EVERY MIND MATTERS: EMBEDDING BRAIN HEALTH INTO EVERYDAY LIFE

Brock E.W. Turner 00:13

Good morning, good evening, afternoon, everyone. I'm Brock Turner from Axios, and super excited to welcome this great panel here, and thank you all for coming. So I guess I just wanted to have you all introduce yourselves and talk about what brain health and mental health means to you and your organization.

Vikram Bhaskaran 00:32

Sure—hi everyone. My name is Vikram. I'm the CEO and co-founder of a company called Roon. Roon is, so my personal story is, I was at Pinterest for many years. For close to a decade, we built this amazing social platform, 600 million people use it around the world. My dad had ALS, that kind of turned my life upside down. I was a caregiver for him in India. And the initial version of the company we built was, can we give anyone in the world access to world experts, a doctor in your pocket that combines the best expertise in medicine with an empathetic, navigating, guiding service in your pocket. So that's what Roon was, and in the second version of the service which we're building now is we're trying to build a global network for science and medicine. I just feel that today, science is under siege, and doctors used to be on places like MedTwitter and Bluesky, but we have no global hub for science and medicine, and so we're running a really interesting social experiment to see what happens if we connect every doctor, every scientist, on a single platform and can in an AI-native way, and that's the experiment we're running. So super excited to be here.

Steve Carnevale 01:47

I'm Steve Carnevale. I wear hats in all four sectors. I have a venture firm that's focused on the flourishing brain. It's a social impact venture fund. So we have a foundation, which is initially launched at Penn State

University, around the talent pipeline going into the workforce. I sit on the California Mental Health Commission, so we oversee a $12 billion budget related to that. And I'm also—I started the UCSF Dyslexia Center, which brings neuroscience to education. So I'm steeped in the neuroscience work that's deep in the brain, root cause stuff, and that happens to be a derivative of the Memory and Aging Center. So a lot of that really comes out of the aging disease world.

Cedric Gousseau 02:35

Hey everyone, I'm Cedric. I'm one of the co-founders of BetterBrain, and we're a consumer health platform to help people both reduce their risk of dementia and perform at their best. So this has been a very personal journey for me. I in 2018 me, and along with my whole family, did a 23andMe test for Christmas, and we found out all at the same time that basically we all have either one or two copies of this gene called APOE4, which many of you are probably familiar with, gives you about a three to 10x risk increase for developing Alzheimer's dementia one day. And so that was very stressful to find out, and led me down this path of learning as much as I could about the science of what can you do to prevent and found out there's actually a ton, and it's very good news to learn. And so I've been helping myself and my family implement this stuff for seven, eight years, and now we're trying to do this at scale with this company.

Nancy Oriol 03:29

I'm Dr. Nancy Oriol. I'm an anesthesiologist, and I for 20 years, I was practicing in the operating room, and during that time, I would see patients who had problems that I knew we would never solve inside the hospital. And as an anesthesiologist, not trained in public health, I knew the problems were before people came to the hospital, so I went out into the community, within walking distance of where I went to medical school, the Harvard Medical School and the Beth Israel Hospital. And in our community, we had infant mortality rates some of the worst in the country, and working with people in the community, what you know, what can we do? And the idea is, we had to bring resources to the people in the community. So we started a mobile clinic called the Family Van, which is 33 years old, and doing this one mobile clinic in Boston, discovered there were thousands across the country, each one of us doing our own thing, each one of us on the street talking to the man on the street, and each one of us seeing how brain health impacts our patients. And what's really neat is, for years, we've always talked about cardiometabolic health, and so we've always been talking about all of the lifestyles, because that's what we can do on the street, is talk to people. Now we're connecting that to brain health, and it's, it's actually a miraculous moment, people want to hear about it, and that's the word from the people on the street. Thank you.

David Stark 04:59

Can I date you? [audience laughs] Yeah, so I was a Harvard Medical student when Nancy, Dr. Oriol, was dean of students. So it's great to be with you again. I'm Dave Stark. I'm chief medical officer at Citadel and Citadel Securities. My responsibility is the health and well-being of Citadel's workforce, including our strategy to ensure peak health to drive performance and business outcomes. Briefly, my background in

three chapters. Chapter one, I'm a neurologist, pediatric neurologist by training. Chapter two, pivoted to biomedical informatics, or biomedical data science, using data to drive decisions across the health-care continuum, from molecules to people to systems. And that led me, first at Stanford, to work involving how do we measure what we call brain health, and then subsequently, at Mount Sinai, had the opportunity to build a pretty unique clinical platform focused on measuring health and then driving behavior and lifestyle interventions to optimize health. That led to my third chapter at Morgan Stanley, where I was the chief medical officer for seven years, in a similar role, but much broader, 80,000 employees, 40 countries. How do we impact health and well-being of the workforce? Again, with major business imperatives, Brock, you asked a two-part question. You asked about brain health. So I'm going to go ahead and take a stab at that one. Brain health I think of as the agglomeration of mental health, psychiatric health, developmental health, behavioral health, but it's more than just the sum of all of those, because when we talk about those individually, we're usually talking about health versus disease, whereas, when I think of brain health, I think of it as a continuum, right? We're all along this continuum, and whether some of us, maybe one in four or one in five of us, will be diagnosed with a mental health disorder at one point in our lives. You know, many more might have a behavioral health or substance use disorder or neurological health disorder, we all have brain health, and we're all trying to exist somewhere along that continuum, whether it's stress, anxiety, burnout, right? These are common issues that we all handle, and that's all subsumed under brain health.

