TECHONOMYHEALTH

Health not Healthcare

Speakers:

Yonatan Adiri, Founder and CEO, Healthy.io

Esther Dyson, Executive Founder, Way to Wellville

Len Greer, President, Johnson & Johnson Health and Wellness Solutions

Christian Madsbjerg, Senior Partner, ReD Associates

Moderator:

David Kirkpatrick, Chief Techonomist

(Transcription by RA Fisher Ink)

Kirkpatrick: We're going to start with a big picture discussion about how technology plays a role, or doesn't play a role, in helping us all as a nation, as individuals, and as a planet be healthier.

Now, let me start by introducing the panelists. Yonatan Adiri is Israeli. He worked with Shimon Peres for many years as his chief technology officer when he was President of Israel. Now he's an entrepreneur, but he's very global and he's got a lot to say about things he learned as a government official, but also since he's been an entrepreneur, and he'll tell us a little bit about his company in a second.

Esther Dyson, many of you know, one of the great thinkers of technology on the planet, been around for a long time—along with me.

[LAUGHTER]

And I've been there the whole time pretty much, Esther. But Esther really has maintained a big picture about tech for many, many decades, and interestingly, is now focused very, very heavily on healthcare. So we'll hear her explain why she's taken healthcare as such a personal crusade, as you will learn.

Len Greer—all right, let me get the exact title of the group. Johnson & Johnson Health and Wellness Solutions. Just quickly describe what that is, Len.

Greer: We make those beautiful red folders that you have in front of you.

[LAUGHTER]

No, actually, we are a center of excellence of sorts at J&J, so our reason for being is really about putting behavior science and technology to work in all of the J&J businesses and for our strategic customers around the world.

Kirkpatrick: Great. And I'll come back to that in a second. Finally, Christian Madsbjerg of ReD Associates.

You are kind of a big picture strategist, but even like a corporate sociologist, is that a fair way of putting it? Just quickly describe how you think about what you do, Christian.

Madsbjerg: The sociologist piece is probably the most precise. So it's trying to understand people and our practices and our behaviors and how we find our way around in the world and use that to figure out what to make.

Kirkpatrick: And you spend a lot of time on healthcare, but also other industries.

Madsbjerg: I think half of the time is health.

Kirkpatrick: Yeah. Fantastic. I want to start asking you a couple of questions, Len, and then I think everyone else on the panel will have similar things to chime in on. We've been so excited to start working with Johnson & Johnson, which I have to admit, I did not realize how big and influential and—they are really the only global company that is valued comparably to Google and Facebook that's not a tech company. It's really amazing how big and important they are. And they're actually kind of a modest company. They just do great stuff. So we're happy to have them here explaining themselves a little more. But when you think about technology as a tool in healthcare, what do you think about?

Greer: Well, I think it's insufficient. There's lots of fun discussion about the application of technology—and actually, you said we're not defined as a tech company. Our leadership would increasingly say we are. So the application of technology in healthcare is really important. It has great potential. But I say it's insufficient because there's so many examples, and we were discussing some before the panel, so many examples of technology being thrown at problems and not getting the outcomes, health outcomes or financial outcomes that anyone is looking for, or engagement. And that's because a couple of key ingredients are often absent. One of them is person-centered design, really thoughtful design of tools that work in the reality of one's life as a consumer or patient. And the other is thoughtful behavior science. So when we put our tools to work, we're really focused on trying to drive healthy behaviors, getting people to take their medications, see their doctors, screen themselves, eat right, exercise, sleep, all of those things that we all know are really important but they're really hard to do. And our focus is figuring out what's really going to motivate people and using that as fuel for behavior change.

So to me and to us, it's really about getting all those ingredients right, knowing clinically what's important, knowing what behaviors are going to drive to the outcomes, designing something that makes a lot of sense and enabling it with technology.

Kirkpatrick: You even have a seven-minute workout that anybody can use.

Greer: Free app, download it now at the App Store.

Kirkpatrick: I only learned that this morning. I was thinking I should probably use that.

Greer: Yes. Yes. If you type Johnson & Johnson, when you get to H, it's the app right after Papa John's Pizza.

[LAUGHTER]

Kirkpatrick: Esther, did I detect that you had something to say?

