring where it goes, how it works and whether or not it alleviates pain. Next, they're the doctor offering alternate therapeutic options, then putting each one to the test. By the time that rep journeys out into the field, they've completed the patient journey, the medical expert journey and the drug journey numerous time and have developed a full understanding of the nuances behind each and every outcome.

Jordan Erickson, partner of new business development at Infuse Medical, which helps develop VR applications for use in surgical procedures, medical device sales and medical training, explained the benefits of XR as follows.

"Physicians have traditionally had to translate their book learnings into three dimensions; now, they don't have to translate. Sales reps, clinicians and patients can understand what they're dealing with, visualize it and retain it, all of which accelerates knowledge transfer."

Erickson, who primarily works with device and diagnostics manufacturers, echoed a prediction in Forbes that forecast a 78.5% global increase in spending on XR technology next year, offering greater immersion and realism and becoming an indelible part of the healthcare landscape.

"For the most part, our clients are spending their time and investment dollars on advanced technology," said Erickson. "XR and telemedicine are here to stay."

GAMING THE SYSTEM

Level Ex is considered one the healthcare industry's "unexpected disruptors." With a user base of more than 600,000 medical professionals including half of the medical students in the U.S., they help keep healthcare providers current in their specialties through presenting medical challenges in

the form of mobile games. Level Explayers can learn things like how to properly dose and administer drugs, engage with patient profiles that align with various treatment approaches and fire at molecules Angry Birds-style.

"We've become so good at disseminating best practices through video games," Level Ex's founder and CEO Sam Glassenberg told MM+M, "that we're now working with pharma and medical device companies."

A seasoned video game executive who hails from a line of doctors, Glassenberg has long been aware of the ways in which video games drive human behavior and realized he could harness their power to change physician behavior. Understanding the context, environment and sensory applications of something increases a user's ability to absorb and act on it.



Glassenberg

"We've become so good at disseminating best practices through video games that we're working with pharma and medical device companies."

"HCPs, early career physicians and med students are rapidly adopting XR for training," said Genevieve Paquette, Level Ex's chief strategy and development officer.

"Every one of our products is designed for skill building, tapping into the physical and emotional characteristics of the user."



Genevieve Paquette

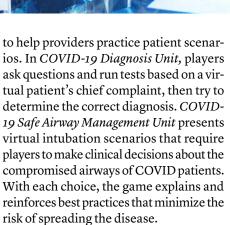
"Practicing physicians and pharma are becoming more and more invested in leveraging technology to get their content out to providers using the same modality."

According to Erickson, this choose-yourown-adventure-style remote learning vastly reduces the amount of time and cost typically associated with training and amplifies retention. He cites a 15-20% rise on the low end and a 40% rise on the high in retention from using AR over tradition learning tools.

"We have a client who performs dermal fillers for whom we created a virtual reality piece for clinical education," said Erickson. "They experienced a 24% lift in interest for these clinicians to bring that particular product into their dermatology clinics. You would spend a lot of money to get those kinds of leads at a trade show."

LEVELING UP

Most recently and perhaps most importantly given our current situation, Level Ex added two new COVID-centric games designed



"There's so much information out there about the virus and it's all super dense," explained Paquette. "Our games offer an easier way to digest these really complex concepts, which in return, elicits behavior change. Every one of our products is designed for information transfer and skill building, tapping into the physical and emotional characteristics of the user and inducing a measured behavior change."

And if there's anything we need right now, it's measured behavior change.



Jordan Erickson Infuse Medical

"Our clients are spending their time and investment dollars on advanced technology. XR and telemedicine are here to stay."

Digital health firms look to behavioral science to spur adherence

By Marc Iskowitz

ullet During the early months of the coronavirus pandemic, it wasn't only frontline healthcare workers who found themselves preoccupied with those sickened by COVID-19. The entire health system went into fire-drill mode dealing with the outbreak's tragic fallout.

That often left patients in need of more basic medication help or assistance managing chronic illness feeling like they needed to compete for their physician's attention. A silver lining of the pandemic has been the r-eemergence of interest among pharma, health systems and payers of the need to lean on digital tools to keep populations managed outside of in-person care settings, where the chance of infection is higher.

Digital and telehealth firms have stepped forward to blunt the anticipated treatment interruption associated with COVID-19, and to do so some are leveraging the toolkit known as behavioral economics.

"Our whole health system is built on the classic economic model," said Matthew Loper, CEO and cofounder of Wellth, a digital behavior change company. "The present-bias issue is why patients don't take pills."

That's a behavioral economics concept asserting that humans are naturally predisposed to respond to immediate reward or gratification. It takes effort or pain to exercise or go for that run versus doing what you're not supposed to do, like eat fatty foods.

