EP.136 – Bill Enright - Vaccitech

Narrator: You're listening to *BioTalk* with Rich Bendis, the only podcast focused on the BioHealth Capital Region. Each episode, we'll talk to leaders in the industry to break down the biggest topics happening today in BioHealth.

Rich Bendis: Hi, welcome to *BioTalk.* I've got a good friend and a regular on *BioTalk*, a serial entrepreneur from the BioHealth Capital Region, and what I really like best about Bill is his wife, who used to work with BioHealth Innovation in its beginning days. In spite of that, Bill, we will talk to you today, since Renee is not going to be on *BioTalk* with me.

Bill Enright: [laughs] Thanks, Rich. I appreciate you having me on again. This is great.

Rich Bendis: You're welcome. Bill's been on a couple times talking about different companies, And the one we're going to focus on today is Vaccitech, where Bill is the CEO. For the listeners who don't know you or who haven't heard you before, Bill, why don't you introduce yourself to the listeners and let them know how you got to Vaccitech?

0:01:08

Bill Enright: Sure. Thanks, Rich. I appreciate it. I've been, as Rich mentioned, with a number of early-stage companies throughout my career. It's going on 34 years now in the biotech space, almost exclusively in the Maryland area. I've been with Vaccitech now for four years next week, And before that I was CEO of Altimmune. I was there for almost 11 years, helped to take that company from a small startup in Birmingham, Alabama, relocated that to the Maryland area and helped get that company public in May of 2017 raising a couple $100 million for them and moving multiple programs into and through Phase II. Prior to that, I was Head of Business Development for a company called GenVec and was there for six or seven years. GenVec is now part of the Precigen organization, so that got rolled up.

0:02:00 Prior to that, I was with what was Life Technologies and is now part of the Thermo Fisher organization, So I spent a number of years with Life Tech in various operational roles; so, ran a research team, led a manufacturing group, was in the marketing organization, and ultimately started up a licensing team for them.

Rich Bendis: I guess for anybody who wants to work with you, they have to recognize, at some particular point in time, you're going to get rolled up or acquired by somebody.

Bill Enright: [laughs] Yeah, well, that's been history. I guess that's a lot of biotech, right?

Rich Bendis: Well, that's sort of the history of the business, Bill, So it's not like you're unique. It's that the small get eaten by the big because they're more innovative and they're more creative; and the bigs get bogged down, So they need some of those creative juices to flow into those larger corporations. But you've been on the other end of that this time with Vaccitech; you actually did some acquisitions yourselves, So why don't we introduce Vaccitech to the listeners and also tell them that you're publicly traded now so people can follow you?

00:03:02

Bill Enright: That's great. As I mentioned, I've been here about four years, So we got the company public in April of 2021, So a little over two years ago, now. And you're right, in December of that year, we acquired a Baltimore based startup called Avidea, and now we've opened up a new office in Germantown, MD and relocated that to Germantown. We were about 14 people when we did the acquisition, and we're up to 30 people here in the Maryland area, So continuing to grow the team and put in the necessary infrastructure and support functions to help move some of this technology forward, So we're pretty excited about where we are. We're about to file an IND on one of the programs that came out of that acquisition before the end of this year. Hopefully that'll get filed in Australia and then soon thereafter in the US as well, So continuing to move that program forward. Then we've got a follow-up project that we hope to get another IND filed in next year, So a lot of activity going on in the US and with Vaccitech in general.

0:04:10

Rich Bendis: Yeah, And the other thing is you are transatlantic (for the listeners), and while you're focused here in Germantown and had Avidea in Baltimore, you've got a major UK presence as well. You want to talk a little bit about what's on the other side of the pond, Bill?

Bill Enright: Sure. Vaccitech was started as a spin-out of the University of Oxford, so we have a facility in Harwell, which is just outside of Oxford, where about two-thirds of the company are. So, we're about 130 people now with about two-thirds of them in the UK and the other third here as I've mentioned. The company is really focused on a stimulation of T-cells, So we've got a couple of platform technologies. One I've mentioned that we acquired through Avidea we call SNAPvax. The others are technologies that we acquired as part of the spin-out from the University of Oxford.

04:58 It's viral-based technologies, and we're using those to stimulate T-cells across a number of different indications. With the viral-based technologies, we're able to stimulate very high levels of CD8+ T-cells for a long duration, And that's really important when you're trying to kill infected cells, and in the case of chronic infectious diseases like hepatitis B or human papillomavirus, we're trying to kill mutated cells in the case of oncology. With the SNAPvax platform, that allows us to stimulate different T-cells with T-regs, which are important in dampening the immune system, So it allows us to go after immune tolerance diseases like celiac disease, which will be our first indication with the SNAPvax platform.

