Best of 2018

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Female: Welcome to Conversations on Health Care with Mark Masselli and Margaret Flinter, a show where we speak to the top thought leaders in health innovation, health policy, care delivery and the great minds who are shaping the health care of the future. This week Mark and Margaret take a look back at some of the best shows of 2018 and the amazing guest who joined us from Dr. Lloyd Minor Dean of Stanford School of Medicine and Dr. Steve Klasko CEO of Jefferson Health and the Jefferson School of Medicine both of whom talk about the need to recruit more creative thinkers in health care and training for team based approach to health care. Intermountain Health's Dr. Charles Sorenson talks about their integrated care delivery model, telemedicine and a leadership institute he directs. CareMore Health CEO Dr. Sachin Jain discusses the high tough approach they apply to their Medicaid and Medicare patients yielding much better results. Aetna President Karen Lynch discusses the merger with CVS. Microsoft's Noelle LaCharite talks about the future of voice and AI in health care. As always you can find us wherever you listen podcast or ask Alexa to play the program. Now, let's listen back to some of our favorite guest from 2018 on Conversations on Health Care.

Mark Masselli: Well, Margaret we made it through another interesting year here on Conversations on Health Care. 2018 has brought us some dramatic twist and turns, we've seen the big vertical mergers between entities like Aetna and CVS and the rise of tech innovation like CRISPR gene editing technology and so many other interesting trends are emerging, voice technology like Alexa has started to be explored as tools to address some of health care's biggest challenges. Some really terrific guest though this year Margaret.

Margaret Flinter: We've also seen a real growth this year in the development of coordinated care delivery models like CareMore Health and Cityblock Health. Systems that seem to have really get that they can leverage technology and team based approaches to bring care into the homes and really the lives of patients, so that's an approach I think we're going to hear a lot more about in the coming year.

Mark Masselli: Indeed, and there have been some really promising developments in genomics and in bioscience. One of the more fascinating stories to emerge in this past year is the rise of CRISPR technology targeted gene editing technique that is going to revolutionized the way we treat and prevent disease. CRISPR scientist Samuel Sternberg joined us earlier this year talking about the promising potential of this tool really just quite remarkable.

Samuel Sternberg: For so long we've been limited by relying on random mutation as a way of being, the work stuff at evolution. Now, tools like CRISPR scientist have the capability to go into the genome which is made up

of DNA and make pinpointed precession changes to that genetic material. That can really change the way that scientist think about treating disease in human patients in editing the DNA of plants and animals that we rely on for food and other kinds of industrial biotechnology. Already, we've seen a complete transformation of the way that biomedical research is being done because of the ability to now go into the genome and make changes of the way of designing better experiments and really virtually any sector of biological research can be now studied better with tools like CRISPR.

Margaret Flinter: Scientists have set their sights on another daunting task the Human Cell Atlas is a global scientific effort to map every single cell in the human body. Co-chair Aviv Regev joined us on the show, talking about the dramatic technological advances that are now allowing scientists to pick up where the Human Genome Project left off.

Aviv Regev: Just like the Human Genome Project was a project to find the genes which are one part of the periodic table of elements of the human body. The human Cell Atlas aims to find all the cells which are another set of elements of the human body, except that there are 37.2 trillion of them together with the huge size of the human body, I think really underscores how difficult this can be. Until recently, we could only really analyze multiple cells at once, maybe millions or tens of millions of them together. Now, we have new techniques that allow us to look at individual cells. You can think of it as new microscopes that allows us to look at cells. We can really take on this challenge of the trillions of cells that are different from each other and are organized throughout the body.

Mark Masselli: Her co-chair on the Human Cell Atlas Dr. Sarah Teichmann elaborated on the complexities of this process and how many disciplines are involved.

Dr. Sarah Teichmann: Single cell genomics is one of them and the excitement there is really the resolution revolution that's taking place in genomics where we can now study DNA and RNA nucleic acid in individual cells. That's an incredibly exciting and that resolution revolution is also going to the spatial level where we can study cells in their spatial context. The technologies are genome bio I would say technology developers.

Margaret Flinter: Speaking of advances in all of these areas Dr. Eric Topol of the Scripps Translational Institute joined us on the show again. Eric is a world renowned cardiologist, as well as an expert in genomics, and he is a personal medicine evangelist, I think we can say. His institution is providing vital support to the National Institutes of Health, all of us precision medicine initiative.

Dr. Eric Topol: It's called the Participants Center, which is all the participant facing technologies like their apps, the website, data going back to them that

they generate through their sensors or through their DNA. Also we're responsible for enrolling hundreds of thousands of participants. We have a lot of responsibility at this Participant Center, but moreover, it's to keep the engagement throughout decades ahead for each of the million and likely much more than a million people. We're going to be getting a lot of the folks who wanted a various sensors like we already started a pilot with blood pressure watches, trying to find out what is really promoting engagement along with useful data collection.