Wellth is a digital health program that leverages the economic principle of "loss framing" which, in practice, means that if a patient doesn't change certain behaviors, track metrics or go to appointments they will lose money with which they've already been endowed.

"For many patients, our coaches were the only caresupport option they could access for months."



Teresa McArthur

The goal is to create habit formation in patients with chronic conditions by, essentially, paying people to take their medications. The firm claims an 89% adherence rate at the 12-month mark and works with underserved populations such as Medicaid, Medicare and dual eligibles. Wellth recently received \$11.5 million in Series A funding, and is partnered with companies like Boehringer Ingelheim, DaVita and Centene.

As Loper pointed out, the pandemic has created more room for telemedicine and remote monitoring. "That's the infrastructure; now we can come in and make sure patients use those tools and interventions," he said.

Digital health companies work to achieve certain endpoints in various medical conditions. However, they typically stop short of pursuing FDA clearance or in making medical claims toward clinical goals, as do firms in the digital therapeutics area.

With the healthcare system focused so heavily on coronavirus, patients with less acute illnesses have, to a certain extent, taken a back seat. For them, things that were simple pre-COVID, such as scheduling doctor visits and ensuring an adequate supply of medication, suddenly became areas of "greatest concern," according to a survey of patient influencers across more than 80 health conditions conducted by the Digital Health Coalition (DHC) and Wego Health in April.

As consumers have sought more digital assistance to overcome gaps in treatment and contact with their HCP, digital health companies that assist patients with their prescriptions — often on behalf of pharmaceutical clients - have stepped in to offer a range of support, from education to reimbursement. They're able to track outcomes due to their increased visibility into how patients take their medications.

"For many patients, our coaches were the only care-support option they could access for months," noted Teresa McArthur, VP of clinical at Cecelia Health, a telehealth company which identifies psychosocial barriers that influence adherence, such as lack of support or denial, and addresses them via a mix of human coaching and digital tools. In the wake of COVID-19, she said, there was a greater need to facilitate such resources as financial options, guidance to obtaining 90-day prescriptions and education.

"Our direct mail and digital communication efforts resulted in a lift in 90-day prescriptions across our programs," McArthur said. "Additionally, we experienced a 20% lift in coaching connection rates resulting in a 27% uptake in enrollment rates across our pharma programs."

That stepped-up engagement has had "a strong net positive impact" on medication adherence, she added. "It's potentially higher than our 29% average lift we typically see over three months of patient support."

With access to care emerging as a top priority, industry has had to find new ways to support patients with chronic disease. Digital health seems to fill that void, but it's only the latest attempt to address a problem that has dogged drug makers for many years.





Digital and telehealth firms have stepped up to blunt the anticipated treatment interruption associated with COVID-19.

"The industry has tried on multiple occasions to [boost adherence] and continually misses the mark, or it winds down and then gears back up. It's an ebb and flow," explained BioPharma Advisors' Robert Nauman, a consultant who has worked for and on behalf of pharmaceutical companies the last two decades. "I don't think pharma's interest in this is necessarily COVID-related."

Rather, as a new generation of brand managers seeks to tackle what has been pegged as a \$300-billion issue, digital health firms "are bringing back this idea that, 'Hey, we've got to engage the patient behaviorally and ensure, as a metric, that they're adhering to the medications, because the medications are still the best value for the healthcare dollar," Nauman added.

It's also about net-present value. That is, it's usually more cost-effective for pharma to keep a patient on branded therapy than to acquire a new one.

"When you get into very narrow patient populations and specialty medications medications that can cost north of \$50,000 a year, and where in many cases you might have a hundred or 200,000 patients in all of the U.S. — those patients are needles in a haystack," said Yadin Shemmer, CEO of Mango Health, a digital medicationmanagement firm. "Those patients are expensive to acquire. For those medications, it is often far cheaper to keep the patient on therapy than to find a new patient."

Meanwhile, digital health firms have been moving upstream in the patient journey, from medication management and

"COVID impacts adherence less in wealthy and better-connected neighborhoods compared to poorer and less-connected neighbhorhoods."

Jon Easter, Center for Medication Optimization

outcomes - the middle and last parts of the journey—to the first step, initiation of the prescription. They've done so by converging with bigger organizations.

In September 2019, Trial-Card, which supplies a broad array of Rx-related "hub" services on behalf of pharma, such as affordability and access, bought Mango Health. Also last year, AmerisourceBergen's hub-services firm Lash Group signed a strategic collaboration with Medisafe, which assists patients in starting new prescriptions and then managing them, offering Lash's pharma customers an added layer of digital patient support. And this year, commercialization giant Eversana inked a deal to integrate the Noom behavior-change app into its existing patient-service programs.

