

HealthTech Talks Podcast Series



Lumina Podcast Series | HealthTech Talks Episode 17 : The Future for Healthtech Entrepreneurs

Announcer

This is a podcast by Lumina, the perfect space to innovate, collaborate, and grow in health, science and tech.

Rebecca Griffin - Host

Dr. Brent Richards, welcome to HealthTech Talks. You're a doctor and intensivist. You're a professor of Critical Care Research and Director of Research Commercialisation at Gold Coast Hospital and Health Service. You have appointments at both Griffith and Bond universities. And you're the chair of the Queensland AI Hub Advisory Board, and a medical advisor for a number of companies. And also, Brent, you're a mentor for the LuminaX Accelerator Program.

It's really great to have this opportunity to talk to you, I'm not quite sure how you found the time.

Dr. Brent Richards – Guest

Thank you for inviting me.

Rebecca Griffin - Host

Brent, I'd like to begin by chatting about your medical career. Why did you choose to study medicine and then ultimately intensive care?

Dr. Brent Richards – Guest

Look, studying medicine, the genesis of that's a bit fuzzy because I come from a nonmedical family. My father was a pattern maker and a builder, and my mother was a secretary, shorthand typist. But medicine was a career that when you were doing well academically, that the schools often put you in that place. And so that's kind of where it started. And also at that stage, GPs were very well regarded, and so doctors were well regarded in the community. And so it was a combination of wanting to give back and to be intellectually challenging.

And so therefore, I went into medicine and found my way through and looked at various specialties, was looking at general medicine to start with and started training in general medicine. But it didn't actually quite move fast enough for me. I'd looked at anesthesia, I looked at trauma surgery and then ended up in intensive care. Why? Because it moved fairly fast. It needed some fairly solid decisions, but also some people could manage to work in intensive care and some people couldn't. It's a pretty challenging environment for some. I found that I could do it, so I thought that it was appropriate that I step into that space.



Rebecca Griffin - Host

You've moved down into the research path over time. What took you there?

Dr. Brent Richards – Guest

If medicine's to advance, it must keep generating new knowledge. We want to find a better way of doing things. And in many ways it's that, that I kept looking at what we were doing. You go, "There's got to be a better way. We've got to be able to find a better way." And research is the primary pathway that's put up for that.

Now, I also felt it was definitely a responsibility, particularly working in a tertiary organization, that research needs to be fundamental to what we do. Because if a tertiary organization's not doing research, then who is? So it was very important to me that research was a fundamental part of tertiary practice. Because if we're going to do the best for our patients, it's about that we are in a continuous improvement environment.

Rebecca Griffin - Host

And as I said in the intro, Brent, you are the Medical Director of Research Commercialisation at Gold Coast University Hospital. What does that mean? What is Research Commercialisation?

Dr. Brent Richards – Guest

Most people think of it as commercializing research out. I see it in both ways, which is commercializing research in as well as out. I stood back a few years ago, started as Medical Director of Innovation, we found AI and then into research commercialization, because I thought innovation's fine, but we've actually got to do something with it, which is we've got to bring it in. And I started to realize there was quite a separation between researchers and innovators.

Researchers and innovators are not necessarily the same person. Researchers tend to be on a very serial risk-averse process, looking at projects that runs years to decades, whereas innovators tend to be much more agile, looking at things that run months to years.

And I began to wonder if some of our issue, in terms of translating research into practice, was because we were focusing too much on the research side and not enough on the development and the innovation side. And that maybe that we weren't giving the innovators, or the people with a more innovative mindset, the opportunity to work with the researchers to bring that research into practice in a much more fast and coherent way.

And I realized on my way through, in all of my training, and I mean I've been an executive director, I was, yeah, sitting across a \$100 million budget, but I realized I didn't know how that world worked. And so I



spent a lot of time trying to understand how the world of startups and SMEs works, so that I could then see how we could start to really work in that research commercialization space.

Rebecca Griffin - Host

And what about your particular research interests? What area have you been interested in?

Dr. Brent Richards – Guest

Most of my research has been around data. I've spent a lot of time in the world of I'll call it commercial research, which is doing research with big pharmaceutical companies, for example.

Why? Firstly, it helped fund my other research because they pay for that. But also it taught me a lot about how to do research really, really well. When you look at the research that is done by these big companies, it's a pristine technique. It's done dotting every I, crossing every T. And so I learned an enormous amount about how to do research really well. And alongside that, the pragmatics of what was in there.

As part of that therefore, I helped to set up the intensive care clinical trials group nationally. And again, because I felt that for research to progress, it was not going to be 1s and 2s. It needed to be 10s and 20s, and putting as many units together as possible. That's then led me into the world of data, and I wanted to get more and more out of the data.

