

Tap into the Foreseeable Future with GlobeChek to Decrease Future Illness

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Host: Podcasting from Orlando, Florida, this is the Lowndes Client Corner, where we highlight and celebrate our law firm clients and the many achievements. Who are we featuring today?

Steve Thomas: Today we are interviewing Dr. William Mallon who is one of the co-founders of GlobeChek. GlobeChek is a company that promotes visual health awareness and prevents unnecessary vision loss through innovative technology. Dr. Mallon is a practicing board certified ophthalmologist located in Vero Beach, Florida. I'm your host Steve Thomas and let's find out more about our guest. Hello Dr. Mallon? I'm thankful you're able to join us for the podcast. Can you provide us some history or the back story about GlobeChek? How did you get started?

Dr. Bill Mallon: Yeah, absolutely Steve. Thanks for having me today. Really excited to talk to you about GlobeChek. GlobeChek is something that started about five years ago and Dr. Katz, my co-founder and I, interestingly, we were – almost as a joke we were talking about the future of ophthalmology and that we were all going to be replaced by robots and artificial intelligence. And we said, you know, why are we not actually doing something like this to reach out to patients who are not receiving eye care? I mean, we take care of a very small percentage of the overall population. Most people actually don't get eye care.

And we know that there are a lot of people out there that really need eye care and are not aware of it for various reasons. So we started talking about it and said, you know, why don't we do something like this? What can we possibly

do? What could we put together that would kind of reach out there and get people aware of this and actually create access to eye care?

So started looking at what would be the ideal test that we'd want to do. Ophthalmology lends itself to telemedicine in general, and we know that that's kind of the – even five years ago that was really something that was starting to be discussed. So we looked at ophthalmology as a great first place to go with telemedicine, because so much of what we do is testing and a lot of interpretation of testing. But we test patients all day long in our office with really sophisticated equipment that gives us great information about someone's overall health, their eye health and other things.

So we started looking at it and saying, hey, why don't we do something like this? There's nothing out there like this. And we sat down and we started putting together, what would be the ideal test that we'd want to perform, and how could we do this in such a way that would actually work? A lot of the testing we do is on individual equipment. So there is a lot of logistical issues associated with – you can't just take out five or six different pieces of equipment and stick out in the public somewhere. It's really – it's not protected. It's very expensive.

We started coming up with the concept of maybe a kiosk that was encompassing all this equipment. But then you run into other issues with, well how do you actually run these pieces of equipment? Because they're designed in such a way that you have to design them and run them from one side where you have a technician or someone administering the testing.

So there were a lot of little issues that we looked at, but our first thought was, let's put all this stuff together. Let's come up with an ideal exam that we would want to do and all the tests that we could do, and then we'll figure it out

from there. We made a list of what would be our most important tests that we'd want to include and what would we want to include if we could include everything and how would this work? What would be limitations and timing and other things?

So we came up with a concept of GlobeChek, and it went through various differences in terms of even the name. I think we started out looking at what should we call this? We actually settled on GlobeChek, and the globe itself has a lot of meaning and eyes. We in ophthalmology and optometry call the globe "the eye." So most people don't associate a globe with an eye, but that's very much what we do.

So we came up with GlobeChek and thankfully there really wasn't anything out there along these lines. So we worked on the design. Put together our ideal list and then started working with an engineering company to come up with a design to solve some of the logistical issues of how is this actually going to work? In theory we knew how we wanted it to work. But how is it going to work in practice? Is it capable of working? And the last five years have been a journey trying to figure out, put this all together and to make it work. And we're right on the cusp. So it's been an exciting journey and very interesting one.

Steve Thomas: Well, this thing you're calling "the globe," what does it look like, and what does it do?

Dr. Bill Mallon: Well, the globe actually is a globe shaped kiosk, and it's got a couple of openings. One for where actually a patient would stand up and put their head into a little opening where they'd have a chin rest, where all of our testing would be administered. It's just under five feet in size. And it actually goes up and down. So when you come up to the globe, we actually have patients in a

standing position and it adjusts to your height. So you put your chin into an area, and then the testing would be administered. You'd stay in one location, and the test actually moves around on a circular table that goes up and down and moves in such a way to fine tune. And you'll actually stand there and have all your tests administered from one location.

There's actually a technician also works and stands to the side, and they have an area where they have touch screens and a computer where they can actually go through and run through all the testing.

