WHARTON HEALTH CARE CLUB

Wharton University of Pennsylvania
STUDENT INITIATIVE

26TH ANNUAL WHARTON HEALTH CARE BUSINESS CONFERENCE

NEW FRONTIERS IN HEALTH CARE

FEBRUARY 13–14, 2020 • THE BELLEVUE PHILADELPHIA

THE PULSE
interviews inside

www.whcbc.org
#WHCBC2020

Table of Contents

4 Agenda

6 Welcome from the Co-Chairs

7 Thank You to Our Sponsors!

8 CEO Roundtable: New Frontiers in Care Delivery

14 Keynote 1: Fireside Chat with Bruce D. Broussard

16 Panel 1: The Health Care Hype Cycle: Which New Trends in Health Care Offer True Promise?

35 Panel 2: 10 Years Of The Affordable Care Act: What Now?

38 Keynote 2: Fireside Chat with Julie Sunderland

39 Panel 3: Beyond the Buzz: Ownership and Accountability for Social Determinants of Health

49 Panel 4: Gene Therapy: Overcoming Challenges to Realize the Promise of Genetic Medicine

58 Keynote 3: Fireside Chat with Cindy Perettie

60 Panel 5: The Journey Home: Changes and Challenges in Home Care

65 Panel 6: The Digital Democratization of Health Care

68 Keynote 4: Fireside Chat with Amy P. Abernethy, MD, PhD

70 Health Care at Wharton

73 Conference Organizers

www.whcbc.org

#WHCBC**2020**

THE PULSE

11
Making Health Care Put the Consumer First

19
Transforming and Investing in Care Delivery

22
Pushing the Frontiers in Price Transparency

26
Bringing Kindness to Women's Health

29
An Operating System for the Home

32
Machine Learning in Home Care

42
Driving Towards Improved Health Care

46
Reimagining Clinical Trials

52
Reimagining the Future of On-Demand Cancer Therapy

55
Homegrown Innovation at Penn Medicine

The Pulse is a Wharton MBA student-run health care journal associated with the Wharton Health Care Business Conference. For 15 years, *The Pulse* has strived to inform the health care business community of notable developments across the industry and engage key opinion leaders in thought-provoking conversations.

The Pulse Team

Writers
Monica Adibe
Michele Dragoescu
Poorwa Godbole
May Li
Mosum Shah
Neha Srivastava
Vincent Yeh

Online Editor
Jason Peterson

Magazine Editor
Mosum Shah

The Pulse's online blog includes exclusive online interviews and publications

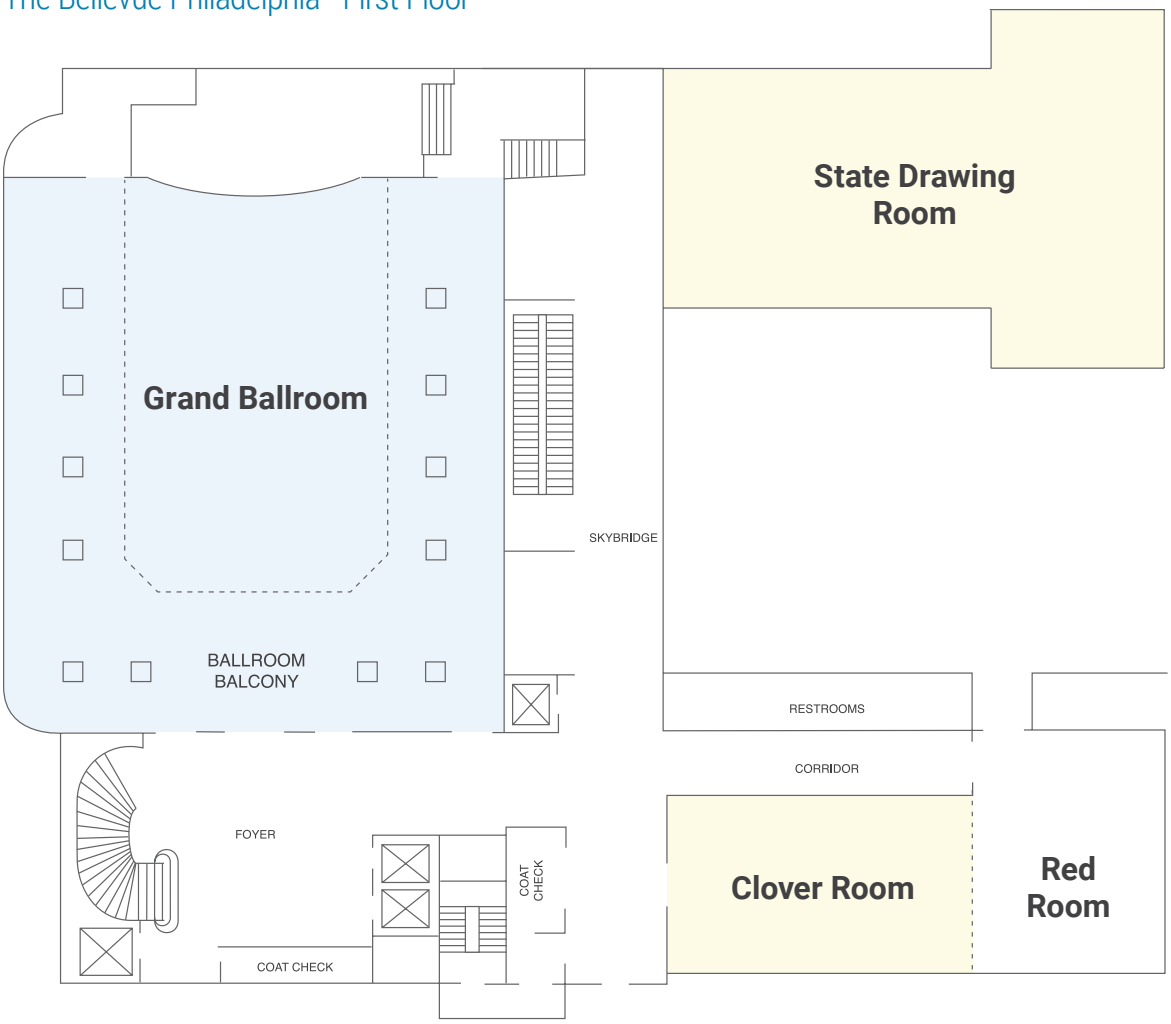
www.whcbcpulse.org

Agenda

Thursday, February 13, 2020

6:30 PM–7:30 PM	Welcome Reception & Conference Kickoff *(Grand Ballroom)*
7:30 PM–8:20 PM	CEO Roundtable: **New Frontiers in Care Delivery** **Corbin Petro - CEO and Co-Founder, Eleanor Health** **Mike Pykosz - CEO and Co-Founder, Oak Street Health** **Iyah Romm - CEO, Cityblock Health** Moderator: **Tina Reed - Executive Editor, FierceHealthcare** *(Grand Ballroom)*
8:20 PM–9:00 PM	Networking Reception *(Grand Ballroom)*

The Bellevue Philadelphia - First Floor



Friday, February 14, 2020

7:30 AM–8:30 AM	Breakfast & Networking Reception *(Ballroom Foyer)*	
8:30 AM–9:20 AM	Keynote 1: **Fireside Chat** **Bruce D. Broussard - President and CEO, Humana Inc.** Moderator: **Bradley Fluegel - Principal, BMF Advisors** *(Grand Ballroom)*	
9:35 AM–10:25 AM	Panel 1: **The Health Care Hype Cycle: Which New Trends in Health Care Offer True Promise?** *(State Drawing Room)*	Panel 2: **10 Years Of The Affordable Care Act: What Now?** *(Clover Room)*
10:40 AM–11:30 AM	Keynote 2: **Fireside Chat** **Julie Sunderland - Managing Director, Biomatics Capital Partners** Moderator: **Amanda Christini, MD - President and Co-Founder, Blackfynn** *(Grand Ballroom)*	
11:45 AM–12:35 PM	Panel 3: **Beyond the Buzz: Ownership and Accountability for Social Determinants of Health** *(State Drawing Room)*	Panel 4: **Gene Therapy: Overcoming Challenges to Realize the Promise of Genetic Medicine** *(Clover Room)*
12:35 PM–1:30 PM	Lunch, Networking, and Alumni Awards *(Grand Ballroom)*	
1:30 PM–2:20 PM	Keynote 3: **Fireside Chat** **Cindy Perettie - CEO, Foundation Medicine** Moderator: **Corey J. Langer, MD - Professor of Medicine, Perelman School of Medicine** *(Grand Ballroom)*	
2:35 PM–3:25 PM	Panel 5: **The Journey Home: Changes and Challenges in Home Care** *(State Drawing Room)*	Panel 6: **The Digital Democratization of Health Care** *(Clover Room)*
3:40 PM–4:30 PM	Keynote 4: **Fireside Chat** **Amy P. Abernethy, MD, PhD - Principal Deputy Commissioner & Acting CIO, US Food & Drug Administration** Moderator: **David A. Shaywitz, MD, PhD - Founder, Astounding HealthTech** *(Grand Ballroom)*	
4:30 PM–4:40 PM	Closing Notes & Sponsorship Thank You *(Grand Ballroom)*	
4:45 PM–6:00 PM	Closing Reception *(Ballroom Balcony)*	

Note: Time and locations may be subject to change.

Welcome from the Co-Chairs

Welcome to the 2020 Wharton Health Care Business Conference!

Each of you brings a unique perspective to the challenges facing health care today and, more importantly, an ability to impact the future of the system. Whether you are joining us as a practicing physician, a business leader, a student, or a policy driver, we believe that your individual experience can help us create a new frontier for health care.

This year's conference theme, *New Frontiers in Health Care*, was inspired by our own conversations in class and with colleagues about the future of health care. Having worked across different sectors, we have seen firsthand the challenges facing the current system as well as the opportunities to address these challenges. Together, we are striving to not only identify problems, but also create solutions that push the boundaries of what many consider possible. Our hope for this conference is to provide a platform to envisage this new frontier. Let's transform our ideas into a reality, bridge gaps across the system, and provide better outcomes for all players.

We are here to make a difference. Our keynote speakers lead organizations challenging the status quo in the payor, biotech, investing, and policy spaces. Our CEO Roundtable highlights new care delivery models that are reimagining patient care. Our panels will spark discussions on who should be responsible for social determinants of health initiatives, whether digital democratization of care is inevitable, and how innovation home care and gene therapy are creating a new normal. Believe in the ideas that once sounded untenable, and do it alongside fellow leaders who are invested in ushering in this new era.

As always, what is truly distinguishing about our conference is you. We hope you engage in conversations today that inspire you to envision a new frontier in health care, and that you leave with new tools and relationships to affect this change. We are so excited that you're here to help us explore health care's new frontier.

Our warmest regards,

Hannah Bogardus, Shane Bouchard, Katherine Dunnigan, Nikita Iyer, Shuaiqing Liu, Natalie Pancer, Jason Peterson, and Richard Woo
WHCBC2020 Co-Chairs

Thank You to Our Sponsors!

Gold Sponsors

Humana

Silver Sponsors

FOUNDATION MEDICINE

Pfizer

Bronze Sponsors

AMGEN®

HEALTH ADVANCES

L.E.K.

manatt

Medtronic
Further, Together

MERCK

OLIVER WYMAN

REGENERON
science to medicine®

Small Enterprise

AmeriHealth Caritas
Care is the heart of our work

Clarion | A LIFE SCIENCES CONSULTANCY

DaVita

OAK STREET HEALTH

somos COMMUNITY CARE

CEO Roundtable

New Frontiers in Care Delivery

Thursday, February 13, 2020 - 7:30 PM–8:20 PM (Grand Ballroom)

Corbin Petro

CEO and Co-Founder

Eleanor Health

Corbin Petro is the CEO and Co-Founder of Eleanor Health, a comprehensive, evidence-based outpatient services platform for opioid and other substance use disorders. Eleanor Health is rethinking addiction by fully treating it as a chronic disease, focusing on clinical and non-clinical factors and providing both human and high-tech support, including medication assisted treatment (MAT). Eleanor's comprehensive, personalized approach coordinates with patients in outpatient clinics, community settings, and at home through technology and field-based teams. Uniquely, Eleanor Health is designed for value-based care and long-term, whole-person outcomes.

Previously, Petro was the founding CEO and President of Benevera Health, a first-of-its-kind payer/provider joint venture (JV) encompassing two businesses: Harvard Pilgrim Healthcare's New Hampshire insurance business and a newly formed population health services company. Petro has an extensive background in healthcare including as Chief Operating Officer (COO) of the Massachusetts Department of Medicaid (MassHealth), a $13 billion agency providing health care to 1.4 million Massachusetts residents, advising a US Senator on health reform, and roles at Bain and Company, Goldman Sachs, Deloitte Consulting, and American Management Systems.

Petro was honored as one of fifteen healthcare executives under 40 named a 2018 Up and Comer by Modern Healthcare. She received a BA from Yale University and an MBA from the Wharton School at the University of Pennsylvania. She is married, has two sons, and resides in the greater Boston area.

Mike Pykosz

CEO and Co-Founder

Oak Street Health

Mike Pykosz is the Chief Executive Officer and Co-founder of Oak Street Health, a network of primary care centers that delivers value-based care to adults on Medicare. Under Mike's leadership, Oak Street Health is rebuilding health care as it should be. His strategic guidance has enabled the organization's rapid growth to more than 50 centers across seven states since its founding in 2012.

Prior to founding Oak Street Health, Mike served as a core member of the Payers and Providers practice at The Boston Consulting Group, where he led projects focused on caring for the Medicare population and their unique health care needs. Mike has a BS in Biochemistry from the University of Notre Dame and holds a JD from Harvard Law School. He lives in Chicago with his wife and three children.

Iyah Romm

CEO and Co-Founder

Cityblock Health

Iyah Romm is the CEO and Co-founder of Cityblock Health, the first tech-driven provider for communities with complex needs. By scaling primary care, behavioral health, and social services with custom-built technology, Cityblock is bringing better care to neighborhoods that have historically had poor access to quality, affordable health care.

Iyah founded Cityblock on the premise that health is local. In October 2017, he led the launch of Cityblock with the support of Sidewalk Labs and has since raised over $20 million in Series A funding from leading investors. Since then, Cityblock has partnered with innovative health plans to improve community health—first with EmblemHealth in New York, followed by ConnectiCare in Connecticut, and starting in late 2019, Blue Cross North Carolina— and is today serving thousands of members in lower-income neighborhoods.

Iyah is known nationally as an expert policymaker and practitioner in the field of transforming health care delivery and financing. Before Cityblock, Iyah was the Chief Transformation Officer at Commonwealth Care Alliance (CCA) in Massachusetts. There, he helped to steward nearly $1 billion in insurance premiums and care for tens of thousands of Medicaid and Medicare recipients. Iyah also played a significant role in Massachusetts' health care reform efforts, holding leadership roles at the Health Policy Commission, the state Department of Public Health, and as Affiliate Faculty at Dr. Atul Gawande's Ariadne Labs.

Iyah studied Biology at Brandeis University and medicine at Boston University before dropping out. He is usually found with his wife and two kids, either chasing garbage trucks in Brooklyn or sailing.

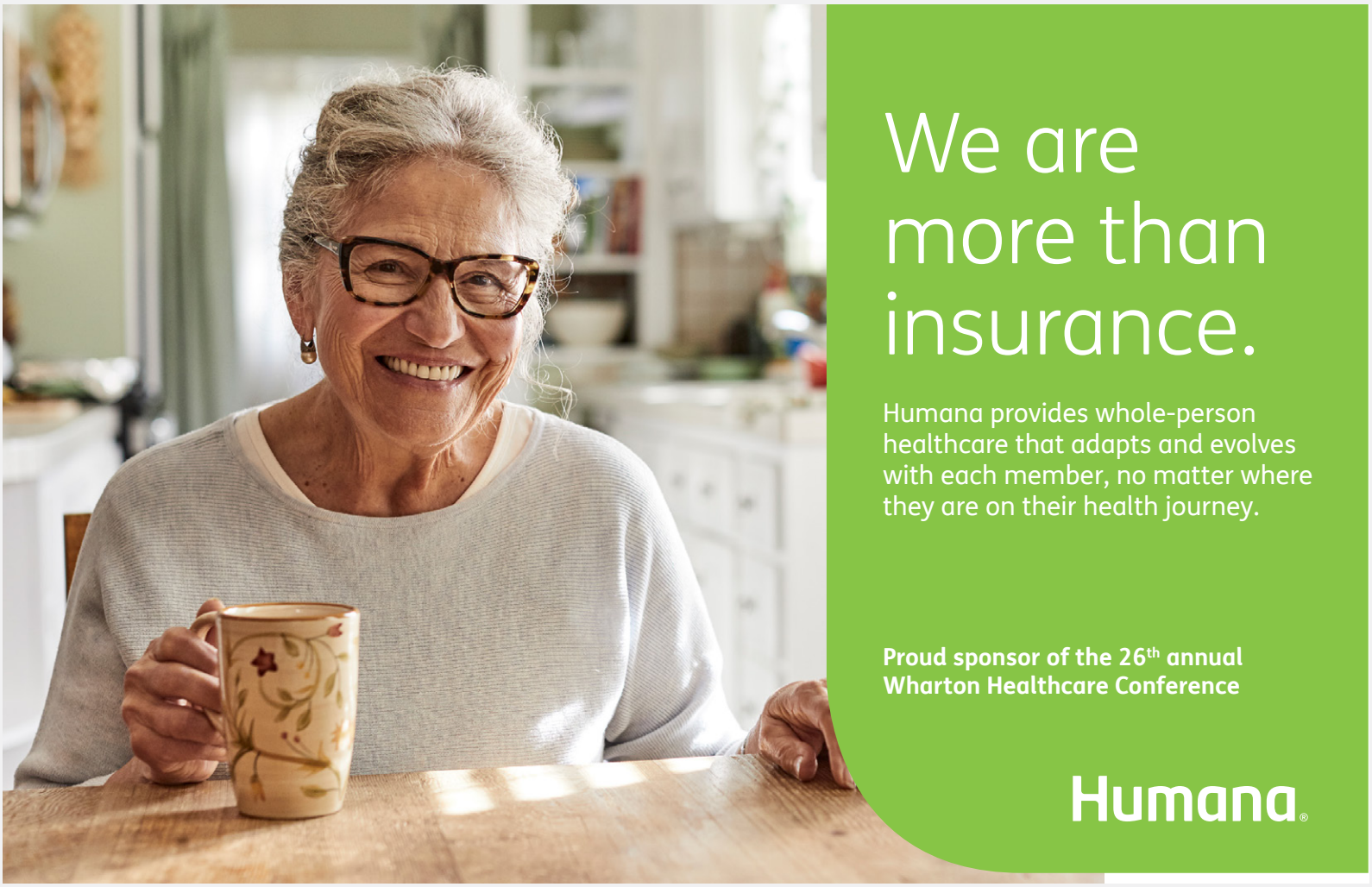
Tina Reed

Executive Editor

FierceHealthcare

(Moderator)

Tina Reed oversees FierceHealthcare and all of its publications including FierceHealthPayer, FierceHospitals and FierceHealthIT. Tina has been reporting on the health care business for more than a decade including most recently the Washington Business Journal. Her recent work has focused on health system innovation and new primary care delivery models. She has a particular passion for writing stories about simple solutions in health care, patient safety and public health efforts to address harm caused by firearms. She lives in Washington DC.



