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GREG HORNE: Hello. Welcome to another episode in a brand new season of the Health Pulse Podcast. I am your host, Greg Horne, and in season two of our podcast series we're focused on health innovation, looking to uncover where technology and new approaches change the world of health and life sciences. So as you now know from the previous episodes we are producing the podcast in two formats. So if you've been an audio listener, I'd like to suggest you check us out on the SAS Software channel on YouTube. And of course, we still welcome your comments to our email address thehealthpulsepodcast@SAS.com. But we're also now looking for comments on that YouTube channel as well. And remember that really helps us shape our guests and the conversations we have in the future. But for this episode, I am going to be joined today by my very special guest, Dr. Robert Winn, who is the director of VCU Massey Cancer Center in Richmond, Virginia. Dr. Winn's background is as a pulmonologist and a physician scientist, whose research centers on lung cancer, health disparities, and community based health care. And we're going to get into a lot of that subject today.

But first of all, Dr. Winn, over to you-- Welcome to the podcast. How are you doing today?

ROBERT WINN: You know what, it's a great day. Spending it with you is actually going to make it even better. I enjoy your podcast, and so this is outstanding.

GREG HORNE: Thank you very much. And where are you joining us from today?

ROBERT WINN: I'm joining from Richmond, Virginia from the headquarters of the VCU Massey Cancer Center.

GREG HORNE: Fantastic. I am here in sunny Toronto, as always. And yeah fantastic day, and this is going to be a great conversation. So to kick off, tell me a bit about yourself. Tell me about what you do today. Tell me about your career path and what got you to where you are today.

ROBERT WINN: Yeah I think if you look at the 71 Cancer Center Directors in the United States for NCI designated programs-- and I'll just break that down real quick. We're coming up in December on the 50th anniversary of the big idea of the Nixon's war on cancer. As part of that war on cancer, they recognized that to do something big they needed to partner the NIH, the National Institutes of Health, with academic centers such as mine to really bring the best and brightest minds together to come up with the new research that will lead to reducing cancer burden.

And I happen to be now one of that-- I'm part of that membership, part of that club, if you will. I was the second ever African-American in that 50-year history to be a Cancer Center Director of an NCI designated cancer center, which around the globe many people would say, what's the big deal. But in the United States it certainly is a big deal given the system, giving the issue that we actually had around race almost since the inception of the US.

So it was a big, bold move that VCU Massey appointed me as their Cancer Center Director in 2019. And I've been trying to essentially just bring attention to the fact that research certainly is a cornerstone of how we're going to cure cancer. But at the end of the day, its research alone won't be the answer to gaining people's trust, because that also matters.

GREG HORNE: Oh fantastic. We'll get into the trust piece in a minute. But I'm just interested, so what inspired you, as a young guy, to think I want to get into lung cancer. I want to focus on respiratory medicine. What was your trigger for that start?

ROBERT WINN: Yeah that's an interesting thing. I'm the prime example of when people see things in you before you see them in yourself. I was born to a 15-year-old mom. So my biggest dream when I grew up wasn't to do anything in science or medicine, it was to work in General Motors, and become the youngest foreman at General Motors. Luckily, that didn't work out for me.

So my path has really been one of those stories of what happens when you give a kid, like me, born to a 15-year mom, from essentially neighborhoods that are not rife with people reading books, going to college-- When you actually see something in them and we give them an opportunity, in this case, getting to Notre Dame University-- Two priests, that's just the way it worked out, Father Walter, Father Austin, thought I would make a great doctor.

I didn't believe it, but they did. Got enrolled in some pre-med classes and some other things, and then, lo and behold, it started working out. Got to University of Michigan, where I ran into, believe it or not, my genetics teacher at the time, Francis Collins, who to this day is still a very important person in my life that inspired me to really take science seriously. And from that, just continued on the path of really trying to bridge the gap between research, and how I can use research to do good.

So it's not the typical story of someone who loves science all their life. It is a story, however, of someone, when you give them opportunities for various classes or various backgrounds, what many of us can do when the opportunity is given.

