**Precision Medicine Podcast, Season 4, Episode 56**

**Do We Have the Will to Address Inequality in Precision Medicine? A Conversation with Dr. Karen Winkfield**

June, 2022

**Karan Cushman, Producer:**

Welcome to season four of the Precision Medicine Podcast, sponsored by Trapelo. This is the podcast where experts come to discuss the problems oncologists, reference labs, and payers face as precision medicine grows and consider solutions for advancing the quality of patient-centered cancer care. Be sure to subscribe at precisionmedicinepodcast.com to get the latest episodes delivered straight to your inbox.

**Jerome Madison:**

Welcome to the Precision Medicine Podcast. I'm Jerome Madison, and our guest today is Dr. Karen Winkfield, Executive Director of the Meharry-Vanderbilt Alliance and Co-Host of the podcast, [3 Black Docs](https://www.3blackdocs.com/). Dr. Winkfield, thank you so much for being a guest on our podcast.

**Dr. Karen Winkfield:**

Well, thank you so much for having me. I am so excited to be here.

**Jerome Madison:**

Karan, you know that one of my favorite things for our podcast guest is learning about the journey.

**Karan Cushman:**

So, we learned that your path to becoming a physician wasn't exactly as direct as most. You faced your own personal and social barriers as a young adult, which we thought was so interesting, and so many people go through. So, in school, it took the initiative of one of your teachers who recognized your potential and wasn't willing to let you slip, you started to slip just a little bit. So could you tell us about that journey for you and what led you to become a physician eventually?

**Dr. Karen Winkfield:**

Yeah, sure. You know what's interesting is I think there's a lot of value to actually doing things, not in a linear pathway and particularly in medicine. I think it gives you a lot of different exposures, but there are some folks who literally, for their entire life, since they were six years old or in sixth grade or whatever, have always wanted to be a physician, and that certainly was not something that I had ever considered. In fact, I actually wanted to be a performer. That was always what I wanted to do. I enjoyed singing and acting and playing instruments, et cetera.

One of the things for me, I was the youngest child in my family, and when I was five years old, my parents changed their religion and part of what became the norm was this concept of not going to college after you finished school, which was odd because I was in a very excellent grade school, et cetera. I'd always been in all advanced classes. I had been, AP coursework in high school. That was, for me, academics was it. When I looked around, and all of my high school colleagues are preparing to take the SATs, et cetera and I wasn't, and wasn't thinking about going to college, that was a challenge.

I think emotionally, I was like, "Why am I trying so hard?" Because I was on track to be valedictorian, and I was like, "Why am I trying so hard when I'm not going to go to college afterwards?" I started cutting class and acting out a little bit. I had a teacher, Ms. Miller, who said, "What are you doing?" She found me, cutting her class. I'm sitting in the cafeteria with my girls. I was like, "Whoops." She was just like, "What are you doing?" And I share with her, I was like, "I'm not going to college." She was like, "What?" So she took time to sit down, hear my story. She was like, "Look, you have to go to school. This is something you really want. Let's see what we can do."

And she actually helped…took me to the guidance counselor's office, and they worked around kind of the system, was able to get me declared independent so that I could apply to college and went on to school. I tell you, I could not have done it without those individuals supporting me, all of those people from my high school at Half Hollow Hills, on Long Island in New York, just were incredible people, and I think it's a testament to the fact that we can impact people in ways that we might not ever realize.

**Jerome Madison:**

Absolutely.

**Dr. Karen Winkfield:**

Just by being there, just by being present and she wasn't doing anything special for me. I'm sure that she didn't do that for any other individual, but it changed the direction of my life, and I tell you, even though I went to school, I started out as a music major. I studied music and classical voice for two years. I struggled a little bit emotionally, just being separated from my family. Again, I was the youngest kid, and I was by myself because one of the things that came out of that whole experience was essentially being ostracized from my family. Again, there are lots of kids, unfortunately, particularly those from underserved backgrounds who sometimes face that decision. Sometimes their parents will say, "Well, if you do X, then don't bother coming home. If you say that you're gay, don't bother coming home."

**Jerome Madison:**

Yeah.

**Dr. Karen Winkfield:**

"If you decide that you're going to take that job, don't bother coming home." It's a struggle, but I tell you, I'm grateful for those people who are around me, who allowed me to rise above that, and to point me in a direction, because when I went to school, studied music, I struggled emotionally, took a little bit of time off, went back after four years. So I didn't finish college right away, you all. It took me nine years to finish my undergraduate degree. When I went back to school, I went back as a biochemistry major, ripped that degree out in three years and decided then that I really wanted to understand human physiology and to cure human diseases, and that's one of the reasons why I went to medical school.

It wasn't to be a physician because that wasn't something, I'd ever ... I'd never seen a black physician. I'd actually never seen a black scientist before. So for me, it was just something that was innate. I wanted to do something that was going to help people. I thought that science was the way to do it. I was a Howard Hughes scholar, fellow ... undergraduate fellow when I was at Binghamton University and really enjoyed science and said, this was the direction for me.