MAKING HEALTH CARE PUT THE CONSUMER FIRST

For the last 25+ years, Jon Kaplan, a Senior Partner and Managing Director at the Boston Consulting Group, has been advising clients on the key trends and transitions in health care. As the North and South American lead for the health care payers and services team, Jon has worked for a wide variety of health care clients on six of the seven continents. His primary experience is in understanding market forces and demand and has testified to the U.S. Congress about patient outcomes of those enrolled in Medicare Advantage. *The Pulse* sat down with Jon to hear his perspective on some of the top trends in health care.

Jon Kaplan

Senior Partner and Managing Director

Boston Consulting Group

The Pulse: For background, what are the types of clients you work with today? How has this changed over the last few years?

Jon Kaplan: Historically, we've worked with large payers and provider systems. Today, I support payers and innovative providers. Over the last few years, we've seen an uptick in the number of retail health clinics coming into the market, such as Iora and OakStreet, that are blending the relationship with the provider. In addition to these, I spend my time supporting providers and payers that have a complex patient population-Medicare/Medicaid dual eligible patients or chronic patients. These patients tend to be the highest touch for many of our clients.

The Pulse: Most professionals say health care is local. Have you found this to be the case? If so, why is this true?

JK: Health care is local because care delivery is local. In other words, providers and health systems are all locally based. For large companies, payers tend to cover cross-state treatments. In reality, the local-nature of health care is due to the providers and their referral networks. For instance, an orthopedic surgeon that you'd see in Chicago isn't much different than one you'd see in Philadelphia; but your access to the two providers is largely limited by the referral networks in each system. Your primary care doctor has relationships with the Penn network and will tend to refer within the system. In my opinion, it is these large networks that force health care to be local. Many of the innovative players I mentioned earlier are trying to create a more national view and rely less on the local network-based approach.

More generally speaking, the issue with health care being localized is that it doesn't really meet the consumers' needs—and health care is the last industry that still doesn't put the consumer first. Think of airlines, for instance. Can you imagine if the airlines industry flew routes that were easiest for them, and not for the consumers? If it was more convenient and cost effective for an airline to have a connecting flight from New York to Boston, through Dallas, consumers would be up in arms or shop around for an alternative. Because of health care's local nature, consumers don't have the ability to shop around and are forced to adopt the system, even if it is not convenient for the patient.

The Pulse: Do you think the consumer-centricity in health care is reserved for the more innovative players, like the OakStreets of the world, or can larger systems also address consumer needs more effectively?

JK: With the large number of physical assets that existing health care systems have, it's tougher to address consumer needs to the extent that the innovative providers may be able to. That is the single dilemma. Health care is defined by the health care system, and a system that is so large and so complex that it is naturally hard to navigate and cannot meet consumers' needs. From our research, we've understood that consumers care about three things: cost, convenience, and quality (brand). What makes the new provider models more apt to meet consumers is they can be nimble enough to deliver across these dimensions. It's a significant lift and may not be financially easy for larger provider systems to address these needs.

The Pulse: On the cost dimension, have you seen a transition to value-based care? How has concierge medicine changed access?

JK: We live in a fee-for-service (FFS) world. It's hard to see the entire American population have access to a value-based care system because frankly, it doesn't make sense. The average healthy American under the age of 50 will see their physician maybe once or twice a year. To share risk and manage that person's life doesn't make sense for the payer or provider. For more chronic populations, such as dual-eligibles or Medicaid/Medicare patients, who see their physician much more often, value-based care is enticing.

I don't believe cost will be the driving factor that will change health care. Cost has been a problem for years; in the 90's, we said we couldn't afford health care. That was 30 years ago, and health care is now more expensive! Focusing on health care costs is analogous to boiling the frog. Yet, consumers are still fundamentally scared of health care costs. The idea that you would pay out-of-pocket for health care is challenging for consumers, largely because our health is not predictable. One day you may feel completely fine, the next you're in a serious accident. When given the option of taking a 15% pay raise versus having health care benefits, I would bet most individuals would take the benefits. Consumers like employer-sponsored plans, I find it challenging to picture a world where employer-sponsored and government-sponsored health care is non-existent.

The Pulse: What do you believe will be the driving factor to change health care?

JK: Customer centricity will change health care. The reason that Uber has been so successful is because it meets the consumer exactly where they are. Uber disrupted a giant, taxi industry by beating them on consumerism. I believe health care will be disrupted by a need to put the consumer first. There are smaller companies that are making benefits or services more consumer-centric. I think the impact of these upstarts will be forcing the giants to also make their value proposition more consumer oriented. A good example of this is in car insurance. A few years ago, no one had a program called "safe driving" that rewarded the individual for driving well. This idea didn't originate from the Progressives of the world. Today, most big players have adopted these technologies and made it a part of their business. Innovative companies will force existing players to adapt. Of course, there is always the challenge of legacy business and this challenge is real for large health care provider systems.

The Pulse: You've testified in-front of congress on the benefits of Medicare Advantage. Can you share your thoughts?

JK: Medicare Advantage aligns incentives among the patient, provider, and payer. It's a system that truly cares for the patient. In a research study BCG commissioned in 2013 (looking at over 3 million health care claims records), we found that patients enrolled in Medicare Advantage plans typically had better health outcomes than those participating in traditional Medicare. These programs involve all the different touch points in a persons' life: the primary care doctor is now a care manager, supplementary caregivers are in the home, and the patient's specialty doctor is informed care. There is a fundamental desire to coordinate care to help the patient. Again, Medicare Advantage seems to work because the target patient population sees their doctor (and caregiver) frequently and that population has a high prevalence of chronic ailments.

> The issue with health care being localized is that it doesn't really meet the consumers' needs—and health care is the last industry that still doesn't put the consumer first.

The Pulse: What is the top issue on most health care CEOs minds today?

JK: For payers, it's still providing services at the lowest cost possible and increasing their membership. For providers, their focus is often on filling their beds, developing strong population health capabilities, and looking at the economics of their current business.

Interviewed by Mosum Shah, January 2020. Full interview available at ***www.whcbcpulse.org****.*

Keynote 1: Fireside Chat

Friday, February 14, 2020 - 8:30 AM–9:20 PM (Grand Ballroom)

Bruce D. Broussard

President and CEO

Humana Inc.

Bruce Broussard, President and CEO, joined Humana in 2011. Under his leadership, Humana has created an integrated care delivery model centered on improving health outcomes, driving lower costs, enhancing quality, and providing a simple and personalized member experience. With its holistic approach, Humana is dedicated to improving the health of the communities it serves by making it easy for people to achieve their best health.

Bruce brings to Humana a wide range of executive leadership experience in publicly traded and private organizations within a variety of health care sectors, including oncology, pharmaceuticals, assisted living/senior housing, home care, physician practice management, surgical centers and dental networks.

Prior to joining Humana, Bruce was Chief Executive Officer of McKesson Specialty/ US Oncology, Inc. US Oncology was purchased by McKesson in December 2010. At US Oncology, Bruce served in a number of senior executive roles, including Chief Financial Officer, President, Chief Executive Officer and Chairman of the Board.

Bruce plays a leadership role in key business advocacy organizations such as The Business Council and the American Heart Association CEO Roundtable. He is also a member of the Board of Directors of KeyCorp and the World Economic Forum Health Governors Board.

Bruce D. Broussard will be interviewed by Bradley Fluegel

Bradley Fluegel

Principal, **BMF Advisors**
Lecturer, **The Wharton School**

Brad Fluegel currently advises health care organizations, entrepreneurs, and other participants in health care. He was most recently the senior vice president - chief health care commercial market development officer for Walgreens. Brad was responsible for all commercial health care activities, including sales and contracting, biopharma relationships, retail clinics, clinical affairs, new service development and market planning. Previously, he was Chief Strategy and Business Development officer for Walgreens, responsible for corporate strategy and business development.

Brad joined Walgreens in October 2012 after previously serving as executive in residence at Health Evolution Partners. Before that he was chief strategy and external affairs officer of Anthem, where he was responsible for long-term strategic planning, government affairs, corporate communications including public relations, corporate marketing, corporate development, international expansion, innovation and new business ventures.

Prior to Anthem, Brad was Senior Vice President of National Accounts and Vice President, Enterprise Strategy at Aetna. Earlier, Brad was CEO for Reden & Anders (Optum Consulting) and Tillinghast-Towers Perrin, a clinical, actuarial and management consulting practice that served all sectors of the health care industry. While there, he negotiated the sale of Tillinghast Health to Optum. He also held several roles in strategy, planning and product development and management at Harvard Community Health Plan and organized and led audits, feasibility studies and related projects for health care clients at Arthur Andersen & Co.

Brad currently serves on the Board of Directors of Metropolitan Jewish Health System in New York City, Performant Financial Corporation, Fitbit, Premera Blue Cross, Alight Solutions and AdhereHealth. He also advises several health care companies and private equity firms.

Brad earned a master's degree in public policy from Harvard University's Kennedy School of Government and a bachelor of arts in business administration from the University of Washington. He also serves as a lecturer at the University of Pennsylvania's Wharton School of Business.

Panel 1

The Health Care Hype Cycle: Which New Trends in Health Care Offer True Promise?

Friday, February 14, 2020 - 9:35 AM–10:25 AM (State Drawing Room)

Innovation in health care never ceases, but it's often hard to tell which breakthroughs will actually endure. Will digital health bring new insights into health care, or will it fail to deliver on its promise to improve patient care? Which forms of value-based care are most effective, and which provide little benefit? Will medical robotics transform the physician's role in the operating room, or only increase the cost of care? The investors on our panel will share their experiences working on the frontiers of health care investing to examine whether these headline-grabbing trends hold true promise for improving our health care ecosystem.

Ali Behbahani, MD, MBA

General Partner

General Partner

Ali Behbahani, MD, MBA joined NEA in 2007 and is currently a General Partner on the health care team. He specializes in investments in the biopharmaceutical, medical device, specialty pharmaceutical and health care services sectors. Prior to joining NEA, Ali worked as an intern and later as a consultant in business development at The Medicines Company, a specialty pharmaceutical company developing acute care cardiovascular products. He previously held positions as a Venture Associate at Morgan Stanley Venture Partners and as a Healthcare Investment Banking Analyst at Lehman Brothers. He conducted basic science research in the fields of viral fusion inhibition and structural proteomics at the National Institutes of Health and at Duke University. Ali concurrently earned his MD degree from The University of Pennsylvania School of Medicine and his MBA degree from The University of Pennsylvania Wharton School, where he graduated with Honors and was a Palmer Scholar. He graduated summa cum laude and received his bachelor's degrees with distinction in Biomedical Engineering, Electrical Engineering and Chemistry from Duke University.

Nancy Brown

General Partner

Oak HC/FT

Nancy Brown (HC), a General Partner at Oak HC/FT, joined the firm in 2014 and focuses on growth equity and early-stage venture opportunities in health care.

Nancy currently serves on the Board of Axial Healthcare, Cricket Health, Firefly Health, Maven, and Unite US. Prior investments include Limeade (ASX: LME).

Prior to joining Oak HC/FT, Nancy was Vice President of Strategy and Business Development for McKesson Technology Solutions. Previously, Nancy was Chief Growth Officer at MedVentive, which was acquired by McKesson in 2012. Before joining MedVentive, she served as Senior Vice President of Corporate Development as well as Senior Vice President of Clinical Service of athenahealth. Prior to joining athenahealth in 2004, she was a Senior Vice President at McKesson Corporation, focused on marketing and strategic planning. She joined McKesson in 1999 when it acquired a company she co-founded, Abaton.com, a provider of internet-based clinical solutions for the ambulatory market. Earlier, she spent eight years at Harvard Community Health Plan where she held several senior management roles.

Nancy is also on the New England Capital Association Board of Directors and is a mentor for MassChallenge.

Nancy received a Bachelor of Science degree at the University of New Hampshire and an MBA from Northeastern University.

Marty Felsenthal

Managing Partner

Health Velocity Capital

Marty Felsenthal is a Managing Partner of Health Velocity Capital. He has worked exclusively with innovative, disruptive, and rapidly growing health care software and services companies for more than 20 years and has led investments in companies such as TelaDoc (NYSE: TDOC); Change Healthcare (acquired by Emdeon); Aperio (acquired by Leica Biosystems); Titan Health (acquired by United Surgical Partners); US Renal Care (acquired by Leonard Green); Payerpath (acquired by Misys/Allscripts); Vantage Oncology (acquired by McKesson); NovoLogix (acquired by CVS Health); VeriCare (acquired by MedOptions); OnShift; ClearData Networks; Infusion Express; MDLIVE; and Well Health. Marty was previously a Partner at two leading venture and growth capital firms focused on this sector — Salix Ventures and HLM Venture Partners — and also worked with Madison Dearborn Partners earlier in his career. He also serves as an adviser to the California Healthcare Foundation Innovation Fund. Marty received his AB from Princeton University and his MBA from the Stanford University Graduate School of Business.

Harel Gadot

CEO & Company Group Chairman

MEDX Ventures Group

Harel Gadot is a seasoned health care executive and entrepreneur. Harel founded MEDX Ventures Group in 2010, a unique investment and management firm, and serves as its CEO & Company Group Chairman. Harel is also the founder and Chairman of MEDX Xelerator LP, a medical devices incubator in Israel and a partnership between MEDX Ventures Group, Boston Scientific, Intellectual Ventures, and Sheba Medical Center. In addition, Harel is the Founder, Executive Chairman and President of XACT Robotics, and Co-Founder, CEO, President & Chairman of Microbot Medical Inc. (Nasdaq: MBOT).

Previously, Harel served on the board of directors at ConTIPI Ltd. and played an instrumental role in its commercial efforts that resulted in its acquisition by Kimberly Clark Corporation, and held several leadership Positions at Johnson & Johnson, including Worldwide Group Marketing Director (Ethicon), where he oversaw the company's global strategic marketing.

A former basketball player, Harel played at Siena College, an NCAA Division I Basketball Program, before playing professionally for numerous teams in Israel and Europe.

Harel holds a BS from Siena College (USA) and an MBA from the University of Manchester (UK).

Bijan Salehizadeh

Managing Director
NaviMed Capital
(Moderator)

Dr. Salehizadeh has 20 years of health care operating and investment experience. At NaviMed, he sits on the firm's Investment Committee and is responsible for leading investments and overseeing portfolio companies with a particular focus on health care providers and pharmaceutical services. Prior to co-founding NaviMed Capital, he was a General Partner at Highland Capital Partners, where he focused on growth stage health care investments. Prior to joining Highland Capital Partners in 2004, Dr. Salehizadeh spent several years in a variety of health care operational roles at publicly traded and emerging growth companies.

Dr. Salehizadeh is currently on the Board of Directors of CenterPointe Behavioral Health System, Velocity Clinical Research, and OPN Healthcare. He also serves as a member of the Board of Directors of Lumere (formerly Procured Health). Dr. Salehizadeh previously served on the Board of Directors of several companies including Auris Health (sold to Johnson & Johnson for $5.7 billion), BARRX Medical (sold to Covidien for $400 million), Hyperion Therapeutics (IPO; sold to Horizon plc for $1.1 billion), and Opgen (IPO). In addition, he has sourced or been actively involved in Highland Capital Partners' investments in AVEO (IPO), Baronova, Conor Medsystems (IPO; sold to Johnson & Johnson for $1.4 billion), kyruus, and Pharmaca Integrative Pharmacy. Dr. Salehizadeh holds an AB in Molecular Biology from Princeton University, an MD and Master's in Science in Health Policy from Columbia University, and an MBA from Harvard Business School. He is also a graduate of the Kauffman Fellows Program.

TRANSFORMING AND INVESTING IN CARE DELIVERY

Town Hall Ventures invests in entrepreneurs passionate about improving care delivery for vulnerable and underserved populations. *The Pulse* sat down with Co-Founder and Partner Andy Slavitt to learn more about the motivation behind Town Hall, the companies they've invested in, and how they support them.

Andy Slavitt

Co-Founder and Partner

Town Hall Ventures

The Pulse: Can you please provide an overview of your background and how you got to Town Hall Ventures?

Andy Slavitt: Well the most important moment of my life was being an undergrad at Wharton, and everything else is just trying to live up to that! After school, I went to Goldman, then Harvard Business School, and then McKinsey. In the 90s, I started my own health care company which I sold to UnitedHealth Group. We then started a business called Optum which I oversaw for about a decade and grew to a $40 billion business. I left when the ACA was launched and eventually joined the Obama Administration as the Chief of Medicare and Medicaid. I've spent the last few years launching a number of initiatives aimed at determining how we can transform health care in the U.S. within the next decade. Some of this has been through an organization I launched called the United States of Care and some of it through Town Hall Ventures.

The Pulse: Can you elaborate on your role at Town Hall?

AS: We founded Town Hall Ventures because we believe the health care system puts most of its focus on the "Peloton" crowd instead of the "take the bus" crowd. We believe people in the "take the bus" crowd have the exact same clinical conditions as everybody else but have much more inferior outcomes. This is not because they are more medically complex but because their lives are different from what we are familiar with. People with safety nets, higher incomes, and homes in the right places have a much easier time accessing health care. We need to be directing capital – financial, idea, and talent capital – to serving vulnerable and underserved populations. Along with two partners, I founded Town Hall Ventures to invest in entrepreneurs who had big, bold ideas for transforming care delivery in vulnerable communities.