GREG HORNE: I couldn't agree with you more. That's fantastic story. And as always on the podcast, we like to get something personal as well. So when you're not running the Cancer Center, what's a hobby or something you like to do in your free time?

ROBERT WINN: Yeah all my life music-- and so whether it's hip hop, jazz, whether it's indie rock, it doesn't really matter. I just love music. So when I have some downtime, I'm usually listening to music, or studying music or, from time to time, even trying to make a little. But music is my passion.

GREG HORNE: Fantastic, me too. and yeah, maybe one day we'll rap a podcast. That will be the way to do it.

[LAUGHING]

ROBERT WINN: That's awesome.

GREG HORNE: So from what you talked about at the beginning there, I really understand a lot of why you're interested in health disparities and why that's a key part of your role. But let's just think about social determinants, think about health disparities, and you already mentioned the word trust, just tell me a little bit about how do you think that these social determinants, these disparities, how are they playing out in cancer treatments today?

ROBERT WINN: Yeah and I think that this is not only true in the United States, this is globally, structure matters. And so those people who have access to treatment will get those treatments. Those folks without access-- and we can look at that globally on multiple different continents-- won't get it.

And the truth of the matter is, if we are talking about miracle drugs and developing miracle therapies, it's one thing to develop miracle therapies and only recognize that it's going to actually serve a small sliver of people, as opposed to doing what I'm trying to do, which is a more-- I said, Henry Ford, Dodge Brothers

sort of thing, that it's not super sexy. It was great when they created the first combustible engine, when Mr. Benz created the first combustible engine.

But it's really important to say, how do you get it out to multiple people? And my goal is to figure out how to bring about new research, new therapies. But the second part of my job is to figure out how do we actually do better about getting these wonderful miracle cancer drugs out to more people.

GREG HORNE: Fantastic. And actually a side to that, COVID 19 has increased medical debt as well. And that's really started patients missing critical appointments, maybe screening is dropping behind, how do we address that backlog? And again I think this is going to play to the story of trust, how do we rebuild that trust and get people back into health care?

ROBERT WINN: Yeah I think COVID has shown us a couple of things. That even despite something that would potentially keep you from dying, keep you from getting into the hospitals, that there's substantial mistrust and distrust, not just in the United States, but all over the globe. So when we think about the financial issues, the financial issues of taking medicine, for example, isn't equal all across the globe. The cost can-- sometimes it saves your lives, but it puts you in bankrupt.

And so the truth of the matter is this trying, this new understanding of, as we are creating, how do we make it affordable is really going to be, I think, something in the 21st century that we're going to try to struggle with. I think it's interesting this backlog that's actually happening as a result of COVID, of people not being screened, is really going to, I believe, rear its ugly head. It already has. But I think as we're getting through COVID we're going to figure out that there are more and more people with cancer who have not sought the doctor.

In fact, I think it was a paper that said 10 million people that could have been screened for things like prostate, breast, and colon did not last year. And so where are those 10 million people going to go? Many of them will go on to having advanced cancers. And then, ultimately, we see them in the system not early, but late. That's an issue that we're really trying to bring more attention to.

GREG HORNE: That's really interesting. My wife works in breast cancer, and she's now seeing that herself. She's seeing that people who should have been screened in the last year are coming in with advanced cancer stages. And that has a knock-on effect. From an ethics point of view, how do we understand the way forward on this? This is an area now where-- do we go advertising? How do we go and change people's views on this?

ROBERT WINN: Yeah I really do think that in addition to all of our conversations around science-- believe me, if loving science is wrong, I don't want to be right. But even the miracles of science has its limitations. I think the way we get to people, and bring them closer to science, is by not building trust, but being more trustworthy.

And, in fact, when I say trustworthy, people say, oh that's cute and nice to say. But what I'm saying to folk is that we are working here at VCU Massey, and really trying to build the foundations with folks like Reuben Warren from Tuskegee, around what is a trustworthiness scale. What does it look like qualitatively and quantitatively? Because many of our institutions, whether they're global or whether in the United States, quote, "want to go out and build trust."