I actually, yeah, early on in my career, met a guy called Jack Zimmerman who was one of the original founders of the APACHE scoring system, which is acute physiological and chronic health evaluation scoring system. So it's a scoring system for severity of illness and the critically ill.

And I thought, you're finally bringing some science to an area where there's a lot of opinion, but because there's not that many patients per unit, it becomes very hard to get the science to work. So the APACHE started to crystallize who were the sicker patients and who were not from actually numbers. And they go, "Well, this is the power of the data, and using the data, and understanding the data." So I've always worked at that level to try and go into what does a multi-unit research look like, and how can we use the power of the data.

Rebecca Griffin - Host

Brent, what's been your involvement in research commercialization?

Dr. Brent Richards – Guest

So commercial research has been a large part of what I've done over the years, although much of that has been doing research for other people. Which is how most people get exposed to that side of the



business, which is working with, for example, large pharmaceutical companies and bringing in research projects so you can work in that space.

Having worked in that space, I thought there's got to be a better way of doing this, such that, as we get ideas that we can commercialize out. When I looked at it, I realized I had absolutely no training in that space, no understanding. And when I spoke to most of my research colleagues, I realized they didn't either. They were all being asked to translate their research into practice, but they had no idea of the commercial aspects. And I'll use the term commercial on a very broad base, which is can I get someone to fund it in an ongoing basis, it produces the return on investment, so that our health system will actually pick it up and run with it.

And I realized I had no understanding of that space. And therefore I spent a lot of time talking to people about it, going along to hackathons and to datathons to see people, how fast they could move, and how they could think and move in that space, and then to work alongside startups and small businesses in that space, to better understand how that business worked.

And then I got it to a certain level and realized that we really needed to teach people how to do this. And what we've done recently is we got a grant to do a clinician entrepreneurship course, which we're doing in collaboration with Griffith University Business School. So it's a step outside what most people would think, but we're doing it with the business school.

We thought we'd get around 15 to 25 applicants, and we got 150 applicants with one broad email. So we clearly found a market. And about a third of those have got more than 15 years of experience in healthcare. Clearly there's an unmet need and it means some are in healthcare. We've actually left a lot on the table here, because there's a big unmet need of people who want to work in this way, which we're not doing. So that's what we've done to actually make that move a little bit faster.

Rebecca Griffin - Host

Brent, you're also a mentor for the LuminaX Accelerator Program, a leading Australian accelerator run from the Lumina Precinct here on the Gold Coast. The program provides comprehensive support to healthtech startups. What's your mentor role in this program?

Dr. Brent Richards – Guest

So I help as many of these companies as I can, to work between how a healthcare system works and the product that they've got. And to help them to refine their product, and to refine their pitch, and how they would then work with an organization.

I've been fortunate also to work with a lot of tech companies, so therefore I can help them in terms of some of their technical view. And some of that is an overview as to what tech might work within a large healthcare environment and what may not, and what might be better to move outside of a major teaching hospital, and to work in other healthcare environments.



So my role is to sit there and help work through their concept, their ideas, try and refine it. At times it might be to shrink an idea down to a minimum viable product that can be delivered in a reasonable space of time, that they can then sell to a funder somewhere along the way, a venture capitalist who then will want to invest. The message gets small enough that it's understandable enough, and then they can grow from there.

So it's very much helping to breach that space between what can be a very good idea, but sometimes it's people either with very little health knowledge at all, or it can still be health people, but as I covered previously, with very little understanding about what it takes to bring this stuff into a healthcare market and the joys and heartaches of that journey. And so it was to try and refine it enough, refine both the product and the message, to a point where it becomes saleable.

Rebecca Griffin - Host

You've been a mentor since the program's inception. Why is an accelerator program like this so necessary?

Dr. Brent Richards – Guest

It's necessary for a number of reasons. The first is that there are people with really good ideas, however, it takes time to refine that, and it's getting exposure to the mentors that helps to refine that. And there's also process with how you do this, whether it be the legal side or whether it be the pitching side. There's some very tried and true ways of doing it.

And so to move something to market needs a whole lot of machinery sitting behind it that works properly. So accelerators become very important in that, in that they rapidly introduce people to that machinery. And the mentors also often have a lot of contacts, and so therefore it's not just their mentor pool, it's the pool of friends that the mentors have got that they can then introduce them to.

So it's about moving a product into market, because this market is moving really fast and it's not a market where you can sit and think for 2, 3, 5 years. You've really got to be moving fairly fast and keep people excited as you move along, or else someone else may come along and swallow you up. So you really need an accelerator so you can accelerate your speed to market.

Rebecca Griffin - Host

How have you seen the program evolve?

Dr. Brent Richards – Guest

The program's got, in many ways, more mature as time has gone along, in that the maturity in the applications has improved. The view of the world as to what will work and what will not is improving. It varies from group to group, as you would understand, in that each company is slightly different.

