CATALYZING THE NEXT ERA OF HEALTH: IN SERVICE OF A HEALTHIER TOMORROW

Announcer 00:00

For part two of this session, please welcome back Esther Krofah and the panel to discuss: In Service of a Healthier Tomorrow.

Esther Krofah 00:39

Good morning, everyone, and I am just so thrilled and excited about this panel: In Service of a Healthier Tomorrow. It's incredible timing for us to have this panel, because I think we're in an inflection point in our country. We're well poised with innovation and therapeutics. Many describe this as the golden era of biomedical innovation. We are in this incredible position and poised for incorporating technology and AI, and yet we're challenged on access and delivery and affordability. We have the public system that's going through quite a bit of transition, but we also have the role of employers, and really interested to see how they're thinking about solving for some of these complex challenges across our healthcare ecosystem. We have representation from across the health ecosystem on this panel and leaders that are dealing with these issues and challenges every single day, and you feel these issues that I talked about very deeply. Of course, we see the trends overall in health, right? We have aging, population—unfortunately, a rise in chronic disease conditions. We spend significant amounts of our health-care dollars here in the United States on health—we don't have the same kinds of healthcare outcomes that we see in other parts of the world. So I really just want this panel to react and respond to where we are right now as a health-care ecosystem. Where do we go from where we are right now? What are the tools that are going to enable us? What's the policy that's going to enable us to achieve this goal of in service of a healthier tomorrow? Is that actually really possible? How do we grapple with these changes that are happening from a policy perspective, as we think about perhaps government looking at health care slightly differently? And so I want to start this discussion and this panel for all of us to paint this picture of what will health be like in 2035. We're in 2025 and we used to say, what's health like in 2030, but I want to push it a little further. What is health care going to be like in 2035. I actually want to begin with you, Robert Ford, serving as the CEO and chairman of Abbott. You think about these issues very well, the trends they talked about. I would love for you to react to them. Do you agree with that? And how do you think about healthcare 2035 from your perspective?

Robert Ford 03:11

Well, I'm going to take an optimistic kind of view of that forecast. So Abbott has been investing in health for over 138 years. We are the most diversified healthcare company in the world, with a nutrition, diagnostics, and a medical device, and a pharmaceutical business. So we feel that we have a pretty unique perspective that really spans the full spectrum of health care. And I think there's a lot of exciting things that we could talk about regarding innovation—and I'm sure we'll talk about AI. But I think that the two biggest challenges that we need to confront is really—so you could get to that more optimistic view with all this innovation I—I do think you have to address the issue of access and affordability. And if you look across the full value chain of health care, whether you have innovators and researchers and manufacturers on one end, you got providers and systems and payers and all the way to the to the end user—we all have to acknowledge that, yeah, we want more access. We want to do it in a way that's cheaper, one that improves outcomes, but we want the other one, or the others to do it, because what we're doing seems to be the right thing. And I think we all have to confront ourselves with the notion that we're going to have to do—radically change. So I think if I look at the manufacturer side of it, I think one of the things that we need to really confront ourselves with is to really rethink the award, or the reward that we get when we do come with an innovation. And historically, that reward has been that you're able to have a product or service that you charge more for. And I think what we've got to move is a mindset that that doesn't work anymore, and you have to really think about a different sort of reward, which is a much deeper and broader penetration of your innovation, of your service to a much larger—much larger group. And that takes courage to look at-really rethinking about how that that reward occurs. So I think that's one thing that we need to do. But it's not just the manufacturers. I think everybody in that value chain has to look carefully at what is, you know, considered, you know, untouchable or not—you know, you can't change that, and that's what needs to be addressed. And then I think the other piece that we need to confront ourselves with is the notion that, you know, we are living longer. You mentioned living longer, more chronic disease, but the support for that population in terms of health-care workers is not going to be there. We got a glimpse of it during COVID when we were locked in for a long time, probably more than what we needed to not because of the infection aspect of it. We figured that out after six to nine months, but it was really we cannot afford to have everybody, you know, get sick and go to the health-care system all at the same time. And I think that's a little bit of a glimpse of what we could see in 2035 so, so I think we need to acknowledge that, and we need to kind of work on accepting that, we're going to have to have a little bit more automation in health care, and then the delivery of health care as consumers, we're going to have to just be mindful that you won't be able to speak or see somebody every single time that you need to, and we're going to have to rely on that. So I think those—we have to acknowledge those two issues, in my opinion, so that all the advantages and all the great stuff that my fellow panelists will talk about here, I think that needs to be addressed and needs to be acknowledged so that all the great stuff will come to fruition.

Esther Krofah 06:51

Yeah, you really touched on this point around the workforce is not going to be there. We need more automation. You've talked a lot about, how do we move from a sick care to one that prevents us from getting sick, and of course, diagnostics plays such a role in that. Judy, I want you just to respond and react to the workforce component of this discussion, because you are at the tip of the spear, working with providers and working with health systems and also working with payers on, how do we ensure that we can get even more efficiencies out of our EHR, out of our data? And so as you're running Epic, the largest EHR system in the United States, you see the

details that are happening behind the scenes every single day. How are you thinking about the challenges that we're confronted with health care right now, and potentially this role of automation?

