

Mark Hyman, M.D.:

What everybody should understand about functional medicine is that it's the science of creating health. If you implement the science of creating health, which is as simple as taking out the bad stuff and putting in the good stuff, your body's innate healing system will take over and you will eliminate disease, feel better, and have a much happier, healthier life.

Ellen Kelsay:

That was Dr. Mark Hyman, number 1 *New York Times* bestselling author, founder, and director of The UltraWellness Center and senior advisor for the Cleveland Clinic Center for Functional Medicine. Mark is a practicing family physician, an internationally recognized leader in the field of functional medicine. He is also the host of the popular podcast, *The Doctor's Pharmacy*. Mark has devoted his life to helping others discover optimal health and address the root causes of chronic disease through the power of functional medicine.

I'm Ellen Kelsay, and this is a Business Group on Health podcast, conversations with experts on the most important health and well-being issues facing employers. Today, Dr. Hyman and I discuss what functional medicine is all about, the concept of food is medicine, and we'll explore potential applications, as well as challenges, in employer-sponsored health and well-being programs.

This episode is sponsored by Vanderbilt University Medical Center. Vanderbilt University Medical Center is one of the nation's leading academic medical centers, and one of the Southeast largest research teaching and patient care health systems. VUMCs innovative and holistic approach to population health ensures care is more affordable, predictable, and easier to manage.

Mark, welcome. We're thrilled to have you on the podcast today.

Mark Hyman, M.D.:

Well, thanks for having me. I'm so glad to be able to talk to you all.

Ellen Kelsay:

You and I had a conversation a couple months ago and the more I learn about you and your work, in the area of functional medicine, I just find it so fascinating. We're just so excited to bring the conversation to our audience today. I'm sure that many of them have maybe heard of functional medicine, but don't know exactly what it is. Maybe let's just start with, what is functional medicine?

Mark Hyman, M.D.:

That's a great question. I've spent my last 30 years trying to come up with a 32<sup>nd</sup> explanation of functional medicine. It really is the future of medicine. It's not anything other than the science of how the body works. Instead of focusing on disease, *per se*, it focuses on health. How do we create health in the body and how does the body work? What causes health? What detracts from health? How do we provide the conditions for health? How do we take away the things that cause disease? When you do that, you don't actually have to treat all the diseases individually, you create the conditions for health and the disease goes away as a side effect. Traditional medicines focus on diseases and treating diseases, which are really downstream to a whole set of things going on in the body, that we now understand are all driving disease. When we talk about inflammation, we talk about the microbiome, we talk about mitochondria, we talk about hormones and brain chemistry, these are the fundamental things that are underlying all disease. Functional medicine is an approach that looks at the body as a whole system, not as a bunch of separate organs and parts where you see different specialists for every disease you got, but how does it all connect together, what are the root causes of disease, what's the reason you have disease. For example, a patient can come in and see me and they can say, oh, I have really feelings of hopelessness, I'm not interested in doing anything, I feel sad all the time, I don't have my appetite, I have no sex drive, I can't sleep, I feel like I cry all the time. The diagnosis for the average doctor would be, oh, you have depression. That's the cause of your symptoms and you need an antidepressant. The truth is, that's just the name of the symptoms. It's not the cause. There could be many, many causes and we kind of get confused. We engage in what I call the name it, blame it, tame it game. We

name the disease based on the symptoms. Then we blame the name for the problem - oh, the reason you're sad is because you're depressed. Well, that doesn't make any sense. The reason your joints hurt is because you have rheumatoid arthritis. Well, what's causing the rheumatoid arthritis, right? And then we try to tame it with a drug. That really just ends up in this vicious cycle of accelerating disease, accelerating medication. We're doing worse and worse as a society in terms of our health, despite having the best health care system in the world, despite having the most advances in science, we're failing miserably, I think because we're really not addressing the upstream drivers of disease. Functional medicine is termed many things by emerging science systems medicine, network medicine, but it's really all the same thing. We're reimagining health. We're reimagining disease based on this paradigm shift that tells us that the body is one whole ecosystem. We can't treat it as a bunch of separate parts and that we have to create the conditions for health and remove the impediments to health, and the body will activate its own innate natural healing systems. It's remarkable when you see that. Can I share a quick example of a couple of cases that might help to explain it?