Dyson: Yeah. And so as you were talking and saying I'm interested in healthcare, I'm actually interested in health. And I thought I would mention that, but then I realized, oh, that's the name of the panel.

Kirkpatrick: I might've forgotten that, though. Go ahead.

Dyson: But I mean, this is the point. It is so hard to change your thinking. And going back to the numbers, the reason is those other countries spend more money on health, not with nurses and hospitals, but with early childhood education. My aunt was an almoner; she took care of unmarried mums back in the 1950s and 1960s in England. And so as you were talking, I was also thinking one thing that makes healthcare ineffective is the lack of health. Because if you're addicted or you're so poor you can't buy good food or you don't have time to use the seven-minute workout, that's what makes all this care, most of it so futile. Because what we need to do is start investing in health, not renting it, so that later on, when something challenges you, you don't need to buy your healthcare at extremely inflated prices and nonetheless ineffective, because—

Kirkpatrick: To solve problems that you in effect created by not focusing on other things—

Dyson: Yeah. I mean, the lack of health makes you vulnerable to all these other things, and it makes you also not able to do the kind of healthy living we all know we should do.

Kirkpatrick: Before we—I'm sure Christian and Yonatan both have thoughts on that, but quickly talk about what you are doing, because I think people should know that.

Dyson: Yeah. So I'm helping—a team of five, we're called Way to Wellville, as in *The Road to Wellville*, the book by T. Coraghessan Boyle. We're helping five small godforsaken, discrete, confined US communities invest in health, and our goal is not so much to help those communities but to have those communities become role models for other communities to say if those guys is Muskegon could do it, so can we.

Kirkpatrick: What are the five communities? Muskegon, [Michigan], Spartanburg, South Carolina—what are the other three?

Dyson: Lake County, California, just north of Napa Valley; Clatsop County, Oregon, northwest of Portland; and north Hartford, Connecticut, which does not fit our model because it's a subset of Hartford. But the idea is, rather than kind of pour resources into something large and they just dissipate, we're doing it in places where if you make a change, it will spread through the community because you get the critical density that's so lacking.

Kirkpatrick: Let me just cut to the chase in terms of your revelations from this. Because I know you started thinking we've just got to get people to smoke less and eat better so they don't get diabetes and that was your main kind of thinking. But what have you learned as you've tried to achieve that goal?

Dyson: So regardless of what I thought before, I've become much, much smarter. And fundamentally, if we don't fix the children, nothing's going to last. That includes the parents who transmit not just their genes, but their demons and their challenges to the kids. What we're trying to do is help create a generation of resilient kids. That starts with prenatal care, early childhood education, good food.

The amount—who's heard of adverse childhood experiences? It's a scale and it goes from one to ten. Do you have one or both parents missing? Were you physically abused? Were you often hungry? Was somebody in your family on drugs, in jail? It does not include were you mistreated because of racism or discrimination, which it should. But it's a chart just like the one you showed. Whatever it is, if you had more than one ACE score up to ten, everything else, jail, teen pregnancy, diabetes, mental illness, addiction—

Kirkpatrick: Smoking.

Dyson: Smoking. Yeah, I used to—

Kirkpatrick: They're all correlated with—

Dyson: Right. I used to see smokers and think, oh, what a disgusting person, and now I think, oh, what a damaged person. Because they can't—they can't stop it. And smoking is one of the most minor of all these things in many ways. So now we're focused on addiction, mental health, parents, children—there's a lot of money being spent on old people, and you can talk about that, and there's a big return. But for the systemic change, you should be investing in the young—

Kirkpatrick: Last thing I want to point out, Esther's spending her own money on this. This is really quite a commitment, so thank you for that.

[APPLAUSE]

Dyson: It's not out of kindness. It's out of frustration at the stupidity of how it works.

Kirkpatrick: Well, it's nice that you care enough. Christian, why don't you chime in.

Madsbjerg: Well, the stupidity is a good place to start. I think the pharmaceutical industry and the healthcare industry seems to be very—there's not very much infused technology in that industry. I was at a dentist the other day and I took a picture of the folders on the wall. They still exist.

Dyson: But they haven't been opened in ten years.