Judy Faulkner 07:43

I do think that we're in a bit of a crisis with the doctors now and the nurses too, and so we're trying to, first of all, write our software to help them have a better experience with health care, so that they don't quit. Secondly, the health systems themselves are in financial jeopardy, many of them, and we don't want to see them go away—a lot of hospitals have closed—so we don't want to see them go away, because you really have problems with access. So as we work with AI, number one is help the doctors. Number two is help the health systems. Number three is help the patients. Usually it's the other way around. Help the patients come first. But I think we have to make sure doctors are there and health systems are there in order to help the patients. What we're doing, which many of you will end up seeing, is that when you send a message with MyChart, the answer is going to come from the AI, which we call "art" a-r-t, automated response technology, but we don't capitalize it, we want to make it friendly, and so what's really interesting to me is that, about half the physicians like art, and the other half says it doesn't sound like they sound—doesn't sound like me. Well, yet almost all the patients prefer art to the doctor, and the reason is that art is more empathetic. So if the patient writes in that I'm going to be gone for a few weeks seeing my new granddaughter, and here's what I need, the doctor might write back, because the doctor is very busy, "I ordered it. art will write back, "Oh, how nice that you have a new grandchild, and I've ordered the medication for you have a great time on your trip." So I think it's funny, the non-human is more human than the human. The other thing is that we are taking the conversation between the clinician and the patient, and we're doing the charting for it so that the clinician doesn't have to be on the keyboard. And that we hear four things from the clinicians. One, my spouse won't divorce me anymore. Two, I'm not going to quit my job. Three, I love it. And four, don't take it away. So that's becoming very popular. What I just read from Microsoft this morning, and I read it very quickly, so maybe I got it wrong, was that we're going to see AI in three stages. One, it's going to be an assistant. Two, it's going to be—after that it's going to be a colleague, and then after that, it's going to take over. So I read it fast, and maybe I read it wrong, but that's what I took away this morning, just before I came into this meeting.

Esther Krofah 11:01

Well, can we talk about that for a little bit? Because I want to see others react to it the same way. We've talked about AI for so long in health care, but we've always said AI will help the workforce, not replace the workforce. So I would love to—do we think that AI will replace the health workforce. I think it's an augmentation tool, rather than one that will replace. What are your thoughts?

Robert Ford 11:25

Robert, oh, sorry, yeah, you're difficult to hear. I don't think we're in that discussion. I mean, I think you—I think we fundamentally are going to have to use it to be able to deliver the health care. I don't think that this discussion about, will it replace, will it augment, I think we've heard already two people say we're going to have a problem with health-care workers, so you're going to have to adopt it, and I think with that you know that you're going to have to—I think the technology—you know what Epic's already been doing, is incredible. So I don't think the

technology is going to—like we can we can innovate, we can move it. I think the key thing is, will the regulatory framework be at the same rate as the innovation? I think that's one of the challenges that we have, because we're now going to rely on let's use the term automation to be able to, you know, whether it's, you know, provide a diagnosis, and quite frankly, I mean, you'll see, you know, 2035 I think you'll see robotic surgery become something that's very, very, very mainstream. So, yeah, so I think it's the regulatory piece that needs to follow the technology.

Esther Krofah 12:38

And Judy, you did not—you did not finish your thought, because we're continuing on, what your vision is for 2035. You just referenced a small piece of what you read this morning. So, anything else you wanted to add to that vision that you were painting,

Judy Faulkner 12:50

I'm not sure I got your question.

Esther Krofah 12:51

The vision that you were painting on health care 2035—I think you were still in the midst of finishing you thought here.

Judy Faulkner 12:57

Yeah, we're going to see a lot of changes by 2035. We're going to see AI doing a lot more of the actual figuring out what's the diagnosis, what should be the right treatment, how long should it go for, what—all sorts of things that I think are going to be extremely helpful. We're already beginning to see that. We're already hearing people say that the system saved their lives because it came up with something that otherwise wasn't going to be seen. So that's going to go more and more towards automation. But I think you're absolutely right. Regulatory is going to be a big part of that. Will the government allow us to do that? Right now we're very hesitant, because we don't want to be seen as a medical device, so we have to be very careful not to overstep, because then we're going to be into FDA land.

Esther Krofah 13:53

Yeah, excellent. Greg Case, I want to come to you. You run an organization where you advise companies on their benefits, and you're in 120 different countries. You really have a finger on the pulse around population health. What are employers dealing with? And how do you think about health care in 2035.

Gregory Case 14:11

Well first Esther, thank you so much for the invitation to be up here with this august group of leaders in health care is tremendous. You would observe, by the way—you start this group is really these are the innovators. They're providing content. They're providing insight. One thing that's got to be true, if you sit across the table and we're sitting on this stage maybe in 2035 talking about it, or someone else, two things have to be true. You have to be healthier. Population health has to have improved. And it's got to be more effective from a from a cost standpoint. We've got to bend the curve. This is 21 percent of the US GDP, and it keeps going up. We can't continue that. It doesn't the structure doesn't work. We actually can invest more back into the system, and that means population health must improve. So you ask yourself the question, what stands between this incredible wave of innovation you see sitting up here and all those around it? And scaling that innovation so that it has impact on those two objectives. Improved health, bend the curve; improve health and bend the curve. And so Esther, from our standpoint, again, we live with clients every day. We're not—we're not attached to any, you know, any part of the system other than our clients and the challenges they have every day. They desperately want to do the right things for employees, but they have to do so in a way that's physically responsible in terms of what they're up to and what they're doing. So they're asking questions around, what steps should we be taking? And I have to say, from our standpoint, we keep coming back to if you understand the path, and the path will get you to improved health, and in bending the curve, you're going to take those steps. What's the path? And the missing piece, in addition to the innovation, is really the data, the analytics, the content that will show you a path. So if I could, maybe I'll give you an example that we've been living with recently. It's around the crisis, the chronic condition of obesity. This is 40 percent of Americans really have to suffer through this incredible chronic condition, and maybe the 60 connected challenges that go with it, and maybe more over time. So think about that. You know, the endurance of that. You know this is 1.7 trillion plus in cost from the Milken Institute, sort of laid out—tremendous burden in terms of what's going on. But think of your employee base and the productivity and all the things that happen with that. So this is evolving, and along comes the GLP-1 drug—like this sounds fantastic, sounds absolutely incredible. These new drugs, they seem to be, anecdotally, having such impact in so many places, well beyond weight loss. You're an employer, and by the way, we've met with many you out there, and you want to make this work for your employees. You desperately want to make it, you want to see it work, you want to invest to make it work. But your costs early on go up tremendously. And you're—by the way, a large portion of our clients are thinking about, literally, what do we do? How do we slow this cost up? How do we stop how do we back up? And so for us, we said, look, this doesn't make sense. Great innovation. It seems to have proven, but we aren't scaling it even close. We're not getting any acceleration. So let's do the analytics. Let's do the math on what's really going on. And so Esther, this is just one example of if you get the—if you get the analytics on the table, it might open up the opportunity to get to the vision you're describing. So what we did is we step back and say, look, let's, let's take the biggest—biggest set we can get of the 165 million people in the US, employees, independents who are on employer sponsored plans, and let's take that group we got 50 million. So you put 50 million on the stage here, you look at the 50 million, you ask yourself the question, in the last 24 months, who is the subset which is adherent GLP-1 users, let's pull them out and really understand that group. And by the way, carefully making sure that they are—they're pure, 24 months pure. And we're going to compare them to a group that is, you know, really digitally matched to the 100—you know, this group of, you know, 130-140,000 people. And ask yourself the question, did we improve population health in 24 months, yes or no? And did we—did we improve the cost profile? This is getting a little bit scary, because that's never been done before. Our client—never been done and I'm—we're talking to clients who are literally thinking about whether I should pull back. And the answer for us was, candidly, stunning. It is generational, and it was the analytics, not AI. We're just, we're just trying to advise clients. But against the 50 million and the subset that used GLP-1s, the cost curve at the end of 24 months had literally had a 50 percent decline—50 percent, seven points, by the way, just for reference, Esther—we fight over two basis points for our clients. By the way, we declare victory if it's not going up. This is a seven point improvement. And so

