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In this episode, Taren Grom, editor-in-chief of PharmaVOICE Magazine meets with Sophia Ononye, Ph.D. founder and CEO, The Sophia Consulting Firm.

Taren: Sophia, welcome to the PharmaVOICE Wow podcast program.

Sophia: Thank you. It is my pleasure to be joining you on this sort of gloomy Friday morning, but I'm so glad that I am speaking with you.

Taren: I agree. Fall has arrived, hasn't it?

Sophia: Yes, definitely.

Taren: Sophia, you have a really vast range of experiences. I'd love for you to talk through your career starting with your tenure as a Pfizer scientist and then just starting your own consultancy.

Sophia: Yes, that's an excellent question. I was born in Nigeria. I came to the US, it will be 17 years on November 1st and for me, I've always had a dream, and my dream was to be a leader within the healthcare and within the life sciences, and I didn't want to be anything else or do anything else. So when I came to the US, I was very studious from the start. I got my Bachelor's degree in biochemistry. I got my Master's degree in public health from Bowling Green State University in Ohio. I did a National Science Foundation internship at the Ohio State University and that was a very important turning point for me in my career because that's what allowed me to get a job at Pfizer. And for me moving from Ohio to Connecticut was like moving to Las Vegas, I was so excited.

And when I came to Pfizer I was blown away by just the level of talent, some of the best medicinal chemists you would meet in your lifetime, the visionaries behind Lipitor and Viagra, and I was like I need to learn more. As much as I knew at the time, I knew there was so much more in my story. And for me to become this leader, I understood that having some level of subject matter expertise will be important. So medicinal chemistry was a fascination for me. I was working as an analytical development scientist at the time for Pfizer and I felt that the natural path was to learn more about the whole process of drug discovery and it starts with medicinal chemistry.

It's about how do you discover targets, how do you start to think about screening assays and things of that nature both biochemical assays that help you to learn more about sort of the drug

target interactions. So that the level of investments that are being made are smarter from the onset because we have a better understanding of it. And so as I would often say, I went across the street to the University of Connecticut and I said on my Ph.D. work, I work in the lab of the late great Dr. Amy Anderson. She allowed me so much autonomy that really enabled me to grow as a scientist. I was able to find a molecular biologist, Dr. Charles Giardina that helped me to learn more about sort of the biology behind everything that we do and my Ph.D. advisors lab, it was a husband and wife team. And so the husband's name, Dr. Dennis Wright, he actually synthesized the molecules and Amy's lab which I was in, we helped to characterize these substances.

And for my Ph.D. research it focused on natural product derivatives, which is indigenous to Japan. And so what my thesis showed was that these tubulin natural product derivatives had anti-cancer properties. Specifically they were able to inhibit enzymes known as histone deacetylases. And this work led to six publications of patent application and perhaps most importantly, it enabled me to go across the street again to the Yale Campus where I did my post doctoral work in the lab of Dr. Lajos Pusztai who is the chief of Breast Medical Oncology Research at Yale, and I was focused in on triple negative breast cancer, which as you might know is the most aggressive form of breast cancer affects primarily women that are under the age of 35 and African-American women.

So there were so many reasons why I became fascinated by the treatment of TNBC as it's known, and I did my research there. For about a year and a half, and I had my eureka moment and I recognized it as much as I love science, I cared more about being able to articulate a clinical and economic value of a drug through a diverse audience, than being the scientist in the lab that was working on it. People often say scientists are not very great at communication. I wanted to showcase that scientists could be good at communication. We could be good at a sort of showcasing why our drugs are important and being able to sell it in to the patient community, to the physician community and to have bigger purpose in terms of how these drugs make an impact.

So I made a very bold move to get my MBA and this is, what, degree number four at this time and it was one that shocked a lot of people within the scientific community, but I made that conscious effort because I knew I had to learn about finance and I also had to learn about marketing and as a scientist these are not classes that are often offered as part of our curriculum. It's something that you have to actively seek if you want to learn about it. And so I got my MBA from the University of Connecticut (UConn) and I briefly to work with the Lyrica Marketing team. Lyrica as you probably know was at the time was a billion dollar portfolio and I really enjoy the art of marketing, but I wanted to get more into the nitty-gritty and you can imagine, I love to do deep dive analysis. I really love to learn.

So I took it upon myself to direct myself into this consultant pathway where I work in different parts of the country in Portland, Maine, in San Diego, California and working with small biotechs, large pharma companies, working on pricing strategies or communication strategies, whatever the case might be. What I cared about was how can I put these companies on the map and how can I really emphasize their innovation. And all of that brought me to where I am today

where I am the founder and CEO of my consulting firm – the Sophia Consulting Firm. And for me obviously I specialize in oncology because that’s what I was trained in, but I have the beauty and the flexibility to work with companies here in the US and outside of the US that are doing some compelling work from 3D bioprinting.