Nancy Oriol 06:39

Can I riff off of that a little bit? So brain health, there's a wonderful score, your Brain Care Score, looking at a way of measuring how your brain health is, and it's turning this conversation into sort of an everyday conversation. It's like, you know, and it's all about the things that are important, which we'd always talked about anyway, but now we're connecting it to things that people care about. People are worried and scared about, the issues of brain health, interfering with their life, interfering with the lives of their loved ones. So it's the time to get this conversation going.

Brock E.W. Turner 07:53

And I think everyone on this panel has sort of a different way that they're coming into this conversation right? Like, David, you're thinking about managing an employer population, and really like distilling that through we've got companies. We've got, you know, people trying to build companies. So I guess I'm just curious, like when we're thinking about this conversation, how do you ensure and how do you define equity in each of your organizations? What does that look like. Who wants to take a stab first?

Vikram Bhaskaran 08:27

I think one, just one, one thing to build. I think one kind of framing question is, you know, we have this, this app that is used by tens of thousands of people for dementia, for cognitive health. And one of the things we found that was really interesting is we had actually a brain health section in the app, but nobody uses, nobody goes to that section, and no one will also search for brain health. And so one just framing question. You know, we're seeing a lot of really interesting work in longevity, for instance, right? Longevity, many

doctors will tell me, is just preventative cardiology reframed because people don't like loss aversion. Like it's not sexy talk about loss aversion, but expand. You know, expanding health span is much more palatable. So I just wonder, as we talk about brain health, is there a narrative question to make it something that people are excited about in the same way that, you know, longevity is kind of preventative cardiology, and reframing that question to the group.

Nancy Oriol 09:28

Well, that's what the brain care score is doing. It's turning how to care about your brain. You know, it's not a fear-based concept, it's a strength-based concept, and it's an everyday concept. So all of a sudden you have a score. And people like these. I don't know if you remember before the turn of the century, I love saying that there was this thing called RealAge, and it was a little score you would take. In fact, it was invented by an anesthesiologist, Mike Roizen. You do. And people love it. It's like, oh, and then ask, how many vegetables did you eat? And people love taking this, because they get their real age at the end. So there's something fun about being asked questions and having that conversation and coming out with and doing this, I'm doing something to help make me healthier, and it's approachable. So for us, equity is taking this concept, which is so scary, and making it absolutely simple and actually fun.

Steve Carnevale 10:26

So I'll say something a little more provocative, not in disagreement, but sort of a different point of view. So researchers and doctors and so forth, think about what the brain does and the importance of it in how we live. But I'm part of a movement called brain capital, which is really brain health plus brain skills. And we think about it from an economic viewpoint, and in that context, I think it's better, let's call it better marketing, because if you tell people, you know, they should have good brain health, they listen, but do they really change your behaviors? But if you look at it at a system level, and you say it is essential for us to elevate brain health at an individual, at a company level, an organization level, at a community level, because it's actually the engine of the economy, and so we look at it very much economically.

Cedric Gousseau 11:23

I can take you, I think that's a great question, very common for us. What we found is we started when we launched the business, our marketing was very focused on, hey, we'll help you understand your risk of dementia, and then we'll help reduce it. And it, it failed initially, because what we found through user testing is people don't want to know their risk. They're scared. It's like you're saying. It's lost aversion it's not fun. We found through a lot of AB testing that, like, what works is the flip of that, which is a more empowering message. So what's really been working is, hey, take control of your brain health. We'll help you not just reduce your risk of dementia, but also help you perform better in your day to day, and that's what we find. Like people are they'll come to us because they are scared, there's fear, there's a family history, there's a genetic risk, but the reason they stay with us is because they actually are performing better. They feel like they're at the top of their game. And think that's a important reframe. And some of

the longevity, you know, influencers out there doing a lot to raise awareness of this, and I think it's a much better message.

Vikram Bhaskaran 12:25

Think, though, on the access issue, there's, there's like a basic math equation also that we can't hide from, right? Which is just the number of actual experts, and then the number of people. In India, for instance, there's 10,000 neurologists. There's 1.4 billion people or brains, and so I think the access issue has to stem from using tech to solve the access issue. You can't, we can't, like, you know, print Harvard Med School grads overnight. It takes 20 years. So we have to figure out how we use this little device in your pocket to extend care, to extend navigation. And for me, and come from a techno optimist worldview, I think that's the only solution, because we just can't have more people. And the number of, we look at the stats, there's 63 million caregivers aging populations. And so I'm very excited about solving access through extending technology and not being afraid of you know, AI and even ChatGPT have we found is an amazing front door for people navigating basic health questions?

Steve Carnevale 13:29

Well, here's the problem we face, though, is that we, most of us, know that the brain and brain health is important, but the average person doesn't think about their brain. You know, I sit at a mental, a Public Mental Health Commission meeting every month, and when I talk about the brain and brain health, people look at me like I have three heads. They do not equate mental health with the brain. And we're at this golden age of neuroscience. And what we now know, the science tells us that our brain is not just our analytical engine, but it's actually, it controls our behavior. In fact, we now know from AI, it's actually not a very good analytical engine compared to AI. That's why AI is eating up the world the way it is. But it doesn't address the social emotional, which is really what we are in our beings. But most people don't understand that it's this thing up here, and you actually have to face this idea that you have the ability to your point, to actually control your own behavior and have your own agency. So that's the kind of public challenge we're at right now.

Brock E.W. Turner 14:36

Just want to remind everyone, if you do have questions, please feel free to scan those QR codes. We'll try to get to them throughout the session today. I wanted to lean in on a subject that came up, like a couple of you, kind of combined and, you know, and compared brain health with what we're seeing in the longevity space right now. I guess when we think about that, a lot of that care is individuals paying out of pocket. There's not a lot of company support. I you know, like, occasionally, there is an employer that would cover something like that. It's not covered by insurance. Brain health, a lot of times is different. So how do we ensure that, like, that type of care is not just reserved for people with a lot of disposable income?

