

Chapter 1

Role of Digital Identity in Advancing Global Health: A 360 Perspective

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ABSTRACT

The importance of improving global health standards and promoting economic development cannot be underrated. Economies of the countries are directly impacted by the health of their citizens, their productivity, and healthcare spending. This chapter covers a broad range of topics related to global health, global economy, and digital identity; namely, the challenges of the nearly 3.5 billion people who lack essential healthcare services and the far-reaching economic benefits of bringing them into mainstream, the value of digital identity for an inclusive healthcare, how some countries have progressed in this direction to integrate digital identity model into their healthcare system, and what are the perils of the existing digital identity model in the healthcare world. Finally, the author makes a compelling argument for moving towards a decentralized and self-sovereign identity model as the necessary foundation for a robust patient-centric global healthcare model in the era of personalized medicine.

INTRODUCTION

Healthcare is a necessity for a child to grow up to be a healthy, economically contributing and prosperous adult. Half of the global population lacks essential health services (van Houten, 2020). Globally, an estimated 1.1 billion people face challenges

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in proving who they are (Milena et al, 2018). They struggle to access basic services like healthcare, finance, and remote telecommunication and miss essential economic opportunities. Providing legal digital identity for the 1 billion invisible people and including them in the mainstream is one of the foundational goals of the United Nation's transformative initiative – the 2030 agenda for sustainable development (United Nations, 2020). For the rest of the global population already living in the digital world, there is a dire need to protect their digital identity to prevent healthcare data theft and empower them to own their healthcare data. With the COVID-19 global crisis, there is also a dire need to let physicians carry their professional credentials so that they can care for patients remotely and without borders.

This urgent need will bring benefits beyond identity at many levels, namely, creating a network of global ecosystems to supply quality care, open and expand the telemedicine market for broader outreach, and provide process transparency to improve the cost, quality, and efficiency of healthcare systems and move towards value-based care for greater accountability.

In parallel, development in digital health innovations and emerging technologies such as digital biomarkers, digital twins, IoT devices, distributed ledger technologies, artificial intelligence, machine learning, and big data analytics are driving the new era of telemedicine and precision medicine. These technologies are interdependent as well as dependent on the core elements of data sets. The next generation of precision medicine - a new frontier for a personalized approach to healthcare, combining genomics, environment, and lifestyle data along with electronic health records and clinical research is shifting the healthcare and drug development business towards a decentralized model, which will make decentralized digital identity, healthcare imperative.

The objective of this chapter is to present the issues, constraints, and problems surrounding the topic of identity in healthcare and recommend why moving towards a decentralized and self-sovereign digital identity model is necessary to advance global health and foundational for the next generation of personalized, innovative, and holistic healthcare.

BACKGROUND

At a global level, there is a gulf between the quality of healthcare that exists and the quality of healthcare that is needed, to protect humanity from health and financial distress. What is needed is a deliberate and comprehensive global effort to improve the quality of care. Making pragmatic investments in global health can significantly improve people's quality of life, protect against pandemics, and lead to large economic returns. Each year, poor health reduces global GDP by 15 percent (Prioritizing Health:

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