THE PULSE

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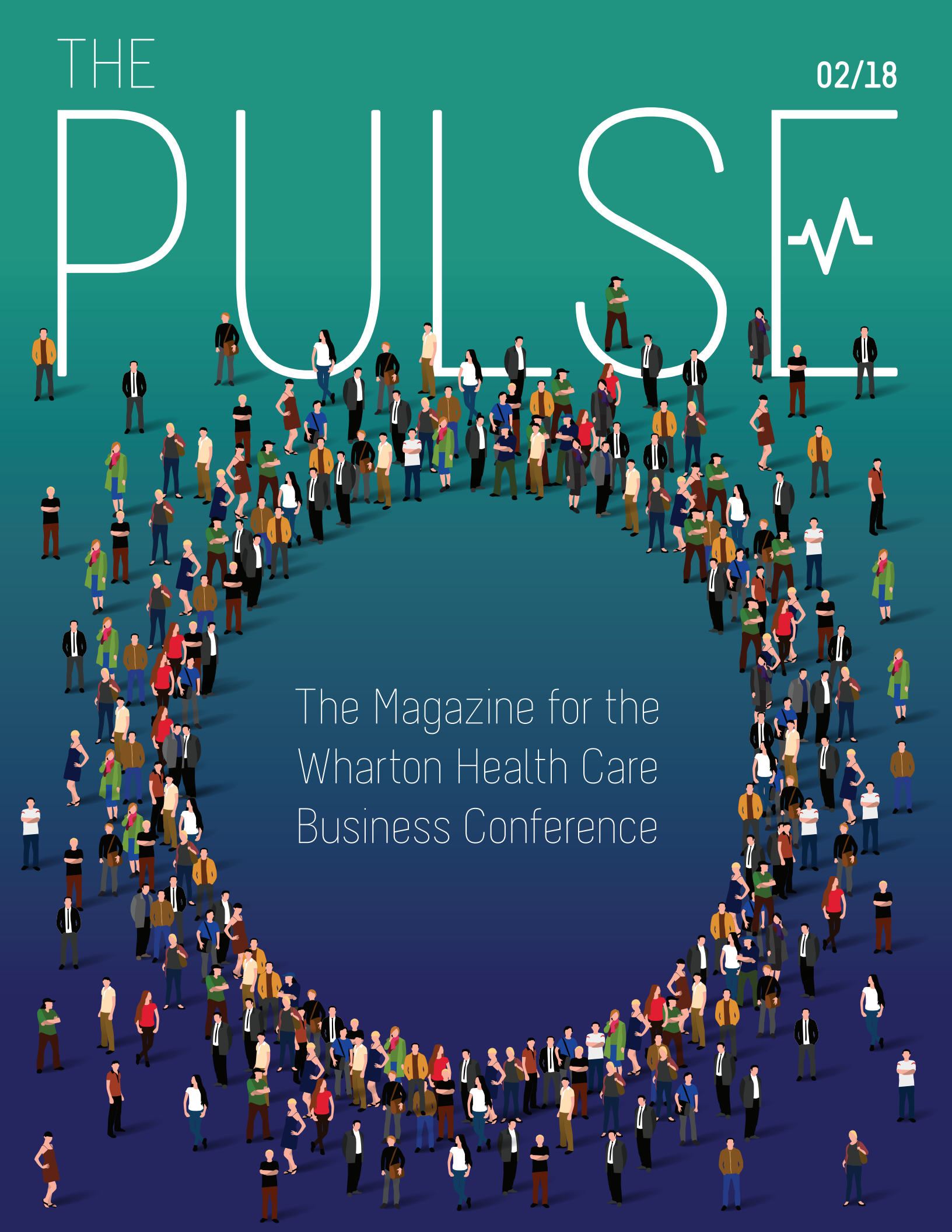

The Magazine for the Wharton Health Care Business Conference

THE
PULSE

The Pulse is a Wharton MBA student-run healthcare journal associated with the Wharton Health Care Business Conference. For 13 years, *The Pulse* has strived to inform the healthcare business community of notable developments across the industry and engage key opinion leaders in thought-provoking conversations.

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IN THIS ISSUE

The Pulse spoke with Dr. Roy Beveridge, Chief Medical Officer of Humana. Dr. Beveridge will be joining our conference panel, "The Other 50% of Health: Bending the Health Care Cost Curve via Wellness & Behavioral Economics." We asked for a preview of what we can expect to hear at the upcoming Wharton Health Care Business Conference this February.

A NEW FOCUS ON WELLNESS AND COMMUNITY

Roy Beveridge, MD
Senior Vice President and Chief Medical Officer
Humana

***Pulse*: Basic lifestyle choices surrounding diet, exercise, sleep, and stress predict a significant portion of health status. What role do you believe an insurer like Humana should play in encouraging individuals to make healthy lifestyle choices?**

Roy Beveridge: Approximately 75% of our health care spend is related to chronic disease, including obesity, heart failure, and dementia. Some of this is ultimately related to exercise, diet, and smoking.

Dealing with chronic disease isn't just the role of the doctor or the insurer. It's a collective responsibility we all have. We've done a pretty good job with this before as a society with tobacco use. In the '50s and '60s, everyone was smoking in the movies. Now it's socially unacceptable for someone to be blowing smoke in your face. We're also making it very easy as a society for people to stop smoking with things like nicotine gums and Chantix.

In the future, instead of smoking, we'll look more at exercise and caloric intake. It's not just the responsibility of the payer or government to change this mindset, it's everyone's.