Rich Bendis: Yeah, basically a lot of people that have taken the opportunity in the markets when they were stronger to go public and raise public capital, But a lot of them were one-trick ponies. They really didn't have a robust pipeline.

0:06:00 One of the things you've done is to extend your pipeline so you're not only a one-trick pony; you have multiple things in the pipeline and an interesting portfolio, And it would be good for the listeners if we go through your portfolio, if you don't mind, and also give a little status of where each of the things in the key milestones are. One thing you mentioned which would be interesting to the listeners is you've got a UK- and US-based corporation across the Atlantic, But you mentioned Australia, and you're not the only one who is doing things in Australia right now, So talk a little bit about that before we go through the portfolio and the rationale for actually looking at INDs in Australia.

Bill Enright: Sure. We've done some work in Australia before, so we have a subsidiary set up in Australia to help do clinical trial work, And in this case we've got

some key investigators who are located down in Australia, But one of the nice things also is that they have an interesting R&D tax-credit program.

0:07:00 You can get money back on the R&D money that you spend in Australia, and that's quite helpful. Plus, right now at least, the exchange rates are favorable as well, So it's much less expensive to do some stuff down there.

Rich Bendis: So, it's a good thing for the investors to look at the global things that you're doing, you evaluate where the best opportunities are, and you don't sacrifice quality.

Bill Enright: Exactly.

Rich Bendis: Great. Okay, So let's go back to the original question which I was talking about your portfolio and pipeline and everything. We have alphabet soup with Vaccitech. We got HBV, HPV, PCA, VTB. We got every letter you need in the alphabet, So for the listeners, Bill, why don't we go through the alphabet soup of your pipeline and portfolio, and then you can talk a little bit about where each of them are in their evolution.

Bill Enright: Absolutely. Thanks, Rich. We have a very broad portfolio, as Rich has mentioned. We've got five therapeutic programs moving forward right now.

0:08:00 The lead asset is a potential functional cure order for hepatitis B, And that's right now in multiple Phase II clinical studies. We presented some really promising data at EASL earlier this spring, and we have the first immunotherapy to reduce surface antigen levels, and then the first molecule that we are aware of that we reduced surface antigen levels for a sustained period of time. So, in a single dose of VTP-200, which is what our nomenclature is for this hepatitis B program, we were able to reduce the surface antigen out to nine months post that first injection, So eight months after the boost. This is a prime boost approach where we're priming the immune system with one viral vector called chimp adenovirus—ChAdOx is what the abbreviation is.

0:08:56 People may be familiar with that from the COVID-19 vaccine, because that was the primary technology in the COVID-19 vaccine that AstraZeneca sold, So we were actually involved in the invention and development of that vaccine as well. We've come back similar into the

COVID-19 space where many people have heard about this mix-and-match strategy. That's really what the company was founded on and focused on our scientific co-founders at the University of Oxford have been working on this for about 25 years now, looking at various technologies, whether they're viral based, protein based, RNA based, or DNA based in different combinations, and testing these things. Really what they showed was if you prime their body's immune system with an adenovirus which is known to give very high levels of T-cells for a long period of time, and then you boost them with a different viral platform which is called MBA, a smallpox virus, you get the highest levels of T-cells of any platform out there, bar none, and it lasts for about a year and a half to two years before you come back near background levels.

0:10:04 So, we know that increasing T-cells like in CAR T space. We know that you can impact cancer if you get a high enough level of CD8+ T-cells for a long enough duration of time, So we're going after diseases like HPV where we think the T-cells are going to be important. So, in that HPV space, in addition to the data that we presented EASL, we've got two ongoing Phase II clinical studies. One is a collaboration that we have with Arbutus, and we should have some interim efficacy data, hopefully to be presented at AASLD later this year. And the Phase II that we're running also, we plan to have some Phase II data to talk about at AASLD later this year as well. So, lots of good progress on the HBV program, the hepatitis B program, and we'll continue to push that forward.