But how can you build trust if you're not even aware of your own trustworthiness? And so I think they usually say if you don't measure it, it's not done. Well I do think that if we can measure patient safety-- we measure quality-- I do think that there's something to be said by using the tools from other fields and

building a trustworthiness scale of our companies, and our health systems, and certainly of cancer centers.

GREG HORNE: Fantastic. And the other thing that comes out of this as well is mRNA being used as a vaccine. So we're hearing now this could be the next cancer treatment. What's your view on mRNA and cancer? And how might we get some of these new things to market?

ROBERT WINN: My God, that's super exciting. And what I really love is-- remember that initially when we were thinking about these mRNA vaccines, I think most people forget that they were developed by folks at UPenn to fight against HIV in the early days. Now it wasn't as successful and clearly it needed some tweaking. But to see the evolution from that to 2003, 2008 where you're looking at vaccines to treat obviously viral diseases, infectious diseases.

But it's interesting that as we are now figuring this out this time around, with these mRNA vaccines, it's amazing that a number of us are now starting to think about, what would be the value of these things in fighting cancer. And I think that we are just really scratching the surface of bringing some of our best and brightest minds together throughout the country, and globally, to try to figure out how we can better use vaccines, not just for infectious diseases, but for cancer.

And I mean, stay tuned because it's still early. But there are some promising early work that suggests that we may be looking-- that may be the next miracle therapy next to immunotherapy, which we now know took over 100 some odd years to get it right. I think that when it comes to the vaccines and using them in cancer, it's not that this is a brand spanking new idea. It's been around the block. But I think we're having and bringing better ideas to making it so that it will be functional in the fight against cancer.

GREG HORNE: That's very interesting. And I guess that gets me to the point about convergence. So on a lot of the podcast episodes we've really seen why we talk about health and life sciences in the podcast. And we can see the academic medical centers like yours can work with their diverse patient group and with a life sciences company to create the next generation of therapy. How do you see these organizations coming together and working in that way?

ROBERT WINN: Oh I'm really glad you asked that. I think we need to get out of our silos, and we need to adopt one mantra-- "one team, one fight." And what I mean by that is that when it comes to the use of data, sometimes we have-- I call it the critical disconnect. We've been focused so much on discovery science that there is a disconnect between that discovery science and the implementation of that science. But I'm going to submit to you that there's one other gap, and that is the gap of data being collected from our communities. I have changed the old saying from "bench to bedside," here at VCU Massey, using and replacing it with "people to pipette." And what that means is that there are other omics. God knows there's genomics, and phenomics, and lipidomics. But there's this missing omic that is the missing information from our communities that as we gather more data, wouldn't it be wonderful to be able to have more of that data so that we can use it to help refine our scientific questions to have more impact on our communities.

And so I think that as we start moving forward, we really are at a place where we now know that the ZNA certainly may have even more of an impact on your outcome than your DNA. and saying that in other way is that your zip code and neighborhood of association, the place and space in which you live, plays a significant role in your outcome, whether it be cancer or other chronic diseases.

But I think that this intersectionality, or convergence-- we used to call convergent science. It used to be engineering, bioengineering, and I think computer science, and all the rest of that stuff with biology. Well,

I think that there's another level to that of big data and of community, and community data. And putting all that together, I think, we'll have a better recipe for making certain that we are meeting the needs of people in the community, whether they're in Zimbabwe, or whether they're on the South Side of Chicago.

GREG HORNE: It's interesting actually the point on data. I want to pick up on that one as well. You're a great believer in the role of data, be it medical and non. There's a lot of discussion around, and we see it broken down-- they say, people from an African-American background, Oh they get these diseases, and people from a European background they get these diseases. Talk to me about that. Does the data support this? Is that how you focus on looking at disease?

ROBERT WINN: Yeah, I don't.

[LAUGHING]

I think that there's something to be said for that, for sure. But I think that we've learned, if nothing, in the 21st century that the 20th century will not actually help us solve these problems. What do I mean by that? I mean that as I look at my populations and communities, I look at place and space. And so that means if race, for example, is a social construct, then saying to someone well African-Americans for sure are just more at risk for diabetes, and more at risk for hypertension, and more at risk for comorbid diseases as if there is something biologically attached to that.