Mark Masselli: 2018 seems to have been the year of the vertical merger. Large industry players coming together to address cost and the inefficiency in health care. Pharmacy giant CVS acquiring insurance giant Aetna, Aetna President Karen Lynch joined us on the show and predicted mergers such as this are going to change how patients interface with their healthcare experience.

Karen Lynch: Clearly, this is a transformational merger and it gives us the opportunity to reshape the health care industry. The way I think about it for too long and far too often we've been practicing sick care, not health care. The potential of a CVS Aetna merger is really to organize around the consumer and around the consumer experience. CVS has over 10,000 stores across the United States, which means that 70% of Americans live within five miles of a CVS. How this will help facilitate improved access is really to understand that your zip code is more important than your genetic code, and what that means is your individual behaviors and your environment clearly have meaningful impact on health care costs. I want you to imagine a local CVS being an interactive hub where individuals can come in and learn more about their health care. They can have further assistance in navigating the overall health care systems where we might point people to different providers and point them to social services in their communities to address the social determinants of care. Our overall goal is to achieve affordable high quality care for the individuals that we serve.

Margaret Flinter: Technology is poised to have a big impact, Harvard Medical School's Chief Information Officer Dr. John Halamka talks about the enormous potential of artificial intelligence as well as genomics driven insights. But he also sees a huge untapped potential in developing telemedicine protocols throughout health care and advancing them.

John Halamka: I do 900 telemedicine consultations a year. I am credentialed by Harvard to practice telemedicine, telecare and malpractice insured. What do I do? I am the nation's expert on poisonous mushrooms and plants and so whenever a child or an adult has poisonous mushroom or plant problem, poison control gets involved. I get typically an image sent to my iPhone, here is the mushrooms, here is the symptom, and

then I will say, ah, that is this particular variety, and this is the solution and we treat the patient. But here's a challenge, I am licensed to practice in Massachusetts. What if I suggest that a medication needs to be given immediately, but I'm not licensed to practice in the state where the medication is given? This is where we just need to work on the regulatory framework. Can I use my Massachusetts licensure to ensure a medication is given in North Dakota? Well, at the moment, no. But think about it, at low cost in real time, you're getting to the nation's expert with the best advice and that is clearly something we want to do more of.

Mark Masselli: Margaret Dr. Halamka is also a big fan of the potential for Alexa's voice technology application for the future of health care demonstrating one of the skills he's creating at Harvard and Beth Israel Deaconess Medical Center in Boston.

John Halamka: Alexa, what is my care plan for today?

Alexa: Hmm, I'm not sure.

John Halamka: Well, here, you know, I must have been a little too close to the phone and the mic. We've done 30 Alexa skills such things as when's my next dose of medication? When will my doctor see me and they work really quite well. But Alexa at the moment isn't covered by a business associate agreement. Amazon does by the end of the year plan to have business associate agreement coverage, so you can actually transmit protected health care information over Alexa but huge potential for the technology.

Mark Masselli: Try Alexa one more time.

John Halamka: Sure. Alexa, ask BIDMC what's my care plan for today?

Alexa: Your care plan for today include at 8 AM, a blood test to measure glucose level and blood count. At 1:30 PM an X-ray, at 4:45 PM your doctor will be checking in.

John Halamka: Well, there you go.

Margaret Flinter: Mark that also speaks to the interesting work being done by yet and other outstanding guests that we've had on the show. Noelle LaCharite is the principal developer for Applied AI at Microsoft. After leading a team of developers building hundreds of voice skills for Alexa she sees enormous potential for machine learning to evolve dramatically in the health care arena.

Noelle LaCharite: The nice thing is you go to Alexa today and there are dozens of blueprints. I'm a huge fan of learning by doing, and so these code snippets are fully functional, right. They're not about the content, but all the code is there. I always encourage people, like, just go and --

you'd be shocked with zero technical skills if you know how to follow instructions. You could build a skill for the first time, publish it to 10 million Alexa users and have never built code before. Even Alexa today will even host your app, so you don't have to worry about infrastructure or how to do it. The most important thing today is thinking about how can you create content and create an experience on Alexa that your users will want. But another place to see speech and voice integrated with other technology kind of more holistically is in the AI school. There's this free online school called AI School at Microsoft.com and it infuses speech, we have skill development. All of these technologies kind of coming together to create scenario based applications. The blueprints you can do in an hour, these are more like eight our projects. But you end up with a portfolio of work that you can literally claim that you've built so it helps you refine your resume. Add these skills to your toolbox, and of course, I'm always trying to share all of this with Channel Nine on YouTube with the AI show, anything you can do to immerse yourself in this. You have a desire to build the technology is definitely available and ready for you to do it.

