Introduction and guest background

Hi everyone. This is Doctor Joseph Anton, the co-host for the Fasting and Longevity Summit. It's a big pleasure in this session to talk to Doctor Michael Caulfield, and he is one of the visionaries and has a major practice that helps patient.

Besides getting the cure for cancer with standard therapy, what else can they do? How can they increase their chances for aggression and remission from cancer?

And how can they find the root causes to what has led to this cancer, and what they can do to increase their chances for longevity and survival? And we're going to talk along the road of how can fasting also be integrated in in this in the supporting therapy?

Along the way, Doctor Castle, welcome to today's session. I'm very excited about this, and I would love to if you can introduce in your own words yourself.

And what do you do to to the listeners? Absolutely. Thank you so much for for having me here, doctor Anton, I'm a naturopathic doctor and been in clinical practice since 1987, so I've had the, the blessing of getting to interact with, you know, hundreds of thousands of patients.

And a large portion of that is, is, is cancer, you know, utilizing integrative therapies to, to optimize, people's cancer journey. And, obviously cancer is something that we still haven't fully figured out.

So nobody can really say that, you know, what I do cures cancer. You know, we don't we don't have that yet, but we have a lot of tools out there that can really optimize, our chances to have a better outcome.

And, and that's what a lot of us, you know, people like yourself, you know, we are working towards that goal. And, obviously the best cancer is the one that you never get.

So you want to you do a lot of the preventative medicine. And that's where, you know, tools like fasting and other tools that we, we offer, you know, comes in.

Now when I, when I went to med school, we were under the impression that we were in for that cancer. Partially genetics partially. You know, we don't know.

And then treatment is always chemo or hormone therapy and that's it. And, and, you know, thankfully the word has evolved from that, big time. And you're one of the integrative in a clinics leading ones in the nation that actually support the patient.

With everything else they can do to better support their body into going through the treatment and also increase the chances for a better outcome. Like, as you mentioned, the first, I want to learn from you what what are the causes now that we know are increasing cancer rates?

Cancer causes, mitochondria, and hidden drivers

I mean, it keeps it's always genetics. I will say if it was genetics it would an increase in prevalence. Right. And so what's happening, why cancer is increasing and what could be like two reasons that people do not traditionally think about that is increasing the rate of cancer, their families.

Well, I mean, we all thought that we were, you know, doing all the studies on the genome and trying to if we can at least figure out if we can figure out the genome, we can figure out cancer, because there's got to be the solution.

There's got to be a gene that relates to pancreatic cancer. Gene that relates to, ovarian cancer. And if we could just fix that gene, we can then stop cancer from occurring.

And after building some billions of dollars and decades on on that, on that research project, they came to the conclusion there is no direct correlation between a genetic dysfunction and a cancer.

You know, there's, somebody with breast cancer, or two people with the same kind of breast cancer can have completely two different genetic reasons for that breast cancer to occur.

So you can't really say that. Fix that gene, and we'll be fine in fact, there like hundreds of different genes that all in different combinations that, became dysfunctional depending on the individual and their cancer.

So we had to look elsewhere and elsewhere, starting to then look at the mitochondrial activity and the mitochondrial dysfunction and, so we're seeing that cancer becomes more of an energetic deficiency or dysfunction within the cell.

That then leads to some of these genetic alterations as a kind of adaption model. So, we're looking then more at, you know, what goes on within the mitochondria.

And so what are some of the things that people may not think about, you know, and I just kind of want to throw I know we're going to take our conversation a little bit different, but just kind of for people, for food for thought, that there are other things other than just we have this tumor lump and we got to get rid of that tumor lump.

We get it then look at the terrain, support the mitochondria. And what are some of the factors that can impact that? One of the interesting ones are scars, and scars and tattoos.

And people don't recognize how that interferes with the, the nerve communication throughout the body and interferes with meridian lines, which will then interfere with the, energy production.

So and I've seen that many, many times where an individual cannot detoxify or cannot, fully, and utilize the nutrients that they're eating. And it could be then a communication dysfunction, you know, within the nervous system.

And this a scar, a simple scar can then be interfering with that process. So, so that's just kind of food for thought. And that's kind of a, a, a discussion just on its own.

Another one is, sleep disturbances. You know, we don't recognize how important sleep is. And everything that takes place while you're sleeping. Yeah, you're you're detoxifying.