I mean think about printing human organs using human recombinant collagen, for example, to looking at antibody drug conjugates that I use in treatment of cancers. I love the exposure that I get and I love to see myself as someone that I can look back now and see all of it sort of makes sense and found it to be such an important part of the whole journey. But it’s also the faith that I had in myself and the belief that I had in America that if I came here that my dreams will come true and in many ways I can say that yes, I can see my dreams coming true already. So that’s the bit of my story.

Taren: That’s a lot to unpack there between making that bold move from being a bench scientist to being an entrepreneur, the four degrees, having that courage and taking some really leaps of faith there. Not everybody has that like internal fortitude to say I’m going to live my dream. Where do you think that comes from for you?

Sophia: I mean I think a lot of it is growing up in Nigeria I watched my mother. My mother had five children and when I was maybe about two years old she decided it was time for her to get educated and she went on to get a Ph.D. on all that good stuff, but I knew how much more difficult it was for her than it was for me. And so I think that just growing up in a community where there were not a lot of resources and not a lot of opportunities especially for women and then think about in the life sciences and in healthcare. So I think early on it was just watching closely what was going on around me and secondly, I think what probably contributes the most to my sort of success professionally is this massive intellectual curiosity that I have.

I think by the time I was 6 or 7 nobody was able to answer my questions anymore and I was reading the Encyclopedia Britannica for fun. And so imagine being the youngest of five and instead of reading a storybook I cared more about finding out what is hepatitis C, for example. So it’s a bit strange, but I think it’s watching my mom, watching my community understand their own medical needs I was surrounded by, growing up without a lot. It made me a lot stronger and a lot more mature at a very early age and I think I’ve had this ability to focus on something. If I really want to achieve something, I will focus on it and I will work hard and I’m a big believer that hard work pays off, but one of the things that has become the most important to me these days is I’ve learned more about the power of networking, about sort of showcasing my skills not because I’m trying to gain new business. It’s always nice, but I think it’s also to inspire, motivate and empower other people especially women, women of color or just people that are looking to do something a little bit different and because they are looking to branch out in areas where it’s not the norm, but I’ve always believed that with hard work and with determination and with the right people on your side there’s very little that you cannot achieve in this world.

Taren: When I talk to a lot of leaders they talk about one of the things that they find in common with their peers is that massive intellectual curiosity. So obviously talking about hepatitis C in the playground isn't going to make you the most popular kid, but look at to where it's gotten you.

Sophia: Yes. Yes. I agree and quite frankly, I didn't care too much about being popular, but I went through an all girl boarding school for my secondary education basically middle school and high school and I was in charge of 2,000 girls and that was because my principal at the time just believed that I had the type of sort of work ethic and discipline that was important for other girls to emulate. So even though I was a bit slightly introverted one of the things that stood up from a very early age was that my studiousness, my belief is to really focus on what I needed to do. And I think now my brand, my personal brand is growing, but it's not from any sort of – it's not so much from conscious push from my end. It's more about sort of allowing other people to believe in their dreams and my curiosity could be also a dangerous thing because that means I could be curious about anything and everything.

For some reason, I've only really been curious about them, about the life sciences and healthcare not to say I don't care about what else is going on outside of that, but I think that I believe it's sort of manage something that is an important skill set but like any other strength that you have if it's not properly managed could easily become a weakness and so I'm aware of that and I like that I'm able to filter the noise from sort of the real thing and through that I'm able to generate around them not just for myself with some of the clients that I work with, but most importantly as I look at the space itself I'm able to sort of identify what's working for us as a whole or what is not working.

But I'm really glad for everything that's happened to me to date and there's so much more that lies ahead, but because it hasn't been an easy journey I'm humbled by the process and I'm grateful for the person that I've become as a result of it.

Taren: It's amazing. Let's talk about your brand a second. So obviously this is something you've thought about. How would you define your personal brand?

Sophia: I'm a Nigerian-American entrepreneur with a strong background in oncology and a diverse interest in digital health, value-based care and innovative drug development. I think that that summarizes a lot about who I am. Now, there are other things of course I'm interested in, but as I've told you from the start it's very important for me to make sure that I'm a bit more focused so it doesn't seem like what exactly motivates you, what exactly do you want to do. Being an immigrant is an important part of my journey. Today, I'm an American citizen. I'm very happy about that, but I think as I mentioned to you earlier, there's so much that goes in to live in your country, come into a different place and being successful there without all the right resources being given to you.