Ellen Kelsay:  
Yeah.

Mark Hyman, M.D.:

I'll just tell you two cases. The first was a case I saw at Cleveland Clinic of a woman who was a 50-year-old executive coach. A really smart woman, but struggling. She had terrible psoriatic arthritis, which is a type of arthritis that is an autoimmune disease. It's connected to psoriasis and it causes joint damage, and obviously all the skin lesions of psoriasis. She was treated by the top rheumatologist there, given a very powerful drug which costs \$50,000 a year. Which I think, when most employers look at disease costs, it's really diabetes and autoimmune disease because of these powerful drugs that are used. She also had irritable bowel syndrome, she had reflux, she had depression, she had prediabetes, she was overweight, she had migraines, she had insomnia. She was seeing different doctors for every one of her conditions. She was getting the best psychiatric medications, the best reflux medications, the best treatment for her insulin resistance with Metformin. She was really struggling though, still symptomatic, barely able to function, but her symptoms were sort of mildly controlled.

Rather than saying, well, how do we tune up all these medications or how do we get you to another specialist, I said, well, what's causing this. For her, given the degree of gut symptoms and given the understanding that the gut and the microbiome is where 50-70% of your immune system is, depending on who you listen to, I was like, well maybe your gut is driving the inflammation because of all the symptoms you're having - the bloating distension, bacterial overgrowth, she was on tons antibiotics, been on steroids. So I was like, okay, well, why don't we reset your gut? Why don't we eliminate inflammatory foods? Why don't we give you a basic fish oil and vitamin D and a few things that might help her cumin and will help inflammation. Let's see what happens. I said, don't stop your medications, just keep doing what you're doing, but let's see what happens. I gave her stuff to clear out the bad bugs in her gut. I gave her an unabsorbed antibiotic called Xifaxan which is used for what is called SIBO or bacterial overgrowth. I gave her antifungal probiotics, and six weeks later she comes back and she said, well, I stopped all of my medications, and I said what did you do? I said, I didn't tell you to do that. She said, well, I was all better. My skin lesions went away. My psoriasis went away. My arthritis went away. My reflux, my irritable bowel, my depression, my insomnia, my migraines, I lost 20 pounds. So I didn't feel like I needed them and I feel great. I'm like, wow, okay. I wasn't treating all the diseases individually. I wasn't seeing them all as separate. They were all connected by inflammation. Depression is inflammation. Gut issues are inflammation. Migraines can be inflammation. Obviously psoriasis is inflammation. Gut issues are inflammation and depression is inflammation in the brain. So by treating the root causes and by treating her body as a system, by helping her reset her gut towards health and introducing inflammatory foods and getting her off starches and sugar, she was able to not only feel better, but probably save the health care system a hundred thousand dollars a year, and become more productive, more functional, be able to do her job and be more happy and engaged in her life. That's just one case.

Another case is sort of a pretty classic case of something that in traditional health care we don't think is fixable. If someone comes in with heart failure, with kidney failure, with diabetes, high blood pressure, we

don't really, in the training that I received, think of these as reversible conditions. There are conditions we have to manage. We need disease care management strategies. I just want to challenge that notion that we have to manage these diseases or that they're what we call comorbidities. There's this whole idea of comorbidities, which is these diseases that people get in combination, and they're all still seen as separate things - high blood pressure is a disease, diabetes is a disease, heart failure is a disease, and so on. Rather than see these all as separate, they're all connected and they're all driven primarily by food. We had a patient come in at Cleveland Clinic who didn't even see one of the doctors on a one-on-one basis, just in a group model. The powerful idea here is that we are the result of our environment and the social pressures around us and that our individual autonomy and choices are often thought to be a matter of free will, a matter of personal choice that we can just simply will our way to health. It doesn't really work like that. We really are social creatures. Christakis' work out of Harvard showed this really clearly that you're more likely to be overweight if your friends are overweight than if your family's overweight, that the social threads that connect us are more powerful than the genetic threads.