You are regenerating. You're processing the day. You are, and so it's all these things that if we don't, if we're not allowed to sleep appropriately, if we don't set a good sleep environment and have a good sleep routine, then that will then interfere with how we were able then to regenerate our tissue, you know, while we're sleeping and also detoxify.

And, and you look upon the mitochondria, it is like a, if we drive a car and we have dirty oil, we know it's not going to perform very well. So it's the same thing if if we don't kind of clean out the junk within the cell, then the mitochondria isn't going to be running on very dirty oil.

And so it's not going to be very efficient. And then that leads to things like, like cancer. So sleep becomes really, really important in this process.

Then you have things like EMF that people may not think about. We got toxicity we talked about and also, you know, like parasites and fungus and mold.

And so there's all these factors that you need to look at as underlying drivers that that promote this inflammatory

process that then leads to cancer and also also leads to a dysfunctional metabolic activity.

That then kind of creates the shifts, the gene shifts, that then signals cancer within that cell. And those are environmental factors. Those are decisions we make in our life.

We can add, you know, food decisions, all of this nutrition is, is a big impact on, IGF spiking in the body and pushing the cells to replicate. And when they're old, the, the the incidence of cancer starts increasing with that.

You mentioned sleep, stress probably. Right. We see the, you know, a lot of correlation between, all these behaviors. And this is why this is what you're mentioning, are the five factors of longevity food, stress, sleep, exercising and social capital.

We see them as the mothers of all diseases, all the chronic diseases. They go back to these rat of, as you said, how healthy is the cell, how healthy is important with the the engine of the cell and, and the dysfunction there can take the root of cancer that can cure the right of, Alzheimer's or cardiovascular disease or other health conditions.

And go ahead. Yeah, yeah. I mean, at the end of the day, I mean, we we look upon our body. So we have we can kind of dissect them, we go, you know, we have tissue, we have organs, and then we go down to the smaller components, you know, our cellular function.

And you know, you have the cellular function, lung, endothelial lining, you know, like our blood vessels, you know, so if they do not get the energy that they need, the mitochondria is not functioning the way that they should, then that triggers inflammation along the blood vessels.

And then lo and behold, what happens with inflammation there? Well, the body has to then can assume that inflammation. So now you're building up plaque.

So at the end of the day you have to look at you know, what do I need to do.

Integrative oncology and supporting standard treatment

What are the choices I need to make in order to be able to optimize the smallest component, the building blocks of our bodies, which are our cells, so that they can function appropriately.

And they don't get in that that inflammatory state that then causes them disease, you know, like cardiovascular, like diabetes, like cancer. And all the autoimmune and so forth.

And inflammation, as we know, we call it inflammation now is behind a lot of the aging process as well. And and for everyone listening to us in this of, we focus a lot on the concept of aging as the mother of those chronic disease that we're going to die from.

We're going to die from 90% of us, 90% of everyone listening to us today. You're going to die from cardiovascular cancer, diabetes, or Alzheimer's. And guess what is the number one factor?

So you need to get any of those is the biological age of your body. It's aging. And one of the main driver to age faster is inflammation. And as not to culture is explained today.

It's behind cancer as well. One of the symptoms of aging. And this is something you definitely want to decrease in your body the rate of inflammation.

And there's a lot of reasons behind it. And a lot of functional medicine doctors such as yourself, they look at those root causes. They help people find out the the the what's causing that.

Instead of what we should do with medicine, which is, hey, take this pill and it will decrease inflammation. We look at the root cause and we try to solve that, whether it's it's mold, whether it's chronic infection, whether it's the

stress, the sleep, the food, etc..

And this is what clinics as, as such as yourselves help patients, you know, do it. And, and I want to dig a little bit deeper into, you know, if I have cancer and I come to your clinic, I, you know, I have my main doctor at one of the top medical centers, and then my cousin is saying, hey, I went to a functional medicine doc, and they help me with nutrition, with sleep, with stress, with food, exercise, these things that a typical oncologist would not help with.

If I come to your clinic, how would you how would you consider me? How would you? What would you do for me? What what else besides the chemo or the immune therapy you offered?

And that how that is helpful in my in my process of recovery or remission. And it's it's important to understand that it is you know, what I, what I offer and what the key is to find the right integrative model for an individual.