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We're starting to see a few more mature companies. Or they're not completely mature, but people who have already got product in a position of the market and are looking to move faster than what they were previously. We're starting to see a few of those coming as well, which is also both interesting and helps both in terms of the program, but also they help each other within the space.

There's a lot of I call it cross mentoring going on between the participants. And so the more diversity, and that's diversity particularly in terms of where they are in their business space, the more diversity you've got in that space, the more of that cross mentoring can also occur.

Rebecca Griffin - Host

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What have you seen in terms of outcomes?

Dr. Brent Richards – Guest

A lot of the outcomes are slow to occur, and the reason is that health is very slow. Health is very risk averse, and in the world of the startup, the valley of death can be long. And so we make sure that people have that expectation in their heads from the outset that the valley of death can be three to five years. They need to be aware of that, and therefore they may need to continue to pivot. Because the market changes, the technology changes, so therefore they will need to change alongside it as it occurs. So it's a slightly different way to what they may be used to, which is create a product and just go out and market it. You've just got to keep running with it.

We're seeing people starting to understand that, but at the same time, we're starting to see more people internal to health starting to realize that not all the good ideas may be coming from within health. A lot of them may be coming from outside, and there's starting to be an appetite to engage more at that space. So I think that we are seeing people coming along with better ideas, better formed, but we're also seeing the market itself mature as more startups come to market themselves and therefore they bring more opportunity. And that's becoming a success-breeds-success concept. So I think that we're going to see this market continue grow, and healthcare to continue to engage more and more in the space.

Rebecca Griffin - Host

And Brent, what trends are you seeing in healthtech startups?

Dr. Brent Richards – Guest



Healthtech startups are definitely jumping on the AI wave, and I think it's a very good wave to be on. The workforce has got to a point in healthcare that we're getting close to where we're at peak workforce. Why? Because the change in demographics in most western countries' populations is such that the number of people joining the workforce is not that far off the number of people leaving the workforce.

So we're at a point where we are going to struggle to meaningfully grow our workforce at the very time in healthcare when the healthcare needs are growing. And that's both the number of patient episodes is growing, it's growing at 5% to 7% a year with a relatively healthy but aging population. So that's growing, and also the amount of information we've got to process per individual, per encounter is growing. And so there's that doubling of need around the work in that space. And if we don't have the workforce to cope with that, then we've got to find other methods.

So a lot of that's going to be based around AI to help us with that core productivity so that we can actually deliver the care that we want to, because we're getting close to the point that it may be AI-assisted technology or AI-assisted care, or we don't get to the care because we just don't have the workforce to deliver it.

Rebecca Griffin - Host

What about the success rate of healthtech startups?

Dr. Brent Richards – Guest

Healthtech startups have a lower success rate than other startups, and it's because of the time it takes to get to market. That valley of death is long. And so you need to be slightly better funded or come in where you've got some initial market penetration already. So there's something that you can deliver and run with.

And we certainly tried to achieve that with a few companies, but the success rate is not high, but it's not high in any startup you tend to come into. It's a space where people really do want to come and work. I've had startups come to me and say, "Look, I'd rather be working on healthcare than improving clickthroughs on ads." And you go, "Well, yes. That's understandable, but the pathway's going to be a lot longer and a lot more challenging. And it's not that you may not have a good idea, it's just difficult to get the penetration."

And there's quite a big gap in terms of knowledge in healthcare. If you talk in the tech space, which is where a lot of these startups are, is that the cutting edge of tech has moved a long way in the last few years, and particularly with AI and nice language models, and it's moved a lot faster than most people in health have seen. And so what seems very straightforward to people who are technologically literate is seen as impossible by many people in health. And bridging that gap of knowledge as to what's possible and what's achievable is actually remarkably difficult.



Rebecca Griffin - Host

What support then do these startups need to really get them there?

Dr. Brent Richards – Guest

I think firstly they need good mentorship, so that's there.

And I think that we really need healthcare organizations to look at working with a lot of these startups in a partnership arrangement. I previously wrote a white paper for government which was on moving from procurement to partnership, because I felt that that was how we needed to move the needle forward in this.

Queensland Government have come out and said that 25% of all government expenditure should be on startups and SMEs. It's never really happened. And I would really like to see that happen because then that's keeping the knowledge economy growing in Queensland, it's developing the people in that space where we need them developed, and it keeps growing that as an industry. And we desperately need that industry to grow and grow fast within Queensland so that we can keep building success on top of success.

We need healthcare, particularly, to look at these as partnership opportunities and tapping into intelligent potential that they may not otherwise be able to tap into. Not that they don't want to have that within their own organizations, but there just isn't enough people on the ground to do that.

Rebecca Griffin - Host

And Brent, how does what you're seeing here compare with what's happening internationally?