Cedric Gousseau 15:23

Yeah, happy to take this. So we think there's, there's incredible care happening at the very upper echelons of medicine. So your clinics charging anywhere from 60 to 150 grand a year. And this is exceptional care our first, our first go at it was, can we take a lot of that science and care and make it into something that's, you know, 100x cheaper, so it's something in the hundreds of thousands—hundreds of dollars, not thousands of dollars. And we think that was a step in the right direction. And I think there's, there's clearly a willingness to pay, you know, the companies like Function Health have grown, have grown to be quite large with a cash pay offering. But we said the goal for us is, how do we get this as close to $0 as possible to your point on access? And that's really how you get to tens of millions of people, not just tens of thousands of people. So we, at least our approach has been a few things. We've had a free version of our app. We have we're working with different institutions where there's a vested interest in seeing better brain health from the population, so whether that's employers or providers or even sports leagues and but the third, which is we're very excited about, is there's actually, we wish there were specific CPT codes for preventive neurology, and we think that should happen, and we want to advocate for this, but in the meantime, you know, we're not going to wait around. There's existing mechanisms in a health-care system where you can get things covered by insurance. So that's, that's what we've been pursuing over the last several months, and it's been quite successful. I think that will open up access to a lot more people.

David Stark 16:56

So a few things. So I think when, when people think or hear brain health, they think a fancy clinic, maybe some evocative devices and therapies. But what we all know is that brain health is health. What's good for the body is good for the brain. The brain is an organ like any other, hundreds of billions of neurons connected trillions of synapses, neuroplasticity, our ability to wire and we rewire the brain depends on everything. The rest of your body depends on a good night of sleep, rest, exercise, nutrition, and none of that costs very much. So I think making brain health equitable and talking about how to fund it. It's really about reframing it as not this thing that happens over here that's only accessible to a privileged few, but actually something that we all should be focused on. Now. I'm in a privileged position as CMO at an employer, because as an employer, we purchase our own health care, and everyone should know that employers in the US collectively, are responsible for providing health-care coverage for over 165 million Americans. So you know, most people are, in fact, getting their health care from their employers. And I can tell you that as an employer, I don't care whether the money is coming out of the health plan or whether it's coming out of some other funds. It's all the same capital at the end of the day, and boy, it's a pretty good investment to invest in brain health, because not only are we doing the right thing, ensuring the health of our workforce, we're also ensuring productivity, which obviously benefits the bottom line, we're assisting with recruitment and retention and creating a motivated, engaged workforce. So actually, don't see the funding challenge quite in the same way. I think when we think about brain health as longevity that happens in a privileged clinic, yeah, that is challenging from a societal perspective, but maybe less so when we reframe it.

Brock E.W. Turner 18:56

Because I know a lot of employers like they're looking at double-digit increases for their health spend. And, you know, I guess I'm curious, like, is there clear, definable ROI that you've seen for investing in employee health? Because I know you know what might be good for someone 10-20, years down the line, might not make sense for a business to invest in three to five years from now.

David Stark 19:23

Yeah. Look, that's certainly true, and we should all be aware that churn the issue the fact that employees may only stay with their employer for an average of 24 months beyond before moving on. And that is a huge issue for the US health-care system, and it disincentivizes long-term investments in health and well-being. But I will say that fortunately for the topic of brain health, that's an investment that doesn't pay off many years from now. That's an investment that can pay off in that quarter, right? If we do a good job ensuring that Citadel, we're serving, seeing food in our pantries on every floor we have on site, fitness and gyms, we have robust mental health benefits if we're helping our employees sleep better, eat better, exercise better, get access to a high-quality mental health provider who's practicing evidence-based care for themselves or for their family. All of that is ensuring that they're coming to work focused, ready to do their job, and they're not thinking about other issues, because we've taken care of that for them, we're going to see that value in the quarter

Steve Carnevale 20:32

Well. And here's the linkage, and this is with my venture capital hat on the companies that we invest in all have short term ROIs, but the not all companies understand this, and the linkage is that most CEOs think, okay, I've got to get performance in my company, or I'm going to be fired and I'll put a little money into well-being, because that's nice for our employees. But what they don't get is it is the well-being that actually creates the innovation and elevates the performance. So they often have it reversed, and if you can show them by investing in well-being, they can dramatically increase the performance. And the performance, not just at the individual level, but the biggest performance in companies are team innovation, and you can now show that the at a team level, the well-being has a massive ROI, and that's how you get the corporate side unlocked. Now the other side is not so well organized, on the people who do not have the corporate insurance. And that's a whole other story.

Brock E.W. Turner 21:41

Do you—I mean, is that something, though, in your portfolio companies that you're talking through like, you know, what's your go-to market? Are you trying, you know? Do you have that clear ROI early?

Steve Carnevale 21:51

Absolutely, in our particular case, because we're focused on the flourishing we have that. And the reason is, we now have the opportunity to do something we've never had in human history, which is, we can actually objectively measure the brain. And what that means is, what we know is that people are really bad at self reporting, but when you can take scalable technologies, which are often in things like iPhones, you can actually objectively measure the brain, and you can create interventions that create ROIs, and you can calculate it all the way through. You can quantify it, and that's what creates the opportunity today.