So this woman comes in, we put her in a group program, we put her on a very powerful food is medicine program which removes all the processed foods, puts in a lot of whole foods, takes out inflammatory foods, starch, and sugar. She came in at 66 with Type 2 diabetes. She was a body mass index of 43; over 25 is considered overweight, 30 is obese. She was severely obese. She was someone who already had a number of stents. She'd had heart failure. Her ejection fraction, which is a measure of how good your heart pumps, was almost half of what it should be. Her kidneys were starting to fail. She had a fatty liver. She had blood pressure and her copay for her medications was \$20,000 a year, not to mention what she was costing the health care system. Within three days she was off her insulin. Within three months, she was off all her medications and her heart failure reversed, her kidneys reversed, her liver reversed, her blood pressure normalized. She felt dramatically better. In a year she lost 116 pounds, was off everything and had all her life back at 66 years old. Now we don't "think this is possible" given our current model of health care or current model of medicine. These are diseases we have to manage. I would challenge that by saying, if we know what to do, we can fix it.

Ellen Kelsay:

Yes, I want to dive in because there's so much here that I want to kind of dive in more deeply on. That one thing, as you've just said at the very beginning, you've been studying this for 30 years. It's been your life's work. You're clearly very passionate and knowledgeable on the subject, but yet it isn't mainstream, but it's been around a long time. I would imagine in certain cultures, it is much more prevalent in other parts of the world than it is here in the U.S. I'm curious, why isn't it mainstream? Why isn't it a part of our current health care delivery here in the United States? Maybe just kind of start with, what are some of the barriers? Again, you've been at this for such a long time, and I feel like it's just kind of been in the past year or two, that more and more people are starting to talk about functional medicine, starting to talk about food as medicine. It's having a moment and why hasn't it had the moment earlier?

Mark Hyman, M.D.:

Yes, nobody's fault really. It's just the evolution of science. Lewis Thomas, in one of the primitive positions of his time, wrote a book called, *The Youngest Science*, about how medicine is really so young and it's really been a hodgepodge of observations and kind of reactions to what we see and beliefs that don't necessarily match a rigorous scientific approach to disease. Edward Wilson from Harvard wrote a book called, *Consilience: The Unity of Knowledge*, where he said we don't really have a theoretical framework for medicine. So you had a head pain, you go to the head doctor, you have a stomach pain, you go to the stomach doctor, and so on. This is really how medicine evolved and we really did our best. We kind of got hijacked by the germ theory of disease, which Louis Pasteur came up with that proposed that there was a single entity, a bacteria that caused a single disease, let's say bacterial pneumonia, that was secured by a single drug, penicillin. That worked and it's true for many infectious diseases, but even with infectious disease, it's really not fully true. There was a man at the same time who was a scientist, who was his sort of intellectual opponent, Claude Bernard, who came up with a different framework for disease called the biological terrain theory, which is that the terrain, the host matters. We see this now with COVID and not everybody who gets sick with COVID gets really sick. Those who get sick are the obese, the ones who have chronic illness or the elderly, all of which are

predisposed to more severe manifestations of COVID, because their underlying health is poor. There's no lack of evidence for this. Then we've developed a health care system based on these anachronistic ideas and a medical education system that's based on these ideas. It doesn't match the science anymore.

My daughter right now is in medical school. She just finished her first year of medical school. It's just astounding to me that she hasn't had one bit of information about nutrition. Right now in America, 6.8% of Americans don't have some evidence of a metabolic disease. In other words, 6.8% of Americans are healthy and don't have high blood pressure, high cholesterol, high blood sugar, are not overweight, and haven't had a heart attack or stroke. That means more than 97% of Americans don't qualify as healthy and all of those conditions are caused by food. The prevailing killers in America - heart disease, cancer, diabetes, dementia - are driven primarily by food, yet doctors learn nothing about food and certainly don't learn how to treat people with food as medicine. We're kind of in this weird situation where the bulk of what is affecting our health as a nation and increasing globally is something that's completely absent from medical education and medical education is driven by this prevailing paradigm, which is deeply flawed, which is a disease-based paradigm.