Steve Thomas: How does GlobeChek make things easier for someone looking to have their eyes examined?

Dr. Bill Mallon: Well, if we look at why people typically don't get an eye exam, and this is something that we've sort of looked at over the last several years. There is cost barriers. There is convenience barriers. There is lack of understanding of the importance of eye care. And GlobeChek really is trying to address all those things. First of all, you don't have to go to an ophthalmology or an optometry office. Have an appointment, come into the office, get dilated, spend a good portion of your day doing that. Maybe making arrangements to miss work or having someone take you because you're going to be dilated.

So there's a lot of inconvenience associated with going to the doctor, and particularly going to the eye doctor. A lot of people are a little squeamish about having their eyes dilated and having their eye pressure checked and something touching their eye and drops in their eye. So there's a lot of reasons why people don't get eye care. And what we've tried to do is make it very simple and very efficient.

So GlobeChek takes from start to finish about eight minutes to complete. It doesn't require any kind of dilation. You don't have to have your eye touched by anything. There's no eye drops placed in there. So you're able to have this done, it could be on your lunch hour. It could be on a whim. You could walk by a globe and say, oh, I'd just like to get my eyes examined and have it done in eight minutes and then be off and running and going about your day.

So we've tried to reduce the barriers, and we hope that GlobeChek is going to increase awareness of the importance of eye care. There are so many people that don't receive eye care, and for various reasons as we've talked about. So we've got an eye catching globe. So people are very curious about it. When you walk by it, you look at it and it's something you want to go up to and say, hey, what is this? And all of those things were part of our goal, which is to create some excitement around it. Create more education for people to understand why we're doing what we're doing and the importance of even someone asymptomatic getting their eyes checked.

Steve Thomas: What types of places do you anticipate you would see a GlobeChek located? Are we talking about public areas?

Dr. Bill Mallon: Well certainly that's a big part of what we think. I mean, it could be at your local mall. It could be at an airport. Could be at any local retail store. It could be at a fair. We've got a mobile version. So we can put this in our mobile office and take it anywhere. And it's a simple trailer that's been outfitted as a mobile office. It's air conditioned and climate controlled. So we could have this sitting outside a county fair. We could have it outside a rock concert. It could be at a sporting event.

We really envision it being anywhere and everywhere. That would be our goal. That it's just so readily available that virtually everyone gets an eye

exam through GlobeChek. We sort of look at it as being a great screening tool. So we think there's no reason why everyone in America and everyone worldwide shouldn't have access to something like this. Because you're just going to pick up so many different things and be able to catch disease processes early. And creating that widespread availability is a big part of what we want to do.

Steve Thomas: So I'm going to ask this next question because there might be some confusion. When people think of eye exams, they may think of going to an ophthalmologist or an optometrist to get fitted for corrective lenses. But that's really not what we're talking about, although that may be a part of what GlobeChek does. GlobeChek does much more from an eye screening standpoint, but also finds other health issues that are not eye related from time to time. Is that right?

Dr. Bill Mallon: Absolutely. I mean, GlobeChek is a comprehensive eye screening. So while checking vision is an important part of what we do and certainly we know that there's, in the United States alone, 50 million people have refractive errors, which essentially means they need their glasses or contacts to see better. And they're walking around without glasses or contacts. So there's 50 million people that just need simply to get glasses. And we're able to identify those people as well.

So we check their vision. We check what their glasses prescription would essentially be, and then we go into the deeper depths of an eye exam. So we check the eye pressure. But we go beyond that, because eye pressure, as we know in a vacuum really doesn't tell us a whole lot. You can have an elevated eye pressure and not have glaucoma. Or you could have a normal pressure and still have advanced glaucoma. So eye pressure is an important component because it's associated with glaucoma, but not always the way we think of.

We also do an external high resolution photograph. So we can pick up a lot of things. We can pick up skin cancers. We can pick up growths on the outside of the eye. We can pick up patients who have had strokes. You can have abnormal eye movements or droopy eyelids or actually retracted eyelids in someone who has thyroid eye disease. There's a lot of systemic health conditions that can show up with just some of these basic things we do.

The other thing we do is we map the corneal surface. So we can pick up patients who have abnormal cornea problems, whether they have a lot of astigmatism, which can result in decreased vision. Or whether they have another condition which is a progressive condition called keratoconus, where they could potentially need a corneal transplant if you don't catch it early. There are treatments for things like this if you catch it early enough where you can prevent some of those long-term disease processes.

