



# UnBLOCK the Chain

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# How Blockchain will transform healthcare

## Adoption of distributed ledger technology will benefit patients and providers

Blockchain is more than just a technology that allows us to do what we already do better, faster and cheaper. This peer-to-peer new technology has the potential to create a more inclusive economy, where patients can benefit from health data ownership.



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One reason people don't understand Blockchain is because we describe it rather than explain it. When we say Blockchain is a distributed ledger to someone who is not familiar with append-only databases, this is meaningless. It's like saying water is H<sub>2</sub>O without knowing the table of elements. In order to explain, not describe something, you must talk about the why or the intentionality behind it. If you say that water is the source of life, it sustains us, it makes more sense, it becomes meaningful.

So what is Blockchain? It is a distributed ledger, but the intention behind it is to obviate the need for a "trustful" intermediary. With Blockchain through encryption, transparency, immutability and verifiability of data you can directly rely on the truthfulness of information through a distributed trust network.

### The human-driven approach

The potential of Blockchain goes hand-in-hand with the human-driven approach or holacracy. Holacracy is a type of self-governance, which not only follows a mission but is also evidence-based, data-driven and situational-aware. You don't just see holacracy in start-up or entrepreneurial worlds; you see it in agile corporations and in the military. When battle ensues, military units take initiatives within their frameworks and start to self organise in order to complete the mission. This is very different from political representative democracy where we freely elect someone else to do our work. In fact, what we have seen is that the representatives we elect can collude, do things that are counter to 'the mission' they were elected for and can be self-serving. In comparison to other forms of

governance, holacracy is selfless and fearless in the way it achieves objectives.

The whole idea of Blockchain is based on not needing to rely on a privileged minority operating behind closed doors. This doesn't mean this is the age of distrust, but rather trust has shifted into a new form of distributed trust. Instead of trust flowing upwards to institutions, experts, authorities and regulators, it now flows horizontally to peers, friends, colleagues and fellow users. This distributed model creates a decentralised ecosystem that is attack-resistant, collusion-resistant and censorship-resistant, when compared to centralised organisations, institutions and governments.

### Empowering patients with Blockchain

If you take the attributes of censorship and collusion resistance and translate them into healthcare, you can understand it will bring a few important changes in how we practice healthcare. First, you can make sure that health data is not only secure but also private, and that the ownership of that data is controlled by the patient (aka self-sovereign).

Second, if you look at monetary transactions, it can disintermediate all kinds of third parties that lack value and create unnecessary friction that currently make the healthcare experience less pleasurable and increase costs. Third, and most importantly is that through behavioural economics using monetary (rewards) and non-monetary (reputation) incentives, Blockchain-based solutions can transform people from being passive health service consumers into health producers.

What makes Blockchain even more interesting is that what we can add to value-based or outcome-based care the opportunity to generate wealth through the use of tokens (utility tokens) or digitised assets (security tokens). What that means in practical terms is, today I wear a fitbit and it gives me information that stimulates me to be a health producer. But the data that this fitbit generates doesn't belong to me. It belongs to a company that can sell it without my consent and they will make money on it while I won't. That's not fair. Blockchain technology creates a more inclusive economy where if a company makes \$10,000, for example, on my information, I can get half of it and I can earn it through a utility token. In addition, through the use of security tokens, I can actually have fractional ownership of fitbit stock, which will incentivise me even more to use the platform. Blockchain really enables a human-driven approach in the sense that I can be the owner and earner of my information.

### Blockchain adoption is a question of time.

Blockchain will be more important for people who need it the most. In the western world, a lot of people sacrifice their privacy and their health and, to some extent, their wealth for the convenience and comfort of their lives. But the more you are existentially threatened and don't have the luxury to give up that health and wealth, the more you seek tools that empower you directly to be the master of your data. I can argue that I am too comfortable in my life to be bothered, but when will I be bothered? People will start to care when they understand the demands on their health, wealth and environment are unsustainable.

I also think it's a generational matter. Many people don't understand what self-sovereignty is in the sense they're so used to living in a centralised system that is opaque and full of friction, they sacrifice their sovereignty for convenience or because they don't believe a centralised world can be changed.

However, my 12-year-old daughter and her generation learn digital citizenry and what an interconnected interdependent world means. From their perspective, Generation Zers interact through non-monetary incentives leveraging their contributions to society through reputation (think YouTube or social media) as opposed to money. The younger generation doesn't expect parents or governments to help. They already practice holacracy by creating chat groups where they directly ask how to solve problems and

understand that bad actors who badly impact the community will be expunged because they make the whole system unviable.

### What's in it for healthcare?

What Blockchain does it is it changes the equation of value. Value today is usually thought of as quality divided by cost ( $V = Q/C$ ). So if something has high quality and low cost, it has high value. How does this equation work in healthcare? Mostly by lowering the denominator, in other words doing more for less. However excessive cost suppression (like not covering preventative care) has actually caused healthcare to be more expensive and people are dying younger and younger. So the current healthcare system offers a low quality proposition.

What Blockchain does is it transforms the value equation into what you are willing to give divided by what you want to get ( $V = \text{give/get}$ ). Using this equation, a patient who is not willing give up unhealthy behaviours (smoking, drinking, sedentary life), offers a zero-value proposition. A drug company that offers cost-prohibitive treatments and is not willing to give up profit has a zero-value proposition. A government that wants all of its citizens to be healthy but isn't willing to provide affordable care offers a zero-value value proposition. The Blockchain economy doesn't want everything cheap and easy, but is about creating a sustainable and resilient business-ecosystem, where all stakeholders share a common mission, taxonomy and sense of purpose. ■

## KEY POINTS



- ✓ Blockchain is a foundational technology that allows implementation of holacratic human-drive approach.
- ✓ Trust is embedded in the technology, through decentralisation
- ✓ Blockchain can make health records self-sovereign
- ✓ Patients will own their health data and its monetisation, incentivising long-term healthy behaviors
- ✓ The decentralised society Blockchain creates is already accepted by Generation Z