I was fortunate to get scholarships from the schools that I attended and in return for that I worked really hard to make sure that I maintain the good grades and things of that nature, but being an entrepreneur it's probably the most difficult thing I've ever done so far even more difficult than

being a medicinal chemist and it's kind of that's all in my past because there are days when you wake up and you're so excited. You're like yes I've done the absolute right thing. This is who I am. This is who I want to be. I love the autonomy. I love the flexibility and then there are some other days when you wake up and you're like wait, what am I doing, why am I doing this?

And I think being transparent about that process because it always looks prestigious when people look at you and they see someone that is a hard worker and they see all the different things that you have going on, but I'm very honest about the process that it's taken to get here. The fact that I have all these degrees for example, I don't take it for granted, but at the same time it's not what defines me ultimately. I care about impact from a sort of a life science perspective, helping biotechs and pharmaceutical companies take everything they're doing to next level. I care about transforming patients' lives not just here in the US but worldwide and that comes again from the fact that I still have family back in Nigeria that could benefit from some of the drugs that we're developing here in the US.

I care about seeing more women and ethnic minorities rise up in prominence and we can only do that through hard work and even if you're not being – if you're not given a seat at the table, sometimes you create your own room as I've done, but even if you create your own room I still want to make sure that people have access to that, have access and knowledge that I've gained and also I can gain from the knowledge from other people that have also sort of set ideal paths before me. I'm grateful to have mentors. I'm grateful for people that care enough to give me the time of the day. I'm with the organizations at the healthcare business, women's association because of what they do around gender disparity.

So my journey is not mine alone. I think there are so many people that have been a part of that journey, but my brand, again as I mentioned, is the brand of a Nigerian-American entrepreneur with a strong oncology background and diverse interest in digital health, value-based care and innovative drug development.

Taren: It's excellent. Let's dive into a little bit about the work you're doing for some of your clients. And you have a real strong passion for amplifying that scientific innovation as part of the communications package, why do you think that it's more important than ever that we go back to the science in terms of communications?

Sophia: Yes. I mean not to be too controversial, but we have heard about Theranos, for example, and some of those scandals that went on because it was more about a clout than about the science itself and I think after everything that's happened we've seen a shift within the biopharmaceutical industry where data are key. We want to see the results of clinical trials. We want to see actual studies that demonstrate that any type of therapy is having the type of impact that it's supposed to have. We're also encouraging transparency in the process and that several efforts are being made by the agency, the US FDA in particular to ensure transparency in the drug development and approval process.

And so where we are right now is that biotech if you're looking to make a quick buck is probably not the right place to be because it's a very high risk, high reward type of environment and it takes years to be able to gain your ROI on any type of investments that you make. So you see sometimes when you go to Boston or even in San Francisco that so many life science companies that are sprouting left, right and center and I think the companies that are going to survive that will be the next big thing, the next Kite Pharma for example, the next Juno or whatever the case might be, there will be a powerful billions of dollars or whatever the ultimate purpose for the founders might be the companies that are really innovative in their science.

I've mentioned some of the things that had blown my mind sort of this concept of 3D bioprinting, I think it's so compelling that now we don't have to wait years to get an organ donation if we can sort of tap into that technology imagine the number of lives that could be saved. You've heard about cannabis and how it's being leveraged in terms of pain management, but now we're thinking broadly what else can we do. We've seen too drug approval now for epilepsy for cannabis. We've seen a shift towards digital health. People kept saying AI, blockchain technology, etc. but ultimately we are an industry that have an ability to transform patients' lives on a global basis and if the strength of the science is showcased early on then some of the best companies might never gain the right type of funding that allow those patients that need the drugs to have access to it and that's why I personally believe not just because I'm a scientist, but because I know that it's important for the companies that might not have much notoriety here in the US or even ex-US to be showcased, to have the science amplified, to make sure that we focus on the things that matter and it's less about the clout or who the investors are that are backing the company.

It should be about the science at the end of the day and even with companies like Pfizer, you see Pfizer being showcased now as an innovative biopharmaceutical company with 101 assets which is outstanding so to speak. So I think that the science is key and final way to amplify that science is important and while since I tried to do as a consulting firm is to simplify the science and through educating on social media, for example, or through white papers and thought leadership pieces, educating the general public on why the science matters and showcasing their own medical needs that these companies are trying to address is more important to me than anything else right now and I'm quite passionate about it.