That paradigm has also driven reimbursement. Medicare, insurers pay for treating disease, but not for creating health. The average doctor doesn't know the first thing about creating health. They know how to identify diseases. They know how to treat them with medications. It's nobody's real fault, but the entrenched paradigm now is so established that unless we change medical licensing exams, unless we change reimbursement, unless we incentivize both health care providers and large corporations to do the right thing, we're kind of in this unfortunate situation of perpetuating a model of care that continues to drive health care costs, that does not result in better health outcomes, that is costing society and businesses and corporations enormous amounts of money. I don't know if the data is still true, but I once heard that General Motor spends more on health care than they do on steel and Starbucks spends more on health care than they do on coffee beans. We've kind of got to wake up and realize that what we're doing is not going to get us the results we want in terms of improved health outcomes, reduced costs, and better ROI for society as a whole and for companies and employers.

Ellen Kelsay:

Well, it's so compelling and you've already given so many great examples and case studies of patients, and as you've worked with them, the wonderful outcomes that they've experienced just by changing the biological terrain, to use that phrase that you referenced earlier. And you said the training and the curricula in medical school does not have nutrition, as you said for your daughter her first year.

Mark Hyman, M.D.:

Or in any year.

Ellen Kelsay:

Part of my question where I was going, is it just pure lack of education, lack of understanding the reimbursement's not there, or is there a lack of knowledge, interest and desire to move? Even if you had everybody enlightened, even if there was training, is there some bias against this from the medical community in any way?

Mark Hyman, M.D.:

I wouldn't say it's a bias against it so much as a complete lack of knowledge. If you want nutrition advice, the last person you want to go to is your doctor, unless they've had special training in nutrition or made it a point to understand this or a functional medicine doctor, they're just not equipped to understand the role of food is medicine. I can't tell you how many patients say to me, oh, I have an autoimmune disease or this, my doctor says diet has nothing to do with it. Or I have irritable bowel or gut issues or reflux, my doctors says well, diet really has nothing to do with it, or okay, you're overweight means to eat less and exercise more, which by the way, doesn't really work. The science is really clear on this, that it's not about eating less and exercising more, it's about the quality of the ingredients you're eating and how they affect your hormones, your brain

chemistry, your metabolism, and all foods are not created equal in terms of calories. I think there's no malintent here, but this entire system is sort of rigged to not incentivize doing the right thing and to incentivize doing the wrong thing.

I'm actually going to meet with the White House and Congress and the Centers around how we start to begin to think about chronic disease and nutrition as a nation. It all happened so fast. When I was born, the obesity rates were 5%. Now they're almost 40%, in every state. That's an eightfold increase in my lifetime, and most of that happened in the last 30 years. We really haven't caught up with this sort of catastrophic change in our diet, increase in processed food, increase in the consumption of fast food and processed food. The unfortunate recommendations from the government to eat more carbohydrates and have 6-11 servings of bread, rice, pasta a day as a health food and that'll happen with a food pyramid. It sort of hasn't really shifted that much in terms of people's consciousness. I think that needs to shift. We need to sort of work on the federal level, on the state level, and on the level of education and schools and corporations, all kind of rowing in the same direction. The problem is that now that the food system is so established and entrenched, it's hard to push against it. There's literally trillions of dollars at stake here. The food industry is a single largest industry in the entire world. About \$15 trillion run by a few dozen corporations in fast food, food processing, agrichemicals, seed companies, fertilizer companies. There really is a few dozen CEOs here that have the power to shift all this, but you're looking at enormous profits and you're looking at entire agricultural system, food processing system, marketing distribution system, pushing all the wrong stuff. That's a monumental effort to change. I don't know when the tipping point is going to come. I don't know when people are going to go okay, enough is enough. I think there's just sort of a knowledge gap in Washington. It's like there's maybe 1 or 2% awareness of this issue. It's very few Congressmen and Senators who actually get it. We've been advocating as part of a nonprofit I started called, The Food Fix Campaign, to educate lawmakers and change policy. We've gotten some traction with the White House hosting its first conference on nutrition health in over 50 years. We've got the Government Accountability Office, the GAO, did a report looking at over 200 government policies on food nutrition from 21 agencies, none of which were coordinated, often at odds with each other, recommendations on how we fix that by creating a federal entity that focuses on chronic disease and health and nutrition. I think we're starting to move in the right direction, but it's tough.

