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3.5 The Fourth Layer of the DigiCare Model: Society

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The DigiCare Model encompasses various concepts across its different layers, aiming to empower individuals in their self-management journey and equip healthcare professionals with the necessary skills. The initial three layers of the model emphasize the importance of the individual, family, and community in developing self-management competences for chronic disease care. The fourth and final layer expands the scope to the level of society, acknowledging its significant impact on individuals' health and well-being. Society plays a vital role in providing the necessary infrastructure and resources to promote effective healthcare and improve health outcomes. In this chapter, we will delve into the key concepts within the society layer. To enhance understanding of the topic, we will conclude the chapter by recommending additional readings for further exploration.

The final and most encompassing layer of the DigiCare Model is the society layer. Within this layer, various concepts come into play, including leadership, policy development, laws and regulations, technological infrastructure, socio-economic factors, and the overall structure of healthcare delivery systems (Figure 12).

Every individual is influenced by the society they belong to, and the advancements of digitalization within that society, particularly in the field of digital healthcare. This encompasses the infrastructure of healthcare services, key stakeholders in information technology, and decision-makers at the national levels. (Natakusumah et al., 2022.) Conversely, the impact also works in the opposite direction: individuals with good health literacy skills and good health status can have a positive influence on society. A healthier population contributes to

the benefits of society. Individuals who are in good health, including those with well-managed chronic conditions, can actively participate in the workforce, provide for their families, and contribute to the overall well-being of their communities (WHO, n.d.). Therefore, the societal level holds significant importance within the DigiCare Model.

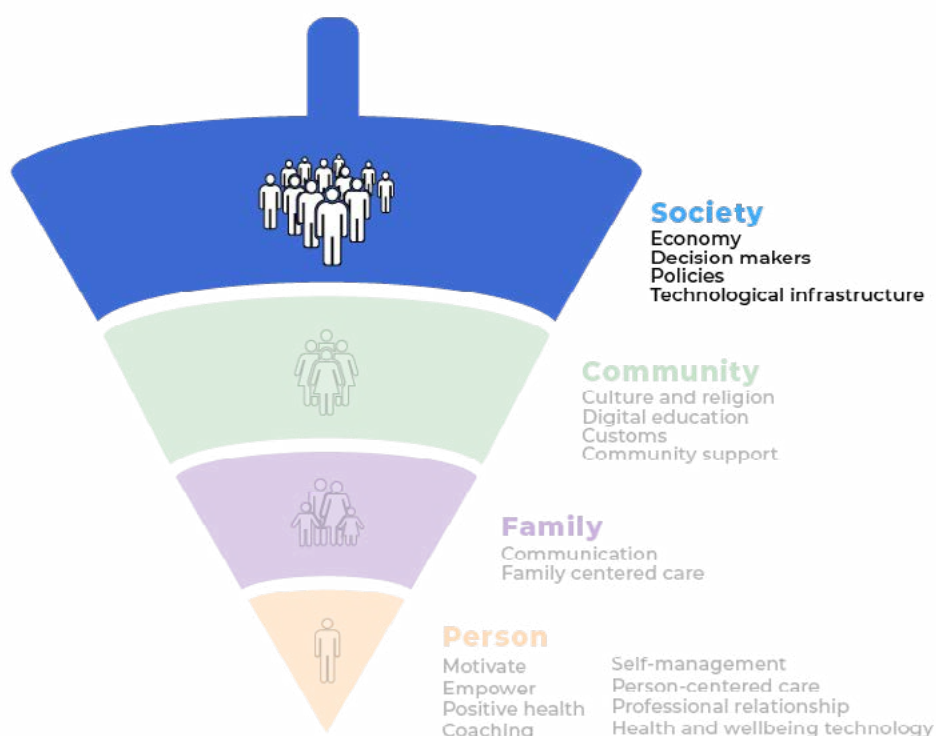


Figure 12. The fourth layer of the DigiCare Model: Society.

At this society layer, various factors come into play, including policy and decision-makers, the economy, and technological infrastructure. It is important to recognize that certain factors may currently hinder the full utilization of digital solutions to support self-management and patient coaching. However, it is also crucial to identify the reasons that highlight the necessity of harnessing digital solutions more effectively in healthcare delivery (McCool et al., 2022). The economic development of Asian countries is evident in the significant rise in the number of families owning smartphones (Uddin et al., 2017), as well as the increasing traffic congestion resulting from a higher number of cars

competing for road space (Xia et al., 2022). These factors underscore the importance of exploring alternative means of interacting with healthcare providers, rather than solely relying on physical visits to healthcare facilities.

Policies and Decision-Makers

Policies and decision-makers in various sectors of society have a significant influence over the support provided to individuals managing chronic diseases. These decision-makers possess the authority to establish and enforce policies that uphold the well-being of people with chronic diseases. This includes ensuring equal access to healthcare, safeguarding patients' rights, and promoting the integration of digital health solutions. Policies serve as guidelines for resource allocation in the healthcare sector and inform the implementation of different interventions, including digital innovations (WHO, 2022).




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Policy makers and influencers hold a crucial role in transforming the cultural perspectives surrounding healthcare. In several Asian countries, such as Vietnam and Bangladesh, policy makers have recognized the potential of digital solutions in addressing diverse societal challenges. They have developed strategies and policies to foster digital transformation across various sectors (Chuc et al., 2023; Sharker et al., 2021).