***Pulse*: What incentive do insurers like Humana have to promote wellness if they may only be insuring an individual for a short portion of their lifetime?**

RB: Most of the people we cover are in Medicare Advantage (MA). Their average length of membership is more than 7 years, which is very long in the industry. So, when we have a senior sign up for coverage, we become very engaged in their health because we'll probably have them for the rest of their lives.

It's good business for us to do that. The healthier we can help our MA population be, the better it is for the patient without question, and we reduce our costs of taking care of that person. If we have someone who's 65 years old and newly diagnosed with diabetes, and we work with them to lose 10 pounds and start exercising and eating better, they might not even need insulin and their hospitalization rate will decrease.

KEY TAKEAWAYS

Payment mechanisms will be the driver behind changes in how the healthcare system approaches basic wellness (e.g., diet, exercise, sleep, stress). As we shift towards value-based care, the whole system has more incentives to promote wellness.

Payers need stability in the populations they are covering so that there is a financial return to investing in wellness. It's hard to invest a lot of time and money into someone's long-term wellness if you're only insuring them for a couple of years.

Basic social factors, like your ZIP code or education level, can determine a massive part of your health and wellness, and payers need to partner with civic leaders and community organizations to improve the health of socially-disadvantaged communities.

The payment mechanism is driving this behavior change, and this behavior change is making people healthier.

***Pulse*: How will providers help in encouraging better lifestyle choices for patients?**

RB: I practiced medicine for over twenty years, and I recognize that the engagement of the physician is crucially important.

The medical world has switched from the fee-for-service (FFS) mentality to value-based care (VBC), which means that doctors are no longer paid just for a treatment, but for outcomes. This creates a huge change in doctors' treatment plans for their patients, including a big focus on educating the patient; for example, helping them understand why taking insulin is important. The payment mechanism is driving this behavior change, and this behavior change is making people healthier.

***Pulse*: It sounds like Humana has had a lot of success with value-based payment models under its MA plans. Why did this work so well?**

[*Note to readers: According to Humana's first-ever Value-Based Care Report, published this past November, Humana's value-based care models for Medicare Advantage members outperformed fee-for-service models on both quality and cost.*]

RB: If you start with a payment mechanism where the doctor or institution is paid more for an outcome, everyone will be aligned to help the patient improve their health. In the old FFS world, there was always an antagonism between the payer and the provider. In the VBC world, everyone is aligned – the payer wants the physician to see the patient more because it improves outcomes. That economic alignment is crucial. That's why you see these great results with Medicare Advantage plans: everyone wants the patient to be healthier.

***Pulse*: Social factors, such as socioeconomic status and food security, can also have a significant impact on health status. For populations that may be economically or socially disadvantaged, how is Humana supporting patients in making the right health choices?**

RB: One of the biggest causes of readmission to a hospital after surgery is whether or not a patient has food in their refrigerator. We're finding that food insecurity is a huge issue for a great number of American seniors, and we have programs where we ship food to patients post-surgery.

[*Note to readers*: *According to a Humana press release, 5.4 million U.S. seniors are food insecure.*]

As a different example, if someone has diabetes and a behavioral health issue, their costs are four times greater than if they have diabetes alone. It's too simple to just say, "Lose five pounds." You have to think about if a patient can afford food; afford exercise, even if the local government is providing enough streetlights outside at night. To be successful, it's not just about the payer – you have to work with local civic leaders as well to improve the health of a community.

ENGAGING CONSUMERS IN THE GROWING CRISIS OF CHRONIC DISEASE IN THE US

Sean Duffy
Co-Founder and CEO
Omada Health

Diabetes is one of our nation's most pervasive and costly chronic conditions. According to the Centers for Disease Control and Prevention (CDC) website (www.cdc.gov), 30.3 million US adults suffer from diabetes. Over 90% of those Americans have type 2 diabetes, which can be prevented or delayed with healthy lifestyle changes. In fact, one in three American adults have prediabetes, which puts one at increased risk for developing type 2 diabetes, heart disease, and stroke. For the 84 million Americans with prediabetes, the CDC had developed the National Diabetes Prevention Program (DPP) that helps them make the lifestyle changes needed to prevent or delay type 2 diabetes and other serious health issues.

Omada Health (Omada) is one of the technology companies that offers a CDC-recognized version of the DPP online. Founded in 2011 and with over $127 million of venture capital funding, Omada has improved the lives of over 140,000 individuals via its clinically-proven, digital therapeutics program. Other organizations such as the YMCA and the American Association of Diabetes Educators offer in-person DPPs; Omada's digital program consists of a CDC-approved curriculum, personal health coach, and support group of individuals with similar goals and challenges. According to outcomes data provided on Omada's website (www.omadahealth.com/outcomes), an average Omada participant lowers, within 12 months, his/her 5-year risk for type 2 diabetes by 30%, heart disease by 16%, and stroke by 13%. The company has also published nine peer-reviewed studies demonstrating similar, or better, results out to three years.

Omada also leads the way in terms of patient engagement. For the Omada program, nearly 65% of the participants were still engaged with the program after the first 12 months. This is significantly higher than the average 6.6% engagement rate of popular weight loss programs[1]. The Pulse sat down with Sean Duffy, Omada's Co-Founder and CEO, to learn about the Omada way. Here are our four main takeaways:

I. **Omada's key to consumer engagement success is its internally-built, comprehensive therapeutics platform**. When asked about what does Omada do differently, Duffy responds, "one key to what we've done at Omada is to build out and artfully combine every single aspect of the program (DPP) ourselves, including hardware, content, grouping infrastructure, coaching, and tracking." Duffy further points out that the digital health space often gets trapped by the "single instrument fallacy," which is the simplistic belief that health problems can be solved with just one device, such as a digital scale or tracker. One of Omada's points of differentiation is its comprehensive approach, which Duffy has poetically described as building and orchestrating 100% of the instruments needed to make music for its audience.