you're sitting there looking at the analytics, which are suggesting, if you can take this set of drugs, this category around, you know, all the other attributes that come with that, and diet and exercise, all the pieces—but that category and you can, you can do—you can introduce it into your employee base in a way that that truly is with dignity, with support, with empathy, and they adhere. Because adherence is absolutely critical; it's not just the trial and stop and the trial and stop, it's the adherence. The outcome is generational. It's structural. It allows for a vehicle through which you can take some of the innovations represented on the stage here, and truly amplify what it means to get both a great outcome for your employees and a tremendous change in this cost curve that's been insidious. And just—to be clear again—we're connected to no one, to just our clients, and we didn't include anything, anything related to a productivity improvement, anything related to engagement, anything related to all things that sort of feeling good at work does for you. So all I'm trying to highlight Esther is, listen, we're bullish on 2035. We see the potential for on behalf of our clients. But we're concerned without the content, without the insight, without the steps. This is an investment. And I just, I'll leave you with one, this one last client I was talking to last week. They were really 15 months into what they thought was a massive investment, and it was, and they didn't see the end. And we showed them the curve that said, listen, this is what happens for the first 15 to 20 months, 24 months, and this is how the curve begins to bend. And by the way, it's natural that the cost increases, the drug costs, and we'll talk about that if you want to do that. But really, people feel good, they go to the doctor. You see that, you track that and that's cost, but over time, the fundamental bending of the cost curve has literally never been done in our country. Being able to do that and create a great outcome is tremendous. The link is the analytics, the content. And this is what really lets us scale what—what's produced here on the stage, and really around, around the US with our investment. So we're optimistic. But there's that's the link.

Esther Krofah 20:49

Well, it sounds like you're very bullish on the potential for the GLP-1s to have that cost bending impact that you've described really, really well. I think you also highlighted that you may have different approaches, depending on the employer; and in the short term, costs may, in fact, go up. So as you did that analysis, you looked at the cost implications as well, and said, in the short term it might go up, and the longer term it might go down. Can you talk a little bit more about that?

Gregory Case 21:16

Yeah, this is so important. Because, again, this is not about judgment, this is not about you should, this is about what's best for your company and for your employees. You know, people with different employee bases will think about it differently. Companies with different—different levels and will think about it differently. What we describe is, there is an ROI. There is a potential positive ROI. We see it. This, Esther, is what's so different, and so that tailoring company by company is what's critical. But recognize, with this in place, you're now making investments in population health, in the US in a way we've never done before, at an employer by employer level, against—we love the idea of the employer sponsored plans—this is 60 percent of the US population. A catalyst in the employer world will be a catalyst for everyone. It'll be a catalyst for every all aspects of the of the economy. And our database, by the way, was the wheelhouse. It was literally, on average, 49 years age, you know, 65 percent women. It was exactly what you and Dr. Biden were talking about before. It connects with—with women's health, it connects with all aspects of population health. And so for us, it is very much around understanding an investment, expecting a return—by the way, that's a wonderful catalyst. It's a wonderful catalyst in terms of

investment—and the outcome really has second order effects, which are tremendously positive in terms of all the other things that will affect productivity in the US, and the introduction of things like AI, et cetera.

Esther Krofah 22:39

So as you think about 2035 from your perspective, it's really around looking for those innovations that are breakthrough and getting the data analytics in place so that you can demonstrate the evidence of, does it work and does it not work, and what's the impact across the benefit plan for that employer?

Gregory Case 22:52

Yeah, the final piece would be, it'd be a tragedy to have the innovation without the scale. And you know, we run the risk of a lot of innovation without scale. And scale is this connection.

Esther Krofah 23:01

Right. And without scale, we just have pilots, and those pilots do not make that transformative effect. Pablo, I want to come to you and let's talk more upstream in the healthcare environment ecosystem, because you are funding the innovation that we are all trying to see disseminated to patients every single day. What use is a tool, if it's not in the hands of a doctor, physician, and ultimately, the patient to benefit from. So as you think about the areas of investment that you're focused on with Royalty Pharma, as you think about 2035 now, what are the challenges that you're grappling with and what are the opportunities that you see?