The Pulse: Why has there historically been a gap in funding for companies serving these populations? As an investor, why do you see opportunity there?

AS: The easiest explanation is that the people with money are white and upper middle class and can't relate. We build things we think we need, like ways to count our steps, but have historically shown little interest in understanding how other people live. Also, many people don't want to serve a government market, and a lot of underserved people are on Medicare, Medicaid, or other state programs. The flaw in that thinking is that in health care everyone at some level is a government contractor, whether they know it or not. By shying away, they are ignoring 130 million Americans and a $1.3 trillion market. When we break it down into subsegments, there are over 25 markets in this population that have market caps of $25-100 billion. These are huge markets of high cost, high per-member-per-month populations. We think entrepreneurs and investors have been missing the biggest opportunity in health care.

The Pulse: We often hear that Medicare and Medicaid populations tend to be extremely complex patients with multiple chronic diseases. Is that true?

AS: Everybody becomes a complex patient. The great advances in medicine have meant that chronic diseases are no longer things that are just to be avoided; they are things you accumulate in life because more things are survivable today than ever before. The question is why are some people able to maintain themselves when other people with the same conditions are having far inferior outcomes? Why is it that a mother who is black is 4 times more likely to die in childbirth than a mother who is white? Why is someone with mental health conditions who is lower income 4-6 times more expensive than someone with a mental health condition who is not on Medicaid? Those are not because of clinical reasons; they are

because of social reasons – their income, zip code, race. Those are the things that need addressing and can be addressed.

The Pulse: As an investor, how do you think about balancing your return on investment with supporting mission driven companies?

AS: It's not a balance at all, actually. We are out to demonstrate – and are demonstrating – that these are the highest return areas to invest in. We are not doing this to feel good about ourselves; we are doing this to transform the way care works. That will only happen if billions of dollars a year that were otherwise going to be invested in things that are not as productive for our country start being invested in these communities. We do not feel that we need to trade off return in order to do the right thing. We expect to be a top quartile or top decile fund.

Now, we do have a lot of people who root for us to succeed because these are important issues for our country. From investors, to entrepreneurs, to CEOs, there's an amazing comradery, team spirit, and extra effort people are willing to put in for companies that matter. I actually think it makes it more likely that these companies deliver high returns.

The Pulse: Can you elaborate on some of your recent investments or companies you've built, and illustrate the types of companies you like to work with?

AS: The best conversations are the ones where people come to us and say, "We've identified a massive problem and have a potential clinical solution we want to make work." Whether it's hard or easy, whether they've done a lot of work on it, or whether its on a napkin, it doesn't matter. We invest across stages. For example, we invested in Cityblock Health at the founding. They spun out of Google and are building high-tech clinics with community health workers in low-income, densely populated areas. Ready Responders is an on-demand app for people on Medicaid to summon someone with EMT training and telemedicine capability. They come to your house and help take care of you, so you don't have to go to the ER and get admitted. We've made a total of 15 investments, and all of them are companies that matter. They may not all succeed, but if a few of them do, they will become massive, multi-billion dollar businesses while also transforming the way care is delivered. What they are doing is often done in small pockets but not in a scalable way. No one has ever put the capital and talent and resources behind them, so that's what we are doing.

The Pulse: What are some of the biggest challenges your portfolio companies face?

AS: Any company that is trying to transform care is going to face an array of challenges, including taking on some large incumbents. In the kidney care space, they are taking on DaVita and Fresenius, which have been around for a long time. Sometimes we have to convince people that payment models need to be changed. If I say, "We can afford to invest in prenatal health for every pregnant mom in the country, but the only way to do that is by spending less in the NICU on premature babies," that sounds good, but there is somebody that's making a lot of money on the NICU who doesn't want that change. Also, you have to recognize we live in a country that's multi-local, not national. Anybody who thinks you can do things in one place and then replicate across the country without local focus and local partnerships doesn't understand health care. There is no McDonald's of health care. You have to do the hard work of making something happen locally and finding what's transferable.

The Pulse: What are your thoughts on addressing social determinants of health, and is that something you invest in or work on?

AS: Social determinants of health are all the things that make someone a person and allow us to take care of better. They include topics that people don't like to talk about like race and poverty. There are people out there who are adding some capabilities around clinical health care to make it work better like transportation, etc. but that's not the applecart. The whole applecart is how do you bring health care to people when their lives are so complex that it's hard for them to access the health care system. I think many efforts undershoot what that really means. We try to do it differently with the companies we invest in.

Interviewed by Poorwa Godbole, December 2019. Full interview available at ***www.whcbcpulse.org****.*

PUSHING THE FRONTIERS IN PRICE TRANSPARENCY

Many of us have shown up to the doctor for what we think is a simple visit, only to end up with several bills down the line. Bind On Demand Health Insurance is working to help patients know the cost and value of their care before they walk in the door. Started in Minneapolis in 2016, Bind is a national health plan with members in all 50 states. *The Pulse* sat down with Chief Clinical Strategy Officer Tara Bishop to learn more.

Tara Bishop

Chief Clinical Strategy Officer

Bind

The Pulse: Can you please provide an overview of your background and how you got to Bind?

Tara Bishop: I started my career on a pretty traditional trajectory in clinical medicine—did the medical school thing and did my residency in internal medicine—all about 20 years ago. At that time things were different, but we were always facing similar problems: lack of care coordination, poor EHRs [electronic health records], overuse of ERs and readmissions, and more. I joined Cornell and worked as a primary care physician but also did a good body of work evaluating our health system and identifying critical issues like access to care for mental health, quality of care, medical errors and the rising cost of health care. At one point I realized I was publishing a lot of papers and identifying a lot of issues but wanted to be more involved in the solutions.

That's when I had an opportunity to join McKinsey as a medical director in the Health Systems and Services practice. My projects there included developing value-based payment models. This felt meaningful because I was actually rolling up my sleeves with state Medicaid directors and creating programs to be implemented.

While there, I was offered an opportunity at a startup called Bind, which is where I am now. Bind is a new health plan that helps people understand how much something will cost them before walking in the door of their doctor's office.

The Pulse: Was it challenging making the transition from the provider side to the payor world?

TB: One of the interesting things looking back is that health systems were really embracing the changes that were happening across the board. Things like CMMI [Center for Medicare and Medicaid Innovation] were certainly impacting how health systems were behaving—all of a sudden we were measuring quality and trying to give information to prescribers on the cost of the medications. A lot of this change actually came from the payors, especially Medicare, and was impacting the bottom line for hospitals. I witnessed that change throughout my career. So, I actually found the transition from provider to consulting and advising payors to be quite natural because I had experienced a lot of the change we were seeing on the health system side and could share that experience with clients.

The Pulse: Tell us more about Bind and how the health plan works.

TB: Bind is a new health plan started in 2016 by a group of founders who are veterans in both health insurance and startups. The same group actually started a company in the late 1990s called Definity Health, which was one of the first consumer-driven health plans. Fast forward 20 years and consumer-driven plans are almost 40% of the market. When they started Bind, they felt the time was ripe for a whole new model of health plan design. The goal of Bind is to shift mindset in health care from doctors, hospitals and drugs to a new way of thinking. We start with the condition a person is dealing with or a health goal they want to achieve. We identify the options a person can consider for that condition or health goal and show how the Bind plan covers those options, including a clear, upfront treatment cost for each choice. Those costs are based on consumer value, so with Bind, members pay less when they choose treatments and health care providers that are more likely to help them effectively and affordably. All of this information is available to our members in the MyBind app or on MyBind.com, and we have a great Bind Help team to provide person-to-person support when a member wants it.

The Pulse: How exactly do you define value?

TB: Value is the relative quality or outcome you are going to get for the cost of your care, and it's the critical ratio of the two that really matters. Certainly, there is price variation across the

Enabling people to have a clear understanding of what things will cost them before they walk in the door—and that coverage begins immediately—are what we think of as on-demand health insurance.

board, so that plays into the cost of care part of the equation. But there is also then relative value, or the idea that if you compare two physicians or two hospitals and price is equal, a higher-performing hospital with fewer readmissions or a physician with higher-quality ratings is delivering more value. We also consider relative value for a given person or condition. For example, for a knee arthroscopy, the procedure is going to have a different value for an athlete with a torn ACL than someone who has long-standing knee pain and arthritis and is just getting things cleaned up. There is a lot of evidence that the latter example doesn't actually lead to better outcomes, whereas the person in the former example can experience good outcomes. That's where a lot of the clinical thinking comes in, and where my role as chief clinical strategy officer ties in.

The Pulse: Can you elaborate on what a Chief Clinical Strategy Officer does?

TB: It's not a traditional title. I like it because it's a mix of utilizing clinical expertise and thinking about how we design our plan, which is the most novel thing about our company. How to define value is a tricky question and to do it at a personal level is even trickier. A clinical background is critical. I work cross-functionally to provide the clinical integrity and rigor we need for our plan design. A copay plan that ties price tags to very discrete services requires defining what things are in health care—what is a service, how are services related to each other, what is the relative value of one service to another. I think about various conditions, treatment pathways people will take to address those conditions, the relative value of those pathways and the pricing we actually have to tie onto that. I love my role because I get to work with actuaries, network operations teams and data scientists.

The Pulse: It sounds like you are almost designing new bundles. Is that an appropriate analogy?

TB: Yes. Most people think when they walk into a doctor's office they will have a conversation, the doctor might do an EKG or swab their throat for strep, and then send them on their way. But

then somewhere down the line they end up with two, three, four bills because that EKG was sent to a remote cardiologist who they didn't know was going to read it. Most people think of that one visit to the doctor as a single encounter without realizing there are all these ancillary services happening around the visit. That's one of the key things we are solving—trying to understand what the actual encounter someone is going in for is, what the expected services around that encounter are, what the bills associated with those services are, and how we can assign a copay for that entire encounter instead of for each individual service. So we do design things like mini-bundles around services, use data science to predict the costs, and then tie a copay to those things at a patient-friendly level.

The Pulse: Can you talk about how Bind is doing today, and how it has been able to scale?

TB: We are now a national company with Bind members in all 50 states. I am a Bind member in NYC, as is all my family. We have been able to expand through a strategic partnership with UnitedHealthcare [UHC], which enables us to offer Bind members the UHC national network. As part of that we now have data on every provider within the UHC network to feed into our pricing algorithms. We started out as a company in Minneapolis. Our first set of customers were in Minneapolis, but our market is actually self-insured employers. For them we serve as more of an administrative services organization.

The Pulse: Can you elaborate more on what distinguishes Bind from traditional health plans?

TB: We live in a day and age where you can know the cost of anything before you make a purchase decision—except health insurance or a health procedure. Even if you can look up the cost of a test, you still have to figure out your deductible, whether it's in network, if there's additional anesthesia, etc. This idea of enabling people to have a clear understanding of what things will cost them before they walk in the door—and that coverage begins immediately—are a few key features of Bind and what we think of as on-demand health insurance.

Another feature of Bind is the opportunity to flex your benefit anytime during the plan year. We have something called Add-Ins—a set of plannable, non-emergency procedures not covered under the plan during enrollment. For those plannable procedures, we let plan members purchase additional coverage anytime during the year. This enables us to lower the premiums people pay. It also gives patients an opportunity to pause and think about what kinds of treatments they want to have. That's a pretty unique feature of Bind that differentiates Bind from other health plans.

The Pulse: Do you see a world in which Bind would be able to offer something like Add-Ins for chronic care?

TB: No. The Add-In model is really designed for infrequent, plannable coverage, not for chronic care. However, we do certainly think about how to maximize the value of care and help give price signals for chronic conditions. One example is lowering the cost of diabetic medications to try to improve adherence to them. Those are the kinds of things happening in the chronic disease space—actually lowering the cost barriers for things we know can lead to better outcomes.

The Pulse: Before I let you go, could you share some of the highlights of transitioning from the corporate world into the startup space in health care?

TB: I've had a wavy career, and some of the questions I ask myself when I consider a transition are: 1) Can I have impact? 2) Can I continue to learn and grow? and 3) Will I work with great people? In each of my transitions, I was able to answer "yes" to all three questions. That said, transitions are not always easy. I had never worked at a startup before and had never actually built things from scratch. The magnitude of work and the pace you have to work at is somewhat crazy at a startup, and all the stories people tell of pulling all-nighters and not showering are true. You have to build a lot very quickly and usually with limited resources. I have personally loved that type of approach, and one of the nice things is that you can get a lot done without going through tons of hoops.

From a challenges perspective, I think having to build things while driving the bus is hard. It's especially hard to break into health care and health insurance. But we are excited to keep this going, to keep getting it into the hands of more and more consumers, and to help people and companies save money and enjoy better health.

Interviewed by Poorwa Godbole, November 2019. Full interview available at ***www.whcbcpulse.org****.*

BRINGING KINDNESS TO WOMEN'S HEALTH

When you walk down 5th avenue in New York, it's almost impossible to miss Kindbody's flagship clinic. With a bright yellow sign and a welcoming lobby, Kindbody opened its doors in September 2019 to provide fertility and women's health services. It grew rapidly and expanded to two other locations in L.A. and San Francisco. *The Pulse* sat down with CFO Debbie Markowitz to learn more about Kindbody's mission, the company's aspirations, and the boom in FemTech.

Debbie Markowitz, W'99

CFO

Kindbody

The Pulse: Your background is non-traditionally health care—Equinox and Exhale Spa more recently. Could you talk about your current role and how you're applying your past experiences at Kindbody today?

Debbie Markowitz: I started out in investment banking and joined Equinox during an explosive growth period. Equinox was my first entry into wellness as a whole. From there, I went to Exhale where we focused on total mind-body wellness. I have always been drawn to mission-driven companies and the ability to further the well-being of those we touch. Executing on Kindbody's vision was an exciting extension of my past experiences.

The Pulse: Can you talk more about the mission-driven nature of the company? Why was there a need in this space?

DM: Our mission is to reinvent health care for women, primarily around accessibility. We offer the full continuum of women's health care, initially focusing on fertility treatments. The problem is that fertility can be a scary process. For the most part, people start the journey alone, without support from a broad network of caring health care providers. On top of this, treatment is expensive. As a company, we focus on expanding access to many more women and creating transparent and accessible pricing combined with welcoming environments that feel more like your living room than an exam room.

The Pulse: Today, Kindbody can provide lower cost services relative to many of the traditional in vitro fertilization (IVF) clinics ($12.5K vs $20K for a single IVF cycle). How is Kindbody able to achieve this?

DM: This is the basis of consumerized health care: improving patient experience and outcomes at reduced costs. Accessible pricing is a function of operating efficiency, with the belief that the savings should be passed onto the patient. At Kindbody, our phenomenal care providers are supported by strong teams in product, engineering, strategy, and operations, with everyone fully aligned around the mission. Our technology and processes are designed for efficient, data-driven scale. We are meeting women's need more directly by providing affordability and accessibility without compromising on quality.

The Pulse: Kindbody also implements a subscription model in health care where women pay an annual fee and can be seen by one of your physicians. Can you talk through how you all thought of the subscription model in health care?

DM: Our founding physician is an OB/GYN, and our mission is to reinvent women's health care broadly. Our membership enables us to provide full well-woman services, including annual GYN visits, nutrition, and mental health services. Fertility is one step along a woman's lifecycle; our goal is to be there for her throughout a larger portion of her journey. Our members know that they will have a high-touch experience, with a team that is a committed to total wellbeing.

The Pulse: Part of the Kindbody experience is also access to a patient-facing portal. What were the drivers for offering this type of product?

DM: It's so strange to me that it's this difficult to book doctors' appointments today. Especially when you are going through an egg-freezing cycle or IVF, it requires a lot of communication with the physician and the nurses. We knew we needed to make this easier for the patient— the process is already tough and time-consuming. Through the patient portal, patients can book appointments online and communicate with their providers. This really helps extend care outside of our walls. This all comes back to our thesis of using technology to drive efficiency to offer the prices that we do to our customers.

Our product team is fantastic and has built out this tool for providers as well—all of our providers have access to the same data and can see all information from various visits in an easy to use and intuitive way. This allows our care team to coordinate behind the scenes to determine who the right person is for a patient to see at the right time.

The Pulse: It sounds like Kindbody has taken health care services and made it more patient-centric. There's a sentiment that health care should not be like any other consumer industry. How have your providers adapted to this change in mentality?

DM: The answer to this is pretty easy—we only work with providers who share our vision and believe in our mission. Building the business from the ground up lets us partner with the people who care about changing the same issues in health care as we do. Without finding these providers, we wouldn't be able to achieve our mission.

The Pulse: Taking a broader look at the industry, FemTech and Women's Wellness has expanded rapidly over the last few years and is expected to have a $50Bn market size by 2025. Why do you think this is happening now?

DM: It is a lot of positive forces colliding to help this industry move forward quickly. We have women-led businesses, and women are being more entrepreneurial and fearless in pursuing their passions in a way we haven't seen before. With women leading the charge, they're going to be solving the problems that they have. I always believe that you need to know what the problems are to actually solve them.

The Pulse: Given that VC tends to be a male-dominated field, how have the VCs you've been working with responded to Women's Health?

DM: We know that women have a tougher time raising VC money relative to men. With Kindbody, we do have a very experienced management team which helps in these efforts. In addition to this, with our product, the people we spoke to, regardless of gender, just got it. We have an all women board and it was important to us to have a partner from the VC that was a female. Even when this wasn't the case, because fertility is a personal story, so many of the men we talked to said they went through this with their wives, brothers, and sisters. Everyone knows somebody who has been through it, and it was therefore easy to get them on board.

The Pulse: Kindbody has grown rapidly over the last year. What can we expect from Kindbody in terms of growth?

DM: Our big lever for growth right now is penetrating the direct-to-employer business. What is really exciting is that starting January 1st, New York state is mandating that fully insured plans with over a hundred employees will need to cover three IVF cycles. We expect this to increase our demand exponentially. We are also always thinking about other ways to expand our continuum of care and thinking about the full lifetime of the patients.

The Pulse: What are you most proud of at Kindbody?

DM: I am proud that our company is fundamentally based in kindness and acceptance. There are many same-sex and transgender couples that come through our doors. Fertility is not just a single type of person issue: it affects everyone. Being able to touch so many different types of people is truly special. When people come to our clinic, they feel loved.

