

November 17, 2021

Welcome to WoW – the Woman of the Week podcast from PharmaVOICE. This episode is made possible by a generous sponsorship from Purohit Navigation. For more information, visit purohitnavigation.com.

In this episode, Taren Grom, Co-Founder and Editor-in-Chief of PharmaVOICE meets with Sheila Mathias, Ph.D. Chief Scientific Officer, Virpax Pharmaceuticals.

Taren: Dr. Mathias, welcome to the WoW podcast program.

Dr. Mathias: Thank you. I'm looking forward to it, and I'm honored to be here. Thanks.

Taren: Well, it's our pleasure. Your academic and professional bona fides are incredibly impressive. You hold a B.S. in zoology, a Ph.D. in neurophysiology, an executive MBA and to top it all off you're a JD. You could have had your pick of careers. What drew you to follow a scientific path?

Dr. Mathias: I get asked that question a lot. So I've actually already always been interested in science. Even as a youngster, I used to sort of do my own chemistry. I would be in the kitchen mixing things together, setting up experiments. And when I was in high school, I was in a lot of API science classes. And when I was in college, I was a part of the MBRS program – that's the Minority Biomedical Research Support program. That really gave me my first exposure to a scientific career, but then I also had a mentor. So as I transitioned out of graduate school, I had a mentor, Dr. Eric Floyd, that mentored me and championed me and actually helped me transition early in my career into a pharmaceutical scientific career.

Taren: Wow. So he was really instrumental in you pursuing this path.

Dr. Mathias: Yes, he was very instrumental. When I was in school, my plan was probably to go into academia. I think during the time that I was in school the pharmaceutical industry wasn't necessarily highlighted as a career path. I really didn't know anything about the pharmaceutical industry. So he was definitely very instrumental in exposing me to an alternative path definitely.

Taren: And what was your first pharmaceutical job?

Dr. Mathias: So my first pharmaceutical job I was actually a medical scientific liaison (an MSL) for Merck and I was based in the Detroit, Michigan area. That was an interesting job for me because I was – well, I still am an introvert but then – so this would have been 2000, I was an extreme introvert and part of being an MSL is having to interact with key opinion leaders and having to do presentations and that type of activity. So that was my first exposure into pharmaceutical industry. And then I transitioned into regulatory affairs again, this was via my mentor Dr. Floyd, and I've really been in the regulatory affairs arena since 2002.

Taren: Wow. So being an extreme introvert that MSL job really had to put you in some – really stretch you and stretch you beyond your comfort zone. Because I know a lot of people who are introverts who have to be customer facing, that’s hard.

Dr. Mathias: It is hard. And when I look back and I sort of look at the jobs I had, like in high school or even college, I always had these jobs that sort of reinforced being an introvert; I didn’t really have to interact with people. So the MSL job was very difficult. I was an MSL for two and a half years, and I would say the first year was extremely difficult, but I know without a doubt if I hadn’t gone through that experience I wouldn’t be able to be in the role that I’m in today. So it was definitely something that had to happen for me. And just on a very personal level it just helped me to be a little less introverted and to learn how to interact with people, all things that are important and that I have to utilize on a day-to-day basis in my role.

Taren: Well, congratulations because that’s a great building block to get you to this C-suite role that you’re in now. Let’s talk about, I mentioned how many diverse skill sets you have, how have these informed some of your career decisions? You talked about the MSL role coming out from your studies and it’s so diverse, how has that shaped your career?

Dr. Mathias: So I did mention that the – so the MSL role yes, was my first position and then I transitioned into regulatory affairs where again I utilized my science background, the work on drug development. I was in different therapeutic areas across my regulatory affairs career. While I was at Aventis, I also earned my executive MBA and that was because the head of the regulatory department at that time, they were restructuring the department and they felt okay, we have these individuals, they have strong scientific backgrounds, but this is still a business and it’s good to understand the business side of things. So that’s how I earned my executive MBA and that helped me to be better rounded and that plays a role also in what I do as a CSO today.