Pablo Legorreta 23:40

Sure, thank you, Esther. And thank you very much for the invitation to participate in this great panel. I couldn't be more in agreement with you, Robert and with the other panelists that we're in really, really exciting times in our industry, in life sciences. I view our current time as the golden age of academic discovery and biopharma development. And the reason I'm excited—I'm going to give you a little bit of data points—in Humans there's been estimates made of how many diseases exist, and there's different estimates, but probably around 30,000 plus or minus 1,000. Obviously, there's some that are affect a very significant portion of the population, and others that are more niche diseases. But today, we have treatments for only about 6,000 of this 30,000 diseases, about 20 percent. Many of the treatments that we have today are suboptimal, are not disease modifying treatments, are symptomatic treatments. So we have an incredible challenge in front of us, and today, the technology, the innovation, is there to solve many more of these diseases. So that's why I'm so excited about 2035. Now what I'd like to do today is a little pitch for continued funding of innovation in life sciences. And my perspective is the perspective of a business that I built over the last 28 years, Royalty Pharma, where we started buying royalties from academic institutions and research hospitals in Chicago—where two of you reside—we bought a royalty from Northwestern for $700 million upfront, a $1.4 billion royalty, so half of it, they had a $2.5 billion endowment, so huge concentration of risk, and they took the money and built a lab for the medical school. But what we've done at

Royalty Pharma over the last 10 plus years is that we have now started to fund late stage clinical trials, and we've deployed about $25 billion since about 10 years ago, and the slide you see here is important. So if you look at how innovation is funded globally, we start with academic institutions. The top of this three circles, about $100 billion is invested yearly by governments. The US NIH is 50 billion, 47 billion of that 100 billion. US disease specific foundations add about a $15 billion. And then if you add other governments, and you know, the great academic institutions in Europe, Weizmann in Israel, Karolinska, MRC, Cambridge, and many others, we get to about $110 billion invested per year by governments in academic research, a trillion dollars over the next decade. When you look at the corporate side of the ecosystem, we're talking about 200-220 billion per year invested in medical research. It's interesting to note that when you add those two 100 billion plus 220, we're talking about 300 billion invested per year. When you look at many other industries, in the US, just to give you a perspective, the total investment in R & D is $800 billion, of which close to 200 is companies, and 600 billion—sorry, the other way, around—200 billion is the government and 600 billion is companies. So in life sciences globally, 300 billion per year, of which the US is about two thirds. So 200 billion. So just realize that life sciences R & D investment is about a third of the investment the total corporate sector in the US is making across everything else. Really important. Now the reason I'm making this pitch to continue to fund life sciences innovation is because what really is at the top of this cascade, and what detonates a lot of this innovation, is the US government investment in NIH, the $50 billion. What is a bit disappointing to me and concerning is that the budget that was presented last week by the administration is to cut NIH funding from 47 billion to 27. 40 percent. It would be devastating to actually cut NIH funding by those amounts. Another data point that is important for us to reflect on is that a recent poll demonstrated that the US public—78 percent of the US public is against cutting investment in R & D. So we have to continue, because this is an engine of innovation, where the US really dominates the world the world and has a lead, and we cannot lose that lead, and that kind of cutting will be very devastating to the US. So in this ecosystem, as you see, I think other governments will continue to invest, and there's this trillion dollars that we invested over the next 10 years. The corporate side is about $3 trillion. Big pharmas are profitable. They're going to continue to reinvest a lot of their profits. The other side of the ecosystem that is at risk is the biotech side, which is this trillion dollars that is needed over the next 10 years to fund biotech. These companies are much more dependent on the markets, and the money is needed to then move all—there's 8000 of these companies—to move these programs from phase one to phase two, phase three, and eventually approval, and that's where we also come in at Royal Pharma to try to work with these companies and fund now legislative trials, but I'll stop there, Esther.

Esther Krofah 29:09

Thank you so much for painting the picture here. And we've talked about, of course, the impact on cutting NIH as being quite significant going forward, and part of the impact of that is potential for brain drain—scientists that leave the US. Are you concerned about that at all?

Pablo Legorreta 29:28

Very concerned. It has been estimated that in the US, about 40 percent of the top scientists across academia are non US scientists. And there is a big concern among us academic institutions about all of these people not staying in the US, many who are graduating now, given the hostile environment, and also many of them being recruited by academic institutions elsewhere in Europe and China. And we cannot lose that incredible brain—that we need to maintain those brains in the US, and it is a concerning thing, given what's going on.

Esther Krofah 30:06

Ellen, I want to come to you and talk a little bit more even about what the picture Pablo painted as you think about healthcare 2035 you're representing two hats. One, the patient perspective, and two, the work that you've done for many decades and friends of cancer research, really advocating for cancer research, and that's really a leading cause of death across the world, and certainly here in the US. How do you think about the shock to the system, potentially by the cuts that are coming forward? And how do you think about 2035, one way or the other, if we realize or don't realize these cuts?

Ellen Sigal 30:40

Thank you, Esther. I think Pablo voiced it extremely well, and I'm going to read from Charles Dickens and the Tale of Two Cities. But don't worry, I'm only reading a few sentences. But it describes exactly what we're doing now. "It was the best of times. It was the worst of times. It was the age of wisdom. It was the age of foolishness. It was the epic of belief. It was the epic of incredulity. It was the season of light. It was the season of darkness." So let me start with a light. First, we are we lead the world in biomedical research. We have had extraordinary advances that have gone to the patient, and we are incredibly happy about that. Ninety-four percent of novel drugs are approved in the US first. It means that cancer drugs get to patients two years before they get there in Europe. We are able to work with early detection. We'll be able to—we're able to do precision medicine through ctDNA. Now we know which drugs will work and which drugs will not work. And eventually, by incorporating AI and real world evidence, we are going to get there faster and more efficient, efficiently, however, we are really jeopardizing our regulatory system, and we're burdening it so these advances will not get to patients, there was an article this morning The New York Times that talked exactly what Pablo talked about, that there's active recruitment in the EU of our best and brightest scientists. We have taken—3,500 FDA employees have been fired. There is a new budget that came out on Friday that is talking about $18 billion from the NIH. If we, if we incorporate all of this, we are going to lose our leadership. We're going to go to China and other countries that are very happy to lead. So we have enormous opportunities for patients that will we can deliver that are threatened, and it is an incredibly serious issue.