Taren: That's wonderful. Your passion could come true and it's so – your insights are so smart and really – you're future-facing which is really refreshing, so that's awesome. So let's talk about some of those trends that you see on the horizon for the industry at large and we talked about 3D printing I agree with you, I think it's fascinating. Let's talk about some of the things that you see that need to move in terms of marketing and communication so that we move beyond what is typical to what really can move the needle for patients.

Sophia: Yeah. I mean I think the life science industry at large is fairly risk averse, and we are sort of getting to a place now where transparency is being encouraged, but it's still not the norm so that the tendency when it comes to marketing and communication for many sort of emerging and growth stage companies to being the "stealth mode" up to they feel like they have more

compelling data and I think that it's important as we as a country and as a world at large become more transparent in our process for us to also become more transparent in communication. So just because a clinical trial failed or whatever the case might be does not mean that companies need to hide behind the scenes until they get all the right data in place.

I think we have to get to a place where we can showcase the strength as well as the weaknesses, our successes as well as our failures because the life science industry is probably not the most liked in the country and the reason for that is because people don't properly understand the strategy behind the pricing of drugs. And if we showcase how many failures we have to have before one drug gets approved then I think we might be in a better position to better educate our public on the why behind the drug prices. That's one example. I think on the other end we have so many innovative technologies. As I've mentioned before, digital health is one of the hottest topics right now.

Electronic health records, how do we accelerate the speed at which patients gather information? How do we use point of care diagnostics for example in a country like Zimbabwe or Nigeria where patients might not have access to hospitals? They have to walk for several miles before they can get to nearest hospital, but through these like point of care devices you can be able to test and find out if you have some kind of infectious disease and then community health workers can be sent out to you to help you manage the process.

So I think also in terms of marketing and communication I think that we can create more important role on disease data education. We hear a lot about some rare diseases that are being showcased. I mean I could give you a rare disease code Epstein-Barr virus associated post transplant lymphoma or EBV PTLD for short and most will say wait, what is that? And it's a very rare disease that affects roughly 3,000 people who are in post organ transplant or stem cell transplant. And if we don't take the time through social media for example to educate patients on why some companies are choosing to focus on or show rare diseases, for example, and to give them the why then the industry at large might still benefit – might still continue to suffer from some of the negative misconceptions that people have around why we price drugs as highly as we do.

But there's a lot of work to be done and I feel like the future is very clear and it shows that scientists like myself that has a fundamental knowledge of the science itself of the innovation behind these sciences can be in a better position to educate people whether it's fellow physicians and scientists, whether it's regulators, payers, patients, caregivers, all the community at large I think there's so much to be said for what we can do and even in the short conversation that we have I cannot even fully unleash all the ideas that I think about what we can do to get there, but I do think that increased transparency around that innovation can help shape the industry at large and help people better understand the processes that are going on within this companies, why one asset is chosen over the other.

It shouldn't be sort of we'll only share news when there is good news. I mean like any relationship, personally or professionally, we're going to have peaks, we're going to have ebbs,

and we should be very open to sharing all of it versus painting this picture that right now is not very easy to understand, especially for an industry as fairly complicated as we are.

Taren: I couldn't agree with you more. It's excellent point and it's encouraging to hear that there are people like you out there thinking about these big meta issues and how to move the industry forward. So I commend you for that. Let's switch tacks just a little bit. Let's go back to something you said a little bit earlier and it was about your willingness and wanting to give back to women, women of color and why it's important to be a role model. So talk to me about how you position yourself in that framework because it is important for women leaders to stand up and to be role models. We know what the numbers are. We see where the gender gaps still lie. So tell me what you're doing in that regard.

Sophia: Yeah. First of all, thank you for recognizing and I think even just by existing, by being an entrepreneur, by founding a company and as I mentioned to you earlier I am what people will call a millennial and I happen to also live in Brooklyn. And so there is this perception when people will think about millennial it's just like oh we don't – they have a sense of entitlement to everything that happens to them and some of that may be true, but I don't care too much about generalizations. What I want to get into is what you ask me very elegantly about what I am doing and so by being an entrepreneur and everyday going out there, working hard to do with my network. For example, yesterday I was at the VentureClash that was being hosted at the Yale West Haven campus in Orange, Connecticut, and I was out there and I think that what's pretty evident is to be bold and to be audacious. If you want to be seen, if you want to be heard, give people a reason to that is beyond just your physicality or just to the point you made earlier like I have degrees and titles and things of that nature, but that's not enough for me.