And then my JD was earned as a part of a pilot program while I was also working. And that’s nice because my emphasis is in regulatory, and regulatory of course has regulations, so it’s nice to have that aspect to be able to interpret health authorities guidance and keep up with the standards, etc. And all those different skill sets and all of those experience for me helped to solidify that I love being in the pharmaceutical industry in drug development.

Taren: Nice. Well, you talked about your extensive global regulatory and medical affairs experience, what are some of the key learnings that you have taken from these roles? Because they’re so important and I think they’re often overlooked within the scheme of everything. All the focus is on the commercial side or the R&D side, but this is so key to bringing a drug through development.

Dr. Mathias: You’re right. And I’m sort of chuckling to myself because I think sometimes it’s missed especially with regulatory and at the end of the day, if you don’t get the compound through the regulatory agencies and it has to go through a regulatory agency to get approved, then you don’t have anything to commercialize. You don’t have anything to market. You don’t have anything to promote. So my overall thoughts about what works best are communication and collaboration and involving partners early. We all have the same goal at a company and we

should be involved and have a seat at the table at the very beginning because it shapes everything and it can have impact on whether the drug is successful or not. So that, for me, is I would say the main sort of takeaway that I've gotten having worked across a variety of different sized companies.

Taren: Excellent. And let's talk about some of that experience because you mentioned Merck and Aventis, some of those big pharma players, but you've also worked for some midsized pharma and some startup biotech companies as well, all of which require different experiences and leadership skills. What have been some of your most memorable experiences? What are some of those highlights?

Dr. Mathias: So I would say overall, just no matter what the size of the company is probably the most memorable experiences is when we have some type of regulatory milestone, whether that be an approval or a successful advisory committee meeting, something along those lines. But I would have to say for me, my first startup is probably the most memorable. I say that for a few reasons.

I say that because I gained another mentor, I gained another champion in the late Dr. Frank Young who was actually a former FDA commissioner and I actually reported directly to him. And at my first startup it was also where I gained the greatest confidence in my abilities partly because when you are at a startup, so I was the tenth employee at this startup, I was the second person in regulatory reporting into Dr. Young, there are going to be many things that you're going to be tasked with doing that you have never done before. You knew they got done. You knew some department was doing these activities, but – and you're having to learn. And what I learned at my first startup – and I say this a lot – is I learned how to be comfortable being uncomfortable.

Taren: That's so true.

Dr. Mathias: And it's very true because in my current role there's a lot of being uncomfortable and I have to be okay with that, but going through that first startup experience, that really helped to get me there.

Taren: Understood. There's nothing like a startup where you are operating at a level that is just unprecedented than anywhere else, because every decision is critical. The burn rate is so high and every decision is so critical. Everything is at hyper acceleration and hyper important. So I agree, there's nothing like a startup. But now you are the chief scientific officer at Virpax. Tell me about this role and how this role is exciting you.

Dr. Mathias: I absolutely love this role. I love it because it's a very intimate group. We're a group of six. It's very small. I love it because again, I'm learning things and doing things that I didn't really do before or do maybe as much in-depth before. And as you can probably see from my credentials, I'm a constant learner; I love learning and I think everywhere you go you learn something at every place. You can take away things that you can use in your next role.

I love the role now I think I love also the interactions that I have, not only internally, but externally trying to collaborate with our various CROs and third party vendors. One of the things that I mentioned in terms of being heavily involved is grants. So we have as part of our strategy for non-dilutive funding, we try to identify grants for the different projects that we have and that's been a very steep learning curve, but I love it. It gives me another skill set that I can add to my repertoire. So everyday there's something new. It keeps your mind very engaged, and there's always a problem or something to think about and figure out how best to solve.

Taren: I so love hearing you speak about your passion for the regulatory aspect of the business and certainly I can hear it in your voice. And as a lifelong learner, would you consider that curiosity one of the hallmarks of your leadership arsenal?

Dr. Mathias: I definitely would. Even when we look at people who we want to join our team, that's also one of the factors that I'm looking for. I'm looking for someone who wants to learn, who wants to explore and not necessarily just expound on their foundation whatever their expertise might be, but also go outside of that and learn additional. I think that is what's kept me engaged and it's a part of what I love about being in the pharmaceutical industry and also being the CSO and having a heavy regulatory background.