0:11:00 We've got a human papillomavirus program as well, also in Phase II, So we presented preliminary safety and immunogenicity data at one of the HPV conferences earlier this year, and that program is fully enrolled in this Phase II. We had 109 patients that were enrolled in that study, and we're waiting for the 12-month endpoint to mature. The last patient was enrolled in that study in January, So towards the end of first quarter - early second quarter, we should have results from that Phase II study as well. In that program, what we're looking to do is get rid of the HPV virus before it causes cancer. Human papillomavirus is associated with cervical cancer in women, and head and neck cancer in both men and women, as well as anal cancer, But we're going after early-stage disease trying to get rid of the virus before it causes those cancers.

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Rich Bendis: You mentioned head and neck cancer. I just thought of this: There's another company in our region that's focused on head and neck cancer miRecule. Have you ever talked to them?

Bill Enright: I don't think I have, Rich.

Rich Bendis: Well, you need to talk to Anthony Saleh and they're basically focused on head and neck cancer research, and they have a diversified pipeline like you, but it's somebody in our backyard, and I'll be glad to make that introduction to you, But that's the first time I had to heard you mention head and neck. Of course that's something that everybody doesn't focus on—just that specific area—but I'll try to do an introduction for you on that.

Bill Enright: That'd be great, because we actually have a separate program with, again, it's a combination platform where we're using adeno followed by the SNAPvax platform, And that would be focused on HPV cancers, So that's going after the later stage disease as well, And that will include head and neck also, So that's the second program with our SNAPvax platform. We hope to have an IND filed next year in that program.

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Rich Bendis: Great. You have a couple other things in the portfolio, right? When you're talking right now, you've been talking about things that are advanced in clinical studies, in Phase II, So those I assume are the technologies that are furthest along in your portfolio. Is that correct?

Bill Enright: That's correct. We have another Phase II program in prostate cancer. That program is in, I would say a Phase I-II right now. We actually presented some Phase II data at ASCO a couple of years ago and showed some pretty promising data using a single antigen called 5T4, and we got a 22% response rate in combination with NIVO when looking at PSA and reduction in PSA at the primary endpoint, And that compares pretty favorably to the NIVO alone in similar patient populations, where you get in the 7-9% range. The PIs that were involved in that study and the KOLs we talked to really encouraged us to move that forward in a more well-controlled study, because that was in a very small number of patients in an open-label study.

0:14:06 So, we went back and redesigned that product and added some additional antigens into the construct, So now it's a four-antigen construct, and we got that back in the clinic earlier this year, and we're right now in a Phase I portion where we're looking at IM versus IV, So intramuscular injection versus intravenous route of administration, and then we'll choose which route of administration we're going to use and move that forward in a Phase I-II study, so we should have data from that study next year as well. We haven't decided on exactly when yet, but we should have data from that study next year as well. So, three ongoing Phase II programs, and then we've got a *really* interesting program in celiac disease, and this is will be the first advanced study with the SNAPvax platform that I've mentioned that we acquired.

0:15:00 This is in IND enabling studies right now. We hope to have the IND filed by the end of this year, as I mentioned, and the second IND in the US filed as well, shortly thereafter, to move that program forward next year into the clinic.

Rich Bendis: Yeah, it sounds pretty exciting, Bill, And I guess one of the challenges for you as the CEO of all of this is: How do you manage the prioritization of resources? Whether it both be human and financial, when you're trying to look at all of these different technologies that are in different stages of clinical studies. So, how you doing that, Bill?

Bill Enright: Well, it's a portfolio management approach, So we're looking at where we think we're going to have the highest probability of success, Rich, because these platforms really have broad applicability, and we've got a number of earlier stage programs—pre-clinical—that are waiting in the wings here when we show that we've got some improved concept data in these Phase II studies.

0:16:00 So, there's a lot more to come when we get data, but we've just got to prioritize; we've got limited human capital and limited financial capital to move things forward. We're well funded to get these programs forward, and also we're using partnerships, So we've got some other programs moving forward as well, but I don't really talk about those too much because those are moving forward with partners, So there's a lung-cancer program that's right now in a Phase I-II that's moving forward with Cancer Research UK. They're funding and sponsoring that study. We've got prophylactic vaccines moving forward. We've got a MERS vaccine

that's being funded by CEPI and in collaboration with the University of Oxford that should enter a Phase II study later this year as well, And then there's a herpes zoster program for a cure for shingles, And that's moving forward with a Chinese partner that we have, CanSinoBIO, and they recently announced that they got the regulatory approval in Canada to get a Phase I study started, So hopefully that'll get off the ground in the second half of this year as well. Those are all with partner programs, So that's not really what we're focused on.

