**Flinders University**

Fearless Conversations
Episode 3 - Digital Health and Technology
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**SPEAKERS**

Brad Crouch, Dr Matthew Liptak, Dr Terry Sweeney, Professor Trish Williams, Allison Nikula

**Brad Crouch** 00:06

Hello, I'd like to welcome our virtual audience today to the third fearless conversations event, a collaboration between the advertiser in Flinders University. It's about being brave and thinking how we can drive South Australia forward in the future and challenge ourselves to position this great success state for success in the future. It will be a series of fearless conversations discussion panels over the next 11 weeks on topics such as high tech innovation, tourism, infrastructure, health and more. For each we've assembled a group of thought provoking leaders to pose a series of questions to explore their views on the opportunities and challenges we have in relation to each topic. Today we explore medical devices and innovation and how it will influence South Australia today and in the future. Feel free to join the conversation through Twitter using the hashtag fearless conversations are in the common set comments section on advertiser.com.au. So thank you for joining fearless conversations. I'm Brad crouch, the health reporter for the advertiser, and I'll be facilitating today's discussion and encouraging our guests to be brave. Before I introduce today's panellists, I would like to acknowledge that we have meeting on the traditional country of the Garner people of the Adelaide plains and pay respect to elders past and present. We recognise and respect their cultural heritage beliefs, and relationships with the land, we acknowledge that they are of continuing importance to the Garner people living today. And we also extend that respect to other Aboriginal language groups and other First Nations. So we welcome our panellists and I'll introduce them for my adult starting with my left dr. Terry Sweeney, Chief Executive of the $200 million digital health Corp CRC based at the MIT living lab at what 14 terrorism adviser to the G 20, the former global Managing Director of IBM healthcare and went from selling his first startup at age 16, to selling his last two IBM for $400 million and his adult as is in Adelaide to run the world's largest digital health cooperative, taking a slice of the $200 billion global digital health industry. Welcome, Terry. Thank you. Then we have Professor Trish Williams, Professor of digital health systems at Flinders University and author of more than 130 medical information security and safety publications. She's the director of the Flinders digital health research centre, and the Cisco Flinders digital health Design Lab and digital health IoT lab and is a national expert on health informatics security and medical device standards or countries. Then we have Allison Nicola, who founded the award winning app care app. This is technology that links families, carers and people in care and occupational therapist, she was leading a team of 440 people when she was inspired to develop the app, but the personal experience of her own grandparents needing a little support. Allison's family wanted to be active contributors to their care, but found communication was fragmented. And in the end, we have Dr. Matthew libtech. an orthopaedic surgeon who specialises in knee and hip arthroplasty, and sports injuries, is member of the Australian knee society, a prominent speaker at national international meetings, and as many would know, a former professional footballer who played with the Adelaide Crows through the golden years of the 1990s and was a former club champion. As such, he was driven by Team success. He has collaborated with the Flinders University Medical Device partnering programme with the digital health programme the maximum scape and evidence based TGA approved safe and cost effective, e health transportable, but poor sorry portable at home rehabilitation programme. He is currently in the process of commercialising it and bringing it to global stage. I'm sure anybody with a wonky name or want to know more about this one. So welcome to high calibre team. Let's Let's dive straight in into the discussion. Now we're living in an age what seems like an exponential rise in technology vividly shown by the rapid development of COVID vaccines, including mRNA vaccines, which no one had heard of seemingly five minutes ago. So Terry, can I start with you? It's a huge topic, but what opportunities are on the horizon that would benefit South Australia?

**Dr Terry Sweeney** 04:12

Yeah, I think for me, getting insights from all of the data that's available. I read something recently from a McKinsey report that says that a typical healthcare organisation only uses about 15% of the information that's within it to an organisation. And I think in 2021, that's quite quite shocking. But we're now at a point with technologies like artificial intelligence and machine learning. That really, you know, the most advanced AI now can read 800 million pages of unstructured information per minute. We've got the technology to really assimilate that information very, very quickly, and drive insights for our our frontline healthcare workers. So AI and machine learning is certainly something that really excites me.

**Brad Crouch** 04:56

Okay. When we talk about AI, it seems to be double edged sword seems to be exciting, but also we're worried that machines are going to take over the world. Trish, can I ask you what these are these developments, job creators or destroyers for South Australia in the future,

**Professor Trish Williams** 05:11

they're definitely job creators. There's massive opportunities when you look at digital health and digital technologies, because it incorporates all sorts of other disciplines that haven't been in there before. So in addition to the clinical aspects, we need people who have computer science, Information Science, health informaticians. So really across the board, we need a whole range of different people and skills to be able to deliver on those and that those are high skilled jobs aren't they are they are very high skilled jobs and are having some experience in healthcare particularly, is one of those Nexus that is quite difficult to get. So you know, we have clinicians who want to, you know, do more technical things, you know, like Matt, and then we have a whole nother generation of people who want to be able to do computer science and Information Science type of activities and have those skills, and they need to apply them in a context and healthcare is a fantastic opportunity for those. And this would be an area where we've we've gone through the pandemic where 70 people were working from home, and suddenly they're realising Well, I can work from home from here on in, or I can work in my country property, or I can work out in the bush, can we set up a community in South Australia that is providing digital health care and resources and opportunities worldwide? Absolutely, I think we can, because we've already moved into that era of doing things in a very virtual environment. And so being able to just to translate that and have communities of practice, you know, in healthcare, we already have a lot of those. So whether it is in the clinical field, whether it's in things like you know, running from the CRC, or the digital health agency, all of those sorts of organisations really helped to bring those people together. And I think there's an opportunity there for South Australia to be able to do that.