Taren: Excellent. Let's talk about those traits when you're building high-performing teams and you obviously have built several along your career. What are some of those other keys aside from curiosity and that desire to keep learning, what are those things that you look for when you put together a team? What are those qualities?

Dr. Mathias: Communication, transparency, collaboration. I'm an observer and having worked in a variety of different sized pharma companies, those are the qualities that I think I've seen that work best that helped move a project along, that keep a team strong and engaged together.

I'll mention him again, but one of my mentors, Dr. Young when I interviewed at my first startup and Dr. Young used to tease me about this later and he was interviewing me, and so later after I had gotten the position, I said to him, "Frank, you never really asked me anything about regulatory." And he said, "Well, you know I could look at your CV and see the experience that you had and see that you're smart," but he said something to me that I think I always naturally thought about when putting teams together, but he sort of vocalized it and I always sort of hold that thought dear. And he said, "When I was interviewing you and considering you for the team, what I was looking for was who you are as a person, what are you interested in, what drives you outside of work." And he emphasized that because he says you spend so much time with the people that you work with that you want to know that it's someone that you can – so we talked about communication – you can communicate with, someone that you can be transparent with, something has gone wrong, so I need to let my management know, someone you can collaborate with because that's how the best ideas come out. Because everyone has different experiences. Everyone has a different viewpoint and it's nice to hear what those are and to be able to utilize that to inform the best strategy that you can have going forward. And I've always naturally sort of been drawn to those characteristics, but again just from observing

through my career experience so far. I think those are the qualities that best make a high-performing team.

Taren: Fantastic advice. Thank you so much. The company just raised 40 million to advance its technologies. That's a pretty big number considering all of the assets are all in pre-clinical development. So clearly the company holds promise and investors believe in the success of its team as we were just talking about. What is the message you're sharing with the investor community and the potential of marrying pharma products with innovative delivery systems? Tell me about what you all are doing. What's that pipeline look like?

Dr. Mathias: Yes, thank you for that. So it is an exciting pipeline, and I think for a company of six we have quite a bit going on. As you mentioned, we are mainly focused on advancing non-opioid and non-addictive pain management treatments and treatments for CNS disorders, but we do have other products. So those products that kind of fit into that arena our Envelta, our Probudur, our Epoladerm, which are important because we also have an opioid crisis that still continues. But we also have what we call AnQlar which is being developed as a molecular intranasal spray for the prevention for the spread of COVID-19. That product came about because it utilizes some of the same technology that one of our pain products utilizes.

And then we have another product VRP324, which again is utilizing some of that same technology that the AnQlar is utilizing as a pain product, but that's a candidate for a CBD product for epilepsy.

So I think with those products and that pipeline, we're trying to demonstrate and share the message to the community and to investors that we have an improved drug delivery system and also improved drug releasing technologies and those improved delivery systems and technologies have the potential to improve patients' lives because we're enhancing the efficacy of the product. And then we're also utilizing the strategy – I mentioned this before, of applying for non-dilutive funding through grants, which also helps us to partner with research institutions and gain even more ideas to help advance our products and our technologies.

Taren: It sounds like there's exciting things ahead for the company and meeting so many unmet needs right now, so congratulations to you and your team.

Dr. Mathias: Thank you.

Taren: You're welcome. Let's switch tacks just a little bit here. As a woman and a woman of color, you are certainly a rare C-suite executive. How have you learned to navigate what I can only imagine as being an *n* of 1 in the room on many occasions? Sometimes I mean it's a tough spot.

Dr. Mathias: Yes, it is a tough spot. When I look back, and you don't see it sometimes when you're in the moment, but I look back and I can really see now how a lot of my experiences have been necessary and have really prepared me for the role and also because I did mention that I'm an introvert. So being an introvert and then sometimes being the only woman in the room,

sometimes being the only person of color in the room or sometimes being the only person of color and the only woman in the room is a lot, but one of the things that I learned I think I utilized from very early on in my career that I learned and practiced from being an MSL working with key opinion leaders and that was to engage actively and listen.

