**Navigating the Digital Health Ecosystem: a Review of Key Guidelines, Frameworks and Tools Part 1:** *The Digital Health System*

DIPC

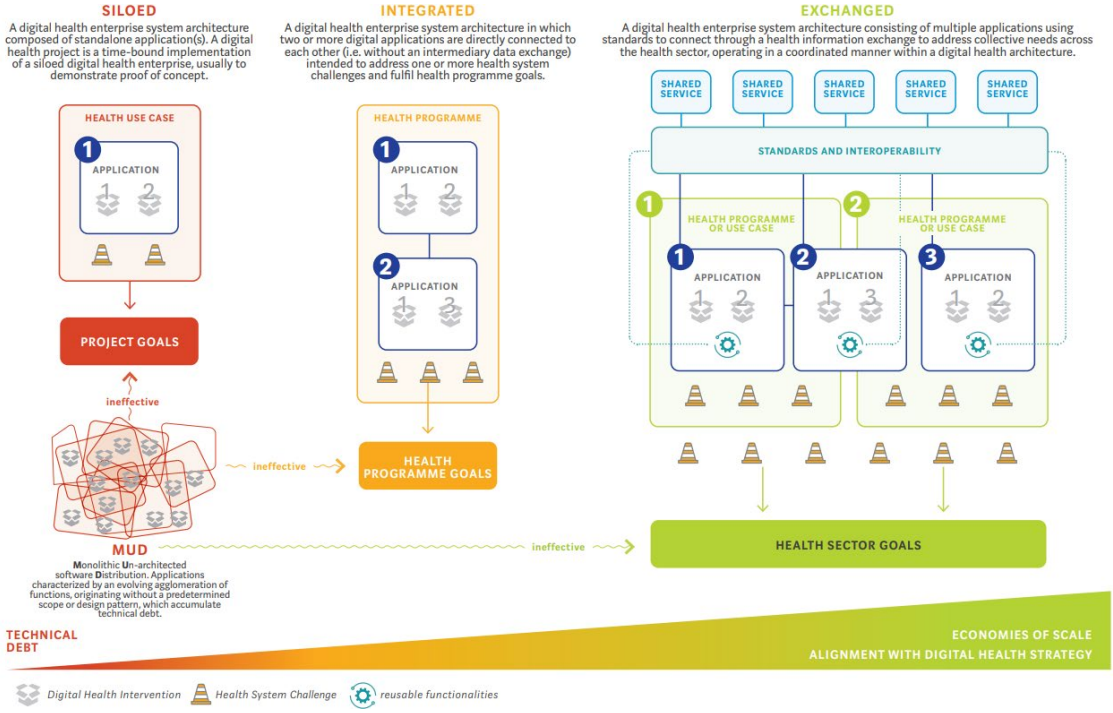
State of the art digital health projects build on existing evidence, and normative guidelines, frameworks, and tools in various areas, ranging from software development to financing and equitable programing. In the context of the GIZ Digital Innovation in Pandemic Control (DIPC) Initiative, the Robert Koch Institute, Germany, has conducted a comprehensive analysis on key digital public health definitions and concepts, and on 75 normative resources for digital health programing across 11 digital health topics, published between 2012 and early 2024 [link]. Findings from the report have been summarized in form of 20 easy to use Factsheets.

The current factsheet (04/20) summarizes the findings on the topic of the **Digital Health Enterprise Architecture (DHEA)** and details its role in organizing and integrating health technologies.

*Factsheet 04*

# Digital Health Enterprise Architecture (DHEA)

The business processes, data, systems and technologies used to support the operations of the health system, including the digital health applications, point-of-service software applications, other software, devices, hardware, standards, governance and underlying information infrastructure functioning in a purposeful and unified manner. (WHO,DIIG, 2020)




Digital Health Enterprise System Architectures (Source: WHO DIIG, 2020)

The "digital health enterprise architecture" (DHEA) is a framework defining the organization and coordination of digital health systems. According to WHO's Digital Implementation Investment Guide, it involves entities working together to deliver health services and products, encompassing business processes, data, systems, and technologies. DHEA includes software, devices, governance structures, and digital health platforms. The DIIG identifies four types of digital health enterprise architectures:

