Reinventing healthcare... it's not as technological as you might think

By Jessica Tennant   22 Nov 2018

On the opening day of Start JLM 2018 (Sunday, 11 November), Saul Singer, co-author of *Start-up Nation: The Story of Israel's Economic Miracle* provided context into the local startup ecosystem, focusing on healthcare, the associated challenges and what he believes is the solution.

Saul Singer, co-author of Start-up Nation: The Story of Israel's Economic Miracle.

"It's not about just startups anymore. Ten years ago, there was basically Silicon Valley and Israel in terms of major startup ecosystems and everywhere else there was very little going on."

In the past five years startups have been popping up everywhere. Everyone's doing startups.

But a country can't go to the top of the innovation list just because it has startups. "There's a new kind of metric for innovation, and that is which countries are going to be the first to have the health of the future, the education of the future, these kinds of things that over the next 10 years are going to be transformed, but it's not going to happen everywhere at the same time."
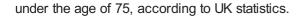

#StartJLM: The rise of the startup nation
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The problem with healthcare

On one hand, medical technology is racing ahead – nearly every day there's a new discovery. But in another sense, we're in a sort of primitive stage of healthcare because we're at the mercy of five main killers, namely heart and circulatory conditions, cancer and respiratory, nervous system and digestive diseases. These are the main causes of premature death

under the age of 75, according to UK statistics.

"We're at the mercy of these things right now, so the question is, how can we do a much, much better job?" Singer argued that we need to move to a different paradigm of health, and said it's not as scientific and technological as you might think...

These killers start at some point in our bodies, they progress and we only go to the doctor when the symptoms start affecting us. "The problem is where we start. We start when we feel bad and go to the doctor. But before that the health system just doesn't exist. No matter how sophisticated it is, we're not using it, it's not there, because we only tap into the health system when we feel something."

> *The problem is we're starting at the end of the process and we can transform health if we can move the entire health system to the beginning, because everyone knows that if you can catch cancer at stage one or earlier, or any of these things, they would be trivial to deal with. How many people have you heard say, 'He was lucky, he caught it early!' That's where we are now– luck.*

What's missing?
We're missing two things: biomarkers and sensors. "We don't have many good biomarkers for various conditions. A lot of the biomarkers we have are pretty lousy, very iffy indicators."

What's more is that we don't know that the biomarkers are there because we're not taking blood tests regularly, so what good does it help you if there's a biomarker in your blood but you don't know it's there? This is why we also need sensors.

"I believe that if we meet here again in 10 years or hopefully five years or even sooner that all of us will have sensors or will be doing some kind of sensing, essentially continuously, on what's going on inside our bodies.

This is already common practice in other industries… "This is how Facebook and Google know what you're about to do, and how Amazon and Alibaba know what you're going to buy."

So, why aren't we doing the same thing for our own bodies?

> *The amazing thing is that it seems that our bodies are the last place we're using the simple science of big data to make predictions.*

Singer says this is already under way. He mentioned an Israeli company called [Beyond Verbal](#) that discovered that there are vocal biomarkers. They've proven that your voice can indicate coronary artery disease (CAD), one of the biggest killers in the world. And thanks to the smartphone, you can call a number from a remote area in the world and get your voice checked.

There's an array of other conditions they think they can detect through voice, such as Parkinson's and even depression…

A change of mindset

Singer is very excited about this because this is sensing without sensors and it means that the real obstacle is not technology, but changing our mindset. "What we're missing here is not the technology. What's missing is this change of mindset that we have to start collecting data on ourselves.

"Right now, we think collecting data from our bodies is creepy – we think of the idea of wearing a sensor as creepy and weird... And the catch-22 is that we don't want to wear sensors because we don't see how they could benefit us."

We're also concerned about the privacy of our data. "I think if we had the choice between the privacy of our data and our lives, I think we'd choose our lives. But I don't think you'd have to choose, I think this data can be anonymised – there are even systems where you can encrypt it, keep it encrypted and do the analysis without decrypting it... The privacy problem is solvable."

He said we also need to get out of our head this idea that there is going to be one biomarker. "You have to look at a whole bunch of things at the same time. No one metric is going to make a difference, but the pattern is going to be the biomarker." So, we not only have to collect data on ourselves continuously, we also have to collect lots of it.

More will be published on [Start JLM](#) *over the course of the next couple of weeks, so follow #StartJLM to get a taste of the so-called 'secret sauce' of Israeli innovation.*

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