Kindbody Flatiron Flagship
Source: Forbes.com

Interviewed by Mosum Shah, November 2019. Full interview available at ***www.whcbcpulse.org****.*

AN OPERATING SYSTEM FOR THE HOME

While many of us tend to think of health care happening in the labs of biotech firms or the wards of hospitals, Prepared Health focuses on an entirely different and rapidly growing frontier. With an emphasis in senior care and quality of life in one's own home, they leverage technology and data to coordinate the care that happens *outside* of the hospital: reducing costs and keeping patients happier. *The Pulse* sat down with Founder and CEO Ashish V. Shah to learn more about Prepared Health's origins and vision for the future of home health.

Ashish V. Shah
CEO
Prepared Health

When I think about the new frontier, I think of the home as a care setting.

The Pulse: Can you talk about how you got started in the home health space, and what your mission and vision has been with Prepared Health?

Ashish V. Shah: Our company is approaching its five-year anniversary which is kind of hard for me to imagine. And it came as a byproduct of a previous venture that I was a CTO for, Medicity. We'd built the market leader in heath information exchanges at that time, really helping with interoperability from hospitals to primary care and labs, and it was acquired by Aetna in 2011.

I share all that because it was part of the story of why Prepared, why now. Six months after that acquisition my father suddenly passed away, which was the beginning of the journey that shined a really bright light on what's needed moving forward, the new frontier really, to align with our interview here. My father was a senior, he was being seen by in-home caregivers, in and out of senior centers. When he passed, we spent time with all of them, and what we found was that these individuals had meaningful insights around his health, saw a decline coming, and didn't have a way to share that information with somebody who could have intervened, including the families. I decided to leave Aetna to start Prepared Health, focused on helping people live their very best life, on their terms.

First and foremost, we help hospitals and health plans identify who are the right types of partners in the senior care continuum. Second, we equip them with a technology platform that allows them to work together in concert, even though they're all distributed. Third, we support these organizations by applying a number of predictive models to data that they're collecting, and then share those insights back to hospitals and health plans.

The Pulse: On the data and the modeling side – what are some insights that hospitals or nursing facilities can collect to help seniors live their best lives?

AVS: Going back to our previous company Medicity, we had lots of clinical data, but it was all sourced at the hospital. In the hospital, you have visit history, medications, pre- and post-op summaries and other transcribed reports, which is great. It only gives you a 10% view of what's happening in an individual's life. Insurers and ACOs are looking at other sources to fill in the picture, like claims data, but this data is typically not actionable because of its age (i.e., 90 days old), and administrative purpose (i.e., billing).

When we apply our predictive models to these assessments, we can uncover, for example, whether somebody lives alone at home, are they struggling with preparing light meals? Are they having difficulty making their primary care appointments because of transportation or other challenges? Do they have emerging behavioral or mental health? We love functional assessments that are being performed in post-acute and home-base care environments.

When we work with Non-medical Home Care agencies, we focus on incident reporting and other types of lightweight screening that's being performed in the. There's lots of data in this part of the continuum, but it may not be clean, or coming out of an EMR in the traditional hospital sense.

The Pulse: What kind of roles are you playing in the senior home care landscape? Do you have partnerships with nursing facilities to use your technology to provide better care for seniors? What is the end goal of Prepared Health?

AVS: The goal at scale is to bring the senior care continuum online and then allow them to work in collaboration with health systems, health plans, families- three really motivated parties that have typically been disconnected from home-based care. In our next stage of development, we are evaluating whether we introduce our own care coordinators and make them available within our product. Our care coordinators could be a nurse, physical therapist, or possibly a medical social worker. Today, navigation and coordination is a secondary job.

The Pulse: Right now, you are a strategic partner to existing players in the market. But eventually, do you plan to have your own full-service product in the market?

AVS: Everyone's trying to stay true to just one specific model, services or technology. We haven't seen that work well in health care. We may run to a group that says we have made the investment in people, we feel very confident our approach, we just need the technology and the data. We have a number of those relationships today, including Jefferson Health. Down the road, we may run into smaller organizations who haven't been able to make that investment and say, we would love to brand your service, and have you solved this problem for us, and that's fine. Whatever it takes to get the right outcomes.

The Pulse: When you think about the concept of the new frontiers in health care, what are some things that come to mind? What are things that Prepared Health is doing that are already been pushing the new frontier? What are some things that you are looking to do?

AVS: I'm going to quote one of our partners: "You're building the operating system for the home". When I think about the new frontier, I think of the home as a care setting and the healthy days at home. You're hearing organizations like Humana talk about this publicly. Rather than thinking about the number of days in a hospital, think about how many healthy days at home an individual has had.

The next frontier is to build on this description of an operating system for the home. The first step, which is where we play in today, is how do you actually staff and coordinate all these different professional services into the home? The next step is how do you coach up that family caregiver and an extension of the professional care team?

On harvesting data, when any of these services are being delivered, how do we intervene faster in that care setting? With the service infrastructure being organized, we are beginning to look at remote patient monitoring, especially as it is becoming more affordable. We like things like Google acquiring Fitbit at a high level as it improves affordability and accessibility.

The Pulse: I'm curious to hear little bit more about some feedback that you have received from your partners.

AVS: The feedback is great – we are solving a very necessary and large problem for the market.
Our business scales very nicely. We often hear, "When you solve this problem for seniors, it can be easily applied to Medicaid, pediatrics and a number of other types of populations." We are operating in a massive market. The operating system we are building is critical. We're in the early innings of this game, we have a long way to go.

*Interviewed by May Li, December 2019. Full interview available at **www.whcbcpulse.org**.*

MACHINE LEARNING IN HOME CARE

San Francisco-based startup Honor launched in 2014 and raised their first round of venture capital in 2015 to create technology-enabled solutions in the home care industry. Now in over 800 cities and towns across the country, Honor partners with home care organizations and hires their workforce by using machine learning to recruit, train, and retain caregivers as they provide assistance with activities of daily living for older adults. *The Pulse* sat down with Kelly Cheng WG '15, the company's Head of New Markets and Business Development, to dig into the innovative work that Honor is doing and talk about the future of the quickly evolving home care industry.

Kelly Cheng, WG'15

Head of New Markets and Business Development

Honor

The Pulse: What was your background prior to working at Honor?

Kelly Cheng: Prior to Honor, I advised executive teams on innovation and growth—primarily in the health care and life sciences sectors and occasionally in financial services and other sectors. Some of the provider executives I worked with were committed to innovating across the full continuum of care, and I supported them in exploring joint ventures and partnerships that took them into the home, which brought me into the post-acute world. I also spent time on new product concepts and new markets at two digital health startups—one was a later-stage cloud EMR startup where I developed product concepts to bring real world evidence and analytics to life sciences companies. The second was a seed stage company that used Google Glass to address clinician burnout—being that it was seed stage, I wore a lot of different hats from partnerships, sales, operations, to everything in between.

The Pulse: How did you originally learn about Honor and what in particular makes the company unique?

KC: The first exposure for me was through Rock Health. They announced the addition of Honor to their portfolio in 2015 after Honor had already assembled a stellar leadership team and was backed by well-known investors, including Marc Andreessen. Additionally, the Health Care Management program at Wharton was helpful in giving me context around the health care industry from which I could understand how Honor was doing something different. Honor's mission is "We're changing the way we care for our parents." This also includes changing the conversation around how we can have older adults age with dignity.

Given the caregiver shortage across the country, it is hard to hire quality caregivers. We allow home care organizations to remain independent while joining the Honor Care Network, which is a nationwide network of high-quality local home care agencies; this alleviates their concerns around caregiver shortages, balancing high quality with growth, and more. We do a lot of research to understand what caregivers are looking for in an employer—after joining Honor, home care organizations see a 40% decrease, on average, in how likely a caregiver is to turn over in the first year.

The Pulse: What is your current role at Honor?

KC: I've supported our growth strategy via three major avenues—geographic expansion strategy, ecosystem partnerships, and service line strategy. Similar to telehealth, home care is regulated in a completely different way in each state. From a workforce management perspective, regulations can vary dramatically between cities and counties. There are also a huge range of global brands and industries that care about the older adult population, ranging from consumer, retail, technology, health care, life sciences, and of course, senior living.

The Pulse: Honor is using AI/machine learning in a historically traditional industry. What have been the different perceptions among various stakeholders in the industry about the value of advanced technology?

KC: There are a wide range of payers and providers who already apply machine learning to some of their toughest problems and a huge amount of structured and unstructured data that flows through the larger health care system. The Honor platform is constantly using data to come up with novel ways to improve the quality of care in the home in an iterative way. For example, Honor's been able to use data to improve timeliness of caregivers attending their visits based on a number of market, caregiver, and client-specific factors. Those insights help power our team's operational processes; Honor Care Pros' punctuality is above the industry average. As expected, timeliness can affect the client's experience. Honor also empowers its caregivers to describe a client's day in helpful

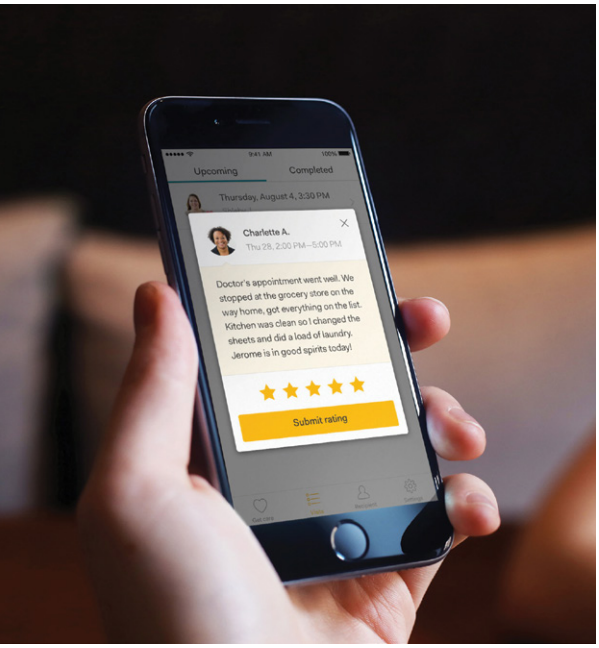


Photo credit: Honor

narratives in the Honor Care Pro App. These notes allow families to look at trends on how often their loved one is going for a walk, what kinds of food they are eating, and how they are feeling - those are potentially interesting wellness indicators to them. Historically, health systems who have integrated home care into their continuum have been able to prevent readmissions, ED utilization, hospitalizations from falls, etc. Existing home care organizations today may have less exposure to machine learning when compared to a payer and can be more skeptical on layering in tech. However, as long as they see the outcomes from a process and quality standpoint that speak to how they manage home care, most of them come to understand the value of predicting a micro-behavior or a macro-trend among a large pool of caregivers.

The Pulse: How do you see the home care industry evolving over the next decade?

KC: With regulatory, partnership, and consolidation changes, we are going to see a lot of evolution in this industry. We will benefit from elevating the conversation around home care at the societal level, e.g., how are we going to care for older adults in the future when that demographic is growing and worsening the existing caregiver shortage?

In terms of regulatory changes, home care is not as regulated as home health or any other post-acute sector. In many states, home care isn't regulated at all. There has been a trend towards increasing regulation—since the home care sector is growing so quickly in the US, there has been a reaction to push for more standards, especially in states that don't require home care organizations to be licensed. States working on shaping this legislation are going to be successful because voters don't want to hear about elder abuse or fraud—they want to address problems that stem from not having enough oversight. As the continuum becomes more integrated, we'll see regulators trying to elevate standards across the whole industry.

Second, consolidation will definitely accelerate in this industry. A lot of the acceleration is being driven by an influx of capital from private equity players. There will be an interesting mix of employers who can leverage the power of technology and data to scale. However, there will also always be room for specialized home care organizations who want to serve a specific type of home care segment. Another mitigating force to this is the continued influx of new entrants. Smaller home health agencies are facing significant financial pressures due to reimbursement changes. Some home health industry consultants predict that thousands of these agencies will not make the transition to PDGM (Patient Driven Grouping Models) mandated in 2020. Some of these agency operators are already considering starting a home care company in their next career. These new entrants would definitely drive up fragmentation of the home care market in their geographies.

The final piece that is already starting to accelerate is ecosystem partnerships. Much of home care spend is currently out of pocket spend—but provider and payer stakeholders are starting to become more interested in social determinants data and preventing acute events. On the flip side when you look at retail, consumer or life sciences companies, they are trying to understand the older adult population to understand how to better segment and provide better services to get to the older adults that are most interesting to them. All of these players want to look at the micro behaviors in the home. Through enhanced platforms, they will get better and better answers to questions such as: What is the caregiver working on and what is the older adult experiencing on a day to day basis?

Interview by Monica Adibe, November 2019. Full interview available at ***www.whcbcpulse.org****.*

Panel 2

10 Years Of The Affordable Care Act: What Now?

Friday, February 14, 2020 - 9:35 AM–10:25 AM (Clover Room)

The Affordable Care Act (ACA) is considered one of the most impactful pieces of US health care legislation since the establishment of Medicare and Medicaid in 1965. In celebration of its 10-year anniversary, this panel of leading health policy experts and industry leaders will reflect on how the ACA has fundamentally changed health care. What has it truly accomplished, where did it fall short, and what issues do we need to address in the next decade of health policy reform?

Joel S. Ario

Managing Director

Manatt

With 30 years of experience shaping and implementing public health policy at the state and federal levels, Joel Ario provides strategic consulting and analysis on health care policies and institutions, with an emphasis on the evolving role of health insurers in delivering public and commercial coverage under various regulatory frameworks. He represents state governments, health plans, hospitals, foundations and other entities.

Joel's experience includes two decades of leading health insurance reform efforts for state and federal governments. As Director of the Office of Health Insurance Exchanges at the U.S. Department of Health & Human Services, he worked closely with states and other stakeholders to develop the regulatory framework for exchanges, including the rights and responsibilities of states and the federal government in expanding coverage.

On the state level, Joel served as Pennsylvania Insurance Commissioner and Oregon Insurance Commissioner. He also served on the executive committee of the National Association of Insurance Commissioners and was an NAIC officer.

The author of several articles on health care reform, Joel serves as an advisor to the Robert Wood Johnson Foundation in support of its work with states and has written extensively on 1332 state innovation waivers. Joel is based in Manatt's Albany office.

Richard J. Baron, MD, MACP

President and CEO

American Board of Internal Medicine

Richard J. Baron, MD, MACP, board certified in internal medicine and geriatrics, is President and CEO of the American Board of Internal Medicine (ABIM) and the ABIM Foundation. Dr. Baron practiced general internal medicine and geriatrics in Philadelphia for almost 30 years at Greenhouse Internists, P.C., leaving practice to become the Group Director of Seamless Care Models at the Centers for Medicare & Medicaid Services (CMS) Innovation Center, where he led efforts related to accountable care organizations and primary care. Until joining the federal government, Dr. Baron served on the Board of the National Quality Forum as well as on the Standards Committee of NCQA. He is a member of the Aspen Institute Health Strategy Group. Dr. Baron received an English degree from Harvard and his medical degree from Yale. He completed house staff training at New York University-Bellevue Medical Center and served a three-year obligation in the National Health Service Corps in rural Tennessee.

Tara Isa Koslov

Chief of Staff

Federal Trade Comission

Ms. Koslov is Chief of Staff of the Federal Trade Commission, appointed by Chairman Joseph Simons in May 2018. Her responsibilities span the agency's broad competition and consumer protection missions, all administrative functions, and external stakeholder relations.

Ms. Koslov previously served as Acting Director of the FTC's Office of Policy Planning for nearly two years, and as OPP's Deputy Director for five years. She has particular expertise in the health care industry, a significant focus of OPP's work.

Ms. Koslov previously served as a longtime competition attorney advisor to three FTC Commissioners, and as a staff attorney in the FTC's Bureau of Competition. She began her career as an antitrust associate at a major international law firm. She has held numerous leadership positions within the ABA Antitrust Section, including Editorial Co-Chair of the Section's Antitrust Law Journal. Awards and recognitions include the FTC's 2017 Chairman's Award (the highest honor for FTC staff).

Ms. Koslov graduated from Brown University (AB magna cum laude, Phi Beta Kappa) and Harvard Law School (JD cum laude). As a law student, she was an editor of the Harvard Journal on Legislation and president of the HLS Law and Health Care Society.

Sundar Subramanian

Principal

PwC

Sundar Subramanian is a Principal in PwC. Sundar leads the US Strategy Consulting (Strategy&) & Growth Platforms for PwC Health Industries, and the Government Programs Center of Excellence (GCoE) focused on the Medicare, Medicaid and the Exchange/ ACA marketplaces. Sundar has held leadership roles as part of Booz & Company, prior to its acquisition by PwC including overseeing marketing and thought leadership creation, transformation and core operations offerings.

Mr. Subramanian works with health care clients on strategy, business models, operations, operational and capability improvement programs. He has worked extensively in regulated markets around strategy, access, whole person care models, and is a recognized expert in the Medicare, Medicaid, and ACA markets. He also pioneers work linking analytics and AI with strategy decision making to create disruptive flywheel business models for private sector companies. He is widely published, including in Fortune, HBR, Forbes, Health Affairs, strategy+business, and Financial Times.

Prior to PwC Strategy&, Sundar worked for WellCare Health Plans and McKinsey & Company. He has an MBA from the Wharton School, Masters in Engineering from MIT – Cambridge, and Bachelor of Technology degree from the Indian Institute of Technology in India.

Noam N. Levey
National Healthcare Reporter
Los Angeles Times
(Moderator)

Noam N. Levey is the senior health policy reporter for the Los Angeles Times, based in Washington, D.C. Covering health care over the last decade, he has reported from more than 30 states around the country, as well as from Asia, Africa, Western Europe and Latin America. Noam's stories about the Affordable Care Act, Medicare, Medicaid and other health care issues regularly appear in newspapers nationwide. He has also been published in Health Affairs, the Journal of the American Medical Association and Milbank Quarterly.

Noam is currently working on a book about the long quest to rescue American health care, a 50-year history of efforts to build high-performing, primary care-based systems that deliver high-quality care while keeping costs in check and the monumental obstacles that have stood in their way.