Madsbjerg: Right. They're beautiful. I mean, it looks beautiful and organized, but it seems absurd. And also, when you think about the way we sell pharmaceutical products, it is basically people sitting in cars getting kicked out of doctor's offices just systematically. And in the tens of thousands. And we have very little understanding of what happens when people get in good routines, how they sustain routines, how they get into control with their own life. And I think it's sort of exciting that the big areas, like education, healing, banking, those kinds of big societal areas are now being digitized. Where the first 15 years was about playing and uploading pictures and so on, now it's the real deal and I think that's the most exciting thing. And we're dealing with a very, very low level right now, very few things instrumented, very little data, very little real understanding of how to use this. So I think it's quite exciting times.

Kirkpatrick: So when you hear Len talk about a design-centric approach—I noticed you were nodding at that. I mean, is that another way of describing what you're saying?

Madsbjerg: Yeah, a human-centered one, right? So if you think about what we've done to education the past 20 years, there's been this conversation in at least Western Europe, where I'm from, and probably also in America, that we need to infuse the schools with more screens and more computers. Yet, the impact of that, because we've done it in such a dumb way, so to just dump machines and technology on kids without thinking about how they learn and so on. It means that the impact on—the more computers a country has implemented, the worse they're doing in math. Which is really remarkable. And it's because we've done it without thinking. And I think if we do that with health, we're really screwing it up.

So basically, what I think is that at the heart of it must be how are we living, healing in our lives, and around that you build technology, rather than start with the technology and just throw it at the system.

Kirkpatrick: Okay, and I should've said, when I introduced Christian, that we're giving out his really excellent book called *Sensemaking* here, which is really a passionate plea for humanities and the liberal arts in our approach toward everything and not just thinking we've got to all digitize ourselves and solve everything. It's a beautifully well-written book and I've been very much enjoying it.

Yonatan, what have you got to say? I know it'll be interesting. Because I know you.

Adiri: [laughs] So I guess I'll just spend a couple of minutes on the personal story that brought me into the entrepreneurial world and healthcare, as I've spent a good 12 years in the public service, culminating in a role of CTO to the president of Israel. And when I came into the Office of the President, President Peres, who was the founding father of Israel and a very known tech evangelist in his own right, I was 26 and he was 86 and he gave me one mission when it had to do with healthcare.

He said, "What are the forces that are going to generate the penicillin moment of the twenty-first century?" That was the framing of my role of my focus in healthcare. And we went out and I spent quite a number of years focused on stem cell research and on immunotherapy and on bioinformatics and nanotechnology, asking questions, is Israel competitive enough, are we going to be part of this global revolution? And understanding the forces at play that would bring this moment—exponential growth in computation, amazing material science and all those—I got to understand that this is sort of happening and it is important for Israel to be competitive there, but one of the things we were sort of neglecting, and to your point, Christian, is something that we call today—the company at Healthy.io, we call it Kardashianomics. It's these economics of Kim Kardashian-type pop culture where a growing number of people are sharing pictures of themselves and we sort of making fun of that, but that is an amazing power in healthcare. And it's not just exponential growth and nanotech and genetics.

It is actually the power of pop culture that we can harness in order to generate healthcare solutions. And looking at the numbers that you just showed from the magazine, the three trillion-dollar expenditure on healthcare in the US is effectively 3,000 one billion-dollar opportunities for an entrepreneur. And that's how we saw it. And it doesn't mean that you have to solve for, you know, cancer via immunotherapy and then that's a number of billions of dollars and tens of years. If you can harness the Kardashianomics, if you can harness the fact that today on WhatsApp, four billion, with a B, images are uploaded every day—four billion. That is a power that makes smartphone companies, be it Apple, Samsung, LG and others, make amazing smartphone cameras to serve those teens who want to share pictures every day. We looked at that at Healthy.io when I started the company and said can we transform—can we ride that wave? Can we transform the embedded smartphone camera into a clinical-grade scanner? And today, four years later, we are actually the first company in the world to have successfully gone through clinical trials in transforming an embedded smartphone camera, which is today used for selfies, into a clinical-grade scanner. We are serving the NHS in England for multiple sclerosis patients and we are now accessing the market for prenatal care and providing access in areas where people cannot access the system.