**Brad Crouch** 07:04

Okay. Allison, you've filled a niche that didn't exist a couple of decades ago, not that long ago at all with your care, which links, people in care with the carers, their clinicians, I believe, but most importantly, their family. So everybody's in touch. And again, this is technology that my mother's in care herself, but she's within walking distance of me, but I know other people that their loved ones are in the state. And in this era of lockdown, that's a nightmare for some people. Just just explain how this sort of technology is helping the man in the street, the families in the street?

**Allison Nikula** 07:40

Yeah, it's a really powerful piece of technology. I mean, when we think about healthcare, one of the things that I think we need to consider is wellbeing, you know, living with purpose, living with meaning, being connected, being engaged, you know, it's not just about meeting, you know, basic medical needs. And one of you know, the important parts of that is social connectedness. And we know, you know, through the literature, the stronger person's network of support, the better the health outcomes are. And, you know, in this day and age, we can't all be geographically living close to one another. My family, you know, is dispersed, not just interstate but but overseas. And using the power of technology, we can actually bring people closer together to provide that connectedness to provide meaning purpose, engagement, and support people to continue to live. Well. This one, one hiccup with this, as I say, my mother's in care, she's got a mobile phone, but not the internet. My mother in law is 90. She lives at home independent, doesn't have a mobile phone at all. Yeah, they're the ones who may be the missing link in the technologies. How do you address that sort

**Brad Crouch** 08:49

of thing, the problem with people who are old and just don't want to be involved in that sort of tech?

**Allison Nikula** 08:54

Yeah, I think it's really interesting. Something that we pride ourselves on at careapp is being ahead of the curve, but not so far ahead of the curve, that it's fanciful. And we've got people using careapp that are 85 years of age plus. And the reason that we've been able to do that is because we've worked alongside hand in hand with our users, and orientating them to, you know, probably one of the most simple user interfaces, you will, you know, you will say there's a big orange button, orientate the person to the big orange button, and they're away. And so, you know, I guess, what we need to do is, you know, be ahead of the curve recognise that, you know, people their technology literacy is going to be increasing. We know that the fastest adopters of social media and the like, are actually, you know, plus 55. And so I don't think we should underrate people's skills in this space. It's about holding them here holding their hand and, you know, bringing bringing them along for the ride and demonstrating the value on what's in it for them. Threatening it. It's not It's not scary.

**Professor Trish Williams** 09:56

Can I can I add a comment and I think one of your First question was, you know, a really good question about what's on the horizon. And, you know, we have Welcome to the, you know, age of new technology. And what we have all of the ability now to be able to have devices that in the future will become, we won't see them you won't, you know, you'll have, we have phones, we have cameras, we have voice recognition, facial recognition. And there will be a point when all of those devices become transparent to us. And they will do things for us in the way that we want them to do it, the monotonous tasks and you know, being able to have instead of having to press a button to talk to somebody, that you will be able to do that by, you know, being those things being embedded in your environment. But there's a bit of a jump for us to get to that, because we actually have a lot of that technology now. And people like the CRC are looking at, well, how do you take all that data and make it do those things, but as human beings, we often get in our own way. And I think that it'll be a bit of a slow adoption of that, because change is very difficult for us. And, you know, taking on a whole lot of technology all at once is also quite confronting for people. But when we do it, we'll have it will be a game changing sort of thing to do, because that will just be there, and it will do it for us, it's not going to take over our lives, but it will be able to have opportunities that we don't have now.

**Brad Crouch** 11:27

Okay, that sounds like some of the technology that we now take so much for granted. Absolutely. TV sets. Go back 500 years and people who've gone. So, say the opposite. Matthew, again, sticking with this idea what it means for people in the street, your maximum scape project, what should I understand is this is is a physio therapy at home through technology. So it's a

**Dr Matthew Liptak** 11:53

form of home physiotherapy that provides a self responsible, tangible benefit for the patient to take on. And we are using digital digital technology and acknowledging digital technology as a form of allowing patients to do this. Just going back to you know, the Health Solutions that we're all trying to provide, we're trying to provide a connective health experience. And that connected health experience is really important for all of us to be aware that each of us can play a part in building that experience, and tailoring those experiences for each of the stakeholders. And in particular, the end user or in health, the patients. And that's what we're trying to achieve is some really good patient outcomes using digital technology at a cost effective and safe environment, which is what the maximum scope does. It's a it's a solution for a problem that I forced foreseen in rehabilitation, and in particularly relevant the current environment, we're going to rehabilitation or accessing physio therapy, or hydrotherapy, or the normal standard care has become very difficult. And in fact, some patients do not want to access that for fear of COVID. So we can use technology to our advantage. But getting back to truth, we need to educate all the stakeholders and that education is really paramount in building this system. These systems

**Brad Crouch** 13:19

change like the pandemic may have accelerated. That move, we've seen the quick growth of telehealth, as you say, people don't necessarily want to go to their health providers because they are either in lockdown or they're just worried about going out in the community. And as I understand that, this programme, if I can dumb it down to my level a bit, it's I do many of the operation on undergoing physio therapy, but I can use this system in my home or take it on holidays. Yeah, it's

**Dr Matthew Liptak** 13:49

been coined as I can go on my rehab holiday. And basically they can they can get, they can see their progress on the screen, with their phone with their app. And with their smartwatch. And it allows the patient to be responsible, they get gamified, which is the term that we've all started to know and breathing in digital technology, they gamify their rehabilitation, they want to get better, they can see how they're going over a period of time, simply their medical supervisory team can look down upon them. And with that coordinator approach, allow the patient to get where they want to go. And then set clinical outcome of having a good rehabilitation programme following good surgery. And I've always addressed to my patients that outcomes are driven by 50% of surgical intervention and 50% of the rehabilitation and if you get the rehabilitation, right, you are well advanced. So using the maximum scale as one of the alternatives and I'm not going to brain it as the sole alternative. But one of those alternatives does provide a global solution to a problem and and the the doctor or the physio or whatever is part of the system so that they can see Well, you're not Using it right or you've going off track here and absolutely. So there is some red flags that come back to either the physio therapist will his medical supervisor and team that will then contact the patient say, hey, you haven't done your exercise for two or three days, how are we going? Or you're doing well. And on the regional patients, they can see via telehealth as well ringing and say, hey, let's get going if you're not quite there yet.