And integrative means that you bring the best of all possible worlds. So it doesn't mean you only have to do traditional oncology or holistic, you know, it's not an either or.

You know, each individual is unique, so you need to find that perfect blend for the person you know. It may be at a time where for chemo, radiation surgery is is the appropriate thing.

And there may be a time where, you know, I've just doing holistic for a little bit and see how the body's responding may be the appropriate thing, but there frequently it is the combination of the two that that becomes, you know, the cancer most powerful punch.

An example. You know, just yesterday I had an individual that he's working with, you know, Stanford oncologist, you know, and they are one of the top best medical schools in the world.

And, so and they, you know, the the cancer patient gets to a point where they realize that they, they need to do more, you know, the traditional oncology route only has so much more to offer.

And they may be put on palliative care. They have a stage four. And then there's just nothing more else to do. And and the oncology tell them that. Well, you only have I mean, we can expand your life maybe a year or two or maybe three, but that that's all we can do.

So many people come at at that point, you know, which is which is great to come to me at, you know, at any point. But what I prefer is kind of the scenario that, that you're, you know, where, where you're, hopefully in the, in the beginning of the process.

Yeah. And then where you can then evaluate how do you bring all these teams together. And so we would then look and see, you know, what traditional oncology care are you at.

You know what is appropriate. What is your oncologist guiding you to do. And then we bring in tools that then we'll marry that type of therapy. You know of course, let's say a person is doing a chemo and then we want to see what are some of the natural agents that will intensify the effect of that chemo.

You know, because cancer cells, they have, you know, chemotaxis where they're spitting out the chemo. So then there are natural agents like quercetin that then will interfere with the cancer's ability to spit out the chemo to protect itself.

You also have then things that makes tumors more chemo resist or make it less chemo resistant so it has a hard time to to block the chemo effect. We also have things that can intensify the oxidative stress of the chemo.

And then we can also put the, cancer cells more in a, a starving state. And that includes and you know, the, the, the fasting aspect around the chemo, which becomes a really, really powerful tool, when you are dealing with chemo.

And then we can then support the body's ability because we have more healthy cells than, than cancer cells. So we would do want to support those healthy cells, because the last thing we want to do is to have the tissue integrity get weaker and weaker and be less able to defend itself from from the cancer's attack, because the cancer's out there trying to convert healthy cells to become like them.

And so we want to make sure that our healthy cells have the resistance and resilience, you know, to be able to withstand that. And then we want to control the, the, the tumor microenvironment, because we know that the tumor microenvironment in itself, it guides a lot of the aggressiveness of the, of the cancer in itself.

So if we control and and make that tumor microenvironment less friendly to the cancer, then it becomes less aggressive and and it becomes more of a sitting duck when we do stronger oxidative type of therapies.

So there's a lot of things to consider, alongside with the traditional, you know, and, and with radiation, it's the same thing. Yeah. What do we do in order to optimize the, the kill of the radiation and then and support the tissue of the healthy cells?

So, yeah, it's all these things to consider which which I love and, and it makes such a huge impact on the patient when, when they, when they do that, when they marry the two.

And I like what you said where all these interventions in addition to the standard of care in addition to the chemo that it's like one plus one equals three or 4 or 5.

And we see this a lot in our in the fasting, mimicking nutrition and fasting became by science. When you do the fasting nutrition alone. And it has some effects when you do chemo alone, it has some effects when you put them together.

It's very synergistic. And you just explained it is is how can you and we call it and you made it more consumer friendly. We call the differential stress resistant.

How can you sensitize cancer to the chemo and the hormone therapy and the immune therapy or the entire is in kindness whatever therapy people are taking, how can you spare the normal cells of the body the side effects and how can you protect them from the cancer?

We call this phenomenon the differential stress resistance and sensitize cancer, protect normal cells. And you mentioned multiple ways to do that. We, you know, we have tested probably in 8 or 9 out little trials how fasting can help with this.

And I know you're very passionate about that topic. And since we're in the fasting and Longevity Summit, I want to make sure that people understand why we're testing fasting in in in in, in, in cancer.

And, and you know, you mentioned, desensitization and and disarming the cancer from its resistance. You know, cancer is the fastest growing organ. Once you have it, it wants to grow, it wants to eat.

And unfortunately, a lot of physicians did prescribe, you know, high protein drinks, etc., which feed the cancer first and foremost at the expense of the body and merging that fasting and feeding period alone therapy this onto the cancer that feeds the patient, this arm, the cancer, get it hit by the chemo and then reseed after that.