**Jerome Madison:**

It's incredible. So, you eventually matriculate into being a radiation oncologist and now, as the executive director of the Meharry-Vanderbilt Alliance. Now, a lot of our listeners may readily recognize Vanderbilt University, but they may not recognize the name Meharry Medical College, which is historically, a Black medical school. Can you describe the work that you're doing at the Meharry-Vanderbilt Alliance?

**Dr. Karen Winkfield:**

Yeah. I'm so glad you highlighted the fact that Meharry is actually one of four historically Black institutions that have medical schools associated with them. There used to be a lot more, it's really important for folks to understand the history of Black physicians and it actually hearkens back to just the relationship between races in this country, and I think that's an important thing for us to really understand that background. Blacks were not allowed to get educated in this country for a long time. They oftentimes would have to go elsewhere, and they certainly were not allowed to go to medical schools.

So, there were Black medical schools that popped up all around the country that they were segregated, but at least it allowed for Blacks to become educated. There were quite a few until the Flexner Report came out in the late 1800s, that essentially changed what it meant to be a doctor in this country and how physicians' training was going to go. So, all of the schools is closed except two and that was Meharry Medical College, which is in Nashville, Tennessee and Howard University in Washington, DC. Those are the only two Black institutions, Black medical schools that actually survived. Now, we've got four, but it's really important to understand that there is culture associated with different communities.

**Dr. Karen Winkfield:**

It shouldn't be rocket science. You think about New York ... Look, I grew up in New York and there are all these neighborhoods. A lot of times the neighborhoods, oftentimes ... particularly in the city, were based on culture and traditions. You would have your barrios, or you would have your, what we call back then, the projects and it was unfortunately not by choice sometimes, but a lot of times it was, you want to be around people who look like you, who understand your values and your traditions. Sometimes that's what we need when we're going through education. So Meharry Medical College is actually 147 years old. It is an amazing institution that has trained probably more Black dentists in this country than any other institution.

They have a dental school, there's a medical school, and there's a graduate school that also deals with public health. So, I'm really excited to be part of Meharry. I took this job about a year and a half ago. I had previously been, as you mentioned, a radiation oncologist specializing in hematologic or blood cancers and the treatment of breast cancer. I also happened to be the associate director of the cancer center in Winston-Salem, that's the Wake Forest Baptist Comprehensive Cancer Center. It's an NCI-designated cancer center. My focus was on community outreach and engagement.

There is an understanding that we do need to value communities, their differences, what they bring to the table, how we can engage and create bidirectional communication, and I love that. I love that work, but when you go out in the communities and you talk about cancer, that's not always their priority. That cancer isn't the number one priority, believe it or not, for a lot of folks in this country. They may be dealing with financial difficulties. They may be dealing with other medical issues, diabetes, hypertension. So, I really felt very much drawn to saying, how can I meet people where they are in a different way?

I've been doing the engagement work, but this job came up as the Executive Director of the Meharry-Vanderbilt Alliance, which is wholly focused on equity with respect to health and wellbeing. The way that I really think about health is different from what some other folks might. I think in this country, what we say health is, is the absence of disease. I really enjoy the World Health Organization, their definition-

**Jerome Madison:**

Sorry.

**Dr. Karen Winkfield:**

Hey, that's okay. I'm glad you're playing that, hey.

**Jerome Madison:**

They put my mic on mute.

**Dr. Karen Winkfield:**

It's so funny. Health in this country has for too long been defined as the absence of disease, and what we need to start thinking about health is wholeness and wellness and wellbeing. It's the total social structure, and we've seen a little bit of that during the pandemic, when you talk about the social determinants of health, and we can certainly talk about that later, but it's really important to understand that it's not just the absence of disease. It's really about that social context and wellbeing. So the Meharry-Vanderbilt Alliance has been working now for 20 years, for over 20 years to try to bring the resources, the benefits, the expertise of two of the United State’s premier institutions.

**Dr. Karen Winkfield:**

Meharry Medical College, again being one of four historically Black institutions that have a medical school attached to them, and Vanderbilt University Medical Center. How can we work together to engage communities around wellbeing, around health and to understand, truly understand what the community needs are? Pull them in to really think strategically together about, “how do we improve health equity in this country?”

**Jerome Madison:**

That is such an ... it's such an important work for collaboration, to reach communities. So Dr. Winkfield, we've had podcast conversations with a number of physicians, scientists in the field of cancer care around disparities and inequities and how precision medicine could possibly close the gap. A lot of these…lot of these guests, you may know Dr. Windy Dean-Colomb, Dr. Clayton Yates at Tuskegee University, even our good friend, Kaushal Patel, came on and talked about some great things. Your work goes far beyond genetic variations, which we'll talk more about shortly. Just 30,000-foot view, what's the potential? What could be learned with greater participation of underrepresented groups in clinical trials or greater participation in the healthcare system, for that matter?