II. **Omada is deeply focused on making the user experience easy and personalized**. While Omada has been successful at engaging its users, there is always space for improvement. Duffy identifies the lack of time as Omada participants' biggest barrier to engagement. In addition to user interface tweaks, the Omada team also will be implementing a "snooze button," which Duffy explains, "if it's not the right time for you right now, tell us when you think it would be based on what you have going on in your life." This allows the users to pick when they can fully engage.

[1]Lorenzetti, L. "This Company Is Tackling Diabetes With 'Digital Therapeutics.'" *Fortune*. April 22, 2016.

Furthermore, Duffy describes Omada's product adaption for underserved populations, including Medicaid enrolled individuals, those eligible for Medicaid, or the uninsured. Research has shown that not having a high school education and/or living below the federal poverty line are associated with twofold higher mortality from diabetes[2]. Omada has partnered with researchers from the University of California, San Francisco (UCSF) as well as large, safety net clinics to work with low-income prediabetes patients. When asked about how does Omada engage with an underserved population, Duffy outlines several modifications to its DPP, such as curriculum materials at a lower literacy rate, specialized health coaches, and further development of its mobile platform (the Medicaid population tends to use mobile over laptop). Early data indicates that Omada's Medicaid participants have achieved similar results as the rest of Omada users. Duffy attributes this success to Omada's different way of approaching the lower-income and elderly populations. Instead of asking the question of "can this population use this technology," Omada asks the question of "can we build a technology intuitive enough so that this population can use it?" For example, Omada's weigh scale automatically includes a cellphone chip, which prevents the users from having to pair the device with internet or link to bluetooth.

III. **Omada's focus on data allows it to train its health coaches, a vital part of the DPP.** Omada's digital platform has allowed the team and its clients access to a whole new level of data, which allows it to effectively train and measure its health coaches, and provide those coaches specialized alerts to deliver impactful interventions. When asked about how does Omada approach the development of its health coaches differently, Duffy states that Omada's access to user outcome data allows its health coaches to understand what's working, which participants are slipping, how they should allocate their time, and how they compare to other health coaches. Duffy emphasizes that the digital platform provides data that would be hard (if not impossible) to obtain from an in-person DPP.

IV. **Omada's engagement with its users has led to positive spillover effects on general healthy behaviors.** According to Duffy, in addition to achieving return on investment for payers within 1-2 years of implementation, Omada helps payers save additional dollars by lowering participants' overall healthcare utilization. Delving deeper into Omada participants' claims data, Duffy states that Omada's constant engagement with its participants – reminding them of healthy behaviors – leads to positive behaviors such as fewer unnecessary visits to the emergency room.

Duffy and the Omada team are leading the digital fight against diabetes and prediabetes. Duffy's passion for and firm belief in digital therapeutics are apparent when he talks about the current changing consumer expectations. For Duffy, the current world is one in which "an in-person visit is viewed as second to trying to solve the person's problem quickly and remotely," especially for chronic disease prevention, which requires heavy engagement.

The Pulse team is excited to hear more of Duffy's perspective on digital health and consumer engagement at the conference.

[2] Saydah, S., & Lochner, K. (2010). Socioeconomic Status and Risk of Diabetes-Related Mortality in the *U.S. Public Health Reports*, 125(3), 377–388

CONSUMERISM AND BIOPHARMA INVESTING

Stacey Seltzer, a Partner at Aisling and Wharton MBA alum, discusses her views on investing in biopharma and how the consumerism trend is affecting their business.

Stacey Seltzer
Partner
Aisling

***Pulse*: What do you look for when investing in biopharma?**

Stacey Seltzer: First, I look at the management team. Having a good management team is essential when investing in any company, especially in life sciences. Sometimes there is a lot of focus on the asset itself and whether it can get through the clinical trial process. But, strong execution on a clinical development plan is critical, and you need strategic skills when negotiating deals or when taking a company public. The company needs to have a good asset but there also needs to be a good management team to bring the asset to the community. I assess a management team over time in terms of their ability to present, think strategically and execute.

It is also important to think about the clinical and regulatory risk. I typically invest in clinical stage assets, so it is important to understand the true clinical and regulatory risks. When I came to the industry, I thought FDA decisions would be black and white, but there are a lot of judgment calls. You need to anticipate the questions they will ask so you can address them.

***Pulse*: How have you seen biopharma adapt to the increasingly consumer driven environment in healthcare?**

SS: This can come through in several ways. One is through marketing and sales. There is a lot of emphasis on marketing to patients through direct to consumer channels beyond the TV ads you see. When a big pharma company is thinking about acquiring a company, they look not only at how the physician would view the drug, but also how the patient would view it. Lifestyle drugs and aesthetic therapies have become very big markets. Many big companies think about this space because there's a big market for self-pay products – e.g, those that are not covered by insurance but that patients think are valuable. Plastic surgery, weight loss, and ophthalmology are big piece of the industry even though they have a big self-pay component.

Consumerism is also very prevalent in rare and orphan diseases. Patients have a louder voice in these areas. Ten years ago, you wouldn't have thought this would be the case, but the trend now is for patients (and caregivers) to advocate

The trend now is for patients (and caregivers) to advocate for themselves through foundations and patient advocacy groups.

for themselves through foundations and patient advocacy groups. They also advocate to the FDA for a streamlined path to approval. Over the past few years, the FDA has listened to patient advocacy groups and worked creatively to get these drugs to market in a more streamlined fashion, but the pendulum could always swing back to require more rigorous trials.