So I don't know if you want to elaborate on this or how, how you do those interventions in your practice just to help people listening to us today understand what is the science behind and how they can benefit from it.

Yeah. Well, what's important to understand is that. We.

Fasting, metabolic stress, and protecting healthy cells

Cancer is not a very efficient, cell in producing energy. It's very, very inefficient. And what that means that requires

a lot of food substrates in order to be able to, to survive.

And so if we in some fashion then can interfere with the, the soups, the, the nutrients that it needs in order to be able to, to function and thrive, then we we get the upper hand.

So we're, we're leaning more on to interfering with the cancer's metabolic activity, which is, different than a healthy cells metabolic activity. Yeah.

It's about, you know, it produces like two ATP, per, yeah. Two ATP per calorie versus, a, healthy cells that do like 30, things like 36 ATP or something like that.

So, so it's much less efficient than burning sugar and burning protein and burning fat much, much less, in fact, effective. So if we then at the time when we go after it with an oxidative therapy like chemo, like predation, or even like what we do here, where we have you know, like high dose vitamin C artists and or ozone, you know, things that are oxidative therapies.

You know, if we marry that with them, interfere with the nutrients that are getting to the cancer. And obviously, one of the best ways to do that is to fast.

And so if you can step into to doing chemo or stepping into radiation or stepping into oxidative therapies like we're doing, in addition to, and adding the fasting aspect to it, then all of a sudden now you have a starving cancer cell, and when it's starving, it's not able to defend itself very well.

You know, all its mechanism, protective mechanisms against the chemo is not going to be upregulated to the point, that it needs to in order to be able to thrive and survive under this attack.

So so that becomes a really, really powerful tool. And and obviously, you know, prolong is something that, that I use a lot for, for my patients and, and do that in preparation then for, you know, the chemo sessions.

But yeah, fasting is just a powerful tool. The fascinating thing with that is that since the healthy cells, they do have the ability to protect themselves better during time of fasting, they actually have hunker down and they create more of a protective shield, you know, and it's kind of like it's it's it's winter time.

We're hunkering down. We're not being very active. It's cold outside. We've gathered our food and we're going to just kind of sit here while it's nasty out there.

So the healthy cells can do that. But the, you know, the cancer cells are the, you know, the three little pigs that didn't prepare, you know, for the storm.

And then all of a sudden, yeah, what what do we do. So it's a really, really powerful tool. And I, it really, I really cringe when I hear people, they do chemo and they say, well, I'm doing chemo, so I don't want to do some of that natural stuff.

I don't need to worry about eating my doctor just tells me, you know, I eat as much of, you know, sugar and, ice cream and whatever you can do just to kind of keep the weight on, not realize the harm that they're doing to the individual because that chemo is not even going to be close to as effective as it would be.

If, if they would do it appropriately. I mean, this is this is one of the most important messages, probably for this session and something that changed my life.

Right. I'm I'm coming from medicine, MD, PhD and Harvard and Hopkins and it complete. You know, we were we're taught to completely unappreciated all these charlatans back let me put it as this charlatan back ideas.

Right when I first heard vitamin C and cancer, I was like, come on. And then the most amazing data that I've seen, on cancer health outcomes is, was combining chemo, fasting, mimicking interesting and vitamin C, and it's amazing

this spike of health outcome.

This is this is one of the studies that we're doing on the different interventions together. And so very important for people listening here to understand what we're trying to say, we're trying to say is, you know, cancer becomes a cell that's very erratic and just growing in different direction loses identity, loses efficiency, chemo hits cancer and replication and but cancer is still equipped to escape it.

Right. The number one problem is when we don't get curing cancer is like you cannot keep a high dose of chemo if we can, if the body can take very high dose of chemo or immunotherapy so we can get close to a cure, the problem that we cannot sustain it, cancer goes around.

We cannot sustain high dose because where we kills normal cells, here comes fasting to protect the normal cells and the vitamin C, etc. this is what doctor calls for the say the normal cells know how to protect.

Now cancer. If you close all the defense mechanism that cancer can manipulate, then you're leaving cancer no way to escape and therefore you can get a little death in the cancer.