That convergence — and the ability to buy from proven service vendors — has made it easier for pharma to wrap an adherence tool around its brands. "Because of the complexity of the regulations and other factors, pharma likes to shop with people who have had pharma experience," said Nauman. "They're not buying innovation services as much as they used to directly from a startup. You might get one or two pharmas to give it a try, but not 20."

By linking with these larger organizations, the startups are able to scale more quickly because they can engage with more life science partners. "The patient-support space is warming up to where big organizations understand they need to be more involved with technology," said Omri Shor, CEO of Medisafe.

conditions and connecting consumers to home medication delivery or to a nurse.

"Today's specialty medicine service is labor-intensive. The drug comes with patient support, which is typically a nurse or call center," Shor explained. "But the moment that you add a digital companion to that, you make it contextual and personalized, and pharma clients get direct access to patients and populations."

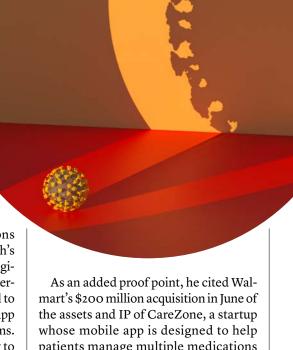
The technology allows pharma to solve for specific patient issues, Shor said, bridging a gap that used to be filled via phone support. Pharma, he noted, "got to a point that they can't reach that many patients over the phone. When was the last time that you picked up the phone from an unidentified number?"

> Instead of cold-calling the patient once a month, the goal is to provide ongoing support utilizing a mix of disease-related tools and content, along with humans. Noom's program, centered around a popular weightloss app, utilizes a mix of human coaching, AI and evidence-based guidelines of physiology, psychology and cognitive behavioral therapy.

> "The patientsupport space is warming up to where big organizations understand they need to be more involved with technology."

> > Omri Shore, Medisafe

"We are teaching the patient behavioral change and lifestyle changes that allow them to be healthier at scale," said Chris Lento, head of healthcare strategic partnerships at Noom. "As part of that, we help







Robert Nauman

"The industry has tried on multiple occasions to [boost adherence] and misses the mark, or it winds down and then gears back up. It's an ebb and flow."

educate them on why staying adherent to physician instructions and medication is really important as part of their overall patient care."

Noom sells direct to consumer via its Healthy Weight app. Additionally, a customized version is given to people who are prescribed Novo Nordisk's obesity pill Saxenda, fulfilling the "diet and lifestyle change" portion of the Rx. Noom works on a similar basis with four other pharma companies and struck a similar pact with medtech firm LifeScan in May. As part of the arrangement, people with type 2 diabetes

using LifeScan's blood-glucose monitors can access Noom's diabetes-management program, integrated through Apple Health Kit.

Noom, Lento said, has seen a continued growth of its consumer Healthy Weight program throughout COVID-19 as a result of patients seeking out more digital assistance. "Pharma is realizing that traditional therapeutics have their place," he added. "They have great efficacy, they're safe, they're regulated. But as digital programs are making advances, this drugplus-software approach has the ability

"Our whole health system is built on the classic economic model. The presentbias issue is why patients don't take pills."



Matthew Loper

to improve the patient journey and improve engagement."

The big question remains whether adherence gains seen in the short term will endure beyond the pandemic. To be sure, not all of these improvements will necessarily translate into lasting improvements.

Allowing early 90-day fills "could increase the appearance of adherence, since you're going to have overlapping supply," said Jon Easter, director of the Center for Medication Optimization, which is part of the pharmacy school at the University of North Carolina, Chapel Hill. However, this might not have a positive impact on true adherence.

There could also be socioeconomic and racial discrepancies in these adherence changes. "I would imagine that COVID impacts adherence less in wealthy and better-connected neighborhoods compared to poorer and less-connected neighborhoods," Easter noted. He added that there's a possibility that people are overcompensating for an external health threat by maximizing their health through any means possible, including adherence.

Nevertheless, it's a good bet that, given how coronavirus has shifted virtual care from a nice-to-have to a necessity, behavioral-backed digital services may continue to make strides.

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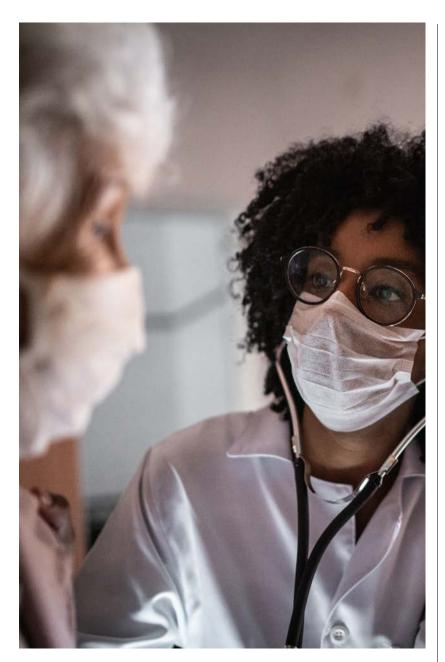
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Advancing Pharma Through Behavior Change

Partner Perspectives





Clifford Jones AllazoHealth



 Pharmaceutical companies continue to be challenged by medication non-adherence. According to a recent study, pharma loses \$637 billion in potential sales annually due to non-adherence, with \$250 billion in the U.S. alone. The benefits of improved adherence are clear: revenue growth, decreased costs and improved clinical outcomes.