**Brad Crouch** 15:24

Matthew, I've got to ask you this one because I was a big fan of the bionic man when I was a kid, where we've got an Adelaide company that's working on a bionic eye, which is one of the holy grails might people see again, sure. How far are we from a bionic solution or a device or technology that will have that other holy grail where we can move wheelchairs

**Dr Matthew Liptak** 15:45

away, not just the knee, but that I think, I think we're a long way away from that at this point of time. However, there's certainly some companies that are developing anatomical models that will help surgeons to advance in the future. There's but to get the bionic for your eye. If we lose a limb, I think we're so that that's certainly a long way off, still still going to survive. We can work towards these things.

**Dr Terry Sweeney** 16:11

I think I just add to that, and then match absolutely right. And I don't know too much about eyes in sight. But we've done some work quite recently, with capturing brainwaves to move an artificial limb, for example. So we now have the ability to clench your fist, open a fist, turn our artificial limb, by using brainwaves in the same way that we can. We, we hooked up radio control the robot from from Star Wars, which we can control in terms of moving forwards, backwards, left and right, using using brainwaves and other capturing of brainwaves. So I think that you're right, there's a long way to go. But it research the edge at the moment, there's there's a lot of really exciting developments happening in that field of using our mind to control a physical device.

**Brad Crouch** 16:53

This is this also where the idea of big data comes in where you've got these supercomputers and lots of data. So instead of some guy just sitting around sort of coming up with an idea and working down on a pad, you turbocharging the research through that digital technology

**Dr Terry Sweeney** 17:07

is brought, I think, read really interesting stat the other day, that of all the data that exists in the world today, not just in healthcare, but all of the information that exists in the world today. 90% of it was really created in the last two years. So we've got this exponential growth in information, healthcare data doubles every 73 days. So it's this new technology that we can use to harness it and, and drive better, better decision making. And I think, when we talk about decision making, using the information and the technology to derive insights from that information, it's very much a partnership between the human and the machine. I like to often refer to artificial intelligence as augmented intelligence to get over the point that, you know, we're it's a useful tool, but it's a tool that will provide insights from all of that information to a human to ultimately make a decision. And I think it's that partnership between the two is an important distinction, especially when it comes to things like the ethics of AI and new technologies.

**Brad Crouch** 18:08

Okay. Just Just obviously, some terrific opportunities for people who have diseases and accidents, so forth on the horizon. But, but also, technology as far as improving patient safety, yeah, my understand patient safety incidents cost over $4 billion in 2017 18. And you're, you're trialling a predictive harm algorithm in some of our major hospitals to try and reduce adverse effects. This, this seems another area where technology can prevent problems. Yeah,

**Dr Terry Sweeney** 18:42

let's expand on that a little bit is very much that kind of prediction and prevention. So we will now be able to develop models and algorithms that not only detect an adverse event when it happens, but actually be able to predict it in advance of time. So a clinician and a healthcare professional can intervene early. And we think some of the flow on effects of that might help with things like ramping and without issues in, in, in in people presenting to the Ed and capacity problems in our hospitals, where if we can predict an adverse event in advance, we can intervene at the place where that person lives. Often you'll get better clinical outcomes, it's more convenient and more comfortable for the patient. But often it will it will reduce or eliminate the need for that person to present to a GP or, or or or an emergency department.

**Brad Crouch** 19:33

So this trial, I understand it's in hospitals and it's things like patient medications falls and so forth, is the trial with an aim to also be in people's homes or aged care facilities.

**Dr Terry Sweeney** 19:46

It is ultimately it's we're looking at it in an ED so we're doing some work with the Royal Adelaide Hospital and Flinders Medical Centre and others and it's actually around how we sheduled our workforce to respond to patient in need and the risk that that can that can bring up. But ultimately, also the ability to you know, if we're prescribing a drug in a hospital, to an individual patient, let's use the technology to look at that patient's history, the drugs, that they're on the conditions that they have to try and reduce some of those in bad interactions, drug interactions and adverse events that you you mentioned at the top of the question, Brian?

**Brad Crouch** 20:27

Allison, is your carer go down that path as well sort of keep an eye on meds and that sort of thing?

**Allison Nikula** 20:32

Yeah. So it's a it's a really interesting conversation to have. So Kara, you know, I guess healthcare has always been retrospective, like looking at, you know, people's, you know, past behaviour or past health conditions. And I think we're, you know, at a point now, where we can look at healthcare in real time, which is great. And we've got, you know, fitbits, and other sensor based technologies that's looking at healthcare in real time. And that's really, really powerful. I guess the next step is around that predictive technology. And I guess what I'm hearing, you know, from your conversation, Terry, around medication management, and ramping, etc, I think that's, I think that's really fascinating in terms of supporting, you know, the healthcare system, what I really love about, you know, predictive technologies is getting in early so that people can stay at home so people can stay, you know, enjoying the things that they love. Ultimately, what I what I love about this digital health conversation is it's so person centred, it is so about, you know, continuing to support people who are ageing, people with illness, injury, disability, to, you know, remain at home, remain in a place that they would love to live. So, you know, I guess kerap is right at that cusp of we brought a, you know, healthcare into real time. And now we're working with our partners to look at what does that look like with, you know, predictive based technology? What does that look like with integration with sensors and ultimately with with some AI,

**Professor Trish Williams** 21:59

and I think, you know, moving on from from your point, in fact, what you've just said, too, is that we can do a lot of those things now. So, you know, mentioning about the ramping and the hospitals, a lot of EDI is clogged up with people who have chronic conditions. And we have the ability now to do a lot more monitoring, whether it's, you know, from your Fitbit, or you know, medical devices that you can have at home, that actually help and prevent some of those admissions. And I think that's what we need to engage in more and take on more of that adoption of technology, so that people can be doing that at home, and you will then have less people coming in to, you know, towards the middle, there's always the things that we have a lot more technology that is portable. So you know, people themselves become the point of care. So you can do blood pressure monitoring. You know, we have mobile ultrasounds now and we have mo you know, maybe we'll have most mobile cat scanners, those sorts of things and, and the more that you can bring that into where the patient is, and their bill for providing care when and where it's needed, rather than having them come into the hub of where we provide care, then that will change that balance of where people actually get their health care from and hopefully alleviate the problems that we have in EDI.