Prior to joining the Los Angeles Times in 2003, Noam was an investigative reporter for the San Jose Mercury News in Silicon Valley. He has a degree in Middle Eastern history from Princeton University.

Transform Cancer Care *With Us*

WE NEVER GIVE UP.

We strive to do more for cancer patients — through richer science, deeper insights, and stronger partnerships — providing better cancer care today, and fueling better cancer care tomorrow.

FOUNDATION MEDICINE is a molecular information company connecting patients to the latest cancer treatment options through biomarker testing.

FOUNDATION MEDICINE®

Keynote 2: Fireside Chat

Friday, February 14, 2020 - 10:40 AM–11:30 AM (Grand Ballroom)

Julie Sunderland

Managing Director

Biomatics Capital Partners

Prior to co-founding Biomatics Capital Partners in 2016, Ms. Sunderland was Director of Program Related Investments for the Bill & Melinda Gates Foundation. She led the foundation's $1.5 billion strategic investment pool, which focused on global health, global development and education. She funded 50 investments, including 30 in health care, and built a team of 10 investment professionals.

Ms. Sunderland also chaired Bill & Melinda Gates Foundation's investment committee, which reviews all program-related investments. Prior to that role, she advised foundations, development finance institutions and governments on venture capital, SME financing and technical assistance programs. Ms. Sunderland holds a BA from Harvard University, an MBA from Wharton Business School and an MA from Johns Hopkins School of Advanced International Studies.

Ms. Sunderland sits on the Board of Directors for several of Biomatics' portfolio companies including Aledade, BlackThorn, eGenesis and Verana.

Julie Sunderland will be interviewed by Amanda Christini, MD

Amanda Christini, MD

CEO and Co-Founder

Blackfynn

Amanda has more than 20 years of diverse experience growing companies in the biotechnology and software industries and practicing clinical medicine. Prior to co-founding Blackfynn, Amanda was on faculty at the University of Pennsylvania Department of Medicine and was Director of Strategic Initiatives at the Penn Medicine Center for Healthcare Innovation. Before her medical career, Amanda led business development, operations and R&D strategy for over a decade at Valentis and Maxygen. In both companies, she was an integral part of the teams that drove each company to IPO, advanced a pre-clinical discovery pipeline into human trials, secured and scaled GMP manufacturing capabilities, developed multiple industry partnerships, and expanded operations internationally. Amanda completed her MD degree at the University of Pittsburgh School of Medicine with AOA designation, has a BS in Biology from Tufts University, and continues to practice medicine at the Philadelphia VA Hospital.

Panel 3

Beyond the Buzz: Ownership and Accountability for Social Determinants of Health

Friday, February 14, 2020 - 11:45 AM–12:35 PM (State Drawing Room)

Health care leaders unanimously agree that it is imperative to address social determinants of health (SDoH) to improve the overall health and wellbeing of patients; however, that is often where the agreement stops. Who is responsible for providing SDoH resources? Who should pay for SDoH programs? How do we know if these programs are working and making an impact? This panel will discuss ownership and accountability for addressing SDoH, especially for underserved populations, now and in the future.

Michellene Davis, Esq.

Executive Vice President and Chief Corporate Affairs Officer
RWJBarnabas Health

A career built on excellence and punctuated by firsts, Michellene Davis has been named one of the most influential and powerful leaders in health care by entities such as Modern Healthcare, Becker's Hospital Review, and NJBIZ, among others. In her current role as Executive Vice President and Chief Corporate Affairs Officer of RWJBarnabas Health, Ms. Davis is the first woman and first person of color to ascend to the position of Executive Vice President in its history. Michellene Davis oversees the following departments Social Impact and Community Investment; Policy Development and Governmental Affairs; Healthy Living and Community Engagement; and Global Health.

Before joining RWJBarnabas Health in 2009, Ms. Davis proudly served the State of New Jersey in several inaugural roles including as the first African American Chief Policy Counsel, the first African American Acting NJ State Treasurer responsible for a state budget of over $30 billion, where she founded the NJ Department of the Treasury's Office of Supplier Diversity and Division of Minority and Women Owned Businesses. She was the youngest Executive Director of the New Jersey Lottery in state history.

Active in a diverse array of civic organizations, Michellene began her legal career as a trial litigator, is an Honors graduate of Seton Hall University and holds a Juris Doctorate from Seton Hall School of Law. She also received an Executive Education Certificate in Corporate Social Responsibility from the Harvard Business School and a Wharton Executive Education Certificate in Social Impact Strategy.

Nicole Lowery

Associate Director, Population Health Strategy
Humana

Nicole Lowery is Associate Director of Population Health Strategy in the Office of Health Affairs and Advocacy at Humana and has over 13 years of experience in the health care industry. She is responsible for Humana's social determinant of health (SDOH) strategy, internal business integration, physician strategy and identification of SDOH benefit opportunities. This work directly supports Humana's mission to help improve the health of the communities it serves by making it easier for people to achieve their best health.

Nicole joined Humana in October 2006. During her time with Humana, she has gained expertise in commercial operations, process development, provider development, trend oversight and creation of physician focused programs.

Esther Dyson

Executive Founder

Wellville

Esther Dyson is Executive Founder of Wellville, a 10-year project to nudge society towards long-term and equitable thinking by showing the social and financial value of investing in health for all.

A longtime tech analyst and investor, Esther is now exploring the etiology of addiction and the path to both individual and institutional behavior change.

The Wellville team of six coaches leaders in five US communities who are working to improve the physical, mental and financial health of their residents. One of the communities is Lake County, CA, just three hours north of Mountain View and adjacent to Napa and Sonoma Counties.

The communities are all under 200,000 in population: Clatsop County, OR; Lake County, CA; Muskegon County, MI; North Hartford, CT; and Spartanburg, SC. Dyson is the Wellville lead for Muskegon, and is actively involved in overall policy and fundraising for the project.

She advocates long-term thinking, including putting externalities into pricing, such as taxing sugar and subsidizing care work (nurses, childcare workers, gym teachers, prison guards, etc.).

Wellville favors implementation over innovation: applying approaches known to work, at scale in small communities where scale is relatively easy to achieve in terms of both resources and political buy-in. Each community sets its own priorities and goals around issues such as early childhood experiences, obesity/diabetes, mental health, dental health, smoking, addiction, high care utilization and overall human capacity and health disparities; Wellville assists in finding partners and funders and in managing accountability. Over its 10-year life (through 2024), Wellville will measure its progress both year by year and at the end, using both specific program-based metrics and overall population-health metrics. Its mission is not just to help five small communities get healthy, but to scale by inspiring other communities and funders to copy its example. Its motto is “Don’t rent your health. Invest in it!”

Abner Mason

Founder and CEO

ConsejoSano

Abner Mason is Founder and CEO of ConsejoSano. Before creating ConsejoSano, Abner was Founder and CEO for the Workplace Wellness Council of Mexico, now the leading corporate wellness company in Mexico. From 2003-2008, he was founder and Executive Director of AIDS Responsibility Project, driving the creation of CONAES and JaBCHA, the first business councils on HIV/AIDS in Mexico and Jamaica. Abner previously served as Chairman of the International Committee and member of the Presidential Advisory Council on HIV/AIDS (PACHA), appointed by President Bush in 2002. He spent ten years in the Massachusetts State government, including roles as Chief Policy Advisor to Massachusetts Governors Paul Cellucci and Jane Swift, Governor Cellucci’s Undersecretary of Transportation, and Deputy General Manager of the Massachusetts Transit Authority. Before joining state government, Abner worked as an Associate Consultant for Bain & Company. In 2018, he founded Health

Tech 4 Medicaid (HT4M), a non-profit coalition of healthtech leaders collaborating to create technology for Medicaid programs. Additionally, he is a founding council member of U.S. of Care, a nonprofit centered on improving health care access developed by former Medicare/ Medicaid administrator Andy Slavitt. Abner is a graduate of Harvard.

Hilary Hatch, PhD

Vice President, Clinical Engagement
Phreesia
(Moderator)

Hilary Hatch, PhD is Vice President of Clinical Engagement at Phreesia, where she leads the development of all clinical programs. Dr. Hatch serves as a thought partner for C-level leaders of innovative health systems and plans who share the belief that focusing on patient-driven outcomes is key to exceptional clinical quality. Dr. Hatch is passionate about strengthening the humans in health care: priming patients to be partners in their care and easing the burden of providers in addressing the overwhelming unmet needs of patients with complex behavioral health and social needs.

Prior to joining Phreesia, Dr. Hilary Hatch founded and served as CEO of Vital Score, a digital health company that engaged patients at peak moments of receptivity prior to provider visits. Informed by the evidence-based, therapeutic technique, Motivational Interviewing, patients self-identify goals, motivations and barriers and drive their own care planning. Vital Score's Motivational Indexing® method learns to anticipate the motivations, needs and barriers of patients. Vital Score was acquired by Phreesia and drives the thought leadership and focus on patient-driven quality programs.

Dr. Hatch is a frequent and nationally recognized speaker on patient engagement. She is an Instructor of Medicine at Johns Hopkins and on the faculty of the Institute for Psychoanalytic Education at NYU Langone School of Medicine.

Dr. Hatch holds a doctorate in Clinical Psychology from City University of New York, a postdoctoral certificate in psychoanalysis from Institute of Psychoanalytic Education at the NYU Langone School of Medicine, and a BA from Columbia College.

DRIVING TOWARDS IMPROVED HEALTH CARE

While all of our readers have likely taken a Lyft or heard of the company's transportation platform, many may not know that the company has been in the health care space since 2016. Lyft has a business to business platform that allows health care systems and transportation brokers to book rides on behalf of patients. *The Pulse* sat down with Megan Callahan, Healthcare at Lyft, to discuss the history of non-emergency medical transportation (NEMT) and its potential to influence social determinants of health.

Megan Callahan

VP of Healthcare

Lyft

The Pulse: Why did Lyft decide to get into health care? What is the problem that Lyft is trying to solve and how does the business work?

Megan Callahan: We got into health care in 2016 to reimagine the way patients get to care. Annually over 3.6 million people can't get the care they need because they lack transportation. Lyft's mission is to improve people's lives with the world's best transportation, and we are committed on the health care side to reducing the transportation gap and ensuring that transportation doesn't stand in the way of care. This is an issue that we are uniquely positioned to address through our work with health care organizations across the country. We believe we not only have the potential to improve health care outcomes but also to create significant savings. In general, Lyft is about 30% cheaper than other NEMT providers. We offer a fast on-demand experience in a space that has historically generated low patient satisfaction.

Let me explain how the business works and talk about the value proposition. It is important to clarify that Lyft Healthcare does not work the same way it works for a consumer who calls a Lyft on their phone to go to dinner. We have created a separate product which allows a sponsoring organization to call the ride for the member or patient. This is important for a couple reasons: First, it means someone has a vested interest in making sure the patient gets to care. Whether that entity is an insurance company, health plan or health system, someone else is paying for the ride and has indicated that they want the rider to stick to her care plan. The other important thing is that the rider doesn't necessarily need to have a smartphone. The ride is being called by either a discharge nurse, case manager or customer service agent in a call center. If the rider has a smartphone, we send notifications to them through text. If they don't have a smartphone, we can send automated calls to a landline, which as you can imagine is important for seniors. This enables our partners to seamlessly order a ride on behalf of their patients that is reliable and provides better insight into their transportation.

There is a health care perspective and a business perspective for why sponsoring organizations would want to invest in things like transportation for their members. If you are a health system or provider, anytime someone doesn't show up is a missed care and revenue opportunity. As a health plan, you want to make sure patients are as healthy as possible. A 2016 analysis of the NEMT space by the GAO found that the industry is highly fragmented and does not have a lot of automation. These two factors create an opportunity for fraud, waste and abuse. Lyft is bringing technology that provides the ultimate transparency on where someone started, how long it took them, and where they stopped. We also offer transparency from a business standpoint by providing up-front pricing for our partners.

The Pulse: You have a Masters in Public Health from UCLA, which is a degree we rarely see in the technology industry. How did you make your way into tech? How do you see your public health background translating to your work at a fast growing technology company?

MC: During my MPH I focused on epidemiology—the study of disease and populations, and health care services—the business side of health care. I knew that the business side of health care was where I wanted to go. After graduate school I worked in business development for a large health care system and foundation. I then went into health care consulting and dove into utilization management, case management, and disease management and the software solutions to automate these services. The rest is history.

So much of health care is how you support someone on their health care journey. Before social determinants of health became an in-vogue buzzword, my joke was that a lot of health care was a microwave and a bath. My goal is to contribute to

Working with Lyft gives brokers a transportation provider on a national scale with a strong technology product and single entity for contracting, billing, transparency, and reporting.

the Triple Aim by focusing on targeting vulnerable populations like Medicaid and Medicare Advantage populations. My MPH translates well as I look at who is experiencing transportation as a barrier to care and falling through the cracks.

The Pulse: Lyft's health care team started by partnering with state Medicaid programs and now also partners with Medicare Advantage plans. Transportation is a little known benefit covered under public insurance. Can you walk us through the history of how transportation has been treated under public insurance?

MC: Medicaid has had transportation as a benefit since the program's inception in the 1960's. Medicaid is funded 50% by federal dollars and 50% by state dollars. This means if you have seen one Medicaid program you have seen one Medicaid program. Just because Medicaid allows transportation to be a benefit does not mean that everyone has the benefit. States can highly customize Medicaid to meet the needs of their population. Of course, for lower socioeconomic groups, mothers with children, and people with disabilities, it is not uncommon that transportation is a barrier to care, and therefore Medicaid has often paid for it.

Fee-for-service Medicare has some transportation benefits but doesn't do much with NEMT. However, Medicare Advantage, which is the fastest growing program in Medicare does allow transportation to medical appointments. In 2018 and then again in 2019, CMS provided more flexibility to Medicare Advantage plans to include things like transportation for services that are not necessarily medical care but support overall health. Having said that, this increase in flexibility did not come with additional dollars, so every Medicare Advantage plan has to deal with tradeoffs with what they think will help the most with ensuring the health of their population. Finally, commercial or employer sponsored insurance typically does not include NEMT as a benefit.

The Pulse: The medical transportation industry has historically been conducted in an informal, "pen and paper" fashion. What has it been like to introduce technology from a non-health care company to NEMT brokers?

MC: It has been very positive. We partner with 9 out of the top 10 transportation brokers, the top 10 health systems, and the top 10 payers. The reception that we have gotten in terms of who wants to work with us and our partners speaks to the value that Lyft can bring to them.

Historically, health systems, particularly in the emergency department, would have taxi vouchers which were literally pieces of paper from a taxi company. If you went to the emergency department and you couldn't drive home, they would rip off a piece of paper and call a taxi for you, you would go out and get the taxi and they would have no idea what that ride was going to cost. Early on, Lyft went to emergency departments and had them use our platform to replace taxi vouchers.

The transportation brokers who manage the majority of the rides are fairly sophisticated—they manage millions of rides a year and coordinate everything from eligibility and benefits with the health system to making sure the ride can be paid for

all the way through to ride dispatch and managing complaints and grievances on the back end. These brokers create a network in a local area with transportation providers that vary in sophistication, from local car service organizations all the way to national companies. Working with Lyft gives them a transportation provider on a national scale with a strong technology product and single entity for contracting, billing, transparency, and reporting. These companies still work with local providers—not every patient or member is appropriate for a Lyft. You have to be able to walk to the car and get in and out of a car. For patients who are appropriate for a Lyft, it frees up the capacity for the higher order vehicles and rides to be available to the people who really need them.

The Pulse: The idea of social determinants of health has come to the forefront of health care recently. Social determinants include factors like access to transportation, as well as loneliness and isolation. Has your team conducted internal research to understand how Lyft's transportation platform is improving these social determinants for its riders?

MC: We did a joint study with USC, AARP of California and United Health Group where we gave unlimited Lyft rides to seniors in the LA area. We were trying to assess a couple of things: First, would seniors use ride share? Secondly, if they did, how would it impact their quality of life? Quality of life can be assessed through a validated tool. The study showed that there was a 90% improvement in the quality of life of seniors. What I thought was interesting was that only 15% of the rides were taken to medical care. 85% of the rides were to see a relative, go to social events, the gym, etc. There are some poignant videos on YouTube where study participants were interviewed after and talked about what these Lyft rides gave to them. The ability to not feel isolated socially, which is highly correlated with chronic disease was huge. I think that Lyft and rideshare can be such a helpful tool to seniors and really help them lead a high quality of life.

The Pulse: How would you like to see technology address issues of health equity over the next decade?

MC: I think that digital health can play a role in improving health equity. There is great promise in rural communities for telehealth. The sheer amount of data we are now able to track has the potential to improve health outcomes for people's experiences. However, we have a much bigger issue in this country around coverage. Seeing the increases in deductibles and out of pocket costs shows that there is a much larger systemic issue that we need to deal with around health equity. In the future I want technology to be available to more than who it is available to today.

Interviewed by Monica Adibe, January 2020. Full interview available at ***www.whcbcpulse.org****.*

REIMAGINING CLINICAL TRIALS

TrialSpark is a health technology startup that is reimagining the way clinical trials are performed. By partnering with independent and community physicians, TrialSpark transforms their practices into high-quality FDA compliant trial sites. TrialSpark recruits diverse patient pools to these sites and powers their trials using a roaming cohort of certified research coordinators, optimized by software, data and technology. *The Pulse* sat down with Co-Founder and CEO Ben Liu to learn more about the company's origins, latest accomplishments, and vision for the future of clinical trials.

Ben Liu

Co-Founder and CEO

TrialSpark

The Pulse: Can you share a bit about your background and how it influenced your journey to becoming an entrepreneur and starting TrialSpark?

Ben Liu: I trained as a computational biologist. Like many others, I was really excited about the confluence of big data applications in health care mixed with imaging, clinical data, and AI/ML to potentially transform drug discovery. In my graduate work, my lab discovered a few candidate drugs. When we talked to pharma companies about exploring a clinical trial, we were exposed to how expensive and time consuming that process was. It was eye-opening to learn how they review hundreds of drug candidates a year, and that a new clinical trial could cost hundreds of millions of dollars across all phases.

My core realization was this: as technology gets better and better, our ability to discover candidate drugs is getting more efficient, but the cost and time of a clinical trial is only getting more expensive – and the trial bottleneck is only going to get worse. That was the main motivation behind starting TrialSpark and our core mission to bring new treatments to patients faster and more efficiently.