What about the fact that you've had historical things? And this is not just true in the United States. But I can talk more about what happened in the United States in the context of things like redlining. Redlining was where it really literally, legally, federally, federal mandates which segregated the races. Well, you think about that from the 1930s on, and you think about those communities that existed completely separate.

The one part about redlining that is actually kind of interesting, to me anyways, is that despite redlining and segregation, legal segregation, you still had thriving communities. Well, that was until the 1950s and 1960s, and not just at the United States where we had large highways, and what was called then "the urban renewal programs," where they were clearing out the slums or supposed slums.

Well that urban renewal, and building those highways, devastated many of the communities of colors even to this day. In fact, it was called "putting white roads through Black bedrooms." Now the funny part about that is that now we understand that actually has consequences that actually has an impact on those folks living in those communities. One, there was higher concentrations of particulate matter 2.5, which we now know is disproportionately concentrated in areas of color.

Number two, we had not only the highways, but you had the loss of vegetation and plants. And many of the areas that quote, "urban renewal" was happening with, the trees and everything, they were gone.

When you talk about concrete jungles, there were concrete jungles. Whereas in the areas, for example, in the United States that were the desirable areas, where white folk would live, there was lush trees. You can see that today on the West side of Richmond. Oh my god, it's like one of the most beautiful places. It's rich in vegetation and trees.

But I say all that to say that we understand now better about the urban heat islands. And by getting rid of all that vegetation, and some of the more at risk populations, and all the rest of that, we're probably in the differences of temperature, and all the rest of these things, are now also contributing to chronic disease. So I think we're getting a better understanding that policies-- This is why I don't usually talk just strictly about social determinants of health.

I tell people social determinants of health are created from politics, policies, and economics that preceded it, and created those situations to have the poor housing. Social determinants of health is, again, not to be mixed with individual needs, but our social determinants of health have been created even more further upstream by those policies like redlining, like urban renewal, that actually put different populations at risk. So it's not so much that I think African-Americans themselves are just born, or Africans are born, people of African descent are born with more hypertension, more diabetes. You also have to look at the place and space which creates things like food deserts, which you don't have access to good foods and fresh vegetables. Stress, so that ultimately you have impacts on the epigenetics, which then actually impact your biology.

So I think that we're getting to a level in the 21st century, where we can finally recognize that it's not just at a cellular level. And then I'll just say this and I'll end. Listen, we are very comfortable with understanding one cell. And when I grew up, I was an epithelial cell biologist. And so I used to say, Oh the epithelial cell causes lung cancer. And then we started figuring out, well wait a minute, it's the stuff around it called the stroma, and it's the interaction between those two.

So why is it so uncomfortable to think that an individual is just like a single epithelial cell, and the stroma is their community. And the interaction that flows back and forth has an effect on that cell, just like it does when we're actually looking in the Petri dish. So I just want to bring people's attention to this whole concept of the intersectionality, and the impact of where you live, place and space, that we're not getting all the data we need from that to really get this convergence of place, space, and its impact on biology.

GREG HORNE: That's really, really interesting. And that does lead me to this next question, which is you've talked about trust. You talked a lot about community. And I like this place in space thing. But sometimes you have to make hard decisions. Some people, cancer treatment is either not available or they just don't want it. They just think, you know what, this is my time kind of thing. So what's your view on the role of centers like yourself and end of life care?

ROBERT WINN: The truth of the matter is, I think that we always think that health is the absence of any disease. And health is the absence of pain. And it's just so crazy. I think that we have a robust palliative care. It turns out that even with all the miracles-- I tell people that I don't want to oversell what science and medicine can do. At the end of the day, even the best science, and the best medicine, we still have cases of people with cancers that we just simply cannot treat.

When we get to that point, I think it is not only the grace but having the humility to understand-- which I get humbled every day understanding the power of science, but also the limitations of science and medicine. This is where humanity then-- always humanity is at the foundation of what we do. But it's even more visible when we're thinking about palliative care, and how one can actually transition from this planet with respect and with dignity.