Point being, to make a change in healthcare, there is a big move, billions of dollars, tens of years, that's going to generate a penicillin moment, for sure. But it doesn't mean that in that let's say 20-year window, we cannot harness those forces that we sometimes joke about and think are useless and turn them, transform them into very valuable healthcare technologies. And I'm very happy that I made a decision to transition from the public service to spend time in the

trenches of the entrepreneurship in this amazing era because these forces are really powerful and they can make a difference.

Greer: Can I just make a comment quickly on that? I think that's a terrific example of—like MS as the application is—so assuming the clinical intelligence wrapped around the condition is there, you're talking about like patient behavior that might otherwise, consumer behavior that might otherwise have you scratching your head. So rather than scratch your head and laugh at it, let's leverage it. Application of technology in something that's designed around the person getting results, I think that's a great example.

Adiri: And solving small problems at scale makes a big difference. I mean, we're taking MS patients and giving them an opportunity to check for urinary tract infections, a simple thing, but scanning that at home rather than going to the hospital. Five out of every hundred in the UK end up in the hospital with fever and fear of sepsis just because it took them three or four days to get to the lab. So you know, are we focused on a small problem? We think we're focused on an important problem that, with little money and innovation, that adheres to the clinical standard, if it scales—and we're seeing that scaling right now—can make a big difference. And if you tackle those one at a time, you're making a big difference and you're also making a profit for the company. This is a for-profit activity in the startup domain, obviously.

Kirkpatrick: Okay, I want to do three things. I want to talk a little more about where we are. I want to talk quite a bit about how optimistic we can and should be about technology's ability to make a change, but I also want to hear from you all. So keep in mind that we want to get your questions and comments very shortly.

But Len, I just wanted to mention, you were sort of feeling a little jealous of Google and Facebook before when I said you're comparable to them in some critical financial ways. I don't think you should be feeling too bad that you're not like them.

Greer: I don't feel bad at all.

Kirkpatrick: Because I think what's happening right now in society is that those companies are very rapidly shifting their image to be negative on a macro level—particularly Facebook, much as I often have been accused of loving it. I do sort of, but it's in a very difficult spot because this attentiveness that Yonatan has taken advantage of has a toxicity to it that is increasingly noticed by all of us, even at the individual level, and I think societally too. And I want to hear Christian on this, because I know this is right up your alley, but anybody here could talk about it.

This also is going to come up when Arianna Huffington is on a little later this morning, you know, both a believer in tech, but one of the main reasons she's doing what she's doing now, focusing on wellness and mindfulness and all that, is because she is so worried about the world we are now going into with the screen in front of our face no matter what we do. It's lucky for me that I'm not holding it right now. I could easily—a lot of moderators would be doing this right now too. Anyway, any comments?

Adiri: So the two companies, Google and Facebook, if you think about what's core about each of them, you know, Google, think analytics. So the application of analytics, machine learning, artificial intelligence in healthcare, huge opportunity, lots of companies in and around us here who are exploring that. Facebook, these behaviors, you sort of wonder why does someone really care what all of these people think and what they're doing and why do they post this or that. Well, rather than question it, it's an opportunity to really leverage it as a platform that people are using in their daily lives today to drive health outcomes, drive healthy behaviors.

Kirkpatrick: Yeah, there's huge opportunity to do it right.

Adiri: Yeah. So we welcome them.

Kirkpatrick: Yeah. Well, you can work with them, absolutely. And I'm sure you are working with them.

Adiri: I think the shining example that we had a conversation about earlier is an interesting indication of that, when you look at Tencent, which is the Facebook equivalent, and WeChat as their main product, I think they realize—and to an extent it's because there is no legacy healthcare system in China so they can actually think of themselves as a healthcare provider to an extent. When you look at Tencent, about a year and a half ago, they launched their own glucometer. A piece of hardware. Imagine that you would buy a glucometer from Facebook, branded Facebook. So in China, that actually works. Tencent sells their own glucometer and what they do is they actually—when you open the glucometer by Tencent, it opens up your WeChat account and it basically says these are the five people with whom you're most in touch with, so we recommend that whenever you check for glucose on our device, we will beam that data to the five people with whom you're most in touch with, and basically leveraging their social network into a digital support system for them to adhere to glucometry. And I think as you see that happening in China, there's a reason you see also Alibaba doing great things there, you see Baidu doing great things in that domain. I think there's a dimension of, you know, maybe Facebook isn't going there because they don't want to get into the whole legacy business and conversation here in the US around healthcare, whereas in China, because there is nothing there, those companies feel it to be very legitimate, both in terms of a business opportunity, but also as a force of good—

Kirkpatrick: Well, plus the government really wants the people to be healthier.