So I think I want to encourage other women especially women of color to be bold in their belief that they should have a seat at the table and to work hard to get there because these opportunities are not being handed. I would tell you even for a small consulting business my business model is still more push than pull and part of that is I have to deal with networks with the people with the right decision makers who are often white men and they have to – you have to give them a reason to give you a seat at the table and it's not just something that will be handed down. We still have a boys club mentality to the life sciences industry and as I mentioned it's not to be controversial, but the fact of the matter is that less than 3% of Black women have college degrees in the sciences and if we want to see a greater representation maybe role models like myself can help to actually build the credibility that these women need.

And so I'm also joining forces with the Westchester Young Girls Club and just different types of organizations that are looking for someone like me that can be that face behind the movement so to speak and I also write pieces. I submitted an article to the Harvard Business Review recently and it's all around how we can also increase representation for women of color in STEM.

So I think you have to walk the walk, not just talk the talk and it's not an easy journey. So if you want to be an entrepreneur, if you want to be in the C-suite of a biotech I think we have to raise

our hands and not just up there but to actively network and engage and give people a reason to believe.

I mean at its basic the fundamental of marketing is that you have to give people a reason to believe and a reason to buy and that's not just about products or services. It's also about yourself. So if I want people to buy into who I am as a brand then I have to give them a reason to believe and a reason to buy. And just the fact that I'm a woman and a woman of color sometimes that's not enough. I think I have to also give people a compelling reason. And so you have to know what your brand is, you have to know what your value proposition is and you should be able to articulate what that value might be, and you cannot give up.

It's not going to be an easy journey and time, so if you're looking for people to give you a red carpet treatment every single day as a woman in the life sciences then maybe this is not the right career for you, but if you really want to be out there then everyday you wake up and you wake up with a big smile and you're ready to fight, but you're fighting as candidly as you can, but if you want that seat at the table it could be yours. And like I said I'm an entrepreneur, that's what I wanted it's mine, but is it an easy journey, no it's not. But I would still embrace it everyday with joy, with passion and with as much elegance as possible because it's what I want and it's not for somebody else to tell you what you want.

If you're a woman and you're okay with being a mid-level person and you're perfectly fine with that, there's nothing wrong with that. And so you have to figure out who you are, who you want to be and the steps that you can take to get there and for me I've always – I knew maybe at the age of 7 who I wanted to be and each day for me is a blessing and I'm going to keep putting myself out there and if I can anchor with one or two people as a result of my own boldness then I will be happy for that day. So that's my story.

Taren: Wow. So yeah, I'm totally energized by you. I'm totally inspired.

Sophia: Thank you.

Taren: I have to ask my final question and I don't even know how you would identify it because you noted earlier that you had one eureka moment here, but you've also been – you took the bold step to do this. Can you identify like one wow moment that has changed or enhanced the trajectory of your career? Was it starting your own business? What was that for you?

Sophia: I think it was probably when I was at Yale. I had the joy of being mentored by the managing director of the Yale Entrepreneurial Institute. His name is Jim Boyle. And when I met him and walked into the Yale Entrepreneurial I've seen so many young people that were opening up their own businesses and I'm like wait, this is real so I don't have to wait like for 20, 25 years for this to happen, but then I realized at that moment that yes I can, but the other thing I had to do was to figure out the how. So I knew what – like I told you, at 7 I knew I wanted to be a leader and then when I was at Yale it dawned on me that it could actually happen and then I founded The Sophia Consulting Firm and I had to take an additional leap of faith to get there.

So I think in life we're going to have several moments that are going to echo something inside of us about what our purpose on this earth is and not to be too philosophical, but it's about listening to your inner voice as well as your inner critic and your inner critic sometimes has something positive to say to you. It might not be in the tone that you like, but listening to that and taking the bold step. But I think probably the bolded choice I've ever made was to step out into my own sort of role that as a leader of this organization and to figure out what it is I could do from there. It's a big risk that I know that I'm willing to take. It diminishes your flexible spending account so to speak, but I think there's so much more to life than money and I have found joy within myself and I am encouraged by what could happen in my future and what I hope I can do is to galvanize a movement for like-minded people, people that do not think – they think that way, but they were just looking for someone else to wake up that thing in them. And I'm grateful for this journey and opportunity even to speak with you, for example, and I don't know who's going to listen to this in the future, but I'm grateful for this moment.

Taren: Well, Sophia I'm grateful for this moment as well. I can't tell you what a breath of fresh air it has been to speak with you. It has been so enlightening. Thank you so much for sharing so much of your personal journey with us and I for one can't wait to see what you do next and to follow your career. It's been an amazing conversation. Thank you.

Sophia: Thank you. I appreciate you.

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