**Dr. Karen Winkfield:**

Yes. Now, you better talk my language here. So what we didn't talk about is the fact that in addition to me getting my medical degree from Duke, I also got my PhD from Duke. Remember, I was all about the basic science and trying to figure out the human disease and issues related to human physiology. One of the things that drew my attention when I was in medical school was the fact that Black women died of breast cancer at a much greater rate than white women. Despite the fact that, at the time, they were diagnosed with it less, they had a lower incidence, a number of new cases each year, but they were dying of breast cancer.

So I really want to say, "Hey, I want to look at this conundrum from a biologic perspective. Are there things that are different in the genome of a Black woman that creates for them a worse prognosis when they're diagnosed with breast cancer?" So I was doing that by looking at samples of breast tumors, and we did this thing called a laser capture dissection where we literally would take very thin slices of the tumors from Black women and from white women, and we would put them on a microscope and we would literally try to pick out the cells because remember, a tumor is comprised of both tumor cells and normal cells. There is stroma or stuff or fat, or other components that comprise a tumor.

What we wanted to look at was the cells themselves, those cells that became dysregulated and see if there might be something genetic that is creating this worse outcome. What was unfortunate was that I couldn't complete that work because I couldn't get enough samples from Black women. I didn't have enough tissue samples. We call those biospecimens. This is one of the challenges when we don't have representation in clinical trials or bio banking, there may have indeed been a genetic marker that may have predicted that, "Oh, this group of individuals is going to have a worse prognosis," but I couldn't figure that out because there weren't enough specimens.

I moved to proteomic approach, meaning looking at the proteins, because, remember, the genome, the DNA is essentially the blueprint that says, all right, how is this person's ... what is this person's makeup? It's really the proteins that actually create the phenotype. The proteins are what makes a cell move. It's what creates the color of our skin. It's what decides what the hair texture is going to be like. It's actually those proteins that are coming out and doing the work. So, I wanted to look at the protein expression and thought, maybe I could do more that way.

Again, I ran into very similar issues that I could not look at how a genome might vary, because I couldn't do the genetic work, try to look at the proteins and the proteomes and seeing if that was different. Again, I wasn't able to do that work either because of lack of specimen. We may be missing some biologic factors that impact or influence equity because we don't have representation. We don't have representation within the medical system, and people utilizing the medical system the way that they could for good reason. We can certainly talk about that, lack of trust, et cetera, but certainly, clinical trials and particularly cancer clinical trials.

We've made such amazing progress over time. Many of you ... and you may actually know, Jerome about the AACRs, cancer disparities report that came out in 2020, and it showed that we've had a decline in terms of cancer mortality.

**Jerome Madison:**

Yes.

**Dr. Karen Winkfield:**

Fantastic, great, but there's still a gap. Black people are still dying of cancer at a much higher rate. So, what is causing that variance certainly might have some biologic reasons or things to look at. Maybe they don't process a particular medicine the same way, but we don't know because there's been such under-representation in cancer clinical trials. So, this is an opportunity for us to rethink how we engage communities around inclusive participation. What are the things that we can do from a researcher standpoint that says to communities, particularly those who have been disenfranchised and excluded for so long that, "Hey, we value you; You're important to us."

"We want to make sure that you have the appropriate care that, the medicines, the things that we're coming up with are going to work, just as well in you as they do in other populations. That those side-effect profiles are going to be something that's tolerable," but we need to kind of create that environment. We need to become trustworthy as researchers, as institutions to tell people and say, "Hey, you can come, and we'd love to learn with you about what's happening from a biologic standpoint." And we do that, obviously, through precision medicine, but as you mentioned, the way I describe precision medicine is very different, but certainly with all the new technologies, we can advance this field so, so very far as long as we have everyone participating.

**Jerome Madison:**

The Precision Medicine Podcast will continue right after this.

**Karan Cushman:**

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**Jerome Madison:**

Okay. So, you know I'm a big fan of your work, so I've been reading your work for at least a couple of years, and I finally got a chance to meet you in person at the Florida ASCO, at the Florida ASCO's symposium for cancer disparities with Dr. Louis Reyes and the Yemen's work that he's doing down there, and when I saw you in person, speaking on panels, you continue to present perspectives on this that I had not thought about. So, you just said a lot, if we can kind of double-click on that. So, Kaushal Patel said something, and you just echoed it. He said that precision medicine could actually present challenges for diverse populations that are unrepresented in the reference genome.

**Jerome Madison:**

Some of the data he quoted ... he quoted a study from 2009, and this was in the last podcast conversation, that 90% of the genome, the reference genome are represented by European ancestry, but they’re only 9.7% of the global population. Asians, people of Asian descent, 10% represented in the ... around 10% of representing the genome, but the African diaspora, only around 2%. What are the consequences of a lack of biological diversity in the reference genome?