**Dr Terry Sweeney** 23:20

And I think Alison and Trish at the nail on the head, whether the real time or near real time feedback from the technology to intervene or take an action. We with the CRC we're talking about, you know, the term wearables and actually we like the term think bubbles, you know, right? Right now my, my Fitbit is great, right, and it can capture a lot of information. If it wants to do any kind of heavy processing on that information, it goes to my the app on my phone, if it needs to do any more than that, it goes up to the cloud into some of that, that number crunching and Brad, you mentioned supercomputers and with quantum computing, computing, you know the the require a power plants worth of electricity to do that very, very quick and intense calculation type work, but with with thinkable, and there's a real push now to look at microprocessors and chips that sit on the device that that are based on the neural networks of the brain, and we're calling it brain inspired computing. So the next generation of microchips being designed on the neural networks in the brain. And you know, the brain requires about 20 watts of electricity, which is not a lot to do all of the amazing things that we can do. If we can harness that and put it onto a chip and have the chips in these devices, then not only are we going to get real time feedback, but we're going to get some of that predictive feedback. So if you have epilepsy and there's a danger of you having a seizure, or you're an elderly person, and there's a risk of you having a fall, being able to be told in advance that this may happen so you can get to a safe place. thing is going to be a fantastic breakthrough.

**Brad Crouch** 25:02

So we we really are talking about saving lives. But can you? Can you quantify that in any way? Well, I mean, we talked about the four point billion dollar figure some years ago, patient incidence is is there a sort of ballpark figure on what we could aim for with our lives and money

**Dr Terry Sweeney** 25:21

in terms of money? It's an interesting one, I think, you know, the global cost of chronic disease is about $47 trillion. The most, you know, when we see a chronic disease, we're talking about diabetes, type one and type two, hypertension, cardio, cardio metabolic diseases, like like heart disease, and even cancer care, $47 trillion. So the ability to use technology to take some of that cost out of the system, I think, would really help. And we also think about the waste waste in the healthcare system as well, globally. 30 cents in the dollar that we spend on delivering healthcare services is wasted because of duplication, error, fraud, and abuse and other reasons. So we also have the ability to drive that cost down as well. I always get a little nervous when it's when I talk about technology saving lives, because I'm not sure I'm bold enough or fearless enough. We're going to save lives, but ultimately it will and we are absolutely

**Brad Crouch** 26:24

alright. And the other thing too, this is quality of life. Matthew, getting getting back to your thing. We've we've gone, an era of elderly people being benefiting, particularly from hip replacements, but the knee is the big one for so many people shedding to a certain age, are we looking at a major breakthrough in quality of life with the provements such as the technology to do your rehab?

**Dr Matthew Liptak** 26:49

shorter? Yeah, absolutely. There's a quality of life is improving year in year out with shine with that with, you know, the the age bracket enlarging as we go along. But technology is amazing. Digital technology is expanding at such a rapid rate and Terry's right, there's just so many platforms for this, that we have to make sure once again, I'm just going to bring it up that this each stakeholder is aware of what's going on the education processes there. Because as we build and spend a lot of money on each of these digital platforms, we might find that it actually sounds great, looks great, but doesn't work on for the Down to Earth mom or dad or grandma or grandpa parent at home. And so we have to have their engagement as well. Getting back to knees itself, yes, we're developing better quality surgical outcomes all the time. But once again, is what we're developing safe, effective, as good as what we're doing before and cost effective. And right now, the health systems being inundated by many, many other avenues of cost, costs, and the cost effectiveness of each of these avenues needs to be put into place. And I think that's where our current HTA health technology assessment group really needs to come into play and just make is aware of all these technologies, and really rigorously looks at them correctly. Because we were talking about this, we're talking about Terry's Fitbit, currently, all of us a currently or a lot of us wearing wellness devices, but TGA needs to get approval for these for those to be looked at as a medical device or medical outcome. And currently they're not. So we do need to work together with technology to expand on what we're hoping for is better clinical outcomes and being able to actually profess that they are

**Brad Crouch** 28:50

alright if you've raised something which was moving on to in the in the spirit of being fearless. Technology can be real done. Sometimes we had si health electronic patient record system, a passive blew out by millions and millions of dollars. Ease light, it was dumped halfway through introducing it to the Royal Adelaide. It's been partly salvaged. But it was a case of technology being a bit of a dud, and most importantly, clinicians didn't like it.

**Dr Matthew Liptak** 29:19

So may I say to that? Yeah, I'm one of the clinicians that didn't like it. Yep. So however, the clinicians that was introduced when it first came out, and that repair hospital is one of the first hospitals that he was introduced to him. Going back to the stakeholders being involved, clinicians weren't involved in the build. And as the Commission's are the primary users of that system, it was very clunky and it actually changed our behaviour. To the extent that patient care may have been a detriment, particularly in those first early years. If I just go back to time spent per patient, my time spent per patient was two to three times More using a pet than using just previous technology. And think about that and healthcare costs. Think about them patient time. Think about that with clinicians not quite understanding how to put all their notes together and potential loss of notes. Yep, that was occurring more and more commonly than what they would have hoped for. And as they found this clinician barrier, they did find a way to make it a little bit more easy, but it's still quite a clunky system, which I still currently use it no longer hospital and often I find myself swearing at the screen.