***Pulse*: How do biopharma companies think about managing the different stakeholders they interact with, such as the patient, physician, and payer?**

SS: Market analysis needs to involve multiple stakeholders, including physicians and patient advocacy groups. This is especially true in rare disease. Advocacy groups can move markets. They can help facilitate identifying and enrolling patients in clinical trials faster. As small biotech companies are developing their strategic plans, understanding this is important.

Reimbursement is also important to understand. It is not automatic to get attractive reimbursement rate; now, drugs need to be differentiated and show how they improve life for the patients. Companies now need to do market research to convince investors and potential acquirers that a product will get reimbursed in an attractive way so the commercial potential can be realized.

***Pulse*: What advice do you have for people looking to get in to venture capital?**

SS: Many firms value higher degrees, particularly PhDs and MDs for both early and late stage investments. MBAs are also valued, but having some background in science is important because the job requires scientific and clinical rigor. Another part of the job to is assess the potential assets of the company, and strong business experience helps with that. Spending time in industry helps in the long run because you have a better understanding of the buyer and seller perspective. You have a mindset to think about where the company can ultimately end up and you can relate to the management team to understand their day to day. It's also helpful to have startup experience or buyside experience to put yourself in the mindset of the buyer.

DELIGHTING RETIREES

The Pulse had a chance to catch-up with Kevin Nazemi despite his busy schedule of gearing up Renew, an online platform committed to improving the entire retirement experience for the baby boomer generation. Prior to starting Renew, Kevin co-founded Oscar Health Insurance. Throughout our interview, it's evident that for Kevin, everything starts with delighting the consumer rather than conforming to the healthcare system's status quo. However, Kevin also emphasizes the importance of understanding and navigating our healthcare system, especially the nuances of the regulatory environment. The perfect blend of human capital needed for the healthcare industry is people with industry experience and people with a new, fresh vantage point of "why not." Read our entire interview to discover what Renew is doing to engage with retirees and what Kevin thinks both large healthcare entities and healthcare entrepreneurs need to succeed in being consumer-focused!

Kevin Nazemi
Co-Founder
Renew

***Pulse*: You have started two consumer-facing, consumer-empowering companies – Oscar Health Insurance and Renew. What drove you to start those two companies?**

Kevin Nazemi: In both cases, we simply believed that consumers deserve better. We saw that bringing together technology, data and design has the potential to transform the consumer experience in a category that really matters.

***Pulse:* What does a healthcare company need to do in order to succeed in being a consumer-focused company? What are the necessary elements of success?**

KN: Healthcare is so complex. One approach that someone can take in healthcare is to look at the system in increments and take steps towards the consumer. I like to start with thinking about the consumer – as simple as it sounds – then finding and plugging in components of the healthcare system and the regulatory environment into that consumer experience. If you try to increment from the healthcare system to the consumer, it takes a lot of time, it's frustrating, and you can frankly, at times, lose hope. The complexity of the regulatory environment makes it so difficult to do a lot of things. But if you start without the constraints and then connect your thinking with the constraints, you set yourself up for a lot more imagination. The chance of success also increases.

***Pulse*: The approach you just mentioned would be great for an innovative start-up. What about for existing healthcare organizations, such as large insurers or health systems, who play such a vital role in our healthcare experience? What do they need to do to achieve a high-level of consumer satisfaction and consumer empowerment?**

KN: One thing to consider is the balance of hiring people with a lot of experience and hiring people with fresh, new thinking - bringing in, potentially, people from other industries that have succeeded in meeting the needs of the consumer. Healthcare is so personal for everyone - everyone has a personal story of where the healthcare consumer has had needs that could have been met better. The most powerful thing that these entities can do is to bring in that kind of new thinking and approach.

You already see it happening in several places – Providence Health System (Providence Health & Services), based in the Pacific Northwest and California, has hired a few former Amazon executives. UPMC (University of Pittsburgh Medical Center), which is closer to Wharton, also hired former Amazon executives and others to bring in a new way of thinking. These people's starting point is not "that's too hard" or "it's been done before or "it's the way it should be done." Rather, they start with a vantage point of "why not." The more people you can bring into an organization with the "why not" way of thinking and imaginative thinking, the better it is.

***Pulse*: Turning our focus to your current company, Renew, which is focused on new retirees. How does your team plan on engaging with this population on a technology platform, especially given that they might not be as tech-savvy as millennials?**

KN: The reason we started Renew is that we had to help retiree parents with their retirement challenges. What we found was that when you work at a company, you typically have a benefits department that helps you deal with your healthcare, finances, and etc. However, when you retire, you are essentially thrown off a cliff and you have to weigh things on your own. This is particularly tough because this is when you need the benefits department the most and when things get the most confusing.

We at Renew are cognizant of the fact that on one hand, the current retirees likely have used technology when at work and even when it came to their benefits and engagements with the healthcare system. But at the same time, they are not as pervasively connected as millennials might be. The way we bring these two things together is by having a high-tech, high-touch approach. We use technology for Renew to exist in the background, enabling a contextualized experience. Thus, we don't take the view that if our phone rings, it's a failure of technology. We think that technology can personalize the experience. When retirees call Renew to help them, we can have a lot more of context of who we are talking to not only from a customer service perspective but also from the perspective of how to apply Renew's available resources to them.