**Dr. Karen Winkfield:**

Boy, you're trying to get me in trouble today.

**Jerome Madison:**

Yes.

**Karan Cushman:**

This is podcast episode two with Dr. Karen Winkfield.

**Dr. Karen Winkfield:**

Yeah. We're about to get in some good trouble. That's all. So, let me back up a little bit. Most people are aware that the cancer genome Atlas program has been around for a long time, has sequenced over 11,000 primary cancer samples, and we're just talking about the cancer genome Atlas program. I think what Dr. Kaushal Patel talks about is the larger kind of program to look at genomes, just the whole genome. Let me tell you something, even within the cancer genome program, there's a lack of diversity, right? We had, what was it ... a week or two ago, we had our symposium. So, I helped to co-lead the comprehensive partnership to advance cancer health equity at Meharry TSU and Vanderbilt. This is what's called a CPACHE or a U54 grant, that's awarded from the National Cancer Institute.

There are several programs around the country, Meharry's and Vanderbilt's happen to be one of the oldest CPACHE that's in the country. So, we have an annual symposium, and I invited my good friend, John Carpten, who you probably are very well aware of, from USC. He was our keynote speaker. One of the things that he pointed out was in looking at prostate cancer, and you look at the Cancer Genome Atlas Program, again, over 11,000 primary cancer samples, only 25 of those specimens were from prostate cancers derived from Black men. 25. Despite the fact that Black men not only have a much greater risk of developing prostate cancer, probably twice as high as any other racial ethnic group, and they're two-and-a-half times as likely to die of prostate cancer. That's a major disparity.

**Jerome Madison:**

Yes.

**Dr. Karen Winkfield:**

And yet you only have 25 specimens from Black men. What the heck? So, it was fascinating, it took another Black man, Dr. Levi Garraway, who I knew when he was at Dana-Farber. Now, he's doing other things, but what was interesting in that he, along with his colleagues, actually sequenced the genome of prostate cancer derived from Black men and, in fact, found that there was a genetic abnormality that was more likely in Black men than there was in other groups. This is what happens when you don't have inclusive participation. When you're only looking at a subset of individuals, you're only getting a small window or a glimpse into a small component of the entire population.

Again, remember, it's not just about the genome, that's one component. The cancer genome is a whole other thing, which is what I was just talking about, the Genome Atlas. Then, it's even about how those genes are expressed. It's a whole other thing. So my concern is that the way we're currently defining precision medicine is looking at how certain proteins or what genes are upregulated or downregulated in a cancer, we're missing a little bit about the expression, when we do that. Sometimes when we do look at the ways that precision medicine is essentially used to help with treatment decisions, where a person might go and get a gene panel, their tumor, the piece of the tumor, gets taken out, gets looked at. We're going to see if these particular genes are overexpressed or under-expressed.

And if there's overexpression, we may be able to use an inhibitor. We have all of these precision medicines now that we're calling them, these targeted agents. So, we're trying to utilize this information to help with treatment decisions, but what happens when not everyone has access to those panels, right? When not everyone has access to the genetic testing that's required to make those sorts of treatment decisions. That's the problem that I have, and I think that's what Kaushal Patel is talking about, too. If we don't have enough diversity within, not only the reference genome, so that we can say, "Okay, well, this particular variant that we're seeing on this gene panel, it's actually a very ... that's what we see in X population." We always see an up-regulation of that gene in this population, so that's not necessarily a tumor marker.

We don't know that because we don't have enough diversity in the reference sample. I use example of renal function, kidney function. For the longest time we've looked at the glomerular filtration rate, GFR and there's been always ... if you've ever gotten your lab panel done, there's always a disclaimer, and says, "Oh, this GFR is only relevant. If you're Black then, it's going to be a little bit different." All of our labs, white blood cells, red blood cells, all the reference labs that we have in medicine were based off of white men and young white men. So it's really hard when you have a Black person who…their white blood cell count might be slightly lower and somebody says, you've got low white blood cells. Well, that's what happens in Black people.

Their white blood cell count tends to be lower. Cortisol levels tend to be higher. Their glomerular filtration rate tends to be different. So, we can miss things in medicine, if we don't have diversity in just the basics and the basic understanding of medicine and how people's body is different. That can actually allow us to miss things, it could create larger gaps and certainly with respect to precision medicine, the way that most people look at it, I do think that there's a concern that if we do not address some of the inequities in terms of access to care, that many of the disparities that we have seen, we've seen improvements over time, but the fear is that precision medicine is going to make those disparities even worse over the next couple of years.

**Jerome Madison:**

Man.

**Karan Cushman:**

Yeah.