The Pulse: Startups in this space are trying to accelerate drug approval through many different approaches: from clinical trial operations to AI-powered pharma R&D and real world evidence. What motivated you to take TrialSpark in its current approach, specifically with clinical trials?

BL: There are so many companies tackling the "AI in drug discovery" part - that was my background as well. But no one was really tackling full-stack how to run clinical trials cheaper and faster. I realized that if we weren't going to do it, no one else was going to do it with the same urgency. If you can run trials cheaper and faster, you enable more people in the ecosystem to take more shots on goal. Time is the #1 driver - if you can save a month from a $1.2B/year drug with a 20-year patent life, that's worth hundreds of millions of dollars.

The Pulse: How can clinical trials be improved?

BL: There are a couple of issues with the way the industry is currently structured. Pharma companies hire CROs to run trials, but trials are really run at the site level. In any trial, each site operates differently - one may collect data using a paper case report form, and another may use an electronic system to collect on the site level. They all have different operating procedures, and so that CRO layer really exists to manage variability - in sending a human for every few sites, collating data, and sharing it back to the sponsor. That means there's always latency to where the sites see the data, to where that CRO layer collates the data, to when it's shared back to the sponsor. There are also a few misaligned financial incentives: the CRO business model is a cost-plus model, so the more variability there is at the site level, the more billable hours they can charge to the sponsor.

There is also a site shortage - we need two orders of magnitude more physicians involved in clinical trials to fill up all the trials on clinicaltrials.gov. For example, if you're running a dermatology study today, every pharma and biotech company are using the same sites. They're all competing for the same patients, and after a few years all the eligible patients will have already been picked off.

The Pulse: How does TrialSpark's platform address these issues?

BL: We take a full stack approach, realizing that we need to own the process end-to-end in order to really align incentives. Our model is this: we find where the patients are, the doctors that see those patients, and create an FDA-compliant trial site

embedded in that doctor's practice, which will allow us to reach 98-99% of new patients. When we create these trial sites, they all can operate the same way through our own end-to-end tech platform that manages logistics, data collection, and analysis – this helps to eliminate site level variability. We also employ full time research coordinators that go around to our trial sites to do visits at the site level. It's like a half-AirBnB model where we enable any doctor to create a trial site in their practice.

The Pulse: Today, TrialSpark can complete trials 6 months faster than traditional CROs. Can you give us an idea of how you achieve this?

BL: One big area we're more effective on is study start-up. Traditionally, when you're running a Phase 2 trials with 50 trial sites, it can take 3-8 months to start a single site because each will have its own contracting processes, negotiated budget, and IRB. For us, it's just one rate card, one budget, and one IRB across all of our network. That process itself can save 3-5 months just from start-up. What really matters is how quickly can you get all of your sites up, because until then you're not running your trial at full capacity. To add on that, you can only complete your trial as soon as your last patient is enrolled. We can save a ton of time this way over a traditional CRO.

The Pulse: How are current stakeholders (physicians, sponsors, patients) responding to TrialSpark's solution?

BL: We've been really surprised by how excited physicians are in partnering with us. We actually found that the doctors that are most successful care less about the financial aspects - rather, they're really excited about being able to continue to do research and be a principal investigator while being in private practice. They're excited to give their patients more access to new treatments typically found only at major centers.

From a sponsor perspective, I find that everyone is rooting for a faster, more efficient way to do this. They resonate with the idea of democratizing access to clinical trials and reaching more patient populations. There is appropriate risk aversion in our industry for anything that's new because of the stakes involved. But we've been really encouraged by the number of sponsors who want to join us in reimagining the how we can reach more patients and to run their trials more efficiently.

For patients, we've gotten a lot of great feedback and testimonials from those participating in our trials. There is a deeply personal experience of a patient's journey throughout a clinical trial that we're able to improve on through meaningful interactions with caregivers. We're excited to explore broader initiatives such as observational registry studies to expand value for patients.

The Pulse: The theme for this year's Wharton Health Care Conference is "New Frontiers in Health Care". What are some upcoming trends in the clinical trial space that you find exciting? How do you see TrialSpark participating and leading in those areas?

BL: In the clinical trials space, we're excited about the growing trend towards using adaptive or basket type trials, which can enable the testing of multiple hypotheses per unit trial. They can have multiple treatment arms in a certain type of indication or have patients moving from one arm to another based on preset criteria, which can significantly increase the efficiency of a trial. Traditionally, it's hard to run an adaptive trial if trial sites can't read out data in real time, so we're excited about how our platform can play a big role here.

We're also excited about explosion of innovation in drug discovery. As more drug candidates get developed over time, we believe TrialSpark's platform can help find a home for these assets, rapidly scale trials, and get them to patients.

Interviewed by Vincent Yeh, December 2019. Full interview available at ***www.whcbcpulse.org****.*

Panel 4

Gene Therapy: Overcoming Challenges to Realize the Promise of Curative Medicine

Friday, February 14, 2020 - 11:45 AM–12:35 PM (Clover Room)

Gene therapy is emerging at the epicenter of biopharma's search for new treatment modalities and technologies, providing transformative, "one-and-done" therapies for patients. With the potential of these curative treatments come new obstacles, underscored by the nascency of the field. This panel will explore managerial challenges for gene therapy from research and development to commercialization and payment. Panelists will offer insights on how to overcome these challenges and continue to push the envelope in a quickly-maturing field. Will this be the "Roaring Twenties" for gene therapy?

Lisa Deschamps

Chief Business Officer

AveXis

A visionary and passionate leader who is driven by a strong belief that those rallied around a common vision can achieve the extraordinary together – and has proven that throughout her career. She and her teams have fostered a strong, People and Purpose driven culture built on curiosity, courage, collaboration and transparency, while serving patients and delivering growth far exceeding expectations.

Lisa is responsible for driving strategic planning, commercialization and business development of the extensive gene therapy portfolio within AveXis. This includes managing significant revenue growth targets and profitability of in line brands WW. She is also responsible for leading the exploration of inorganic growth opportunities and external partnerships.

Lisa leads and serves on a number of executive teams across commercial and development within AveXis and Novartis including Novartis Leaders Forum & Pharma Leadership team.

Lisa joined Sandoz in 1995 and moved into management and leadership roles of increasing responsibility. She has successfully brought highly specialized biologic and small molecule products from the clinic to commercialization in the areas of Cardiovascular, Respiratory, Rheumatology and Neurology, Rare diseases.

Lisa has garnered many industry awards and honors and was named 2013 Health Care Business Women's Rising Star.

She has lent her time to philanthropic causes, as a board member of the Jersey Battered Women Society and fundraising committee member of Josephine's Garden, a pediatric cancer fund. Lisa also has worked on special projects, including an effort in Africa to improve the lives of pediatric patients with sickle cell disease.

Lisa is an MBA in General Management from NYU Stern School of Business, and a BBA in marketing from IONA College, Hagan School of Business.

Alison Finger

Chief Commercial Officer

bluebird bio

Alison Finger has served as bluebird bio's Chief Commercial Officer since February 2017. She joined bluebird in August of 2015 as our senior vice president, marketing and product launch. Prior to joining bluebird, Alison spent 21 years at Bristol-Myers Squibb (BMS) where her career began in consumer medicines and progressed to global leadership roles in hepatitis, HIV/AIDs, hematology and neurodegenerative diseases. She has launched global, regional and national brands in hepatitis, HIV/AIDs, diabetes, rheumatoid arthritis, oncology and migraine/pain, and has led teams in consumer medicines, U.S. operations and global commercial. Alison was also responsible for building and embedding marketing capabilities throughout the company as BMS' Executive Sponsor for Marketing Excellence. Alison is currently a member of the board of directors of the Alliance for Regenerative Medicine Foundation which fosters education and research to support the development of transformational treatments and cures for patients worldwide. She holds a BA in English writing from Saint Lawrence University and an MBA from the Fuqua School of Business at Duke University.

Katherine A. High, MD

President and Head of Research and Development

Spark Therapeutics

Dr. Kathy High, an accomplished hematologist with a longstanding interest in gene therapy for genetic disease, began her career studying the molecular basis of blood coagulation and the development of novel therapeutics for the treatment of bleeding disorders.

Her pioneering bench-to-bedside studies of gene therapy for hemophilia led to a series of studies that characterized the human immune response to adeno-associated viral (AAV) vectors in a variety of target tissues. Kathy's work has evolved to encompass clinical translation of potential gene therapies for multiple inherited disorders. As the director of the Center for Cellular and Molecular Therapeutics at the Children's Hospital of Philadelphia (CHOP), Kathy assembled a multidisciplinary team of scientists and researchers working to discover new gene and cell therapies for genetic diseases and to facilitate rapid translation of preclinical discoveries into clinical application.

As President at Spark Therapeutics, she has led the development and received regulatory approval of the first gene therapy for a genetic disease approved in both the US and EU. Spark has shown human proof-of-concept of its leading gene therapy platform in both the retina and the liver, and has received breakthrough therapy designations for three different therapeutics across two different tissue targets, the eye and the liver. In addition to her operational role, Kathy serves as a member of the Board of Directors of Spark.

Kathy was a long-time member of the faculty at the University of Pennsylvania and of the medical staff at CHOP, where she was also an Investigator of the Howard Hughes Medical Institute. She served a five-year term on the FDA Advisory Committee on Cell, Tissue and Gene Therapies and is a past president of the American Society of Gene & Cell Therapy (ASGCT). She received her AB in chemistry from Harvard University, an MD from the University of North Carolina School of Medicine, a business certification from the University of North Carolina Business School Management Institute for Hospital Administrators and an MA from the University of Pennsylvania.

Luke Timmerman

Founder and Editor
Timmerman Report
(Moderator)

Luke Timmerman is an award-winning journalist who has been covering biotechnology since 2001. Before founding Timmerman Report in 2015, Luke wrote about the industry for a regional newspaper (The Seattle Times), a global financial publication (Bloomberg News), and an online startup (Xconomy). Luke's first book, "Hood: Trailblazer of the Genomics Age" was called a "must-read" by Forbes, and named one of the "100 Best Indie Books of 2017" by Kirkus Reviews.

Luke was named one of the 100 Most Influential People in Biotechnology by Scientific American in 2015. He has won a number of journalism prizes, including the Scripps Howard National Journalism Award, the Association of Health Care Journalists Award, and the Society of American Business Editors and Writers (SABEW) award. Luke earned a bachelor's degree in journalism from the University of Wisconsin-Madison in 1997. For the 2005-2006 academic year, he was awarded a Knight Science Journalism Fellow at MIT.

Outside of work, Luke enjoys running, family camping trips, and mountaineering. He reached the summit of Mt. Everest, the highest mountain in the world at 29,029 feet/8,848 meters, on May 22, 2018. Luke's Climb to Fight Cancer campaigns have raised $1.9 million for cancer research at Fred Hutch. He lives in Seattle with his wife and daughter.

AMGEN®

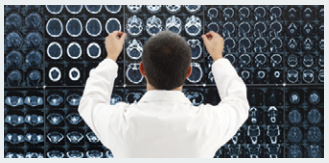
TRANSFORMING THE LANGUAGE OF LIFE INTO VITAL MEDICINES

At Amgen, we believe that the answers to medicine's most pressing questions are written in the language of our DNA. As pioneers in biotechnology, we use our deep understanding of that language to create vital medicines that address the unmet needs of patients fighting serious illness – to dramatically improve their lives.

For more information about Amgen, our pioneering science and our vital medicines, visit www.amgen.com

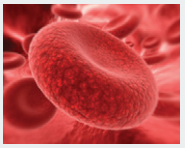
Proud sponsor of the 26th annual Wharton Healthcare Conference

©2019 Amgen Inc. All rights reserved.



STRATEGY CONSULTANTS FOR HEALTHCARE INDUSTRY LEADERS

- R&D Portfolio Prioritization
- Product Assessment
- Partnering and Acquisitions
- Pricing and Reimbursement
- Corporate Business Strategy



HEALTH ADVANCES

Strategy Consultants for the Healthcare Industry

www.healthadvances.com

BOSTON | SAN FRANCISCO | ZUG | HONG KONG

REIMAGINING THE FUTURE OF ON-DEMAND CANCER THERAPY

The Pulse sat down with Dr. Eric Schmidt, the CFO of Allogene Therapeutics, to learn about the cutting edge of CAR-T (chimeric antigen receptor T cell) therapies. CAR-T immunotherapies work by modifying T cells, a natural part of the body's immune system, to recognize cancer cells and destroy them. Previously this was done autologously, where cells are taken from the patient, modified, then introduced back into the patient. Allogene is pioneering allogeneic CAR-T cells, where cells are instead sourced from healthy donors.

Dr. Eric Schmidt, C'90

CFO

Allogene Theurapeutics

The Pulse: What is the current standard of care in CAR-T (chimeric antigen receptor T cell) therapy?

Eric Schmidt: The first generation of autologous CAR-T therapies have been truly revolutionary for patients with non-hodgkin lymphoma and acute lymphoblastic leukemia, two types of blood cancer. They have provided patients with a grim prognosis a real chance at a long-term favorable outcome. That is a tremendous advance in oncology, and you can't overstate the benefit these cell therapies have brought.

These existing therapies use autologous CAR-T technology, not allogeneic. One major drawback of autologous techniques that many patients don't have the time to wait for their own cells to be engineered, produced, and released before their cancers progress. In clinical trials for Yescarta and Kymriah, between 10-30% of patients were unable to get their cells back in time to receive treatment. The inability to treat all patients is a real shortcoming of the current treatment paradigm that we're hoping to remedy.

The Pulse: Can you describe what advantages Allogene's allogeneic CAR-T cells have over autologous CAR-T cells?

ES: Allogene is looking to build upon the foundational advances of first-generation CAR-T therapies by making them more convenient, accessible, and at a lower cost of production. Our goal is to enable many more patients to get treated with this transformative therapeutic modality.

We source allogeneic cells from healthy donors, engineer them to be used in any eligible cancer patient, and create an inventory of product that can be shipped upon demand. Because we're able to dissociate the production process from the treatment process and manufacture allogeneic or "off-the-shelf" cells well in advance of patients being in need, we could in theory deliver those cells within days – not weeks or months – and provide cells to a broader population of patients, including those who just don't have time to wait.

Another major advantage is the scale of production. At Allogene, a single manufacturing run produces enough cells to treat approximately one hundred patients. While each run is more expensive to manufacture than a run of autologous cells, we think we can operate at a much lower unit cost of production.

In addition, because we source our cells from healthy donors and not from elderly cancer patients who may have experienced repetitive cycles of chemotherapy, our cell starting material could potentially be of higher quality with less patient-to-patient variability. In theory, a more standardized cell starting-material be associated could potentially be associated with improved quality and function.

The Pulse: What types of cancer is Allogene looking to treat and why? Might it look to treat other diseases in the future?

ES: The majority of our efforts are focused on using allogeneic CAR-T therapy for cancer, specifically hematalogic malignancies. Blood cancers including lymphoma, leukemia and myeloma are good opportunities for Allogene because they've been de-risked in the autologous situation and because we know they express certain targets that can safely be addressed with very potent cell therapies. We are taking on some platform risk in moving from autologous to allogeneic therapy, so we don't want to add additional biologic risk for the time being.

Next year we may expand into solid tumors and over time, we may choose to expand beyond oncology, perhaps into immunological diseases.

The Pulse: How do you approach manufacturing and quality control for this next-generation therapy?

ES: Great question. Manufacturing is extremely important in a complex and highly innovative field like gene or cell therapy. We are looking at bringing manufacturing in house and have assembled a large and experienced team focused on technical operations. Almost half of our workforce and half our spending is dedicated to the production of our cell therapies. At the end of the day, our cells are our products and if we don't have the highest quality, most finely engineered cells, then we won't have products with the best chances of succeeding in the clinic or commercially.

Today we've created a production process that we are deploying it at third party contract manufacturing organization. Simultaneously, we're building our own large-scale manufacturing footprint in Newark, California, close enough to our headquarters to make sure we have free flowing tech transfer and ideas between research and manufacturing. We expect to be able to make GMP-grade material at our new facility in 2021. The end goal is to do all our manufacturing in-house and have capacity to commercialize multiple cell therapy products.

The Pulse: Since this therapy needs to be administered by a medical professional, how do you think about ensuring access across wide geographies?

ES: Everyone is hoping to eventually get to a point where these therapies are delivered in an outpatient setting. It may take more engineering and innovation, but that would be the holy grail – to truly have a cell therapy that could be not only delivered off-the-shelf, but in a setting where less medical support is required. I'm pretty optimistic that an allogeneic platform can eventually get us there. Because allogeneic cells can be made at scale, companies like Allogene can contemplate making additional gene edits to further increase the potency and improve the safety of CAR-T therapy. Additional gene engineering steps are likely to be cost-prohibitive in the autologous realm, so an allogeneic platform could be critical to bringing cell therapies to that next level.

The Pulse: How do you think about pricing and reimbursement in a relatively new field with few benchmarks?

ES: Being a next generation player with allogeneic therapies, we have the benefit of watching as autologous players advance the field of cell therapy. Hopefully autologous therapies will overcome some of the anticipated hurdles, including reimbursement and physician education. I do think the reimbursement landscape, which is still being worked out for Yescarta and Kymriah, will be more standardized in the future. First generation autologous players are also doing the heavy lifting in growing health care provider familiarity with these very potent therapies. Hopefully by the time Allogene is in position to launch an allogeneic CAR-T therapy the wheels will have been greased a bit.

In terms of CAR-T pricing, the cost of therapy of Yescarta and Kymriah has generated a lot of headlines. I think the price of these first-generation drugs are a good deal for society relative to other cancer therapies. This is because CAR-T is a one and done therapy with the potential to induce dramatic, long-term medical benefit. Compared to other expensive cancer drugs that are used chronically, the system can receive meaningful value from a one-time transformative therapy.

The Pulse: What trends do you think the future of CAR-T and immunotherapy holds?

ES: Right now we're focusing on oncology because we need to get our first few products over the goal line, but cell therapy is a new therapeutic modality that could potentially be deployed in an expansive array of medical indications. It's a unique modality, unlike small molecules, biologics, or even gene therapy. Via gene editing and gene insertion technologies, living cells can be programmed to exhibit almost any desired biologic activity. So I'm pretty optimistic that in 10-15 years, because of advances in cell therapy, we'll see big transformations in many other diseases beyond cancer.