And the combination of the fasting, the vitamin C, the other oxidative stress inducing molecules and your chemo and your in in the happy where we're starting seeing really solid health outcomes coming out of that.

And I really appreciate what you mentioned today because I'm going to admit it. First, we never even are taught to respect this discipline and or the health outcomes.

I can lead, but I'm seeing it now in major scientific randomized clinical trials, and we see it in mice and plagues, vehicle trials, the best data cure from cancer, I see it is when you combine all these interventions together.

Cancer has no way to escape and cancer these. And this is the exciting part, is that we see, usually what you see in a, in a hospital is research. I was about 20, 30, 30 some years ago.

Yeah. Is that that's usually what you see at a hospital. So, you know, cutting edge type of research that you're talking about. A lot of that is not driven maybe by some of the, the, the, the huge hospitals out there.

It is with, you know, a people that are passionate, like yourself and the organizations that you that you utilize. And then also you have then, practitioners out there that are continue looking for what are some of the things that we can combine to make things much more effective?

With the we always think of kind of the double blind study as the, kind of as a golden standard for, you know, how to conduct research. And, and it is to a point, you know, because with double blind study, you need what you need to do is you introduce one factor and then you have a control group.

Now, here we were talking then about introducing a multitude of factors at the same time. So it's not just one thing that you are you are bringing in, but you bring in then from somebody like myself looking about cancer as a complex disorder, you then bringing in a multitude of factors.

And that way you're enhancing the different therapies. So it's finding that appropriate combination that then brings, you know, at much better outcome than just that, that one component, you know, like chemo.

You know, I'm not saying that chemo is not needed, but it's just what can we do to make it more effective? Because what people don't realize when you get that chemo into you, maybe 5% of that gets into the cancer.

The rest goes everywhere else in the body. So what what can we do to optimize to delivery of that? What can we do to optimize and the effectiveness of that cancer or that that chemo when it hits a cancer?

And what can we do to protect you know, the body from the other 95% of the chemo? You know, that's a big deal, because one of the challenges that we're dealing with is that, yes, we are shrinking the tumor originally.

But what happens a year from now, two years from now, three years from now. So now you're done with traditional oncology and your your body is ravaged, your immune system is suppressed.

Your tissue is not, as strong as it was before. Mitochondrial activity is less. So you're sitting more as you're more of a sitting duck at that time. So you want to maximize the amount of kill that you're doing when you're doing chemo.

And you want to marry that with support systems so that when you're done, you can then, mitigate a lot of the risk, you know, for recurrences. A lot of people listening to us today will be like, okay, how can I read more?

Research, patient education, and closing recommendations

And how can I convince my doctor? Right. The biggest, the biggest surprise I had coming from allopathic medicine, the traditional coming into a neutral campaign was the fasting.

Mimicking nutrition is it open up a complete new horizon of things that we learn to disrespect? Signing from nutrition and its impact on health outcomes.

Not just lose weight, gain weight and then the stress, the sleep, the molecules you're mentioning starting from vitamin C all the way to other other molecules that you can, people will be excited listening about this.

It might give them a new hope, but they're going to have to read more. They're going to have to go and talk to their oncologist. And this is where this is where the challenge happens.

And I see it all the time. They go they talk to the in college and say, hey, I heard about this. Whatever longevity protein that could be better for me than the proteins you're prescribing.

I've, I've heard about, fasting or fasting. And they came by and they'll be like, yeah, every day there's a diet over there. Yeah. Vitamin C, and how can we what do you recommend people can read, whether it's a book or articles or to go first and equip themselves to have this discussion with an oncologist and to go and show that in colleges robust data, that this is an option that they should consider.

Well, I think people when when you deal with cancer and you look at these things and you go to your oncologist, don't just rely on, you know, what the oncologist is saying, you know exactly what you're saying.

Do your own research. And a simple tool is just PubMed, you know, just go on to PubMed, type in fasting and cancer or vitamin C in cancer. And and you're going to get thousands of articles and research out there.

The research is out there. But the the ecologist that that's not their specialty. You know. So it's like asking a plumber about, you know, your electrical system, you know, they are focused, you know, their realm is, you know, using the traditional oncology tools, you know, which are, you know, chemo, radiation and surgery, hormone therapy, immunotherapy, you know, those are the main tools that they have and things that fall outside of that scope.

They are not the experts on, you know, they are not the best at saying yes, this work or no, this does not work because it's outside of their scope of practice.

