

INSIGHT

Conversations with Thought Leaders



**American
Autoimmune**
Related Diseases Association, Inc.

Welcome to **INSIGHT**, a series of conversations to bring new information and compelling perspectives on issues of critical importance to people with autoimmune diseases and stakeholders. Through interviews hosted by AARDA President & CEO Randall Rutta, **INSIGHT** contributes to our understanding of issues and ideas, best practices, and strategies for change in support of the autoimmune community and society.

This November, we worked with AARDA partners during Thyroid Eye Disease Awareness Week – TED – dedicated to increase recognition of thyroid eye disease, a serious, progressive and vision-threatening rare autoimmune disease. TED Awareness Week has been established through a collaboration among advocacy organizations including AARDA.

Tim Walbert is President and CEO of Horizon Therapeutics. Horizon Therapeutics is focused on researching, developing, and commercializing medicines that address critical needs for people impacted by rare and rheumatic diseases, including thyroid eye disease. Tim has an impressive career in the pharmaceutical industry with experience in executive and operational positions with a variety of manufacturers. He also serves on multiple boards of many leading healthcare organizations.



Tim Walbert

RANDALL RUTTA:

Tim, thank you for talking to us, and congratulations on the first and only FDA-approved drug for thyroid eye disease. This new medicine, TEPEZZA, is a breakthrough medicine for patients that suffer from this rare autoimmune disease of the eye.

TIM WALBERT:

A. Randy, thanks so much for having me. It's a pleasure to spend some time talking about such an important issue as finding better solutions for autoimmune diseases - it's something that's very important to us as a company and even more important to me on a

personal level, as my son and I have the same autoimmune disease.

RANDALL RUTTA:

Q. Let's start by discussing this commitment from companies like Horizon to discover new therapies to help patients. Surely it must be a complex process. What is it like? What is the R&D process to bring a new medicine to market? And how long does it take from that research idea to that FDA approval?

TIM WALBERT:

A. There are a number of aspects that come into play. For us at Horizon, our

mission for our R&D programs is clear. We apply scientific expertise and our to patients with the most challenging needs while constantly looking through that lens of the patient. We want to really understand the clinical process, and that starts with the disease itself, the journey the patient goes through, and what it's like for a patient suffering with disease. We aim to design clinical trials with clinical endpoints that really are going to make a difference in the patient's life, not just on what those endpoints are for getting a medicine approved.

If you look at the case of TEPEZZA, three years ago

we began the Phase 3 program to develop this medicine for the treatment of Thyroid Eye Disease, and ultimately got it approved in January of this year. It can take up to 10 years – if not longer – for medicines to get approved, and only one out of every 10 medicines that begins a Phase 2 trial ultimately gets through to approval by the FDA. And there's a lot of information out there that discusses the commitment required for bringing a medicine to market, especially in treating a broad autoimmune disorder. It can take anywhere from 800 million dollars to more than a billion dollars to develop each medicine all the way through FDA approval.

As you know, you go through that early process of studying in Phase 1 in healthy volunteers and onto Phase 2, to really define the safety and early efficacy, and then onto the broader Phase 3 programs, where we really have to be able to show not only that it's a safe molecule and satisfy a broader safety database, but that it's really the right dose and efficacy in the right patient population.

It's a long process, but also when you talk about autoimmune diseases, it's often hard to find those patients. They're not just showing up, they're often misdiagnosed. I went actually 11 years myself, and saw over a hundred physicians to get diagnosed with my disease. So finding

these patients and making sure they get through to the right physician to become an investigator is often a real challenge that goes into this process. So as you can probably see, it's a long arduous process. It's expensive, 10 to 12 years, a number of different clinical programs, and hundreds – if not thousands – of patients. And as a best case, a 10% chance of the drug ultimately getting approved by the FDA. So, a lot goes into it, but ultimately when we get the medicine through regulatory approval and show that it's safe and effective, we can make such a huge difference in patients' lives like we have with our medicine, TEPEZZA, for Thyroid Eye Disease.

RANDALL RUTTA:

Q. I know there are a number of therapies that your company currently offers in addition to TEPEZZA, and if I'm not mistaken, there's a pipeline of innovation yet to come, which for patients, as you know, being a patient yourself and your son's experience – that's hope. That's hope for a new medicine not yet developed for their condition, as was the case with Thyroid Eye Disease. So, it's so critically important that patients understand that there is a pipeline, I think it is also important to understand the factors you described: the cost, the research, and the fact that many of these good ideas don't actually come to fruition.

Are there other barriers, particularly as you move

through the development process, and then literally try to put that new medicine in the hands of patients, that you would want to call attention to? As a patient organization, that's a big concern of ours.

TIM WALBERT:

A. Well, there's a lot that goes into it. First of all, it's collaboration – with physicians, with patient advocates, patients themselves, organizations like AARDA, and academic institutions – all are critical to developing new medicines, and being able to build those relationships, get feedback along the process. Too often, clinical programs were designed, developed, and conducted without ever talking to a patient or understanding a patient's point of view.