Ellen Kelsay:

One of our earlier conversations, a couple of months ago, we were talking about just how we as a country have gotten sicker and our food has gotten worse in over the past many decades. You've basically said, if God made the food, it's good. If man made the food, it's probably not good. A very simple awareness of eat farm fresh foods and natural things and not processed things. You also talked about the reimbursements and I think it'll be really interesting to hear how your meetings go in Washington and does the government change Medicare reimbursement, does the government do those things that have systemically been barriers to moving the practice of medicine more in this direction? I also did want to ask about The Food Fix Campaign. What are some of the things that you're advocating that the government do?

Mark Hyman, M.D.:

Well, I think the first thing is to implement the recommendations of the GAO report, which is to establish a federal entity to address chronic disease and nutrition, which doesn't exist right now. On the one hand we have recommendations to eat less sugar and starch from the dietary guidelines. Yet with the SNAP (Supplemental Nutrition Assistance Program) program or food stamp program, we spend \$10 billion a year on soda, which is probably 40 billion servings for the poor a year, and 75% of the SNAP budget, which is the largest line item in the farm bill, which is 75% of the farm bill, which is a trillion dollar bill, 75% of that is for food stamps. Of that, 75% is mostly used to buy processed food. Those are really discordant. We say, oh, half of your plate is fruits and vegetables, and yet only 4.5% of federal agricultural supports are for growing fruits and vegetables, mostly apples.

We're kind of in this weird paradox where on the one hand, the government's doing one thing and saying do this, and the other hand, it's actually acting in the opposite way. We're trying to sort of create this entity that will have to address all these discrepancies, look at how we create a federal framework for addressing chronic

disease and nutrition. The other thing that I think we're working on is medically tailored meals. Imagine rather than getting a prescription for five diabetes drugs and insulin, that you get meal delivery of food that actually reverses Type 2 diabetes, for example, and thereby reducing health care costs. This model has been so proven. I think, David Feinberg, who was at Geisinger Health and is now at Google Health, basically implemented a trial of a program where they delivered meals to food insecure diabetics who were costing about \$248,000 a year per patient and they gave them extra group support and education. Then they provided the meals and they were able to reduce health care costs by \$192,000 per patient, per patient. Now you think that would light a fire across the health care system. That every health care provider ensure Medicare and Medicaid would immediately adopt this framework. I mean, imagine, you could save \$192,000 per patient. It's game changer, 80% cost reduction, improvement in health care outcomes. But we're also trying to fix food labeling around kids at education because I think our kids are really at huge risk right now and for their long-term future. We're really threatening the future generation of America. The average kid who's overweight has a 13-year life expectancy reduction, earns less income, is less productive, has more chronic disease throughout their life. That's 40% of kids. I had a pediatrician friend who said if a foreign nation were doing to our kids what we're doing, we would go to war to protect them.

Ellen Kelay:

I've been speaking with Dr. Mark Hyman. We'll be right back.

Vanderbilt University Medical Center

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Ellen Kelsay:

It seems like it's a massive undertaking when you talk about moving upstream to change medical school education, to change reimbursement rates, to change government policy. But when we think about it from just an everyday individual perspective, what are some things that each of us can just start doing that maybe aren't as overwhelming or seemingly insurmountable that move us in this direction?