Vikram Bhaskaran 22:31

Thinking—just to build on that in some sense, you know, if we go back to what you're saying, if you know, cardiologists will always say, what's good for the heart is good for the brain, right? So brain health is just kind of, again, an interesting narrative on something that we all know in medicine and an organization is, weirdly, just the sum total of brains, right? So it's absurd if a CEO is like, I'm not interested in my the brains. And so I think it's like a nice, weirdly, like a narrative, not trick, but it's like, you know, who's going to say I'm not interested in the brains of the people that are doing the work. But I think if you're like, hey, I need a benefit for cardiovascular health, it's much more complex to get that because it's rooted in benefits and the benefit plans. So I think actually brain health, in this instance, in the employer context, is a nice reframe that allows you to, it's almost a tautology, because you can't say no to, I'm not investing in the brains that do the work.

Nancy Oriol 23:28

I like that answer because being out on the street and telling people, you know, and as you know, I mean, how many of you got enough sleep last night, you know, watched your salt and sugar? I mean, really, probably not many. So that's what we find out on the street also. And so all these years, we've been saying, you know, it's good for your heart, you know, exercise, sleep, and it's like, oh, yeah, right. However, I think the tsunami of aging is there so many, well, several things, the brain fog from COVID, the tsunami of aging, with people talking about, you know, they're not feeling as, you know, with it, as they used to be, the tsunami of being caregivers. And so we're all kind of scared that this, you know, we're going to be hurt by poor brain health. So now saying, okay, well, you can actually do something about it today, and that sleep and all those things you didn't do for your heart, because that was going to kill you in the future. Now, the lack of brain health is going to hurt you today. If it's not you, you're somebody you're going to have to take care of. So I think the change in narrative is good for everybody.

Steve Carnevale 24:38

Well, the other piece of that puzzle is mental health itself, which is, you know, going through the roof and is going to get worse with AI. So, but that does the silver lining is it makes people aware of it. But the elephant in the room here is the system is very broken. If any of you heard Patrick Kennedy yesterday, he installed the laws to try to create parity, but the system is far from creating parity between cardiology and cancer and so forth, compared to the brain. I mean, we are today with the brain. If you imagine a world where, you know, we didn't have we couldn't measure blood pressure, we couldn't measure glucose for

diabetes, that's where we are with the brain. We were not very far along, and the system, financially is not set up to fund most of what we need to do yet today in the brain, the brain's been sort of picked outside the body and put in its own system, and it's really not functioning very well today.

Brock E.W. Turner 25:38

And I think that's why I asked the question earlier about, you know, like, you know, who's funding this? Because, like, at the end of the day, like, it's sort of we, you know, sort of blowing up the system. Like, you know, we have to work within the guardrails that we have to be able to have this conversation. So I guess, who does the burden fall on then, other than patients themselves? Like, who does the burden fall on as they're trying to navigate the system? Is it employers? Is it, you know, government payers?

Steve Carnevale 26:08

Well, I'll show you an example of how messed up the system is. Even if you have at Citadel, a great, you know, employment package, if your son or your daughter has a serious mental health issue, the first thing you're told to do is to drop them from your health plan, because the health care you get in the public system is generally much better in the private system. So it's completely the opposite of what you think. And the system isn't a system, you know, it's so broken and siloed. And so if you need services, it takes forever to get mental health services. If you have, if you have brain-related issues that are, you know, cancer or something like that, then you get pretty good treatment. But when you get in these areas that are less diagnosed, the services literally aren't there, and the insurance companies aren't set up to do a lot of the funding. But you know, the real key here is prevention, early intervention, and our systems do a really poor job of that particular if you study it over and over and over again, we can save a fortune in the system by doing prevention. The problem is the people that you have, that spend the money, are not connected to the people that receive the benefit, and so these disconnected systems do not create the behaviors that are, what we knew, what you were talking about, all the good behaviors that we should have and can have are not actually supported in our financial system.

David Stark 27:37

Let me, I don't know if it's pushback or let me try to draw make a point that we'll come back around to what you said. So we can't have one of these conferences without talking about all the misaligned incentives in health care, which is absolutely true. And I, as a employer health plan sponsor, like to say that employer-sponsored health care might be the original sin of health care in this country. Yet, on the other hand, I will also say that there's a pleasant alignment of incentives, particularly when it comes to brain health. There are three key factors that I think put employers in such a great position. Number one, there's alignment of interests. We employer do well when our employees are healthy, happy, and productive, and with health care being the second-leading expense after payroll for many employers, there's ample reason to invest there. So alignment number two, there's proximity. I mentioned that our employees spend five days a week in the office. We have that proximity to be able to impact health behaviors on a day-to-day basis, what you eat, how you work, how you engage, the time that you're spending in the office, much

harder to do when you're a primary care doc seeing your patient once a year, or when you're the insurance company, right? And then there's trust. It might seem strange for those of us who are representing employers, but the stats show Gartner, other surveys show that employees actually trust their employer more so than the media, more so than NGOs, certainly more so than their insurance company to provide good, accurate information about their health care and other issues. So alignment, proximity, trust, like great, great incentive alignment. Now, regarding people with mental health issues moving away from their players, I actually have a alternative scenario, which maybe paints a more optimistic picture, which is years ago, when mental health access wasn't where it should be, and it certainly isn't where it should be, employers started to look for other solutions. So, you know, we went to our employee assistance programs, somewhat antiquated term, asked them to do better. That led to the rise of a next generation of mental health benefits that are using technology. You know, telehealth to connect doctor and patient or provider and patient and correct some of that supply demand mismatch and now we have really high quality mental health benefits that are taking the median time to access care down from six weeks to about six days. And I know this because I see the stats, you know, on our own, on our own visits, the providers are actually practicing evidence-based care, CBT, and otherwise, you know, they're sourced. Well, we're getting, you know, metrics like PHQ-9 to understand, you know, whether patients, our employees and their family members are improving with that care. And because this is happening outside of the health plan. Or rather, employers don't necessarily care whether they're paying within the health plan context or outside the health plan context. Well, it's worked so well that now employers are essentially moving that back into the health plan and saying, "You know what, you can now keep that provider you've been seeing for 16 visits, and see that provider in the health plan." So what I'm saying here is that employers, because they're faced with this need to innovate, have pushed on their partners to create better solutions, and are now shoehorning those solutions back into the traditional health-care system.