I think we're operating in a much different way in today's times where the patient's voice is much more part of our clinical development programs and so much more important in designing and conducting our clinical programs throughout the world. So that dialogue becomes critically important as we move forward through the process. With our medicines, we partner with leading physicians and disease specialists. When you talk about rare diseases, there may only be 20 to 30 key investigators around the world. You have to make really difficult choices, such as how do we help patients travel to these clinical sites,

how do we understand what a normal day is for a patient?

When we look at the barriers, often we look at objective endpoints in a clinical program, but the patient lives and feels their daily activities. So normal things like getting up, brushing your teeth, going to work – all these activities become so important and are factored into plenty of life metrics that need to be incorporated into today's and future clinical programs.

It's no longer good enough just to measure an outcome, but really understand, is it making a difference in a patient's life? And you can only determine that by having the right quality of life measurement tools built-in to your clinical programs.

From an FDA standpoint here's a lot that goes into bringing patients and bringing physicians and the people treated into meetings with FDA, so they truly understand the journey a patient goes through in their disease, so we can actually tailor those clinical trials differently than we have in the past.

Then there's health economic analysis – understanding if you're ultimately able to bring a novel therapy to market, what other costs of treatments, hospitalizations, quality of life are you offsetting and improving – so that we truly understand the cost of disease and cost of treatment for these patients.

RANDALL RUTTA:

Q. That's so encouraging to an organization representing patients with autoimmune diseases - some of which are very rare, have barely been described – and trying to create a pathway for them to be able to participate, to be able to contribute so that your medicine – and as you develop that medicine – really speaks to the real world experience that they're going to have. In an interview on the Horizon website, you talk about lives touched; you talk about lives changed, and lives saved.

That's certainly how I heard patients talk to the FDA and to the advisory committee when TEPEZZA was in those final stages of being reviewed. They talked about a debilitating and painful disease that was preventing them from really leading their life in any way. I've seen that understanding of the role of patients, the need to engage patients, really permeates the values of your organization. How have you managed that? Obviously you have personal insights, but how did you help your employees, and as you've grown the organization, really understand that this was not just marketing, that this was real?

TIM WALBERT:

A. So often, companies are all focused on the endpoint, and that is getting a medicine approved, getting it on the market, selling that medicine. As a patient myself, one who has gone through years of

misdiagnosis and years of mistreatment, making sure that we understand what is that journey a patient goes through is critical. So, if a patient takes five years to get diagnosed, you think about how you communicate and bring patients along the spectrum to get treated. In the case of TEPEZZA and Thyroid Eye Disease, we go back earlier in the disease and help patients understand these symptoms. If I'm having dry eyes, and my eyes don't close well, that becomes really important to help them understand: get to your physician early and get to the right physician so you can get that right diagnosis much faster.

I think we start everything when it comes to clinical development, actually to marketing, with the journey a typical patient goes through, because if you don't understand that, you're ultimately not going to benefit the patient most. I'll give you an example – we have the medicine KRYSTEXXA that is for chronic refractory gout. These patients often go on to, if untreated, amputations, but it's also important that they have diet and exercise.

Once the patient receives their treatment, it's important they are educated on how do they keep from getting back to that point. So being able to offer educational tools around diet and exercise, and really helping them

adhere to not just your medicine and thinking more broadly about the patient becomes critical. And as a patient myself, that's something that I enforce throughout all of our different programs and activities, and that is – how would a patient look at this? And how would it benefit a patient versus is it just selling them medicine?

RANDALL RUTTA:

Q. I think that your holistic view, for patient advocates and patient organizations is very natural to us to understand. Yet for you as a person in a company, in a corporate setting that speaks to shareholders and investors and others in the business world, as well as policy makers that help define the environment that we're in, it's really refreshing to hear you speak so holistically about what we know is true. We can't look at a new medicine – we can't look at the investments that are made in it – in a silo because it really is meaningful across the lifespan. TEPEZZA, of course, is most effective early on. So shortening that path to diagnosis is part of our responsibility in this story.

What have you seen in this new world of COVID-19? How has the pandemic affected your company – including the ways that you bring your medicines to market – support clinical trials and research? Things seem to have been so disrupted by this coronavirus.

TIM WALBERT:

A. I think the challenge is being able to launch a new medicine like TEPEZZA for patients who have thyroid eye disease who are undergoing severe pain, impaired function, inability to sleep, and inability to work. Even if they're home, if you're seeing double vision, you're not going to be effective in even doing activities of daily living, much less being able to work. I think what it really made sense for us is how do you adapt to the new environment?

We've put forward a significant effort to do a couple of things: one, to have an individual patient access manager or employee of Horizon whose sole responsibility is the patient. Their job is to – for example, if I'm prescribed TEPEZZA for my Thyroid Eye Disease, I'm put in contact, if I so choose, with the patient access manager whose sole job is to make sure that my questions are answered, that I get the right treatment but, importantly, that they have the tools to help them find an options on where to get their medicine infused.