***Pulse*: Currently, Renew is starting with the benefits piece, especially around helping its customers find the right Medicare plan. What are Renew's long-term goals, in terms of creating a comprehensive and enjoyable retirement experience for your customers?**

KN: Ultimately, our hope is that we become the place where everyone turns to when they are about to retire to figure out their retirement benefits, insurance, and finances, especially when they are about to enter phases of asset decumulation instead of asset accumulation. And we would love to help them figure out what to do with their time, which is what retirement is all about.

Our hope is to make the experience something that feels good and right – something that makes our customers feel respected and not old. As you are aware, demographics of retirees are changing dramatically – life expectancy is going up on average and technology proficiency is going up. Over 10,000 people a day are turning 65 – this is a dream segment to have the opportunity to delight.

***Pulse*: What do you think are the roles of employers and government, who are the payers of retirees' healthcare, in encouraging this trend of consumerization in healthcare?**

KN: The overall trends make it such that if the consumer doesn't make a key role, things for the long-term will not look good because the costs are increasing, but the ability of companies and government to cover those costs is not increasing at the same rate. If the consumer is not empowered in this equation, then it's really tough to make things work.

It is the responsibility of the private sector and our government to put a usability layer on top of the healthcare system because that currently does not exist. Just as there is Google Maps for navigating the roads of a city, there needs to be a usability layer for the consumer for navigating the healthcare system. Today, our healthcare system is where we were with maps 15–20 years ago. If you wanted to go on a trip, you had to go to the local AAA office and pick up a map for that city. We would laugh at that today because we can pick among Google Maps, Waze, and an assortment of other solutions that would provide that usability layer while navigating.

***Pulse*: Many of my classmates at Wharton are passionate about changing healthcare and building companies that are consumer-focused. What advice would you have for our aspiring healthcare entrepreneurs?**

KN: First, go for it! Healthcare definitely needs people to shake things up. Second, complement your ambition, desire and fresh thinking with experienced people who are part of the healthcare system to help you and cover your blind spots. In particular, those experienced people can help you with navigating the relationships that you need because our healthcare system is relationship-based. Also, you would need help in navigating the regulatory environment because it's complex and nuanced.

Jessica Zeaske, a Director of Healthcare Investments at GE Ventures gives her perspective on how technology is changing the way consumers interact with the healthcare industry. Listen to more of Jessica's thoughts at the conference panel: Finding Opportunities to Create Value in an Increasingly Consumer-Centric Environment on Friday, February 23.

A VC PERSPECTIVE ON CONSUMERISM IN HEALTHCARE

Jessica A. Zeaske, MBA, PhD
Director of Healthcare Investments
GE Ventures

***Pulse*: What do you look for in an investment?**

Jessica Zeaske: The three factors I spend the most time on when looking at an investment are the customer readiness to buy, the team, and the company's solution. I first want to make sure payers and providers have already expressed interest and are ready to buy a solution for this problem. The problem needs to be known, but the solution can be novel. I look for teams that can understand these problems in depth and then can bring a disruptive solution to market. Some companies preserve the status quo but do it in a slightly different way, like using the internet instead of fax. I prefer new business models that can penetrate the organization and change the status quo.

***Pulse*: What is a disruptive change you've seen?**

JZ: The role and responsibility of the individual patient is beginning to fundamentally disrupt the standard operating procedures in healthcare. As healthcare systems and insurance plans are changing to put more emphasis on the individual and put more risk on him or her, wrapping the patient in behavioral support and navigation tools is going to be essential moving forward. Healthcare needs to adapt to the patient as the end consumer. We are starting to see more consumer-facing telehealth and an increasing focus on customer service enabled by hospital CRM systems.

***Pulse*: What are some of provider needs you are trying to address?**

JZ: Two provider pain points are: attracting patients to the health system to increase top line revenue and keeping patients in the system to prevent leakage. This requires communication with the patient for care coordination, and in

The role and responsibility of the individual patient is beginning to fundamentally disrupt the standard operating procedures in healthcare.

the past, this wasn't possible because data around the patient was siloed. Early adopters are now starting to build CRM systems for personalized communication with the patient. Many health systems are still wrapping up EMR installations, but this will be the next big project.

***Pulse*: How do you convince a provider to implement a disruptive technology solution when they are still so far behind other industries in term of technology adoption?**

JZ: Healthcare is usually slower to adopt technologies than the general market because the industry is very heavily regulated and because you are dealing with people's lives. The paradox is that most individuals working within health industry love technology, accept innovation, and want to move market forward. But infrastructure and regulation require a metered approach. When a tech solves a pain point it can be adopted quickly.

***Pulse*: Do you have any examples of disruptive technologies that you've invested in that were either adopted quickly or weren't? Why?**

JZ: On the Administrative side, disruptive technology can be adopted more quickly than on the clinical side. A.I. and machine learning solutions for scheduling, claims processing and analytics are being adopted fairly rapidly (for healthcare at least). Most major disruptions, like virtual care and telemedicine still take decades to fully adopt.

***Pulse*: Healthcare technologies can touch many stakeholders other than the buyer (e.g., physicians, payer, patients, families). How do you think about these stakeholders when investing in a product?**

JZ: When investing, we need to fully understand how the software is going to be used down the value chain. Some solutions are B2B2B2C, and we need to make sure the solution is a win at each segment. That chain is tricky to navigate, and we look for teams in early stage companies that truly understand this chain and the depth of the healthcare market.

***Pulse*: What is a major trend you see going forward?**

JZ: As I mentioned before, the healthcare system is evolving to put the patient more in the center so I do see a more retail-focus coming throughout healthcare. This is also being forced by different payment mechanisms and the competitiveness of healthcare systems. It's also being influenced by the ability to bring solutions to customers in settings outside of the hospital. All of these trends are going to push health plans and hospitals to look at the customer experience as well as the outcomes of that patient after the treatment.