Adiri: Exactly. Wants them to, yeah.

Kirkpatrick: And they've pushed them.

Dyson: So when I started this, you know, I knew addiction existed, and people started talking about Internet addiction and stuff like that and I thought, yeah, right. The more I've studied this—there's a wonderful book by Maia Szalavitz called *Unbroken Brain* and a second one called *The Biology of Desire* by Marc Lewis. You learn this behavior and if life is insecure, you start going after instant gratification, whether it's drugs or cigarettes or images of cats of images

of people you don't know or the rush you get when someone comments on your post, and there's nothing inherently wrong with those pleasures but it's when they start replacing all the other pleasures and you get so focused on them to the exclusion of everything else. So the point is to think about addictive behavior, and we're now talking about substance abuse and that's one of those horrible terms that really kind of shifts the focus in the wrong direction. So I won't go off on a long rant about that. The point is not to demonize the phones and stuff but to figure out how to help people learn to become addicted to what biologically and evolutionarily used to be addictive, which is babies, the person you love, food, not too much of it, stuff like that. Everything is being kind of twisted. But the problem is not even the system. It's our own biology and how do we, again, help raise children who are addicted to the right things, get pleasure from things that are good for them long term?

Second point then vis-à-vis technology, what we're doing is—you know, apps for diabetes prevention or MS or almost anything are really great. But what they need in addition is an overlay of people training you how to use them. And so in our communities, fundamentally the biggest business model for what we hope they will do is bring in outside trainers to train people to deliver all these different kinds of care, including football coaching for kids after school or diabetes education in cooking classes for people maybe sponsored by the grocery store. But if a third of the people in these communities are employed keeping the other two-thirds healthy, that helps solve this, you know, "robots are going to take all our jobs." Well, there are a lot of jobs people can and should do but they're not being paid to do them. And that's the biggest challenge, how do we get the externalities back into our system and pay care workers more because what they deliver is the community's health.

Kirkpatrick: Christian, what do you think about that?

Madsbjerg: I like it.

[LAUGHTER]

I was also thinking about Len—I mean, I would be very proud of being in Johnson & Johnson rather than Google.

Greer: I am.

[LAUGHTER]

Madsbjerg: Google and Facebook are ad placement companies. At the core, they're placing ads and we take the smartest kids in our generation and we use them for placing ads. I just don't find that—I mean, by all means, we need to place ads. But it's not the most exciting topic I can find.

The other thing is, I heard about a project the other day in India which I found illuminating. So basically, there were these engineers, they were frustrated that a lot of kids die when they have open heart surgery. About 40% of the kids die when they have open heart surgery, not when

they have the surgery, but after in the intensive care unit. And the reason they found was that it takes 90 minutes to make a decision because the doctor is somewhere else and they have to go find him and he needs to put a hat on and a coat on and so on to get into the intensive care unit. And then they digitized the entire thing based on how to get decision making on which intervention you want to make down to below a minute and they saved a ton of kids and now they're scaling it all over India. That's an insight that isn't very technologically advanced. It is technology-based, but it's based on an insight about how human practices work and you can radically change something. And I think that's what ought to be at the heart of innovation. I think it's very much what you say, one at a time.

Kirkpatrick: So even though you just wrote a book, which is good, about humanities, you seem to be extremely optimistic about the potential for technology to transform healthcare in the US and globally. Is that a summary statement that's fair?

Madsbjerg: I just hope we don't screw it up.

Kirkpatrick: How would we screw it up?

Madsbjerg: Doing what we normally do. Like what have we done to IOT, we've just blasted stupid objects out of the homes that are not connected and are not working.

Kirkpatrick: Not secure you mean, yeah.