Mark Masselli: We loved her energy, enthusiasm and her knowledge for this space Margaret.

Margaret Flinter: Really insights, it's really advance the field.

Mark Masselli: Yeah, technology is great, but health care at its core is about interfacing with human beings. We've become really interested in innovative care models that focus not only on high tech but high touch as well. Dr. Sachin Jain is the CEO of CareMore Health, a health entity deploys teams of community workers, health coaches, traveling doctors and nurses to meet vulnerable patients where they are. They are really focusing on reducing hospitalization and chronically ill patients and improving the quality of their lives.

Sachin Jain: One of the key enablers of the CareMore model is the fact that the chassis on which we're built is not a fee for service chassis. We are built on, with a notion of full delegation of risk, meaning, we get paid a per member per month risk adjusted payment for the care of our patients. So, because we have a high level of loyalty, our patients don't leave us. Our average member stays with us for nine years. We're investing with the idea that long term, our patients will have fewer medical complication, the slower progression of disease. The average acute episode of illness when somebody in the hospital and cost 12 or $15,000, if you were to take that money and actually reinvest it in prevention, which is what we do, you get phenomenal outcomes and that's how we're able to provide transportation to our members because we know that that's one of the barriers to access to care. That's how we're able to provide post discharge meals for patients who don't have food at home. That's how we're able to

deliver a togetherness program, which focuses on providing social interaction and engagement for our most socially isolated members. Those are expensive interventions, but they're far less expensive than sending a patient to the hospital for an ICU admission.

Margaret Flinter: All of this reminds me of yet another guest. Iyah Room, the founder of Cityblock Health, which is a venture with Google's parent company Alphabet. He's building a tech enabled ecosystem that embeds deeply within urban communities where social determinants of health pose real challenges to good health outcomes and trying to empower whole household and perhaps hold neighborhoods to improve their health.

Iyah Romm: An average hospitalization which is going to shift a little bit market by market accounts for those sort of four hours of the community care worker, but also accounts for significant transportation or one of my favorites, which is two and a half years of food stamps for a family of four. We think about the opportunity for meaningful investment of those factors that underlie the health of the population. I think it's very clear that we have opportunity to reinvest. We believe that you can reduce emergency department spending and an inpatient hospital spending on the order of 35 to 40%. One thing that's worth noting about individuals who have significant health challenges, they are significantly more likely to be admitted from an emergency department into an inpatient setting. On the pharmacy side there are variety of pragmatic factors here that I think are really important to consider. We had a member recently who had recurrent emergency department utilization, who made really smart choices to access the emergency department at the end of every month to get a 30 day refill of insulin because they knew that the emergency department would ration that out at the end of every month. The reason for that is because they had a $350 copay on that insulin medication. Being able to find ways to intervene around the cost of pharmacy services drives recurrent and preventable emergency department spending I think it's really powerful.

Mark Masselli: All of this change in tech enabled care delivery means that the nation's teaching institutions have to rethink how they're training the next generation of health care professionals like Dr. Lloyd Minor, Dean of Stanford Medical School, who says they're taking a much more interdisciplinary approach to medical training.

Lloyd Minor: During the first two years of medical school, we basically follow the same calendar as the rest of the university. We have first and second year medical students taking courses in computer science and engineering, as well as in the humanities and social sciences. Medical students get combined degrees in law or in business as well as in more traditional scientific disciplines. Today, more than ever, the

need to train physicians to be valuable members of teams, I like to think of what we're moving into in health care as being high tech enabling high touch. I don't believe that health care professionals are going to be put out of business by high tech. No one elects to eliminate a primary care provider, but they also want the immediacy that virtual interactions and digital health provide today.

Margaret Flinter: We gained some similar insights Mark from Dr. Steve Klasko who is CEO of Jefferson Health which oversees the Jefferson School of Medicine. He says we must train the clinicians of tomorrow to be absolutely comfortable collaborating in teams, something that hasn't been traditionally done in medical schools, but of course, is part of the air we breathe here in community health.

Steve Klasko: We were the first medical school in the country that thought seeing humans would be a good idea. We had the first center for inner professional education. What we're doing here at Jefferson is from the first time that a medical student literally starts their studies. They are basically surrounded by nursing students and pharmacy students. Before we have a chance to teach them to be arrogant or quote, give orders. They're learning to be a teammate, so we believe that that makes a difference. What I hear from residency directors all over the country is that our students understand teamwork better. I think the combination of using simulation to create great teammates before we start to look at ourselves as captains of the ship, and to recognize that you're going to have to continue to get your technical and teamwork competence assess like pilots or folks in nuclear power plants makes a lot of sense. I think Jefferson's leading the way.