Esther Krofah 33:01

So, you should all—yes, clap, for those of you that seem like wanted to react to that in the audience, because it is an incredibly serious it is incredibly serious issue. Robert, I want you just to react to this topic of risk and resilience, because during COVID-19, you had to pivot very quickly right to enable the company to respond to the pandemic. How can companies and institutions really build for a response during times of shock, if we begin to see some of this foundation actually shift in dramatic ways, right where the public sector pulls back? Does that mean that you have to do more? Can you close the gap?

Robert Ford 33:43

I think what we saw in COVID actually was like, the best example of what can be done, and the incredible, the awesomeness of what can be done if you take academia, public institutions, and private enterprises and put that together. I think that if you look at vaccine development, if you look at the testing and all the series—I mean, that wasn't done—I mean, obviously there were—everybody was trying to maybe take their own credit. But the reality is that everybody came together. Those three areas came together and had this incredible response. So I think it's super encouraging. That is an example of what can be done if we decide to, you know, tackle big issues, you know, like, like Ellen said, you know, cancer is, you know, it should be one that should be on the list of okay, let's all the three areas get together and I think we could do incredible stuff. But so I think it's, it's very powerful combination. Yeah, we did, we did incredible work. Abbott people did incredible work, but I think it really was a combination of all those different groups coming together and treating it, as you know, as an emergency, and taking it on so.

Esther Krofah 35:06

Judy, I would love for you to react to that as well. How do we respond to shock within the ecosystem, and how do we think of the role of the payer, providers that integration? Can we solve for it outside of public sector being involved.

Judy Faulkner 35:23

I think we're going to see a lot of improvement with the payers and the providers working much better together. I think that we're going—and one of the things I think is really interesting is our experience with the payers has been that they do care a lot. The providers often think the payers are evil, but I don't think that they are. And so what we're going to see, I think, is that prior authorizations are going to go much quicker. They'll be done right in the exam room with the provider talking to the patient, and there's not going to be delays. Denials will be much fewer, and care gaps will be closed. So I think that part is going to be much better.

Esther Krofah 36:10

In the other room, they're talking about the big T word—tariffs, and we're the health audience. Anyone want to react to any concerns around the potential for tariffs disrupting on the supply chain for health-care products.

Robert Ford 36:28

I'll start. I guess I will have a view here. Congratulations, all of you for resisting the temptation and taking a break from all that chatter. I think that you know, from an Abbott perspective, we've got a very kind of global supply chain. We have 35 manufacturing sites here in the United States. And those manufacturing sites they, you know, they support most of you know, the revenues that are in the United States. And the international sites support the international kind of revenues. So I think we've tried to do that, and we didn't do it as a result of tariff. This is decades and decades of planning and being resilient. But yeah, I mean, I do think that it's got a potential. I think what you saw so far, a lot of health-care companies, the majority of them, had said we can handle this in terms of

the financials. So we didn't see a lot of changing in people's projections there. But I think inherently is that is a combination of—okay, we can handle up to so much, and then we're also expecting there to be some sort of understanding that, you know, it is a global world. It is a global supply chain that's been built over decades and decades and decades. And so I think there is an assumption there that there will be some level of tariffs that will be there for the foreseeable future, but maybe not at the same level that we've been seeing. But it's, you know, pharmaceuticals, medical supplies, I mean, it's not, you know, we rely on other countries or the countries rely on the United States. So urging all parties to get together and do what needs to be done.

Esther Krofah 38:11

Greg, you wanted to comment.

Gregory Case 38:12

Observe, this is obviously not only a health care burden. We talk to companies all around the world around just the topic of risk and volatility. We convened a webcast a week and a half ago on the topic of tariffs, and in 24 hours, we had 3,700 clients globally wanting to understand tariffs from all over the world. So the intensity level, as Robert's describing, is high, but it's high around understanding implications. Global supply chain is a reality, how does one think about diverting and moving and all the pieces around it? And I come back to your original question, which is, if there's less funding and less to do with, and it's still more complication, how do you get, how do you move from point A to point B? That's what our clients are asking. Because in the end, the concept of strategy, you can run faster to a great place—by the way, if you can do that, take that every time—that's a beautiful thing—I know what I'm doing; just run faster. But we can't run faster. We spend more. The complication of the global supply chain is a reality, and our outcomes aren't what we want them to be. So we're actually spending more, and the outcomes aren't what they want to be. So now we get to, not run faster, but run different. We've got to find ways to do that, and this is back to kind of alignment—and Robert's point and Pablos point around, how do we align more effectively to do that in a public, private partnership, you know, as a private investment, all the different pieces around it, and the tariff complication has thrown an absolute sort of wrench into that. But it's not one we can stand still, you know, hope is not a strategy. We really have to understand what's going on, take action and move forward. And you know, I'm with the panel. I think there are options to do that. And our clients are doing what they always do. They step back and then pragmatically, take, take action, to try to improve their business.

Esther Krofah 39:51

Pablo would you want to react to those?

Pablo Legorreta 39:52

Yes, I thought—if okay with you, just to bring back the conversation to some of the exciting things.

Esther Krofah 39:58

Yes, we're going to come back to that.