Madsbjerg: Well, they're not using them. So Alexa has a three-week lifespan. They play around with it and it ends up in the graveyard. So basically, I saw this stat yesterday that 26% of high bandwidth homes have some sort of IOT device and most of those are not connected. Which means we've been talking for ten years about the smart home, yet we're just dumping technology on people rather than figuring out what would be helpful in the home.

So I think if we reverse the model from human and out rather than technology and in, I think we can do massive important things.

Adiri: Just maybe a quick point, I think in this context, what we found is that the regulatory bodies, for instance in Germany and also the FDA here in the US, are actually very conducive to that. They're asking that question: you're bringing in a new technology, how do you demonstrate usability of that technology, how do you show that people from the age of 18 to 80 don't make mistakes when they actually employ that technology. How do you show that it's simple enough—it's not an app, it's an app with a kid. I mean, it's not just using it. And I think that is a very important development, and comparing four years ago, discussions we had with the regulatory bodies and where we are today, there has been a major shift there which I think is a positive shift and it's something we should be talking about and encouraging. Because it's not enough to have a tech running and show that this algorithm is better. You need to show, as part of your clinical trial, that a person getting that at home can get to a high level of usability within the right age groups and so we're not generating again a set of technologies that are going to benefit 12% of humanity who can pay for them. And the regulators are a big part of that.

Kirkpatrick: Okay. I still want to go at the macro question of should we be optimistic that technology is going to make a fundamental difference. I just am curious, Len, on your point of view.

Greer: Well, as I said before, not on its own. So these examples, like your first example of the medical records in the doctor's offices is terrific. As an industry, we threw technology at that, created electronic medical records and trapped all of this data in systems that we'd like to be able to use for other purposes but we cannot.

Kirkpatrick: Run by one company, Epic.

Greer: There's a lot of work now to figure out, okay, how do we actually liberate that and make use of it because of the initial misstep in just the approach that was used. But I'm really optimistic about the application of technology, if done in the way that we describe. I see Neil Grimmer from Habit in the audience, as an example. What they're doing at Habit, applying design science around nutrition with behavior change mechanisms built-in, I think that has great promise. Yes, there are apps and apps and companies and companies that will fail, but I think if you follow this formula that we're talking about, you're more likely to get to the outcomes—

Kirkpatrick: Okay, I have one question for Esther and then I want to hear from the audience. Christian, you're pretty negative on this ad-based model and I've got to say, even though I said I do think sentiment is shifting towards Facebook and Google, etcetera, but I also am frequently in the position of debating with people about this and reminding them that, you know, but full really do benefit from and enjoy the connection with others they get, particularly on Facebook, which is a transformative societal evolutionary event. And Esther, given you are the person who came from the PC industry and you're now here in the modern age—

[LAUGHTER]

No, I don't mean to keep saying you're old. I'm not. But you are a tech person through and through, right? You've been a tech person longer than anybody on this panel. And so your macro view—I'd just like to get you a little more nuanced on this issue of, especially given the weight of these platforms in our lives, optimism or pessimism on the long-term health, not healthcare, implications.

Dyson: Right. So I'm very old and very wise.

[LAUGHTER]

Fundamentally, it's like—so, confession, I just invested in a company called Dopamine, Because I want to be there and help use it for good. And I would say that about everything. The political impact of Facebook in particular on helping people tell their own stories rather than have the government tell those stories, you know, that has changed the world forever in a potentially positive way. Now they need to follow up and build real governance instead of descending into populism. But anything is all so bad if overused. I mean, a nice scotch every

once in a while is great. Becoming addicted to scotch is bad. So the challenge is—I'm optimistic if we do our jobs. It's not the technology, it's what we do with it. And that's almost too simple. You know, it's an elusive answer.

Kirkpatrick: Well, the problem is in the United States, if you say we, you mean the government, and I don't think too many of us are that optimistic about its capabilities at the moment. I don't mean Trump, I mean generally long-term. It's just not really engaging with these issues. Even Obama, I mean basically, we've been relinquishing responsibility for a lot of big policy decisions.

Dyson: Right. There's that or there's what I call the non-inclusive we, which is when my nice rich, white West or East Coast friends say, "We're all devastated by the election." No, not all of us were. There's a lot of people out there—anyway—

Kirkpatrick: Who are—yeah, angry for a good reason. Yeah.