Cedric Gousseau 31:22

Push on [inaudible]. And I'm just curious your thoughts. But we have found early innings of talking to employers. It's it feels like a challenge to business model, and so I'm curious your thoughts. I think over the last five to 10 years, we've seen the maturation of digital health companies selling into employers, and some have been very successful. We now have Omada, Hinge, Public, very successful companies, and what we have seen is that it's getting more and more crowded, and there's a higher and higher bar. So I was an actuary by background, and I think the bar for ROI is becoming very, very high, and it makes sense in cases like with, you know, diabetes and in some cases, mental health. We do have separate mental health and neurodegenerative disease. But think proving ROI is challenged, and it's just that the go-to market motion is very expensive. So I'm, yeah, I'm curious your thoughts on, of course, in Citadel's case, it's just your employees are dealing with millions of dollars trading every day, and one mistake could be $20 million that makes a lot of sense. And you guys have a large budget, but for the average employer, I'm curious here, your thought does this exist?

David Stark 32:31

Yeah, so a few things agreed. If I were an entrepreneur, I would not want to be selling into employers, to be quite clear. And the last 10 years, we've seen this Cambrian explosion of point solutions meant to target ever more niche health conditions, demographics, disease states and employers have eagerly bought up those solutions, leading to these complex benefits stacks that are confusing for employees to navigate. They're frustrating for benefits teams to administer, and the data gets fragmented, the health narrative gets fragmented. I don't think that's a good state of affairs. I think employers stepped in to drive innovation, and now what we're actually seeing is many of those same point solutions are now pivoting to sell into health plans and maybe even providers, and I think the optimal place to integrate is at the seat of primary care. Who should be the quarterback or the hub. So I do completely agree with you. There was another, I'm gonna let others speak. There was another comment you made there, but I want to let others chime in.

Vikram Bhaskaran 33:41

Just one, one other kind of dimension of fragmentation, and the system is actually specialty medicine. I'm actually very curious to know what Nancy thinks here, you know, as having run Harvard Med School for many years. But you know, as you from where I sit, I just see and I'm an outsider to medicine, how kind of, how deeply specialized you know, you have neuroscience, you have neurosurgery, you have geri-psych, you have people who specialize in dementia, and they all have different conferences, they publish in different journals. But brain health is kind of very much, you know, a central topic that touches so many different things. And so I'm very interested in this question of you, question of, how do you organize medicine in a way that is focused on the patient, which is multifactorial, multidimensional, if you were to rebuild Harvard Med School for brain health?

Nancy Oriol 34:32

So, that's actually why I went into anesthesia, because the anesthesiologist has to take care of the whole body. And I loved medical school, and I loved the science of it, and the thought of ever having to give up part of it. So you know, when a person is having surgery, you hear what their brain is doing, their hearts, their lungs, everything, and how they're responding to the trauma of the moment. So that's why I went into anesthesia, is I do see it all. I wanted to see it all. And. As when I'm with people on the street, they're not only just bodies, they're jobs, they're housing, their food, their families. So my view of medicine, in fact, you know, I have wonderful stories about what we call medicine. When we see someone on the street, we tutored somebody's child in algebra, because they needed us to, you know, we take care of so medicine has got to be bigger. So special, yes, specialization. So me, as a dean of students, my students would fall in love with the organ, and it's like, I want to become a neurologist, or I want to become an endocrine, you know, and they would just, they would love it and dive into the science, and that's great, because it meant we had the best and the brightest really doing the cutting-edge science. But they always had to stay grounded in that the person has a heart and a lungs and a kidney and a family and a home. So we have to make sure that knowledge that integration is in the way they, the DNA of the way they think.

Vikram Bhaskaran 36:01

Do you feel that's changing for the better over time? And I think of a simple example, my mom had a subarachnoid brain hemorrhage. And I had so many questions about, actually, the psychology of like for mental state, but the stroke specialist, amazing guy, Andy at UCSF took care of her. We had so many questions about, like, is she, you know, what is the seat of memory? What is emotionally happening with her brain? Which we had to go to neuropsych. And then it turns out, neuropsych is a very rarefied small group of people most people don't have access to.

Nancy Oriol 36:36

So, so I think the newer generation of you know, doctors, the students have sort of more access. And I'm hoping are thinking that way. I'm hoping, and I believe, that the schools understand are, are teaching integration that way, and hopefully that will translate into our conferences integrating more events like this, which absolutely integrate more.

Brock E.W. Turner 37:08

And I have very little doubt that, like providers are thinking that way, is the system thinking that way?

Steve Carnevale 37:17

No, the system is still very siloed. Anybody that sits in a hospital room knows that, because every doctor comes in and they start all over again, it's not integrated at all. And it's not integrated because where the, what you know, from the funding codes and the insurance companies and the providers and the payers are all coming at it in all kinds of different ways. So, and it is not a patient-centric system. So, yeah, no, that's a big problem.

Vikram Bhaskaran 37:42

The promise of digital health is, if you think of all the brain health interventions, they're like nudges that people have to participate in, and they don't follow a clinical cycle, right? So when you see a doctor is not actually when you need to be changing behavior and but the one thing we all have is we check our phones, you know, 60 times a day. And so I think, like, I think one of the promises in brain health is you have access to someone outside of the confines of all the superstructures of medicine, and it's a human being with a phone. And I think the big interesting question is like, what are the next waves of companies that can cut across transcend all of the kind of social structures of medicine, to just treat someone with a phone with access, who might be, who might need a nudge, who might need what, all kind of social prescription? I know Jonathan Rosand is doing a lot of amazing work in how do you get out to communities outside of the establishment. And so I think that more conversations need to be having about less the system is broken. But how do you transcend the system where people are?