Pablo Legorreta 39:59

Into the future. And obviously there's incredible innovation in cell therapy, gene therapy, a lot of the newer things, and just maybe a very quick comment—flat, maintaining funding flat, NIH funding flat, or a 10 percent reduction maybe makes sense to put a little bit of pressure to make things more optimal. But 40 percent will definitely be devastating, and this incredible network that exists in this country that took many decades to build, could be hurt in a very significant way. But maybe if I come back to exciting things, I am fortunate to be involved in an area where I think we're going to see incredible innovation, and we're at the cusp of really, you know, very impactful change in an area which is going to impact global health in a very significant way. And it is something very new. It's xenotransplantation. I'm actually involved with a man that spent 40 years breeding a colony of pigs, miniature swine, and this his vision was just incredible, because he realized that we needed small pigs that get to be about 200 pounds versus the big pig, which is 1000 pounds, because the organs of the smaller pigs are the right size for humans. Now, what he also did through classic inbreeding that took 40 years, similar to what the English did with dogs over 400 years, is he knocked out a gene that causes instant rejection in humans. And the background genetics of our pigs are identical—96-98 percent coefficient of consanguinity, so the organ from one pig is identical to the organ of another pig in our colony. And what happened about 60-65, days ago, is that we put the first pig kidney from this colony where they're the right size, they don't have the gene that causes reduction in humans, the background genetics are the same in a decedent, this is a brain dead human that had agreed to donate their organs for transplantation, arrives at NYU Langone. The human is checked, had cardiovascular disease, diabetes, so you're not going to take the organs of a people that does not have adequate kidney function or heart and put them in a patient that needs a kidney a heart. So Bob Montgomery at NYU Langone goes back to the family and says, Do you mind if we can—your family member had agreed to donate the body for transplantation. Can we use it for science? And the family agrees. So we put our pig kidney in a decedent about 60 days ago, the family had asked that they wanted to do a celebration of life event. So we couldn't get the 60 days, which is what Bob Montgomery was starting, but we got 28 days, and what we saw was no rejection whatsoever, and excellent kidney function. It was an incredible feat that you know, looking back at the work that David Sacks did over 40 years, took 40 years to get us here, and we're here. Now what's really exciting is we're going to do a transplant in about a month, in a man that is has failed transplantation, was on dialysis, and it's going to be on a compassionate use basis. But we were going to file an IND to start a trial in 20 humans that are on dialysis that want a kidney from a swine, a pig, because in the US, we have about 700,000 people on dialysis that live about five years and have to—you're unfortunately, you know, you can't do much because you have to go to a dialysis center three days a week. It's also the number one category of expenditure of almost every government around the world. We spend about $150-$200 billion per year taking care of 700,000 patients in the US in dialysis. So what's really interesting is that we're now at a stage where we're going to do this trial, we're going to file an IND for 20 patients, phase one, with a pig kidney. And if that goes well, this can become a source of unlimited organs for humans. There's 150,000 patients on transplant waiting lists, and there's 27,000 transplants per year in the US. So many people that would like to get a kidney will never have access to a kidney. Now—and this is what's so interesting—there's other companies working on this that do not have an inbred pig that has been genetically modified, so they have an animal that you need to do CRISPR on that animal to knock out this gene that causes rejection. And the cost of this animals is

100,000 plus. In our case, we're fortunate that because of the work that David Sacks did over 40 years, funded by NIH, about $280 billion of funding over 40 years, we do not need to do CRISPER and our pigs, at the end the cost of our kidneys would mean the thousands, low thousands of dollars, making this widely accessible for the world. And it's not only kidneys, but also heart failure, for example, in the US, there's about half a million people that die from heart failure per year. Now that is not hitting from a cost perspective, as much as dialysis, because people unfortunately pass away. But the fact is that there's half a million people that die from heart failure, and obviously a heart from a pig could be the solution. So we're at a stage where maybe this kind of technology, Esther, could take cost out of the system, if we are able to eventually make xenotransplantation a reality, and we're there today.

Esther Krofah 45:43

Wow. Again. Goes back to the foundation of funding that came from NIH to ensure that we had the potential for that kind of research to go on.

Pablo Legorreta 45:51

There's been many estimates of $1 of the US government's money, our taxpayers money, funded in NIH—what is the impact of that? And different estimates have come up with a multiplier of 100 when you look over time. I think here, there's no question that that you know 300 billion or so that was invested over decades by—300 million that was invested by NIH—the multiplier in diabetes is 100, maybe 1,000 when you when you include other diseases. So it's really worth the investment.

Esther Krofah 46:24

Let's hear from the other panels around innovation that you're working on, that you are excited about, that can be transformational, as Pablo described, Ellen, do you want to start?

Ellen Sigal 46:33

I thought Pablo, we were siblings from another mother, until you started talking about pigs, and I'm a vegetarian. [laughter] So all of this that we're talking about is highly dependent on a regulatory system that's functional, innovative, and is staffed well. And that is in great danger. We've already let go many people at the FDA, fired people that were innovators. Unless we're able to understand and translate this and have a regulatory system that can absorb all of this, it will never get to a patient. So it's not only the NIH which is critical for the research, but we can't do this without a regulatory system. I've worked through friends of cancer research. We reorganized cancer through the OCE at FDA, we should have other centers of excellence, breakthrough drug designation, rare disease. We're losing small companies that will not be able to navigate the system. So if we want to be leaders, or continue to be leaders, we not only have to think about the research. We have to think about the regulatory system that can understand them. They can absorb AI and real world evidence. Gene therapy, we're working on ctDNA. We have already proven in clinical trials that we can detect which patients will or will not respond—

Esther Krofah 48:00

—ctDNA, circulating tumor DNA.

Ellen Sigal 48:02

Yes, but where we're going with that is we're going to be able to know early whether or not to give the patient the treatment or not. We can't do that without validation. And validation—and we know a lot about AI, but not of all of it is accurate. So if we're going to incorporate it, we have to make sure that we're incorporating the right information, so our global leadership, our ability to transform costs, are highly dependent on a system that really can absorb these new, innovative changes.

Esther Krofah 48:35

Robert, what are you excited about? What innovation on the horizon?