**Jerome Madison:**

I had to take a deep breath on that one. We, many times, talk to our guests about the promise, the hope, the advancements, but a lot of times, we don't get that other perspective of unintended consequences that can occur because of that. So, sorry, I have to-

**Karan Cushman:**

A reminder of how much longer the road is, we feel like we've made such great progress, and that with technology and things are happening faster, that healthcare is going to improve faster. That was a really good reality check of how far we have to go.

**Jerome Madison:**

Yeah. Well, speaking of more reality checks. Okay. So, Dr. Winkfield, I've attended conferences where healthcare disparities have been discussed over the last several years, and the same issues tend to be brought forward. Lack of access, being underinsured, generational mistrust of the healthcare system. We can hearken back to the Tuskegee experiment that lasted for 40 years. Henrietta Lacks, there are a number of others. Your work digs into the root causes of healthcare disparities. So the questions always asked in these conferences, well, what do we do? What do we do? It's not just about lack of access. It's just not about getting people insurance. One of the papers that I read a couple years ago was published in JCO Oncology Practice.

**Jerome Madison:**

You were the lead author on this paper. It was titled, "The Development of an Actionable Framework to Address Cancer Care Disparities in Medically Underserved Populations in the United States." You actually lay out a plan. Okay. You actually, step by step, lay out a plan. Can you talk about these causative factors that for many people are hidden in plain sight?

**Dr. Karen Winkfield:**

Yes. Yes, I can. Let me just say this, I do think that, "Okay, I laid out a plan, but there's been a plan out for ending cancer disparities for over 20 years." The unequal burden document that was essentially kind of written by the Institutes of Medicine. Congress actually was the one who said, "Hey, we need to kind of understand what's going on with this cancer disparities thing." The whole plan is outlined. Part of what the challenge is now is, do we have the will, do we have the will to do what is needed? Yes, I mean, there are those of us who've been kind of yelling from the mountaintops for decades now that we need to do something different because people are dying.

The structural barriers, it's those social determinants of health. It's the structural barriers that have been built into the system that really can be part of the challenge. So, some folks say, "Well, look, the disparities that we see related to race and ethnicity are so humongous that we're not even going to tackle that." So, what they do instead is they start talking about geography and look, that's important, rural America, we know that there are issues related to access to care. So, we have things that we need to do there, but when it comes particularly to Black, white disparities, because I think there's been focus on language as a barrier and people, again, want to go to something that's a little bit easier.

Okay, we'll make sure that we have bilingual individuals who are providing some resources in the community as related to health and access, et cetera. To your point, you mentioned insurance. I always used to say, because I was in Boston. Remember, I practiced medicine in Boston for years. I used to tell folks, we had Romneycare before there was Obamacare. We had universal healthcare coverage for the state of Massachusetts. We had uninsured rates, less than 4%. I would tell people, having an insurance card does not mean that you have access to healthcare. It goes back to how I define precision medicine. Yes, we can look at all the Mibs and Mabs and all these targeted agents, and that's all great.

It has revolutionized the way that we treat cancer, but people often talk about precision medicine as giving the right patient the right treatment at the right time, and I like to turn that on its head just a little bit and say, can we make sure that every patient gets the right treatment at the right time? That means we have to see the person who's sitting in front of us, find out what their social context is. Find out, are there barriers just for them walking through the door? For many, it's not rocket science. It's that built environment. Maybe they have to ... if they're living in an urban environment, have to take two buses and a train to get to a hospital appointment or appointment with their oncologist.

Can you imagine having to come in for chemotherapy and have to ride a train? What the heck? These are barriers that many of us take for granted? I have a car, I can drive. Yeah. Okay. I hate paying for parking. That's another barrier though, right?

**Jerome Madison:**

Yes.

**Dr. Karen Winkfield:**

These are the things, the social determinants of health, if we can stop and just see the person in front of us and say, what is it that you need to help you along your cancer journey? That to me is being precise. That's being involved in personalizing medicine, and that's what that actionable framework was. So you're absolutely right, we published that paper, my colleagues and I, this was a collaborative paper. If you look at the list of the people who were on there, we had pharma at the table. This was not just the musings of an academician, these are individual stakeholders who we said, "What is it that we need to do to really sure up the gaps in healthcare?" Because again, the way that I look at things, if we really want to do medicine the right way, we need to scrap the whole dang system, start over.

**Jerome Madison:**

Yeah.

**Dr. Karen Winkfield:**

Look, I'm a provider, I'm an oncologist, and you know what I get to do, I get paid to treat cancer. Do I get paid to talk about prevention? No. Do I get paid to talk about secondary prevention? No. In our country, physicians get paid to treat diseases. Prevention, preventive care is not prioritized. So, that's a problem in and of itself, right? When we have two of the greatest modifiable risk factors for cancer, tobacco use and obesity, both running rampant in the Black community, but there's no incentive to help reduce those risk factors. None. That's a problem. Again, are we personalizing? Are we being precise in the way that we deliver our medicines? We saw a lot of this during the pandemic. I think people's eyes were open to the social context. One of the things that Dr. Rob Winn and I, I know you probably know Dr. Rob Winn as well.