So for me, it goes hand in hand with it is not mutually exclusive from thinking about, on one hand as a Cancer Center Director, developing the new drug that would eradicate all cancers. That is definitely one of my goals. In fact, that's one of my two goals, right. My first goal is to eradicate cancer off the face of the planet. And the second goal is to eradicate disparities, wherever it exists, across the planet. Those are my two aspirational goals, almost like MLK.

But I will tell you that it is not inconsistent with saying I want to come up with a new drug to cure cancer. But I also recognize, with great humility, that there are cancers, that even to this day, and diseases, that we cannot fix. When we get to that point, we really have to, I think, amp up our humanity in recognizing

that when people are transitioning, having them be with experts who can help them transition to that next phase. I think really is important, and equally an important part of what a Cancer Center should do and do well.

GREG HORNE: That's fantastic. I love that viewpoint. I couldn't agree with you more. And for our final question, I really want to think about you as a visionary, and you as someone who's looking to the future with those aspirations in mind. What does the Cancer Center of the future look like? And how are you reimagining cancer care, both in your community, and on a global scale?

ROBERT WINN: I love that question. In 1971, when they were coming up with cancer centers, it was really focused on this concept of Watson and Crick, and all this stuff, about DNA. Let's just research the DNA. And if we research the DNA, we can come up with drugs and we'll cure cancer. Well, we understand that that's one leg, and one incredible important leg of fighting cancer.

I do think that there are a couple of other pieces to this three-legged stool that I would put together. The second leg would be this concept of understanding population health and community better. The reality is when I tell people about data that's missing in community, they go, what, we have all the-- no you don't. The reality is I can show you, not only in countries that are developing, but also right here in the United States-- and believe it or not, even in some aspects of Canada, which I know a little bit about-- where you still have areas that are not doing well as others. They're missing data, missing omics.

I think the third leg of the stool is-- and that goes into building trust, by the way, because the more you know about communities, the more you can come in with interventions that would be meaningful and beneficial to the communities. The third leg is data. And I kind of alluded to it. The truth of the matter is we've been so focused on developing the drug, that we forgot that there's both data, not only at the molecular level, but important data on the population level that we could actually really use to do some good things.

For example, wouldn't it be wonderful to actually think about a community, and be able to do the predictive analytics that says, this community will probably actually increase in x number of preventable cancers over the next 5 to 7 years. To get a jump out that, to recognize that it's not the medicine that we need to bring to that community, but other prevention strategies, preventive medicine, other strategies, working maybe with partnerships, to reduce that cancer burden before they get to that seven year would be awesome.

So I think we're really at a point right now where we're having a convergence of data, particularly the analytic datas, and predictive analytic datas of community, that we're putting the community front and center. We used to say patient centric. Well, interesting enough you usually don't get very healthy patients from unhealthy communities. So I think in addition to looking on the individual level, expanding that thought to getting data and interacting with communities in a different manner is going to be important.

And the third thing is just keeping up the science. Research has brought us this far, and research will continue to bring us even further in the future in curing cancer. But I think, instead of just the one bad use, or the one leg, we need all three.

GREG HORNE: Brilliant. Thank you very much. Doctor Winn, I really appreciate your time today. Thank you for joining us on the Health Pulse Podcast. I think your insights and discussions are going to be really meaningful for our audience. So thank you very much for joining us today.

ROBERT WINN: So thank you for having me. I appreciate it.

GREG HORNE: Anytime. So thank you again. So I'm going to turn it over to our audience now for questions and comments. So please do remember that our email address is thehealthpulsepodcast@SAS.com. Comment on the YouTube stream as well.

I'm particularly interested in this idea of the community, and how health care impacts in the community. So if you've got comments that fit into that, please put them in. And we're going to look at those for future episodes as well. So please remember to subscribe, either through your podcast aggregator, or through the YouTube channel. And, as always, I've been Greg Horne. I've been your host today on the Health Pulse Podcast. Thank you very much for joining us, and we look forward to bringing you another episode very soon. Goodbye.

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