**Brad Crouch** 30:46

Can I just could I throw that to you? How do we find the balancing technology beyond the past, which is summed it up pretty nicely if making sure conditions are in front of patients rather in front of computer screens for most of their day.

**Professor Trish Williams** 31:00

And you pass is a good example, in a way because, you know, there is still a level of major IT projects that affect 50% of them don't go very well or fail still. And there's a whole raft of reasons why that occurs. Terry, I'm sorry, that, you know, mentioned that the conditions involvement. The majority of the problems start at that very early stage where things are not sort of contextualise, you don't have the right people in the room at the very beginning. And, you know, it's that we all know about project management and those sorts of things, but pulling the right people together, and then saying, Well, how are we going to use this in healthcare not? I have a product, and it's absolutely fabulous, and you need to use it. You know, I first started writing medical records systems in 1986, a long time ago. But the you know, we had to look at how do you practice medicine? And then what can we help you to do around that not, I have a great solution, and I'm going to give it to you and you have to change what you do. Because whilst we're okay at changing what we do, if you want to have access to your money through your bank account, you have to do it the way the bank tells you to do it, or you don't have access to it. You cannot do that in healthcare. That is not the way healthcare functions, we have to do the things so that it fits in with what the clinical workflow and processes already are. And that is where I think, you know, the majority of projects fail in healthcare, especially very large ones, because we're not addressing that upfront.

**Dr Terry Sweeney** 32:33

Yep. And I think bra Trish, Trish is right, that, you know, we embedding the technology in the in the workflow that the doctors and other healthcare professionals are doing on a daily basis is critical. There's a real buzz phrase around now in digital health, you know, putting the patient at the centre of everything that we do, and we're getting good at that. We don't talk about putting the clinician at the centre of everything we do. So we you know, we develop solutions and our ivory towers. So then when it hits the streets in a hospital or a primary care facility or an aged care facility, we're surprised why the professionals aren't on on adopting it. The other general comment I would make about EMRs. And you know, all scripts is no different. Cerner is no different to epic, and we have a patchwork of those around Australia. We can talk about why we have one in each state versus actually just having one for a population of 25 million. I did, I did a pilot around EMR health data in China. And the pilot involved 47 million patients. So you know, we've got a country of 25 million. This is one of the problems I feel as an outsider coming back into Australia is the state versus federal policy and where, you know, we can talk about vaccination management, remote systems, where, you know, we have Microsoft in Queensland and and Victoria and we have Salesforce and web and every state's peon 789 $10 million. Why don't we just have one for the entire country, and then we can manage it a little bit better. But I think one of the one of the misconceptions about EMRs is it's a system of record. And I think when people get an EMR, they think it's a health data platform. And all of the insights and capability that comes with that. You don't really get that from an EMR. It's a good building block. But it's only a building block. So I think it's been it's, you know, they've been sold or they've been hyped as being something that they're probably not so they end up being a bit underwhelming because it is just a system of record. But the smart thing is, well, now we've got that data into an EMR. What are we going to do with it? And I think that's where the value comes, not necessarily in the building block of an EMR. And I agree EMR implementations shouldn't cost that amount of money. Yeah.

**Brad Crouch** 34:46

Elson with with your app, did you involve clinicians or aged care? carers, that sort of thing?

**Allison Nikula** 34:53

Yeah, excuse me. Absolutely. So cap is built for the people and the people who support the people. Every decision that we make, that is front and centre of our mind. And I think Terry, like that, that conversation around records management and designing and clinician use is a really interesting one because the end user of digital health technology, or not generally the purchases of the technology, right, so when we're designing technology, you know, you can kind of design thinking, Oh, you know, I'm going to design, you know, for this provider, and they will love these features, because they're going to purchase, you know, our, our piece of technology, and maybe that can cloud our judgement around our design decisions, because we want to create something that's going to be purchased, you know, by, by the organisation, by the healthcare system, etc, when in fact, what we need to do is keep the patient at the centre, keep the client at the centre, and the people who support those people at the centre of all of our decisions. So the very first thing I did with with careapp was I invested $3.50, in careapp, and I took a care worker out for a coffee at chibo at Norwood. And that's how carepp started. it was with a $3, $3.50 and cappuccino, probably $7. Because I bought two at chibo. At norwood with a few sketches on a piece of paper with a 17 year old care worker and like, what do you think, and that's how it started. And every single day, I still speak with our users, whether that be family members, whether that be disability support workers, whether that be lifestyle coordinators, or what we call joy makers, the joy makers within aged care. And then of course, a decision makers who, you know, ultimately, you know, sign the contract to use careapp within their organisation. But the fact that, you know, we have those conversations every single day, and when it's suggestion is made, we actually bring the user back up and say, Hey, thanks for your suggestion has just gone live. And so we continue those conversations, I described kerap as perfectly imperfect. And that's because we continue to iterate with our users and learn along the way. Okay.

**Brad Crouch** 37:04

Trish, we're talking about the masses of data that's out there. And there are masses of private health information floating around, somewhere out there, I'm not entirely sure. vaccine passports are a hot button. Topic at the moment. But But people are worried about the privacy and the medical records having to show their medical records or medical records possibly being in the hands of the local pub, to get in. And and that speaks to a wider issue. How do you balance innovation and cybersecurity in this era of digital technology?

