

CHAPTER 48



Digital Humans in Health(care) (vignette)

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Digital Humans in Health(care)

For most people, healthcare can be frightening and isolating. Regardless of social status, education or ability – when vulnerable, our humanity yearns for empathy and conversation.

Yet health sector organizations and governments alike have told us that we can no longer afford conversations. Driven by budget and rationing philosophies, the first two decades of the ‘online century’ simply pasted an electronic veneer over the existing byzantine structures. This forced health consumers to interact through a maze of complex websites, portals, understaffed call centers and thousands of online forms, none accessible. Only the supremely wealthy had the means to avoid these barriers.

This centralist eHealth approach assumes a model of event driven patient interaction with the health system. Such a staccato model relies on and generates data that is fragmented. Absent from this model of eHealth is the data generated between events that is far more expansive and contextual than any point in time data from infrequent doctor conversations.

As an example, take heart patients. Three major events – heart attack, surgery and (maybe) rehab. There is no-one they regularly converse with day to day. There is no ‘cardiac coach’ to help them navigate the complex and ever-changing rules of secondary prevention or to comfort them when they feel alone and afraid. The end result: repeat surgeries, infirmity or death at a huge human and financial cost.

The past 20 years has been about avoiding the ‘unaffordable’ conversation. The next 20 years will be exactly the opposite. The rapidly advancing ecosystem of artificial intelligence, neural networks, adaptive interfaces and natural language will forever change the way people and the systems of society interact. Through co-design, the embodiment of this ecosystem as digital humans achieves naturally empathetic and contextually rich conversations.

This is not about chat-bots. Our heart patient can have a digital human on their mobile device that will become their trusted cardiac coach through conversations over time. If connected to the patient’s ecosystem of apps, biosensors and services, the digital human cardiac coach can build up a rich contextual knowledge of this heart patient to enable predictive and ongoing precision healthcare.

Think about our heart patient’s anxiety in understanding his medication regime, and all the questions that he and every

heart patient around the world has. We know that lack of understanding leads to non-adherence. In the old world, traumatized patients are told to go to a website and look up information. They can't or don't.

In the new world, our heart patient's digital human is an invaluable companion and an integral part of his recovery. Ongoing conversations enable the digital human cardiac coach to monitor for early signs of depression following surgery. Simcoach already does this in a limited way, looking for signs of PTSD in service veterans. Digital humans will also be used by pharmacies to have conversations with consumers to answer a broad range of questions about their medications.

A digital human can converse in any language, including signing, and display additional information as videos, pictures and text. Soon, haptics will enable communication with people who are deaf and blind. The digital human pharmacy assistant will be able to electronically read scripts and be connected to an AI engine containing all knowledge of pharmaceuticals.

Digital humans will be integral to healthcare. They will be companions and coaches for health consumers. On the delivery side, they will augment the human workforce enabling new business and servicing models. There will be new jobs such as trainers of digital humans and designers of conversations.

Visionaries such as Lucien Engelen are bringing about an exponential change, the new and rapidly changing dynamics and economics of relationships driven by digital technologies touching every individual consumer, community and industry across the globe. This is digital disruption in its truest form, where newly empowered consumers have conversations when and where they want. For the first time in history, the democ-

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ratization of health information empowers and liberates the chronically ill, the disabled, and the disadvantaged.



Nadia, the first digital human, was co-designed by people with disability and has already led to digital humans being implemented in multiple sectors. This is no longer science fiction. This triumph of imagination made real, has triggered the start of an exponential change – digital humans in health(care) delivering massively scalable yet uniquely empathetic conversations to anyone anywhere anytime on the planet.