Steve Carnevale 38:50

I mean, we could talk for an hour here just about the broken system, but what I would say, in the positive sense, is that there is so much we now know about the brain and our ability to not just think about that in terms of diseases, but you know, this panel is about, how do we apply it in everyday life? And we're investing in companies that are bringing that knowledge into the education system, K-12, higher education, vocational practice. We're bringing it into mental health around the wellness, not just the disease part, but the wellness side, so that we're bringing higher performance and we're translating it all the way to the workforce. And the way that looks is when you look at the skills level, the brain capital is brain health, plus brain skills. And brain skills are going to be come extra important that we can measure them and understand them, because AI is about to obliterate our entire workforce system as it's organized. All of us get jobs around the experiential jobs that we've held, and that's the description, and AI is eliminating all those jobs. And. So the answer to that gets down to understanding brain skills. And what the research shows is that in terms of the workforce, a lot of the sort of vertical skills that you learn on the job are going away. AI's eating those up. But the things that don't go away are the social emotional skills that translate from job to job. And we have this unique opportunity, because how much we now know about the social emotional brain, we can really elevate a lot of that knowledge and radically change how we think about workforce.

Brock E.W. Turner 40:39

And I wanted to think about those new populations. You mentioned a couple of them, you know. And I think that really gets to the to the foundation right, of how we can talk about preventative care and really getting ahead of this before, you know, in intervening before someone has, you know, a major issue where it becomes a major burden on the system. So, you know is, I mean, is there structure for putting this in schools? I mean, like, you know, we've seen it, but like, not necessarily at scale, and there's a huge disparity between districts that are well funded, districts that are not private schools public schools. Like, like, is there an infrastructure to actually have preventative care, you know, at an early age, and then, you know, maybe David, if you want to chime in as well, like, you know, with an employee base.

David Stark 41:32

Yeah, I'll start. So at Morgan Stanley, I was privileged to serve on our foundation board, which has a long-standing philanthropic focus on children's health, you know, the Morgan Stanley Children's Hospital in New York City with Columbia, and then, more recently, children's mental health. And several years ago, we established the Alliance for Children's Mental Health out of a need. And this was, you know, this was actually pre-pandemic. You know, we saw a need to focus on this area for precisely all the reasons that you mentioned, and also because these children grow up to become Morgan Stanley employees and so as we had the discussion, we brought in stakeholders from secondary school education, from colleges, universities, and the workplace, and we all agreed that, you know, there was this need starting in school, and, you know, engaging parents as a key support structure, schools as a key support structure. And then looking at transitions, you know, from secondary school to college and from college to the workplace. So we partnered with, you know, the Jed Foundation, Child Mind Institute in New York, New York Presbyterian Hospital. And what I was really pleased to discover is that there's a lot of really bright people thinking about, how do you go out into schools, scale programs, using peer-led programs, again, evidence-

based, CBT-based programs, and then putting those tools in the hands of schools. So I completely agree that, you know, that's where you know the focus needs to be, you know, I will, I will also say, I think that, you know, a lot of the problem, it's a supply demand issue with mental health in particular. And, you know, again, from the employer perspective, we really pushed a lot of innovation, telehealth and otherwise, to alleviate some of that supply demand mismatch. It's part of the solution. It's not all of the solution. But I think thinking in that same way from for schools and for universities could be very helpful.

Nancy Oriol 43:40

Actually—when you talk about where's the infrastructure? So think about the infrastructure that stopped smoking being so common, you know, got people to wear seat belts. It was us. And so there is a way to mobilize the infrastructure that is everyone, to change the narrative, you know. And that's, you know. So Rochelle Walensky, who really understands pandemics, and, you know, Jonathan Rosand, they looked at mental that, you know, the tsunami, and looked at a way to get the infrastructure together, you know, to get us all to be part of it, to change the narrative. So I do think we shouldn't forget that, that there really is a role that we and just the language. And look at what we did with smoking. You know, we can do it.

Brock E.W. Turner 44:27

If we are aligned—and have, you know, stakeholder-like governments aligned, and you know, I mean so. And just wanted to remind everyone, if you do have questions, please scan the QR code, send them up. We want to get to those with the last 15 minutes we have left. You know, something that I think is important to lean into as well here in this conversation, you know, and you talk about those structures, like, how can we work better in the systems that we have? You know. In each of your systems, like, how can we work through those systems to maybe work with another set of stakeholders?

Steve Carnevale 45:11

Well, the thing I would say is that most health care happens at the community level. If you look at if you look at it in terms of where the services are delivered, and the policies, they all happen in, basically in counties. You know, we focus so much on presidential elections, but most of it is local, and the integration of schools and of hospitals and of the community at large is where the real action is, and trying to get that integration between them is how we can improve them in the counties I've seen that do that better. For example, we have, we have a novel program in California for teen drop-in centers which try to try to meet the teens where they are, instead of forcing them into the system. But those get integrated into the community and the community-based organizations that are critical to delivering a lot of the services that are required for our communities.

Nancy Oriol 46:10

Thank you. That's music to my ears.

Brock E.W. Turner 46:14

Who's not yet at the table that we need to have there?

Steve Carnevale 46:20

The insurance companies. They're not. The health-care system is not incentivized to improve our health care. That's the reality. It turns out the life insurance people are because they're incentivized to elongate life but our health insurance systems not not aligned. They aren't they don't have their own incentives to improve health. And I think that's a fundamental problem.

