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"I think we're the bridge between the healthcare systems, the pharma systems, and the molecular diagnostic systems," says Matt Newman with Manifold

Dr. McDonough:
Welcome to *The Convergence* on ReachMD, where innovators and physicians explore the technology transforming medicine. I'm Dr. Brian McDonough, and today, we'll be examining the challenges of the interaction of technology and healthcare.

And joining me to have a lively discussion is Matt Newman. He is the Senior Vice President of Industry Solutions with Manifold.

Matt, it's great to have you here today.

Mr. Newman:
Yeah, happy to be here. Thanks, Brian.

Dr. McDonough:
I know you have deep experience working at the intersection of healthcare, AI and clinical practice, and you've partnered closely with health systems and clinical research organizations with an understanding of the real-world challenges they face. So you have that perspective. Tell me a little bit of where that perspective is an advantage, and how you use it to improve care in general.

Mr. Newman:
Yeah, maybe some quick background on where I came from just to set the stage—my background was in molecular biology, and so I had a focus on genomics. And I was working in the lab back in the early 2000s doing some gene expression analysis in the very early days of all of that. And I am six foot six, and it became clear within about an hour of actually getting paid to do this that I wasn't fit for this. And so I started exploring outside of that, and I ended up getting into more of the tools and data side of things in the space and less about the actual lab work.

And then there's just a bunch of things in my family history that really brought me to that. I unfortunately had my father pass away a little over three years ago from pancreatic cancer. And one of the challenges that I found when he passed away pancreatic cancer—it's obviously a terrible disease, and it was a very fast thing. He was diagnosed in, I want to say, June, and he died by August of that year.

And I had worked in this industry for 15 years, so I knew a lot about cancer testing and some of the strides that were made there in terms of personalized medicine. And so I said to the doctor—and it was in a well-known hospital in Philadelphia, so this wasn't a small rural cancer center—I said, "I really would like you guys to get his tumor for testing because I want to find out, is there a clinical trial or something that we can get him into?" And they did the biopsy and did not collect enough tissue to actually do the testing.

And I thought, wow, well, if my dad, who has a son who's worked in this industry, didn't even get that type of care, then there's a huge opportunity across the rest of the country. So imagine people in rural areas and elsewhere where doctors aren't even aware of these types of things.

So I thought there was an opportunity there. That kind of brought me to this. And then I joined Manifold as a way to help that because I see us as a bridge between the scientists or the doctor that's asking the question and all of the tools, data, and knowledge that are out there that help you make those decisions on a day-to-day basis.

Dr. McDonough:
So a lot of what you're telling me is, your personal experiences combined with your basic interest in science, genomics, and those things, and they all are working together, building your overall interest to want to give back and help. And tell me a little bit about Manifold and its role just in general for those who may not be familiar.

Mr. Newman:
Manifold is a solution for life sciences, and when I say life sciences, it could be someone like the Broad Institute, who's partnered with us to host their data and run their tools. Or it could be the Indiana University Cancer Center, who's also partnered with us to host a variety of their data so that their doctors and researchers can ask questions about some of the data in their population.

Again, I see us as this bridge. There's this setup where the doctor sees a patient, and there's information about that patient, but they want to ask a broader question, like, "What does this particular piece of information mean?" Historically, they have to then go to the domain expert who has access to data, to tools, to all the knowledge around that. And that person then has to answer it. And so you've got this delay between what's actually at the practice and these other people that are doing the research.

I think where Manifold is really going to help is to bridge that gap. So, as an example—I always like to give examples about me. It's just an easier way to set the stage. I had done 23andMe right after it came out. Because I just thought, "Wow, this stuff is interesting, and I'd love to see what it shows." And one of the pieces of information they told me was that I was a carrier for a gene for Factor V Leiden, which is a blood clotting disorder, as I understand it. And I'm not a doctor. You know more about this than I do. But at the time, I just read it and I thought, "Well that's interesting. I guess that's something to note." And it was more of the cool, "Oh wow, I just connected to my cousin," and less about the health side of things.

Fast forward 10 years and I go to a cardiologist because my dad had a history of different heart problems as well, and I was trying to be as proactive as possible.

I told the doctor here in Sarasota, Florida about this particular mutation. He said, "Oh wow, we're going to test you for everything." So this doctor in particular tested me for every genetic syndrome. As it turns out, I do have Marfan syndrome—I'm six foot, six inches, and pretty much everything else. I'm not at huge risk, but there's certain things that I need to do.