So we map the cornea. We do an MRI of the front segment of the eye and the back segment of the eye. And we can also screen for cataracts. So cataract is the number one cause of blindness in the entire world. One of the top four in the United States. We're able to tell whether someone has a visually significant cataract.

The other thing we do is we take a picture of the retina. And the retina is kind of like the film if your eye were a camera, with the old cameras, before we had all the digital. So the retina is very important, and that's really where the focus of telemedicine and tele-ophthalmology in particular has been, is strictly on taking a picture of the retina and interpreting that and looking for diabetic eye disease. But we go way beyond that. We take a fundus picture, the retina picture. We also do an optic nerve, what's called an OCT and again, almost

like an MRI of the optic nerve and also an OCT, or almost an MRI of the retina.

All of these things give us a complete picture of the eye health and also give us a really good understanding of the systemic health. We can look at arterial sclerosis and see significant high blood pressure. There is a lot of different things that we can pick up. We know all of these things that we're able to detect right now, high blood pressure, diabetes, whether someone has glaucoma, macular degeneration, all the typical eye findings. But also some of the systemic things. We're seeing a lot of studies coming out now looking at the ability to potentially diagnose Alzheimer's. What are we going to do with that information? We don't want to diagnose somebody at 20 that has the risk of Alzheimer's without being able to potentially change that disease process.

But all of these things that we're learning and things that we're going to figure out, I think are just scratching the surface. I mean, if you look at what the artificial intelligence is going to be able to do in the future, I truly don't think you're going to need genetic testing. I think they're going to be able to determine enough just from an eye exam about all of your health issues. And it's just – it's really exciting, and as I said, we're just scratching the surface. But GlobeChek is extremely comprehensive. Other than having the doctor sitting in front of you and looking at you, we're providing all of the things that we would typically do in my office and then some.

Steve Thomas: So it sounds like you could stop in for a quick eight minute GlobeChek eye exam and learn that you have some other disease process going on that's not even necessarily what you stopped for with an eye exam, such as diabetes or high blood pressure. That's pretty amazing. Have there been any unexpected benefits to people using the GlobeChek system?

Dr. Bill Mallon: Well, you know, interestingly enough, even one of our initial engineers, we were just running through some initial tests and we put him up and did an exam on him with our GlobeChek. And he had glaucoma and he didn't know it. He had gone to a box store three years earlier to get glasses and thought that substituted for an eye exam. He goes, "Oh, I've had an eye exam." "When did you have one?" "Three years ago."

So we put him up on GlobeChek. We did a scan on him. We found that his eye pressure was elevated. He had a hemorrhage or a broken blood vessel right at the edge of the optic nerve, which is a strong indication of glaucoma. We also had what we call cupping, where his optic nerve actually had some excavation to it, where he had lost optic nerve tissue.

Now we knew he had glaucoma. His pressure was elevated. He had optic nerve hemorrhage, and he had optic nerve cupping. He had what he thought was normal vision. He's been walking around seeing well and really what was happening was he was slowly going blind and didn't realize it. And it leads back to these are things that we see all the time in our office. I had a patient probably six months ago came into my office just thinking he wanted to get out of glasses. We did an eye exam on him. His pressure was over 40, which is very, very high. A normal pressure is anywhere from eight to twenty-one. His pressure was in the 40s.

He had lost about 90% of his optic nerve in one eye. He had about 60% of the optic nerve in the other and had no idea. That's the danger of glaucoma. About 50% of the people who have glaucoma in the United States are unaware of it because they're not getting checked and it's completely asymptomatic until the very end stage of the disease.

The other one is the epidemic of diabetes in our country. We diagnose diabetes all the time with patients who come in with blurred vision. They may also be asymptomatic, but we may find that the findings of diabetic retinopathy, and that is the number one cause of blindness in working age Americans. So picking that up early is so critical in being able to potentially stave off the long-term complications. Not only of blindness but kidney failure and multi-organ failure and heart disease, heart attacks, strokes. All of those things are much more common in diabetics with poorly controlled blood sugars.

