

Using neuroscience against financial crime: Interview with Dexter Penn, CEO Kalgera

Working with geriatric patients as a doctor, Dexter Penn saw final years ruined by financial crime. On top of seeing patients throughout COVID-19, he created Kalgera to channel his clinical expertise into inclusive fintech.

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Kalgera works with banks and other organisations to protect financially vulnerable customers – tracking behaviour via transaction data and using cognitive neuroscience and AI to detect and rectify abnormal behaviour. *Maddyness* spoke to CEO Dexter about juggling medicine, entrepreneurship and academia; what a financially inclusive society looks like; and his experience on the NCSC Cyber Accelerator, powered by Wayra UK.

[Maddyness] Tell me about your background as a doctor, and how it led you to where you are now with Kalgera. Are there any skills that came in handy when you were a doctor, and that now help you as an entrepreneur?

[Dexter] Background-wise, I worked in healthcare medicine and moved into neurology, specifically dementia. I've been a doctor for around ten years now.

In the different rotations and jumps that I did, I just gravitated towards the older patients.

But then I realised I was primarily drawn to patients that had cognitive difficulties – because I was absolutely fascinated with the way an illness could, for example, cause someone to become delirious, or change how they are perceiving the things around them.

I've always been interested in how people make decisions, and that's gone into some of my research and the work I've done with people that have certain disabilities or impairments. Within that work, I saw a lot of people being mistreated, abused and scammed. There were a few cases that really stood out.

I've seen people lose their homes; people have stolen from them, and then they've not been able to get into a care home because that money was meant to be funding their place.

Coming directly from working with patients and their relatives, I wanted to do something about it.

It's become something of a passion for me, because I didn't realise when I first started looking at financial vulnerability and safeguarding vulnerable people, that I'd actually be 'campaigning'. I was sort of low-key, but I ended up being invited to Number 10; being on the All Party Parliamentary Group for Longevity; and working with the FCA to better support vulnerable people.



I wanted to talk about what it is to be vulnerable online. Would you say that everyone is vulnerable online? And who would you say is the most vulnerable?

Many of us are potentially vulnerable, but it may not be something that is fixed in time. It might be temporary. You might have a moment of vulnerability, where you're distracted.

We're in a pandemic, so that's a bit distracting; or maybe you're moving house, or you've lost your job.

Physical or mental health troubles can make any of us vulnerable. It's important to recognise that it's not just people that you typically would assume are vulnerable. I mean, I've been the victim of fraud myself; it's quite shocking when it happens and you feel a bit... violated.

Do you think there's enough regulation in place to stop it happening?

At the moment it's limited and, for various reasons, it is difficult for individuals to be fully protected. It's not necessarily just loopholes; criminals and bad actors keep moving and changing, and drawing up regulation to cover everything they come up with is difficult.

However, right now the FCA is actually changing the conversation. Now it's about having a duty of care to customers when you're providing them with financial services.

It's a question of equity, and making financial services more equitable for people - no matter what.

Just because you are in a vulnerable group, or you're having a moment of vulnerability, should not mean that you experience a worse outcome.

Kalgera works with organisations rather than with customers. Is that right?

Yes. We previously worked with customers, but saw that there was actually a much bigger opportunity to make a difference by working directly with financial institutions.

It's challenging for banks to actually work out who's vulnerable, and when. People have got to self-identify, and most people don't see themselves as vulnerable! The FCA has asked for these banks to have mechanisms in place, whereby they can identify and better serve those

individuals.

So we've started working with these organisations to interpret customer behaviour – the ways in which they're using their accounts – and look for signs of potential financial abuse.

£1.3B was lost to scammers in the first nine months of 2020, so it's quite a big problem. This imperative from the regulator is about making sure people have access to services, and that they're not excluded because they might be vulnerable. Banks need to change the way their staff are trained to identify and help these people.

Unfortunately, the most vulnerable in the past have been the most profitable customers – people in persistent debt, for example. We're trying to level the playing field.

Kalgera detects financial abuse through data; we apply some of my medical knowledge regarding how people make decisions, and use AI to help manage these cases. We make it a lot easier for banks to do the right thing.

What does financial inclusion mean to you, and what would a society where everyone is financially included look like?

Financial inclusion is critical to all of our wellbeing because of the society that we live in. We are living in a capitalist society, where you need to have control over your finances.

One less thing to worry about



If you are unable to actually meet your needs – to access basic housing, healthcare, to work and meet goals – there are mechanisms in place to help you. But what it means to be financially included is to feel safe when you are making transactions, and actually going about your day-to-day life.

If you really want to be inclusive, you also ought to consider the various factors that might make it difficult for people to access certain services.

Could you explain a little bit about the science behind Kalgera?

Think about when you are making a particular decision. You're actually using multiple skills and different bits of knowledge – to know where your bank account is, how to log into it and know how to initiate a payment. At Kalgera, we analyse different indicators from transaction data to be able to interpret this kind of behaviour.

We are looking at a number of financial abuse cases, and searching for indicators – for a rate of change in financial decision-making. This isn't just a snapshot; we look at behaviour over a one-year period.

We use a neuropsychological approach to look at how someone has made a decision, which allows us to flag up trends that might indicate someone is under the influence of a bad actor.

How has the NCSC Cyber Accelerator helped Kalgera develop?

The team, the board and everyone else have been really pleased with the accelerator. This started when I was working full-time as a doctor and doing a Master's at the same time. I've been seeing a few patients throughout the pandemic, but the accelerator has been transformative.

It came at the right time for us, and helped us focus and refashion something that was a nice idea. We also enjoyed being able to get advice and support from the NCSC, and being able to actually maintain some relationships as well after the programme.

What's your daily routine, and the rules you're living by to get you through lockdown?

Recently, I've been making sure I listen to myself. I have a therapy lamp that helps me to get up in the morning when it's completely pitch black. But ultimately, it's all about gratitude. The pandemic has given me more

time to think about how I'm feeling, and to be grateful for the things that I do have. And it's made me check in with others, just to see how they're getting on with things.

Unfortunately, I lost two relatives last year - and that does make you focus on the things that are really important. Right now, you can't go out and do everything you want to do, but there are some little things that we can be grateful for.

I know that, yes, it's part of my training and all that - helping others. But talking to relatives that are really distressed, and being able to help them and give them a little bit of peace in the middle of all of the upheaval, it's been something that I've been really grateful to be able to do.

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