Vikram Bhaskaran 46:47

One thing more. Go ahead.

Brock E.W. Turner 46:49

Well, we talked about the start-ups, and like so many of those start-ups that are selling into insurance companies, therefore the entire ROI pitch, in their entire pitch, typically, is, we're going to shorten the episodes of care, right? And we're going to lower the cost for you as a payer, or for, you know, an employer. I mean that to me, just feels like, how can we build in that system?

Cedric Gousseau 47:12

Yeah, I'm less bullish. So, yeah, we're working with insurance companies. We the insight we had recently that was that helped was brain health. And of course, our context is dementia prevention. If you think about what the things that you do to reduce your risk of dementia, to think better, feel better, there are things that the system already has in place. It's you got to get your metabolic health in place. You got to get your your vascular health in check. And there are existing reimbursement pathways across all of these things. So if you reframe, as we're talking earlier, reframing this around other risk factors, we've been able to successfully, you know, work with payers to get reimbursement, and that's been a big unlock.

Vikram Bhaskaran 47:49

You know, one thing there's, there's a lot of cynicism about kind of the health-care system and how much agency anyone has in a system to change the system. I think one place where we see both opportunity and risk is outside the system. We think there's tremendous public communicators. So science, science, you know, physician scientists or online have a huge role to play in shaping behavior. So we've studied this for the last few years, and we studied both the when it goes wrong, you know, and you have the rise of kind of health influencers who flood social media sites with misinformation. But we've also seen places where individuals have kind of completely shaped narrative for millions of people. You know, sleep is a really interesting example. So I never thought about brain health and sleep. I'm wearing an Oura Ring. Obviously, this is like a privilege to have a ring. It's expensive, but it has completely changed the conversation, because you've had all these people over the last three years, from Peter Attia to a whole host of people, basically flooding the zone, if you will, with content about the impacts of sleep and the importance of sleep. And it took, like a few individuals to drive that change. And I'm sure primary care doctors for decades were trying to get people to sleep better. So we think I actually have a very optimistic view that physicians, scientists, public health communicators, can, in fact, a few individuals can completely shape behavior, and so giving them the platform, and the voice to do so is like one bright spark, because I think the system is so gridlocked that it'll take decades to change.

Cedric Gousseau 49:27

I'm curious, how are you doing this? Because I know you're working on something in this vein, and we've always thought here as well as that, like they're the best care is in the minds of many of the top doctors in the world. So you mentioned Peter Attia, and how do you get some of the best care and thinking to clinicians in everyday life? I'm curious how you guys are approaching that.

Steve Carnevale 49:51

Well, I think, I mean, I think that's where the power of the data and the AI comes in our ability to scale, scale these systems with technologies only answer. Take behavioral health again, we are never going to be able to hire the number of behavioral health therapists we need today. The waiting list is six months at best, and, you know, sometimes it's 18 months or longer, and we're just never that, because the way the system is built, we're never going to fill those holes. So we have to rely on technology,

Vikram Bhaskaran 50:22

And it's also connecting physicians is a really interesting question. You know, I think people always think about doctors as this one monolithic class, and then people who don't have access to them, but even within medicine, you know, a doctor is a very valuable being that only knows so much. And so how do we equip physicians with the latest science, the latest knowledge? There are companies like open evidence. For instance, every physician now uses it. It's like ChatGPT for doctors, that instantly will ping the published literature people used to use up to date now they use this tool, but there's so much outside of open evidence and outside of published literature. And how do we get, you know, a community oncologist to understand the SERENA-6 trial that comes out of ASCO is like something we think a lot about. Because

I think connecting physicians, connecting people who may not be specialists, is another dimension to this, because not every doctor will understand, you know, dementia care, or, you know, we'll have the kind of expertise of the people in this room.

Nancy Oriol 51:25

So, actually, I think we also need to expand who, who does the work. So working on a mobile clinic that's mostly run by community health workers, in fact, we adopted a program called project management plus, which is mental health support run by community health workers in the community. And we use PHQ-9s, okay? And we, I didn't learn that in anesthesia training. We use that. And five sessions, three to five sessions with the community health workers. They got better. Okay, so I think we should expand who's part of the delivery process. And I've heard so much about trust this past two days. And who do you think is trusted most, but the community health worker from your neighborhood? So you know, if trust is actually a therapeutic agent, they've got it.

Brock E.W. Turner 52:20

—And I totally hear you. But who pays for that?

Nancy Oriol 52:26

Lots of philanthropy when it's a mobile clinic, okay? Because the insurance companies don't know we exist. And in fact, most people don't even know we exist, even though there are probably 4,000 of them. In fact, I did Google just before this, there are 2,600 YMCAs. And I bet everybody in the room has heard of YMCA. How many of you have heard of mobile clinics? Yay. There are 4,000 of them, at least, and on average, and we know this, they see 2,000 people. So that's 8 million people getting their care on a mobile clinic, and most people don't know they exist.

Steve Carnevale 53:08

I think the question is a fallacy, because we all pay for the care sooner or later, and the problem is, by saying who's going to pay for it means it doesn't happen when we need it to happen, but eventually we pay the price, and the price we pay at the end is even bigger. But again, because the system is so broken in so many ways, we don't consider the lifespan costs, and so we come up with the wrong answers to those questions. And it sounds like we can't afford it, but I would argue we can't afford not to, and that's what we're seeing today, is we're going broke, funding the wrong things at the wrong times, in the wrong ways.