Findings from a policy content analysis conducted in Bangladesh on the implementation of a digital human resources management tool underscore the significance of national commitment in integrating information and communication technology (ICT) in healthcare services. A well-defined strategy for policy implementation monitoring and effective coordination among and between different ministries are also vital factors for achieving success in this endeavour (Sharker et al., 2021).

Health policies play a crucial role in shaping self-management support by influencing various aspects, including the promotion of digital services and solutions in healthcare, prioritization of long-term illness care, and enhancement of community-based services and structures that ensure continuous care. The establishment of effective primary and community care services is essential for a high-quality health system, benefiting the overall health and well-being of the population while also being cost-effective for society (Jones, 2010).



In the literature review (Appendix 2) conducted during the design of the DigiCare Model (Read more in Chapter 2.2), several ethical perspectives from individual, community, and societal viewpoints emerged in relation to digital healthcare. From an individual's perspective, certain rights are associated with digital healthcare, including the autonomy to choose healthcare services, which can impact the cost of healthcare and environmental factors (Wang et al., 2019). Additionally, maintaining confidentiality, security, and privacy of personal health information are responsibilities of service providers and society as a whole (Altameem et al., 2022; Pool et al., 2022).



Healthcare professionals, on the other hand, carry the responsibility of acquiring and maintaining competence in the field of digital healthcare, while upholding high ethical standards. This entails staying up-to-date with advancements in technology and digital tools, as well as acquiring the necessary skills and knowledge to effectively navigate the digital healthcare landscape. To support healthcare professionals

in fulfilling this responsibility, society must provide the required infrastructure that ensures trust and transparency in digital healthcare practices. (Konttila et al., 2019.) Moreover, a fundamental value in this context is the governance of healthcare data, including data privacy and responsible management (Suhail et al., 2021), which is influenced by laws and regulations (Sarabdeen & Moonesar, 2018), as well as societal structures and policy goals (Alam et al., 2020).



Healthcare professionals carry the responsibility of acquiring and maintaining competence in the field of digital healthcare, while upholding high ethical standards.

← Society and its leaders play a pivotal role in achieving equity in digital healthcare, encompassing principles of non-discrimination, non-stigmatization, and promoting environmental and societal well-being (WHO, 2022). →

Read more about Digital Health Policies

DigiTal Health Europe. (n.d.). DigitalHealthEurope recommendations on the European Health Data Space. Retrieved 30.4.2023 from <https://digital-healthurope.eu/>

Resilience Development Initiative & Aly, D (2023). ASEAN Socio-Cultural Community. Transforming the digital health landscape in Asean. Retrieved 30.4 from https://www.google.com/url?sa=i&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=0CAIQw7AJahcKEw-jA8ueP5uX_AhUAAAAAHQAAAAAQAw&url=https%3A%2F%2Fasean.org%2Fwp-content%2Fuploads%2F2023%2F02%2FASCC_Policy-Brief_Issue_6_Jan2023.pdf&psig=AOvVaw3nfezjpXk2mULAsh4IDX-8Y&ust=1688035959584948&opi=89978449.

Economy and Technological Infrastructure

Society influences the broader structural factors that impact chronic disease management. Economic factors, policies, and the technological infrastructure can either facilitate or hinder effective disease management and the delivery of healthcare services in both physical and online environments. The economic situation of a society has implications for the overall quality of life, including individuals living with chronic diseases (The Economist Impact, 2021). Economic factors can influence access to healthcare services, and cost-effectiveness is crucial for the sustainable financing of healthcare services at the societal level. Effective self-management of chronic diseases has been demonstrated to significantly reduce unnecessary utilization of healthcare services at both primary and secondary care levels (Barker et al., 2018).

The economic benefits of digital healthcare stem from improved and cost-effective monitoring systems for health status and disparities, efficient care management, and the ability to easily disseminate health-related information, thereby promoting healthy lifestyle choices. Additionally, the prevention and management of the increasing burden of chronic diseases have a significant impact on society, affecting healthcare costs and the number of productive working years lost. By investing in digital healthcare, society can provide flexible access points to healthcare, overcome geographical barriers, and enable comprehensive healthcare services within an ecosystem (The Economist Impact, 2021).

Society plays a vital role in providing the necessary infrastructure for the use of technology in healthcare and self-management. The technological infrastructure within society is crucial, as it can either facilitate or hinder the adoption and utilization of digital health technologies for disease management (Bayramzadeh & Aghaei, 2021). A robust technological infrastructure enables efficient information delivery between patients and healthcare professionals, leading to a

heightened sense of empowerment and active participation in one's own care. Additionally, it provides essential support for healthcare professionals, such as built-in alerts and the ability to allocate time and resources effectively within the already burdened healthcare sector. (The Economist Impact, 2021.)

However, it should be noted that a substantial economic investment is required to improve the technological infrastructure, particularly in low- and middle-income countries (Alam et al., 2020). In Asian countries, for instance, internet access can pose challenges due to developing infrastructure and the rapid increase in the number of users. Despite these challenges, technological infrastructure is progressing rapidly in certain Asian societies. (Ahmed et al., 2020.) Furthermore, healthcare education programs are facing the challenges of adequately preparing future healthcare professionals for a rapidly evolving technological society. It is essential for educational institutions to adapt their curricula to incorporate digital healthcare advancements and ensure that future healthcare professionals are well-prepared to navigate and leverage technological innovations in their practice. (Konttila et al., 2019.)

The DigiCare Model aims to equip healthcare students with the necessary tools and skills to facilitate future-oriented healthcare within a digitalized healthcare ecosystem. By doing so, it empowers patients with chronic diseases to harness the opportunities provided by available technologies.

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