Robert Ford 48:37

I'll say a couple, not necessarily all that we're working on. But I think some that are going to be pretty cool and exciting. I think kind of the automation portion that we just discussed, automation slash AI. So two areas there, for me, like AI-based diagnostics, I think is going to be incredible. Our ability to diagnose faster, earlier. And quite frankly, to your point on 30,000 diseases, be able to kind of get to them faster. And I think robotics is going to be hugely important, whether it's surgery or other areas too. So that whole area of automation, AI, I think, will be important. A second one that we are working quite a bit on, also is in bio wearables. So we all know the wearables, your watches, your rings, et cetera. But I think you're going to have the next level, which is devices that will be on your body, will have, will sit a little bit below the skin. So right now, the wearables are just on the skin. These will be below the skin. We've got a couple products there. We launched one called Lingo, which is a continuous glucose monitor that sends information to the phone, gives a lot of insights to people that don't have diabetes and want to understand what's going on with our food. And then the third area that I think is very exciting is just—a lot of work on the brain, and some of the stuff that we're doing regarding brain computer interfaces. I think that's going to be exciting also, in terms of just the opportunities that are there. We do not do enough research also on the brain, and there's a lot of pharmaceutical research now regarding Alzheimer's, but there's just going to be a very big push into understanding better our brains and and the power that exists there. So those are three areas that I'm excited about.

Esther Krofah 50:21

Excellent. I'll come to Judy first, and I'll come over to you, Greg. I know Judy, you're working on so many things, and you talked a bit about Cosmos earlier. Are there things that you're excited about in terms of innovation that you're seeing, including in AI and IT that you want to share?

Judy Faulkner 50:38

Well, I think that we're going to see—first of all, I agree with the speakers who've already spoken up. I think that we're going to see changes in clinical trials. One of the things I would listening to the previous speakers. I wanted to mention was, as we go around the world, I do think that America does have the best health care in the world, if you can afford it, and if you can't afford it, then you don't get good care. And so often, when we look at our statistics and compare them to other countries, yes, we're not at the top, but we probably are at the top or close to it, if you just look at those who can afford it, for those who can't afford it, it's not good care. So I did want to make sure I mentioned that. I think that we're going to see some of the problems that you've mentioned, but I know that we ourselves have about 300 million patients in one large database that we study constantly, and can find the right participants for clinical trials very quickly. And we're going to try to figure out, how do we use that to substitute for some of the losses that we're going to see? So that may be helpful. We call that Cosmos, and then parallel to Cosmos is Cosnome, which keeps the associated genome. So you can look at both.

Gregory Case 52:07

I just want to say quickly, these cool players up here, by far, this is the cool stuff. They got the toys. It's the coolest thing in the world. But there's a world out there that literally wants to accelerate this. This is back to alignment data and analytics. Okay, think about it—there's 250 trillion pension, high-net-worth sovereign funds that want to hear these stories. If they can track these stories and understand them, we can write cover around them to reduce volatility. For example—gene cell, right? This is massively expensive, highly probable it's going to work, but you're spending a million dollars and it doesn't work, you want to, you want protection, the company wants protection. That's called—that's a risk cover. So we're actually finding ways to create risk cover that reduces the volatility of introducing these innovations, the GLP-1s, by the way, we track adherence appropriately. You can actually introduce it as a company, and if the employees follow and you don't get the result, you can protect your P&L, so—and all I wanted to highlight around innovation, this is scale innovation, using the world to kind of connect the dots here, it's all about, you know, can we track and understand it? This is the cool stuff. We want to try to, we want to try to activate it.

Esther Krofah 53:09

Excellent we are in our Q&A portion from the public audience. So you can submit a question online. I think there's a QR code here that you can use as well. We've already had some questions throughout the discussion and the panel, the one that I wanted to ask first is: Is the health insurance system broken? And what are the important variables needed to improve the insurance system? Does anyone want to take that? Do we think the health insurance system in the United States is fundamentally broken?

Robert Ford 53:40

I'll, go ahead. No—

Esther Krofah 53:44

It's hot potato. Who wants to take that?

Robert Ford 53:46

I'd say—I guess it's an old system. It was set up in 1945 you know, post World War, and it needs to be updated. It needs to be changed. And there are things about it that don't work anymore, and—and there are things that, you know, I guess it's okay, but I think there needs to be—we're taking basically a lot of people, and some of them are very healthy, and they're paying into, you know, so, so I, you know, one, one idea I heard, which I thought was interesting, is, we have credit scores today, right? So the financial and banking system rely on credit scores if you want to take a loan, etc. And you know, the idea of having a personal health score is something that I've kind of heard thrown around there a little bit, and that personal health score then will dictate in terms of, you know how you pay into it and you know what you're responsible for. So I think that that's an interesting idea, but there are so many more things that need to be changed, whether it's IT systems, but, coverage decisions—how we look at it. But, yeah.

Esther Krofah 54:57

Yeah, you're raising the question of, is this health insurance system fit for purpose? Have we not modernized it to current times? And should we look at that differently? Ellen, I actually have a question for you that came from the audience, but—

Ellen Sigal 55:08

Okay, I'll take it.

Esther Krofah 55:09

You'll take it all right, if the cuts go through at NIH, who should fund cancer research?

Ellen Sigal 55:15

Well, I will tell you. We have a lot of foundations that already fund a cancer research. Pharma has a huge investment. To think that we are going to make up these enormous losses is folly. It isn't going to happen. I do think that there are opportunities to innovate on clinical trials, to get the system more efficient, but to think that the private sector or pharma or foundations can make up these huge gaps is completely insane. The other thing is, we need the regulatory system to be robust, innovative, and to act quickly to innovation. So we organized FDA for OCE, we need to have centers of excellence there, and we have to believe that we can look at risk-benefit, depending on rare disease and who can get treatment. So we cannot, even if we fund it, if we don't have the right people with the right attitude and science at the FDA, none of it will get to a patient, and we won't do anything about cost.

Esther Krofah 56:21

Yeah.

Pablo Legorreta 56:21

The risk, the risk is that it gets funded by China, for example,

Ellen Sigal 56:25

Correct.