Dyson: Angry for a good reason that we ignored and Trump understood was out there. So the challenge is for us to become more of a we, and to make social decisions—the way I would say it to somebody who didn't agree with a lot of what I think is, if you don't pay for it now, you're going to be paying a lot more for it later. And so as a society we need to start investing in long term, whether it's bridges at Penn Station, airports, tunnels. Or the most important infrastructure, forget what happens to the environment, if human bodies and minds aren't in a state to enjoy a good environment, it's useless. So let's invest in the fundamental infrastructure inside people's heads and bodies. It's hard because we don't—in a sense, the biggest thing tech can do for us is enable us to see the externalities of what we're buying. So you go back to ads and attribution. Well, this thing full of sugar that people eat, what are the long-term costs of it, not just in diabetes and diabetes dare, but in lost productivity and human unhappiness.

Kirkpatrick: And there, data could really help us visualize some of that.

Dyson: Precisely. And I mean to some extent, with Way to Wellville, we're going to be doing a lot of data about these five communities—and in a sense, the control group is the rest of the US—but looking at the predicted outcome versus the actual outcome and then paying somebody back for their early investment in improving the outcome.

Kirkpatrick: Good. Who has a comment or a question?

Sprinzen: Marty Sprinzen, a company called Vantiq in Silicon Valley. I would argue that one of the problems—and to some degree this question is to Christian, but to all of you—is that humans are not being thought of as being involved in the loop. Like your example about those doctors in India, the software probably senses a lot of what goes on. It's actually reported. But the communication doesn't occur effectively. And I think part of the reason is the tools aren't available—admittedly, that's kind of a self-serving remark because that's what we do. But in addition to that, the orientation in Silicon Valley is more around automation and not getting people in the loop. And there's a recent book that came out called "The Fuzzy and the Techie" that describes this to a large degree.

Kirkpatrick: I think the author is in the room, actually. We have an article by him in our magazine. And Christian's book is very parallel. Go on.

Sprinzen: Okay, great. So I think that there has to be a change in orientation on the part of the builders of software, the actual implementers in organizations, and also the software products that are coming out that get people in the loop. Because, just quickly, it used to be we automated systems of record like CRM and HR and stuff. Now we're automating everything and this orientation towards people is an absolute must and it's not there yet. I'd love to hear comments from the panelists on that.

Madsbjerg: I think, you know, if you take a completely different area like driverless cars, which is something everybody says they have but nobody really has yet, the use case of that for people is a man sitting like this. I don't know how exciting that is.

[LAUGHTER]

But it seems like it's so exciting that we can do this, yet we don't think about what then? I mean, what then to do in that situation? And it seems like, oh, okay, you can get your time back. Okay, but how? So it seems like there's very little thought about the human component and I think we will fail without that component. And we might think that we can automate the hospitals, and we can do things that are smarter in the hospitals, but thinking that we'll take out the doctor and the nurse completely—we can maybe also just take out the patient completely, shouldn't we? I mean, it's just not a thoughtful way of doing it. And I think "The Fuzzy and the Techie" might be a good metaphor for we need both. We need people that can think about technology and analytics and so on and we need people that understand the practices, behaviors, emotions, routines of normal people. And without both those components, we will fail again, like we did in education and in IOT.

Greer: Yeah, in the healthcare application, I mean we've spent decades presenting patients with, you know, you should do this and do that. Here's exactly what to do and when to do it, and we act surprised when they don't do it. And that's because of in part what you're describing, a lack of the human element. It needs to be designed in up front.

Adiri: There's also a dimension that I think has to be mentioned, that when you go to raise capital—and I think it's not by chance that it has to do a bit with Silicon Valley. When you come to a VC and you say, "I'm going to focus on wound care management and minimizing the nurse time from six minutes to three so she can spend time with the patient," that's not sexy. That's not scalable, because you're keeping a human being in the equation and today's funds don't like that. They want to hear the story that you just said. And we've been very adamant about that and we ended up with private investors and we're very happy with that and we're scaling with private investors. I think there's an issue to go back to in terms of what is the story we celebrate. Also as a media, what are the framing points that we sort of celebrate when entrepreneurs share their narrative? Are we happy? Do we support a narrative that says I'm just going to solve the small problem because it impacts people and if it scales it's going to make a big difference.