USING BEHAVIORAL ECONOMICS TO DRIVE ENGAGEMENT AND INCREASE QUALITY MEASURES

The Pulse spoke with Karen Horgan, co-founder and president of VAL Health, the leading health behavioral economics firm. Karen will moderate one of our conference panels, "The Other 50% of Health: Bending the Health Care Cost Curve via Wellness & Behavioral Economics." Karen discussed behavioral economic principles such as framing, choice architecture, and financial incentives, all of which health care players are increasingly using to drive engagement and increase quality measures.

Karen Sussman Horgan, MBA
Co-Founder & President
VAL Health

We're just getting started using behavioral economics in health care.

***Pulse*: Which type of health care players should be thinking about behavioral economics? Are these principles more relevant to some players than others?**

Karen Horgan: Behavioral economics is the science of understanding that we as humans behave irrationally. For example, people still smoke even though "smoking kills" is plastered on cigarette packages. We've found that solutions work best when they address multiple stakeholders (such as patients, caregivers, and providers), rather than one stakeholder in isolation.

We worked with a health system that wanted to increase video visits to cut down on costs, but they were facing reluctance from both providers and patients. We crafted a multipronged solution that leveraged behavioral economic principles, including social norms and framing. We coached providers to tell patients that other patients appreciate the convenience of a video visit. We also instituted leaderboards to let providers know how they compared to their peers in terms of encouraging patients to choose video visits. Within 90 days, we achieved a 40% increase in specialty care telemedicine visits. We also saw that people try harder the closer they get to a goal, so focusing on interim steps rather than a lofty goal can be highly effective.

***Pulse:* How can behavioral economics help drive engagement in health care (e.g., increased use of health and wellness programs)?**

KH: Behavioral economic principles can be effective across the engagement continuum, from care to cure. Patients are receiving more and more information, which increases the burden of managing multiple chronic conditions. We want to help people succeed with self-management, which can mean activating one-time behaviors or staying engaged with ongoing activities. For example, these principles can help people select the right health plan during open enrollment. They can also increase the use of preventative services or management of chronic conditions. We use three main tools to drive engagement: choice architecture, framing language, and financial incentives.

***Pulse*: What are the key elements of choice architecture that health care players should be aware of?**

KH: Choice architecture has to do with strategically using defaults to nudge people in the right direction. This is the number one thing to make a difference in health care. Choice ordering is extremely important, because people tend to pick from the first few options, so don't sort your list alphabetically or chronologically! We need to make the right path the easy path to play on the fact that we as humans are lazy and will take the easiest path.

We worked with a client that wanted to increase its Health Rate Assessment (HRA) completion rate from single digits to 80%. The client was fully prepared to provide financial incentives, but instead that we recommended that they integrate the 10-question HRA into the enrollment process, where people wouldn't notice a few extra questions. This change allowed the client to acheive 95.8% completion rates.

***Pulse*: How can framing and other aspects of messaging affect health behaviors?**

KH: The words we choose are more important than what we say. For example, we like other people to observe what we do, and we like to observe what others do – we're social beings. Effective framing plays on this reality by using social norms.

Most of our projects wind up being content writing. We worked with a client that wanted to increase the rate at which patients use an online portal to schedule appointments. After sending a carefully worded email to a large group of patients, we observed a 5x lift in the rate of online scheduling as compared to the control group. We did some A/B testing to identify the best messaging for the email, which wound up playing on exclusivity, status, and social proof. Using multiple behavioral economic principles maximizes our impact. In general, framing can impact people on an ongoing basis, and its power is underappreciated.

***Pulse*: What are the implications of your work for health care quality measures?**

KH: People often think about behavioral economics as wellness, but it also encompasses self-management, care to cure, which ultimately improves health and keeps costs down. Q4 rolls around, and many organizations see that they're not on track to meet their goals, so they might pay people to engage in their health. However, sequencing communications and content that can be spread throughout the year can have a much bigger impact.

We developed communications content for a managed Medicaid. We saw a 10-basis point increase in mammography screening and a 50% increase in diabetics who had their A1C levels under control. It's fun because we're driving health change and can measure these results.

***Pulse*: How have you helped clients implement effective financial incentive programs? Is there evidence that target behaviors persist after incentive programs end?**

KH: There's a time and place for financial incentives, and it's usually simply when organizations want to spend on them. We built a financial incentives platform called VAL Health Rewards, based on the concept that the design of the incentive is more important than its size. On a weekly basis, participants are automatically entered into a contest. If their name is drawn and they had completed the target activity, they win a prize. If their name is drawn and they hadn't completed the target activity, they learn that they missed out on reward. This anticipation of regret is very powerful; 19-40% of people change their behavior. It's important to nudge the unengaged rather than just rewarding those who were already doing the target behavior. We've observed a 2.5x increase in digital portal engagement as a result of these incentives.

We also lower incentive costs by 45% on average. Our incentives are typically about $13 per person, which is a fraction of what organizations would spend on traditional incentives. This adds up to millions of dollars of savings on financial incentives.

***Pulse*: Where do you expect to see new opportunities for behavioral economic applications in health care?**

KH: We're just getting started using behavioral economics in health care. The retail and financial sectors have used these concepts for years, often to take advantage of people, but we move a little slower in health care.

I see potential particularly around engagement with digital tools, population health management, and developing effective value-based payment models. It's not just about consumer behavior change but also provider behavior change. We need engagement strategies to close gaps in care. For every strategic change we want to accomplish, we need tools to accomplish that change. For example, if we want to get providers to focus on managing diabetics as part of population health, we could use a leaderboard to communicate defined metrics and progress.