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Rich Bendis: I understand. The leveraging of resources with partners is critical for small and emerging organizations, And if you try to go it alone, it's extremely difficult, But I would imagine with your 130 people, there's nobody that doesn't have anything to do right now.

Bill Enright: Everybody's got a full plate—[Rich laughs]—with this number of programs moving forward. Yeah, absolutely.

Rich Bendis: In doing that, when you have a diverse portfolio, different sciences that you're focused on in different diseases, are you able to share resources *within* the people who have certain capabilities that can go across different elements of your portfolio?

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Bill Enright: Absolutely, So that's one of the beauties of having these platforms, because from a manufacturing perspective, it's very, very similar across the viral-based platforms and also with the SNAPvax platform, So depending on the different indications that we're using that for, the manufacturing is all very, very similar, So that's extremely helpful in containing costs and learning as you push the CMC section forward. We do have to have some disease expertise, and we have a number of MDs on staff that we also supplement with key consultants in the disease specific areas.

Rich Bendis: Your business in the industry is totally dependent on having great people with the company, So talk a little bit about how about the last couple years since you've gone public, the process you had to go through from our recruitment standpoint, where's most of your talent coming from and is there any challenges right now on the in the industry or in the

marketplace trying to get what you need to advance everything that you're doing?

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Bill Enright: Yeah, it's been tremendous, Rich, to be honest. I joined, as I mentioned, just about four years ago, I was an employee #30, So we've had considerable growth over that four year time periods where we are now at almost 130 people. With the acquisition that we did, it opened up the US office. It also opens up the ability to go after best athletes, and you are much more likely to bring on folks and relocate them to Maryland then if you have to move everybody overseas. We're trying to keep people on site in the office as much as possible. We do have flexible work hybrid, so at least three days a week in the office, but we're recruiting mostly globally for these positions, like regulatory, quality, and program management, and things where you can recruit globally. So, the UK is a great place for talent, and there's a lot of really good scientists and folks in the developmental world of pharma there, and now you've got the US as an additional source of those quite capable people, So yeah, it just opens up another avenue for us.

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Rich Bendis: Yeah, it's nice to be able to happen in talent on both sides of the Atlantic, and there's unbelievable research going on both sides as well that you tap into. You mentioned you moved into your new location in Germantown. I would imagine you had the ability to look at many different locations even in other places in the United States, And how did you come to the decision that Germantown was the place for you?

Bill Enright: Part of it was availability of lab space. There's really tough to find lab space right now in Maryland. The vacancy rate is quite low, so some of it was timing. We were an incubator in Hopkins FastForward facility as well as we had sublet some space another biotech company had available. They were growing into that space and needed us out, the FastForward wasn't an option, So we had to find someplace, and the timing fit here as well, So I've been in the Maryland area for, as I said, coming up on 35 years here.

0:21:00 I really like the area. It’s a great place. There's a lot of great science going on here. It's really grown a tremendous amount in the time that I've been

here, but now we have large pharma anchors as well as teams being spun-off of these large pharma folks, and a large number of acquisitions have been done here, and that kind of builds on itself and feeds the biotech ecosystem here, and we've done a really interesting job in specializing in vaccines and gene and cell therapies in the CAR T space where we kind of developed a specialty in the Maryland ecosystem, So it's been great.

Rich Bendis: Yeah, And the other thing you've probably seen in the news: You're part of a top-three biopharma cluster in the United States. We just bypassed New York and New Jersey based on the Genetic Engineering News ranking, something we've been trying to do for eight years. Nothing comes easy in this industry, does it, Bill?

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Bill Enright: It does not. It's been a slog, And like you said, we've got great universities here. We've got great talent. We can still use some more capital and getting more venture capital in this area, but that too will come.

Rich Bendis: Yeah, it comes in time. It really runs in cycles too, because when the run was really hot, we had a really good run in the region a couple years ago, But it's cooled down, as you know, around the world, but it won't stay that way forever, because it's very cyclical in this industry and the people who are patient and survivors, which you definitely are, are the ones that will end up winning in the end.

Talk a little bit about the future, now. You have a lot of things in the clinical stage. You have adequate capital to get them continuing to be progressive, So what do you see as the major goals and milestones you have for Vaccitech in the next two to three years, Bill?

Bill Enright: It's execution, really, Rich. It's continuing to move the programs that we have forward. It's trying to continue to build the CMC in parallel with the clinical results that we have, so that we can continue to move these forward.