So when you ask the oncologist, should I do vitamin C IV? If they say yes, that would be them prescribing something, something that's outside of their scope of practice.

So now they become liable. So let's say then that they go you go through the their therapy and you do vitamin C because they told you that that was okay.

And you do not get the outcome that you you feel that you should have gotten. So then the board can then go back to that oncologist and say, you told this patient to do vitamin C, IV.

They did not get the outcome, you know, that they were hoping for. So you are losing your license because you are practicing your you're practicing outside of your scope or doing things that are not standard of care.

So it is important as a patient to recognize the position that the oncologist has to take. And, and understand that you have to do your own research outside of that, and you can't just rely on the oncologist in regards to care that he's not a specialist in that.

I remember one of the, when I joined the nutria in 2016. In 2017, I came across an article in Jama, the Journal of the American Medical Association. This is one of the Jama oncology is probably, what number 2 or 3 or the highest impact junior in oncology.

So this is where main oncology is also read their you know, get their source of information and update books on them. It was about breast cancer. It had over if I remember well, 8000 participants and it was observational.

It was randomized. But 8000 women with breast cancer. And they looked at those who fasted over 13 hours. So you sleep, you know, you're ten hours, eight hours, and then they skip breakfast a little bit or they prolonged or they had a brunch or so.

On average they do 13 hours, 13 hours, and that's 16 that 18, 13 hours or so. There was a statistically significant difference between those who had 13 hours a day in the in the remission of breast cancer and the recurrence of breast cancer.

And it was per hour incrementally beneficial. So those are the 1415 had. But and imagine how powerful that is. I mean it's it's and it makes sense that, you know you start the longer you don't feed the cancer to the cancer.

Can that come back or can that grow or I mean, it makes such good sense. It's natural intervention. It is, you know, humanity never ate as frequently as we eat today.

So we're just re matching the body with what the body was supposed to do. It's a Jama oncology paper, 2016 9000 women participant that's bigger than any phase three you can have in any family circle intervention.

And it just says 13 hours to sleep and delay your breakfast by a little bit. And it was that is significant. It's and I still cannot comprehend it's 2016 article how today we don't you know at least with a randomized clinical trial behind behind something it is to the or not.

But people need to pay attention. It's about their life as you mentioned. Oncologists are more liable. They have to follow FDA approved drugs and protocols.

And we understand that. But we got to become partially our own doctor as well and read more and learn more to protect ourselves and and live a long life, which is the purpose of, of this, this summit, the fasting and longevity summit and longevity and healthy longevity is what we want.

For everyone. And we're trying to help people get a better chance at living a healthy, long life. I really, really, I'm thankful for the discussion today about the card.

So hopefully, at least we we instigated some curiosity with people to say, you know what? I get to open my eyes, I get to tell my mom, I get to tell my kids, and I get to tell my dad I get it.

And my uncle, who, you know, who's suffering maybe from cancer or is at risk of cancer. We didn't talk. We didn't have time today to talk about prevention.

We're both very passionate about that, practicing through health care. Rather seek care. And how can we help people also decrease the chance of having cancer?

So this is, these are things to to think about to read more about. You mentioned that I always loved the book The

Longevity Diet by Walter Longo. It's a big Amazon bestseller.

A lot, a lot is, is in nutrition as well. And cancer, whether it's prevention or supporting patients going through this, for those who want to read about it, I know you have your books published out there as well.

So I recommend people, they look you up and, Yeah, get get my book here, A Better Way to Treat cancer. Yeah. But yeah, doctor Valter Longo and obviously that's, you know, things that I include in my book, you know, the research that he's doing is groundbreaking and, and, you know, can you imagine the worth?

You know, the pharmaceutical drug that would do you know, what fasting does? You know, the how many billions of dollars that that, that pharmaceutical be worth.

So and here you have something that's, you know, extremely inexpensive. And obviously fasting is pretty much free. Yeah. And, appreciate you again for this session today.

And hopefully we change somebody's life or, or increase multiple people's curiosity to, to to listen to this last time we had 54,000 people joining the summit this year.

We're getting hopefully we're going to get close to 100,000 people. And that's you know, people like you are catalysts for change in and for for influence in the right direction.

Appreciate you very much. And, we'll hopefully we'll see you in the next summit. Thank you so much, Doctor Anton. Thank you.