The Pulse is excited to speak with Nir Eyal, the Wall Street Journal bestselling author of *Hooked: How to Build Habit-Forming Products*. Having sold two tech companies and invested in over a dozen start-ups, Nir has helped various companies design engaging products for their users through his writing, consulting, and sharing of ideas at the annual Habit Summit. Changing patient behavior is at the center of the healthcare industry's movement towards preventative care and consumer-centric design. However, our journey has been fraught with challenges not only because of intricacies of the human psyche but also because of complexity of the healthcare system. Nir unpacks some key concepts from his book, Hooked, that can address some of our industry's challenges. To design habit-forming products and create behavioral changes, we need to leverage the patients' inherent motivations and remove barriers to act on those motivations - whether it's making daily walks a social activity or reducing the burden of taking medication. For Nir, the focus should be on designing good products rather than motivating people to do something they don't want to. For more advice from Nir, read the full interview.

CHANGING PATIENT BEHAVIOR THROUGH DESIGN

Nir Eyal
Author
Hooked: How to Build Habit-Forming Products

***Pulse*: In your book, Hooked, you mention that companies are building either "a vitamin or a painkiller." Investors like painkillers because they solve an obvious need," whereas "vitamins... do not necessarily solve an obvious pain point." How does this line of thinking apply to healthcare products that focus on prevention (vitamins) instead of addressing a medical need (painkillers)? How can we make our society focus more on preventative health when we crave painkiller solutions?**

Nir Eyal: Part of user-centric design is understanding how the user of a product views his or her interaction with the product. If someone has no motivation to adopt a particular behavior, it is unethical to make someone do so. It's unethical because that's no longer motivation, but rather coercion, even if a behavior is ultimately good for that person. Our goal is not to get someone to eat healthier if that person doesn't want to do it. Moreover, most people are motivated to live healthier and take their medications. They have an incentive to take care of their health because they want to live. There is a small percentage of people who want nothing to do with changing behaviors, and we shouldn't coerce them into doing so.

For the 99% of people who do want to change their behaviors, they tend to not change because of a lack of good product design. That's why behavioral design is so powerful. If at any time a person wants to behave in a certain way but is not, it's most likely not a problem with the person, but a problem with the product. As long as there is any ounce of motivation, it is our job as behavioral designers to leverage that motivation and change behavior. We seek to understand what's in the user's way - what's making that action more difficult than it needs to be. Is the behavior we want to see too physically difficult, require too much cognitive effort, too socially deviant, too expensive or too time-consuming? This is also where technology can help to remove some of those barriers.

The cardinal rule of behavioral design is that the easier something is to do, the more likely people will do it. Thus, for 99% of the population, we need to leverage their existing motivation and remove barriers using technology to get them to change their behaviors.

***Pulse*: You also explore the idea, in your book, that we, as users and consumers, like to be consistent with our past behaviors. How can healthcare companies overcome that mental hurdle and get consumers to engage in healthy behaviors that are not consistent with our past behaviors? For example, how to get smokers to stop smoking?**

NE: Long-term behavior change is identity change. We need to leverage behavioral intervention in such a way that it easily promotes the behavior - so that over time, people see themselves differently. What people typically do - when it comes to behavioral intervention, is to say, "you are a smoker and now, you are going to become a non-smoker." Even though that's clearly the change that needs to happen, it's very difficult to do.

Instead, what we want is to make that behavior change so easy to do that it happens naturally in patients' day-to-day life, such as walking a little more and remembering to take their medications a few more times a day. Then we need to leverage that nascent, existing behavior that we just created and help patients see it as evidence of identity change. Thus, the behavior change prompts the user to look at the immediate past and believe in this new identity. It's so rare to get a spontaneous identity change. The better and more scalable way is to provide evidence that you are already that kind of person, and the way we can get that evidence is to make these changes easier to accomplish.

A good example is the AA program. AA does not have a good record of recovery for people who don't become sponsors, but for people who do become sponsors, they are more likely to stay sober for the long-term. That is because being sober is part of their identity, which is to help others stay sober. Thus, we need to look for opportunities to leverage those identity points to achieve long-term behavior change.

***Pulse*: What advice would you have for existing healthcare players, such as insurers and hospital systems, as they navigate how to engage with patients and families?**

NE: Oftentimes, the simple stuff gets overlooked. For example, I worked with a client who made an inhaler for patients suffering from asthma. When the client came to me, the company had already developed a multimillion-dollar app and advanced inhaler technology; however, people weren't using the product habitually.

Part of the problem was that this inhaler was not meant to be used in a way that inhalers were traditionally used. This inhaler was a preventative medication that needed to be taken twice a day - not when someone's having an asthma attack. When we looked into it, it turned out that people would put this inhaler where they would have their traditional inhalers - purses or backpacks. But people only use traditional inhalers when they are having an attack, not twice a day. Thus, we looked into attaching this inhaler to an existing habit, brushing your teeth, which is something else that you already do twice a day. Instead of building something else that would have cost millions of dollars, we just built a stand for the inhaler to be next to your toothbrush. All we needed was a clear, external trigger that told the user when it was time to use the product and where the product was supposed to go.

Thus, my advice is to start simply with the basic principles of behavioral design before jumping into the high-tech stuff. High-tech is sometimes the answer, but not always. The answer is more frequently low-tech but focused on behavioral design.