**Professor Trish Williams** 37:37

And that's an interesting question. I think there's there's several different facets to that. One is we we obviously have legislation around in your first point about what you can use data for, who can use it, who can change it. And so there's a level of protection there. And healthcare, particularly all of those regulations apply to what you can do with people's health information. But there is a sort of a caveat to that. Because as a person, when I'm well, I don't necessarily want people to have access to my data, you know, I don't necessarily want it splashed on the front of the advertiser. But when I go into emergency, I don't care who looks at my data, I want anybody who can fix me to look at it. So, you know, the privacy types of aspects are actually quite contextual, depending on what's going on. But we do have to have an overarching framework around how do we protect people's data, because, you know, confidentiality of data leads to privacy for the individual. And so when we look at that, and we look at innovation and cybersecurity, then we need to make sure that those sort of considerations are looked at at the very beginning of developing a product and what is, you know, what is the consumer going to have to give that product to what data they're going to have to give? And how is that going to be protected? And what's going to happen with that? And I think because, you know, apps are a really good example. You know, there are there are over 100,000, health, just health apps, there's no medical ones. So, you know, if you want to use an app, it gives you a screen at the front says you need to agree to all this 99.999% of people never read it. They go yes, I want to use the app. Okay. All right, and which is, you know, all of us do that. But what we don't understand is what that will happen, what will happen with our data when it comes to that. So there is there's a new international standard that that I've been contributing to, that looks at doing a bit like a food label for apps to say, is it reliable? Does it have quality of that particular Health app because health apps are not regulated by the Therapeutic Goods Administration, as medical devices are? And so as a consumer, you actually have no idea whether, you know, when the app says it's going to be able to help you Monitor, this isn't actually going to be able to do it. And I think this comes back to your conversation of there's, you know, what happens between apps and you know, other devices that you want to use to improve health, but they're not making a clinical decision. So they don't come under the regulations. And I think navigating that for, for everybody is actually quite difficult to do.

**Dr Terry Sweeney** 40:24

Right. I couldn't agree more with Trish. And I always get a bit of a wry smile. When I think about privacy and security and sovereignty, when it comes to our health information, the amount of stuff that we put on social media, you know, half a billion tweets around the world per day, over a billion interactions with Facebook per year. And we're putting pictures of our kids and personal in our house, our houses and things online. We get pretty scared when it comes to health information. But, you know, we look at the rollout of My Health Record, I wasn't living in Australia at the time, we're looking looking from the outside in, you know, I think the concept you can argue with, right, if I'm in front of my oncologist, and I've just been diagnosed with stage three prostate cancer, do I want that doctor to have all of the information available at their fingertips to make the best possible treatment decisions for me for my rate of survival? Of course, you can't argue with that. So the ability for that person to have access to all of that information, and the care team have access to that information, no one would argue about it, we shouldn't be having the conversations about can this person see it, can that person see it, if you give the power to the individual, it's my information, I can determine when I tick the box for you to be able to access it, and under what conditions in what context, you can access it. It's empowering the patient as a consumer, you know, I bought these jeans on three weeks ago on Amazon. And when we think about the patient, as a consumer, it's a beautiful experience shopping on Amazon, I go in, it makes me one of the I know it's using my information to upsell and cross sell to me. And I kind of like that, personally, my choices is that and I want the ability to do that with the health system and how I interact with the health system. Because we're not the consumer is not king or queen and healthcare, it's probably the last industry where I go to my GP, I can't even book an appointment online at my GP. So I know my appointment is at 11 o'clock, I'm still going to be sitting there at 1145. Because I've got no way of tracking, live tracking where that GP is at. So I can get some of that time, some of that time back. So so that and we accept that kind of secondary service. So I'm happy to tick the box to see use the information as long as I control.

**Dr Matthew Liptak** 42:45

So in other words, that connected retail experience, you're loving, you're loving, because you're not giving that information, that personal information. But you're wanting that connected health experience that we're all suggesting that we're trying to build, or find a model that suits all of the stakeholders. And I think that's the really difficult part is navigating through the regulations, as Trish said, the wishes and wants for the for us as developers and for the providers or the patients we're providing for. And that's a really difficult time as we're exponentially finding that there is new, a new innovative technologies that enable us to be able to provide, but can we provide it in a safe, cost effective and effective way? I think that's what we're trying to do.

**Allison Nikula** 43:30

I think we're at this like generational change, like, yes, we're not the kings and queens of our healthcare experience at the moment. But I actually disagree. I think we want it I think the appetite is absolutely there. And I certainly think about my parents who are in their 70s and still in, you know, very good shape. But they're absolutely, you know, putting all the steps in place to make sure that they're, you know, Chief in charge of their ageing experience and their health care experience. But we still have that generation before them that are accepting of that. I don't think we are though, but it's how do we go about, you know, giving people you know, choice and control? We don't know how to do it yet.

**Dr Terry Sweeney** 44:11

Yeah, exactly. And I think I'm excited about the Australian health system moving from a volume based to value based, you know, in the US 50% of healthcare is value based. And that's why there is more consumerism in healthcare in the US whether some question the cost 17% of GDP versus 9% in Australia for delivering healthcare services. But but that value based care, you know, who would have thought? How do we measure how effective the delivery of that health services or the experience, ask the patient, so we're now starting to see things like we call them prompts and prems patient reported outcomes patient reported experience, where we ask the patient, how was your experience with that hospital visit or GP visit? Do you feel like you had a satisfactory outcome and if not, you You know, the financial model that sits behind that where we see in the US, for example, where if someone's readmitted to the hospital for the same condition that they went into initially, that healthcare provider is financially penalised, and they don't get the the reimbursement. So I think there are ways we can incentivize the system to be much more focused on value based care. And I think we were starting our journey in Australia, but right now, it's still activity based, I deliver a service, I get reimbursed for that, regardless of how good but bad or indifferent that services.