He is the Director of the Cancer Center at VCU Massey in Richmond. Amazing, amazing clinician. He's a pulmonologist, but he also happens to be a basic scientist. He's like the triple threat, for real, you all. Really amazing guy. He and I were on a panel together at one of these conferences. One of the same ones, Jerome, like you're talking about, I'm always on these panels, and we were asked to write a paper about it, and we did. And it was about how do you improve equity in the midst of a pandemic, in the midst of a health crisis? That's what really the title was. You know what we spent the majority of that document doing is outlining the structural roots of why we see the disparities we see in this country, because it goes beyond just about healthcare access, right? This is about health. Remember I said, my definition for health is around wellbeing, social context.

There has been redlining in this country. There's been urban development in this country that has systematically disenfranchised communities on purpose, and many of those things are still in place or the vestiges of them are. So we have to recognize that structural barriers, and I'm going to say the word, structural racism still exists. Until we are willing in this country to say, "Okay, racism is a thing, it's a system." It's not about racist individuals. It's a system, that we can still see it and that what do we need to do? We need to actually acknowledge, and we need to say, "Okay, we need to move beyond this," because frankly, many of those things, redlining, urban development, et cetera, et cetera, disenfranchised communities, such that they did not have the ability to build wealth.

In this country, in the United States, your wealth directly impacts your health. Your zip code impacts your outcome more than your genetic code. That's a fact.

**Jerome Madison:**

Yeah. It's problematic that there are some people that simply don't believe that racism exist, let alone institutional racism. Here's some other things that you talk about in this particular paper that I mentioned, you guys can go search it up on ASCO pubs, among other places but just the lack of transportation. We're talking about structural issues. Living in food deserts, the ethnic underrepresentation of clinical staff, having community navigators, access to biomarker testing. It's just a good paper. I mean, obviously, we're not going to do it justice here on the podcast. You can do a symposium, a day of symposium just on the topics that you talked about in the paper.

One of the other things that we like to talk about here on the podcast, our title sponsor is Trapelo Health, which is a technology company. The pandemic exposed some inequities in the healthcare system, and we see the opportunity to bridge that knowledge and communication gap, in particular for precision medicine through technology. What kind of impact do you see technology will have on eliminating healthcare disparities?

**Dr. Karen Winkfield:**

Yeah, it's a great question. I'm all about humans, because again, you mentioned the paper and one of my top kind of recommendations in that paper is about navigation. The importance of it, the value of it. Harold Freeman was able to take the overall survival of Black women in Harlem from a 30% overall survival rate at five years to a 70% overall survival rate within five years, he was able to make that transition simply by having people lay individuals who are trained around the importance of what breast cancer is, breast cancer screening and navigating people through the system and you mentioned transportation, number one barrier for healthcare in the country. So, yeah, there are some structural barriers and navigation can help individuals. Again, it doesn't have to be nurse navigation, it could be lay navigation, but they have to be trained.

It could be community health workers. It could be lay health advisors, people who have trained in the skill of helping people understand a diagnosis, understand their health and wellbeing. Great. I just want to put that out there. I am in a field. I'm a radiation oncologist. I use a linear accelerator to treat patients. I am all about technology and the pandemic has indeed opened people's eyes to like, "Oh my goodness, we can do telemedicine, and people are actually happy. Patients are happy with it." There are still barriers with respect to telehealth, right? Not everyone has access to broadband, not everybody's cell phone, even if it is a smartphone, they have enough minutes to kind of talk with their doc. There are certainly barriers. So it's not an end all be all.

I must say that we are now living in the age where we have artificial intelligence, where what we can start to do is take all of the data, we are bombarded with data all the time, whether it'd be data from a human genome project or whether it'd be data from the smart watch on somebody's wrist, there is data that is there and some companies have really utilized it really well, speaking of tobacco. Tobacco companies understand data and how to use it. Why can't we take that same technology, the artificial intelligence and apply it to saying, how can we improve people's lives? How can we improve their wellbeing? I think we can, and I think we are, there have been lots of amazing opportunities recently with grants that have come out from the government, from the National Institutes of Health, that have really been looking at how can we utilize artificial intelligence?

How can we utilize all these data points to really start to rethink healthcare and wellbeing in this country? So I do think that technology is important. We've seen how it's revolutionized cancer care, right? We talk about all the targeted agents now, even simple thing, quote unquote, simple, looking at Oncotype DX, which is 21-gene panel, that has really been able to allow us to differentiate between women with breast cancer who need chemotherapy to improve their outcomes, versus those who don't, because remember, all the treatments, if we're treating somebody for a disease, there are side effects that can come from our treatments. So, what we were able to do with that test is really to predict which women would really benefit the most from having chemotherapy as part of their treatment course.