Given all this, why is non-adherence such a difficult problem to solve?

Non-adherence is challenging because it's driven by a patient's unique psychology. To change nonadherent behavior, you need to engage and motivate each patient as an individual.

There are two types of non-adherence:

- 1. Unintentional non-adherence includes factors such as patients forgetting to take their medication, not understanding instructions or failing to fill or refill.
- 2. Intentional non-adherence includes discontinuing or self-modifying treatments. It has been linked to patients' negative perceptions of a medication.

Both types of non-adherence can be substantially improved by a patient support program driven by artificial intelligence (AI).

AI optimizes patient support programs by predicting which patients are not only at risk for non-adherence, but who are most likely to respond to interventions. AI then personalizes interventions for each patient by channel, message and timing to address either the intentional or unintentional factors that are affecting the patient.

Why is AI so effective at improving adherence? AI learns from large comprehensive data sets, which are critical for making accurate predictions about each patient's adherence behavior and responsiveness to different interventions.

A recent study by a leading pharmaceutical company showed AI-powered adherence resulted in 15 additional days on therapy, as well as five times more effective email outreach.

The drive for better outcomes in today's complex healthcare environment has increased the pressure for better performing, more cost-effective solutions. Now, more than ever, pharma needs to make strategic choices to effectively support their patients, strengthen their brands, and improve clinical outcomes.

Partner Perspectives

• The best design is rooted in behavioral science. From apps to web pages to urban spaces, the best designers think critically about how humans will interact with their creations. Designs are then adjusted according to the desired behavioral outcomes. However, there's been a hesitancy across the life sciences to embrace behavioral science. Wariness of creating content that's "too flashy" or "promotional-looking," combined with an underappreciation of the social sciences such as psychology and sociology, has led to a proliferation of staid, overcrowded presentations. While these presentations can be sound scientifically, they can be hard on the eyes and difficult to follow and thus less effective at communicating the science.

Thankfully, advances in technology (most notably natural language processing) are making behavioral science increasingly quantitative and analytical and therefore more palatable for biopharmaceutical marketers to use in their approach. These advances are also making behavioral science more practical to implement. For example, educational simulations allow doctors to practice surgical procedures, make circumstancebased adjustments to their emotional intelligence, or read a new type of diagnostic tool. In other words, doctors can test different approaches in a safe environment, mastering lifesaving skills before they even approach a patient.

The examples of technological innovation abound (from mixed reality to gamification and so on) and all of them are potentially game-changing tools in pursuit of our ultimate goal: changing behavior to advance patient care. We all form habits and cognitive biases to simplify our complex lives and doctors are no different. For the entire history of medicine, doctors mastered a surgical technique or delivered a difficult diagnosis based on a trial and error approach that over time resulted in habits and cognitive biases. With new technological advances driven by behavioral science, we as biopharmaceutical marketers can help doctors overcome these and advance care for their patients.



Arun Divakaruni, Ph.D. Avant Healthcare







At MicroMass, we believe that people deserve better health and a better life.

Our team takes a disruptive approach to marketing. We deliver behavior change by combining proven, evidence-based techniques from health psychology and behavioral science with compelling creative. We leverage technology to not only help uncover patient needs, but to reimagine the patient experience.

Our proprietary methodology built on more than 25 years' experience allows us to apply behavioral science in a different way. We go behind insights to deliver end-to-end solutions for our clients.

- We recognize that motivating, positive behavior change is at the core of everything.
- We solve brand and customer challenges for our clients using a tenured team of subject matter experts who guide strategic and tactical execution of end-to-end solutions for our clients.
- We specialize in assessing the landscape, identifying key brand opportunities and creating solutions that meet the individualized needs of our clients.
- We connect with people. Our approach uses a variety of strategies to change how your patients or providers think, feel and behave.

Our focus is to create brand experiences that lead to better outcomes for the patient. To drive better outcomes for patients — and grow their business — pharmaceutical companies need to shift from a traditional brand-focused model to one that leads with a behavior change strategy.

That's how we change lives for the better.



Rob Peters EVP, strategy MicroMass Communications