So, really cool stuff that we can learn out of our genetics that not everybody has access to right now. And I just got lucky being in the space and then having a doctor I picked who was so in tune to that.

Dr. McDonough:
You bring up a really interesting point. and we'll talk about it little bit because you've experienced it as a scientist and as a person. What about people or doctors who are more, "I don't want to know too much about patients. I'm going to find way, way too much information." That fear of the unknown—I know it exists. How do you think about dealing with it? Because what you're talking about clearly are the advantages. You want to be prepared. But some people might be thinking, "I don't want to be prepared. I may find out I'm going to have dementia or something." What about those types of things? Because that is a challenge.

Mr. Newman:
Yeah, it is a challenge. And it's a challenge that I think I've even seen myself with certain things. I am of the scientist background, so I'm of the mindset where I want to know everything, and I can deal with it. But my mother, for instance, we are Ashkenazi Jewish background, and so her mother died of breast cancer years ago. And there's a prevalence to BRCA mutations and things like that. And at the time, I asked my mom if she wanted to do this testing and she said, "I don't want to know any of that. I don't want to know. I think I might get it because my mom had it." By the way, we're 10 years past that and she's perfectly healthy, which is great, but there's definitely a whole lot of people like that.

And I think it's something that is going to be a huge challenge over the next couple years—probably the next 30, 40 years—to get people to want to be able to do this. And I'm actually not sure what the right answer is. I know that people want their doctors to be informed. The question is, how far do you take it? People like someone like me, I say, "Okay, I don't mind that my information's out there as long as I can own it."

But also as important to me is that the doctor can leverage that in a positive way, right? I don't want an insurance company to say, "Hey, we're going to charge him more because he has this copy of the Factor V gene." Right? But I'm assuming we have regulations in place and we'll continue to have those regulations. I think the advantages are going to outweigh any disadvantage in my opinion.

Dr. McDonough:
So when I was introducing you, we were talking about your experience, which is extensive. You've done a lot of work in what I call this intersection between research and healthcare. What has surprised you? Maybe what has disappointed you as you've done your work? And then we'll talk a little bit about what you're embarking on now in the future. What surprised you or disappointed you?

Mr. Newman:
I think what continues to surprise me is, again, going back to the story about my dad and the cancer, it doesn't seem like there's this

interconnection between all of the doctors and all the information. My dad was a "doctor guy." When I say he saw a doctor of some sort on a weekly basis, I don't think that's an exaggeration. So he was one of those guys who was always somewhere, whether it was a thyroid issue, a cardiology issue, a migraine issue, or whatever.

And when he got sick, he was a 70-year-old patient who in the previous 10 months had jaundice and had lost 70 pounds. He got diagnosed with type two diabetes for the first time at 70. He was never really overweight, and he was a big runner. He ran the Boston Marathon in AFib when he was 40 or 42 or something like that. So a guy like that is so interconnected to all of his doctors, and yet, in my opinion, none of them talked to each other. There wasn't this sharing of knowledge because when I describe that to you, you probably say, "Oh wow, that sounds like there was a chance he had pancreatic cancer." You put all those pieces together, and it wasn't until something went wrong when he was away and when they got home they did this scan.

And so I think from a surprise perspective, I had seen that everybody was doing genetic and genomic testing. That was my background. I didn't realize that there was this huge need to just connect the healthcare systems and everything else because people aren't talking. And so the reality is they're not leveraging all the information out there. And I think companies like Manifold are really helping to actually do that.

Dr. McDonough:
No, no, it makes a lot of sense. I work every day in it. And I'm a family doctor, so I would do inpatient and outpatient. I've now just moved in the last five years to basically the ambulatory outpatient world. But even having the knowledge of following your patient to the hospital and taking care of them in the hospital and then taking care of them in the office, which was kind of an old-world thing, that was very valuable because information often didn't get lost. I could talk to the specialist in the hospital, but now that I'm a little less connected, you're right. I live with electronic records, but there's these extensive reports and notes and you're trying to get to the bottom of things and you don't usually get that one conversation in the hallway that tells you everything.

And I think as people go to multiple healthcare systems and they're in and out, you really are targeting on an issue in healthcare where we need to communicate better and also put pictures together—have a quarterback, let's say, of care who's watching everything with all the specialists. And to a large extent, that seems like it'd be the simplest thing, but in many ways, it's the most complicated.