We are doing this more and more by looking at, are there specific markers that are elevated in tumors? And that's the beauty of technology and precision medicine. It's great. It's wonderful, and I do not want people to think that when I talk about these things and the barriers that it's like, "Oh, well she's anti-technology." No, I love it. That's what I do, but I think we also need to kind of take a step back and say, "How do we make sure that everyone has access to that technology," and that's where I'm coming at. I'm excited for the future because remember, the Moonshot 2.0, that Biden announced on February 2nd, and I was very honored to be at the White House when he made that declaration, that Moonshot 2.0 is on the way.

He charged us with working together collaboratively, everyone together to say, how do we kind of change the face of cancer, as we know it? Talked about technology, talked about health disparities, talked about precision medicine, talked about all of those things and look, it's coming down the pike. We are going to revolutionize the way that cancer looks. Again, I just want to keep people's mindset on the fact that we need to make sure that as these technologies are coming up and growing and developing, that we are aware and are mindful of the fact that not everyone has had access. How do we ensure inclusive participation as things move forward?

**Jerome Madison:**

So you've mentioned it, we can't just step on that and keep going, so we got to double back. So yes, to our listeners, Dr. Winkfield was appointed to President Joe Biden's National Cancer Advisory Board. So I'm always amazed again at the journey, but we have incredible guests that are doing incredible things, can you share with our audience kind of the vision of the consortium and what are some of the objectives that you're focused on?

**Dr. Karen Winkfield:**

Yeah, well, I'm brand new to this. I mean, I've only been appointed for a couple of months, and we are still kind of focused on this endemic and COVID precautions. So, my engagement to date has really been virtual except for the invitation to the White House on the 2nd of February. Remember, the National Cancer Advisory Board was actually formed by Congress years ago, and it's around trying to elevate the work that the National Cancer Institute is doing. So there are 18 of us total and our job, we are researchers and scientists and providers and patient advocates from around the country who are focused on providing input to the Director of the National Cancer Institute.

It had been Ned Sharpless, he just stepped down. We have an interim director now, Doug Lowy, and really, it's all about focused on how do we do this cancer stuff better? How does the National Cancer Institute help to improve research around cancer, improve access around cancer? Now, the thing is, is that, access is different. It's all those things, I will certainly bring my voice to the table about ensuring that we have inclusive participation in the research, but it is really highly focused on thinking about the ways that the National Cancer Institute can really help to improve the way that we do research around cancer, to help provide input into the funding related to cancer research and to really provide some thoughts around ways that we can work again, collaboratively together to do this work.

So, I'm really excited that I can bring this community engagement lens to this work. There are others who do that as well, and this is again, my friend John Carpten, I'm excited because he's actually the chair of this very robust group of individuals that I'm so grateful to be a part of.

**Jerome Madison:**

Dr. Karen Winkfield, Executive Director of the Meharry-Vanderbilt Alliance, Co-host of the *3 Black Docs* podcast.

**Karan Cushman:**

So, I just want to ... this has been such an interesting podcast, and I want to recognize that the reason why we got so much time with Dr. Winkfield today is because she's on vacation and you know, it's going to take that extra time to do the work that needs to be done here. So, what I wanted to dig into here a little bit is the beauty of technology, as it relates to podcasts and as podcasts have gotten more and more popular through the pandemic, it is such an incredible way for people to come together, learn, participate, move these difficult conversations forward outside of their work time. So, I really appreciate…Jerome and I both… the fact that we could get you on here, that you really dug into some hard and real reality checks out there and that's what it's going to take.

**Karan Cushman:**

I think it's so great, also, Dr. Winkfield, that you have got your own podcast called *3 Black Docs* with two of your colleagues. What I love about it is that you're talking about wellness and health and all of those things, but that you bring in an entertainment component to it. So I love your episode in December. I think you guys were just kind of giving yourselves a break because you record every Sunday, did I get that right?

**Dr. Karen Winkfield:**

Yeah, we try to. Even ... yeah, we try.

**Karan Cushman:**

So, you had a whole episode where you guys were talking about the show, Selling Sunset, which is a reality show.

**Dr. Karen Winkfield:**

Yes.

**Karan Cushman:**

My daughter happens to watch it, so I know enough to be dangerous. So, I was curious, I've got one question about that show, which is ... now, someone has got to really go and watch it, just to know what we're talking about, but how do you feel about Christine? Because that is about as far away from what we've been talking about here, but I'd love that you guys have been able to bring in that other culture because what we do is hard, but the reality is, we need those shows that take us away from everything and just make us laugh, right?

**Dr. Karen Winkfield:**

Yes, absolutely. That is so hysterical. Yes, and it's funny, this has been a very difficult conversation. I'm grateful for you, Jerome and Karen, to just allow us to have a chance to talk about these difficult things. Again, the things that people tend to shy away from, and I tell you, Christine is one I would shy away from her in a heartbeat. Yeah. I'm going to stay far away from her as I can, but let me tell you, it's been very entertaining to watch, that whole series.