Brock E.W. Turner 53:51

And I think it's clear that like incentives have to be aligned. It's just a question of, how do we do that? And I think everyone in this room can certainly play a role there. I wanted to, wanted to touch on one more topic, and then really dive into the to the Q&A like, quickly. So we've mentioned AI a little bit. I want to drill down, like, deep here quickly. AI does not take time off like it works relatively cheap. Is that, I guess, is there a world in which that can expand the care that we're able to provide? And if so, that feels a little scary to me.

Cedric Gousseau 54:33

Yeah. So we, we work a lot with AI. We've been experimenting for years, and now use it a lot in practice. And we tried all the different ways that you can, you can implement it. And I think we're we, our view is we're far away from true AI doctors that don't get anything wrong. Recently, Andrej Karpathy was on a podcast talking about getting to increasing degrees of precision. Just takes it will, you know, we like something like 10 years away from true AGI and so in the meantime, there's couple ways that we see. One is, you know, there's some value in chat bots that understand all of your data and and can give you personalized advice. But what we're seeing the most traction is in using AI to enable clinicians. So we call this the like, the superpower suit for clinicians. And yeah, this is important because, you know, in our field of preventive neurology, there's, there's literally, like, two preventive neurologists in the world. One of them is at this conference. And so how do we scale that level of care? And we found that by equipping people with one, collecting a lot of data, right? So we'll take in, you know, blood biomarkers, genetics, cognitive testing, sometimes like 100 pages of medical records, real time, wearable data that would take a clinician, like an entire day to go through and understand what to tell someone. And so what we've been able to do is this, is use AI, which is, this is where it thrives, right? Is looking at a lot of data, connecting dots in a way that a human probably never could, and then surfacing that to the clinicians so that they can focus primarily on the human connection piece and empathy and behavior change, which is what ultimately matters. So that's where we're seeing the most success in real time.

David Stark 56:13

I'm going to start pessimistic, and then I'll turn optimistic. To date, where AI has had most traction in health care is in improving documentation for billing and increasing billing—build utilization and revenue cycle management on the provider side, which then in turn means that on the payer side, there's investment in AI to counteract all of those effects. So that's the current state of affairs. And Brock, you've been asking the question, like, who pays, this entire panel? And that's where, fundamentally, this becomes a problem, because AI is just a tool and in the current system, it gets used to augment current practices. However, we've also talked along this panel about how brain health is impacted. These are very simple interventions, right? The best intervention to improve your brain health is exercise period, right? That is free. Just needs to be communicated. We've talked about Peter Attia a lot here. I think he's an oncologist, and I think he's wonderful. His skill is communication. He is a phenomenal communicator. He's an entertainer. He's, I mean, more, I mean, I think he's a scientist. He gets the facts right, but he's a great communicator of science. So I think, again, as far as brain health is concerned, what AI can do is it can close the gap between supply and demand, like I've already said, it can close the gap between life sciences and care delivery to ecosystems that exist in like polar opposite corners of our universe, and it can shorten that feedback loop

to make care more proactive versus reactive. The problem is, in our current system, it's not incentivized to do any of those things. So, you know, Brock, your question stands.

Brock E.W. Turner 58:12

You know, I'm [inaudible], we have two minutes left, so I want to, like, try to end on a positive here. We've talked a lot about the barriers. We've talked a lot about the challenges of how this system, how to navigate this system. I'm curious what each of you in your organizations, you know, is there something that each of you can do in your own organizations, to work with another set of stakeholders on the other side of the table, to try to, like, break down some of those barriers.

Steve Carnevale 58:46

Well, I already work across the system, but what I would say, I'll just put in a pitch here, because of the nature of this, this conference, that philanthropy plays an essential role in all of it, because it's independent of the system, but it can create this incredible catalytic effect to solve a lot of these problems we're talking about.

Vikram Bhaskaran 59:07

For us, we're definitionally a knowledge network, so we're trying to these—conversations that happen in closed rooms. We wanted to happen in public with every scientist, MD, in one platform, discussing, debating, sharing research, and so if I'm excited to have all of you eventually on and if anyone is a doctor or doctor scientist, we are very excited to build this community, because we believe that we want to break down the silos of medicine and have any doctor, any physician, have access to human knowledge wherever It comes from.

Nancy Oriol 59:41

And I guess I would like to be part of the giving the patient a voice and bringing them into the conversation more, which is always surprising, because we are actually all humans, and so we actually are all patients, but somehow, when we're doing this work, we forget that. And so I think, the missing voice, and what I'd like to do is to make that be respected and really valued as part of the conversation.

David Stark 1:00:08

And I'll plus one, Steve, your comment on philanthropy. I think that does bring everyone together. Look at us here. Ken Griffin, Citadel CEO, is a great example. Through Griffin Catalyst and other initiatives has funded many of the various stakeholders, education, life sciences, and otherwise that we're talking about. I

would also say, like, looking at this panelist, you know Nancy, you know you're, you're an anesthesiologist who works on the street, right? Like, like, that's a great example of what we need more of people who are working across disciplines, and we need less finger pointing at between the different stakeholders and more partnership as an employer. We are a purchaser. We are essentially an insurer. We are also a provider in many cases, and we're very close to the patient, if you will, and representing the patient view. So I tend to see things in terms of cross-stakeholder collaboration.

Steve Carnevale 1:01:04

Absolutely.

Cedric Gousseau 1:01:05

Yeah—for us—I mean, obviously we want to work with everyone, right? So we're talking all these, these businesses, but ultimately it's if the consumer is not willing to make change, then it's, it's a moot point, and so that's why we've just decided we're going to go straight with to consumers and not hope that the system change or try to fix incentives. Let's just go straight to the source.

Brock E.W. Turner 1:01:27

I think we're at time. Thank you all so much. I really appreciate it. Thank you all for coming. Appreciate you.

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