But you really gave me a great transition point to talk about your work at Manifold, because now you're looking at what you can do, not just in that area, but to try to improve care and improve the chances of things being picked up earlier. So tell me a little bit about what you're doing now.

Mr. Newman:
So Manifold—I try to think of us as a solution for a number of different spots in life sciences. I think we're the bridge between the healthcare systems, the pharma systems, and the molecular diagnostic systems. As a researcher or doctor, this patient comes in and has this particular mutation and there's nothing known about it. And so one of the first questions I would ask as a researcher would be, "Who else has this mutation?" And I think AI allows you to do really cool stuff. You go into the cancer world and there might be a mutation that is not known to be associated with a particular drug, let's say, but it's an interesting mutation. And you might ask, "Okay, what's the prevalence of this mutation in the rest of the cancer population?" And there are studies out there that have been done over the years that have tracked large populations. The Cancer Genome Atlas was a huge one that came out in the early 2010s timeframe where they profiled 10,000 patients and tracked them over their lifetime, and they have genomics and all kinds of different endpoints on it.

That's a wealth of knowledge in of itself that's sitting there for doctors.

And so Manifold really helps take all that together. And the end goal is I can sit down with a chat bot and say, "For Matt Newman—for me—we found this mutation. Can you tell me the prevalence of this mutation in other populations and patients like me?" And I think those types of things are really going to help healthcare long-term. And it'll also help on the life sciences side, like in pharma and biotech, right? I think they also need to be able to ask these types of questions as they're developing drugs to really understand like what else is out there.

There's so much personalized medicine going on right now, which is fantastic. But a lot of times we focus a lot of the large projects—the Cancer Genome Atlas, for instance, was mostly in the us—it's mostly focused on a large white population. Not entirely, there was some diversity there. But I think there's a ton of minority populations across the globe that haven't been targeted. And so our tools will allow a researcher at Pharma A or Biotech A to access that information in a health center as appropriate. We're not selling anybody's data or anything like that. It's all through approved research. But we are that bridge and connector that I really think is going to help improve stuff like that as well.

Dr. McDonough:
So we're drowning in information, let's face it, where there's so much stuff out there. But we also have these huge gaps when you talk about minority populations, and maybe the underserved people in different parts of the world. And you can get more of this together and analyze that and push it through so hopefully clinicians can make it really mean something relevant to the care of their patients, even on a personalized level.

Mr. Newman:
My dad, it would've been great if he went in to see his doctor, and they already had all the information about him and his genetic profile, and they could say, "Okay, Larry Newman presented as X. That information is in the system. Hey, I want to actually just chat and say, 'Can you tell me about other patients who look like Larry Newman who have the mutations that Larry Newman has? Are there clinical trials out there that would make sense for him to get in? What's the care pathway for him?'"

What if all the information had been available to all the doctors? That's the intent because I'm assuming a cardiologist is focused on the heart, right? But if the cardiologist had even seen some of these other pieces and put things together, would he have had three months longer or four months longer for me and my siblings?

Dr. McDonough:
And to your point, using your father is a perfect analogy for this. Someone like me would say, "Wait, why is he developing type two diabetes at age 70? This is highly unusual. What's going on?" And then I might go, before it's 70 pounds, "He's lost like 16 pounds." And I do some common sense work. And then you get other people involved.

But also, from what I understand you're doing and what I'm seeing from a lot of the reading I do, we're now getting information that's not limited to one health center. We can have health centers throughout the country—in fact, throughout the world—where you're able to target similar patients. So they're not part of some study that was done at a health center, which is our traditional path. It's now something that could be using the whole world as your lab as that information increases.

By the way, if you're just tuning in, you're listening to *The Convergence* on ReachMD. I'm Dr. Brian McDonough, and I'm speaking with Matthew Newman. He's a senior Vice President at Manifold, and we're starting to talk about the work he's doing and the way we are literally combining AI research and clinical care and looking at the best ways to achieve this.

It's interesting. One of the things you led to in the conversation is looking down the road and the future for either individual patients or for conditions and diseases in general. Does AI help you look forward and maybe have a little bit of a prediction in either individual cases or as far as disease conditions?