***Pulse*: What advice do you have for aspiring healthcare entrepreneurs who are building companies and products focused on changing patient behavior?**

NE: Really understand your users. Sometimes when it comes to behavioral interventions, people look for the magic bullet - the one thing that will make everybody change their behaviors. But behavioral change is really a war of attrition. We think of one intervention that works for one population, another for another population, and so on. We pile these interventions on top of each other, and we are able to serve more of the population than without any interventions. There is no one thing that works for everyone because of different motivations, living conditions, and other factors. That's why we need to understand behavioral design and what make different users tic.

> If at any time a person wants to behave in a certain way but is not, it's most likely not a problem with the person, but a problem with the product.

DRIVING VALUE BY DELIVERING TAILORED, HOME-BASED CARE TO FRAIL POPULATIONS

The Pulse spoke with Adam Boehler, the CEO and co-founder of Landmark Health. Adam shared how Landmark has been able to increase patient satisfaction, improve outcomes and decrease the total cost of caring for frail, complex patients in a way that puts consumer needs first. To learn more, be sure to catch Adam as a panelist in the policy session of our 2018 conference!

Adam Boehler
CEO
Landmark Health

***Pulse*: What was the market need you saw that prompted you to start Landmark Health back in 2013?**

Adam Boehler: Like many health care companies, the motivation for launching Landmark was based on personal experience. In my case, that experience was seeing the challenges my grandmother faced as she spent the last ten years of her 100-year life in and out of hospitals.

The U.S. health care system has not been built to optimally care for frail patients with multiple chronic conditions. Office-based care settings fail to fully address the needs of chronically ill, complex populations, which leaves the door open for unnecessary hospital admissions. Frequent hospitalizations drive up costs for the system and decrease quality of life for the patient. Nobody benefits.

My cofounders and I wanted to change this dynamic. We wanted to create a service that brings meaningful care to the sickest patients where they are: in their own homes.

***Pulse*: How does home-based care empower consumers?**

AB: The health care system is designed today as a one-size-fits-all-until-it-doesn't model. Patients receive care from birth through old age in physician offices until one day they transition to long-term care. Our approach acknowledges that reality is much more nuanced. We built services specifically targeted to the unique needs of frail patients to allow them to maintain independence at home. We bring the care to them, when they call. It's putting the patient – in this case a frail patient – right at the center. Instead of requiring patients to conform to the health care system, the health care system conforms to them.

***Pulse*: Can you tell us a little more about how Landmark works?**

AB: A traditional 15-minute office visit can be to-the-point, hurried and filled with documentation distractions. Providers have little idea of what conditions at home might make compliance with their course of treatment challenging, and patients may withhold important questions if they feel rushed or uncomfortable.

Landmark is a little different. The type of care a patient receives from Landmark during a scheduled appointment includes what she would receive in her doctor's office. Yet it also offers the added benefits of staying at home, the full focus of the provider and the support of an interdisciplinary medical, behavioral, palliative and social services team. Visits involve medication reconciliation, prescribing, performing minor procedures and counseling patients on nutrition or health hazards in the home. Our doctors are able to build strong, trusting relationships with consumers thanks to small patient panels and visit lengths of 40 minutes.

It's also important to keep in mind that scheduled home visits are only one piece of our work. Our doctors work with interdisciplinary teams, and we also provide patients with 24/7 access to a triage line and on-call doctors who report to patients' homes for urgent needs within an hour.

Our patients retain access to their existing providers, and they can pursue any care that their health plan will cover. Landmark services are additional and at no expense to the patient. Somewhat counterintuitively, ours is a medical model that actually provides access to more, tailored care to drive higher quality and cost savings.

We wanted to create a service that brings meaningful care to the sickest patients where they are: in their own homes.

***Pulse*: What opportunities are there for organizations like Landmark to expand their impact?**

AB: Right now, we take on risk by contracting with health plans that serve Medicare Advantage, dually eligible, Medicaid and Exchange/Commercial beneficiaries. We have been successful in improving outcomes, raising patient satisfaction and decreasing costs by adapting our approach to the type of care and management that older, sicker patients need.

Medicare Advantage, however, represents only about one-third of the total Medicare market. Landmark and other risk-based provider groups would welcome the opportunity to take on risk for fee-for-service (FFS) Medicare beneficiaries as well. If consumers could opt into our services as an add-on to FFS Medicare, it would ultimately save the government money and provide more patients with home-based care and 24/7 triage without restricting their access to other parts of the health care system.

***Pulse*: Which companies do you admire with innovative approaches to delivering high quality, patient-centered care?**

AB: We really respect the work that other risk-bearing physician groups are doing. Advanced physician groups (APGs) like Iora Health, Oak Street Health, ChenMed and others all have great care models and are important leaders in the space. We all are similarly mission-driven and generally like to root for one another. On the concierge side, One Medical is an innovative company with a consumer-centric mentality.

***Pulse*: If you had $15M to invest in the health care industry, what would you explore?**

AB: I've always been interested in ideas revolving around how you could reengineer a hospital. Have you seen the McDonald's movie Founder, where they rethought the whole concept of what a restaurant should be and how it should operate? We could take a similar approach with hospitals – turn what we think we know about operations, technology, layout and staffing on its head to better serve patients and help create an ideal future health care environment. While the industry in some flux, hospitals provide important services and are not going to go away, so it would be great to think about the future state.

I'm also very interested in how you could allow consumers to dynamically select their own networks in a health plan. Using narrower, high quality networks can drive cost savings for plans and patients alike, yet even healthy patients, myself included, are often hesitant to lock themselves into predetermined, restrictive networks. We instead often opt for broader, more expensive PPO networks. If you allow a consumer the autonomy to selectively narrow his own network, satisfaction and cost savings could rise as consumers elect to pay for precisely the network they value – no more, no less.

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