I'm not going to kick the human out. Or do we want autonomy, full autonomy, no doctors, we're pushing for—what is it going to do to jobs and we like that conversation. That breeds a certain type of entrepreneurial narrative. And then the funds on the other end finance that and then you get into that loop. And we've been very adamant, sort of going against that, saying you need doctors in the center. We want to use the time to allow for a nurse to spend more time with the patient for empathy, basically.

Kirkpatrick: I just thought of something. You know this obsession in Silicon Valley with universal basic income, it actually in itself, just the fact they're talking about that reinforces the human-free narrative in the product design that those same people are engaged in. I never thought of that before.

Adiri: Yes.

Dyson: Just two very brief things. I would like to see something that I would call closer to universal basic vouchers, and it's kind of like the double dollars on your food stamps. You can spend it on prenatal care, on childcare, as opposed to child storage. You can spend it on football coaches. But you spend it on humans and it doubles whatever the employer pays.

Second, all I can do on the actual question is quote Abraham Verghese, who wrote a wonderful book called "Cutting for Stone," in which the medical professor asks what medical care is best delivered through the ear. And the answer is words of comfort.

Kirkpatrick: Yeah. Okay, who's got another comment or question?

Drapin: Hi, Esther. This is Lois Drapin. So I've been thinking a lot about some of the humanity in the choice of conversation that we have. In the beginning, as Esther knows, I've been very involved with adverse childhood experiences in the past few years, and recently, I was involved in something you've been reading about in the "Washington Post" with loneliness and isolation with AARP and others. So here we have the beginning of our lives and here, although loneliness and isolation can be with people with chronic diseases and caregivers, they've concentrated now with care more because it's a Medicare component, it's older people such as ourselves. And I'm actually getting to the question of what is in our culture in America that we can't talk about ourselves and why do we expect the system to understand us when we may not be able to express ourselves in a way for us to be heard? So the thing about adverse childhood experiences which is so fascinating is, when they are addressed, they stop the generational continuation of adverse childhood experiences. So it's sort of like pre-R&D, if you think about a business enterprise, right? And I've really been struggling with this. The AARP panel at the Art and Healing Foundation virtual film festival, if anybody wants to see it, it's www.artandhealing.org. It'll be on for a year. But you'll see some really wonderful films on loneliness and isolation and how it impacts caregivers, veterans, etcetera. But seriously, there's something in our culture, and it may not be in other places of the world, that we are not addressing. And it's not about the system. It's not about technology. It's about something in us.

Kirkpatrick: We agree with that. I'm going to treat that as a comment because I want to go to something—wait until you hear what JPMorgan Chase is doing at noon. You'll see there is a shift happening if a company with 150,000 employees is doing some of the stuff they're doing. So we've only got one minute left, so we're going to have to go real fast.

Kay: Gary Kaye with Tech50+. We spend a lot of time looking at connected healthcare. And to use a really bad football metaphor, what I see is that there are a lot of quarterbacks and very few wide receivers. We've got a lot of data going out there, we don't have nearly the capability of monitoring it. How do we start balancing this when there doesn't seem to be any money in receiving that data, only in making the gadgets that put it out there?

Greer: Well, I think there's actually quite a lot of money in making use of the data to get to better health outcomes. Like for our customers beyond the consumer, health systems, health insurers, retailers, they're all driving toward health outcomes because there are a lot of incentives wrapped around them and that means dollars. So if you can—I was talking earlier about liberating the data that's locked up in these electronic medical records. If you can make use of it, apply algorithms, predict where there are going to be issues and intervene with thoughtful solutions, I think there's a lot of money to be saved.

Dyson: And it's not just things like cancer data and all the onics. It's also precision medicine focused on people's habits, people's—you know, can you motivate them to take their drugs because they're going to be a better patient than the other guy, can you motivate them to take their drugs because they can go to their kid's graduation? What is it that motivates people to do the right thing?

Kirkpatrick: Well, I have to say, I'm very happy with this panel and the way it played out. Because it's actually—you know, we talked about tech, but we also really stepped back and talked about the real situation that I think our country and our world is in, which is why I'm so happy this particular group was able to join us to do that. So thank you, all four of you.

[APPLAUSE]