Interviewed by Michele Dragoescu, December 2019. Full interview available at ***www.whcbcpulse.org****.*

HOMEGROWN INNOVATION AT PENN MEDICINE

The Penn Medicine Center for Health Care Innovation works on new strategies that reimagine healthcare at Penn. These strategies center around making people healthier, bringing care into people's lives, and reducing the cost of care. The Center uses a disciplined, agile approach toward creating, evaluating, and implementing new ideas to determine what works and what doesn't. *The Pulse* sat down with Clinical Innovation Manager and MD Krisda Chaiyachati to discuss a few of the Center's latest projects.

Krisda Chaiyachati, MSHP '17

Clinical Innovation Manager

Penn Center for Innovation

The Pulse: What is your professional background and area of health care interest?

Krisda Chaiyachati: I'm clinically trained as a general internist or primary care doctor. I am also an Assistant Professor of Medicine at the Perelman School of Medicine, a Clinical Innovation Manager at Penn Medicine's Center for Health Care Innovation, and the Medical Director for Penn Medicine OnDemand Virtual Care.

The Pulse: Can you provide an overview of the Penn Center for Health Care Innovation?

KC: The mission of the Penn Medicine's Center for Health Care Innovation is to reimagine health care delivery for dramatically better value, patient outcomes, and experience for Penn Medicine patients and serve as a national model. What differentiates our Center from many innovation centers is that it is embedded within the operations of a health system. We focus on identifying tools and processes that Penn needs to be a trendsetter and improve health care delivery. Then we apply design-thinking to reach those goals.

There are three main arms of the Center. First, there is the Nudge Unit, which consists of a design team that incorporates principles from behavioral economics to "nudge" patients and clinicians towards higher value decision-making. For example, one initiative has been to change the display defaults in our electronic health record to incentivize greater clinician prescribing of generic drugs. This initiative saved us more than $30 million in two-and-a-half years.

Second, we have the Center for Digital Health, which is as an incubator for digital health ideas and solutions. Here, researchers have studied everything from whether social media can predict mental health conditions to the use of crowdsourcing to map out AED machines across the state.

Finally, there is the Acceleration Lab, which leverages our own faculty and staff's ideas to design and test solutions. This is our bread and butter.

The Pulse: What is an example of a project coming out of the Acceleration Lab, and can you describe how it came about?

KC: One example would be Penn Medicine's OnDemand Virtual Care Program, which I oversee.

We first noticed that Penn Medicine employees were visiting the emergency department (ED) far more than we might have expected. Around one in five employees visited the ED each year, and a significant proportion of those visits were considered avoidable.

Employees are a unique consideration for a self-insured health system like Penn Medicine. Self-insured employers, whether they are health care providers or not, take on the financial risk for employee's health care spend. So, these employers typically have programs to control costs such as wellness programs and incentives to encourage primary care visits. As a health system, it's a win-win to have convenient alternatives to an ED to take care better care of our employees and decrease congestion in our waiting rooms.

We had a strong motivation to reduce avoidable ED visits: improve the happiness of our employees and reduce unnecessary utilization. So, we developed and piloted a free telemedicine clinic where employees could connect to an NP or MD virtually, receive medical advice, a prescription when clinically indicated, and coordinate follow-up appointments if necessary.

The results were promising – we saw a sizeable reduction in

the use of EDs in the pilot and reduced spending. Because of that, we've turned the pilot program into a fully scaled practice serving all 60,000 covered lives under our insurance plan and we transitioned the clinic to be public facing since January 2020.

The Pulse: Can you speak a bit about the economics of telemedicine vs. ED for a health system?

KC: The economics, at face value, seem straight forward: the cost for each telemedicine visit is much cheaper than say the emergency department. You don't have the overhead of office space, imaging, or equipment. The beauty of the program is the convenience and accessibility. However, this is where the economics can get tricky – it may be so convenient, and the price may be so affordable for patients that they call when they didn't actually need health care. In other words, there is a risk of visits that wouldn't have occurred otherwise. What we want is for telemedicine to substitute for in-person care, especially the ED. In real life, though, you are going to have a mix of both overuse and substitutions. For a program to be financially viable, you just want to make sure the quantity and cost of unnecessary procedures don't outweigh the benefits of substitutions.

To date, we've measured substantial cost savings and seen more examples of substitution. That said, to date, our user base has been employees of a health care system. They may be relatively savvier and more knowledgeable about how and when to use health care compared with non-health care workers. As we open this to the public, we will continue evaluating whether telemedicine, the way we offer it, is keeping costs down.

The Pulse: What have been the biggest challenges in developing and scaling this program?

KC: From a clinical standpoint, the biggest challenge is learning how to provide effective virtual care. What are patients' expectations? What should be their experience? How do we transition and train providers, who are used to in-person care, on best practices for providing virtual care? There is the technical build challenge – how do we keep this operating, so the patients' experience is seamless and high-quality. Finally, we need to make sure the economics are attractive for insurers and patients. We are constantly combing through the claims and cost analyses to understand the program's value. Ultimately, I personally want to know if this improves access to care for patients who were struggling to get it previously.

The Pulse: Before we run out of time, I want to talk a bit about your chatbot initiative because it sounds interesting.

KC: The chatbot fits the same theme – we want patients to access high value care without any sort of friction. We are designing a chatbot as an extension of our clinical teams. It should be able to receive patients' text messages and answer questions right away or efficiently triage messages to a clinical provider. Hopefully for many patients, this saves them a trip to see a provider or create long waits before easy questions can be answered. For providers, we hope it can reduce the burden on providers by saving them hundreds of five-minute phone calls, emails, patient portal responses, or text messages. The chatbot can be a critical member of the care team, helping providers truly manage populations while funneling high-needs patients their way.

At the same time, we think we can leverage the chatbot as a tool to gather data, process information, and present it efficiently to providers. We are trying to develop this technology one disease at a time. The clinical case I'm working on is hypertension treatment and management. We hope that the lessons we learn for conditions like hypertension will be valuable and transferrable to other conditions as we scale the application of artificial intelligence into how Penn Medicine delivers care in the future.

The Pulse: What stage are you in the development of this technology?

KC: We are currently doing the technical build of the chatbot for hypertension. During our first phase, we have human beings pretending to be chatbots, to see if and how people engage with the tool. Then we plan to phase out the human being by building in components that are completely automated and responses are chosen by the chatbot. This is just to the beginning and I look forward to reporting more in the near future.

The Pulse: Thank you very much for your time!

KC: Thank you!

*Interviewed by Neha Srivatsava, January 2020. Full interview available at **www.whcbcpulse.org**.*

Keynote 3: Fireside Chat

Friday, February 14, 2020 - 1:30 PM–2:20 PM (Grand Ballroom)

Cindy Perettie

CEO

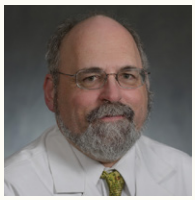
Foundation Medicine

Cindy Perettie joined Foundation Medicine in February 2019 as its CEO. Ms. Perettie is passionate about improving the care of cancer patients and brings more than two decades of scientific and commercial experience with global biopharmaceutical organizations.

Prior to joining Foundation Medicine, Ms. Perettie served as Senior Vice President in Global Oncology Product Strategy for Roche's Oncology unit, where she led one of the largest global oncology portfolios in the industry. In 2012, Ms. Perettie took a hiatus from Genentech to join Sarah Cannon Research Institute (SCRI) as President, Global Development Innovations where she gained invaluable insights into the day-to-day care of people living with cancer. During her tenure, she was responsible for leading and growing SCRI's contract research organization globally, driving critical oncology clinical trials to further expand options for cancer patients and access precision medicine. Before joining Genentech, Ms. Perettie led portfolio management at IVAX Pharmaceuticals and was the director of global program management at Élan Corporation. Her pharmaceutical experience began as a research scientist associate director role at Chiron Corporation. She started her career as a senior research associate at Johns Hopkins University following her continuing education program there.

Ms. Perettie holds an MBA in marketing and finance from St. Mary's College of California and received her bachelor's degree in biology, with a minor in chemistry from State University of New York College at Potsdam.

Cindy Perettie will be interviewed by Corey J. Langer, MD



Corey J. Langer, MD

Professor of Medicine

Perelman School of Medicine

Corey J. Langer is a Professor of Medicine at the University of Pennsylvania, Perelman School of Medicine, where he serves as Clinical Director of Thoracic Oncology in the Abramson Cancer Center. Professor Langer received his medical degree from Boston University in 1981 and completed his residency in medicine at the Graduate Hospital, University of Pennsylvania, and his hematology/oncology fellowship at Presbyterian University of Pennsylvania and Fox Chase Cancer Center in 1987.

Professor Langer served in the Oncology division of Fox Chase Cancer Center from 1986–2008, leading its Thoracic Oncology Program from 1994–2008. He moved to the University of Pennsylvania in 2008, where he currently leads clinical research efforts in thoracic malignancy as part of the Interdisciplinary Thoracic Oncology Program (I-TOP) and conducts research studies focused on the role of targeted therapy and immunotherapy in NSCLC. He also co-directs the Thoracic Translational Center of Excellence, where he concentrates on the clinical end of bench to bedside projects

Professor Langer is also Chair of the Medical Oncology Committee for the Radiation Therapy Oncology Group (RTOG), now NRG and serves on the core thoracic committees of both NRG and ECOG. Professor Langer is a Fellow of the American College of Physicians and is a member of the American Society of Clinical Oncology (ASCO), the American Association for Cancer Research (AACR) and the International Association for the Study of Lung Cancer (IASLC).

For the past 33 years, since completing his fellowship, Professor Langer has led or co-led over 120 clinical trials in both small cell (SCLC) and non-small cell lung cancer (NSCLC). Professor Langer has contributed numerous articles and abstracts to the medical literature and is the author or co-author of over 220 peer-reviewed papers.

Panel 5

The Journey Home: Changes and Challenges in Home Care

Friday, February 14, 2020 - 2:35 PM–3:25 PM (State Drawing Room)

Rising health care costs and a growing focus on the patient experience are creating demand for a shift of care to lower-intensity settings. We need a new paradigm to transform patient care, avoid unnecessary hospitalizations, and move post-acute care into the home. Technology has reshaped the boundaries of what is clinically possible — so what is holding us back? This panel will explore plans to achieve a new vision for home care in the face of concerns related to privacy and security, patient safety, reimbursement, and scalability.

Ryan Cochran

CFO

One Homecare Solutions

Ryan spent his career as an operator, investor, and advisor to innovative health care companies spanning provider, payer, and technology businesses.

In 2018, Ryan assisted in recapitalizing and joining the One Homecare Solutions team as CFO to focus on efforts to continue providing a high level of service to its customers as well as expanding its offerings and markets. One Homecare Solutions is an integrated homecare service provider focused on meeting the needs of Health Plans by serving their members through a single source solution to provide coordinated services across home health, durable medical equipment, and home infusion.

Prior to joining the One team, Ryan held leadership roles at private-equity backed health insurance plans and integrated delivery systems including Bright Health, Clover Health, and CarePoint Health. At Bright Health, a health system-aligned health plan, Ryan helped define the company's strategy, led network development and design efforts, and led significant components of the company's expansion efforts into multiple new markets. Prior to Bright Health, Ryan led strategic and operational finance functions at Clover Health, a Medicare Advantage plan using analytics/software to fill in gaps in care, and led the raising of significant capital while the company scaled to its first ~30K members. At CarePoint Health, a large integrated delivery system in New Jersey, Ryan was involved in payer strategies, ambulatory partnerships, and various operational optimization projects.

Prior to moving into operational roles, Ryan was a Health Care Investor at New Leaf Venture Partners, a leading growth oriented health care investment fund, where he helped them begin investing in the digital health and tech- enabled health care services sectors. Some of the investments Ryan was involved in include consumer health engagement, tech-enabled services for arrhythmia detection, care coordination software, pharmacy utilization and automation, and clinical workflow technology for specialists. Several of Ryan's investments led to acquisitions by major payer and provider organizations as well as initial public offerings. Prior to New Leaf Venture Partners, Ryan worked in health care investment banking at Citi, where he advised companies on mergers & acquisitions as well as other strategic transactions.

Ryan holds a BS in Economics and a BA in Biology from the Wharton School at the University of Pennsylvania and has a graduate certificate degree in Health Care IT from Columbia College of Physicians and Surgeons. Ryan actively invests in and advises a number of companies in health care services, risk-bearing entities, and health care technology.

Niyum Gandhi

Executive Vice President,
Population Health and Consumer Solutions
Mount Sinai Health System

Niyum Gandhi is the Executive Vice President for Population Health and Consumer Solutions at the Mount Sinai Health System. In this role, he oversees Mount Sinai's transition from a primarily fee-for-service model of care to one that is focused on consumer value and risk-based population health.

Niyum leads Mount Sinai Health Partners and helps align the Health System's clinical and economic transformations in support of Mount Sinai's vision to be the leading population health manager in the competitive New York market, as well as the best possible partner to plan sponsors, health insurers, and other population health managers who are seeking to get more value for their health care spend. This includes fostering care management, consumer-oriented solutions, and clinical model redesign to ensure that high-value care is delivered by the Health System and its partners, and working with payers and employers to establish economic models that support the delivery of value-based care.

Prior to his position at Mount Sinai, Niyum served as a Partner in the Health and Life Sciences consulting practice of Oliver Wyman in Chicago, where he focused on value-based health care strategy and transformation for physician groups, hospitals, and health plans. At Oliver Wyman, Niyum also worked with a variety of Accountable Care Organizations (ACOs) and other population health management companies, helping them design and implement value-based clinical models, develop value-based contracts and integrated product distribution strategies, align physician incentives toward value, and establish the appropriate infrastructure to support population health management.

Niyum holds an AD in economics and finance from Harvard University. He has authored several articles on ACOs, payer/provider partnerships, and physician engagement, and served as a conference speaker on a variety of issues related to population health and value-based care. He also serves as an Assistant Professor in the Department of Health System Design and Global Health at the Icahn School of Medicine at Mount Sinai.

Rami Karjian

Co-Founder
Medically Home

Rami spent his childhood in the Middle East, growing up in Lebanon and then moving around the GCC during the height of the Lebanese war. He attended Northwestern University, where he met his wife, and graduated with degrees in Computer Science and Economics. He started his career with Procter & Gamble, based out of both Switzerland and the global HQ in Cincinnati, Ohio. After a few years with P&G, Rami returned to school, receiving an MBA with highest honors from University of Virginia (Darden).

After business school, Rami joined McKinsey & Co. to focus on Operations. His passion was to support his clients (CEOs/Boards of Fortune 500 companies and Private Equity firms) in creating dramatic improvements in profitable growth by launching new businesses and driving operational turnarounds. He started this work based in the US, and then moved to Asia to lead the Firm's Operations business in the region. Initially based in Kuala Lumpur (Malaysia), Rami had the opportunity to work in Operations improvement programs with health care, telecom, airline, high-tech, and financial services companies across Asia. Over the course of almost a

decade in Asia, he and his family enjoyed learning the cultures and language, while enjoying the warm hospitality by living in Seoul (S. Korea), Singapore, and Taipei (Taiwan).

Rami returned to the US during the 2007/2008 financial crisis to work with US and Global Financial institutions on adapting their operations and strategies to the dramatic changes occurring. Still with McKinsey & Co., he was a leader in the Financial Services Operations & Technology practice, working with his clients to build new services businesses (e.g., new retirement offerings for a leading asset manager), transforming global operations (e.g., across 100,000 global operations staff in 70 countries), and formulating technology strategies. While supporting his clients with techniques from Lean Manufacturing best practices, he published and was lead editor for "Lean in Financial Services" and had extensive speaking engagements at top industry forums.

After consulting engagements across the globe spanning over a hundred companies, Rami wanted the challenge of taking on an operating role and personally put into practice what he had been advising his clients for many years. He joined Flextronics, a $30B Fortune Global 500 electronics manufacturing services and end-to-end supply chain solutions provider with more than 200,000 employees and operations in 30 countries. As President of Flextronics' Global Services & Software business (the leading technology repair and reverse logistics company globally) he was responsible for a business of 15,000 employees with operations in 25 sites across the Americas, Europe, and Asia focusing on forward logistics/distribution and reverse logistics/repairs and spare parts, enabled by leading-edge software solutions.

In 2013, Rami joined the two founders of a Private Equity / Business Incubator, Intersection Partners. The Firm's portfolio included the largest independent recycling company in the US, the largest distributor of solar equipment globally, and the leading logistics (air cargo airline) operating between the US and the Caribbean.

Since 2015, Rami's efforts have been focused with his partners from Intersection Partners (Richie Rakowski and Andy Lipman) on co-founding and scaling Medically Home Group, Inc. as its President & COO. The company is a health care technology and services company that is the first commercially viable Virtual hospital that provides all the tools to allow medical providers to safely bring hospital-level care to where patients live. As part of that, Medically Home has a team of Nurses and Physicians in its Mission Control Medical Command Center in Boston providing Virtual Hospital care to patients across Massachusetts and Indiana.

Rami loves travelling, is an avid snowboarder, occasional marathon runner, and certified single-engine pilot.

Dr. Monique Reese, DNP, ARNP, FNP, ACHPN

Senior Vice President, Home and Community Care

Highmark Health

Dr. Monique Reese is the Senior Vice President of Home and Community Care for Highmark Health, a Pittsburgh-based national health and wellness organization and the second largest integrated delivery and financing system in America. Dr. Reese is responsible for leading the transformation of Highmark Health's long-term post-acute strategy, including oversight of HM Home & Community Services and Allegheny Health Network Healthcare@Home.

A progressive health care executive with expertise in operations management, pre and post-acute strategies, clinical practice management, home health services, compliance, data analysis, quality assurance, patient care and services, financial management, and program development, Dr. Reese has extensive experience leading strategies focused on population health in both fee-for-service and value-based health environments. Prior to joining Highmark Health in 2018, Dr. Reese served as chief clinical officer for Sutter Health, overseeing Sutter Care at Home's operations and clinical practice including the back-office areas of compliance, education, and quality. She was also the chief clinical officer for the ambulatory enterprise at UnityPoint Health, where she developed and implemented the pre and post-acute strategy. Dr. Reese implemented an evidence-based care coordination model, developed community-based strategies to care for populations in a value-based setting, and was a core executive team member of leading the system's transformation to a person-centered, physician-led health system.