Mark Hyman, M.D.:

I wrote a book called, *Food Fix: How to Save our Health, Our Economy, Our Communities, and Our Planet - One Bite at a Time*. In it, I wrote not just the problem, but the solutions and what can we do as individuals, as corporations, as policy makers, as philanthropists, to actually move the ball down the field. People want to go to <https://foodfixbook.com/>, there's a free food fix action guide where I lay out a lot of the things that individuals can do, but let's just take some simple things. One, just buy real food. It doesn't have to be expensive. You don't have to have a \$70 grass-fed ribeye steak from a farm in Wyoming, but you can just eat real food. I'm on the board of the Environmental Working Group, which created a wonderful guide called, *Good Food on a Tight Budget*, food that's good for you, good for your wallet, good for the planet. By implementing that, I had a family, for example, in one of the worst food deserts in South Carolina, lose hundreds of pounds, get healthy. The son, Brady, who was in the movie *Fed Up*, lost 50 initially then gained it back working at Bojangles, which is the only job they had down there - a fast food place. He finally figured it out and lost 132 pounds and was the first person in his family to go to college, and then asked for a recommendation letter for me to go to medical school. He's now a doctor. That just kind of really inspires me to understand that we can actually, by making those individual choices and educating people, we can make a difference. So first, eat real foods. Second, do simple things like start growing a simple garden. 40% of food in America during World War II was grown in victory gardens.

Not only have we centralized food production, but we've really centralized in a way that creates really damaging food for us, so grow a little garden. Ron Finley in south central LA started growing food in the sidewalk, you know that little strip of grass in the sidewalk. He got penalized for it by the city, but then figured

out how to get around it and get the laws changed and has changed the food deserts into food force, rooftop gardens - you could have a little pot in your kitchen of growing plants. There's many ways to do it. Also, food waste is a huge issue. I think my understanding that we need to reduce our food waste will go a long way to helping with the impact on climate and the environment. Food waste would be the third largest emitter of greenhouse gases, if it were a nation - after the U.S. and China. And just have a compost pile, I think you can even do it in an urban setting. Also, you can be more active in your community, whether it's starting your community garden, whether it's working with local politicians to create ordinances around composting. For example, in San Francisco it's mandatory now, and in many places it is in Europe, as well. Massachusetts implemented a law, for example, that prohibits companies from throwing out more than a ton of food waste. If they make a ton of food waste a week, they can't throw it out. They have to actually do something where they feed it to the animals or turn to compost. That has sort of incentivize companies like Vanguard Renewables to work with dairy farmers to create anaerobic digesters that turn food and some dairy waste and manure into energy that actually electrifies 1500 homes, and that then also provides money for the farmer and makes profit for the Vanguard Renewable. So it's kind of a win, win, win.

There's lots of things that can be done . Also vote with your vote. There's a really great website. I think it's <https://www.changefood.org/organization/food-policy-action/>, where you can look at your Congressman and Senator's voting records on food issues and you can see where they stack up and then you can write to them, you can call them, you can meet with them. Also, you can vote for or against them, and using social media campaigns, many of these kind of bad actors have been voted out of Congress because of what they're doing.

Ellen Kelsay:

That's great. Those are really good practical, and like you said, not very overwhelming. I don't want to say they're easy to do, but they're certainly steps to take that move people down a path in this direction. I love the example you gave about Brady and his family in South Carolina. I think that's such a great example, so thanks for sharing that with the audience. That's kind of at an individual level, things that we can all do in our personal lives. You mentioned corporations and you know many of our audiences are our large employers who are providing health and well-being programs to their employees and the families of those employees. What are some things that organizations can do to support their workforce in this journey?