Mr. Newman:
Yeah, I think we're already there. And there are companies and providers out there that are really leveraging AI. And I think there's different types of AI, right? Buzzwords around GPT and things like that. And I'm envisioning a world where there is GPT-like experience where you're chatting with a chat bot, and I can say, "Tell me everything about Larry Newman, and let me give you what I'm adding." And then you could go out there and say, "Here's other people like him" and everything.

And then there's also the machine learning aspect. There is now an ability to leverage large population studies, whether it's including genomics or not, and be able to say, "Well, we've found patients that look like this." You can take a tumor from a patient and you can get it to grow in a mouse. And it will continue to grow human-like to some degree. And it's kind of the last step before it goes into clinical trial testing for drug development for cancer. And so I'm going there as an example because where AI is already going and where machine learning is already going is you can go out to these large health biobank result type studies, and you can create AI models that actually can predict how a patient might respond.

And so I could, as a pharma company, actually have developed a model that predicts the likelihood of you developing pancreatic cancer—just keeping it back to something that's of interest to me. And then when pharma's going to actually develop their drug, the first thing you might do is take that algorithm that you created based on these population studies, and you might say, "Okay, find me the tumor profiles in this preclinical model that actually have the same profile so that I can test it" so I'll know really well beforehand which drugs work. So it all comes together.

And then you take it even a step further into the clinic. Now, the standard for me, back to the pancreatic cancer example again—I'm 46. I have a father who passed away from pancreatic cancer at 70. I have a grandfather who passed away at 85. I'm sitting there going, "Okay, I'm 46. When do I start worrying?" And my brother is a couple years younger than me, and I have two half siblings who are much younger than me. I'm saying, "How do I find out what my risk is? Is there something I can do?" And so these AI and machine learning algorithms eventually get to the point where hopefully, you take a blood test or you look at my genetics something, and you'll be able to

predict in advance, this cancer is growing, or it's not.

But I think there's real opportunity there to advance the ability to actually predict whether or not it's starting. And again, looking at my dad, I think we would all agree he probably had pancreatic cancer for longer than the two months that he was sick, right? If he was presenting with all these symptoms, well, what if 10 years before, it was starting to grow, right? These are just not normal things. You don't do MRIs every month on a patient to look at their pancreas. So I think there's going be advancements, and it's all being driven by solutions like Manifold has that interconnect all of these different pieces.

Dr. McDonough:
It's funny, it's probably been 15, 20 years now, but I remember when we as doctors first started really looking at evidence-based medicine as opposed to our anecdotal stories—"Oh, I had a patient like that," and then we had evidence, and we're at the very early stages where we may look at cardiac risk factors and look at a 10-year chance of having an MI or a stroke or whatever and whether or not to start a statin. We're looking at those kinds of things, but it's so early. But I can see how well it was adopted. We all jumped on it, because we finally said, "Wait a minute, I can literally tell my patient in a conversation, here's what we know. Here's your family, here's your risk factors. We should start this medicine. It's a decision you can make, but I highly recommend it because here's our percentages."

I do think that will be very helpful as we go forward when people at least can say, "You've got a 48% chance, a 52% chance of this. It's up to you, but you might want to do something." And I think that's what you're getting at. With pancreatic cancer, 10 years before, you could be at greater risk, and we know this because of X, Y, or Z.

I've got to ask you—we're talking about some great examples—but what's broken in the current research data infrastructure, and how does Manifold try to get through what's broken and make changes?

Mr. Newman:
Not to be repetitive, but one of the things that's broken is just the information sharing, right? In cases like my father, I was furious. I was just like, "Why are all these people not talking to each other?" And you talk to doctors and they're like, "No, no, my job is to work on the heart. My job is to work on some other area," right? So I get why it is, but to me, that feels broken.

We're underutilizing all the genomic information that's out there or could be out there. That's another area that I really think is semi-broken. Again, using my data as the perfect example. And then in the pharma and biotech space, in terms of developing drugs and researching, they don't have access to all the information that's out there with the healthcare systems too, right? They've got some of it, and they've got partnerships in clinical trials they get access to data. But you are not running studies with millions of patients where, to your point, a patient comes in with an LDL level that's over a certain amount, and I'm assuming you immediately know this is person should, with their family history, should go on a statin, right? We're at that point there, but we're not there with all of this other stuff. And I think that's where we need to get—really enabling all doctors to have access to equal amounts of information. And I'm hoping that's where Manifold comes in and helps do that.