1. **SILOED:** Isolated applications focused on proof of concept.
2. **MUD (Monolithic Unarchitected Software Distributions):** Disorganized systems formed ad hoc, with significant technical debt.
3. **INTEGRATED:** Directly connected applications addressing specific health challenges.
4. **EXCHANGED:** Multiple applications connected via health information exchanges, addressing broader health system needs in a synchronized manner.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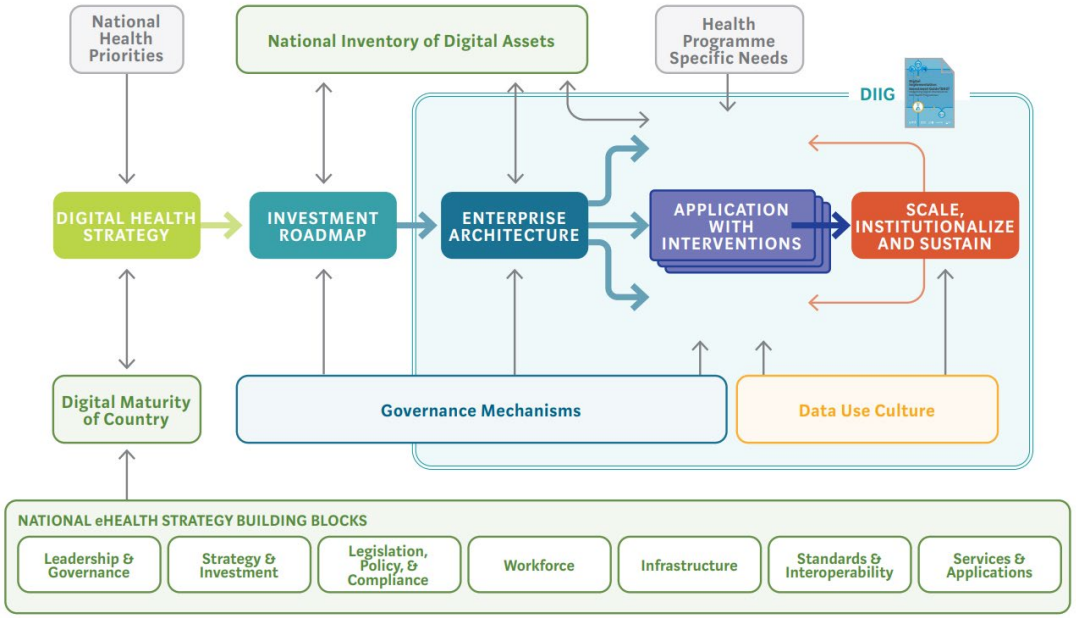
Developing a Digital Health Enterprise Architecture (DHEA) is a dynamic and adaptable process, tailored to a country's unique needs and context. Revisiting earlier stages is necessary to address changing health needs and the evolving digital health ecosystem.




Essential processes of national digital health implementations (Source: WHO DIIG, 2020)

The relationship between Digital Public Infrastructure for Health (DPI-H) and DHEA can be summarized as follows:

1. **Foundation and Framework:** DPI-H provides the foundational infrastructure (e.g., identification, payment, data exchange platforms) that supports the broader digital health ecosystem. DHEA builds on this foundation to integrate various digital health applications.
2. **Interoperability and Standards:** Both emphasize interoperability and open standards. DPI-H ensures the infrastructure supports interoperable systems, while DHEA applies these standards to enable effective communication and data exchange between health applications.
3. **Scalability and Integration:** DPI-H supports large-scale implementations, providing the infrastructure needed for scalability. DHEA utilizes this to integrate health applications, ensuring they operate seamlessly across different domains.
4. **Governance and Regulation:** DPI-H is governed by legal frameworks ensuring secure and equitable use of digital infrastructure. DHEA aligns with these structures to ensure compliance with legal and regulatory requirements, maintaining data privacy, security, and trust.
5. **Innovation and Flexibility:** DPI-H offers a robust and flexible infrastructure, fostering innovation in digital health solutions. DHEA leverages this to design and implement adaptable health applications responsive to changing needs and technological advancements.

Together, DPI-H and DHEA enable the development of a cohesive, interoperable, and efficient digital health ecosystem, enhancing healthcare delivery and outcomes.

**References:**
- WHO. Digital Implementation Investment Guide: Integrating Digital Interventions into Health Programmes, 2020.

This is based on *"Navigating the Digital Health Ecosystem: A Review of Key Guidelines, Frameworks, and Tools"*

Read the full report here or scan the QR code

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