Because a lot of times, my physician's office may be closed, and I don't want to wait the three months. So we help them find an option, so that maybe you can stop your suffering earlier than if you waited out some of these COVID timelines.

Also, from a clinical research standpoint, it has become reality. We had a number of trials with KRYSTEXXA, our medicine for severe refractory gout where we had a lot of patients who were in the middle of a trial and we needed to keep them getting treated. Again, we made sure then if an office was closed, here's a local infusion center, to really do everything we can to make sure that they get their treatment and the trial goes on, because we want to make sure that an option is brought to patients down the road. We had 135-patient study with KRYSTEXXA called MIRROR, that we're able to complete enrollment on time in the middle of this COVID environment.

It's certainly not ideal, but we've, in fact, started anywhere from 5 to 10 new clinical programs over the last six months during this COVID period. It's something that all of our folks working with investigators, our clinical team, our clinical operations teams have had to learn how to interact with a physician and investigators, staff, interact with patients, have virtual investigator meetings, have virtual monitoring of an investigator site to make sure we're in compliance. So really changing all the things we would normally do with a site monitor of a clinical program and turning that into the virtual world. So we've been able to successfully do that and keep our clinical programs moving along.

RANDALL RUTTA:

Q. That's really a credit to your leadership, your organization, your team – everybody throughout Horizon Therapeutics – to be agile, always with that focus on what's best for the patients, and have a sense of urgency about getting those treatments to those patients. Because unless you're really experiencing the symptoms of the disease, you can't know how your life is affected, and it sounds like you've had personal experience yourself and in your family. It's clear you're bringing that understanding forward. I just am so impressed and inspired by your leadership and your organization. You're really a model for how our manufacturing partners – but then all parts of the healthcare system that talk about being patient-centered – can actually live those values.

What can we do? At AARDA, we're working with an array of different patient groups across the autoimmune space. And with others, as autoimmunity touches on oncology, touches on auto-inflammatory, touches on immune deficiency. What can we – what can all of us - do to be good partners to Horizon and support the inspiring vision that you have for future innovation ?

TIM WALBERT:

A. Well, I think for all of us, autoimmunity touches everything we do. The COVID-19 pandemic is at the core of autoimmunity and trying to find pathways to

solve that with treatments or vaccines. I think we all have a public health responsibility. For us, that means keeping our employees at home, and we have continued to keep our office closed. If an employee gets COVID, we do everything we can to take care of them and their families. We've created a number of different situations where we try to do everything we can to engage our employees and to keep people communicated to. We talk about what AARDA can do, and work with so many of these advocacy groups. I really think communication is key.

We're at a time where it's so easy to lose connections. It's so easy to lose ability to gain information that normally we would pick up in our normal course of living. That has just been significantly changed. So the need for groups like yourselves and folks that are patient-facing, to increase communication, because as a patient, you can really get lost, because your ability to reach out to other prospective patients who understand your disease, to really see hope, is so significantly impacted because we're all stuck in our homes, losing that social connection; we're losing the ability to reach out to people and understand, and get comfort for those situations.

I think this is such an incredible time for the advocacy community to engage with patients and to be the bridge to

understanding their disease, understanding the journey, putting them in touch with the right places to get studied so they can find solutions, and ultimately helping them understand what is the pathway to actually get their medicine.

We think physician and patient should own their treatment. I want to own my own treatment for my two autoimmune diseases. I'm going through a situation right now where my son's having a significant flare of his disease, and I want to be able to control where he goes, who he sees, and what type treatments he gets versus what a managed care plan has in their particular list and talking points. To me, communication and education, there's been no more important time for what you at AARDA, and the so many people you interact with are doing in changing how we actually treat patients.

RANDALL RUTTA:

Q. I could not have said it better. I think communication is certainly key, and the way you described it with that end focus on patients is critical. AARDA, and then our initiative, Let My Doctors Decide, which really speaks to the issue raised, making sure that it's the patient in consultation with their physician are making those decisions is critical, so it's not a one-size-fits-all. It's not a set of steps that might lead someone away from the therapy that's going to work best for them. It's really understanding what's best

for that individual and keeping your eye on that. And you as Horizon, your leadership has created the medicines that are really changing lives every day. So thank you as a partner, the insights and support that your team brings to AARDA helps us be better at the job that we do.

I hope you turn to us and help us continue to be that bridge to patients that we're ready to be for your company and other like-minded companies. So thank you so much, Tim, for your time today and for the amazing work that you're doing at Horizon Therapeutics. I do really think that you're a role model. I think that the work that you're doing not just inspires us all, but also gives us confidence that we're going to get through COVID-19, and

fosters the shorter path to diagnosis and treatment that we want for all autoimmune patients.

Thank you on behalf of our organization and our patients.

TIM WALBERT:

A. Well, thanks. We definitely share a common mission here, and that's getting faster solutions for patients and letting them take control of their lives. So thanks so much. It's an honor to have spent this time with you.

Thank you so much for your insights, your information, and your example today.



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