Dr. Reese is also a family nurse practitioner with a subspecialty in palliative care and hospice. Her nursing background includes experience in family practice, community health, school nursing, post-secondary education, medical-surgical, orthopedics, palliative care and hospice.

Dr. Reese participates in a number of speaking engagements across the country, has written numerous articles, and is a published author. She has served on the Palliative Nurse Association (APN) Council and boards of directors for Empower Tanzania and Center for Advanced Practice Providers (CAP2). She also serves as co-chair for the Visiting Nurses Associations of America Clinical Leaders Interest Group. Dr. Reese is a member of the American Academy of Nurse Practitioners, American Nurses Association, American Nurses Association of California, Hospice and Palliative Nurse Association, and American College of Health Care Executives.

In 2014, Dr. Reese was recognized as the National Association of Home Care Iowa Nurse of the Year and was also named a 100 Great Iowa Nurse. Having led the development of system-based palliative care programs, Dr. Reese was recognized with the Circle of Life Award in 2013 for innovation in palliative care and end of life from the American Hospital Association and 2016 Vanguard Award for innovative approaches to person-centered care from the California Hospital Quality Institute.

Dr. Reese has an associate degree in nursing from Des Moines Area Community College, as well as a Master of Nursing and Doctorate of Nursing Practice from the University of Iowa. In 2015, Dr. Reese was chosen as Duke Johnson & Johnson Nurse Leadership Fellow and completed her fellowship in 2016.

Andrew Segal

Chief Innovator and CEO

ANSEGA Health Solutions

(Moderator)

Andrew is an experienced executive leader and leading subject matter expert in long-term care and health policy. He currently serves as the Chief Innovator & CEO of ANSEGA Health Solutions, a health management consulting firm that combines deep industry knowledge, meaningful insights, and expertise for health care organizations. ANSEGA guides both payers and providers to transform how they serve their customers and address their most pressing challenges using bold ideas that matter.

Andrew formerly served as an appointee to Governor Andrew Cuomo as the Director of the Division of Long-Term Care for the New York State Department of Health. In that role, he led the strategic oversight and regulation of 58 Managed Long-Term Care (MLTC) plans for over 230,000 Medicaid beneficiaries throughout the State. In 2018, Andrew generated $350M in savings under the Medicaid Global Spending Cap for the $12.4B Long-Term Care program.

Prior to his tenure with the State, Andrew worked for the largest non-profit home and community-based organization in the country, the Visiting Nurse Service of New York (VNSNY), where he served as the Executive Director of External Affairs and Government Relations.

Andrew holds a Master of Public Health (MPH) focused in Health Policy & Management from Columbia University.

If you're looking for the opportunity to develop strategies for some of the world's leading companies, collaborate with outstanding peers, and broaden your business skills and experience, L.E.K. may be right for you.

L.E.K. Consulting is a proud sponsor of the Wharton Healthcare Conference

Please visit https://www.lek.com/join-lek/apply/apply-now for more information

L.E.K.

manatt

Informed.
Focused.
Effective.

Manatt Health Strategies proudly supports the
26th Annual Wharton Health Care Business Conference.

Manatt Health Strategies, LLC is a wholly owned subsidiary of Manatt, Phelps & Phillips, LLP **manatt.com**

Panel 6

The Digital Democratization of Health Care

Friday, February 14, 2020 - 2:35 PM–3:25 PM (Clover Room)

Digital applications and platforms are enabling more patients to understand and take control of their health care. The result is the democratization of health care across all verticals through low-cost, accessible, and increasingly sophisticated digital health solutions. Accelerated by the proliferation of actionable data and the rise of artificial intelligence, this phenomenon has the potential to drive better patient outcomes. This panel will explore the democratization of health care - how does shifting power to health care consumers affect cost, quality, and access?

April Gill

Senior Vice President, Solution Management

Welltok

April Gill is the Senior Vice President of Solution Management where she is focused on driving greater quality into Welltok's portfolio of data, software and services by developing value-based solutions for the specific markets we serve. Inspired by her family's health care challenges, she has dedicated the entirety of her 20+ year career to improving lives and the experience of health care through innovative technology, advanced analytics and health services primarily targeting population health. Her background includes a rich range of experience across payers, providers, pharmacy and employers in leveraging technology, data and advanced analytics, and market knowledge to develop effective growth strategies, improve the member experience and drive improved financial performance.

April is on the board of the RISE Association's Medicare Marketing & Sales conference. She also volunteers as a board member for the New Boston 4th of July Association, a not-for-profit dedicated to bringing a celebration of the Town's rich history to its residents every year on Independence Day.

Before joining Welltok, April lead Account Management at Predilytics, a health care focused predictive analytics firm acquired by Welltok. Prior to Predilytics April held leadership positions in sales, account management, business analysis and training at health care IT and health services firms including EyeMed, Best Doctors and NaviMedix.

April received her degree in Business Administration at Mary Baldwin University.

Jo Lim

VP of Strategy and Business Development

Babylon Inc.

Jo is VP of Strategy and Business Development for the US at Babylon, looking to create long-term value for the organization through leading innovative partnerships with health plans and health systems.

Jo's background includes a wide range of health care industry expertise in corporate strategy, consulting, entrepreneurial startup growth and operational delivery. Prior to Babylon, Jo was a strategy consultant advising executives in the Healthcare industry for Strategy&, PwC's strategy consulting business (formerly Booz & Co). She focused on developing new consumer-centric, market-driven strategies for delivering and financing health care as well as operational and financial transformations. Before coming to the US, Jo held strategic roles at two of the UK's largest hospitals and prior to that helped build Circle, Europe's

largest partnership of clinicians (~ $300m of revenue and ~3,000 employees). She began her professional career in Equity Capital Markets at Goldman Sachs International in London. Jo holds a Masters in Health Policy and Management from the Harvard T.Chan School of Public Health and a BSc in Immunology from the University of Edinburgh.

Derek Newell

SVP of Commercial

Virta Health

Derek is Head of Commercial at Virta Health, the first clinically-proven treatment to safely and sustainably reverse type 2 diabetes without medications or surgery. He leads Virta's partnership with employers and health plans. Derek has 20 years experience growing and leading innovative health care technology and service companies. He was previously the CEO at Jiff, the innovative enterprise health benefits platform, leading its growth until acquisition by Castlight, where he was named director and president. At Castlight, Newell helmed Research and Development, Sales and Marketing, and Customer Experience, and was instrumental in transforming Castlight into the leader in the health navigation category. Prior to Jiff and Castlight, Derek was President and CEO of Robert Bosch Healthcare. Derek holds graduate degrees in Business and Public Health from the University of California, Berkeley.

Florian Otto, MD, PhD

Co-Founder and CEO

Cedar

An accomplished entrepreneur and former physician, Florian now drives growth and sets overall direction across all facets of Cedar's operations as CEO. Prior to founding Cedar, Florian was an executive at Zocdoc where he drove the commercial adoption of the platform. Florian also founded a daily deal company in Brazil (ClubeUrbano) that was eventually acquired by Groupon. After the acquisition, he became Chief Executive Officer of Groupon Brazil, growing the company to one of Groupon's top three international markets. Florian began his business career as a strategy consultant at McKinsey & Company within their health care practice. Florian holds a M.D., D.D.S. and PhD from the University of Freiburg, Germany.

Fred Ronnau

Chief Technology Officer

RubiconMD

Currently as CTO of RubiconMD, Fred manages the Product, Engineering and Analytics functions for the industry leading eConsult solution provider in the US. RubiconMD is working with many of the most innovative health care care disruptors in the industry as well as all of the major health care insurance providers. Fred's background includes a wide range of health care industry expertise in corporate strategy, managerial consulting, entrepreneurial startup growth and multi-national organization M&A. While with Deloitte, Fred was focused on helping health care companies implement agile processes and solutions as well as deploying clinical informatics solutions. At McKesson, Fred led the clinical decision support solutions businesses as well as running technology strategy and program management for McKesson's Specialty Health division, which included the management of the US Oncology Network. Fred's background also includes a myriad of startup experiences ranging from the successful growth and sale of mobile applications, BlueTooth enabled hardware, innovation management software, and most recently in his role at RubiconMD. Fred holds an MBA from The Wharton School, University of Pennsylvania with a major in health care management as well as a BS in Industrial Engineering from The University of Arizona.

Michael Greeley

Co-Founder and
General Partner
Flare Capital Partners
(Moderator)

Michael is a Co-Founder and General Partner at Flare Capital Partners, a leading health care technology venture firm based in Boston, MA. Previously, Michael was the founding General Partner of Flybridge Capital Partners, and earlier in his career was with Polaris Partners, as well as held positions at Wasserstein Perella & Co. and Morgan Stanley & Co.

Current and prior board seats include Aspen RxHealth, BlueTarp Financial, Circulation, Explorys, Functional Neuromodulation, HealthVerity, higi, Iora Health, MicroCHIPS, Nuvesse, PolyRemedy, Predictive Biosciences, Predilytics, T2 Biosystems, TARIS Biomedical, VidSys and Welltok (observer). Additionally, Michael served on the board of International Data Group, the founding partner of IDG Capital, a leading venture capital fund in China and other important innovation centers in Asia.

Michael serves on the Industry Advisory Board of the Cleveland Clinic and Boston Children's Hospital, as well as serving on the Governor's Digital Health Council and the Massachusetts Technology Collaborative. Michael also serves on the Investment Committee for the Partners Innovation Fund. He was past Chairman of the New England Venture Capital Association and on the board of the National Venture Capital Association. Michael earned a BA with honors in chemistry from Williams College and an MBA from Harvard Business School.

Michael authors a blog focused on venture capital, innovation and health care at www.ontheflyingbridge.com.

Keynote 4: Fireside Chat

Friday, February 14, 2020 - 3:40 PM–4:30 PM (Grand Ballroom

Amy P. Abernethy, MD, PhD

Principal Deputy Commissioner & Acting CIO

US Food & Drug Administration

Amy P. Abernethy, MD, PhD is an oncologist and internationally recognized clinical data expert and clinical researcher. As the Principal Deputy Commissioner of Food and Drugs, Dr. Abernethy helps oversee FDA's day-to-day functioning and directs special and high-priority cross-cutting initiatives that impact the regulation of drugs, medical devices, tobacco and food. As acting Chief Information Officer, she oversees FDA's data and technical vision, and its execution. She has held multiple executive roles at Flatiron Health and was professor of medicine at Duke University School of Medicine, where she ran the Center for Learning Health Care and the Duke Cancer Care Research Program. Dr. Abernethy received her MD at Duke University, where she did her internal medicine residency, served as chief resident, and completed her hematology/oncology fellowship. She received her PhD from Flinders University, her BA from the University of Pennsylvania and is boarded in palliative medicine.

Amy P. Abernethy, MD, PhD will be interviewed by David A. Shaywitz, MD, PhD

David A. Shaywitz, MD, PhD

Founder

Astounding HealthTech

David's career focus has been driving promising science into clinical impact; he's especially interested in the transformational opportunities and implementation challenges presented by emerging technologies, from NGS and cell therapies to digital biomarkers and the meaningful application of AI. In 2020, he founded Astounding HealthTech, providing advisory services to:

- R&D-driven biopharma organizations seeking a clearer understanding of, and a grounded perspective on, emerging tech opportunities;
- Health tech startups seeking a clearer understanding of, and a grounded perspective on, biopharma R&D organizations.

A *summa cum laude graduate* of Harvard College, where he studied Biochemical Sciences, he continued his training as a physician-scientist at Harvard and MIT, obtained his medicine and endocrinology training at MGH, and his post-doc in the Melton Lab at the Harvard Stem Cell Institute. He then left academia for industry, working at Merck (Experimental Medicine), Boston Consulting Group (strategy consulting, biopharma-focused), and Theravance in South San Francisco, where he focused on new product planning and business development, and led a product team. From 2014-2017, he served as Chief Medical Officer of a Silicon Valley cloud genomics company, DNAnexus. From 2017-2019, he was a Senior Partner in the Palo Alto office of Takeda Ventures, Inc., and served on multiple boards.

For twenty-five years, David has contributed commentaries about medicine, science, strategy, innovation and technology to a number of popular publications, including *The New York Times, The Washington Post, The Wall Street Journal, Politico Pro, TheAtlantic.com, Forbes.com*, and *The Financial Times*. He is now a contributor at Timmerman Report where he writes the "Astounding HealthTech" column. He also co-hosts a twice-monthly podcast, "Tech Tonics," on tech & health with Lisa Suennen, with whom he also co-authored a book of the same name.

David served as a Visiting Scientist in the Department of Biomedical Informatics (DBMI) at Harvard from 2015-2017, and maintains an affiliation with the department. Since 2010, David has also served as an Adjunct Scholar at the American Enterprise Institute (AEI) in Washington, DC.

Health Care at Wharton

The conference supports multiple health care focused student organizations. These provide MBA and graduate students with opportunities to build professional skills, network with fellow students and potential employers, and create impact in external organizations ranging from start-ups to hospitals, Fortune 500 companies, and health organizations in developing countries.ping countries.

Wharton Health Care Management Department

The Health Care Management Department is the Wharton School's base for scholarship, education, and innovative thinking related to the business, management and policy of health care services, health care technology, and health care financing. The department sponsors three educational programs: the PhD in Health Care Management and Economics, the MBA Program in Health Care Management, and the BS in Economics with a Concentration in Health Care Management and Policy.

Visit website: **hcmg.wharton.upenn.edu**

Administration

Geoffrey M. Garrett, PhD
Dean, The Wharton School

Howard Kaufold, PhD
Vice Dean and Director, The Wharton Graduate Division

Scott E. Harrington, PhD
Chair, Health Care Management Department, The Wharton School
Director, MBA Program in Health Care Management

June M. Kinney, MA
Associate Director, MBA Program in Health Care Management

Caroline Savoie
Administrative Coordinator, MBA Program in Health Care Management

Janice Singleton
Administrative Coordinator, MBA Program in Health Care Management

Wharton Health Care Club

The Health Care Club organizes professional and social activities for all Wharton graduate students who are interested in exploring opportunities in the health care industry. Members share their knowledge and perspectives in addition to interacting with current industry leaders to develop an understanding of the issues facing hospital, physician, managed care, pharmaceutical, biotechnology, and medical device organizations.

Visit website: **www.whartonhealthcareclub.org**

Wharton Digital Health Club

The Digital Health Club is dedicated to providing Wharton Students with:

- Education about the field of digital health
- Experience through club sponsored activities
- Networking/Career opportunities

The Wharton Digital Health Club also strives to create an alliance of Penn schools focused on creating and maintaining a health IT start-up community within Philadelphia. The WDHC organized career treks to digital health companies and sponsors numerous events including analytics consulting projects and speaker events.

Visit website: **groups.wharton.upenn.edu/wdhc/about/**

Wharton Global Health Volunteers

Wharton Global Health Volunteers (WGHV) enables Wharton MBA students interested in health care to participate in global health projects in developing countries around the world. WGHV trips are student-organized and student-led.

Students work in teams of 3-6 with small non-profit organizations on the ground to tackle some of their most critical issues such as operations and financing. Projects typically take place for 10-14 days during winter, spring and summer breaks. Recent projects have included: developing a business education and health care entrepreneurship workshop for medical and pharmacy students in Tanzania, creating a marketing strategy to promote rehabilitative services in India, and developing strategies for creating operational efficiencies and increasing funding for a hospital in St. Lucia.

Some of WGHV's long-term partners include Aravind Eye Hospitals in India, the Association of Private Health Facilities in Tanzania, and St. Jude Hospital in St. Lucia. WGHV continues to reach out to partner organizations such as Médecins Sans Frontières to further broaden its footprint.

Visit website: **global.wharton.upenn.edu/organizations/wharton-global-health-volunteers/**

Wharton Health Care Management Alumni Association

Since its inception in 1971, the Wharton Health Care Management program has produced nearly 1,300 graduates who now represent all of the major sectors within the health care

industry. The Wharton Health Care Management Alumni Association was founded to enable alumni of the program to continue to participate in a variety of professional development, networking and community service activities across the country — and around the world.

Visit website: **www.whartonhealthcare.org**

Penn Biotech Group

PBG is a cross-disciplinary, graduate student run organization at the University of Pennsylvania focusing on addressing the challenges and obstacles facing the life sciences industry. The club draws members and expertise from graduate programs at Penn, including the Wharton School, the School of Engineering and Applied Sciences, the Law School and the School of Medicine, as well as the larger life sciences community of Southeastern Pennsylvania. Our multidisciplinary teams have worked successfully for both Fortune 500 and start-up companies, consulting on real life projects from Strategy to marketing, from Operations to IP.

Visit website: **pbgconsulting.org**

Conference Organizers

Co-Chairs

Content
Nikita Iyer
Natalie Pancer

Sponsorship
Hannah Bogardus
Shane Bouchard

Marketing
Shuaiqing Liu

Operations
Katherine Dunnigan
Richard Woo

The Pulse
Jason Peterson

Content

Emily Arfman
Ross Brown
James Buxton
Carlos Cuevas
Samuel Tang
Tiffany Fan
Tory Gentry
Radhika Gupta
Kyle Herman
Kenny Kasper
Gabby Manoff
Diana Mosquera
Dan Nahum
Liz Pecan
Christopher Ragsdale
Victoria Shih
Aaron Thomas
Hannah Williams
Merry Xiao

Marketing

Elizabeth George
Josh Ho
Jonathan Kern
Natalie Miller
Sandy Varatharajah

Sponsorship

Brett Baker
Haley Fitzpatrick
Austin Kipp
Chip Stine

Operations

Ben Berman
Esther Kim
Mallika Prasad
Nirali Sampat

The Pulse

Monica Adibe
Michele Dragoescu
Poorwa Godbole
May Li
Mosum Shah
Neha Srivastava
Vincent Yeh

Notes

Keep Connected Today and Through the Year

Join the **Wharton Health Care Business Conference** group.

Follow us **@WhartonHCC** for updates and tweet **#WHCBC2020**.

Visit us on Facebook (**whartonhcbc**).

Visit us on Instagram (**@whartonhealthcare**).

Visit **www.whcbc.org** and **www.whartonhealthcareclub.org** for more updates.

This full program is also available on our website:

www.whcbc.org

#WHCBC2020