0:23:00 Ultimately, we're looking to commercialize and be able to treat patients, And the goal here is to move programs forward particularly in areas where there are no known cures right now, So HBV, HPV, celiac—where there are no known cures that we'll try and build the commercial

infrastructure along with clinical development, and move those things forward towards commercialization, So that's what we're focused on. In other areas like oncology, when there's strong competition from big pharma, it probably makes more sense to out-license those programs. We'll do regional out-licenses where we need to, particularly the HPV and hepatitis B program. A third of that market is estimated to be in China, so we're not naive enough to think we're going to develop a direct-sales force in China, so we're looking at some regional deals as well, but also we're keeping our eyes open for additional technologies and acquisitions.

0:24:00 As you mentioned, we're in a good place from the financial perspective right now. We just announced our numbers last week, and we pushed into 2Q of 2025 with existing capital and consuming no additional revenues, So the royalty revenues that we were getting from the AstraZeneca Vaxzevria vaccine have tailed off dramatically this year, so we're not anticipating huge revenues as a result of that, but we're in a good position, and we're going to be able to meet these major milestones and move us forward.

Rich Bendis: I might have seen something that you're still recruiting right now for additional people. Are you looking for a biz dev person right now? You're Mr. Biz Dev, aren't you? [both laugh] You've been doing biz dev your whole life.

Bill Enright: I do have a background there, but we have a more junior person opening in the biz dev department, so working for Nick Fullenkamp who is our VP of biz dev.

0:25:00

Rich Bendis: Great. Yeah, I think I saw that on the web.

Bill Enright: Yeah, we got a couple other things. My chief medical officer recently retired, So we're recruiting for a new chief medical officer as well, and a couple of other positions that are open.

Rich Bendis: The other thing that you mentioned is that you're hoping to get to commercialization at some stage, but 10 years ago—and you know this well—in this region, you wouldn't have been able to find anybody to help you in commercialization, because it was a research and development region. AZ And HGS And everybody else were still in the research phase.

But now we've developed a strong manufacturing presence. We have CMOs. We got the clinical CROs here. We have basically almost all of the resources you need, and the commercialization strength is one of the things that's helping propel the growth of the region because we're beyond the R&D phase in this region now, And we've got a number of commercial companies located here, which makes it good for you as you're looking for talent as you begin to commercialize.

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Bill Enright: Absolutely, And even if the people aren't in the general area, it's easier to recruit people in when there's some place to go if things aren't successful. Then they have the options; they don't have to worry about how they're going to move, And then two years from now, they're going to have to move again. There are options within the region that are really helpful.

Rich Bendis: Is there anything that we haven't covered that you'd like the listeners to know, Bill?

Bill Enright: No, I think we've hit on the major things, Rich. The key thing for us was getting the queue done last week, And like I said, we've got good financial strength, and programs are moving forward. We've got near-term milestones, and eventually investors in the stock market will realize that, and we'll be able to ratchet the price up a little bit, because right now we're trading at less than half cash, and it's an anomaly that will change.

Rich Bendis: I'm sure it will. I was going to let you do your little elevator pitch as a closing, Bill.

We've been talking with Bill Enright, CEO of Vaccitech, an emerging company within the BioHealth Capital Region and the UK.

I'm going to give you last words. If there's people out there looking for great investment opportunities, tell them why this might be one of those.

0:27:05

Bill Enright: The reason is we've got, as I mentioned, five therapeutic programs moving forward, three of them with Phase II results coming in the next 12 to 18 months, And additional programs behind that. We've done a

licensed program in Vaxzevria, the COVID-19 vaccine that was licensed in over 180 countries around the world. We had royalty revenues last year of $44 million from that, So good non-dilutive funding, and approved validation of the technology platform as well as validation of the safety of the platform. It's a great place to work, and we're continuing to grow the workforce both in the US and the UK, and it's considerably undervalued in my estimation at this point in time.

Rich Bendis: So, if anybody wants to learn more or get in touch with Vaccitech, how do they do that, Bill?

Bill Enright: They can contact me directly, or info@vaccitech.co.uk.

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Rich Bendis: Great, thank you.

We've had Bill Enright on *BioTalk* giving us an update on his exciting company—a very diverse portfolio that has good financial strength to continue to move the portfolio forward and is committed to the BioHealth Capital Region. All of the elements we like about companies that are in our backyard.

Bill, thank you for being on *BioTalk* again.

Bill Enright: Thanks very much, Rich. I appreciate it.

Narrator: Thanks for listening to *BioTalk* with Rich Bendis.

End of recording