So how I have found the best way to sort of navigate is to be actively engaged and to be – so that whoever I’m having a discussion with can see that and can see that I’m vested in the conversation, I value the opinion, I really want to hear the ideas that that person has. Because a lot of times people want to know that you’re listening and that you’re hearing what they’re saying and that, I think, coupled with my skill set has helped me tremendously to sort of navigate that being an *n* of 1 often in many situations.

Taren: Well, kudos to you because as you said, I mean sometimes it’s tough waters to have to navigate. So you’ve figured it out and you’ve come out on top and you’ve done so very successfully, so congratulations.

Dr. Mathias: And I think it’s a continuous thing. I think you continually evolve and you continually work on those things that you know that will help propel you forward.

I will just mention this and this may be a little bit outside of the question, but I recognized very early that my being an introvert was seen oftentimes as a detriment and I know it’s not a detriment. Oftentimes an extrovert because they speak up they’re seen as sometimes smarter, knowing more, being more of a leader, and we know that’s not true. We know that introverts bring the same abilities. It’s just how people perceive it. So even to get to this role through my career I knew that the majority sees it as not a strong skill set, so I had to always challenge myself. I still have to challenge myself and try to do things to overcome that. And that’s the part of the – in the question that you asked about being able to navigate as well, so I just wanted to add that.

Taren: Well, I think that’s such an important add, and I think you’ve given hope to so many of the introverts who are out there who may be afraid to take on a senior role because they don’t feel that they have the skill sets and you’ve clearly shown that is not the case, so thank you for that. You’ve talked about the importance of mentoring throughout our conversation. Are you yourself a mentor?

Dr. Mathias: I am without a doubt. I love to mentor. This was actually a question that resonates with me. I always have. I don’t know. I think it’s just natural. I’m also sort of a natural teacher, but I love to mentor and when I look back on my career and you’ll see – I’ve mentioned two mentors, but I’ve had many others. So I was mentored along my career and I’m mentored to this day. I’m still mentored and championed, and I am where I am a large part because of my mentors like Dr. Eric Floyd and Dr. Frank Young and I’ve always felt that was important.

When I was at Aventis, I met a young lady. She was a woman of color and I started mentoring her and actually hoped to get her into a Ph.D. program – and she now is a Ph.D. and she’s in the

pharmaceutical industry. And then I have a few other mentees who also happen to be women of color that I meet with every quarter and we go to dinner in between when we just talk, but we meet and we go to dinner.

I think that mentoring is important. It's important to have someone to just listen, someone who can offer guidance, someone who can help you see a situation or an experience in a different way. Ultimately it's up to you to take that information or to take what you're getting from the mentor and figure out how you can use it or best use it for your career. But mentoring is it's without a doubt I think one of the most important things that people need to have in their career.

Taren: I agree and it's not just that one point in your career, as you said it's throughout your career.

Dr. Mathias: Throughout.

Taren: At different junctures you need a different type of mentoring, you may need a different type of sponsor, so it's so important. I don't know that women fully understand that, and I think that's really one of the important lessons through our WoW podcast program that we hope to share with other women is that don't be afraid, go out, get a mentor, find a sponsor because these people are going to be invaluable to your career as you move along your journey. So thank you for doing that and look you changed the life of that young woman who has now got her Ph.D. You obviously are a role model within the industry, but with that comes a certain amount of responsibility, and how does that sit with you?

Dr. Mathias: It sits fine. I think that I know that it comes with responsibility and I don't mind the responsibility, and I think that I am supposed to try to make it better or make it smoother for others. I think that's important because, again, when you look at anyone and you look at anyone's career whether they're a man or a woman and I've actually done this. I'm a very big reader of biographies and I'm always interested and I usually ask people how did you get to where you are and if you dig deep and most, I think in most of the stories or all of the stories, there's a mentor. There's someone who paved that way. So I think it's a part of you moving up because you didn't get there. You have to think and remember, you didn't get there completely on your own.

So there is a responsibility to try to make it better and to try to enlighten others about ways that they can move forward and also to enlighten them about stumbles and mistakes that you've made so hopefully they don't make the same stumbles and mistakes that you've made.

Taren: And in doing all of that leaves you very vulnerable as a leader because nobody wants to admit they made a mistake, but you're right, that's where some of the most important learnings come from is looking back seeing where those stumbles happen.