**Karan Cushman:**

Yeah. Well, I'm going to do one other kind of selfless plug for podcast here, which hits on what you were talking about, which is navigating care, which is so difficult. One of our two-time former guests, Hannah Mamuszka and her colleague, Lena Chaihorsky are beginning a new path. I'm helping them start a new podcast, which is all about helping people navigate their care. So it's going to take people like that. All of us that are willing to put in extra time for our sponsor, Trapelo to say, "Yes, we believe in this, go do it." That's what it's going to take. So, really appreciate you being with us today, but have one more question. Are you still singing?

**Dr. Karen Winkfield:**

Actually, no. I haven't sung in a long time. I was honored a couple of years ago to sing The National Anthem at Fenway Park. It was part of the-

**Karan Cushman:**

That's awesome.

**Dr. Karen Winkfield:**

Yeah, it was part of my advocacy work with Coleman, actually. I used to work with the Massachusetts branch of Coleman's now, the New England branch, and they were asked to do the opening ceremonies. It was on Mother's Day and it was Survivor's Day, and I was incredibly honored to be able to sing The National Anthem and God Bless America at Fenway Park, and I think that was probably the last bit of singing that I did. I used to sing in a church choir, but the pandemic has changed a lot. Yeah, it's been a journey, but I think that's the beauty of kind of making sure that look, nothing is set in stone. I tell a lot of my mentees, you might have a vision for yourself, and you may say, "This is the path that I want to go in," but don't hesitate to maybe peek into some of those windows that get opened or those doors because you never know.

**Dr. Karen Winkfield:**

I think sometimes when we become so focused, and we have those blinders on, that we really don't take time to look around and say, where else can I be going? What are some other opportunities that might be there for me? I must say, I'm so grateful for the detours in my life. I'm very grateful for the fact that I'm a very non-traditional student, because that has certainly informed the way that I approach every single thing that I do.

**Jerome Madison:**

Incredible work. Incredible work. Dr. Winkfield, if someone wants to get in touch with you via social media, Twitter, do you have any handles that they can reach out to you?

**Dr. Karen Winkfield:**

Absolutely. So it's @DrWinkfield, so at Dr. Winkfield on Insta, on Facebook, on Twitter and certainly our podcast, *3 Black Docs*. It's the number three and then, Black docs, D-O-C-S and we have a website. You can find us there and comment there as well.

**Jerome Madison:**

Yeah, and you can see a number of the interviews of the work that she does on her website, drkarenwinkfield.com. We cannot thank you enough for the amazing content and just sharing yourself with us this morning, while on vacation. Come on, somebody. So, Dr. Winkfield, thank you so much for being a guest on the Precision Medicine Podcast.

**Dr. Karen Winkfield:**

Thank you so much. It's been an honor.

**Karan Cushman:**

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**About Our Guest  
  
Karen Winkfield, MD, PhD**  
  
*Professor of Radiation Oncology at Vanderbilt University Medical Center*

*Ingram Professor of Cancer Research Executive Director, Meharry-Vanderbilt Alliance*

Dr. Karen Winkfield is a Professor in the Department of Radiation Oncology at Vanderbilt University Medical Center, Ingram Professor of Cancer Research at Vanderbilt Ingram Cancer Center, and Professor of Medicine at Meharry Medical College. She is the Executive Director of the Meharry-Vanderbilt Alliance, a strategic partnership between Meharry Medical College and Vanderbilt University Medical Center.

Prior to joining Vanderbilt, she was an associate professor of Radiation Oncology at Wake Forest University, associate director for Community Outreach and Engagement and director of the Office of Cancer Health Equity at Wake Forest Baptist Comprehensive Cancer Center. Dr. Winkfield completed her residency training at Harvard and was a radiation oncologist at Massachusetts General Hospital Cancer Center prior to joining Wake Forest.

She specializes in the treatment of hematologic malignancies (lymphoma, leukemia, multiple myeloma, bone marrow transplantation) and breast cancer.

She’s a national expert in community engagement with research focused on the design and implementation of programming to reduce sociocultural and economic barriers that contribute to disparate health outcomes for racial/ethnic minorities and underserved populations. Her goal is to create sustainable institutional change while empowering individuals, families and communities to advocate for their right to health and well-being.

Dr. Winkfield was appointed by President Joe Biden to the National Cancer Advisory Board in 2021, where she will serve a six-year term and help guide federal initiatives that focus on cancer.

Dr. Winkfield currently resides in North Carolina and enjoys travel and fine dining and maintains a blog at [drkarenwinkfield.com](http://www.drkarenwinkfield.com/) She is also the co-host of a weekly podcast dedicated to educating the community about health & health disparities. Tune in at [3Black Docs.com](https://www.3blackdocs.com/)