I think a simple example is Indiana University Cancer Center, who partner with us. And this is all public. They've basically created a system that uses our solutions to kind of bring basically instant access for analysts and researchers into data from, I think, more than 25,000 patients and 80,000 samples.

In real time, the researchers can quickly go in and determine which samples are available and which data's available to address their questions. So there's no longer this, "Oh, I need to go find this information. I'm sure somebody did a study somewhere on people like Matt right now, they have access to it, and they have access to it inside of their own healthcare system that has people like that because a lot of diseases and things they'll group, right?"

I go back to my dad and my grandfather—there's a possibility there's a genetic connection to the pancreatic cancer. There's also a possibility they grew up in northeast Philadelphia and lived in some house that had something in the environment, that it's not just my dad and my grandfather that have diseases like this. I have no proof. I'm not suggesting any of that. But I think that's the reality. And our platform and solutions really help those researchers overcome those challenges.

Dr. McDonough:
Yeah. And there are real world challenges as you know, because when you exclude things, it's so hard to do studies. You have to exclude so many variables. It could be right next to some industrial complex pushing out all sorts of chemicals You don't even know that was there, and that could be the factor.

You brought up some really good points about Indiana. I don't want to unfairly ask you this question because I know you've just joined Manifold, but you've been working in this space. The clinicians, when they get this information, when they're on the front lines—they've

got to be excited about having access to these things. And you're probably seeing it there.

Mr. Newman:
Yeah. And I did join Manifold about two weeks ago. But luckily, I've been in this, in this business and in this space for a while now. And I have talked over the years to different researchers, and I can think of one—I won't mention the cancer center—but they were so excited about solutions like Manifold because it did give them the ability to look at the data at their fingertips.

And I think there's a lot of doctors out there who are hungry for this type of data, both for their own research, but also for point of care, actually helping the patient. And it just seems like this is something that is happening naturally, especially with all of the buzz around AI. We're at this moment in time now where I think it's really possible for all of these different institutions to create programs like were done at somewhere like Indiana University and the cancer center there. So if we could get more programs like that in these different health centers, I think we have a real chance of helping treat a lot of these terrible diseases or at least get to them earlier than we would before.

Dr. McDonough:
I agree with what you're saying about expanding it to other health centers, and that actually brings up another good question. What about HIPAA, data governance, IRB requirements, and all these things that can be barriers to getting things done too? How do you deal with that, and how's Manifold dealing with it? Because they're real problems, I'm sure.

Mr. Newman:
I'm not the security and compliance expert, but there is a whole set of certifications around the actual platforms and the infrastructure to make sure that your data's secure and can't leak. A lot of the work, though, doesn't even need to be personally identifiable, right? These massive projects can all be de-identified. And there are companies out there that we partner with that have solutions for this type of thing.

And what was really interesting to me was learning a couple of years ago about this concept called tokenization. I'm trying to think of a good example—I go in my health records with my cardiologist. I am Matt Newman, or if you're my mother, I'm Matthew Newman. And I live in Sarasota, Florida with a particular zip code. That's actually the complete amount of information that's needed to de-identify and tokenize me and connect me with some other piece of information that's out there.

So imagine I saw my cardiologist in Sarasota, Florida, but I grew up in Philadelphia, and there was something that some doctor tested or did years ago, or something out of the insurance companies that was known about me. There's an ability just because they have Matthew Newman and my birthday and my zip code—sorry, I skipped the birthday part—in both locations, you can tokenize this.

And what I mean by to tokenize is, at the simplest terms, it's taking those three things of information and turn them into mumbo jumbo. Like, on one side, I'm A, B, C, D, F, and on one side I'm G, H, P, R, J. If you looked at those two, you wouldn't be able to say, “That's Matt Newman and that's Matt Newman.” But there's really cool technology that without ever identifying it's me, can help combine those two pieces of information and now combine the stuff I had in Philadelphia with the stuff I have in Sarasota.

And that was both a little scary to learn about just because there's this ecosystem out there that kind of exchanges of this information, but also really cool in that while I want my information to be interconnected and I want to help people, I can do it in a way where they can't look at some piece of information out there and be like, “That is definitely Matt Newman.” Because that scares me, and I think it probably scares a lot of people. And so we partner with those types of tools to allow this type of flow of information. Does that make sense?