So not only can they get a GlobeChek scan. We diagnose diabetes. We then send them to an endocrinologist or primary care doctor. So it's not just going to be a referral to an ophthalmologist or an optometrist, although certainly we'll determine whether they need the eye care component of that. But getting them to a doctor that can also control their systemic disease and get that under control. We see evidence of strokes and risk of stroke and heart attack by little clots that can show up in the eye, pieces of cholesterol, something called the Hollenhorst plaque. We can see a little piece of cholesterol lodged in one of the retinal vessels. If we see that, it's very high risk for that patient to potentially die of a heart attack or stroke.

So we want those people to be directed to their vascular surgeon or their primary care doctor to have them evaluated for vascular disease. So it's really fascinating what we're able to detect, and we're – again, we're excited to be able to reach out to people that potentially can be saved blindness and even worse, with death from some of these very serious conditions.

Steve Thomas: I understand there was a study that was done at Columbia University. Can you tell us a little bit about what that study showed just in terms of the number

of folks walking around who have an undiagnosed condition and potentially don't know about it?

Dr. Bill Mallon: Yes, this was really quite enlightening to all of us because we knew that there are a lot of people walking around, and previous studies had been on showing – our thought was we were going to see maybe 20 to 25% of the people that we scanned that would have some kind of eye finding that may require a follow up. So Columbia University is one of the finest eye institutions in the country, and they're affiliated with Columbia Presbyterian Hospital.

So they used GlobeChek outside of their emergency room and scanned asymptomatic people walking in to the emergency room. And what they found was, 49% of the people that had showed up in the emergency room for other things and went through the GlobeChek study, had visually significant eye disease that required follow up care. That number was really much higher than we had anticipated. And just enforces and reinforces the importance of what we've been talking about, is that everybody needs to get an eye exam.

And it was really, like I said, well above what we had anticipated on our own and looking at 25% in some of the other studies that had showed a little bit more than that. But we hadn't seen a study showing 49% of eye disease up to that point.

Steve Thomas: Well, with a finding like 49% eye disease in a sample study like that, it really emphasizes the point that combined with the fact that most people don't think about going to the ophthalmologist, what GlobeChek does is really takes the eye examination to the people, as opposed to waiting for someone to make an appointment with an ophthalmologist when they have really no motivation to do so. So it sounds like a great advancement for eye care. But not only just eye care, other things, heart disease and diabetes and other things as well. Do

you see this only being used in the United States? Or do you see the GlobeChek system being used internationally as well?

Dr. Bill Mallon: I think there is such widespread use for GlobeChek internationally as well. Because the problems that we know and we've already addressed in the United States are a multiple of that around the globe where we have great access in general relative to – even in spite of the fact that we have so many people who don't receive eye care in the United States. That pales in comparison to what's going on worldwide where cataract is the number one cause of blindness worldwide. I mean, that would never be acceptable in the United States that we'd have people walking around blind from cataract. Everybody gets cataract surgery when they need it.

So we see the utility of GlobeChek being worldwide. We've had quite a bit of international interest in GlobeChek in a lot of countries where there may be one ophthalmologist for three or hundred thousand or up to a million people. I mean, it's really shocking when you see the embarrassment of what we have in the United States relative to what's going on worldwide. So we see great use and utilization. In fact we've been approached by organizations that do free eye care worldwide and go around and do surgery. And we see great utilization for us as kind of a triage.

The resources for these groups when they go into these countries and do surgery, they have such limited time and resources. They really need to use them for the most needy. And what we can do with GlobeChek is go in and screen all these people and prioritize those who are the most needy to receive that care. And by doing that and saving so much of the screeners and the doctor's time, we're going to be able to allow them to do much more care while they're there.

And we also see, the GlobeChek Foundation which we founded, which is a 501(c)(3) organization, our mission is to make sure that no one goes without eye care. Whether they can afford it or not. So what we've anticipated is taking globes around to underserved areas and just treating people and diagnosing people. And then we've created a network of GlobeChek doctors, and we, as part of our mission, is to have GlobeChek doctors deliver free eye care to those who are most needy.

Steve Thomas: Sounds great. Well, thank you Dr. Mallon for your time today and for telling us about your technology and the eye screening technology that's embedded in the GlobeChek system. I really do enjoy working with you, and I've enjoyed our conversation today. We enjoy the work you are doing to bring eye examination to the public, including the underserved through the foundation worldwide.

Dr. Bill Mallon: Well thank you Steve. I really enjoyed talking about it.

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