**Professor Trish Williams** 45:31

And I think that, you know, to that point, too, we still have quite a paternalistic view on data in healthcare, that, you know, we, my children, are not suddenly going to turn into me when they're 40. Probably, they're probably very happy about that. But, you know, we have legislation that stops us from, you know, you can't access the healthcare data, you can't put it somewhere else, you can't do this, you can't do this with it. But, you know, as you've just mentioned, that other younger generation is quite happy to share all sorts of information, they actually don't really have that same view of it, that we do, not that they don't value it, but they don't consider it in the same way that we do. And we are using laws for I'm going to say my generation probably, but in fact, you know, those younger generations don't look at it in the same way. And that is very slow to change.

**Brad Crouch** 46:25

But that might change. If a hacker gets hold of your information, though.

**Dr Terry Sweeney** 46:30

You're brought out the way I the way I answer that comment is, you know, I use I use Westpac and CB banking apps on a daily basis. Could a hacker hack into my bank account steal my money? Absolutely. Do I worry about it? I do. And so yes, we want to have the right security in place. Absolutely. No question. But I don't think it should be a consideration for us on a daily basis.

**Brad Crouch** 46:53

All right. We've got a question come in from Dr. Gareth Ferber therapeutic relationships, the quality of relationship between the client and treating practitioner is important, particularly in mental health care. How might we make digital health tools that maximise this therapeutic factor?

**Dr Matthew Liptak** 47:11

Typical one, isn't it? Yeah, no, I think that's all. Yeah. That's right. You know, from a clinicians point of view, it's always difficult to have a relationship with your patient that is there, you're dealing with a patient's problem there. And then to have that ongoing relationship, and particularly with mental health would be important. But to get and build those particular programmes, I'm sure people are doing this. But once again, it's got to be sure that all stakeholders know can see the benefits can use the benefits and at the right time. So going back to that predictive ability, perhaps, in that field, predictive ability would be far more important than the predictive ability of an arthritic knee. Mental health is obviously at the level of, you know, survivorship, in some instances,

**Dr Terry Sweeney** 48:03

human relationship is still Oh, it's absolutely necessary. Yeah. And it is an interesting one. And I made a comment on Twitter a few months ago, and all racgp just don't talk to me anymore. Because, you know, they were promoting, and I agree, I think you know, that that long term relationship between clinician and patient is very important, particularly in an area like mental health. So I'm not suggesting otherwise. But we also the flip side of that is, is convenience for me who I don't really use the healthcare system that often, when I do, it's much more about convenience. In that if it's something maybe less trivial than a mental health consideration. I don't care whether I see my GP or someone else. For me, it's about convenience. And again, when we look at the US, you've got organisations like Walmart, you know, the the giant retailer that have set up Walmart health and have primary care services in the corner of their hypermarkets where I can go and see a GP, an audiologist can get pathology results, and it's more about convenience. And I think there's there's been a push back in Australia, for pharmacies and other retail health outlets, increasing the services that they provide, because it's the RSC GP would see it with the greatest respect. It's all about having that relationship with your GP. Now they would see that because they represent you. And there's a financial consideration there. They don't want to lose business. But for me, I want to be able to walk into chemist warehouse or wherever and see your GP in the corner of that pharmacy, like a can with CVS with their minute clinic and in the US. So I think from a composters for courses, definitely good to have that long term relationship. But from a convenience point of view, I want to have a little bit more choice in healthcare and not just be kind of tied in as it were to the person that I've known for 1520. Do

**Professor Trish Williams** 49:54

you think that's a generational thing? So I like you, I actually, you know, value that relationship with my GP and maybe because I'm getting older and have more different things, you know, dodgy knees, etc, wrong. But you know, my children's view of that is quite different if they feel unwell or they don't care who they see, they just want someone to, you know, prescribe them something or whatever and have it fixed, they do not have any appetite for that relationship in the same way that I do. And so whether that will change over time, is an interesting factor.

**Dr Matthew Liptak** 50:27

That's because they have relationships online, absolutely having far more relationships online than than we ever have had in our lives. And that that's just changing the whole gender difference, or not gender, but the generation difference.

**Allison Nikula** 50:40

In my world, in the Aged Care world, I've got support workers who are going into people's homes, they've not had a relationship with their client previously, and I've got to get up to speed and build rapport really, really quickly, in order to have that, I guess, deliver, you know, the most beautiful care experience possible. And, you know, I guess having access to, you know, what's happening with someone having that deeper understanding, you can go from having a transactional relationship with someone that you don't know, to one that is more connected. One is that it's more engaged, and one that you can build rapport with. So in answer to the doctor's this question, in regards to building those therapeutic relationships, and ongoing relationships, you know, ensuring that you've got, you know, broad access to people's information, not just, you know, what's happening midwives or what's happening with their range of motion, but you know, going beyond that, what's their what's their interest, what's their lifestyle, and those kinds of things just going back to the clinician.

**Dr Matthew Liptak** 51:39

So the clinicians do want to be involved with their patients and stay connected. And it might be, you know, the telehealth or connection through that, that the accessibility that you're after Terry, can be done with the person you would like to see, yeah, and offering out of the out of the normal hours, or whatever. So it is a report that can be built up. And this these digital technology or platforms is certainly allowing that to become to the front. As I said, you know, as a clinician stakeholder, it would be fantastic to have that available, and the availability to allow my patients come in and see, hey, it is going to be a 15 minute wait, well, guess what he can be online, and COVID allowed the telehealth conferencing to be online. And I see that in us actually, they've just spent another 19 million building up their platforms on telehealth as well, just in the last week or so. So we need to expand that as we're expanding digital health.