Dr. McDonough:
Yeah, it does. And that alone is huge because that de-identification means something to everybody. I would be saying, “Wait a minute, I want to help people, but I don't want my stuff all over the internet.” We don't want that. But if you don't really know it's me, and you can take something from my DNA or my past experience—exams, labs, whatever—and help others, why would I not want that? And I think most people would be very comfortable with that, but they might be concerned if everybody saw an image of them or a picture of them. So I think that brings up a really valuable point, and I see that as being huge.

What about how technology will change the role of research and data analytics going forward? Do you see that things are already starting to change, and how can they change for the better?

Mr. Newman:
It's a great question because, again, like you said, I just joined this company a couple weeks ago, but I was reaching out to old customers and friends and colleagues. And there was one guy I worked with years and years ago when I was in the lab. I was asking him what his goals and challenges were moving forward. And he's in a biotech company; he's what's called a computational biologist. And so he works a lot with genomic information or the combination of genomic information and health record information. And they're

obviously a drug company, so they're trying to find cancer drugs and new targets for drugs and things like that.

And so in the historical world, what would happen is the scientist who was running the experiments would say, “Hey, so and so, can you tell me the prevalence of this mutation in pancreatic cancer?” And he, as the computational biologist, would say, “Well, I know that the Cancer Genome Atlas is out there, so I can use that as a reference, but I didn't really like how they did that analysis.

So I have access to these tools that will allow me to reanalyze it.” And he's going to spend three or four days—I'm probably exaggerating here for this type of question—but he's going to spend three or four days trying to answer the question. Then he gets back to the researcher. And so there's that weight between the two pieces.

He said to me his goal in 2026 is to get rid of 90 percent of that so that the researcher can do it himself, enabled by an AI strategy. So now he can spend time on the—I don't think he used this term—on the cool stuff, right? On the real challenges that require people with his skills. Suddenly you now have that ability for a researcher.

And so I think that's going to improve the actual drug development side. And then, like we've talked about on the care side, I think the possibilities are really exciting—a doctor could be interconnected and have this chat and, in real time, answer some of these questions that were never possible two years ago, let alone 20 years ago.

Dr. McDonough:
That was one of my big questions. For the average physician out there who's listening, where's the real-world relevance to them? And what you're saying is these things evolve. I get the impression there will be connections just naturally evolving between clinicians, researchers, and others.

Mr. Newman:
Yeah, that's what I hope. Again, my dad—I over-index on this—but when you use that as a case study of how I think things maybe shouldn't have gone, I just envision this world where the second they logged in to find out about my father, they already had his germline information. So they knew that even though he is Ashkenazi Jewish, he's not carrying any of the known genes for pancreatic cancer, so let's eliminate this is a path of treatment, and they could do that at their fingertips. They could do what I did with my 23andMe data before they ever had to actually run the test.

Dr. McDonough:
I've asked you so many questions, but I want to ask you a really important one, which is, what didn't I ask you that you really wished we had a second to talk about, or something you wanted to bring up?

Mr. Newman:
There was one thing that popped up earlier in the conversation that I wanted to double down on, which was some of the scariness around a lot of this. You pointed out not wanting a doctor to know what's out there. I think there's a lot that we still need to figure out.

Right now, de-identification means something, and there's a set of standards, and those standards are different in Europe than they are in the US. And there's a lot of stuff to figure out there. But all my genetic information, what is identifiable, right? If I am Matt Newman of Sarasota, Florida, like I've already said, Ashkenazi Jewish, and there are not a lot of Ashkenazi Jewish people in Sarasota, Florida, if I'm a researcher working in Boston on a rare disease where I have that mutation, it might be easy to figure out who the six foot six Jewish background guy in Sarasota is.

And we talked about the whole tokenization and de-identification, but this is something that's going to have to evolve in the industry. And I'm hopeful that Manifold is going to play a part in that ecosystem. But I talk a lot about the positives, and I'm all in on the positives.

And then there's also things that I think we need to figure out as a community to make it less scary for the people that are out there. And that is something that has not to this day been figured out. There's a standard around HIPAA and identifying me with my birthdate and my zip code and my name and whatever other information. I don't think there's a standard around genomics yet about what is actually identifiable and what's not.

Dr. McDonough:
Matt, I can't thank you enough for joining us in this conversation. Thank you so much for taking the time.

Mr. Newman:
Yeah. Thanks for having me, Brian.

Dr. McDonough:
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