Mark Hyman, M.D.:

Corporations have probably the most important leverage for change, I believe, because their incentives are aligned. They want their employees to be healthy. They want to reduce health care costs. They want to increase productivity and they don't want to keep shelling out, literally millions and billions of dollars, to deal with chronic illness in their employee population. Changing behavior is hard. I think the best way to do it is changing the built environment. This is evidenced by many, many different research studies, but the built environment makes a huge difference. For example, what is available in the corporate environment? Is there soda, is there junk food, are there vending machines, what's in the cafeteria? Working with your food service providers to change and upgrade the food quality, there's ways to do this, there are baby steps that corporations can do by changing the built environment. Creating incentives to do the right thing, I think is really key. I think the other thing that really is going to be very helpful is leveraging the science of behavior change. What we do know is that people change in community. Individuals on their own, it's a hard time shifting behavior, but if everybody around you is doing the right thing, you're more likely to do the right thing. We did this at the Daniel Plan Program, we developed at the Saddleback Church in Southern California, where we got 15,000 people to lose a quarter million pounds and reverse all sorts of diseases, get off medications. One guy came up to me after the plan, he said I was in the hospital, I think, five times last year and on nine medications, and I'm off all my medications except one, and I've never been to the hospital this year.

Those are compelling stories. That really was done through using the power of the church's small groups, which met every week to help each other live better lives. They were doing it spiritually, but we started to do it also on the physical level. They got rid of their pancake breakfast or ice cream socials. They got rid of all sodas on campus. They changed the menus at the cafeteria. They started group programs like jogging for Jesus. They developed a community garden on the campus of the church. There are all these things that changed in the

built environment to make the right choice, the easy choice. Right now, the wrong choice is the easy choice. It should be very hard. If you want to go get a cookie or a soda, you should have to walk five miles to get it, as opposed to just having it there at your desk all the time.

I think there's really simple things you can do within the built environment that companies have the ability to do. Yes, some people will object and they might go get it somewhere else, and that's fine, they can do that, but it shouldn't be the easy choice. A second is creating a model for example, of group programs. This can be done through virtual technology, and creating a culture of wellness, and having the CEO model that, having financial incentives for doing the right thing. There are ways of creating financial incentives, creating emotional incentives, and helping people to do the right thing. There's many, many ideas, but it's really an important overall strategy to not just sort of accept the status quo or to rely on health service providers, where there's health benefits companies that really don't have the Intel inside, the DNA of how to actually change biology and change behavior. That's really the key. What is the science of behavior change and what is the science of biology change? That's where functional medicine comes in and that's where this group model comes in. A lot of people are trying to play with this around the edges, but it's definitely starting to really emerge as a powerful model.

Ellen Kelsay:

You've given us so much to think about and you've referenced so many wonderful resources throughout the conversation. I always love to close with a question on a more note of optimism and it's about what gives you hope for the future and what do you hope to see three to five years from now when it comes to functional medicine and how we as a society are embracing it?

Mark Hyman, M.D.:

Well, it gives me hope that I'm talking to you, because clearly if large corporations are starting to think differently about this and getting sick of the status quo, that's going to move the needle. I'm excited also by food companies really starting to change. The CEO of Nestle has committed to change 70% of its supply chain to regenerative agriculture by 2030. There are real incentives now in the government, based on a lot of the work we've done and others have done, to incentivize regenerative agriculture, to look at the White House conference on nutrition to look at the sort of disconnected, destructive policies we have around food and nutrition in this country and try to change those. This is not an overnight thing, but I feel like we are on the right track.

Ellen Kelsay:

Mark, as always, it's a pleasure to speak with you. Thank you so much for sharing your knowledge and all of these wonderful insights with the audience. I look forward to having you back in a couple years' time to see what progress we've made. Of course, we'll be doing a lot of hard work and collaboration with you in the years in between. Thanks again for joining us.

Mark Hyman, M.D.:

Thank you.

Ellen Kelsay:

I've been speaking with Dr. Mark Hyman, founder and director of The UltraWellness Center and senior advisor for the Cleveland Clinic Center for Functional Medicine. To learn more about the elements of functional medicine, that you may want to incorporate both professionally and personally, you can learn more at <https://drhyman.com/>.

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