Margaret Flinter: We want to particularly call out the work of Dr. Don Warren. He is a physician and director of the program called Indians Into Medicine at the University of North Dakota, both recruiting Native Americans into medicine where they are very disproportionately not represented, but also doing research and educating people to the impact of history and historical trauma on the future health of generations really just doing terrific work.

Mark Masselli: Such important work.

Don Warren: As a nation we need to come to terms with the American Holocaust, the American Indian population was almost completely wiped out. If we are ever going to get to health equity, where we can actually raise health to appropriate status for every population, we have to contend with the truth. I see a reluctance to do that because it makes people feel bad. The truth is, there was deliberate attempt at genocide of American Indians. People may have heard of Amherst, Massachusetts or Amherst College. It's named after Lord Jeffrey Amherst who was a colonial governor, and he is the one who ordered the distribution of blankets from a smallpox hospital to the northeastern tribes with the

purpose of killing them. Our first documented case of bioterrorism is our own colonial government, but that's not in our history books. I think that what I see is that people blame the victims, you don't understand why we have such high rates of addiction or diabetes or cancer. Well from my perspective if you want to get to equity you have to walk through truth.

Margaret Flinter: This of course was the year that the Theranos Scandal broke wide open. Tech startup that claimed to be a revolutionizing diagnostic testing able to test for hundreds of diseases with just a small drop of blood, there are so much excitement about that. Wall Street Journal writer John Carreyrou conducted and in-depth investigation and found that not only were these false claims but the company was actually putting patients at risk for real harm.

John Carreyrou: She came to have this very powerful board of older men and that gave her credibility with the investors that con she targeted billionaires and billionaire families. Among them Rupert Murdoch who invested on in $25 million family and Betsy DeVos our current Education Secretary which put in 100 million. The heirs of Sam Walton put in a 150 million, so really that's how it unfolded. Then what's going on now, well, she's been charged with fraud by the SEC and she negotiated a settlement without admitting wrongdoing. But there's also criminal investigation spearheaded by the US Attorney's Office.

Mark Masselli: His exposure led to the shutdown of the company, which at one point was valued at $9 billion. Speaking of corporate greed in real harm the opioid crisis has exploded in recent years. Long time New York Time journalist Barry Meyer had been investigating the role of Purdue Pharma in the rise of the opioid crisis. The makers of the opioid pain killer, Oxycontin discovered the company lied about the drug's potential harm and helping set the opioid crisis in motion.

Barry Meyer: I think it's important to bear in mind that the FDA approval of Oxycontin the actual language that was used was that Oxycontin because it was a time release form or long acting form is believed to pose less abuse liability. That is believed was the language that was approved by the FDA that is it might be less prone. What Purdue did is basically took this unique claim, one that had never been given to any drug before and ran with it. What they did was they train their salespeople to basically go out and lie and tell health care professionals that it would produce less abuse and addiction. There was an internal decision made by this company to basically deceive doctors and lie to doctors.

Mark Masselli: His book Painkiller is a cautionary tale of what happened when drug manufacturers mislead the public.

Margaret Flinter: Speaking of writers, we had a delightful conversation with New York

Time science columnist Carl Zimmer whose terrific book She Has Her Mother's Laugh examines the history of heredity and how our growing understanding of genomics will only enhance our greater understanding not just of health, but of humanity.

Carl Zimmer: I do think that clinicians just really have to practically start over with their education because so much has changed so quickly. The patients are going to be coming to doctors with results they're getting from directed consumer services as customers, and they're going to say, look 23 means says I have this, what are you going to do about it?

Margaret Flinter: Yeah, they already are.

Carl Zimmer: Yeah, exactly. You need to learn how to talk about, for example, risk. There's a big difference between a mutation that guarantees you're going to get Huntington's disease and a mutation that's slightly on average increases the risk of heart disease. Clinicians are going to have to really get to understand lots of very common diseases are influenced by hundreds or thousands of different genes.

Mark Masselli: As we embark on 2019 our 10th year of doing the show we'll be keeping our eyes on the continuing emerging trends, the Affordable Care Act which is where we started Margaret with our show. We'll watch with interest as such things as telehealth and precision medicine approaches begin to take hold in the health care arena.

Margaret Flinter: If it's making news in the health care arena, particularly innovations and policy, technology and health care. You'll hear about it right here on Conversations on Health Care.

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Mark Masselli: You've been listening Conversations on Health Care, I'm Mark Masselli.

Margaret Flinter: And I'm Margaret Flinter.

Mark Masselli: Peace and health.

Female: Conversations on Health Care is recorded at WESU at Wesleyan University. Streaming live at chcradio.com, iTunes or ever you listen to podcasts. If you have comments, please email us at chcradio@chc1.com or find us on Facebook or Twitter. We love hearing from you. The show is brought to you by the Community Health Center.