Dr. Brent Richards – Guest

Internationally, there are places where it's working very well, so places like Texas Medical Center do a really good job. However, if you look broadly, it's all still little pockets like this. And as to what it takes, it's for a group of people to take that leap, and that's a combination of government founders and people who want to do it and believe in it as a way forward, to jump in and run the hard yards.

I think that Australia generally is not very well supported and funded in this space, unlike what it is, for example, particularly in the US. And I'd certainly like to see more support because I think this is the level of disruptive innovation that we need, which is going to deal with this challenge of our demographic change, which is not quite bubbling to the top as yet. But it's what I want, is for that transition to happen in a smooth way rather than we suddenly hit a demographic cliff and then we have to move very fast. And so I'd rather make this as a more gentle transition.

Rebecca Griffin - Host



And Brent, what types of health tech startups do you think we need here in Australia?

Dr. Brent Richards – Guest

I think that we have the opportunity to build a lot of AI-based products. I think that we are at a point where building things like molecules, which pharma are doing, that's very much in the big company realm. Whereas I think working with data and working with AI products... And that's not necessarily building your own I'll call it large language model associated with AI, but it's working out how to fine tune those large language models, and then to apply them to specific industry verticals.

So Australia's got a very homogeneous industry landscape and a very homogeneous legislative landscape. And so there's a reasonable amount of opinion that we might be the best place to test a lot of things. Now that doesn't mean we just take stuff from overseas and test it, but we create or call it that next tier of products, which is built on the basis of fundamental AI technologies, let's say. And then we show that we can rapidly bring those into an organization, and we can prototype them, and we can refine them, and we can do the research around them to show that they actually work.

So particularly in healthcare we've got a very homogeneous healthcare system, as much as we may fight about as to which hospital's better or which department's better. The reality is that it's a very high quality and yet homogeneous healthcare system. And I think that we could be a major driver for healthcare improvement, for the rest of the world, if we harness that energy and harness that capability.

Rebecca Griffin - Host

Why have you continued to be a mentor in the program?

Dr. Brent Richards – Guest

I probably feel like I get more than I give. It's really great to be exposed to the energy, the drive, the ideas, and it's interesting to listen to the ideas. Not just look at the idea itself, because the idea itself was often either very good or needs a bit of work, but also it then pushes me to think, "Okay, and then what? And then what's next and what can we even do?" And so it's always good to have that conversation to get more people to the table who are thinking in that out of the box, how can I use the technology, how can I make this better. And every one of them you look at and you go, "That's really interesting."

We often say that a lot of discovery is not a eureka moment, it's a, "Oh, that's interesting," and you have a that's an interesting moment, and then you move it along. And you'll often go on a path of discovery with the company so that they're discovering and you are discovering as well. And so I think that that opportunity is really great.

Rebecca Griffin - Host



Yeah, learning and challenging for everyone. We are doing our interview today, Brent, from the Lumina Precinct, which is an awesome health precinct here on the Gold Coast and it's co-located with Gold Coast University Hospital, Griffith Uni, and the private hospital. Are there other types of companies you'd like to see co-locate here?

Dr. Brent Richards – Guest

Certainly I'd like to see more in the data space, which are not just people collecting data but are working with the data, who are much more using the AI-based tools. And how we can bring those AI-based tools in. I think that there's a lot of opportunity in the AI space. We've already got some companies here who are working in the AI space, which is both supporting the development of the AI and working in the AI space.

And I think there's a real opportunity to concentrate a lot of that in this precinct. AI is not just fancy products like reading X-rays, although that's clearly a place that we want to be. But there's a whole lot of supporting infrastructure you can build, which becomes much more efficient and much better if you build AI into it and build on the AI. So I would certainly want to see more in that AI space.

The AI space needs data, it needs people bringing the data in, it needs people managing the data and then continuously improving on the data, such that therefore it becomes easier and easier to build the AI. But then once you build the AI, you've got to get your AI into production and keep it in production, and so therefore people working in that, how do I get this technology into production and keep it in production, which is much more challenging than most companies, and dare I say healthcare understand. And so the more I can see that entire chain of events, or chain of supply for AI-based products, the better.

Rebecca Griffin - Host

And finally, Brent, what is your advice for healthtech startups looking to commercialize their ideas?

Dr. Brent Richards – Guest

Get alongside a clinical group as much as you can. Find a problem with solving which has got a demonstrable return on investment. Understand that you can build a product for one group, but always make sure you build a product which is able to be scaled and able to be pivoted somewhat without too much effort. Because if you over customize for your first customer, you can then end up with a product that's hard to take to your second customer. So you need to be quite agile and get used to moving reasonably fast, but understand it's going to be a lot slower than what you want.

Rebecca Griffin - Host

That is excellent advice, Brent. Thank you so much for talking with us this morning.

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Dr. Brent Richards – Guest

Thank you.

Announcer

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