Pablo Legorreta 56:25

And for the US, you know, that's

Esther Krofah 56:28

The national security, issue.

Pablo Legorreta 56:30

Yes, I mean, you know, at some of the conferences today, life science conference, there's a lot of talk about, how about 30 percent of the deals over the last year or so, you know, licensing deals, BD deals, are being made with Chinese-originated companies. So it's really amazing the progress they've made, and they're going to be there, they're going to make that investment. So it will be foolish for us to fall behind.

Ellen Sigal 56:56

May I just have one thing

Esther Krofah 56:57

Sure

Ellen Sigal 56:58

The science in China is good now. They're doing, they've reorganized their FDA, their system, they're doing clinical trials. It is not what we faced or looked at 10 or 15 years ago, where we could not trust China with robust innovation.

Esther Krofah 57:15

And so the threat, of course, is there. Do you think that we have this opportunity to turn things around?

Ellen Sigal 57:22

No, unless we have the attitude or the will to understand what we're doing. We would have to, we're not going to do it from the private sector. We're going to have to understand that if we're going to look at prevention, early detection, intervention, and cost, we really do have to look at the funding. We should partner with pharma and other organizations. There's a demonization of pharma, and I completely understand the costs and accessibility. But if we don't partner early, and if we don't understand what's feasible, and we don't work with companies early, with a regulatory system, they will not get to the patient.

Esther Krofah 57:58

Absolutely. Judy, I have a question here that I think is well suited for you. An audience member asked this question, who will have access to powerful AI technologies? Is it the privileged few or the communities that need them most?

Judy Faulkner 58:12

Say that again will have access—

Esther Krofah 58:14

—to the most powerful AI technologies. Is it the privileged few or would it be available to communities?

Judy Faulkner 58:20

We have to be very careful, because personal health information is the basis of all that. And so right now, we have a problem going on with some of the data going out to organizations that are using it appropriately for the health care of the patient, and some who may be selling it to class action lawyers, and that shouldn't happen. So we are in the middle of that. We've got to figure out, how do we tell people to stop it? And will that be supported? Is the definition of interoperability going to change? Interoperability had been to follow the patient wherever the patient goes for the care of the patient. Interoperability hasn't been—make use of that for the detriment of the patient. And so we have to be extremely careful about what we're going to do for that. Interoperability, by the way, started back in the early 2000s, when I went home after a day of work, my husband, who's a doctor, he's a pediatrician, I asked him how his day was, and he was distraught, because he had had a child that he was taken care of, had certain problems, she went with her family to another city, got sick, they took her to the doctor, but she was under good care; they took her to the doctors, and she died. And so he said, if they just had her record, they would have known what to do. That's how interoperability started. That's a good thing about interoperability, to be able to take care of this patient. So they don't die. Last year, when we looked at how many times when we alerted a doctor that the drug they were giving the patient was probably in error, how many times did those doctors change what they were given? That's an interesting thing. What is the number of times across the country that they changed? It was 170 million times. That's a big number. And so I think we have to be very careful about interoperability.

Esther Krofah 1:00:34

Absolutely. What were you optimistic about? You could provide the physicians with more data there—they will make the appropriate decisions. Was that a level of optimism that you ended with Judy?

Judy Faulkner 1:00:45

I'm having trouble with echo.

Esther Krofah 1:00:48

Are you optimistic? That are positions, leave them with—

Judy Faulkner 1:00:54

I'm optimistic, because I think we have to be. That's the only thing you find the optimistic path, and you go after it. And I usually say, don't do something if it's going to kill you, but if it's not going to kill you and you want to do it, do it. And so yes.

Esther Krofah 1:01:11

well, as we close the panel, I think it's good to end on a note of optimism. So I would just like to go all the way down, and we'll start with you, Greg, as you think about the next 12 months, what are you the most excited about?

Gregory Case 1:01:22

Listen, I think the opportunity—you hear it on the stage here—the opportunity to connect, work a little more effectively together, whatever the resources are. I think you've heard loud and clear, we've got to be, run different. We've got to work better together, and no matter what we're focused on. But my God, was there a huge agenda up here to play around with? And I will tell you, we're excited to engage with our clients on a range of topics, including the GLP-1s, but all things sort of around that so very optimistic about that.

Esther Krofah 1:01:46

Anything else, Judy, you want to add in terms of, what are you excited about in the next 12 months.

Judy Faulkner 1:01:52

Oh, I'm sorry, yeah, I thought you were talking to him.

Esther Krofah 1:01:54

No, I'll go down the line. What are you excited about? Maybe, Robert ask Judy

Robert Ford 1:01:59

What are you more excited about 12 months

Judy Faulkner 1:02:01

What am I more excited about in the 12 months? Next 12 months? I'm scared to death.

Esther Krofah 1:02:17

Appropriately said. Robert?

Robert Ford 1:02:19

I'll just, I'll take the other side of that coin, which is, yes, there's a lot of challenges, but we're pretty resilient as human beings, and I think we'll figure ways out. So.

Esther Krofah 1:02:29

Pablo.

Pablo Legorreta 1:02:30

I think the next 12 months will be critical, but I think, I hope common sense prevails, and that we continue, you know, as a country, to lead innovation in this field, which is really changing the world.

Esther Krofah 1:02:42

Yeah, absolutely. Ellen,

Ellen Sigal 1:02:43

Yes, I'm optimistic we can treat and prevent cancer. It's getting very, very close, and there are things even in the next 12 months or 24 months that will make a difference. But we have to fight and we have to understand that we cannot take away the resources and the ability to get these to patients.

Esther Krofah 1:03:03

I think it's appropriate to end with Charles Dickens. It's the best of times and it's the worst of times, but we're equipped with the ability to make decisions about how we craft our future. So thank you so much to each of you for joining this opening health plenary. Thank you

Announcer 1:03:24

We hope you enjoyed the discussion. Please make your way to the next session.

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