**Dr Terry Sweeney** 52:34

I think that Chuck makes an important point about about the choice. So that again, the patient is a consumer. I'd like to choose how when and and why I get and where I get that I get that interaction or treatment with the with the clinician, and it's back to the to the data. I think, Brad that if I I mean, we can travel anywhere at the MCG we've got up to her if I went to Perth next week. And I don't know Perth hotels very well, I can go on a trip advisor or a one of 1000 websites. Yep. And make an informed choice on the hotel that I choose to stay in for two nights in Perth. Where's the information similar in healthcare? You know, I've just recently moved back to Adelaide. I might choose a GP out of convenience, because they're their clinics around the corner. But I might have a certain condition or I might like to interact with my GP in a certain way, and need that information to make an informed choice on which physician which GP, which hospital, I choose to have an operation in. And we don't quite have that informed choice in health yet. And I think that's because it's back to the data. And we're not presented the data in a way that allows us to make that choice. So I think it feels often like a healthcare service is imposed upon us. Yeah, rather than actually, I'm making the choice in the same way that n di s runs, right. So the idea behind that is let's empower the individual to give them a care package for them to in an informed we're to make a choice about which service they procure for their disability, we need to see that more broadly in the healthcare system.

**Professor Trish Williams** 54:13

And I think that's where virtual care is taking off, you know that and telehealth being part of that, that it isn't just the consultation, it's about having the data, whether it's from home monitoring type stuff, all from your Fitbit, or your Fitbit, you know, and with slightly more sophisticated watches the new dairy, but having all that data available to help someone make those decisions. Because what we don't do very well at the moment is we do collect a lot of that data and it's up to me to manage that. My GP at the moment actually can't cope with that. There's no you know, intermediate, well what do they do with that information? You know, because when you go in to see your GP, it's a moment in time so people's blood pressure is often higher when you go and see your GP. Well, that's not the issue. Blood Pressure is something that you need to be able to monitor over a long period of time to see whether there's anything going on. And I don't get that when he just takes my blood pressure when I walk in, but my watch is recording that all the time. So therefore, that is the information that you want them to be used, you know, on an ongoing basis, and we haven't quite cracked

**Dr Matthew Liptak** 55:19

that we haven't yet acted for a number of reasons. Number one is, most of them watches do have some monitoring. And it's just a wellness that they actually don't moderate as accurate as we would like at this point of time. And the TGA at this point, has recognised that and those, most of those wellness apps are still not recognised by the TGA, because of the lack of accuracy at this stage. And therefore with their lack of accuracy, we can't correctly diagnose and therefore can't correctly treat. So that's that's a real big problem as we move forward that there's a lot of consumers are believing that what they're seeing on their watch is actually accurate. And unfortunately, that accuracy is not quite there as yet, as we build that it will get there. And with that accuracy, we can correctly diagnose and therefore treat from afar.

**Professor Trish Williams** 56:09

But we know a lot of those, we're looking at trends, aren't we too short. So you know, and I think this is where it comes, you know, there's that bit of a crux of the matter that you want to know what's happening with it over time. So even if it's not entirely accurate, if for instance, the blood pressures getting worse, then you would be able to sort of detect that. But at the same time, that then comes under being a medical device that then needs to be regulated and goes through all these different tests to be certified, which you can guarantee that Apple don't want to do with the watch. It's a very, you know, intensive process maximum Scott has done and has got Yeah, absolutely.

**Dr Terry Sweeney** 56:46

Yeah, we could say the same about COVID testing, right. And another book bear of mine, Brad is, is the cartel, that is pathology in Australia, where they're they're holding on and protecting their income and fair enough, but you know, Terry, you being feels I'm being I'm gonna lose out all of our partners in the CRC, what, you know, it's only now that we're having a serious conversation about getting lateral flu and rapid rapid testing for COVID in Australia, when they've been doing it in the UK in the US for a long time. And it should not replace a PCR test at all. But it should be another line of defence. You know, you take my mum lives in the northeast of England. And she's a little bit worried about going out. But she's fully vaccinated, a little bit worried about going out the shops, and she said, I just take my rapid flow to my rapid flow test every day. And she's got 20 out of them in the corner. And she just wakes up in the morning and takes one every day and you get the result within 15 minutes. And it's not 99% accurate, like a PCR test, but it is 92 or 93% accurate. And that's probably good enough to give us that indication of I'm lucky or not. And we've been so slow in Australia to adopt things like that. And it's only now through the outbreak in New South Wales that we're thinking Actually, these rapid tests are probably going to be quite useful.

**Brad Crouch** 58:03

Okay. Just on telehealth. Going back to that I noticed the Women's and Children's Hospital. I've been a virtual Ed system this month, which is, you know, you got a problem at 3am. And it's a long drive to the Women's and Children's and you're just not quite sure could be interesting. Did you see that being part of the changing health landscape for the do presentations, which can ease clogging ramping and so forth?

**Dr Terry Sweeney** 58:29

Yeah, absolutely. We worked with the Prince Alfred through Sydney, Local Health District in around RP virtual, which I think is probably one of the initial virtual hospitals. Absolutely fantastic facility. And I think in the first six months there, the interacted with over 8000 patients, many of whom who would have presented the hospital if it wasn't for that virtual consultation. A lot of that is around telehealth, but a lot of it is around other services like remote monitoring, even digital therapeutics, right, the ability to treat someone in their own home is really, really interesting. So yeah, I think that everyone, you know, when I talked to all of the Chief Digital Health Officers around the country, everyone says, you know, from a technology point of view, virtual care and virtual hospitals is top of the list. So I do see that it. It's a trend that's going to accelerate rapidly,

**Brad Crouch** 59:24

for sure. All right, look, I'm getting the bit of a wind up now. So seeing where on a virtual audience, I'll think the virtual audience for joining us. Thank Flinders for having these fields conversation forum. It's been fascinating. I reckon there's a heck of a lot more, I could ask you for quite some time to come, but I hope it's been very useful for everyone. So I just like to thank the panellists for sparing the time the very high calibre panel, which we've enjoyed plenty of great insights in there. There'll be a story in tomorrow's advertiser further on this and a deep dive in the Sunday mail this weekend. exploring some of the issues that have been raised today. So thanks, thanks to our panellists very much and thanks to our audience for joining us. Goodbye.