Dr. Mathias: And it's a part of transparency. A few people that I've mentored, I would tell them that I don't know everything. I don't pretend I know everything and when I don't know

something, I say I don't know everything and I think there's strength in that. I mean, I know some people think that you're supposed to have an answer for everything, but sometimes you don't and sometimes you don't have the answer right at that moment. It might be something you need to think about, research, but there's strength in saying I don't have an answer and I don't know everything, but let's figure it out together.

And I think to your point, some people see that as making yourself vulnerable, but I've always seen it as a strength and I've always been able to utilize that as a strength because that's how I can incorporate other team members and their expertise and their value and allow them to shine to help solve whatever the problem is.

Taren: And so let's take that a little bit further. Let's talk about advice you might provide to other women who want to reach the executive level. You have reached that C-suite. What are some of the steps you would advise them to take to give them the best advantage of doing so?

Dr. Mathias: This is going to go back to something I said before and maybe I'll say it a different way, but it really is about building the network. So even early, even before I started a career, when I was in probably high school, definitely in college and I don't know, I just have this ability. I knew kind of without being told sort of about building networks and establishing relationships and I've always – that's always been a strength, but I carry that through and I think that's one thing I emphasize.

You have to build a network and part of building a network it takes time. You have to build trust. You have to build respect. You can't expect to just pick up a phone and ask someone for something when you've never really had a conversation with them, but it's different if you've built this relationship. I had relationships with mentors that it's over 20 years and I mean authentic mentorship relationships.

I think the other factor that I learned and again, emphasizing sort of being an introvert was be willing and be accepting of taking on projects and activities outside of your role title. Often when I talk to male counterparts I think that is one of the things that they tend to do better than women and it's important because groups in senior management want to see that you can develop other skill sets and that you can manage other types of activities besides what you've traditionally done.

And then I always recommend and I do this, like joining something like Toastmasters or being a part of something like Toastmasters because as you rise up into the different positions it's about more presentations. It's about having to communicate more and that is always something that you will continually working on is selling your presentations and speaking skills. And take advantage of any training and opportunities that your company offers. Take advantage of it.

Taren: Great advice. And as an introvert I can only imagine how difficult some of those Toastmaster classes had been for you to put yourself out there as someone who also has a more introverted nature, being out there in public facing roles and having to do that still terrifies me to this day. But you pushed on and you get rid of the fear and you have to do it. And finally,

because this is our WoW podcast program, tell me about an accomplishment or a moment in your career that either changed the trajectory of your career or enhanced your career. What was that wow moment for you?

Dr. Mathias: So I think I might have actually touched on this a little bit in some of the earlier questions, but the wow moment that shaped my career definitely being an MSL, that was pivotal for the beginning of really everything. I think without that experience I would not be in a CSO position. It forced me to have to develop some skills sets and work on some skill sets that weren't as developed as before and made my other so wow moment again was working at my first startup because again, I mentioned this before, that's really where I gained my confidence and that's really where I again learned to be comfortable with being uncomfortable and that was huge for me, figuring things out I've never done before and strategizing in a different way and when I look at one of my activities as being a CSO in Virpax is to oversee the pre-clinical development research and I was never in the weeds like I am now. So, again, I'm in a situation where I have to be comfortable being uncomfortable. So I would say those were the wow moments that shaped my career.

Taren: Well, thank you for that. And I think that's a skill that needs to be learned by more of us, just being comfortable, being uncomfortable because you are often as you stretch and grow, if you're not uncomfortable then maybe the role is a little too easy. You're not stretching far enough, right.

Dr. Mathias: Right, exactly.

Taren: Dr. Mathias, thank you so much for sharing your story providing us such great insights into how to really successfully navigate a career, a successful career and providing so much of yourself and telling so much of your story with our audience. Thank you for being part of our WoW podcast program.

Dr. Mathias: This has been wonderful. Thank you so much.

Thank you for listening to this episode of WoW – the Woman of the Week podcast. Thanks to again to Purohit Navigation for sponsoring this episode. For more information, visit purohitnavigation.com. And don't forget to check out our other WoW podcast episodes at pharmavoices.com/wow.